

42	42-compatible operations					
g-shift	42KEYG	42KEYX	42VRMNU	42PRA	42ATOX	42XTOA
f-shift	42ALENG	42POSA	42AROT	42ASHF	42PRMPT	42AIP
unshifted	42α	42I-	42ARCL	42ASTO	42AVIEW	42CLA
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0026_C47_R47_DL_42S_Compatibility.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	42	MENU (42)	42-compatible operations	Functions and commands that are 100% compatible with the HP-42S/DM42(n) calculators ; Ref : https://47calc.com/doc/Application%20Notes/AN0026_C47_R47_DL_42S_Compatibility.pdf	Compatibility		42	
F1	42α	Command (42, PEM)	Enter string into Alpha register	Enter text string into Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible command ; TAM : 42α ' ' TamAlpha menu (maximum 15 characters)	Compatibility		42α	
F2	42I-	Command (42, PEM)	Append string to Alpha register	Append text string to Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible command ; TAM : 42I- ' ' TamAlpha menu (maximum 14 characters) ; Info : for the 42-compatible alpha functions and commands, the Alpha register (default K) is limited to 44 characters ; Error 64 -- No string in alpha register -- may be raised	Compatibility		42I-	
F3	42ARCL	Command (42)	Recall to Alpha register	Append contents of register or variable (formatted according to the display settings) to Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible command ; TAM : 42ARCL _ _ Tam menu ; for the 42-compatible alpha functions and commands, the Alpha register (default K) is limited to 44 characters ; Error 64 -- No string in alpha register -- may be raised	Compatibility		42ARCL	
F4	42ASTO	Command (42)	Store from Alpha register	Store first six characters of text string in Alpha register (default K) in register or variable ; this is a HP-42S/DM42(n) calculator compatible command ; TAM : 42ASTO _ _ Tam menu ; Error 64 -- No string in alpha register -- may be raised	Compatibility		42ASTO	
F5	42AVIEW	Command (42, PEM)	View Alpha register	View the Alpha register (default K) contents (text string) in the top left part of the screen, without TI (for use in Program Entry Mode) ; if the contents include the ↵ symbol, optionally display one or more TI's at the top, X, Y, Z line ; example: "top line = ↵ X = ↵ Y = ↵ Z = " ; this is a HP-42S/DM42(n) calculator compatible command ; Info : If 2ndF ACT is SET, 42AVIEW will print when executed from the keyboard in MAN, NORM or TRACE ; in Program Entry Mode, 2ndF EN must be SET as well ; If 2ndF ACT is CLEAR and 2ndF EN is SET, 42AVIEW halts execution (R/S)	Compatibility		42AVIEW	
F6	42CLA	Command (42)	Clear Alpha register	Clear Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible command	Compatibility		42CLA	
fF1	42ALENG	Command (42)	Alpha register length	Get length of text string in Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible command	Compatibility		42ALENG	
fF2	42POSA	Command (42)	Alpha register position	Get position (starting from 0) of substring, character or character code in X within text string in Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible command ; Info : For substring not found or empty text string, 42POSA returns -1	Compatibility		42POSA	
fF3	42AROT	Command (42)	Rotate Alpha register	Rotate Alpha register by the number of characters specified in X (positive : shift left, negative : shift right) ; this is a HP-42S/DM42(n) calculator compatible command ; Info : For empty text string, 42AROT acts as NOP ; Error 64 -- No string in alpha register -- may be raised	Compatibility		42AROT	
fF4	42ASHF	Command (42)	Shift Alpha register	Shift the six leftmost characters out of the Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible command ; Info : For empty text string, 42ASHF acts as NOP ; Error 64 -- No string in alpha register -- may be raised	Compatibility		42ASHF	
fF5	42PRMPT	Command (42, PEM)	Prompt (42)	Half program execution and view the register or variable contents (text string) in the top left part of the screen, without TI (for use in Program Entry Mode) ; if the contents include the ↵ symbol, optionally display one or more TI's at the top, X, Y, Z line ; example: "top line = ↵ X = ↵ Y = ↵ Z = " (uses Alpha register (default K)) ; Info : if 2ndF EN is SET, 42PRMPT will print when executed from the keyboard in NORM or TRACE ; in Program Entry Mode, 2ndF EN must be SET as well	Compatibility		42PRMPT	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
fF6	42AIP	Command (42)	Alpha register Integer Part	Append integer part of X to text string in Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible command ; Info : If the register or variable does not contain a text string, 42AIP will first convert it to text string ; for the 42-compatible alpha functions and commands, the Alpha register (default K) is limited to 44 characters	Compatibility		42AIP	
gF1	42KEYG	Command (42, PEM)	Key Go to (42)	Used in Program Entry Mode to specify the label to go to when soft button (1-18) of the Programmable MENU, [▲] (19), [▼] (20) or [EXIT] (21) is pressed ; if button 1-18 is specified, 42KEYG also creates a soft button in the Programmable MENU with the string in the Alpha register (default K) as a label ; TAM : 42KEYG → 42KEY __ TamKey menu ; 42KEY nn GT0 __ TamLabel menu	Compatibility		42KEYG	
gF2	42KEYX	Command (42, PEM)	Key Execute (42)	Used in Program Entry Mode to specify the program to execute when soft button (1-18) of the Programmable MENU, [▲] (19), [▼] (20) or [EXIT] (21) is pressed ; if button 1-18 is specified, 42KEYX also creates a soft button in the Programmable MENU with the string in the Alpha register (default K) as a label ; TAM : 42KEYX → 42KEY __ TamKey menu ; 42KEY nn XEQ __ TamLabel menu	Compatibility		42KEYX	
gF3	42VRMNU	Command (42, PEM)	Variable menu (42)	Create variable menu ; uses Alpha register (default K) to store variable name when MVAR-defined button (<var...>) is pressed without NIM input ; TAM : 42VRMNU __ TamLblOnly menu ; Error 25 -- No MVAR found in selected program -- may be raised	Compatibility		42VRMNU	
gF4	42PRA	Command (42)	Print Alpha register	Print contents of Alpha register (default K) as text ; this is a HP-42S/DM42(n) calculator compatible command ; Info : If 00FF, 42PRA writes alpha to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI 00 is shown if flag SBprn is SET ; SBI : 00	Compatibility		42PRA	
gF5	42ATOX	Function (42, monadic)	Alpha register to X	Convert first alpha character of text string in Alpha register (default K) to character code (hexadecimal) and remove this character ; this is a HP-42S/DM42(n) calculator compatible function ; Info : For empty text string, 42ATOX returns 0 only	Compatibility		42ATOX	
gF6	42XT0A	Function (42, monadic)	X to Alpha register	Append character, character code (converted to character), text string or real matrix (converted to text string) to Alpha register (default K) ; this is a HP-42S/DM42(n) calculator compatible function ; Info : For the 42-compatible alpha functions and commands, the Alpha register (default K) is limited to 44 characters	Compatibility		42XT0A	

42	42-compatible operations					
g-shift						
f-shift						
unshifted	42DIM#	42BIT?	42ROTXY			
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	42	MENU (42)	42-compatible operations	Functions and commands that are 100% compatible with the HP-42S/DM42(n) calculators ; Ref : https://47calc.com/doc/Application%20Notes/AN0026_C47_R47_DL_42S_Compatibility.p df	Compatibility		42	
F1	42DIM#	Function (42, monadic)	Matrix dimension (X)	Get dimensions of matrix in X ; this is a HP-42S/DM42(n) calculator compatible function	Matrix operations		42DIM#	
F2	42BIT?	Command (42, strike)	42BIT?	42BIT?	Compatibility			
F3	42ROTXY	Command (42, strike)	42ROTXY	42ROTXY	Compatibility			
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

ADV	Advanced					
g-shift	$\infty \sum_n$	SLVQ	SLVC	SLVP		f''
f-shift	i $\sum_n$	i $\prod_n$	PGMPLT	PGMINT	PGMSLV	PGMDRV
unshifted	$\sum_n$	$\prod_n$	PLT f	$\int f \, d$	SOLVE	f'
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Ref 2 https://47calc.com/doc/Application%20Notes/AN0022_C47_R47_JM_RPN_solve_integration_plot.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	ADV	MENU	Advanced	Advanced functions, using RPN user programs ; Ref : https://47calc.com/doc/Application%20Notes/AN0011_C47_JM_EQN_and_ADV_menu_solver_integrator_updated.pdf	RPN Calculus and plotting		ADV	
F1	Σ_n	Command	Sum (RPN)	Sum using RPN program ; Σ_n (from Z to Y in steps of X) ; interrupt by [EXIT] -- see Formula_SIGMA.png ; https://47calc.com/doc/Images/Formula_SIGMA.png ; TAM : Σ_n __ TamLbOnly menu ; Info : <from> ENTER <to> ENTER <step> Σ_n ; displays Loop: n, current result, where n is iteration counter ; shown if flag MONIT is SET ; Ref : https://47calc.com/doc/Application%20Notes/AN0008_C47_JM_Programmed_Sums1.pdf	RPN Calculus and plotting	MONIT	Σ_n	
F2	$\prod_n$	Command	Real product (RPN)	Real product using RPN program ; $\prod_n$ (from Z to Y in steps of X) ; interrupt by [EXIT] -- see Formula_PiIn.png ; https://47calc.com/doc/Images/Formula_PiIn.png ; TAM : $\prod_n$ __ TamLbOnly menu ; Info : <from> ENTER <to> ENTER <step> $\prod_n$; displays Loop: n, current result, where n is iteration counter ; shown if flag MONIT is SET	RPN Calculus and plotting	MONIT	$\prod_n$	
F3	PLT f	MENU (item)	Plot (RPN)	Plot the RPN program (with MVAR variables) selected with TamLbOnly menu ; presents menu for variable selection ; in Program Entry Mode, the RPN program must be specified by PGMPLOT and the variable to plot for using the TamVarOnly menu ; TAM : PLT f _ TamLbOnly menu (uses TamVarOnly menu in PEM, to specify variable to plot for) ; Info : in Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	RPN Calculus and plotting		PLT f	
F4	$\int f d$	MENU	Integrator (RPN)	Integrator (variables) menu for the RPN program (with MVAR variables) selected with TamLbOnly menu ; enter value and press <var_n> button(s) to set variables, then press button for variable to be used by the integrator in menu Toolf ; in Program Entry Mode, the RPN program must be specified by PGMINTE and the variable with the Tam menu ; tolerance set by variable ACC ; TAM : $\int f d$ _ TamLbOnly menu (uses Tam menu in PEM, to specify variable to integrate for)	RPN Calculus and plotting		$\int f d$	
F5	SOLVE	Command (submnu)	Solver (RPN)	Real solver for the RPN program (with MVAR variables) selected with TamLbOnly menu ; presents menu for initial guesses and variable selection ; interrupt by [EXIT] ; tolerance set by SDIGS ; in Program Entry Mode, the RPN program must be specified by PGMSLV and the variable to solve for using the TamVarOnly menu ; SOLVE will skip the next program step if no root is found ; TAM : SOLVE __ TamLbOnly menu (uses TamVarOnly menu in PEM, to specify variable to solve for) ; Info : displays current top and bottom results and iteration counter ; shown if flag MONIT is SET ; Displays : Accuracy $\approx$; <var1..n> =	RPN Calculus and plotting	SOLVING	SOLVE	
F6	f'	Command (submnu)	Second derivative (RPN)	Numerically calculate second derivative using RPN program, at value of starred MVAR variable and using step size of δ_d , as specified using the buttons in the (MVAR (delta)) menu presented ; TAM : f' __ TamLbOnly menu ; TI : δ = ; f' $\approx$; Info : if no step size is entered, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as "d"	RPN Calculus and plotting		f'	
fF1	$i\Sigma_n$	Command	Integer sum (RPN)	Integer sum using RPN program ; $i\Sigma_n$ (from Z to Y in steps of X) ; interrupt by [EXIT] -- see Formula_iSIGMA.png ; https://47calc.com/doc/Images/Formula_iSIGMA.png ; TAM : $i\Sigma_n$ __ TamLbOnly menu ; Info : <from> ENTER <to> ENTER <step> $i\Sigma_n$; displays Loop: n, current result, where n is iteration counter ; shown if flag MONIT is SET	RPN Calculus and plotting	MONIT	$i\Sigma_n$	
fF2	$i\prod_n$	Command	Integer product (RPN)	Integer product using RPN program ; $i\prod_n$ (from Z to Y in steps of X) ; interrupt by [EXIT] -- see Formula_iPiIn.png ; https://47calc.com/doc/Images/Formula_iPiIn.png ; TAM : $i\prod_n$ __ TamLbOnly menu ; Info : <from> ENTER <to> ENTER <step> $i\prod_n$; displays Loop: n, current result, where n is iteration counter ; shown if flag MONIT is SET	RPN Calculus and plotting	MONIT	$i\prod_n$	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
fF3	PGMPLT	Command	Specify RPN program for PLT f	In Program Entry Mode, specify the RPN program (with MVAR variables) to be used as the function to be plotted, store values in variable(s), then activate PLT f and specify variable to plot for, X-axis limits set from stack (Y, X) ; TAM : PGMPLT __ TamLbLOnly menu ; Info : PGMPLT can nest PGMINT and PGMSLV inside : nesting is limited to 3, respectively 4 levels, on new models and simulator, but plot nesting is disabled on DM42 hardware ; Error 66 -- Nesting too deep -- may be raised ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	RPN Calculus and plotting		PGMPLT	
fF4	PGMINT	Command	Specify RPN program for $\int f dx$	In Program Entry Mode, specify the RPN program (with MVAR variables) to be used as the expression, store values in variable(s), then open menu $\int f dx$ and select integrator and variable to be integrated for, integrator limits set from stack (Y, X) ; TAM : PGMINT __ TamLbLOnly menu ; Info : PGMINT can nest PGMINT inside : nesting is limited to 3, respectively 4 levels, on new models and simulator, but nesting is limited to 2 levels on DM42 hardware ; Error 66 -- Nesting too deep -- may be raised	RPN Calculus and plotting	INTING	PGMINT	
fF5	PGMSLV	Command	Specify RPN program for SOLVE	In Program Entry Mode, specify the RPN program (with MVAR variables) to be used as the expression (= 0), store values in variable(s), then call SOLVE and specify variable to be solved for, solver estimates set from stack (Y, X) ; tolerance set by SDIGS, but the solver converges to graph precision while (nested inside) plotting ; TAM : PGMSLV __ TamLbLOnly menu ; Info : PGMSLV can nest PGMINT and PGMSLV inside : nesting is limited to 3, respectively 4 levels, on new models and simulator, but nesting is limited to 2 levels on DM42 hardware ; Error 66 -- Nesting too deep -- may be raised ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	RPN Calculus and plotting	SOLVING	PGMSLV	
fF6	PGMDRV	Command	Specify RPN program for f', f''	In Program Entry Mode, specify the RPN program (with MVAR variables) to be used as the function to be differentiated, store values in variable(s), then activate f' or f'' and specify variable to differentiate for and step size ; TAM : PGMDRV __ TamLbLOnly menu	RPN Calculus and plotting		PGMDRV	0
gF1	$\omega \sum_n$	Command	Infinite sum (RPN)	Approximate infinite sum using RPN program ; $\omega \sum_n$ (from Z to Y in steps of X, stopping when Y is reached, or - for Real output - when the last digit of the answer at the SDIGS setting does not change anymore) ; terms must be decreasing ; returns number of iterations in Y ; interrupt by [EXIT] -- see Formula_SIGMAN.png : https://47calc.com/doc/Images/Formula_SIGMAN.png ; TAM : $\omega \sum_n$ __ TamLbLOnly menu ; Info : <from> ENTER <to> ENTER <step> $\omega \sum_n$; displays Loop: n, current result, where n is iteration counter ; shown if flag MONIT is SET ; Ref : https://47calc.com/doc/Application%20Notes/AN0008_C47_JM_Programmed_Sums1.pdf	RPN Calculus and plotting	MONIT	$\omega \sum_n$	
gF2	SLVQ	Command	Solve quadratic	Solve the quadratic equation : $a \times x^2 + b \times x + c = 0$; parameters taken from 3 coefficients on the stack or from a 1x3 or 3x1 coefficient vector in X ; SLVQ also solves linear equations for 1x2 or 2x1 input and cubic for 1x4 or 4x1 ; tolerance set by SDIGS ; Info : a ENTER b ENTER c SLVQ ; roots 1, 2 in Y, X ; for vector input, roots are returned in a vector ; $zyx \rightarrow \vec{v}_3$ is available on menu [$\vec{v} \leftrightarrow \vec{v}.1$] F3 to create a 1x3 coefficient vector (also $yx \rightarrow \vec{v}_2$, $tz yx \rightarrow \vec{v}_4$)	RPN Calculus and plotting		SLVQ	
gF3	SLVC	Command	Solve cubic	Solve the cubic equation : $a_3 \times x^3 + a_2 \times x^2 + a_1 \times x + a_0 = 0$; parameters taken from 4 coefficients on the stack or from a 1x4 or 4x1 coefficient vector in X ; SLVC also solves linear equations for 1x2 or 2x1 input and quadratic for 1x3 or 3x1 ; tolerance set by SDIGS ; Info : a_3 ENTER a_2 ENTER a_1 ENTER a_0 SLVC ; roots 1, 2, 3 in Z, Y, X ; for vector input, roots are returned in a vector ; $tz yx \rightarrow \vec{v}_4$ is available on menu [$\vec{v} \leftrightarrow \vec{v}.1$] F5 to create a 1x4 coefficient vector (also $yx \rightarrow \vec{v}_2$, $zyx \rightarrow \vec{v}_3$)	RPN Calculus and plotting		SLVC	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF4	SLVP	Command	Solve polynomial	Solve the polynomial equation : $a_n \times x^n + a_{n-1} \times x^{n-1} + \dots + a_0 = 0$, $n \leq 11$; parameters taken from a $1 \times n+1$ or $n+1 \times 1$ coefficient vector in X ; tolerance set by SDIGS ; Ref : https://47calc.com/doc/Application%20Notes/AN0033_C47_R47_DE_Polynomial_roots.pdf	RPN Calculus and plotting		SLVP	
gF5								
gF6	f''	Command (submnu)	First derivative (RPN)	Numerically calculate first derivative using RPN program, at value of starred MVAR variable and using step size of δ_d , as specified using the buttons in the (MVAR (delta)) menu presented ; TAM : f'' __ TamLblOnly menu ; TI : $\delta =$; f'' $\approx$; Info : if no step size is entered, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	RPN Calculus and plotting		f''	

p1	ADV	Link
F1	$\sum_n$	
F2	$\prod_n$	
F3	PLT f	https://47calc.com/doc/C47/Menus/C47_Menu_PLTf_page_1.pdf
F4	$\int f d$	https://47calc.com/doc/C47/Menus/C47_Menu_Integral-fd_page_1.pdf
F5	SOLVE	
F6	f'	
fF1	$i\sum_n$	
fF2	$i\prod_n$	
fF3	PGMPLT	
fF4	PGMINT	
fF5	PGMSLV	
fF6	PGMDRV	
gF1	$\omega\sum_n$	
gF2	SLVQ	
gF3	SLVC	
gF4	SLVP	
gF5		
gF6	f''	

ALL	All variables					
g-shift	PV	STATS	↑EST	↑Lim	↑X	↑Y
f-shift	Mat_A	Mat_B	Mat_X	NPPER	PMT	PPER/a
unshifted	ACC	CPER/a	FV	GRAMOD	HISTO	I%/a
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	ALL	MENU (ASM)	All variables	Auto-generated catalog of all variables ; Info : Matrix variables STATS and HIST0 are also included in this menu, if created	Catalog		ALLVARS	
F1	ACC	Variable (real)	Accuracy of the integrator	Reserved Real variable for the accuracy of the integrator (ACC) ; set interactively from menu Toolf ; TI : 'ACC' :	Integrator		ACC	0
F2	CPER/a	Variable (real)	TVM compounding periods	Reserved Real variable for the TVM compounding periods per annum (cp/a) ; displays as c_a or c in menu TVM when value $\neq 0$; TI : CPER/a = Compounding periods p.a. =	Financial		CPER/a	12
F3	FV	Variable (real)	TVM future value	Reserved Real variable for the TVM future value (FV) ; displays as F in menu TVM when value is large ; TI : FV = Future Value =	Financial		FV	0
F4	GRAMOD	Variable (longint)	Graphics display mode	Reserved LongInteger variable for the graphics display mode (GRAMOD) ; set interactively from menu P.FN1 (AGRAPH) ; Info : OR: 0 ; SET: 1 ; OFF: 2 ; XOR: 3	Programming		GRAMOD	0
F5	HIST0	Variable (matrix)	Histogram matrix	Reserved Matrix variable (cannot be deleted) for the histogram matrix (HIST0) ; created from STATS using menu HIST ; not created after RESET	Plotting and statistics		HIST0	
F6	I%/a	Variable (real)	TVM annual interest rate	Reserved Real variable for the TVM annual interest rate as percentage (I/a) ; use 10 for 10%, not 0.1 ; displays as I_a or I in menu TVM when value is large ; TI : I%/a = I%YR = APR =	Financial		I%/a	0
ff1	Mat_A	Variable (matrix)	Matrix A	Reserved Matrix variable for the Matrix A (Mat A) ; enter equation coefficient matrix using menu M_SIMQ ; created after RESET	Matrix operations		Mat_A	
ff2	Mat_B	Variable (matrix)	Matrix B	Reserved Matrix variable for the Matrix B (Mat B) ; enter equation result vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_B	
ff3	Mat_X	Variable (matrix)	Matrix X	Reserved Matrix variable for the Matrix X (Mat X) ; calculate equation solution vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_X	
ff4	NPPER	Variable (real)	TVM number of payments	Reserved Real variable for the TVM number of payments (n) ; TI : NPPER = n pay periods =	Financial		NPPER	0
ff5	PMT	Variable (real)	TVM payment	Reserved Real variable for the TVM payment (PMT) ; displays as P_m or P in menu TVM when value is large ; TI : PMT = Payment =	Financial		PMT	0
ff6	PPER/a	Variable (real)	TVM payment period	Reserved Real variable for the TVM payment period per annum (pp/a) ; displays as p_a or p in menu TVM when value $\neq 0$; TI : PPER/a = Pay periods p.a. =	Financial		PPER/a	12
gf1	PV	Variable (real)	TVM present value	Reserved Real variable for the TVM present value (PV) ; displays as P_v or P in menu TVM when value is large ; TI : PV = Present Value =	Financial		PV	0
gf2	STATS	Variable (matrix)	Statistics matrix	Reserved Matrix variable (cannot be deleted) for the statistics matrix (STATS) ; created from data entered using $\Sigma+$; not created after RESET ; TI : Re-calculating sums ... ; may be shown when storing or loading the statistics matrix	Plotting and statistics		STATS	
gf3	$\uparrow$ EST	Variable (real)	Upper estimate for solver	Reserved Real variable for the upper estimate for solver ($\uparrow$ Est) ; displays as $\uparrow E$ in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv $\downarrow$ or cpxSlv $\downarrow$; Split screen : Displaying $\uparrow$ Est Upper = ; $\downarrow$ Est Lower =	Solver		$\uparrow$ EST	0
gf4	$\uparrow$ Lim	Variable (real)	Upper limit for integrator	Reserved Real variable for the upper limit for integrator ($\uparrow$ Lim) ; displays as $\uparrow L$ in menu Toolf for larger values ; set interactively from menu Toolf and set by $\int \downarrow$; TI : $\uparrow$ Upper limit :	Integrator		$\uparrow$ Lim	0
gf5	$\uparrow$ X	Variable (real)	Upper limit for X-axis	Reserved Real variable for the upper limit for X-axis ($\uparrow$ X) ; set interactively from menu Graphs and set by Draw $\downarrow$; TI : ' $\uparrow$ X' :	Plotting		$\uparrow$ X	10
gf6	$\uparrow$ Y	Variable (real)	Upper limit for Y-axis	Reserved Real variable for the upper limit for Y-axis ($\uparrow$ Y) ; set interactively from menu Graphs and set by Plot functions ; TI : ' $\uparrow$ Y' :	Plotting		$\uparrow$ Y	10

ALL	All variables					
g-shift						
f-shift						
unshifted	↓EST	↓Lim	↓X	↓Y		
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	ALL	MENU (ASM)	All variables	Auto-generated catalog of all variables ; Info : Matrix variables STATS and HIST0 are also included in this menu, if created	Catalog		ALLVARS	
F1	↓EST	Variable (real)	Lower estimate for solver	Reserved Real variable for the lower estimate for solver (↓Est) ; displays as ↓E in menu Tools for larger values ; set interactively from menu Tools and set by realSlv ^x or cpxSlv ^x ; Split screen : Displaying ↑Est Upper = ; ↓Est Lower =	Solver		↓EST	0
F2	↓Lim	Variable (real)	Lower limit for integrator	Reserved Real variable for the lower limit for integrator (↓Lim) ; displays as ↓L in menu Tools for larger values ; set interactively from menu Tools and set by ∫ _y ^x ; TI : ↓ Lower limit :	Integrator		↓Lim	0
F3	↓X	Variable (real)	Lower limit for X-axis	Reserved Real variable for the lower limit for X-axis (↓X) ; set interactively from menu Graphs and set by Draw ^x ; TI : '↓X' :	Plotting		↓X	-10
F4	↓Y	Variable (real)	Lower limit for Y-axis	Reserved Real variable for the lower limit for Y-axis (↓Y) ; set interactively from menu Graphs and set by Plot functions ; TI : '↓Y' :	Plotting		↓Y	0
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

ALPHA	Alpha input					
g-shift	CAPS ▣	NUM □	^{SUP} _{SUB} □	USER □	↑	↓
f-shift	Myα	X.EDIT	X.SWAP	ASN	←	→
unshifted	A...Ω	αMath	αMisc	αINTL	←	→
Page 1	F1	F2	F3	F4	F5	F6

Prev menu https://47calc.com/doc/C47/Menus/C47_Menu_ALLVARS_page_2.pdf

Next menu https://47calc.com/doc/C47/Menus/C47_Menu_AMORT_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	ALPHA	MENU	Alpha input	Alpha menu to enter, edit and clear alpha input ; Shortcut : alpha triple [f/g] (because HOME ^α is SET ; not available in TamAlpha) ; alpha longer [f/g] (because HOME ^α is SET) ; Info : Alpha Input Mode is opened in UPPERCASE ; menu CAT [ALPHA] is available on keyboard alpha f[+] ; alpha g-shift characters can also be reached from alpha longpress keyboard	Text input		ALPHA	
F1	A...Ω	MENU	ALPHA...OMEGA	Uppercase Greek characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		A...Ω	
F2	αMath	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		αMath	
F3	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F4	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F5	←	Arrow	Cursor left	Move cursor left	Text input			
F6	→	Arrow	Cursor right	Move cursor right	Text input			
fF1	Myα	MENU	MyAlpha	User menu to quickly access user selected special characters ; all buttons are user assignable ('riveted' look) ; initially unpopulated ; reset using Myα.R ; Shortcut : alpha long [EXIT] ; EIM long [EXIT]	Customisation		Myα	
fF2	X.EDIT	Command	Edit X	Edit contents of stack register X as text ; Shortcut : alpha long [ENTER] ; EIM long [ENTER]	Text input		X.EDIT	
fF3	X.SWAP	Command	Swap X	Swap contents of X register with input of alpha buffer or equation editor	Text input		X.SWAP	
fF4	ASN	Command	Assign	Assign function, menu or character to a keyboard key or to a button in a menu ; for options including creating user defined menus, see reference page ; TAM : ASSIGN α (f[XEQ]) activates "ASSIGN _" TamAlpha menu "_" and allows a function or command to be spelled, to assign it to a key or button ; Info : "ASSIGN _" indicates that a key or button can be pressed to assign it to another button or key ; use button ASN ([ALPHA.1] fF4) for character assignments in Alpha Input Mode ; this button is not shown in Program Entry Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Assignment.pdf	Text input		ASSIGN	
fF5	←10	Arrow	Cursor left by 10	Move cursor left by 10 positions	Text input			
fF6	→10	Arrow	Cursor right by 10	Move cursor right by 10 positions	Text input			
gF1	CAPS ▢	Setting	Alpha capslock	Switch on alpha capslock ; not programmable ; Shortcut : alpha f[▲] / alpha f[▼] ; Info : sets initial case of menu A...Ω/α...ω and αINTL/αintl ; toggling alpha capslock clears Numlock ; SBI : A ; a	Text input	αCAP		ON
gF2	NUM □	Setting	Numlock	Switch on numlock ; not programmable - in PEM, use flag NUM ; Shortcut : alpha f[▲] / alpha f[▼] ; SBI : N	Numeric input	NUM		OFF
gF3	^{SUP} SUB □	Setting (cyclic)	Normal-super-subscript	Cycle normal-super-subscript (locking) ; Shortcut : alpha g[▲] / alpha g[▼] ; Info : button shows ^{SUP} SUB ; α ^{SUP} ; α _{SUB} ; SBI : AA ^α ; αa ^α ; nN ^N	Text input			Normal
gF4	USER □	Setting	USER mode	Switch on USER mode ; not programmable - in PEM, use flag USER ; Info : To assign USER to a key or button, use ASN (f[1]) and spell the name as 'USER' ; during assignment, pressing USER (f[2]) opens MyMenu ; Ref : https://47calc.com/doc/C47/Reference/C47_Assignment.pdf ; SBI : U	Customisation	USER		OFF
gF5	↑	Arrow	Cursor up	Move cursor up	Text input			
gF6	↓	Arrow	Cursor down	Move cursor down	Text input			

p1	ALPHA	Link
F1	A...Ω	https://47calc.com/doc/C47/Menus/C47_Menu_Alpha-0mega_page_1.pdf
F2	αMath	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMATH_page_1.pdf
F3	αMisc	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMisc_page_1.pdf
F4	αINTL	https://47calc.com/doc/C47/Menus/C47_Menu_alphaINTL_page_1.pdf
F5	←	
F6	→	
fF1	Myα	https://47calc.com/doc/C47/Menus/C47_Menu_MyAlpha_page_1.pdf
fF2	X.EDIT	
fF3	X.SWAP	
fF4	ASN	
fF5	↔	
fF6	↔	
gF1	CAPS ☐	
gF2	NUM ☐	
gF3	^{SUP} _{SUB} ☐	
gF4	USER ☐	
gF5	↑	
gF6	↓	

α (ALPHA)	Alpha input					
g-shift	CAPS ▣	NUM □	^{SUP} _{SUB} □	USER □	↑	↓
f-shift	My α	X.EDIT	X.SWAP	ASN	←	→
unshifted	A... Ω	α Math	α Misc	α INTL	←	→
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Alpha-Omega_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	α (ALPHA)	MENU (item)	Alpha input	Open alpha menu to enter, edit and clear alpha input ; when TAM is active, open menu TamAlpha ; Shortcut : longpress [XEQ] (even when M.14 is ON) ; Info : Alpha Input Mode is opened in UPPERCASE ; menu CAT [ALPHA] is available on keyboard alpha f[+] ; alpha g-shift characters can also be reached from alpha longpress keyboard	Text input		ALPHA	
F1	A...Ω	MENU	ALPHA...OMEGA	Uppercase Greek characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		A...Ω	
F2	αMath	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		αMath	
F3	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F4	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F5	←	Arrow	Cursor left	Move cursor left	Text input			
F6	→	Arrow	Cursor right	Move cursor right	Text input			
fF1	Myα	MENU	MyAlpha	User menu to quickly access user selected special characters ; all buttons are user assignable ('riveted' look) ; initially unpopulated ; reset using Myα.R ; Shortcut : alpha long [EXIT] ; EIM long [EXIT]	Customisation		Myα	
fF2	X.EDIT	Command	Edit X	Edit contents of stack register X as text ; Shortcut : alpha long [ENTER] ; EIM long [ENTER]	Text input		X.EDIT	
fF3	X.SWAP	Command	Swap X	Swap contents of X register with input of alpha buffer or equation editor	Text input		X.SWAP	
fF4	ASN	Command	Assign	Assign function, menu or character to a keyboard key or to a button in a menu ; for options including creating user defined menus, see reference page ; TAM : ASSIGN α (f[XEQ]) activates "ASSIGN " - TamAlpha menu " and allows a function or command to be spelled, to assign it to a key or button ; Info : "ASSIGN _ " indicates that a key or button can be pressed to assign it to another button or key ; use button ASN ([ALPHA.1] fF4) for character assignments in Alpha Input Mode ; this button is not shown in Program Entry Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Assignment.pdf	Text input		ASSIGN	
fF5	←10	Arrow	Cursor left by 10	Move cursor left by 10 positions	Text input			
fF6	→10	Arrow	Cursor right by 10	Move cursor right by 10 positions	Text input			
gF1	CAPS ▢	Setting	Alpha capslock	Switch on alpha capslock ; not programmable ; Shortcut : alpha f[▲] / alpha f[▼] ; Info : sets initial case of menu A...Ω/a...ω and αINTL/αintl ; toggling alpha capslock clears Numlock ; SBI : A ; a	Text input	αCAP		ON
gF2	NUM □	Setting	Numlock	Switch on numlock ; not programmable - in PEM, use flag NUM ; Shortcut : alpha f[▲] / alpha f[▼] ; SBI : N	Numeric input	NUM		OFF
gF3	^{SUB} □	Setting (cyclic)	Normal-super-subscript	Cycle normal-super-subscript (locking) ; Shortcut : alpha g[▲] / alpha g[▼] ; Info : button shows ^{SUB} ; α ^{SUB} ; α _{SUB} ; SBI : AA ^A ; aa ^a ; nN ^N	Text input			Normal
gF4	USER □	Setting	USER mode	Switch on USER mode ; not programmable - in PEM, use flag USER ; Info : To assign USER to a key or button, use ASN (f[1]) and spell the name as 'USER' ; during assignment, pressing USER (f[2]) opens MyMenu ; Ref : https://47calc.com/doc/C47/Reference/C47_Assignment.pdf ; SBI : U	Customisation	USER		OFF
gF5	↑	Arrow	Cursor up	Move cursor up	Text input			
gF6	↓	Arrow	Cursor down	Move cursor down	Text input			

p1	α (ALPHA)	Link
F1	A... Ω	https://47calc.com/doc/C47/Menus/C47_Menu_Alpha-0mega_page_1.pdf
F2	α Math	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMATH_page_1.pdf
F3	α Misc	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMisc_page_1.pdf
F4	α INTL	https://47calc.com/doc/C47/Menus/C47_Menu_alphaINTL_page_1.pdf
F5	←	
F6	→	
fF1	My α	https://47calc.com/doc/C47/Menus/C47_Menu_MyAlpha_page_1.pdf
fF2	X.EDIT	
fF3	X.SWAP	
fF4	ASN	
fF5	↔	
fF6	↔	
gF1	CAPS ☐	
gF2	NUM ☐	
gF3	^{SUP} _{SUB} ☐	
gF4	USER ☐	
gF5	↑	
gF6	↓	

α .FN	Alpha functions					
g-shift	α TRIM	α REV	α IP	α MID	α LEFT	α RIGHT
f-shift	α SL	α SR	α RL	α RR	α LOWER	α UPPER
unshifted	FBR	$\alpha \rightarrow x$	$x \rightarrow \alpha$	α LENG	α POS	α PARSE
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_alphaINL_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	α.FN	MENU	Alpha functions	Alpha (text string) functions	Text functions		α.FN	
F1	FBR	Browser (nonpgm)	Font browser	Browse system fonts (character tables) ; Info : Press [EXIT] to exit Font browser and browse using [▲] and [▼] ; Ref : https://47calc.com/doc/C47/Reference/C47_Font_browser.pdf	Text functions		FBR	
F2	α→x	Function (monadic)	Alpha to X	Convert first alpha character of text string in register or variable to character code (hexadecimal) and remove this character ; TAM : α→x __ Tam menu ; Info : for empty text string, α→x returns 0 only	Text functions		α→x	
F3	x→α	Function (monadic)	X to alpha	Append character, character code (converted to character), text string or real matrix (converted to text string) to register or variable ; TAM : x→α __ Tam menu ; Info : when X is selected as the destination register or variable, the input is replaced, not appended to (unless it contains a text string in which case it is appended to itself) ; in all cases the original value of X is saved in LASTx ; Error 33 -- Output would exceed 508 characters -- may be raised	Text functions		x→α	
F4	αLENG	Command	Alpha length	Get length of text string in register or variable ; TAM : αLENG __ Tam menu	Text functions		αLENG	
F5	αPOS	Command	Alpha position	Get position (starting from 0) of substring, character or character code in X within text string in register or variable ; TAM : αPOS __ Tam menu ; Info : for substring not found or empty text string, αPOS returns -1	Text functions		αPOS	
F6	αPARSE	Command (strike)	Alpha parse	Parse alpha input for numeric content (in development)	Text functions		αPARSE	
fF1	αSL	Function (monadic)	Alpha shift left	Shift text string in register or variable to the left, deleting X characters ; TAM : αSL __ Tam menu ; Info : for empty text string, αSL acts as NOP	Text functions		αSL	
fF2	αSR	Function (monadic)	Alpha shift right	Shift text string in register or variable to the right, deleting X characters ; TAM : αSR __ Tam menu ; Info : for empty text string, αSR acts as NOP	Text functions		αSR	
fF3	αRL	Function (monadic)	Alpha rotate left	Rotate text string in register or variable by X characters to the left ; TAM : αRL __ Tam menu ; Info : for empty text string, αRL acts as NOP	Text functions		αRL	
fF4	αRR	Function (monadic)	Alpha rotate right	Rotate text string in register or variable by X characters to the right ; TAM : αRR __ Tam menu ; Info : for empty text string, αRR acts as NOP	Text functions		αRR	
fF5	αLOWER	Function (monadic)	Alpha lowercase	Lowercase of text string in register or variable ; TAM : αLOWER __ Tam menu	Text functions		αLOWER	
fF6	αUPPER	Function (monadic)	Alpha UPPERcase	Uppercase of text string in register or variable ; TAM : αUPPER __ Tam menu	Text functions		αUPPER	
gF1	αTRIM	Function (monadic)	Alpha trim	Trim character(s) in X from both sides of text string in register or variable ; X may contain a character or character code ; TAM : αTRIM __ Tam menu	Text functions		αTRIM	
gF2	αREV	Function (monadic)	Alpha reverse	Reverse text string in register or variable ; TAM : αREV __ Tam menu	Text functions		αREV	
gF3	αIP	Command	Alpha Integer Part	Append integer part of X to text string in register or variable ; TAM : αIP __ Tam menu ; Info : if the register or variable does not contain a text string, αIP will first convert it to text string	Text functions		αIP	
gF4	αMID	Command	Alpha middle	Get X characters of text string, starting at position Y ; X and Y are dropped ; TAM : αMID __ Tam menu	Text functions		αMID	
gF5	αLEFT	Command	Alpha left	Left X characters of text string in register or variable ; X is dropped ; TAM : αLEFT __ Tam menu	Text functions		αLEFT	
gF6	αRIGHT	Command	Alpha right	Right X characters of text string in register or variable ; X is dropped ; TAM : αRIGHT __ Tam menu	Text functions		αRIGHT	

A...Ω	ALPHA...OMEGA					
g-shift	M	N	Ξ	Ο	Π	Θ
f-shift	Z	H	Θ	I	K	Λ
unshifted	A	B	Γ	Δ	E	F
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	A...Ω	MENU	ALPHA...OMEGA	Uppercase Greek characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		A...Ω	
F1	A	Character	ALPHA	Greek character Α ; Fontcode : 0391 ₁₆ ; Info : press [▼] for α at [α...ω.1] F1	Characters			
F2	B	Character	BETA	Greek character Β ; Fontcode : 0392 ₁₆ ; Info : press [▼] for β at [α...ω.1] F2	Characters			
F3	Γ	Character	GAMMA	Greek character Γ ; Fontcode : 0393 ₁₆ ; Info : press [▼] for γ at [α...ω.1] F3	Characters			
F4	Δ	Character	DELTA	Greek character Δ ; Shortcut : alpha g [RCL] ; Info : Fontcode : 0394 ₁₆ ; press [▼] for δ at [α...ω.1] F4	Characters			
F5	E	Character	EPSILON	Greek character Ε ; Fontcode : 0395 ₁₆ ; Info : press [▼] for ε at [α...ω.1] F5	Characters			
F6	Φ	Character	DIGAMMA	Greek character Φ ; Fontcode : 03DC ₁₆ ; Info : press [▼] for ϕ at [α...ω.1] F6	Characters			
fF1	Z	Character	ZETA	Greek character Ζ ; Fontcode : 0396 ₁₆ ; Info : press [▼] for ζ at [α...ω.1] fF1	Characters			
fF2	H	Character	ETA	Greek character Η ; Fontcode : 0397 ₁₆ ; Info : press [▼] for η at [α...ω.1] fF2	Characters			
fF3	Θ	Character	THETA	Greek character Θ ; Fontcode : 0398 ₁₆ ; Info : press [▼] for θ at [α...ω.1] fF3	Characters			
fF4	I	Character	IOTA	Greek character Ι ; Fontcode : 0399 ₁₆ ; Info : press [▼] for ι at [α...ω.1] fF4	Characters			
fF5	K	Character	KAPPA	Greek character Κ ; Fontcode : 039A ₁₆ ; Info : press [▼] for κ at [α...ω.1] fF5	Characters			
fF6	Λ	Character	LAMDA	Greek character Λ ; Fontcode : 039B ₁₆ ; Info : press [▼] for λ at [α...ω.1] fF6	Characters			
gF1	M	Character	MU	Greek character Μ ; Fontcode : 039C ₁₆ ; Info : press [▼] for μ at [α...ω.1] gF1	Characters			
gF2	N	Character	NU	Greek character Ν ; Fontcode : 039D ₁₆ ; Info : press [▼] for ν at [α...ω.1] gF2	Characters			
gF3	Ξ	Character	XI	Greek character Ξ ; Fontcode : 039E ₁₆ ; Info : press [▼] for ξ at [α...ω.1] gF3	Characters			
gF4	Ο	Character	OMICRON	Greek character Ο ; Fontcode : 039F ₁₆ ; Info : press [▼] for ο at [α...ω.1] gF4	Characters			
gF5	Π	Character	PI	Greek character Π ; Fontcode : 03A0 ₁₆ ; Info : press [▼] for π at [α...ω.1] gF5	Characters			
gF6	Φ	Character	KOPPA	Greek character Φ ; Fontcode : 03D8 ₁₆ ; Info : press [▼] for ϕ at [α...ω.1] gF6	Characters			

A...Ω	ALPHA...OMEGA					
g-shift						
f-shift	χ	ψ	Ω	ϣ		
unshifted	ρ	Σ	Σ	Τ	Υ	Φ
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	A...Ω	MENU	ALPHA...OMEGA	Uppercase Greek characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		A...Ω	
F1	P	Character	RHO	Greek character P ; Fontcode : 03A1 ₁₆ ; Info : press [▼] for ρ at [α...ω.2] F1	Characters			
F2	Σ	Character	SIGMA	Greek character Σ ; Shortcut : alpha g [Σ+] ; Info : Fontcode : 03A3 ₁₆ ; press [▼] for σ at [α...ω.2] F2	Characters			
F3	Σ	Character	SIGMA	Greek character Σ ; Fontcode : 03A3 ₁₆ ; Info : press [▼] for ς at [α...ω.2] F3	Characters			
F4	T	Character	TAU	Greek character T ; Fontcode : 03A4 ₁₆ ; Info : press [▼] for τ at [α...ω.2] F4	Characters			
F5	Y	Character	UPSILON	Greek character Y ; Fontcode : 03A5 ₁₆ ; Info : press [▼] for υ at [α...ω.2] F5	Characters			
F6	Φ	Character	PHI	Greek character Φ ; Fontcode : 03A6 ₁₆ ; Info : press [▼] for φ at [α...ω.2] F6	Characters			
fF1	X	Character	CHI	Greek character X ; Fontcode : 03A7 ₁₆ ; Info : press [▼] for χ at [α...ω.2] fF1	Characters			
fF2	Ψ	Character	PSI	Greek character Ψ ; Fontcode : 03A8 ₁₆ ; Info : press [▼] for ψ at [α...ω.2] fF2	Characters			
fF3	Ω	Character	OMEGA	Greek character Ω ; Fontcode : 03A9 ₁₆ ; Info : press [▼] for ω at [α...ω.2] fF3	Characters			
fF4	ϳ	Character	SAMP1	Greek character ϳ ; Fontcode : 03E0 ₁₆ ; Info : press [▼] for ϳ at [α...ω.2] fF4	Characters			
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

A...Ω	ALPHA...OMEGA					
g-shift						
f-shift						
unshifted	İ			Ÿ		
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_alpha-omega-lower_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	Α...Ω	MENU	ALPHA...OMEGA	Uppercase Greek characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		Α...Ω	
F1	ϊ	Character	IOTA dialytika	Greek character ι̂ ; Fontcode : 03AA ₁₆ ; Info : press [▼] for ι̂ at [α...ω.3] F1	Characters			
F2								
F3								
F4	ϋ	Character	UPSILON dialytika	Greek character υ̂ ; Fontcode : 03AB ₁₆ ; Info : press [▼] for υ̂ at [α...ω.3] F4	Characters			
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

$\alpha \dots \omega$	alpha...omega					
g-shift	μ	ν	ξ	$\omicron$	π	φ
f-shift	ζ	η	θ	ι	κ	λ
unshifted	α	β	γ	δ	ϵ	ϕ
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_alpha-omega-lower_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	α...ω	MENU	alpha...omega	Lowercase Greek characters ; Info : Uppercase menu via [▲] ; single character selection	Characters		α...ω	
F1	α	Character	alpha	Greek character α ; Shortcut : alpha g[XEQ] ; Info : Fontcode : 03B1 ₁₆ ; press [▲] for A at [A...Ω.1] F1	Characters			
F2	β	Character	beta	Greek character β ; Fontcode : 03B2 ₁₆ ; Info : press [▲] for B at [A...Ω.1] F2	Characters			
F3	γ	Character	gamma	Greek character γ ; Fontcode : 03B3 ₁₆ ; Info : press [▲] for Γ at [A...Ω.1] F3	Characters			
F4	δ	Character	delta	Greek character δ ; Fontcode : 03B4 ₁₆ ; Info : press [▲] for Δ at [A...Ω.1] F4	Characters			
F5	ε	Character	epsilon	Greek character ε ; Fontcode : 03B5 ₁₆ ; Info : press [▲] for E at [A...Ω.1] F5	Characters			
F6	ϝ	Character	digamma	Greek character ϝ ; Fontcode : 03DD ₁₆ ; Info : press [▲] for F at [A...Ω.1] F6	Characters			
fF1	ζ	Character	zeta	Greek character ζ ; Fontcode : 03B6 ₁₆ ; Info : press [▲] for Z at [A...Ω.1] fF1	Characters			
fF2	η	Character	eta	Greek character η ; Fontcode : 03B7 ₁₆ ; Info : press [▲] for H at [A...Ω.1] fF2	Characters			
fF3	θ	Character	theta-script	Greek character θ ; Fontcode : 03D1 ₁₆ ; Info : press [▲] for Θ at [A...Ω.1] fF3	Characters			
fF4	ι	Character	iota	Greek character ι ; Fontcode : 03B9 ₁₆ ; Info : press [▲] for I at [A...Ω.1] fF4	Characters			
fF5	κ	Character	kappa	Greek character κ ; Fontcode : 03BA ₁₆ ; Info : press [▲] for K at [A...Ω.1] fF5	Characters			
fF6	λ	Character	lamda	Greek character λ ; Fontcode : 03BB ₁₆ ; Info : press [▲] for Λ at [A...Ω.1] fF6	Characters			
gF1	μ	Character	mu	Greek character μ ; Fontcode : 03BC ₁₆ ; Info : press [▲] for M at [A...Ω.1] gF1	Characters			
gF2	ν	Character	nu	Greek character ν ; Fontcode : 03BD ₁₆ ; Info : press [▲] for N at [A...Ω.1] gF2	Characters			
gF3	ξ	Character	xi	Greek character ξ ; Fontcode : 03BE ₁₆ ; Info : press [▲] for Ξ at [A...Ω.1] gF3	Characters			
gF4	ο	Character	omicron	Greek character ο ; Fontcode : 03BF ₁₆ ; Info : press [▲] for O at [A...Ω.1] gF4	Characters			
gF5	π	Character	pi	Greek character π ; Shortcut : alpha g[R+] ; Info : Fontcode : 03C0 ₁₆ ; press [▲] for Π at [A...Ω.1] gF5	Mathematics and characters			
gF6	ρ	Character	koppa	Greek character ρ ; Fontcode : 03D9 ₁₆ ; Info : press [▲] for ϐ at [A...Ω.1] gF6	Characters			

$\alpha \dots \omega$	alpha...omega					
g-shift	ά	έ	ή	ί	ϊ	
f-shift	χ	ψ	ω	ϣ		
unshifted	ρ	σ	ς	τ	υ	φ
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	α...ω	MENU	alpha...omega	Lowercase Greek characters ; Info : Uppercase menu via [▲] ; single character selection	Characters		α...ω	
F1	ρ	Character	rho	Greek character ρ ; Fontcode : 03C1 ₁₆ ; Info : press [▲] for P at [A...Ω.2] F1	Characters			
F2	σ	Character	sigma	Greek character σ ; Fontcode : 03C3 ₁₆ ; Info : press [▲] for Σ at [A...Ω.2] F2	Characters			
F3	ς	Character	final sigma	Greek character ς ; Fontcode : 03C2 ₁₆ ; Info : press [▲] for Σ at [A...Ω.2] F3	Characters			
F4	τ	Character	tau	Greek character τ ; Fontcode : 03C4 ₁₆ ; Info : press [▲] for T at [A...Ω.2] F4	Characters			
F5	υ	Character	upsilon	Greek character υ ; Fontcode : 03C5 ₁₆ ; Info : press [▲] for Υ at [A...Ω.2] F5	Characters			
F6	φ	Character	phi	Greek character φ ; Fontcode : 03C6 ₁₆ ; Info : press [▲] for Φ at [A...Ω.2] F6	Characters			
fF1	χ	Character	chi	Greek character χ ; Fontcode : 03C7 ₁₆ ; Info : press [▲] for X at [A...Ω.2] fF1	Characters			
fF2	ψ	Character	psi	Greek character ψ ; Fontcode : 03C8 ₁₆ ; Info : press [▲] for Ψ at [A...Ω.2] fF2	Characters			
fF3	ω	Character	omega	Greek character ω ; Fontcode : 03C9 ₁₆ ; Info : press [▲] for Ω at [A...Ω.2] fF3	Characters			
fF4	ϣ	Character	sampi	Greek character ϣ ; Fontcode : 03E1 ₁₆ ; Info : press [▲] for ϣ at [A...Ω.2] fF4	Characters			
fF5								
fF6								
gF1	ά	Character	alpha tonos	Greek character ά ; Fontcode : 03AC ₁₆	Characters			
gF2	έ	Character	epsilon tonos	Greek character έ ; Fontcode : 03AD ₁₆	Characters			
gF3	ή	Character	eta tonos	Greek character ή ; Fontcode : 03AE ₁₆	Characters			
gF4	ί	Character	iota tonos	Greek character ί ; Fontcode : 03AF ₁₆	Characters			
gF5	ϊ	Character	iota dialytika tonos	Greek character ῖ ; Fontcode : 0390 ₁₆	Characters			
gF6								

α...ω	alpha...omega					
g-shift						
f-shift						
unshifted	ĩ	ó	ú	ü	Û	ŭ
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_alpha-FN_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	α...ω	MENU	alpha...omega	Lowercase Greek characters ; Info : Uppercase menu via [▲] ; single character selection	Characters		α...ω	
F1	ϊ	Character	iota dialytika	Greek character ι ; Fontcode : 03CA ₁₆ ; Info : press [▲] for Ī at [A...Ω.3] F1	Characters			
F2	ό	Character	omicron tonos	Greek character ó ; Fontcode : 03CC ₁₆	Characters			
F3	ύ	Character	upsilon tonos	Greek character ú ; Fontcode : 03CD ₁₆	Characters			
F4	ϋ	Character	upsilon dialytika	Greek character ü ; Fontcode : 03CB ₁₆ ; Info : press [▲] for Ÿ at [A...Ω.3] F4	Characters			
F5	ϛ	Character	upsilon dialytika tonos	Greek character ũ ; Fontcode : 03B0 ₁₆	Characters			
F6	ώ	Character	omega tonos	Greek character ô ; Fontcode : 03CE ₁₆	Characters			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

αINTL	Alpha international					
g-shift	Č	Ď	Ð	È	É	Ê
f-shift	Æ	Ā	Ǻ	Ą	Ç	Ć
unshifted	À	Á	Â	Ã	Ä	Å
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F1	À	Character	A grave	International character À ; Fontcode : 00C0 ₁₆ ; Info : press [▼] for à at [aintl.1]F1	Characters			
F2	Á	Character	A acute	International character Á ; Fontcode : 00C1 ₁₆ ; Info : press [▼] for á at [aintl.1]F2	Characters			
F3	Â	Character	A circumflex	International character Â ; Fontcode : 00C2 ₁₆ ; Info : press [▼] for â at [aintl.1]F3	Characters			
F4	Ã	Character	A tilde	International character Ã ; Fontcode : 00C3 ₁₆ ; Info : press [▼] for ã at [aintl.1]F4	Characters			
F5	Ä	Character	A diaeresis	International character Ä ; Fontcode : 00C4 ₁₆ ; Info : press [▼] for ä at [aintl.1]F5	Characters			
F6	Å	Character	A ring	International character Å ; Fontcode : 00C5 ₁₆ ; Info : press [▼] for å at [aintl.1]F6	Characters			
fF1	Æ	Character	AE	International character Æ ; Fontcode : 00C6 ₁₆ ; Info : press [▼] for æ at [aintl.1]fF1	Characters			
fF2	Ā	Character	A macron	International character Ā ; Fontcode : 017F ₁₆ ; exported as 0100 ₁₆ ; Info : press [▼] for ā at [aintl.1]fF2	Characters			
fF3	Ă	Character	A breve	International character Ă ; Fontcode : 0102 ₁₆ ; Info : press [▼] for ă at [aintl.1]fF3	Characters			
fF4	Ą	Character	A ogonek	International character Ą ; Fontcode : 0104 ₁₆ ; Info : press [▼] for ą at [aintl.1]fF4	Characters			
fF5	Ç	Character	C cedilla	International character Ç ; Fontcode : 00C7 ₁₆ ; Info : press [▼] for ç at [aintl.1]fF5	Characters			
fF6	Ć	Character	C acute	International character Ć ; Fontcode : 0106 ₁₆ ; Info : press [▼] for ć at [aintl.1]fF6	Characters			
gF1	Č	Character	C caron	International character Č ; Fontcode : 010C ₁₆ ; Info : press [▼] for č at [aintl.1]gF1	Characters			
gF2	Ď	Character	D caron	International character Ď ; Fontcode : 010E ₁₆	Characters			
gF3	Ð	Character	D stroke	International character Ð ; Fontcode : 0110 ₁₆ ; Info : press [▼] for ð at [aintl.1]gF3	Characters			
gF4	È	Character	E grave	International character È ; Fontcode : 00C8 ₁₆ ; Info : press [▼] for è at [aintl.1]gF4	Characters			
gF5	É	Character	E acute	International character É ; Fontcode : 00C9 ₁₆ ; Info : press [▼] for é at [aintl.1]gF5	Characters			
gF6	Ê	Character	E circumflex	International character Ê ; Fontcode : 00CA ₁₆ ; Info : press [▼] for ê at [aintl.1]gF6	Characters			

αINTL	Alpha international					
g-shift	İ	ı	î	í	ì	ï
f-shift	ö	ï	ï	ÿ	ÿ	ÿ
unshifted	ë	ë	ë	ë	ë	ë
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F1	Ë	Character	E diaeresis	International character Ë ; Fontcode : 00CB ₁₆ ; Info : press [▼] for ë at [aintl.2] F1	Characters			
F2	Ê	Character	E macron	International character Ê ; Fontcode : 0112 ₁₆ ; Info : press [▼] for ê at [aintl.2] F2	Characters			
F3	Ẽ	Character	E breve	International character Ẽ ; Fontcode : 0114 ₁₆ ; Info : press [▼] for ẽ at [aintl.2] F3	Characters			
F4	Ė	Character	E dot	International character Ė ; Fontcode : 0116 ₁₆ ; Info : press [▼] for ė at [aintl.2] F4	Characters			
F5	Ę	Character	E ogonek	International character Ę ; Fontcode : 0118 ₁₆ ; Info : press [▼] for ę at [aintl.2] F5	Characters			
F6	Ě	Character	E caron	International character Ě ; Fontcode : 011A ₁₆ ; Info : press [▼] for ě at [aintl.2] F6	Characters			
fF1	Ġ	Character	G breve	International character Ġ ; Fontcode : 011E ₁₆ ; Info : press [▼] for ġ at [aintl.2] fF1	Characters			
fF2	İ	Character	I grave	International character İ ; Fontcode : 00CC ₁₆ ; Info : press [▼] for ï at [aintl.2] fF2	Characters			
fF3	Í	Character	I accute	International character Í ; Fontcode : 00CD ₁₆ ; Info : press [▼] for í at [aintl.2] fF3	Characters			
fF4	Î	Character	I circumflex	International character Î ; Fontcode : 00CE ₁₆ ; Info : press [▼] for î at [aintl.2] fF4	Characters			
fF5	Ï	Character	I diaeresis	International character Ï ; Fontcode : 00CF ₁₆ ; Info : press [▼] for ï at [aintl.2] fF5	Characters			
fF6	Ī	Character	I macron	International character Ī ; Fontcode : 012A ₁₆ ; Info : press [▼] for ī at [aintl.2] fF6	Characters			
gF1	Ĭ	Character	I breve	International character Ĭ ; Fontcode : 012C ₁₆ ; Info : press [▼] for ĭ at [aintl.2] gF1	Characters			
gF2	Į	Character	I ogonek	International character Į ; Fontcode : 012E ₁₆ ; Info : press [▼] for į at [aintl.2] gF2	Characters			
gF3	İ	Character	I dot	International character İ ; Fontcode : 0130 ₁₆ ; Info : press [▼] for ı at [aintl.2] gF3 (not Lowercase of İ)	Characters			
gF4	Ĺ	Character	L accute	International character Ĺ ; Fontcode : 0139 ₁₆ ; Info : press [▼] for ľ at [aintl.2] gF4	Characters			
gF5	Ł	Character	L apostrophe	International character Ł ; Fontcode : 013D ₁₆ ; Info : press [▼] for ł at [aintl.2] gF5	Characters			
gF6	Ł	Character	L stroke	International character Ł ; Fontcode : 0141 ₁₆ ; Info : press [▼] for ł at [aintl.2] gF6	Characters			

αINTL	Alpha international					
g-shift	Ŕ	Ř	Ś	Ş	Š	ß
f-shift	Ō	Ȫ	Ø	Ȫ	Ȫ	Œ
unshifted	Ň	Ŋ	Ŋ	Ȫ	Ȫ	Ȫ
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F1	Ñ	Character	N tilde	International character Ñ ; Fontcode : 00D1 ₁₆ ; Info : press [▼] for ñ at [aintl.3] F1	Characters			
F2	Ń	Character	N accute	International character Ń ; Fontcode : 0143 ₁₆ ; Info : press [▼] for ń at [aintl.3] F2	Characters			
F3	Ñ	Character	N caron	International character Ñ ; Fontcode : 0147 ₁₆ ; Info : press [▼] for ñ at [aintl.3] F3	Characters			
F4	ò	Character	O grave	International character ò ; Fontcode : 00D2 ₁₆ ; Info : press [▼] for ò at [aintl.3] F4	Characters			
F5	ó	Character	O accute	International character ó ; Fontcode : 00D3 ₁₆ ; Info : press [▼] for ó at [aintl.3] F5	Characters			
F6	ô	Character	O circumflex	International character ô ; Fontcode : 00D4 ₁₆ ; Info : press [▼] for ô at [aintl.3] F6	Characters			
fF1	ö	Character	O tilde	International character ö ; Fontcode : 00D5 ₁₆ ; Info : press [▼] for ö at [aintl.3] fF1	Characters			
fF2	ö	Character	O diaeresis	International character ö ; Fontcode : 00D6 ₁₆ ; Info : press [▼] for ö at [aintl.3] fF2	Characters			
fF3	ø	Character	O stroke	International character ø ; Fontcode : 00D8 ₁₆ ; Info : press [▼] for ø at [aintl.3] fF3	Characters			
fF4	ō	Character	O macron	International character ō ; Fontcode : 014C ₁₆ ; Info : press [▼] for ō at [aintl.3] fF4	Characters			
fF5	ő	Character	O breve	International character ő ; Fontcode : 014E ₁₆ ; Info : press [▼] for ő at [aintl.3] fF5	Characters			
fF6	œ	Character	OE	International character œ ; Fontcode : 0152 ₁₆ ; Info : press [▼] for œ at [aintl.3] fF6	Characters			
gF1	Ŕ	Character	R accute	International character Ŕ ; Fontcode : 0154 ₁₆ ; Info : press [▼] for ŕ at [aintl.3] gF1	Characters			
gF2	Ř	Character	R caron	International character Ř ; Fontcode : 0158 ₁₆ ; Info : press [▼] for ř at [aintl.3] gF2	Characters			
gF3	Ś	Character	S accute	International character Ś ; Fontcode : 015A ₁₆ ; Info : press [▼] for ś at [aintl.3] gF3	Characters			
gF4	Ş	Character	S cedilla	International character Ş ; Fontcode : 015E ₁₆ ; Info : press [▼] for ş at [aintl.3] gF4	Characters			
gF5	Š	Character	S caron	International character Š ; Fontcode : 0160 ₁₆ ; Info : press [▼] for š at [aintl.3] gF5	Characters			
gF6	ß	Character	sz	International character ß ; Fontcode : 00DF ₁₆ ; Info : press [▼] for ß at [aintl.3] gF6	Characters			

αINTL	Alpha international					
g-shift	Ÿ	Ŷ	Ỹ	Ž	Ż	Ž
f-shift	Ů	Ū	Ŭ	Ű	Ų	Ŵ
unshifted	Ť	Ŧ	Ũ	Ú	Û	Ü
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F1	Ț	Character	T cedilla	International character Ț ; Fontcode : 0162 ₁₆ ; Info : press [▼] for ț at [aintl.4] F1	Characters			
F2	Ț	Character	T caron	International character Ț ; Fontcode : 0164 ₁₆	Characters			
F3	Û	Character	U grave	International character Û ; Fontcode : 00D9 ₁₆ ; Info : press [▼] for û at [aintl.4] F3	Characters			
F4	Ú	Character	U acute	International character Ú ; Fontcode : 00DA ₁₆ ; Info : press [▼] for ú at [aintl.4] F4	Characters			
F5	Û	Character	U circumflex	International character Û ; Fontcode : 00DB ₁₆ ; Info : press [▼] for û at [aintl.4] F5	Characters			
F6	Ü	Character	U diaeresis	International character Ü ; Fontcode : 00DC ₁₆ ; Info : press [▼] for ü at [aintl.4] F6	Characters			
fF1	Ü	Character	U tilde	International character Ü ; Fontcode : 0168 ₁₆ ; Info : press [▼] for ü at [aintl.4] fF1	Characters			
fF2	Ū	Character	U macron	International character Ū ; Fontcode : 016A ₁₆ ; Info : press [▼] for ū at [aintl.4] fF2	Characters			
fF3	Ŭ	Character	U breve	International character Ŭ ; Fontcode : 016C ₁₆ ; Info : press [▼] for ŭ at [aintl.4] fF3	Characters			
fF4	Ů	Character	U ring	International character Ů ; Fontcode : 016E ₁₆ ; Info : press [▼] for ů at [aintl.4] fF4	Characters			
fF5	Ų	Character	U ogonek	International character Ų ; Fontcode : 0172 ₁₆ ; Info : press [▼] for ų at [aintl.4] fF5	Characters			
fF6	Ŵ	Character	W circumflex	International character Ŵ ; Fontcode : 0174 ₁₆ ; Info : press [▼] for ŵ at [aintl.4] fF6	Characters			
gF1	Ÿ	Character	Y acute	International character Ÿ ; Fontcode : 00DD ₁₆ ; Info : press [▼] for ý at [aintl.4] gF1	Characters			
gF2	Ŷ	Character	Y circumflex	International character Ŷ ; Fontcode : 0176 ₁₆ ; Info : press [▼] for ŷ at [aintl.4] gF2	Characters			
gF3	Ÿ	Character	Y diaeresis	International character Ÿ ; Fontcode : 0178 ₁₆ ; Info : press [▼] for ŷ at [aintl.4] gF3	Characters			
gF4	Ž	Character	Z acute	International character Ž ; Fontcode : 0179 ₁₆ ; Info : press [▼] for ž at [aintl.4] gF4	Characters			
gF5	Ž	Character	Z dot	International character Ž ; Fontcode : 017B ₁₆ ; Info : press [▼] for ž at [aintl.4] gF5	Characters			
gF6	Ž	Character	Zcaron	International character Ž ; Fontcode : 017D ₁₆ ; Info : press [▼] for ž at [aintl.4] gF6	Characters			

αintl	alpha international					
g-shift	č	d'	đ	è	é	ê
f-shift	æ	ā	ǎ	ạ	ç	ć
unshifted	à	á	â	ã	ä	å
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	aintl	MENU	alpha international	Lowercase international characters ; Info : Uppercase menu via [▲] ; single character selection	Characters		aintl	
F1	à	Character	a grave	International character à ; Fontcode : 00E0 ₁₆ ; Info : press [▲] for Â at [aintl.1]F1	Characters			
F2	á	Character	a accute	International character á ; Fontcode : 00E1 ₁₆ ; Info : press [▲] for Ã at [aintl.1]F2	Characters			
F3	â	Character	a circumflex	International character â ; Fontcode : 00E2 ₁₆ ; Info : press [▲] for Ä at [aintl.1]F3	Characters			
F4	ã	Character	a tilde	International character ã ; Fontcode : 00E3 ₁₆ ; Info : press [▲] for Å at [aintl.1]F4	Characters			
F5	ä	Character	a diaeresis	International character ä ; Fontcode : 00E4 ₁₆ ; Info : press [▲] for Ä at [aintl.1]F5	Characters			
F6	å	Character	a ring	International character å ; Fontcode : 00E5 ₁₆ ; Info : press [▲] for Å at [aintl.1]F6	Characters			
fF1	æ	Character	ae	International character æ ; Fontcode : 00E6 ₁₆ ; Info : press [▲] for Æ at [aintl.1]fF1	Characters			
fF2	ā	Character	a macron	International character ā ; Fontcode : 0101 ₁₆ ; Info : press [▲] for Ă at [aintl.1]fF2	Characters			
fF3	ă	Character	a breve	International character ă ; Fontcode : 0103 ₁₆ ; Info : press [▲] for Ä at [aintl.1]fF3	Characters			
fF4	ą	Character	a ogonek	International character ą ; Fontcode : 0105 ₁₆ ; Info : press [▲] for Ą at [aintl.1]fF4	Characters			
fF5	ç	Character	c cedilla	International character ç ; Fontcode : 00E7 ₁₆ ; Info : press [▲] for Ç at [aintl.1]fF5	Characters			
fF6	ć	Character	c accute	International character ć ; Fontcode : 0107 ₁₆ ; Info : press [▲] for Ć at [aintl.1]fF6	Characters			
gF1	č	Character	c caron	International character č ; Fontcode : 010D ₁₆ ; Info : press [▲] for Č at [aintl.1]gF1	Characters			
gF2	ď	Character	d apostrophe	International character ď ; Fontcode : 010F ₁₆	Characters			
gF3	đ	Character	d stroke	International character đ ; Fontcode : 0111 ₁₆ ; Info : press [▲] for Đ at [aintl.1]gF3	Characters			
gF4	è	Character	e grave	International character è ; Fontcode : 00E8 ₁₆ ; Info : press [▲] for Ê at [aintl.1]gF4	Characters			
gF5	é	Character	e accute	International character é ; Fontcode : 00E9 ₁₆ ; Info : press [▲] for É at [aintl.1]gF5	Characters			
gF6	ê	Character	e circumflex	International character ê ; Fontcode : 00EA ₁₆ ; Info : press [▲] for Ê at [aintl.1]gF6	Characters			

αintl	alpha international					
g-shift	ĩ	ı	ı	î	ı'	ı
f-shift	ğ	ı	ı	î	ı	ı
unshifted	ë	ē	ě	è	ę	ě
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	aintl	MENU	alpha international	Lowercase international characters ; Info : Uppercase menu via [▲] ; single character selection	Characters		aintl	
F1	ë	Character	e diaeresis	International character ë ; Fontcode : 00EB ₁₆ ; Info : press [▲] for È at [aintl.2] F1	Characters			
F2	ē	Character	e macron	International character ē ; Fontcode : 0113 ₁₆ ; Info : press [▲] for Ê at [aintl.2] F2	Characters			
F3	ẽ	Character	e breve	International character ẽ ; Fontcode : 0115 ₁₆ ; Info : press [▲] for Ë at [aintl.2] F3	Characters			
F4	ė	Character	e dot	International character ė ; Fontcode : 0117 ₁₆ ; Info : press [▲] for Ě at [aintl.2] F4	Characters			
F5	ę	Character	e ogonek	International character ę ; Fontcode : 0119 ₁₆ ; Info : press [▲] for Ė at [aintl.2] F5	Characters			
F6	ě	Character	e caron	International character ě ; Fontcode : 011B ₁₆ ; Info : press [▲] for Ě at [aintl.2] F6	Characters			
fF1	ġ	Character	g breve	International character ġ ; Fontcode : 011F ₁₆ ; Info : press [▲] for Ğ at [aintl.2] fF1	Characters			
fF2	ì	Character	i grave	International character ì ; Fontcode : 00EC ₁₆ ; Info : press [▲] for İ at [aintl.2] fF2	Characters			
fF3	í	Character	i accute	International character í ; Fontcode : 00ED ₁₆ ; Info : press [▲] for İ at [aintl.2] fF3	Characters			
fF4	î	Character	i circumflex	International character î ; Fontcode : 00EE ₁₆ ; Info : press [▲] for Î at [aintl.2] fF4	Characters			
fF5	ï	Character	i diaeresis	International character ï ; Fontcode : 00EF ₁₆ ; Info : press [▲] for Ĩ at [aintl.2] fF5	Characters			
fF6	ĩ	Character	i macron	International character ĩ ; Fontcode : 012B ₁₆ ; Info : press [▲] for Ī at [aintl.2] fF6	Characters			
gF1	ĭ	Character	i breve	International character ĭ ; Fontcode : 012D ₁₆ ; Info : press [▲] for Ĳ at [aintl.2] gF1	Characters			
gF2	į	Character	i ogonek	International character į ; Fontcode : 012F ₁₆ ; Info : press [▲] for Į at [aintl.2] gF2	Characters			
gF3	ı	Character	i dotless	International character ı ; Fontcode : 0131 ₁₆ ; Info : press [▲] for İ at [aintl.2] gF3 (not UPPERcase of İ)	Characters			
gF4	ĺ	Character	l accute	International character ĺ ; Fontcode : 013A ₁₆ ; Info : press [▲] for Ľ at [aintl.2] gF4	Characters			
gF5	ł	Character	l apostrophe	International character ł ; Fontcode : 013E ₁₆ ; Info : press [▲] for Ĺ at [aintl.2] gF5	Characters			
gF6	ł	Character	l stoke	International character ł ; Fontcode : 0142 ₁₆ ; Info : press [▲] for Ł at [aintl.2] gF6	Characters			

αintl	alpha international					
g-shift	ř	ř̃	ś	ş	š	ß
f-shift	ō	ō̃	ø	õ	ö	œ
unshifted	ñ	ñ̃	ñ̂	ò	ó	ô
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	aintl	MENU	alpha international	Lowercase international characters ; Info : Uppercase menu via [▲] ; single character selection	Characters		aintl	
F1	ñ	Character	n tilde	International character ñ ; Fontcode : 00F1 ₁₆ ; Info : press [▲] for Ñ at [aintl.3]F1	Characters			
F2	ń	Character	n accute	International character ń ; Fontcode : 0144 ₁₆ ; Info : press [▲] for Ń at [aintl.3]F2	Characters			
F3	ň	Character	n caron	International character ŋ ; Fontcode : 0148 ₁₆ ; Info : press [▲] for Ň at [aintl.3]F3	Characters			
F4	ò	Character	o grave	International character ò ; Fontcode : 00F2 ₁₆ ; Info : press [▲] for Ò at [aintl.3]F4	Characters			
F5	ó	Character	o accute	International character ó ; Fontcode : 00F3 ₁₆ ; Info : press [▲] for Ó at [aintl.3]F5	Characters			
F6	ô	Character	o circumflex	International character ô ; Fontcode : 00F4 ₁₆ ; Info : press [▲] for Ô at [aintl.3]F6	Characters			
fF1	õ	Character	o tilde	International character õ ; Fontcode : 00F5 ₁₆ ; Info : press [▲] for Õ at [aintl.3]fF1	Characters			
fF2	ö	Character	o diaresis	International character ö ; Fontcode : 00F6 ₁₆ ; Info : press [▲] for Ö at [aintl.3]fF2	Characters			
fF3	ø	Character	o stroke	International character ø ; Fontcode : 00F8 ₁₆ ; Info : press [▲] for Ø at [aintl.3]fF3	Characters			
fF4	ō	Character	o macron	International character ō ; Fontcode : 014D ₁₆ ; Info : press [▲] for Ō at [aintl.3]fF4	Characters			
fF5	ö	Character	o breve	International character ö ; Fontcode : 014F ₁₆ ; Info : press [▲] for Ö at [aintl.3]fF5	Characters			
fF6	œ	Character	oe	International character œ ; Fontcode : 0153 ₁₆ ; Info : press [▲] for Œ at [aintl.3]fF6	Characters			
gF1	ř	Character	r accute	International character ř ; Fontcode : 0155 ₁₆ ; Info : press [▲] for Ř at [aintl.3]gF1	Characters			
gF2	ř	Character	r caron	International character ř ; Fontcode : 0159 ₁₆ ; Info : press [▲] for Ř at [aintl.3]gF2	Characters			
gF3	ś	Character	s accute	International character ś ; Fontcode : 015B ₁₆ ; Info : press [▲] for Ś at [aintl.3]gF3	Characters			
gF4	ş	Character	s cedilla	International character ş ; Fontcode : 015F ₁₆ ; Info : press [▲] for Ş at [aintl.3]gF4	Characters			
gF5	š	Character	s caron	International character š ; Fontcode : 0161 ₁₆ ; Info : press [▲] for Š at [aintl.3]gF5	Characters			
gF6	ß	Character	sz	International character ß ; Fontcode : 00DF ₁₆ ; Info : press [▲] for ß at [aintl.3]gF6	Characters			

αintl	alpha international					
g-shift	ý	ÿ	ÿ	ž	ž	ž
f-shift	ũ	ũ	ũ	ũ	ų	û
unshifted	ţ	ţ	ũ	ú	û	ü
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	aintl	MENU	alpha international	Lowercase international characters ; Info : Uppercase menu via [▲] ; single character selection	Characters		aintl	
F1	ț	Character	t cedilla	International character ț ; Fontcode : 0163 ₁₆ ; Info : press [▲] for Ț at [aintl.4]F1	Characters			
F2	ť	Character	t apostrophe	International character ě ; Fontcode : 0165 ₁₆	Characters			
F3	û	Character	u grave	International character ù ; Fontcode : 00F9 ₁₆ ; Info : press [▲] for Û at [aintl.4]F3	Characters			
F4	ú	Character	u acute	International character ú ; Fontcode : 00FA ₁₆ ; Info : press [▲] for Ú at [aintl.4]F4	Characters			
F5	ü	Character	u circumflex	International character ü ; Fontcode : 00FB ₁₆ ; Info : press [▲] for Ü at [aintl.4]F5	Characters			
F6	ü	Character	u diaeresis	International character ü ; Fontcode : 00FC ₁₆ ; Info : press [▲] for Ü at [aintl.4]F6	Characters			
ff1	ü	Character	u tilde	International character ü ; Fontcode : 0169 ₁₆ ; Info : press [▲] for Ü at [aintl.4]ff1	Characters			
ff2	ü	Character	u macron	International character ü ; Fontcode : 016B ₁₆ ; Info : press [▲] for Ü at [aintl.4]ff2	Characters			
ff3	ü	Character	u breve	International character ü ; Fontcode : 016D ₁₆ ; Info : press [▲] for Ü at [aintl.4]ff3	Characters			
ff4	ü	Character	u ring	International character ü ; Fontcode : 016F ₁₆ ; Info : press [▲] for Ü at [aintl.4]ff4	Characters			
ff5	ų	Character	u ogonek	International character ų ; Fontcode : 0173 ₁₆ ; Info : press [▲] for Ų at [aintl.4]ff5	Characters			
ff6	ŵ	Character	w circumflex	International character ŵ ; Fontcode : 0175 ₁₆ ; Info : press [▲] for Ŷ at [aintl.4]ff6	Characters			
gF1	ý	Character	y acute	International character ý ; Fontcode : 00FD ₁₆ ; Info : press [▲] for Ý at [aintl.4]gF1	Characters			
gF2	ÿ	Character	y circumflex	International character ÿ ; Fontcode : 0177 ₁₆ ; Info : press [▲] for Ÿ at [aintl.4]gF2	Characters			
gF3	ÿ	Character	y diaeresis	International character ÿ ; Fontcode : 00FF ₁₆ ; Info : press [▲] for Ÿ at [aintl.4]gF3	Characters			
gF4	ž	Character	z acute	International character ž ; Fontcode : 017A ₁₆ ; Info : press [▲] for Ž at [aintl.4]gF4	Characters			
gF5	ž	Character	z dot	International character ž ; Fontcode : 017C ₁₆ ; Info : press [▲] for Ž at [aintl.4]gF5	Characters			
gF6	ž	Character	z caron	International character ž ; Fontcode : 017E ₁₆ ; Info : press [▲] for Ž at [aintl.4]gF6	Characters			

α Math	Alpha Math					
g-shift	\	/	$\div$	$\times$	-	+
f-shift	{	[	(	)	]	}
unshifted	<	$\leq$	=	$\neq$	$\geq$	>
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	αMath	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		αMath	
F1	<	Character	Less than	Mathematical symbol < ; Fontcode : 003C ₁₆	Characters			
F2	≤	Character	Less or equal than	Mathematical symbol ≤ ; Fontcode : 2264 ₁₆	Characters			
F3	=	Character	Equal	Mathematical symbol = ; Info : Fontcode : 003D ₁₆	Mathematics and characters			
F4	≠	Character	Not equal to	Mathematical symbol ≠ ; Fontcode : 2260 ₁₆	Characters			
F5	≥	Character	Greater or equal than	Mathematical symbol ≥ ; Fontcode : 2265 ₁₆	Characters			
F6	>	Character	Greater than	Mathematical symbol > ; Fontcode : 003E ₁₆	Characters			
fF1	{	Character	Left curly bracket	Mathematical symbol { ; Fontcode : 007B ₁₆	Characters			
fF2	[	Character	Left square bracket	Mathematical symbol [; Fontcode : 005B ₁₆	Characters			
fF3	(	Character	Left parenthesis	Mathematical symbol (; Fontcode : 0028 ₁₆	Mathematics and characters			
fF4	)	Character	Right parenthesis	Mathematical symbol) ; Fontcode : 0029 ₁₆	Mathematics and characters			
fF5	]	Character	Right square bracket	Mathematical symbol] ; Fontcode : 005D ₁₆	Characters			
fF6	}	Character	Right curly bracket	Mathematical symbol } ; Fontcode : 007D ₁₆	Characters			
gF1	\	Character	Back slash	Mathematical symbol \ ; Fontcode : 005C ₁₆	Characters			
gF2	/	Character	Slash	Mathematical symbol / ; Shortcut : alpha g[R/S] ; Info : Fontcode : 002F ₁₆	Characters			
gF3	÷	Character	Obelus	Mathematical symbol ÷ ; Shortcut : alpha g[÷] ; Info : Fontcode : 00F7 ₁₆	Characters			
gF4	×	Character	Cross	Mathematical symbol × ; Shortcut : alpha g[x] ; Info : Fontcode : 00D7 ₁₆	Characters			
gF5	-	Character	Minus	Mathematical symbol - ; Shortcut : alpha g[-] ; Info : Fontcode : 002D ₁₆	Characters			
gF6	+	Character	Plus	Mathematical symbol + ; Shortcut : alpha g[+] ; Info : Fontcode : 002B ₁₆	Characters			

αMath	Alpha Math					
g-shift	~	≈	≅	≡	:=	±
f-shift	¬	∧	∨	⋃	⌈	⌋
unshifted	^	√	∛	∜	⌘	⌚
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	α Math	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		α Math	
F1	$\wedge$	Character	Raise to power	Mathematical symbol $\wedge$; Shortcut : alpha g ^[1/x] ; Info : Fontcode : 005E ₁₆	Mathematics and characters			
F2	$\sqrt{}$	Character	Square root	Mathematical symbol $\sqrt{}$; Fontcode : 221A ₁₆	Mathematics and characters			
F3	$\sqrt[3]{}$	Character	Cube root	Mathematical symbol $\sqrt[3]{}$; Fontcode : 221B ₁₆	Mathematics and characters			
F4	$\sqrt[n]{}$	Character	xth root	Mathematical symbol $\sqrt[n]{}$; Fontcode : 221C ₁₆	Characters			
F5	$\sqrt[n]{}$	Character	x under root	Mathematical symbol $\sqrt[n]{}$; Fontcode : 037F ₁₆	Characters			
F6	$\sqrt[n]{}$	Character	y under root	Mathematical symbol $\sqrt[n]{}$; Fontcode : 0232 ₁₆	Characters			
fF1	$\neg$	Character	Not	Mathematical symbol $\neg$; Fontcode : 00AC ₁₆	Characters			
fF2	$\wedge$	Character	And	Mathematical symbol $\wedge$; Fontcode : 2227 ₁₆	Characters			
fF3	$\vee$	Character	Or	Mathematical symbol $\vee$; Fontcode : 2228 ₁₆	Characters			
fF4	$\veebar$	Character	Xor	Mathematical symbol $\veebar$; Fontcode : 22BB ₁₆	Characters			
fF5	∇	Character	Nand	Mathematical symbol ∇ ; Fontcode : 22BC ₁₆	Characters			
fF6	∇	Character	Nor	Mathematical symbol ∇ ; Fontcode : 22BD ₁₆	Characters			
gF1	$\sim$	Character	Tilde	Mathematical symbol $\sim$; Fontcode : 007E ₁₆	Characters			
gF2	$\approx$	Character	Almost equal	Mathematical symbol $\approx$; Fontcode : 2248 ₁₆	Characters			
gF3	$\asymp$	Character	Asymptotically equal to	Mathematical symbol $\asymp$; Fontcode : 2243 ₁₆	Characters			
gF4	$\equiv$	Character	Identical to	Mathematical symbol $\equiv$; Fontcode : 2261 ₁₆	Characters			
gF5	$\coloneqq$	Character	Colon equals	Mathematical symbol $\coloneqq$; Fontcode : 2254 ₁₆	Characters			
gF6	$\pm$	Character	Plus-minus	Mathematical symbol $\pm$; Shortcut : alpha g ^[+/-] ; Info : Fontcode : 00B1 ₁₆	Characters			

α Math	Alpha Math					
g-shift		•	◦	∅	π	ı
f-shift		°	,	”	┐	└
unshifted	⊙	⊥	∠	⋈	⋈	&
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	α Math	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		α Math	
F1	$\odot$	Character	Polar (Character)	Mathematical symbol $\odot$; Fontcode : 2299 ₁₆	Characters			
F2	$\perp$	Character	Right angle	Mathematical symbol $\perp$; Fontcode : 221F ₁₆	Characters			
F3	$\sphericalangle$	Character	Angle	Mathematical symbol $\sphericalangle$; Fontcode : 2220 ₁₆	Characters			
F4	$\measuredangle$	Character	Measured angle	Mathematical symbol $\measuredangle$; Fontcode : 2221 ₁₆	Characters			
F5	$\sphericalangle$	Character	Spherical angle	Mathematical symbol $\sphericalangle$; Fontcode : 2222 ₁₆	Characters			
F6	$\&$	Character	Ampersand	Mathematical symbol $\&$; Fontcode : 0026 ₁₆	Characters			
fF1		Character	Pipe ; Bar	Mathematical symbol ; Fontcode : 007C ₁₆	Characters			
fF2	$^{\circ}$	Character	Degree sign	Mathematical symbol $^{\circ}$; Fontcode : 00B0 ₁₆	Characters			
fF3	'	Character	Right single quotation mark	Mathematical symbol ' ; Fontcode : 2019 ₁₆	Characters			
fF4	"	Character	Right double quotation mark	Mathematical symbol " ; Fontcode : 201D ₁₆	Characters			
fF5	$\dashv$	Character	right tack	Mathematical symbol $\dashv$; Fontcode : 22A2 ₁₆	Characters			
fF6	$\perp$	Character	Perpendicular	Mathematical symbol $\perp$; Fontcode : 22A5 ₁₆	Characters			
gF1		Character	Parallel to	Mathematical symbol ; Fontcode : 2225 ₁₆	Characters			
gF2	$\bullet$	Character	Bullet	Mathematical symbol $\bullet$; Fontcode : 2219 ₁₆	Characters			
gF3	$\circ$	Character	Ring	Mathematical symbol $\circ$; Fontcode : 2218 ₁₆	Characters			
gF4	e	Character	eEuler	Mathematical symbol e ; Shortcut : alpha f[-] ; Info : Fontcode : 2147 ₁₆	Characters			
gF5	π	Character	pi	Mathematical symbol π ; Shortcut : alpha g[R+] ; Info : Fontcode : 03C0 ₁₆ ; press [▲] for Π at [A...Ω.i] gF5	Mathematics and characters			
gF6	i	Character	Complex i	Mathematical symbol i ; Info : Fontcode : 2148 ₁₆	Characters			

α Math	Alpha Math					
g-shift	Ω	$\mathfrak{a}$	Δ	∇	Φ	Θ
f-shift	$\int$	$\oint$	$\prod$	$\oint$	$\prod$	$\oint$
unshifted	j	$\hbar$	$\langle \epsilon \rangle$	Σ	Π	μ
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	α Math	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		α Math	
F1	j	Character	Complex j	Mathematical symbol j ; Info : Fontcode : 2149 ₁₆	Characters			
F2	$\hbar$	Character	Planck / 2pi	Mathematical symbol $\hbar$; Fontcode : 210F ₁₆	Characters			
F3	<E>	Character	Exponent sign (AIM)	Mathematical symbol <E> ; Shortcut : alpha g[E] ; Info : Fontcode : 2073 ₁₆	Characters			
F4	Σ	Character	N-ary summation	Mathematical symbol Σ ; Fontcode : 2211 ₁₆	Characters			
F5	$\prod$	Character	N-ary product	Mathematical symbol $\prod$; Fontcode : 220F ₁₆	Characters			
F6	μ	Character	mu	Mathematical symbol μ ; Fontcode : 00B5 ₁₆	Characters			
fF1	$\int$	Character	Integral	Mathematical symbol $\int$; Fontcode : 222B ₁₆	Mathematics and characters			
fF2	$\oint$	Character	Contour integral	Mathematical symbol $\oint$; Fontcode : 222E ₁₆	Characters			
fF3	$\iint$	Character	Double integral	Mathematical symbol $\iint$; Fontcode : 222C ₁₆	Characters			
fF4	$\oint$	Character	Surface integral	Mathematical symbol $\oint$; Fontcode : 222F ₁₆	Characters			
fF5	$\iiint$	Character	Triple integral	Mathematical symbol $\iiint$; Fontcode : 222D ₁₆	Characters			
fF6	$\iiint$	Character	Volume integral	Mathematical symbol $\iiint$; Fontcode : 2230 ₁₆	Characters			
gF1	Ω	Character	OMEGA	Mathematical symbol Ω ; Fontcode : 03A9 ₁₆ ; Info : press [▼] for ω at [α...ω.2] fF3	Characters			
gF2	∂	Character	Partial differential	Mathematical symbol ∂ ; Fontcode : 2202 ₁₆	Characters			
gF3	Δ	Character	Increment	Mathematical symbol Δ ; Fontcode : 2206 ₁₆	Characters			
gF4	∇	Character	Nabla	Mathematical symbol ∇ ; Fontcode : 2207 ₁₆	Characters			
gF5	ϕ	Character	phi-math	Mathematical symbol ϕ ; Fontcode : 03D5 ₁₆	Characters			
gF6	θ	Character	theta-math	Mathematical symbol θ ; Fontcode : 03B8 ₁₆	Characters			

α Math	Alpha Math					
g-shift	Ɔ	ℓ	N	Q	R	Z
f-shift	ø	u	n	c	¢	Ɔ
unshifted	∃	‡	€	¢	∃	‡
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p5	α Math	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		α Math	
F1	$\exists$	Character	There exists	Mathematical symbol $\exists$; Fontcode : 2203 ₁₆	Characters			
F2	$\nexists$	Character	There does not exists	Mathematical symbol $\nexists$; Fontcode : 2204 ₁₆	Characters			
F3	$\in$	Character	Element of	Mathematical symbol $\in$; Fontcode : 2208 ₁₆	Characters			
F4	$\notin$	Character	Not an element of	Mathematical symbol $\notin$; Fontcode : 2209 ₁₆	Characters			
F5	$\ni$	Character	Contains as member	Mathematical symbol $\ni$; Fontcode : 220B ₁₆	Characters			
F6	$\not\ni$	Character	Does not contain as member	Mathematical symbol $\not\ni$; Fontcode : 220C ₁₆	Characters			
fF1	$\emptyset$	Character	Empty set	Mathematical symbol $\emptyset$; Fontcode : 2205 ₁₆	Characters			
fF2	$\cup$	Character	Union	Mathematical symbol $\cup$; Fontcode : 222A ₁₆	Characters			
fF3	$\cap$	Character	Intersection	Mathematical symbol $\cap$; Fontcode : 2229 ₁₆	Characters			
fF4	$\subset$	Character	Subset of	Mathematical symbol $\subset$; Fontcode : 2282 ₁₆	Characters			
fF5	$\not\subset$	Character	Not a subset of	Mathematical symbol $\not\subset$; Fontcode : 2284 ₁₆	Characters			
fF6	$\complement$	Character	Complement	Mathematical symbol $\complement$; Fontcode : 2201 ₁₆	Characters			
gF1	$\mathbb{C}$	Character	Complec C	Mathematical symbol $\mathbb{C}$; Fontcode : 2102 ₁₆	Characters			
gF2	$\mathbb{I}$	Character	Irrational I	Mathematical symbol $\mathbb{I}$; Fontcode : 2110 ₁₆	Characters			
gF3	$\mathbb{N}$	Character	Natural N	Mathematical symbol $\mathbb{N}$; Fontcode : 2115 ₁₆	Characters			
gF4	$\mathbb{Q}$	Character	Rational Q	Mathematical symbol $\mathbb{Q}$; Fontcode : 211A ₁₆	Characters			
gF5	$\mathbb{R}$	Character	Real R	Mathematical symbol $\mathbb{R}$; Fontcode : 211D ₁₆	Characters			
gF6	$\mathbb{Z}$	Character	Integer Z	Mathematical symbol $\mathbb{Z}$; Fontcode : 2124 ₁₆	Characters			

α Math	Alpha Math					
g-shift	[	]	$\forall$	-	+	∞
f-shift			τ	-	+	∞
unshifted	L	J	$\frac{1}{4}$	$\frac{1}{2}$	α	∞
Page 6	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_alphaMATH_page_7.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p6	α Math	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		α Math	
F1	$\lfloor$	Character	Matrix lower left	Mathematical symbol $\lfloor$; Fontcode : 23A3 ₁₆	Characters			
F2	$\rfloor$	Character	Matrix lower right	Mathematical symbol $\rfloor$; Fontcode : 23A6 ₁₆	Characters			
F3	$\frac{1}{4}$	Character	Fraction 1/4	Mathematical symbol $\frac{1}{4}$; Fontcode : 00BC ₁₆	Characters			
F4	$\frac{1}{2}$	Character	Fraction 1/2	Mathematical symbol $\frac{1}{2}$; Fontcode : 00BD ₁₆	Characters			
F5	$\propto$	Character	Proportional to	Mathematical symbol $\propto$; Fontcode : 221D ₁₆	Characters			
F6	∞	Character	Infinity	Mathematical symbol ∞ ; Fontcode : 221E ₁₆	Characters			
fF1	$\lvert$	Character	Matrix middle left	Mathematical symbol $\lvert$; Fontcode : 23A2 ₁₆	Characters			
fF2	$\rvert$	Character	Matrix middle right	Mathematical symbol $\rvert$; Fontcode : 23A5 ₁₆	Characters			
fF3	T	Character	Superscript T	Mathematical symbol T ; Fontcode : 1D40 ₁₆	Characters			
fF4	$_{-}$	Character	Subscript -	Mathematical symbol $_{-}$; Fontcode : 208B ₁₆	Characters			
fF5	$_{+}$	Character	Subscript +	Mathematical symbol $_{+}$; Fontcode : 208A ₁₆	Characters			
fF6	$_{\infty}$	Character	Subscript infinity	Mathematical symbol $_{\infty}$; Fontcode : 209F ₁₆	Characters			
gF1	$\lceil$	Character	Matrix upper left	Mathematical symbol $\lceil$; Fontcode : 23A1 ₁₆	Characters			
gF2	$\rceil$	Character	Matrix upper right	Mathematical symbol $\rceil$; Fontcode : 23A4 ₁₆	Characters			
gF3	$\forall$	Character	For all	Mathematical symbol $\forall$; Fontcode : 2C6F ₁₆ ; exported as 2200 ₁₆	Characters			
gF4	$^{\text{-}}$	Character	Superscript -	Mathematical symbol $^{\text{-}}$; Fontcode : 216B ₁₆	Characters			
gF5	$^{+}$	Character	Superscript +	Mathematical symbol $^{+}$; Fontcode : 216A ₁₆	Characters			
gF6	$^{\infty}$	Character	Superscript infinity	Mathematical symbol $^{\infty}$; Fontcode : 209E ₁₆	Characters			

α Math	Alpha Math					
g-shift				$\hat{\imath}$	$\hat{\jmath}$	$\hat{k}$
f-shift	$\hat{u}$	$\hat{v}$	$\hat{w}$	$\hat{x}$	$\hat{y}$	$\hat{z}$
unshifted	$\bar{u}$	$\bar{v}$	$\bar{w}$	$\bar{x}$	$\bar{y}$	$\bar{z}$
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_alphaMisc_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p7	α Math	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		α Math	
F1	Ū	Character	u macron	Mathematical symbol Ū ; Fontcode : 0380 ₁₆	Characters			
F2	Ṽ	Character	v macron	Mathematical symbol Ṽ ; Fontcode : 0381 ₁₆	Characters			
F3	Ŵ	Character	w macron	Mathematical symbol Ŵ ; Fontcode : 0382 ₁₆	Characters			
F4	Ẅ	Character	x macron	Mathematical symbol Ẅ ; Fontcode : 0378 ₁₆	Characters			
F5	ȳ	Character	y macron	Mathematical symbol ȳ ; Fontcode : 0233 ₁₆	Characters			
F6	Ẑ	Character	z macron	Mathematical symbol Ẑ ; Fontcode : 0383 ₁₆	Characters			
fF1	Ů	Character	u circumflex	Mathematical symbol Ů ; Fontcode : 03A2 ₁₆	Characters			
fF2	Ṳ	Character	v circumflex	Mathematical symbol Ṳ ; Fontcode : 038B ₁₆	Characters			
fF3	Ű	Character	w circumflex	Mathematical symbol Ű ; Fontcode : 0175 ₁₆ ; Info : press [▲] for Ŵ at [αINTL.4]fF6	Characters			
fF4	Ẃ	Character	x circumflex	Mathematical symbol Ẃ ; Fontcode : 0379 ₁₆	Characters			
fF5	Ỳ	Character	y circumflex	Mathematical symbol Ỳ ; Fontcode : 0177 ₁₆ ; Info : press [▲] for ȳ at [αINTL.4]gF2	Characters			
fF6	Ẓ	Character	z circumflex	Mathematical symbol Ẓ ; Fontcode : 038D ₁₆	Characters			
gF1								
gF2								
gF3								
gF4	î	Character	i circumflex	Mathematical symbol î ; Fontcode : 00EE ₁₆ ; Info : press [▲] for Î at [αINTL.2]fF4	Characters			
gF5	ĵ	Character	j circumflex	Mathematical symbol ĵ ; Fontcode : 0135 ₁₆	Characters			
gF6	ķ	Character	k circumflex	Mathematical symbol ķ ; Fontcode : 0137 ₁₆	Characters			

α Misc	Alpha miscellaneous					
g-shift	ı	ı̇	.	,	;	:
f-shift	"	\$	¢	€	£	¥
unshifted	↵	#	@	&	%	'
Page 1	F1	F2	F3	F4	F5	F6

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F1	↵	Character	Carriage return	Special character ↵ ; Shortcut : alpha g[ENTER] ; alpha longer [ENTER] ; EIM longer [ENTER] ; Info : Fontcode : 21B5 ₁₆	Characters			
F2	#	Character	Number sign	Special character # ; Shortcut : alpha f[.] ; Info : Fontcode : 0023 ₁₆	Number bases and characters			
F3	@	Character	At	Special character @ ; Fontcode : 0040 ₁₆	Characters			
F4	&	Character	Ampersand	Special character & ; Fontcode : 0026 ₁₆	Characters			
F5	%	Character	Percent	Special character % ; Fontcode : 0025 ₁₆	Characters			
F6	'	Character	Apostrophe	Special character ' ; Fontcode : 0027 ₁₆	Characters			
fF1	"	Character	Quotation mark	Special character " ; Fontcode : 0022 ₁₆	Characters			
fF2	\$	Character	Dollar	Special character \$; Fontcode : 0024 ₁₆	Characters			
fF3	¢	Character	Cent	Special character ¢ ; Fontcode : 00A2 ₁₆	Characters			
fF4	€	Character	Euro	Special character € ; Fontcode : 20AC ₁₆	Characters			
fF5	£	Character	Pound	Special character £ ; Fontcode : 00A3 ₁₆	Characters			
fF6	¥	Character	Yen	Special character ¥ ; Fontcode : 00A5 ₁₆	Characters			
gF1	¡	Character	Inverted exclamation mark	Special character ¡ ; Fontcode : 00A1 ₁₆	Characters			
gF2	¿	Character	Inverted question mark	Special character ¿ ; Fontcode : 00BF ₁₆	Characters			
gF3	.	Character	Full stop	Special character . ; Shortcut : alpha g[.] ; Info : Fontcode : 002E ₁₆	Characters			
gF4	,	Character	Comma	Special character , ; Fontcode : 002C ₁₆	Characters			
gF5	;	Character	Semicolon	Special character ; ; Shortcut : alpha f[0] ; Info : Fontcode : 003B ₁₆	Characters			
gF6	:	Character	Colon	Special character : ; Shortcut : alpha [0] ; Fontcode : 003A ₁₆	Characters			

<i>αMisc</i>	Alpha miscellaneous					
g-shift	↔	↔	↑	↓	←	→
f-shift	↗	↘	↑	↓	←	→
unshifted	!	?	↑	↓	←	→
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F1	!	Character	Exclamation mark	Special character ! ; Shortcut : alpha f[R/S] ; Info : Fontcode : 0021 ₁₆	Mathematics and characters			
F2	?	Character	Question mark	Special character ? ; Fontcode : 003F ₁₆	Characters			
F3	↑	Character	Move up	Special character ↑ ; Fontcode : 2191 ₁₆	Navigation and characters			
F4	↓	Character	Move down	Special character ↓ ; Fontcode : 2193 ₁₆	Navigation and characters			
F5	←	Character	Move left	Special character ← ; Fontcode : 2190 ₁₆	Navigation and characters			
F6	→	Character	Move right	Special character → ; Fontcode : 2192 ₁₆	Navigation and characters			
fF1	↗	Character	Short right arrow	Special character ↗ ; Fontcode : 21C0 ₁₆	Characters			
fF2	↔	Character	Convert to xxx	Special character ↔ ; Fontcode : 21D2 ₁₆	Characters			
fF3	⬆	Character	Up block arrow	Special character ⬆ ; Fontcode : 2B61 ₁₆	Characters			
fF4	⬇	Character	Down block arrow	Special character ⬇ ; Fontcode : 2B63 ₁₆	Characters			
fF5	⬅	Character	Left block arrow	Special character ⬅ ; Fontcode : 2B60 ₁₆	Characters			
fF6	➡	Character	Right block arrow	Special character ➡ ; Fontcode : 2B62 ₁₆	Characters			
gF1	↔	Character	Left right arrow	Special character ↔ ; Fontcode : 2194 ₁₆	Characters			
gF2	↔	Character	Left right double arrow	Special character ↔ ; Fontcode : 21D4 ₁₆	Characters			
gF3	⬆	Character	Up arrow	Special character ⬆ ; Fontcode : 21E1 ₁₆	Characters			
gF4	⬇	Character	Down arrow	Special character ⬇ ; Fontcode : 21E3 ₁₆	Characters			
gF5	⬅	Character	Left arrow	Special character ⬅ ; Fontcode : 21E0 ₁₆	Characters			
gF6	➡	Character	Right arrow	Special character ➡ ; Fontcode : 21E2 ₁₆	Characters			

<i>αMisc</i>	Alpha miscellaneous					
g-shift	*	~	⌂	⓪	⌚	Ⓜ
f-shift	Ⓓ	Ⓙ	Ⓢ	✓	•	*
unshifted	⌘	⌃	⌘	⌘	«	»
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F1	↔	Character	Left right arrow	Special character ↔ ; Shortcut : alpha g[xzy] ; Info : Fontcode : 21C4 ₁₆	Characters			
F2	↕	Character	Up down arrow	Special character ↕ ; Fontcode : 2195 ₁₆	Characters			
F3	↗	Character	Up hollow arrow	Special character ↗ ; Fontcode : 21E7 ₁₆	Characters			
F4	↘	Character	Down hollow arrow	Special character ↘ ; Fontcode : 21E9 ₁₆	Characters			
F5	«	Character	Left French quotation mark	Special character « ; Fontcode : 00AB ₁₆	Characters			
F6	»	Character	Right French quotation mark	Special character » ; Fontcode : 00BB ₁₆	Characters			
fF1	Ⓓ	Character	Date	Special character Ⓓ ; Fontcode : 2145 ₁₆	Characters			
fF2	Ⓙ	Character	Time	Special character Ⓙ ; Fontcode : 2138 ₁₆	Characters			
fF3	§	Character	Section	Special character § ; Fontcode : 00A7 ₁₆	Characters			
fF4	✓	Character	Check mark	Special character ✓ ; Fontcode : 2713 ₁₆	Characters			
fF5	•	Character	Bullet	Special character • ; Fontcode : 2219 ₁₆	Characters			
fF6	*	Character	Asterisk	Special character * ; Fontcode : 002A ₁₆	Characters			
gF1	[*]	Character	Superscript *	Special character [*] ; Fontcode : 208F ₁₆	Characters			
gF2	~	Character	Tilde	Special character ~ ; Fontcode : 007E ₁₆	Characters			
gF3	⌚	Character	Hourglass	Special character ⌚ ; Fontcode : 231B ₁₆	Characters			
gF4	🕒	Character	Watch	Special character 🕒 ; Fontcode : 231A ₁₆	Characters			
gF5	⌚	Character	Stopwatch	Special character ⌚ ; Fontcode : 23F1 ₁₆	Characters			
gF6	❗	Character	Negative exclamation mark	Special character ❗ ; Fontcode : 242F ₁₆	Characters			

<i>αMisc</i>	Alpha miscellaneous					
g-shift	ℓ	“	”	ˆ	Av	⏻
f-shift	⌘	⌥	Ⓢ	Ⓣ	us	uk
unshifted	⌵	⌴	Ⓜ	≡	Δ	▽
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F1	⏻	Character	User mode	Special character ⏻ ; Fontcode : 242C ₁₆	Characters			
F2	🔋	Character	Battery	Special character 🔋 ; Fontcode : 242A ₁₆	Characters			
F3	🖨	Character	Printer	Special character 🖨 ; Fontcode : 2399 ₁₆	Characters			
F4	☰	Character	List	Special character ☰ ; Fontcode : 21CC ₁₆	Characters			
F5	⚡	Character	BST	Special character ⚡ ; Fontcode : 21C9 ₁₆	Characters			
F6	▽	Character	SST	Special character ▽ ; Fontcode : 21CB ₁₆	Characters			
fF1	♻	Character	Cyclic	Special character ♻ ; Fontcode : 267A ₁₆	Characters			
fF2	🔌	Character	USB symbol	Special character 🔌 ; Fontcode : 2434 ₁₆	Characters			
fF3	☉	Character	Subscript sun	Special character ☉ ; Fontcode : 229A ₁₆	Characters			
fF4	🌐	Character	Subscript earth	Special character 🌐 ; Fontcode : 2295 ₁₆	Characters			
fF5	us	Character	US	Special character us ; Fontcode : 242E ₁₆	Characters			
fF6	uk	Character	UK	Special character uk ; Fontcode : 242D ₁₆	Characters			
gF1	ℓ	Character	Litre	Special character ℓ ; Fontcode : 2113 ₁₆	Characters			
gF2	“	Character	Left double quotation mark	Special character “ ; Fontcode : 201C ₁₆	Characters			
gF3	”	Character	Right double quotation mark	Special character ” ; Fontcode : 201D ₁₆	Characters			
gF4	⎓	Character	DC current	Special character ⎓ ; Fontcode : 2393 ₁₆	Characters			
gF5	⎓	Character	AC current	Special character ⎓ ; Fontcode : 23E6 ₁₆	Characters			
gF6	⏻	Character	Power symbol	Special character ⏻ ; Fontcode : 23FB ₁₆	Characters			

<i>αMisc</i>	Alpha miscellaneous					
g-shift						
f-shift	↳	■				
unshifted	□	▣	○	⊙	◇	⬠
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p5	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F1	□	Character	CB_OFF	Special character □ ; Fontcode : 2610 ₁₆	Characters			
F2	▣	Character	CB_ON	Special character ▣ ; Fontcode : 2612 ₁₆	Characters			
F3	○	Character	RB_OFF	Special character ○ ; Fontcode : 25EF ₁₆	Characters			
F4	⊙	Character	RB_ON	Special character ⊙ ; Fontcode : 29BF ₁₆	Characters			
F5	◇	Character	DIA_OFF	Special character ◇ ; Fontcode : 25C7 ₁₆	Characters			
F6	⋄	Character	DIA_ON	Special character ⋄ ; Fontcode : 25C8 ₁₆	Characters			
fF1	⌞	Character	HP42S Line Feed picture	Special character ⌞ ; Fontcode : 240A ₁₆	Characters			
fF2	■	Character	HP42S Small black square	Special character ■ ; Fontcode : 25AA ₁₆	Characters			
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

AMORT	TVM amortisation					
g-shift						HP12C 
f-shift						
unshifted	P1 1	P2 12	ΣINT	ΣPRN	BAL	NEXT
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0012_C47_R47_JM_TVM.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	AMORT	MENU	TVM amortisation	TVM amortisation ; Info : When menu AMORT is open, [RCL]/[ST0] activates menu TamRclTVM/TamStoTVM ; Ref : https://47calc.com/doc/Application%20Notes/AN0012_C47_R47_JM_TVM.pdf	Financial		AMORT	
F1	P1 ₁	Command	First payment number	Set first payment number in the range (integer, $1 \leq P1 \leq n$) ; TI : From period P1 :	Financial		P1 ₁	1
F2	P2 ₁₂	Command	Last Payment number	Set last payment number in the range (integer, $P1 \leq P2 \leq n$) ; TI : To period P2 :	Financial		P2 ₁₂	12
F3	ΣINT	Command	Sum of interest	Total interest paid across payments P1 through P2, inclusive ; TI : Σ of interest to P2 =	Financial		ΣINT	
F4	ΣPRN	Command	Sum of principal	Total principal paid across payments P1 through P2, inclusive ; TI : Σ of principal to P2 =	Financial		ΣPRN	
F5	BAL	Command	Balance	Outstanding loan balance immediately after payment P2 is applied ; TI : Balance remaining =	Financial		BAL	
F6	NEXT	Command	Step forward	Step the window forward : P1 ← P1 + <window size>, P2 ← P2 + <window size>	Financial		NXTPER	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	HP12C □	Setting (pgm)	HP12C standard precision	Switch on HP12C standard precision of 2 decimals ; Info : The HP12C standard precision means that PMT is rounded to 2 decimals before amortisation is computed, so the schedule matches a printed bank statement	Financial	HP12C	HP12C □	OFF

Angle:	Angle and angular velocity conversions					
g-shift						
f-shift	deg/s ←	→ RPM	rad/s ←	→ RPM	rad/s ←	→ deg/s
unshifted	rad ←	→ deg	grad ←	→ deg	rad ←	→ grad
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Angle:	MENU	Angle and angular velocity conversions	Convert between units of angle or angular velocity ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow$ $\leftarrow$ <from> unit conversion buttons (default SET)	Angular/Speed conversions		Angle:	
F1	deg $\rightarrow$ rad (rad $\leftarrow$)	Function (monadic, linked)	deg to rad	Convert degree to radian (untagged) ; TI : rad:	Angle conversions	CONV _{HP}		
F2	rad $\rightarrow$ deg ($\rightarrow$ deg)	Function (monadic, linked)	rad to deg	Convert radian to degree (untagged) ; TI : deg:	Angle conversions	CONV _{HP}		
F3	deg $\rightarrow$ grad (grad $\leftarrow$)	Function (monadic, linked)	deg to grad	Convert degree to gradian (untagged) ; TI : grad:	Angle conversions	CONV _{HP}		
F4	grad $\rightarrow$ deg ($\rightarrow$ deg)	Function (monadic, linked)	grad to deg	Convert gradian to degree (untagged) ; TI : deg:	Angle conversions	CONV _{HP}		
F5	grad $\rightarrow$ rad (rad $\leftarrow$)	Function (monadic, linked)	grad to rad	Convert gradian to radian (untagged) ; TI : rad:	Angle conversions	CONV _{HP}		
F6	rad $\rightarrow$ grad ($\rightarrow$ grad)	Function (monadic, linked)	rad to grad	Convert radian to gradian (untagged) ; TI : grad:	Angle conversions	CONV _{HP}		
fF1	RPM $\rightarrow$ deg/s (deg/s $\leftarrow$)	Function (monadic, linked)	RPM to deg/s	Convert rotation per minute to degree per second ; TI : deg/s:	Angular/Speed conversions	CONV _{HP}		
fF2	deg/s $\rightarrow$ RPM ($\rightarrow$ RPM)	Function (monadic, linked)	deg/s to RPM	Convert degree per second to rotation per minute ; TI : RPM:	Angular/Speed conversions	CONV _{HP}		
fF3	RPM $\rightarrow$ rad/s (rad/s $\leftarrow$)	Function (monadic, linked)	RPM to rad/s	Convert rotation per minute to radian per second ; TI : rad/s:	Angular/Speed conversions	CONV _{HP}		
fF4	rad/s $\rightarrow$ RPM ($\rightarrow$ RPM)	Function (monadic, linked)	rad/s to RPM	Convert radian per second to rotation per minute ; TI : RPM:	Angular/Speed conversions	CONV _{HP}		
fF5	deg/s $\rightarrow$ rad/s (rad/s $\leftarrow$)	Function (monadic, linked)	deg/s to rad/s	Convert degree per second to radian per second ; TI : rad/s:	Angular/Speed conversions	CONV _{HP}		
fF6	rad/s $\rightarrow$ deg/s ($\rightarrow$ deg/s)	Function (monadic, linked)	rad/s to deg/s	Convert radian per second to degree per second ; TI : deg/s:	Angular/Speed conversions	CONV _{HP}		
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

ANGLES	Angle variables					
g-shift						
f-shift						
unshifted						
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	ANGLES	MENU	Angle variables	Auto-generated catalog of variables of the specified datatype : Angle (1.1-1.5)	Catalog		ANGLES	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Area:	Area conversions					
g-shift	ha ←	→ ft ²	m ² ←	→ ft ²	km ² ←	→ ha
f-shift	ha ←	→ acre _{us}	m ² ←	→ m ²	km ² ←	→ nmi ²
unshifted	ha ←	→ acre	m ² ←	→ ha	km ² ←	→ mi ²
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_ASSESS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Area:	MENU	Area conversions	Convert between units of area ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Area conversions		Area:	
F1	acre $\rightarrow$ ha (ha $\leftarrow$)	Function (monadic, linked)	acre to ha	Convert acre to hectare ; TI : ha:	Area conversions	CONV _{HP}		
F2	ha $\rightarrow$ acre ($\rightarrow$ acre)	Function (monadic, linked)	ha to acre	Convert hectare to acre ; TI : acre:	Area conversions	CONV _{HP}		
F3	ha $\rightarrow$ m ² (m ² $\leftarrow$)	Function (monadic, linked)	ha to m ²	Convert hectare to square metre ; TI : m ² :	Area conversions	CONV _{HP}		
F4	m ² $\rightarrow$ ha ($\rightarrow$ ha)	Function (monadic, linked)	m ² to ha	Convert square metre to hectare ; TI : ha:	Area conversions	CONV _{HP}		
F5	mi ² $\rightarrow$ km ² (km ² $\leftarrow$)	Function (monadic, linked)	mi ² to km ²	Convert square mile to square kilometre ; TI : km ² :	Area conversions	CONV _{HP}		
F6	km ² $\rightarrow$ mi ² ($\rightarrow$ mi ²)	Function (monadic, linked)	km ² to mi ²	Convert square kilometre to square mile ; TI : mi ² :	Area conversions	CONV _{HP}		
fF1	acre _{US} $\rightarrow$ ha (ha $\leftarrow$)	Function (monadic, linked)	acre _{US} to ha	Convert US acre to hectare ; TI : ha:	Area conversions	CONV _{HP}		
fF2	ha $\rightarrow$ acre _{US} ($\rightarrow$ acre _{US})	Function (monadic, linked)	ha to acre _{US}	Convert hectare to US acre ; TI : acre _{US} :	Area conversions	CONV _{HP}		
fF3	m ² $\rightarrow$ m ² (m ² $\leftarrow$)	Function (monadic, linked)	m ² to m ²	Convert m ² to square metre ; TI : m ² :	Area conversions	CONV _{HP}		
fF4	m ² $\rightarrow$ m ² ($\rightarrow$ m ²)	Function (monadic, linked)	m ² to m ²	Convert square metre to m ² ; TI : m ² :	Area conversions	CONV _{HP}		
fF5	nmi ² $\rightarrow$ km ² (km ² $\leftarrow$)	Function (monadic, linked)	nmi ² to km ²	Convert square nautical mile to square kilometre ; TI : km ² :	Area conversions	CONV _{HP}		
fF6	km ² $\rightarrow$ nmi ² ($\rightarrow$ nmi ²)	Function (monadic, linked)	km ² to nmi ²	Convert square kilometre to square nautical mile ; TI : nmi ² :	Area conversions	CONV _{HP}		
gF1	ft ² $\rightarrow$ ha (ha $\leftarrow$)	Function (monadic, linked)	ft ² to ha	Convert square foot to hectare ; TI : ha:	Area conversions	CONV _{HP}		
gF2	ha $\rightarrow$ ft ² ($\rightarrow$ ft ²)	Function (monadic, linked)	ha to ft ²	Convert hectare to square foot ; TI : ft ² :	Area conversions	CONV _{HP}		
gF3	ft ² $\rightarrow$ m ² (m ² $\leftarrow$)	Function (monadic, linked)	ft ² to m ²	Convert square foot to square metre ; TI : m ² :	Area conversions	CONV _{HP}		
gF4	m ² $\rightarrow$ ft ² ($\rightarrow$ ft ²)	Function (monadic, linked)	m ² to ft ²	Convert square metre to square foot ; TI : ft ² :	Area conversions	CONV _{HP}		
gF5	ha $\rightarrow$ km ² (km ² $\leftarrow$)	Function (monadic, linked)	ha to km ²	Convert hectare to square kilometre ; TI : km ² :	Area conversions	CONV _{HP}		
gF6	km ² $\rightarrow$ ha ($\rightarrow$ ha)	Function (monadic, linked)	km ² to ha	Convert square kilometre to hectare ; TI : ha:	Area conversions	CONV _{HP}		

→ (TamIndirect)	Indirection					
g-shift						REG
f-shift						
unshifted		VAR	X	Y	Z	T
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Integral-f_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	→ (TamIndirect)	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F1								
F2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.* menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F3	X	EasyAccess (TAM)	Register X	Easy access to Register X (100) : Stack level 1 ; TI : X:	Trailing input			
F4	Y	EasyAccess (TAM)	Register Y	Easy access to Register Y (101) : Stack level 2 ; TI : Y:	Trailing input			
F5	Z	EasyAccess (TAM)	Register Z	Easy access to Register Z (102) : Stack level 3 ; TI : Z:	Trailing input			
F6	T	EasyAccess (TAM)	Register T	Easy access to Register T (103) : Stack level 4 ; TI : T:	Trailing input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			

p1	→ (TamIndirect)	Link
F1		
F2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
F3	X	
F4	Y	
F5	Z	
F6	T	
ff1		
ff2		
ff3		
ff4		
ff5		
ff6		
gf1		
gf2		
gf3		
gf4		
gf5		
gf6	REG	https://47calc.com/doc/C47/Menus/C47_Menu_REG_page_1.pdf

ASSESS	Assess					
g-shift						
f-shift						
unshifted	NXTFIT	-ZOOM ₀				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_AUDIO_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	ASSESS	MENU (item)	Assess	Display graphical assessments of the selected regression curves	Plotting and curve fitting			
F1	NXTFIT	Command (cyclic, nonpgm)	Next fit	Assess next curve fitting (cyclic)	Plotting and curve fitting			
F2	-ZOOM ₀	Command	Zoom out on y-axis	Decrease zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; -ZOOM resets ↑Y and ↓Y to zero	Plotting			0
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

AUDIO	Audio					
g-shift						
f-shift						VOL ₁₁
unshifted	BEEP	TONE	BUZZ	PLAY	VOL _{↑11}	VOL _{↓11}
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BASE_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	AUDIO	MENU	Audio	Audio commands	Input-Output		AUDIO	
F1	BEEP	Command	Beep	Play beep sound (4 tones)	Input-Output		BEEP	
F2	TONE	Command	Tone	Tone (range 0-9) ; TAM : TONE _ TamNonReg menu	Input-Output		TONE	
F3	BUZZ	Command (HW)	Buzzer	Play sound with frequency Y in Hz (0 = silent) and duration X in ms (max 2000) ; hardware only ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	Input-Output		BUZZ	
F4	PLAY	Command (HW)	Play (BUZZ) sounds	Play (BUZZ) sounds using input from nx3 or nx2 matrix variable having rows : [frequency, duration, volume] (Hz, ms, volume element is optional) ; hardware only ; TAM : PLAY __ TamLabel menu ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	Input-Output		PLAY	
F5	VOL↑ ₁₁	Setting (pgm, HW)	Volume up	Set audio volume up (0-11) ; hardware only (DMCP setting) ; Info : Error 126 -- Not available on the simulator -- is raised when this setting is performed on the simulator	Input-Output		VOL↑ ₁₁	11
F6	VOL↓ ₁₁	Setting (pgm, HW)	Volume down	Set audio volume down (0-11) ; hardware only (DMCP setting) ; Info : Error 126 -- Not available on the simulator -- is raised when this setting is performed on the simulator	Input-Output		VOL↓ ₁₁	11
fF1								
fF2								
fF3								
fF4								
fF5								
fF6	VOL ₁₁	Setting (pgm, HW)	Set volume	Set volume (0-11) ; hardware only (DMCP setting) ; TAM : VOL __ TamNonReg menu ; Info : Error 126 -- Not available on the simulator -- is raised when this setting is performed on the simulator	Input-Output		VOL ₁₁	11
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

BASE	Number base					
g-shift	64-BIT 0	32-BIT 0	16-BIT 0	8-BIT 0	FF	BITSET
f-shift	AND	OR	XOR	NOT		BITSHFT
unshifted	HEX	DEC	OCT	BIN	#	LINT
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BASE_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	BASE	MENU	Number base	Number base operations (Short integer (8.02-8.16)) ; Split screen : Displaying value of X according to setting dSI (short integer split screen lines) : 0 : <none> ; 1 : HEX ; 2 : HEX/DEC ; 3 : HEX/BIN/DEC ; if flag BCD is SET, instead of HEX, BCD is displayed with subscript digits and followed by subscript _{bcd} ; Info : on BASE page 2, special indicators are used : $\diamond$: all group settings comply, $\diamond$: ≥ 1 group settings differ	Number bases		BASE	
F1	HEX	Setting (pgm)	Hexadecimal	Convert X to hexadecimal and toggle hexadecimal mode ; if KEY _{A-F} is SET, digits A-F can be entered by pressing row 2 keys ; Shortcut : #TAM [RCL] (H) ; Info : values are displayed with subscript ₁₆ ; SBI : #BASE ; #KEY _{A-F}	Number bases	KEY _{A-F}	HEX	OFF
F2	DEC	Setting (pgm)	Decimal (short integer)	Convert X to decimal (short integer) and toggle decimal (short integer) mode ; entering digits A-F switches the calculator to hexadecimal mode ; when KEY _{A-F} is SET, the respective digit is included in the row 2 key's longpress preview cycle ; Shortcut : #TAM [LOG] (D) ; Info : values are displayed with subscript ₁₀ ; SBI : #BASE ; #KEY _{A-F}	Number bases	KEY _{A-F}	DEC	OFF
F3	OCT	Setting (pgm)	Octal	Convert X to octal and toggle octal mode ; entering digits A-F switches the calculator to hexadecimal mode ; when KEY _{A-F} is SET, the respective digit is included in the row 2 key's longpress preview cycle ; Shortcut : #TAM [E] (O) ; Info : values are displayed with subscript ₈ ; SBI : #BASE ; #KEY _{A-F}	Number bases	KEY _{A-F}	OCT	OFF
F4	BIN	Setting (pgm)	Binary	Convert X to binary and toggle binary mode ; entering digits A-F switches the calculator to hexadecimal mode ; when KEY _{A-F} is SET, the respective digit is included in the row 2 key's longpress preview cycle ; Shortcut : #TAM [¹ /x] (B) ; Info : values are displayed with subscript ₂ ; SBI : #BASE ; #KEY _{A-F}	Number bases	KEY _{A-F}	BIN	OFF
F5	#	Setting (pgm, stack)	Number base	Set number base ; operates on all stack registers depending on BASE _{HP} ; TAM : $\rightarrow$ INT __ TamNonReg menu ; #TAM shortcuts : B = BIN ; D = DEC ; ENTER = DEC ; H = HEX ; O = OCT ; Info : SBI is shown if flag SBfrac is SET ; exit base mode by .d, $\rightarrow$ I, [.] or CLRMOD (longerpress [EXIT]) ; SBI : #BASE ; #KEY _{A-F}	Number bases	KEY _{A-F}	$\rightarrow$ INT	OFF
F6	LINT	Function (monadic)	Long integer	Convert to Long integer (0) ; Info : Max 1000 digits	Integers		LINT	
fF1	AND	Function (dyadic)	AND	Bitwise AND	Bits and bytes		AND	
fF2	OR	Function (dyadic)	OR	Bitwise OR	Bits and bytes		OR	
fF3	XOR	Function (dyadic)	XOR	Bitwise XOR (exclusive OR)	Bits and bytes		XOR	
fF4	NOT	Function (monadic)	NOT	Bitwise NOT	Bits and bytes		NOT	
fF5								
fF6	BITSHIFT	MENU (item)	Bit shift functions	Activate menu BITS page 2 to access bit shift functions ; Info : Previews/OPENM as BITS $\leftarrow$ 2	Bits and bytes		BITS $\leftarrow$ 2	
gF1	64-BIT $\diamond$	Setting (pgm)	Word size 64 bits	Set word size to 64 bits, for Short integer (8.02-8.16) ; Info : <m> in SBI indicates sign mode (menu BITSET) ; SBI 64:<m> is shown if flag SBint is SET ; SBI : 64:<m>	Number bases	SBint	64-BIT $\diamond$	ON
gF2	32-BIT O	Setting (pgm)	Word size 32 bits	Set word size to 32 bits, for Short integer (8.02-8.16) ; Info : <m> in SBI indicates sign mode (menu BITSET) ; SBI 32:<m> is shown if flag SBint is SET ; SBI : 32:<m>	Number bases	SBint	32-BIT O	OFF
gF3	16-BIT O	Setting (pgm)	Word size 16 bits	Set word size to 16 bits, for Short integer (8.02-8.16) ; Info : <m> in SBI indicates sign mode (menu BITSET) ; SBI 16:<m> is shown if flag SBint is SET ; SBI : 16:<m>	Number bases	SBint	16-BIT O	OFF
gF4	8-BIT O	Setting (pgm)	Word size 8 bits	Set word size to 8 bits, for Short integer (8.02-8.16) ; Info : <m> in SBI indicates sign mode (menu BITSET) ; SBI 8:<m> is shown if flag SBint is SET ; SBI : 8:<m>	Number bases	SBint	8-BIT O	OFF
gF5	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	Programming		FF	
gF6	BITSET	MENU	Bit set functions	Bit set functions	Bits and bytes		BITSET	

p1	BASE	Link
F1	HEX	
F2	DEC	
F3	OCT	
F4	BIN	
F5	#	
F6	LINT	
fF1	AND	
fF2	OR	
fF3	XOR	
fF4	NOT	
fF5		
fF6	BITSHFT	https://47calc.com/doc/C47/Menus/C47_Menu_BITSHFT_page_1.pdf
gF1	64-BIT @	
gF2	32-BIT O	
gF3	16-BIT O	
gF4	8-BIT O	
gF5	FF	
gF6	BITSET	https://47calc.com/doc/C47/Menus/C47_Menu_BITSET_page_1.pdf

BASE	Number base					
g-shift	64:u ◊	32:u ◊	16:u ◊	8:u ◊	FF	BITSET
f-shift	64:2 ◊	32:2 ◊	16:2 ◊	8:2 ◊	B.SWP	W.SWP
unshifted	A	B	C	D	E	F
Page 2	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BASE2_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	BASE	MENU	Number base	Number base operations (Short integer (8.02-8.16)) ; Split screen : Displaying value of X according to setting dSI (short integer split screen lines) : 0 : <none> ; 1 : HEX ; 2 : HEX/DEC ; 3 : HEX/BIN/DEC ; if flag BCD is SET, instead of HEX, BCD is displayed with subscript digits and followed by subscript _{bcd} ; Info : on BASE page 2, special indicators are used : ♦ : all group settings comply, ♦ : ≥1 group settings differ	Number bases		BASE	
F1	A	Character	A	Character A ; Fontcode : 0041 ₁₆	Numeric input and characters			
F2	B	Character	B	Character B ; Fontcode : 0042 ₁₆	Numeric input and characters			
F3	C	Character	C	Character C ; Fontcode : 0043 ₁₆	Numeric input and characters			
F4	D	Character	D	Character D ; Fontcode : 0044 ₁₆	Numeric input and characters			
F5	E	Character	E	Character E ; Fontcode : 0045 ₁₆	Numeric input and characters			
F6	F	Character	F	Character F ; Fontcode : 0046 ₁₆	Numeric input and characters			
fF1	64:2 ♦	Setting (pgm)	Signed 64 bits	Shortcut to set word size to 64 bits signed (ISM = 2) -- 2's complement ; Info : SBI 64:2 is shown if flag SBint is SET ; SBI : 64:2	Number bases	SBint		ON
fF2	32:2 ♦	Setting (pgm)	Signed 32 bits	Shortcut to set word size to 32 bits signed (ISM = 2) -- 2's complement ; Info : SBI 32:2 is shown if flag SBint is SET ; SBI : 32:2	Number bases	SBint		OFF
fF3	16:2 ♦	Setting (pgm)	Signed 16 bits	Shortcut to set word size to 16 bits signed (ISM = 2) -- 2's complement ; Info : SBI 16:2 is shown if flag SBint is SET ; SBI : 16:2	Number bases	SBint		OFF
fF4	8:2 ♦	Setting (pgm)	Signed 8 bits	Shortcut to set word size to 8 bits signed (ISM = 2) -- 2's complement ; Info : SBI 8:2 is shown if flag SBint is SET ; SBI : 8:2	Number bases	SBint		OFF
fF5	B.SWP	Function (monadic)	Byte swap	Swap bytes	Number bases		B.SWP	
fF6	W.SWP	Function (monadic)	Word swap	Swap words	Number bases		W.SWP	
gF1	64:u ♦	Setting (pgm)	Unsigned 64 bits	Shortcut to set word size to 64 bits unsigned (ISM = 0) -- Unsigned ; Info : SBI 64:u is shown if flag SBint is SET ; SBI : 64:u	Number bases	SBint		OFF
gF2	32:u ♦	Setting (pgm)	Unsigned 32 bits	Shortcut to set word size to 32 bits unsigned (ISM = 0) -- Unsigned ; Info : SBI 32:u is shown if flag SBint is SET ; SBI : 32:u	Number bases	SBint		OFF
gF3	16:u ♦	Setting (pgm)	Unsigned 16 bits	Shortcut to set word size to 16 bits unsigned (ISM = 0) -- Unsigned ; Info : SBI 16:u is shown if flag SBint is SET ; SBI : 16:u	Number bases	SBint		OFF
gF4	8:u ♦	Setting (pgm)	Unsigned 8 bits	Shortcut to set word size to 8 bits unsigned (ISM = 0) -- Unsigned ; Info : SBI 8:u is shown if flag SBint is SET ; SBI : 8:u	Number bases	SBint		OFF
gF5	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	Programming		FF	
gF6	BITSET	MENU	Bit set functions	Bit set functions	Bits and bytes		BITSET	

p2	BASE	Link
F1	A	
F2	B	
F3	C	
F4	D	
F5	E	
F6	F	
fF1	64:2 ◇	
fF2	32:2 ◇	
fF3	16:2 ◇	
fF4	8:2 ◇	
fF5	B.SWP	
fF6	W.SWP	
gF1	64:u ◇	
gF2	32:u ◇	
gF3	16:u ◇	
gF4	8:u ◇	
gF5	FF	
gF6	BITSET	https://47calc.com/doc/C47/Menus/C47_Menu_BITSET_page_1.pdf

BASE2	Number base (2)					
g-shift	BASE	SLn	SRn	BIN	DEC	HEX
f-shift	AND	OR	XOR	NOT	IDIV	MOD
unshifted	A	B	C	D	E	F
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BASE2_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	BASE2	MENU	Number base (2)	Alternative menu for number base operations (Short integer (8.02-8.16)) ; Split screen : Displaying value of X according to setting dSI (short integer split screen lines) : 0 : <none> ; 1 : HEX ; 2 : HEX/DEC ; 3 : HEX/BIN/DEC ; if flag BCD is SET, instead of HEX, BCD is displayed with subscript digits and followed by subscript _{bcd}	Number bases		BASE2	
F1	A	Character	A	Character A ; Fontcode : 0041 ₁₆	Numeric input and characters			
F2	B	Character	B	Character B ; Fontcode : 0042 ₁₆	Numeric input and characters			
F3	C	Character	C	Character C ; Fontcode : 0043 ₁₆	Numeric input and characters			
F4	D	Character	D	Character D ; Fontcode : 0044 ₁₆	Numeric input and characters			
F5	E	Character	E	Character E ; Fontcode : 0045 ₁₆	Numeric input and characters			
F6	F	Character	F	Character F ; Fontcode : 0046 ₁₆	Numeric input and characters			
fF1	AND	Function (dyadic)	AND	Bitwise AND	Bits and bytes		AND	
fF2	OR	Function (dyadic)	OR	Bitwise OR	Bits and bytes		OR	
fF3	XOR	Function (dyadic)	XOR	Bitwise XOR (exclusive OR)	Bits and bytes		XOR	
fF4	NOT	Function (monadic)	NOT	Bitwise NOT	Bits and bytes		NOT	
fF5	IDIV	Function (dyadic)	Integer divide	Integer divide	Integers		IDIV	
fF6	MOD	Function (dyadic)	Modulo	Y modulo X	Mathematics		MOD	
gF1	BASE	MENU	Number base	Number base operations (Short integer (8.02-8.16)) ; Split screen : Displaying value of X according to setting dSI (short integer split screen lines) : 0 : <none> ; 1 : HEX ; 2 : HEX/DEC ; 3 : HEX/BIN/DEC ; if flag BCD is SET, instead of HEX, BCD is displayed with subscript digits and followed by subscript _{bcd} ; Info : on BASE page 2, special indicators are used : ♦ : all group settings comply, ◇ : ≥1 group settings differ	Number bases	BCD	BASE	
gF2	SLn	Function (monadic)	Shift Left	Shift Left with number of bits (trailing input) ; TAM : SLn __ TamNonReg menu	Number bases		SLn	
gF3	SRn	Function (monadic)	Shift Right	Shift Right with number of bits (trailing input) ; TAM : SRn __ TamNonReg menu	Number bases		SRn	
gF4	BIN	Setting (pgm)	Binary	Convert X to binary and toggle binary mode ; entering digits A-F switches the calculator to hexadecimal mode ; when KEY _{A-F} is SET, the respective digit is included in the row 2 key's longpress preview cycle ; Shortcut : #TAM [¹ /x] (B) ; Info : values are displayed with subscript ₂ ; SBI : #BASE ; #KEY _{A-F}	Number bases	KEY _{A-F}	BIN	OFF
gF5	DEC	Setting (pgm)	Decimal (short integer)	Convert X to decimal (short integer) and toggle decimal (short integer) mode ; entering digits A-F switches the calculator to hexadecimal mode ; when KEY _{A-F} is SET, the respective digit is included in the row 2 key's longpress preview cycle ; Shortcut : #TAM [LOG] (D) ; Info : values are displayed with subscript ₁₀ ; SBI : #BASE ; #KEY _{A-F}	Number bases	KEY _{A-F}	DEC	OFF
gF6	HEX	Setting (pgm)	Hexadecimal	Convert X to hexadecimal and toggle hexadecimal mode ; if KEY _{A-F} is SET, digits A-F can be entered by pressing row 2 keys ; Shortcut : #TAM [RCL] (H) ; Info : values are displayed with subscript ₁₆ ; SBI : #BASE ; #KEY _{A-F}	Number bases	KEY _{A-F}	HEX	OFF

p1	BASE2	Link
F1	A	
F2	B	
F3	C	
F4	D	
F5	E	
F6	F	
fF1	AND	
fF2	OR	
fF3	XOR	
fF4	NOT	
fF5	IDIV	
fF6	MOD	
gF1	BASE	https://47calc.com/doc/C47/Menus/C47_Menu_BASE_page_1.pdf
gF2	SLn	
gF3	SRn	
gF4	BIN	
gF5	DEC	
gF6	HEX	

BASE2	Number base (2)					
g-shift	BASE	#B	SB	CB	BS?	BITSET
f-shift	LEAD.0 ☐	OVERFL ☐	CARRY ☐			BITSHFT
unshifted	A	B	C	D	E	F
Page 2	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Binom_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	BASE2	MENU	Number base (2)	Alternative menu for number base operations (Short integer (8.02-8.16)) ; Split screen : Displaying value of X according to setting dSI (short integer split screen lines) : 0 : <none> ; 1 : HEX ; 2 : HEX/DEC ; 3 : HEX/BIN/DEC ; if flag BCD is SET, instead of HEX, BCD is displayed with subscript digits and followed by subscript _{bcd}	Number bases		BASE2	
F1	A	Character	A	Character A ; Fontcode : 0041 ₁₆	Numeric input and characters			
F2	B	Character	B	Character B ; Fontcode : 0042 ₁₆	Numeric input and characters			
F3	C	Character	C	Character C ; Fontcode : 0043 ₁₆	Numeric input and characters			
F4	D	Character	D	Character D ; Fontcode : 0044 ₁₆	Numeric input and characters			
F5	E	Character	E	Character E ; Fontcode : 0045 ₁₆	Numeric input and characters			
F6	F	Character	F	Character F ; Fontcode : 0046 ₁₆	Numeric input and characters			
fF1	LEAD.0 □	Setting	Leading zeros	Switch on leading zeros (shortint bases 2, 4, 8, 16) ; not programmable - in PEM, use flag LEAD.0	Display	LEAD.0	LEAD.0 □	OFF
fF2	OVERFL □	Setting	Overflow	Switch on overflow ; not programmable - in PEM, use flag OVERFL ; Info : SBI ° is shown if flag SBoc is SET ; SBI : °	Bits and bytes	OVERFL	OVERFL □	OFF
fF3	CARRY □	Setting	Carry (bit)	Switch on carry (bit) ; not programmable - in PEM, use flag CARRY ; Info : SBI ° is shown if flag SBoc is SET ; SBI : °	Bits and bytes	CARRY	CARRY □	OFF
fF4								
fF5								
fF6	BITSHFT	MENU (item)	Bit shift functions	Activate menu BITS page 2 to access bit shift functions ; Info : Previews/OPENM as BITS ⁴ 2	Bits and bytes		BITS ⁴ 2	
gF1	BASE	MENU	Number base	Number base operations (Short integer (8.02-8.16)) ; Split screen : Displaying value of X according to setting dSI (short integer split screen lines) : 0 : <none> ; 1 : HEX ; 2 : HEX/DEC ; 3 : HEX/BIN/DEC ; if flag BCD is SET, instead of HEX, BCD is displayed with subscript digits and followed by subscript _{bcd} ; Info : on BASE page 2, special indicators are used : ◇ : all group settings comply, ◇ : ≥1 group settings differ	Number bases	BCD	BASE	
gF2	#B	Function (monadic)	Get number of bits set	Get number of bits set	Number bases		#B	
gF3	SB	Function (monadic)	Set bit	Set bit n ; TAM : SB __ TamNonReg menu	Number bases		SB	
gF4	CB	Function (monadic)	Clear bit	Clear bit n ; TAM : CB __ TamNonReg menu	Number bases		CB	
gF5	BS?	Command (logical)	Bit set?	Test bit n is set ; TAM : BS? __ TamNonReg menu	Number bases		BS?	
gF6	BITSET	MENU	Bit set functions	Bit set functions	Bits and bytes		BITSET	

p2	BASE2	Link
F1	A	
F2	B	
F3	C	
F4	D	
F5	E	
F6	F	
fF1	LEAD.0 □	
fF2	OVERFL □	
fF3	CARRY □	
fF4		
fF5		
fF6	BITSHFT	https://47calc.com/doc/C47/Menus/C47_Menu_BITSHFT_page_1.pdf
gF1	BASE	https://47calc.com/doc/C47/Menus/C47_Menu_BASE_page_1.pdf
gF2	#B	
gF3	SB	
gF4	CB	
gF5	BS?	
gF6	BITSET	https://47calc.com/doc/C47/Menus/C47_Menu_BITSET_page_1.pdf

Binom:	Binomial & Negative binomial distribution					
g-shift	ST0 _p p	ST0 _n n				
f-shift	NBin _p		NBin _Δ	NBin _Δ		NBin ⁻¹
unshifted	Binom _p		Binom _Δ	Binom _Δ		Binom ⁻¹
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BITS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Binom:	MENU	Binomial & Negative binomial distribution	Binomial & Negative binomial probability distribution (discrete) ; TI : RegP = p = ; RegN = n =	Probability (int)		Binom:	
F1	Binom _p	Function (monadic)	Binomial pmf	Binomial probability mass function	Probability (int)		Binom _p	
F2								
F3	Binom _Δ	Function (monadic)	Binomial cdf (lower)	Binomial cumulative distribution (lower tail)	Probability (int)		Binom _Δ	
F4	Binom _Δ	Function (monadic)	Binomial cdf (upper)	Binomial cumulative distribution (upper tail)	Probability (int)		Binom _Δ	
F5								
F6	Binom ⁻¹	Function (monadic)	Binomial qf (inverse)	Binomial inverse cumulative distribution (quantile)	Probability (int)		Binom ⁻¹	
fF1	NBin _p	Function (monadic)	Negative binomial pmf	Negative binomial probability mass function	Probability (int)		NBin _p	
fF2								
fF3	NBin _Δ	Function (monadic)	Negative binomial cdf (lower)	Negative binomial cumulative distribution (lower tail)	Probability (int)		NBin _Δ	
fF4	NBin _Δ	Function (monadic)	Negative binomial cdf (upper)	Negative binomial cumulative distribution (upper tail)	Probability (int)		NBin _Δ	
fF5								
fF6	NBin ⁻¹	Function (monadic)	Negative binomial qf (inverse)	Negative binomial inverse cumulative distribution (quantile)	Probability (int)		NBin ⁻¹	
gF1	STOp p	Command	Store p in P	Store parameter p : probability in register P ; Split screen : RegP = p =	Probability (int)			
gF2	STOn n	Command	Store n in N	Store parameter n : number of samples in register N ; Split screen : RegN = n =	Probability (int)			
gF3								
gF4								
gF5								
gF6								

BITS	Bitwise functions					
g-shift	SB	BS?	BC?	CB	FF	FB
f-shift	NAND	NOR	XNOR	#B	ZIP	UNZIP
unshifted	AND	OR	XOR	NOT	MASKL	MASKR
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BITS_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	BITS	MENU	Bitwise functions	Bitwise functions	<i>Bits and bytes</i>		BITS	
F1	AND	Function (dyadic)	AND	Bitwise AND	<i>Bits and bytes</i>		AND	
F2	OR	Function (dyadic)	OR	Bitwise OR	<i>Bits and bytes</i>		OR	
F3	XOR	Function (dyadic)	XOR	Bitwise XOR (exclusive OR)	<i>Bits and bytes</i>		XOR	
F4	NOT	Function (monadic)	NOT	Bitwise NOT	<i>Bits and bytes</i>		NOT	
F5	MASKL	Function (monadic)	Left bit mask	Set left n bits to use as mask ; TAM : MASKL __ TamNonReg menu	<i>Bits and bytes</i>		MASKL	
F6	MASKR	Function (monadic)	Right bit mask	Set right n bits to use as mask ; TAM : MASKR __ TamNonReg menu	<i>Bits and bytes</i>		MASKR	
fF1	NAND	Function (dyadic)	Not AND	Logical not AND (bitwise)	<i>Bits and bytes</i>		NAND	
fF2	NOR	Function (dyadic)	NOR	Logical not OR (bitwise)	<i>Bits and bytes</i>		NOR	
fF3	XNOR	Function (dyadic)	Exclusive NOR	Logical exclusive NOR (bitwise)	<i>Bits and bytes</i>		XNOR	
fF4	#B	Function (monadic)	Get number of bits set	Get number of bits set	<i>Number bases</i>		#B	
fF5	ZIP	Function (dyadic)	Zip	Interleave (zip) bits of Y and X, starting with most significant bit of Y	<i>Bits and bytes</i>		ZIP	
fF6	UNZIP	Function (monadic)	Unzip	De-interleave (unzip) bits of X into Y and X, using most significant bit for Y	<i>Bits and bytes</i>		UNZIP	
gF1	SB	Function (monadic)	Set bit	Set bit n ; TAM : SB __ TamNonReg menu	<i>Number bases</i>		SB	
gF2	BS?	Command (logical)	Bit set?	Test bit n is set ; TAM : BS? __ TamNonReg menu	<i>Number bases</i>		BS?	
gF3	BC?	Command (logical)	Bit clear?	Test bit n is clear ; TAM : BC? __ TamNonReg menu	<i>Bits and bytes</i>		BC?	
gF4	CB	Function (monadic)	Clear bit	Clear bit n ; TAM : CB __ TamNonReg menu	<i>Number bases</i>		CB	
gF5	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	<i>Programming</i>		FF	
gF6	FB	Function (monadic)	Flip bit	Flip bit n ; TAM : FB __ TamNonReg menu	<i>Bits and bytes</i>		FB	

BITS	Bitwise functions					
g-shift	MIRROR	ASRn	LJ	RJ	FF	BITSET
f-shift	SLn	SRn	RLn	RRn	RLCn	RRCn
unshifted	SL	SR	RL	RR	RLC	RRC
Page 2	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BITSET_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	BITS	MENU	Bitwise functions	Bitwise functions	<i>Bits and bytes</i>		BITS	
F1	SL	Function (monadic)	Shift Left (1)	Shortcut to Shift Left (1 bit)	<i>Number bases</i>		SL	
F2	SR	Function (monadic)	Shift Right (1)	Shortcut to Shift Right (1 bit)	<i>Number bases</i>		SR	
F3	RL	Function (monadic)	Rotate Left (1)	Shortcut to Rotate Left (1 bit)	<i>Bits and bytes</i>		RL	
F4	RR	Function (monadic)	Rotate right (1)	Shortcut to Rotate right (1 bit)	<i>Bits and bytes</i>		RR	
F5	RLC	Function (monadic)	Rotate Left through Carry (1)	Shortcut to Rotate Left through Carry (1 bit)	<i>Bits and bytes</i>		RLC	
F6	RRC	Function (monadic)	Rotate Right through Carry (1)	Shortcut to Rotate Right through Carry (1 bit)	<i>Bits and bytes</i>		RRC	
fF1	SLn	Function (monadic)	Shift Left	Shift Left with number of bits (trailing input) ; TAM : SLn __ TamNonReg menu	<i>Number bases</i>		SLn	
fF2	SRn	Function (monadic)	Shift Right	Shift Right with number of bits (trailing input) ; TAM : SRn __ TamNonReg menu	<i>Number bases</i>		SRn	
fF3	RLn	Function (monadic)	Rotate Left	Rotate Left with number of bits (trailing input) ; TAM : RLn __ TamNonReg menu	<i>Bits and bytes</i>		RLn	
fF4	RRn	Function (monadic)	Rotate right	Rotate right with number of bits (trailing input) ; TAM : RRn __ TamNonReg menu	<i>Bits and bytes</i>		RRn	
fF5	RLCn	Function (monadic)	Rotate Left through Carry	Rotate Left through Carry with number of bits (trailing input) ; TAM : RLCn __ TamNonReg menu	<i>Bits and bytes</i>		RLCn	
fF6	RRCn	Function (monadic)	Rotate Right through Carry	Rotate Right through Carry with number of bits (trailing input) ; TAM : RRCn __ TamNonReg menu	<i>Bits and bytes</i>		RRCn	
gF1	MIRROR	Function (monadic)	Mirror bits	Flip bits	<i>Bits and bytes</i>		MIRROR	
gF2	ASRn	Function (monadic)	Arithmetic Shift Right	Arithmetic Shift Right with number of bits, preserving the sign of signed integers (trailing input) ; TAM : ASRn __ TamNonReg menu	<i>Bits and bytes</i>		ASRn	
gF3	LJ	Function (monadic)	Left justify	Left justify (within word size) ; returns shift in X and result in Y	<i>Bits and bytes</i>		LJ	
gF4	RJ	Function (monadic)	Right justify	Right justify (within word size) ; returns shift in X and result in Y	<i>Bits and bytes</i>		RJ	
gF5	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	<i>Programming</i>		FF	
gF6	BITSET	MENU	Bit set functions	Bit set functions	<i>Bits and bytes</i>		BITSET	

p2	BITS	Link
F1	SL	
F2	SR	
F3	RL	
F4	RR	
F5	RLC	
F6	RRC	
fF1	SLn	
fF2	SRn	
fF3	RLn	
fF4	RRn	
fF5	RLCn	
fF6	RRCn	
gF1	MIRROR	
gF2	ASRn	
gF3	LJ	
gF4	RJ	
gF5	FF	
gF6	BITSET	https://47calc.com/doc/C47/Menus/C47_Menu_BITSET_page_1.pdf

BITSET	Bit set functions					
g-shift	9CMPL ☐	10CMPL ☐	BCDUNS ☐	BCD ☐	FF	BASE _{HP} ☐
f-shift	1COMPL ☐	2COMPL ☐	UNSIGN ☐	SIGNMT ☐		WSIZE ₆₄
unshifted	A	B	C	D	E	F
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BITSHFT_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	BITSET	MENU	Bit set functions	Bit set functions	<i>Bits and bytes</i>		BITSET	
F1	A	Character	A	Character A ; Fontcode : 0041 ₁₆	<i>Numeric input and characters</i>			
F2	B	Character	B	Character B ; Fontcode : 0042 ₁₆	<i>Numeric input and characters</i>			
F3	C	Character	C	Character C ; Fontcode : 0043 ₁₆	<i>Numeric input and characters</i>			
F4	D	Character	D	Character D ; Fontcode : 0044 ₁₆	<i>Numeric input and characters</i>			
F5	E	Character	E	Character E ; Fontcode : 0045 ₁₆	<i>Numeric input and characters</i>			
F6	F	Character	F	Character F ; Fontcode : 0046 ₁₆	<i>Numeric input and characters</i>			
fF1	1COMPL O	Setting (pgm)	1's complement	Set 1's complement mode for Long integer (ISM = 1) ; Info : <w> in SBI indicates word size (menu BITSET) ; SBI <w>:1 is shown if flag SBint is SET ; SBI : <w>:1	<i>Bits and bytes</i>	SBint	1COMPL O	OFF
fF2	2COMPL @	Setting (pgm)	2's complement	Set 2's complement mode for Long integer (ISM = 2) ; Info : <w> in SBI indicates word size (menu BITSET) ; SBI <w>:2 is shown if flag SBint is SET ; SBI : <w>:2	<i>Bits and bytes</i>	SBint	2COMPL @	ON
fF3	UNSIGN O	Setting (pgm)	Unsigned	Set unsigned mode for Short integer (ISM = 0) ; Info : <w> in SBI indicates word size (menu BITSET) ; SBI <w>:u is shown if flag SBint is SET ; SBI : <w>:u	<i>Bits and bytes</i>	SBint	UNSIGN O	OFF
fF4	SIGNMT O	Setting (pgm)	Sign and mantissa	Set sign and mantissa mode for Short integer (ISM = -1) ; Info : <w> in SBI indicates word size (menu BITSET) ; SBI <w>:s is shown if flag SBint is SET ; SBI : <w>:s	<i>Bits and bytes</i>	SBint	SIGNMT O	OFF
fF5								
fF6	WSIZE ₆₄	Setting (pgm)	Set word size	Set word size in bits, for Short integer (8.02-8.16) ; TAM : WSIZE __ TamNonReg menu menu ; Info : <m> in SBI indicates sign mode (menu BITSET) ; SBI 64:<m> is shown if flag SBint is SET ; SBI : 64:<m>	<i>Bits and bytes</i>	SBint	WSIZE ₆₄	64
gF1	9CMPL O	Setting (pgm)	BCD 9's complement	Set BCD 9's complement display of Long integer in #BASE Mode ; Info : If menu BASE is open (#BASE Mode), BCD is displayed with subscript digits and followed by subscript _{bcd}	<i>Bits and bytes</i>	BCD	9CMPL O	OFF
gF2	10CMPL O	Setting (pgm)	BCD 10's complement	Set BCD 10's complement display of Long integer in #BASE Mode ; Info : If menu BASE is open (#BASE Mode), BCD is displayed with subscript digits and followed by subscript _{bcd}	<i>Bits and bytes</i>	BCD	10CMPL O	OFF
gF3	BCDUNS @	Setting (pgm)	BCD unsigned	Set BCD unsigned display of Long integer in #BASE Mode ; Info : If menu BASE is open (#BASE Mode), BCD is displayed with subscript digits and followed by subscript _{bcd}	<i>Bits and bytes</i>	BCD	BCDUNS @	ON
gF4	BCD □	Setting	Binary coded decimal	Switch on binary coded decimal (BCD) display of Long integer in #BASE Mode ; not programmable - in PEM, use flag BCD ; Info : If menu BASE is open (#BASE Mode), BCD is displayed with subscript digits and followed by subscript _{bcd}	<i>Bits and bytes</i>	BCD	BCD □	OFF
gF5	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	<i>Programming</i>		FF	
gF6	BASE _{HP} ▣	Setting	Classic (HP) style base	Switch on applying number base to the whole stack ; not programmable - in PEM, use flag BASE _{HP} ; Info : Shortint values only	<i>Number bases</i>	BASE _{HP}	BASE _{HP} ▣	ON

BITSHFT (BITS)	Bit shift functions					
g-shift	MIRROR	ASRn	LJ	RJ	FF	BITSET
f-shift	SLn	SRn	RLn	RRn	RLCn	RRCn
unshifted	SL	SR	RL	RR	RLC	RRC
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BLUE47_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	BITSHFT (BITS)	MENU (item)	Bit shift functions	Activate menu BITS page 2 to access bit shift functions ; Info : Previews/OPENM as BITS⇄2	Bits and bytes		BITS⇄2	
F1	SL	Function (monadic)	Shift Left (1)	Shortcut to Shift Left (1 bit)	Number bases		SL	
F2	SR	Function (monadic)	Shift Right (1)	Shortcut to Shift Right (1 bit)	Number bases		SR	
F3	RL	Function (monadic)	Rotate Left (1)	Shortcut to Rotate Left (1 bit)	Bits and bytes		RL	
F4	RR	Function (monadic)	Rotate right (1)	Shortcut to Rotate right (1 bit)	Bits and bytes		RR	
F5	RLC	Function (monadic)	Rotate Left through Carry (1)	Shortcut to Rotate Left through Carry (1 bit)	Bits and bytes		RLC	
F6	RRC	Function (monadic)	Rotate Right through Carry (1)	Shortcut to Rotate Right through Carry (1 bit)	Bits and bytes		RRC	
fF1	SLn	Function (monadic)	Shift Left	Shift Left with number of bits (trailing input) ; TAM : SLn __ TamNonReg menu	Number bases		SLn	
fF2	SRn	Function (monadic)	Shift Right	Shift Right with number of bits (trailing input) ; TAM : SRn __ TamNonReg menu	Number bases		SRn	
fF3	RLn	Function (monadic)	Rotate Left	Rotate Left with number of bits (trailing input) ; TAM : RLn __ TamNonReg menu	Bits and bytes		RLn	
fF4	RRn	Function (monadic)	Rotate right	Rotate right with number of bits (trailing input) ; TAM : RRn __ TamNonReg menu	Bits and bytes		RRn	
fF5	RLCn	Function (monadic)	Rotate Left through Carry	Rotate Left through Carry with number of bits (trailing input) ; TAM : RLCn __ TamNonReg menu	Bits and bytes		RLCn	
fF6	RRCn	Function (monadic)	Rotate Right through Carry	Rotate Right through Carry with number of bits (trailing input) ; TAM : RRCn __ TamNonReg menu	Bits and bytes		RRCn	
gF1	MIRROR	Function (monadic)	Mirror bits	Flip bits	Bits and bytes		MIRROR	
gF2	ASRn	Function (monadic)	Arithmetic Shift Right	Arithmetic Shift Right with number of bits, preserving the sign of signed integers (trailing input) ; TAM : ASRn __ TamNonReg menu	Bits and bytes		ASRn	
gF3	LJ	Function (monadic)	Left justify	Left justify (within word size) ; returns shift in X and result in Y	Bits and bytes		LJ	
gF4	RJ	Function (monadic)	Right justify	Right justify (within word size) ; returns shift in X and result in Y	Bits and bytes		RJ	
gF5	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	Programming		FF	
gF6	BITSET	MENU	Bit set functions	Bit set functions	Bits and bytes		BITSET	

p1	BITSHFT (BITS)	Link
F1	SL	
F2	SR	
F3	RL	
F4	RR	
F5	RLC	
F6	RRC	
fF1	SLn	
fF2	SRn	
fF3	RLn	
fF4	RRn	
fF5	RLCn	
fF6	RRCn	
gF1	MIRROR	
gF2	ASRn	
gF3	LJ	
gF4	RJ	
gF5	FF	
gF6	BITSET	https://47calc.com/doc/C47/Menus/C47_Menu_BITSET_page_1.pdf

BLUE47	Access blue functions					
g-shift	a b/c	*	.ms	.d	LBL	RTN
f-shift	π	$\Delta\%$	$\sqrt[n]{y}$	<i>i</i>	$\rightarrow R$	$\rightarrow P$
unshifted	x	CPX	STK	TRG	EXP	∇
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	BLUE47	MENU	Access blue functions	Access all functions of the DM42-layout g-shift keyboard (blue) and a few of the f-shift keyboard ; Info : Assigned to calculator function SETUP (f[0]) in layout DM42	Keyboard		BLUE47	
F1	x	Function (monadic)	Magnitude	Magnitude (absolute value) of Complex number	Complex numbers		x	
F2	CPX	MENU	Complex functions	Complex functions ; Ref : https://47calc.com/doc/Application%20Notes/AN0001_C47_R47_JM_Complex_number_engineering_example.pdf	Complex numbers		CPX	
F3	STK	MENU	Stack	Stack functions	Stack		STK	
F4	TRG	MENU	Trigonometry	Trigonometry functions ; Info : TRG replaces R47 menu TRG_R47 ; Ref : https://47calc.com/doc/C47/Reference/C47_DMS-HMS.pdf	Trigonometry		TRG	
F5	EXP	MENU	Exponential	Exponential functions	Mathematics		EXP	
F6	↵	Command (nonpgm)	Undo	Restore complete stack, LASTx, STATS and system flags ; Info : Error 128 -- Undo failed: likely no memory -- may be raised	Stack		UNDO	
fF1	∠	Function (monadic)	Argument (angle)	Argument (angle) of Complex number	Complex numbers		∠	
fF2	Δ%	Function (dyadic)	Delta percent	Delta percentage from Y to X, keeping Y on stack -- see Formula_DELTAPC.png : https://47calc.com/doc/Images/Formula_DELTAPC.png ; TI : Δ% :	Financial		Δ%	
fF3	$\sqrt[y]{x}$	Function (dyadic)	xth root	Xth root of Y	Mathematics		$\sqrt[y]{x}$	
fF4	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in a + b i ; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_i	
fF5	→R	Function (monadic, dyadic)	To rectangular	Transform polar to rectangular coordinates (dyadic, stack conventions according to flag RP _{HP} SET or CLEAR) ; transform Complex number or 2D/3D vector to rectangular notation (monadic) and set RECT tag ; TI : x : Re = ; y : Im = (RECT) ; Info : in Program Entry Mode, flag RP _{HP} determines whether →RECT _{HP} or →RECT _{CX} is stored ; vector display depends on flag 3Dxyz, for 2D rectangular vector : [ij] [v ₁ v ₂] ; 3D rectangular vector : [ijk] [v ₁ v ₂ v ₃]	Complex and coordinates	RP _{HP}	→RECT	
fF6	→P	Function (monadic, dyadic)	To polar	Transform rectangular to polar coordinates (dyadic, stack conventions according to flag RP _{HP} SET or CLEAR) ; transform Complex number or 2D/3D vector to polar notation (monadic) and set POLAR tag ; TI : r = ; θ = (POLAR) ; Info : in Program Entry Mode, flag RP _{HP} determines whether →POL _{HP} or →POL _{CX} is stored ; for a 3D vector in X, function →POLAR (→P) cycles through →SPH, then →CYL ; vector display depends on flag 3Dxyz, for 2D polar vector : [rθ;i] [v ₁ v ₂] ^P ; 3D spherical vector : [rθ;ijk] _M [v ₁ v ₂ v ₃] ^a ; 3D cylindrical vector : [rθ;ijk] [v ₁ v ₂ v ₃] ^c	Complex and coordinates	RP _{HP}	→POLAR	
gF1	a b/c	Setting (cyclic, pgm, stack)	Fractions modes	Set and cycle fractions modes : proper (mixed), improper fractions (denominator determined by DMX, DENFIX, DENANY) ; or fractional approximations including irrationals ; exit fractions mode via .d (g[LOG]) ; starts in mode last used or as set by flags PROPFR, FRACT and IRFRAC ; When FRCYC is SET full cycle is available, when CLEAR, flag PROPFR is excluded (used as is) and OFF state is included in cycle ; Shortcut : <a> [.] [.] <c> ; Info : IRFRAC and FRACT are linked (both cannot be SET at the same time) ; SBI xI or -I indicates that approximate multiples or fractions can be used, of the irrational numbers $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{11}$, ϕ , π^{-2} , π^{-1} , $\sqrt{17}$, π , π^2 , e^{-2} , e^{-1} , e and e^2 (with tolerance 10 ⁻²⁴) ; Prefix ≈ + <approximation> ; multiplication symbol SET for displaying multiplication symbol × ; SBI is shown if flag SBfrac is SET ; Ref : https://47calc.com/doc/C47/Reference/C47_Fractions.pdf ; SBI : a ^b /n ; ^b /n ; [+≈] ; a ^b /c×I ; ^b /c×I ; [+≈]	Fractions	FRACT		OFF

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF2	#	Setting (pgm, stack)	Number base	Set number base ; operates on all stack registers depending on BASEHP ; TAM : →INT __ TamNonReg menu ; #TAM shortcuts : B = BIN ; D = DEC ; ENTER = DEC ; H = HEX ; O = OCT ; Info : SBI is shown if flag SBfrac is SET ; exit base mode by .d, →I, [.] or CLRM0D (longerpress [EXIT]) ; SBI : #BASE ; #KEYA-F	Number bases	KEYA-F	→INT	OFF
gF3	.ms	Function (monadic, cyclic)	Minutes & seconds	Convert sexagesimal format input sequence or decimal stack value to hh:mm:ss hours or dd:mm:ss degrees (cyclic) ; Info : NIM input treated as sexagesimal (hh/dd.mmss) format ; stack input treated as decimal value	Time/angle conversions		.ms	
gF4	.d	Function (monadic)	Decimal (Real) or Date	Convert to decimal (Real) or date value ; untag (ADM) angle ; clear Fractions Mode, #BASE Mode ; convert angles / Times / Dates to Real ; convert NIM input to Date (according to CLK date format settings and implied conversion set by YY ; convert Complex number with zero imaginary part to Real ; when editing angles using EDIT, key .d removes the angle tag (Normal Mode and PEM) ; when editing short integers, key .d removes the base (Normal Mode and PEM) ; in PEM, .d registers as →REAL ; TI : decimal h: or yyyy.mmdd ; Ref : https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf	Reals	FRACT		
gF5	LBL	Command (PEM)	Label	Create global or local label ; create global label by pressing key α (f[XEQ]) and entering the name, which will be displayed as '<label>' ; local labels only exist within the scope of the program ; they are numeric : 01-99, single letter : a-l or {A}-{E}, F, {G}-{L} ; or created as local named labels, by pressing button : ([TamLabel.1]F3), then button α ([TamLocalLabel.1]F3) or key α (f[XEQ]) and entering the name, which will be displayed as :<label> ; maximum label length is : 7 characters ; TAM : LBL __ TamLabel menu ; Info : LBL + TAM [XEQ] to enter global LBL 'α TamAlpha menu ; LBL + button : on [TamLabel.1]F3 to enter LBL :__ TamLocalLabel menu to create local labels a-l, D-F or local named labels (additionally pressing button α on [TamLocalLabel.1]F3 or TAM [XEQ] to enter LBL :α TamAlpha menu) ; note that a label may be used multiple times in a program ; local labels are searched forwards from the GT0 or XEQ command, before global labels, which are searched from the start of program memory	Programming		LBL	
gF6	RTN	Command (PEM)	Return	Return from subroutine to calling program	Programming		RTN	

p1	BLUE47	Link
F1	x	
F2	CPX	https://47calc.com/doc/C47/Menus/C47_Menu_CPX_page_1.pdf
F3	STK	https://47calc.com/doc/C47/Menus/C47_Menu_STK_page_1.pdf
F4	TRG	https://47calc.com/doc/C47/Menus/C47_Menu_TRG_page_1.pdf
F5	EXP	https://47calc.com/doc/C47/Menus/C47_Menu_EXP_page_1.pdf
F6	↵	
fF1	4	
fF2	Δ%	
fF3	$\sqrt[n]{y}$	
fF4	i	
fF5	→R	
fF6	→P	
gF1	a b/c	
gF2	#	
gF3	.ms	
gF4	.d	
gF5	LBL	
gF6	RTN	

BLUE47	Access blue functions					
g-shift						
f-shift	SNAP	STOPW	INFO	TEST	CNST	
unshifted	→I	VIEW	USER □			
Page 2	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_BLUE47_page_3.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	BLUE47	MENU	Access blue functions	Access all functions of the DM42-layout g-shift keyboard (blue) and a few of the f-shift keyboard ; Info : Assigned to calculator function SETUP (f[0]) in layout DM42	Keyboard		BLUE47	
F1	→I	Function (monadic, cyclic)	To integer	Convert to Long integer (0), Short integer (8.02-8.16) (cyclic, max 1000 digits) ; Info : Short integer indicated by subscript ₁₀ ; can show TI: Ovrfl<0; or Ovrfl>64 bits : which can be abbreviated as OF, indicating overflow condition	Integers		→I	
F2	VIEW	Command	View	View register or variable (with preceding TI) ; TAM : VIEW __ Tam menu ; Info : if $\frac{\square}{\square}$ ACT is SET, VIEW will print when executed from the keyboard in MAN, NORM or TRACE ; in Program Entry Mode, $\frac{\square}{\square}$ EN must be SET as well ; if $\frac{\square}{\square}$ ACT is CLEAR and $\frac{\square}{\square}$ EN is SET, VIEW halts execution (R/S)	Status		VIEW	
F3	USER $\square$	Setting	USER mode	Switch on USER mode ; not programmable - in PEM, use flag USER ; Info : To assign USER to a key or button, use ASN (f[1]) and spell the name as 'USER' ; during assignment, pressing USER (f[2]) opens MyMenu ; Ref : https://47calc.com/doc/C47/Reference/C47_Assignment.pdf ; SBI : $\frac{\square}{\square}$	Customisation	USER		OFF
F4								
F5								
F6								
fF1	SNAP	Command	Screenshot	Save screenshot to backup file (.bmp) and save contents of stack or alpha buffer as backup file (.REGS.TSV) in FAT ; plays clicking sound ; Shortcut : [f/g] + [E] (DMCP-shortcut for screenshot bitmap only) ; Info : screenshot is saved in file SCREENS/<YYYYMMDD-HHMMSS00>.bmp ; SNAP also appends data to file DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; new datafile after timeout of 2 minutes	Input-Output		SNAP	
fF2	STOPW	App	Stopwatch	Stopwatch with running time, counter and countdown (playing BEEP after running down) ; SBI : $\frac{\square}{\square}$	Time functions	RUNTIM	STOPW	
fF3	INFO	MENU	Information	System information and some information about the value in the X-register	Information		INFO	
fF4	TEST	MENU	Testing	Testing functions	Programming		TEST	
fF5	CNST	MENU (ASM)	Constants	Important scientific and technical constants ; Info : In Program Entry Mode, constants selected from the menu are stored in programs as "# ", the reference number, the label and the abbreviated name ; in the equation editor the label is simply preceded by "#" ; Type characters 1-2 to search;TI : <constant abbreviation> = <value> ; Ref : https://47calc.com/doc/C47/Reference/C47_Constants.pdf	Catalog		CNST	
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p2	BLUE47	Link
F1	→I	
F2	VIEW	
F3	USER □	
F4		
F5		
F6		
f F1	SNAP	
f F2	STOPW	
f F3	INFO	https://47calc.com/doc/C47/Menus/C47_Menu_INFO_page_1.pdf
f F4	TEST	https://47calc.com/doc/C47/Menus/C47_Menu_TEST_page_1.pdf
f F5	CNST	https://47calc.com/doc/C47/Menus/C47_Menu_CNST_page_1.pdf
f F6		
g F1		
g F2		
g F3		
g F4		
g F5		
g F6		

BLUE47	Access blue functions					
g-shift	REGS	HOME	FIN	X.FN	PLOT	
f-shift	FLGS	BITS	CLK	REAL	INTS	
unshifted		KEYS	α .FN	LOOP	I/O	
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_CASHFL_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	BLUE47	MENU	Access blue functions	Access all functions of the DM42-layout g-shift keyboard (blue) and a few of the f-shift keyboard ; Info : Assigned to calculator function SETUP (f[0]) in layout DM42	Keyboard		BLUE47	
F1								
F2	KEYS	MENU	Keys	Layouts, ribbons and special key assignments ; Ref : https://47calc.com/doc/C47/Reference/C47_Keyboards_side_by_side.pdf	Customisation		KEYS	
F3	α.FN	MENU	Alpha functions	Alpha (text string) functions	Text functions		α.FN	
F4	LOOP	MENU	Looping	Looping (programming) functions	Programming		LOOP	
F5	I/O	MENU	Input/Output	I/O functions (read/load, write/save, export program, in-export registers, SNAP, audio, print)	Input-Output		I/O	
F6								
fF1	FLGS	Browser	Flag browser	Browse status pages (flags 00-99, lettered flags, status overview, system flags) ; Info : Press [EXIT] to exit Flag browser and browse using [▲] and [▼] ; browser STATUS in menu FLAG shows the same status pages in a different order ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_p1.pdf	Status		FLGS	
fF2	BITS	MENU	Bitwise functions	Bitwise functions	Bits and bytes		BITS	
fF3	CLK	MENU	Clock	Clock functions, including setting date and time and julian day numbers (astronomy) ; Info : Use TDISP to set time display format : 0 = full ; 1,2 = hours/minutes ; 3 = hours/minutes/seconds ; 4,5,6 = 1,2,3 decimal places for the seconds ; Ref : https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf	Time functions		CLK	
fF4	REAL	MENU	Real	Functions on Real numbers and Complex numbers	Reals		REAL	
fF5	INTS	MENU	Integers	Short integer functions	Integers		INTS	
fF6								
gF1	REGS	Browser	Register browser	Browse all registers ; Shortcut : [.] : Switch register/variable view,[R/S] : Switch contents/storage view,[RCL] : Recall bottom item,[▲], [▼], ABCDEGHIJKLMNO, 00..99 : Navigate, [EXIT] : Exit Register browser ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Status		REGS	
gF2	HOME	MENU	HOME	User menu to quickly access user selected menus and functions ; all buttons are user assignable ('riveted' look) ; initially populated for basic scitech options ; reset using HOME.R ; Shortcut : triple [f/g] (because HOME ^g is SET) ; longerpress [f/g] (because HOME ^g is SET)	Customisation		HOME	
gF3	FIN	MENU	Financial	Financial calculations including time value of money (TVM) and TVM cash flow ; Ref : https://47calc.com/doc/C47/Reference/C47_Formulas.pdf	Financial		FIN	
gF4	X.FN	MENU	Extended functions	Extended functions (Bessel, Bernoulli, Gamma, Elliptical, Orthogonal, etcetera) ; Ref : https://47calc.com/doc/C47/Reference/C47_Prime_numbers.pdf	Mathematics		X.FN	
gF5	PLOT	MENU	Plotting	Plotting and summation functions ; Info : When SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Plotting and summation		PLOT	
gF6								

p3	BLUE47	Link
F1		
F2	KEYS	https://47calc.com/doc/C47/Menus/C47_Menu_KEYS_page_1.pdf
F3	α .FN	https://47calc.com/doc/C47/Menus/C47_Menu_alpha-FN_page_1.pdf
F4	LOOP	https://47calc.com/doc/C47/Menus/C47_Menu_LOOP_page_1.pdf
F5	I/O	https://47calc.com/doc/C47/Menus/C47_Menu_I-0_page_1.pdf
F6		
fF1	FLGS	
fF2	BITS	https://47calc.com/doc/C47/Menus/C47_Menu_BITS_page_1.pdf
fF3	CLK	https://47calc.com/doc/C47/Menus/C47_Menu_CLK_page_1.pdf
fF4	REAL	https://47calc.com/doc/C47/Menus/C47_Menu_REAL_page_1.pdf
fF5	INTS	https://47calc.com/doc/C47/Menus/C47_Menu_INTS_page_1.pdf
fF6		
gF1	REGS	
gF2	HOME	https://47calc.com/doc/C47/Menus/C47_Menu_HOME_page_1.pdf
gF3	FIN	https://47calc.com/doc/C47/Menus/C47_Menu_FIN_page_1.pdf
gF4	X.FN	https://47calc.com/doc/C47/Menus/C47_Menu_X-FN_page_1.pdf
gF5	PLOT	https://47calc.com/doc/C47/Menus/C47_Menu_PLOT_page_1.pdf
gF6		

CASHFL	TVM cash flow					
g-shift						
f-shift						
unshifted						
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CASHFL	MENU (strike)	TVM cash flow	TVM cash flow ; Info : When menu CASHFL is open, [RCL]/[ST0] activates menu TamRclTVM/TamStoTVM	Financial		CASHFL	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

CAT	Catalog (alpha)					
g-shift						
f-shift						
unshifted	My α	A... Ω	α Math	α Misc	α INTL	KEYMAP
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_CAT_EQN_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CAT	MENU	Catalog (alpha)	Catalog of items available in Alpha Input Mode ; Info : CAT [ALPHA] is available on keyboard alpha f[+]	Catalog		CATα	
F1	Myα	MENU	MyAlpha	User menu to quickly access user selected special characters ; all buttons are user assignable ('riveted' look) ; initially unpopulated ; reset using Myα.R ; Shortcut : alpha long [EXIT] ; EIM long [EXIT]	Customisation		Myα	
F2	A...Ω	MENU	ALPHA...OMEGA	Uppercase Greek characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		A...Ω	
F3	αMath	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		αMath	
F4	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F5	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F6	KEYMAP	Browser	Keyboard map	Browse keyboard map (default USER mode) ; also showing special NORMAL hotkey assignment from menu Σ+ KEY ; if KEYMAP is activated when in Alpha Input Mode or Equation Input Mode, the alpha keyboard mappings are shown only (default NORMAL mode, starting with alpha g-shift) ; Info : Press and hold key [.] to view USER or NORMAL (STD) keys ; browse using [▲] and [▼] ; press [EXIT] to exit Keyboard map ; Ref : https://47calc.com/doc/C47/Reference/C47_KEYMAP.pdf	Catalog		KEYMAP	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	CAT	Link
F1	My α	https://47calc.com/doc/C47/Menus/C47_Menu_MyAlpha_page_1.pdf
F2	A... Ω	https://47calc.com/doc/C47/Menus/C47_Menu_Alpha-0mega_page_1.pdf
F3	α Math	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMATH_page_1.pdf
F4	α Misc	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMisc_page_1.pdf
F5	α INTL	https://47calc.com/doc/C47/Menus/C47_Menu_alphaINTL_page_1.pdf
F6	KEYMAP	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

CAT	Catalog (equation)					
g-shift						
f-shift						
unshifted	FCNS	CNST	CHARS			KEYMAP
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Cauch_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CAT	MENU	Catalog (equation)	Catalog of items available in Equation Input Mode ; Info : CAT [EQN] is available on keyboard f[+] in EIM	Catalog		CATe	
F1	FCNS	MENU (ASM)	Functions (equation)	Catalog of all calculator functions available in Equation Input Mode ; Info : Type characters 1-2 to search	Catalog		FCNSe	
F2	CNST	MENU (ASM)	Constants	Important scientific and technical constants ; Info : In Program Entry Mode, constants selected from the menu are stored in programs as "# ", the reference number, the label and the abbreviated name ; in the equation editor the label is simply preceded by "#" ; Type characters 1-2 to search ; TI : <constant abbreviation> = <value> ; Ref : https://47calc.com/doc/C47/Reference/C47_Constants.pdf	Catalog		CNST	
F3	CHARS	MENU	Characters	Access to all character submenus (Mya ; A...Ω/α...ω ; aMath ; aMisc ; aINTL/aintl)	Catalog		CHARS	
F4								
F5								
F6	KEYMAP	Browser	Keyboard map	Browse keyboard map (default USER mode) ; also showing special NORMAL hotkey assignment from menu Σ+ KEY ; if KEYMAP is activated when in Alpha Input Mode or Equation Input Mode, the alpha keyboard mappings are shown only (default NORMAL mode, starting with alpha g-shift) ; Info : Press and hold key [.] to view USER or NORMAL (STD) keys ; browse using [▲] and [▼] ; press [EXIT] to exit Keyboard map ; Ref : https://47calc.com/doc/C47/Reference/C47_KEYMAP.pdf	Catalog		KEYMAP	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	CAT	Link
F1	FCNS	https://47calc.com/doc/C47/Menus/C47_Menu_FCNS_EQN_page_1.pdf
F2	CNST	https://47calc.com/doc/C47/Menus/C47_Menu_CNST_page_1.pdf
F3	CHARS	https://47calc.com/doc/C47/Menus/C47_Menu_CHARS_page_1.pdf
F4		
F5		
F6	KEYMAP	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

CAT	Catalog					
g-shift						
f-shift						KEYMAP
unshifted	FCNS	CNST	CHARS	PROGS	VARs	MENUS
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_CAT_ALPHA_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CAT	MENU	Catalog	Catalog of all items (functions, characters, programs, variables, menus) ; Info : Press [EXIT] to exit catalogs	Catalog		CATALOG	
F1	FCNS	MENU (ASM)	Functions	Catalog of all calculator functions ; Info : Type characters 1-2 to search ; Ref : https://47calc.com/doc/C47/Reference/C47_CAT-FCNS.pdf	Catalog		FCNS	
F2	CNST	MENU (ASM)	Constants	Important scientific and technical constants ; Info : In Program Entry Mode, constants selected from the menu are stored in programs as "# ", the reference number, the label and the abbreviated name ; in the equation editor the label is simply preceded by "#" ; Type characters 1-2 to search ; TI : <constant abbreviation> = <value> ; Ref : https://47calc.com/doc/C47/Reference/C47_Constants.pdf	Catalog		CNST	
F3	CHARS	MENU	Characters	Access to all character submenus (Mya ; A...Ω/α...ω ; aMath ; aMisc ; aINTL/aIntl)	Catalog		CHARS	
F4	PROGS	MENU (ASM)	Programs	Auto-generated catalog of programs	Catalog		PROGS	
F5	VARS	MENU	Variables	Auto-generated variable catalogs	Catalog		VARS	
F6	MENUS	MENU (ASM)	Menus	Catalog of all menus (including user defined menus) ; Info : Type characters 1-2 to search ; Ref : https://47calc.com/doc/C47/Reference/C47_CAT-MENUS.pdf	Catalog		MENUS	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6	KEYMAP	Browser	Keyboard map	Browse keyboard map (default USER mode) ; also showing special NORMAL hotkey assignment from menu Σ+ KEY ; if KEYMAP is activated when in Alpha Input Mode or Equation Input Mode, the alpha keyboard mappings are shown only (default NORMAL mode, starting with alpha g-shift) ; Info : Press and hold key [.] to view USER or NORMAL (STD) keys ; browse using [▲] and [▼] ; press [EXIT] to exit Keyboard map ; Ref : https://47calc.com/doc/C47/Reference/C47_KEYMAP.pdf	Catalog		KEYMAP	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	CAT	Link
F1	FCNS	https://47calc.com/doc/C47/Menus/C47_Menu_FCNS_page_1.pdf
F2	CNST	https://47calc.com/doc/C47/Menus/C47_Menu_CNST_page_1.pdf
F3	CHARS	https://47calc.com/doc/C47/Menus/C47_Menu_CHARS_page_1.pdf
F4	PROGS	https://47calc.com/doc/C47/Menus/C47_Menu_PROGS_page_1.pdf
F5	VARs	https://47calc.com/doc/C47/Menus/C47_Menu_VARS_page_1.pdf
F6	MENUS	https://47calc.com/doc/C47/Menus/C47_Menu_MENUS_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6	KEYMAP	
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

Cauch:	Cauchy-Lorentz distribution					
g-shift	$ST0_M \ x_0$	$ST0_s \ \gamma$				
f-shift						
unshifted	$Cauch_p$		$Cauch_{\Delta}$	$Cauch_{\Delta}$		$Cauch^{-1}$
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_CENTRL_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Cauch:	MENU	Cauchy-Lorentz distribution	Cauchy-Lorentz probability distribution (continuous) ; TI : RegM = x_0 = ; RegS = γ =	Probability (real)		Cauch:	
F1	Cauch _p	Function (monadic)	Cauchy pdf	Cauchy probability density function	Probability (real)		Cauch _p	
F2								
F3	Cauch _Δ	Function (monadic)	Cauchy cdf (lower)	Cauchy cumulative distribution (lower tail)	Probability (real)		Cauch _Δ	
F4	Cauch _Δ	Function (monadic)	Cauchy cdf (upper)	Cauchy cumulative distribution (upper tail)	Probability (real)		Cauch _Δ	
F5								
F6	Cauch ⁻¹	Function (monadic)	Cauchy qf (inverse)	Cauchy inverse cumulative distribution (quantile)	Probability (real)		Cauch ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	ST0 _M x_0	Command	Store x_0 in M	Store parameter x_0 : location in register M ; Split screen : RegM = x_0 =	Probability (real)			
gF2	ST0 _S γ	Command	Store γ in S	Store parameter γ : scale in register S ; Split screen : RegS = γ =	Probability (real)			
gF3								
gF4								
gF5								
gF6								

CENTRL (SCATR)	(Plot) Central					
g-shift						
f-shift						
unshifted	CENTRL	S _{mi}				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CENTRL (SCATR)	Command (submnu)	(Plot) Central	Orthogonal curve fit and show parameters, requires 30 data pairs ; Info : Opens the graph mode and (re)starts menu SCATR	Measurement		CENTRL	
F1	CENTRL	Command (submnu)	(Plot) Central	Orthogonal curve fit and show parameters, requires 30 data pairs ; Info : Opens the graph mode and (re)starts menu SCATR	Measurement		CENTRL	
F2	S _{mi}	Command	Precision	Precision of measuring instrument investigated, requires 30 data pairs -- see https://blog.minitab.com/en/real-world-quality-improvement/orthogonal-regression-testing-the-equivalence-of-instruments ; TI : S _{mi} =	Measurement		S _{mi}	
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

CFLG (SYS.FL)	Configuration flags					
g-shift	CONV _{HP} ☐	CONV _{US} ☐	CPX _J ☐	CPXmul ☐	CPXRES ☐	DENANY ☐
f-shift	AUTOFF ☐	AUTXEQ ☐	BASE _{HP} ☐	BCD ☐	BOLD ☐	CARRY ☐
unshifted	1024 ⁿ ☐	3DPHYS ☐	3Dxyz ☐	ALPHA ☐	ALP.IN ☐	ASLIFT ₁
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CFLG (SYS.FL)	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To-ur.pdf	Flags		SYS.FL	
F1	1024 ⁿ □	Flag	Binary prefixes	SET for binary prefixes in UNIT display mode; CLEAR for decimal prefixes in UNIT display mode ; Info : Binary prefixes designate powers of 1024, applicable to long integers (will be indicated by Z:) and reals in UNIT display mode	Numeric input	1024 ⁿ		CLEAR
F2	3DPHYS □	Flag	Physics or Math	SET for Physics conventions in spherical polar vectors; CLEAR for Math conventions in spherical polar vectors ; Info : The notation convention is indicated by the TI subscript of the spherical polar vector : _p for Physics, _m for Math (determines ordering of vector elements, works on whole stack)	Vector operations	3DPHYS		CLEAR
F3	3Dxyz □	Flag	xyz or ijk vector display	SET for xyz (rθz) display of vectors; CLEAR for ijk (rθk) display of vectors ; Info : Indicated by TI subscript of vector elements : _{xyz} or _{ijk}	Vector operations	3Dxyz		CLEAR
F4	ALPHA □	Flag	Alpha Input Mode	SET for alpha input mode; CLEAR for alpha input mode inactive ; SBI : A ; a ; <i>N</i>	Text input	ALPHA		CLEAR
F5	ALP.IN □	Flag	Alpha Entry	SET for alpha entry; CLEAR for alpha entry inactive	Text input	ALP.IN		CLEAR
F6	ASLIFT ₁	Flag (system)	Automatic Stack Lift	SET for automatic stack lift; CLEAR for automatic stack lift inactive ; Info : SBI is SIM only ; SBI : SL	Stack	ASLIFT		SET
fF1	AUTOFF ▣	Flag	Automatic shutdown	SET for automatic shutdown; CLEAR for automatic shutdown inactive ; Info : Automatic shutdown delay is 10 m	System	AUTOFF		SET
fF2	AUTXEQ □	Flag	Auto execute program	SET for auto execute program; CLEAR for auto execute program inactive ; Info : Automatically starts program when calculator turns on	Programming	AUTXEQ		CLEAR
fF3	BASE _{HP} ▣	Flag	Classic (HP) style base	SET for applying number base to the whole stack; CLEAR for applying number base to X only ; Info : Shortint values only	Number bases	BASE _{HP}		SET
fF4	BCD □	Flag	Binary coded decimal	SET for binary coded decimal (BCD) display of Long integer in #BASE Mode; CLEAR for binary coded decimal display inactive ; Info : If menu BASE is open (#BASE Mode), BCD is displayed with subscript digits and followed by subscript _{bcd}	Bits and bytes	BCD		CLEAR
fF5	BOLD □	Flag	Bold font mode	SET for bold font mode; CLEAR for regular font mode	User interface	BOLD		CLEAR
fF6	CARRY □	Flag	Carry (bit)	SET for carry (bit); CLEAR for carry (bit) inactive ; Info : SBI _c is shown if flag SBoc is SET ; SBI : _c	Bits and bytes	CARRY		CLEAR
gF1	CONV _{HP} ▣	Flag	Classic (HP) conversions	SET for <to> $\leftrightarrow$ <to> unit conversion buttons; CLEAR for <from> $\rightarrow$ <from> unit conversion buttons	Unit conversions	CONV _{HP}		SET
gF2	CONV _{US} □	Flag	US or UK units	SET for US unit preference; CLEAR for UK unit preference	Unit conversions	CONV _{US}		CLEAR
gF3	CPX _j □	Flag	Complex <i>j</i>	SET for displaying <i>j</i> as the imaginary number; CLEAR for displaying <i>i</i> as the imaginary number ; Info : <i>i</i> or <i>j</i> displayed in stack and on soft buttons	Complex numbers	CPX _j		CLEAR
gF4	CPXmul □	Flag	Complex multiplier	SET for displaying Complex multiplier; CLEAR for not displaying Complex multiplier ; Info : If CLEAR, trailing <i>i</i> or <i>j</i> is used ; complex multiplier is set by MULT _x	Complex numbers	CPXmul		CLEAR
gF5	CPXRES ▣	Flag	Complex results	SET for Complex results; CLEAR for Real results only ; Info : CPXRES is auto-set when entering complex input ; SBI _C ; _R is shown if flag SBcr is SET ; SBI : _C ; _R	Complex numbers	CPXRES		SET
gF6	DENANY □	Flag	Denominator any	SET for any denominator (up to value set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3]fF5 (DMXX)) in fraction display mode; CLEAR for fixed denominator in fraction display mode ; Info : DENANY and DENFIX are linked (both cannot be SET at the same time) ; SBI [+ _x] is shown if flag SBfrac is SET ; SBI : [+ _x]	Fractions	DENANY		CLEAR

CFLG (SYS.FL)	Configuration flags					
g-shift	FRCYC ☐	GR0W ☐	g.2Tp ☐	HOMEb ☐	HOME _f ☐	HP12C ☐
f-shift	eRPN ☐	fg.FUL ☐	fg.GR ☐	fg.LIM ☐	FRACT ☐	FRCSRN ☐
unshifted	DENFIX ☐	dLrgLI ☐	DMY ₀	dZ.0 ☐	ENDPMT ₁	ENG0VR ☐
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	CFLG (SYS.FL)	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To_ur.pdf	Flags		SYS.FL	
F1	DENFIX □	Flag	Denominator fixed	SET for fixed denominator (set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3] fF5 (DMXX)) in fraction display mode ; CLEAR for any denominator in fraction display mode ; Info : DENFIX and DENANY are linked (both cannot be SET at the same time) ; SBI [+f] is shown if flag SBfrac is SET ; SBI : [+f]	Fractions	DENFIX		CLEAR
F2	dLrgLI ▣	Flag	Large Long integers display	SET for (large) Long integers to always display in large text ; CLEAR for (large) Long integers to display in small text ; Info : dLrgLI is overruled by dZ.0	Display	dLrgLI		SET
F3	DMY ₀	Flag (system)	Day.month.year	SET for DD.MM.YYYY display mode ; CLEAR for DD.MM.YYYY display mode inactive ; Format : DD.MM.YYYY ; Info : SBI is shown if flag SBdate is SET ; SBI : DD.MM.YYYY	Display	DMY		CLEAR
F4	dZ.0 □	Flag	Display Long integers as Real	SET for displaying Long integers as Real ; CLEAR for not displaying Long integers as Real ; Info : dZ.0 overrides dLrgLI ; Prefix : Z : ; radix not displayed if DSP = 0 ; larger values are displayed using scientific notation and indicated as Long integer by prefix "Z:" even if dZ.0 is CLEAR	Integers	dZ.0		CLEAR
F5	ENDPMT ₁	Flag (system)	TVM end payments	SET for TVM end payments ; CLEAR for TVM begin payments ; Info : SBI END ; BEG is shown if flag SBtvm is SET ; SBI : END ; BEG	Financial	ENDPMT		SET
F6	ENGOVR □	Flag	Engineering/Scientific display large Real numbers	SET for displaying large Real numbers in engineering notation ; CLEAR for displaying large Real numbers in scientific notation	Display	ENGOVR		CLEAR
fF1	eRPN ▣	Flag	Entry RPN mode	SET for interactive Entry RPN mode ; CLEAR for interactive Entry RPN mode inactive ; Info : If eRPN is SET, in Numeric Input Mode, ENTER pushes the input value onto the stack, and if CLEAR, then it also duplicates X to Y ; without input or in Program Entry Mode, ENTER always duplicates X to Y ; only if eRPN is CLEAR, automatic stack lift is disabled after ENTER ; stack size SBI (8 or 4) is displayed in normal font if eRPN is SET and inverted if CLEAR ; SBI 8 or 4 is shown if flag SBss is SET ; SBI : 8 or 4	Stack	eRPN		SET
fF2	fg.FUL ▣	Flag	Menu f,g-highlighting Full	SET for menu f,g-highlighting full ; CLEAR for menu f,g-highlighting full inactive ; Info : fg.FUL and fg.LIM are linked (both cannot be SET at the same time)	User interface	fg.FUL		SET
fF3	fg.GR □	Flag	Menu f,g-highlighting Grey	SET for menu f,g-highlighting grey ; CLEAR for menu f,g-highlighting grey inactive	User interface	fg.GR		CLEAR
fF4	fg.LIM □	Flag	Menu f,g-highlighting Limited	SET for menu f,g-highlighting limited ; CLEAR for menu f,g-highlighting limited inactive ; Info : fg.LIM and fg.FUL are linked (both cannot be SET at the same time)	User interface	fg.LIM		CLEAR
fF5	FRACT □	Flag	Fractions mode	SET for fractions mode ; CLEAR for fractions mode inactive ; Info : FRACT and IRFRAC are linked (both cannot be SET at the same time) ; /n or /max denotes maximum denominator (set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3] fF5 (DMXX)) ; prefixes < and > may be shown as needed for rational fractions ; also see flag IRFRAC ; SBI ≈ indicates FDIGS < 34 ; SBI is shown if flag SBfrac is SET ; exit fraction modes by .d or CLRMOD (longerpress [EXIT]) ; SBI : a ^b /n ; ^b /n ; [+≈]	Fractions	FRACT		CLEAR
fF6	FRCSRN □	Flag	Fraction show register name	SET for displaying register name in fractions mode ; CLEAR for not displaying register name in fractions mode ; Prefix : x, y, z, t < or = or > or ≈	Fractions	FRCSRN		CLEAR
gF1	FRCYC □	Flag	Fraction mode full cycle	SET for full cycle on key a b/c (g[Σ+]) ; CLEAR for limited cycle on key a b/c (g[Σ+]) ; Info : When FRCYC is SET full cycle is available, when CLEAR, flag PROPFR is excluded (used as is) and OFF state is included in cycle	Fractions	FRCYC		CLEAR
gF2	GROW □	Flag	Grow (matrix edit)	SET for grow (matrix edit) ; CLEAR for wrap (matrix edit) ; Info : SBI is shown if flag SBmx is SET ; SBI : wrap ; grow	Matrix operations	GROW		CLEAR
gF3	g.2Tp ▣	Flag	Double tap function keys	SET for double tap function keys for g-shift ; CLEAR for double tap function keys inactive ; Info : Blocked for navigation FN-keys (arrows) in editors	User interface	g.2Tp		SET
gF4	HOMEb □	Flag	HOME menu shown	SET for HOME menu shown ; CLEAR for HOME menu not shown ; Info : HOMEb and MyMb are linked (both cannot be SET at the same time) ; applies when all menus are exited using EXIT	Customisation	HOMEb		CLEAR

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF5	HOME _F ▣	Flag	HOME menu f/g shortcut	SET for HOME menu activated by triple and longerpress f/g-shift; CLEAR for HOME menu f/g shortcut inactive ; Info : HOME _F and MyM _F are linked (both cannot be SET at the same time) ; HOME _F pertains to layouts containing key [f/g] only and also enables longerpress assignment to this key	Customisation	HOME _F		SET
gF6	HP12C □	Flag	HP12C standard precision	SET for HP12C standard precision of 2 decimals; CLEAR for full C47 accuracy ; Info : The HP12C standard precision means that PMT is rounded to 2 decimals before amortisation is computed, so the schedule matches a printed bank statement	Financial	HP12C		CLEAR

CFLG (SYS.FL)	Configuration flags					
g-shift	MyMb ☐	MyM _F ^S ☐	NUM ☐	NUM.IN ☐	OVERFL ☐	PFX.ALL ☐
f-shift	LEAD.0 ☐	LOWBAT ₀	MDY ₀	MNU _p 1 ☐	MONIT ☐	MULT _x ☐
unshifted	IGN1ER ☐	INTING ₀	IRFRAC ☐	IRFR ₀	KEY _{A-F} ☐	KEY.LP ☐
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	CFLG (SYS.FL)	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To_ur.pdf	Flags		SYS.FL	
F1	IGNIER ☐	Flag	Ignore one error	SET for calculator ignoring next error ; CLEAR for calculator not ignoring error(s) ; Info : IGNIER is cleared subsequently	Programming	IGNIER		CLEAR
F2	INTING ₀	Flag (system)	Integrator running	SET for integrator running ; CLEAR for integrator not running	Integrator	INTING		CLEAR
F3	IRFRAC ☐	Flag	Irrational fractions mode	SET for irrational fractions mode ; CLEAR for irrational fractions mode inactive ; IRFRAC gives fractional results only if a simple fraction exists ; on battery power, matrices and vectors are ignored to prevent heavy calculations ; Info : IRFRAC and FRACT are linked (both cannot be SET at the same time) ; SBI $\times 1$ or $\cdot 1$ indicates that approximate multiples or fractions can be used, of the irrational numbers $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{7}$, ϕ , π^{-2} , π^{-1} , $\sqrt{\pi}$, π , π^2 , e^{-2} , e^{-1} , e and e^2 (with tolerance 10^{-24}) ; Prefix $\approx$ + <approximation> ; multiplication symbol SET for displaying multiplication symbol $\times$; CLEAR for displaying multiplication symbol $\cdot$ or SET for displaying multiplication symbol $\times$; CLEAR for displaying multiplication symbol $\cdot$ according to flag MULT $\times$; SBI $\approx$ indicates FDIGS < 34 ; SBI is shown if flag SBfrac is SET ; exit fraction modes by .d or CLRMOD (longerpress [EXIT]) ; SBI : $a^b/c \times 1$; $b/c \times 1$; $[+ \approx]$	Fractions	IRFRAC		CLEAR
F4	IRFR ₀	Flag (system)	Irrational fractions mode preferred	SET for irrational fractions mode preferred ; CLEAR for irrational fractions mode not preferred ; Info : IRFR is SET by IRFRAC and CLEARED by FRACT to preserve state when toggling fraction modes using a b/c and .d	Fractions	IRFR		CLEAR
F5	KEY _{A-F} ☐	Flag	A-F keys	SET for row 2 keys to enter digits A-F in #BASE Mode ; CLEAR for row 2 keys to work normally ; Info : Entering digits A-F switches the calculator to hexadecimal mode ; when KEY _{A-F} is SET, the respective digit is included in the row 2 key's longpress preview cycle ; SBI : #KEY _{A-F}	Number bases	KEY _{A-F}		SET
F6	KEY.LP ☐	Flag	Longpress f and g shortcuts	SET for longpress shortcuts for single shift keys ; CLEAR for longpress f and g shortcuts inactive ; Info : KEY.LP pertains to R47v0 f/g layout and R47v2 f^g g layout only and also enables longpress assignment to single shift keys	User interface	KEY.LP		SET
fF1	LEAD. ₀ ☐	Flag	Leading zeros	SET for leading zeros (shortint bases 2, 4, 8, 16) ; CLEAR for no leading zeros (shortint bases 2, 4, 8, 16)	Display	LEAD. ₀		CLEAR
fF2	LOWBAT ₀	Flag (system)	Low Battery	SET for low battery voltage ; CLEAR for no low battery voltage ; Info : SBI ☐ is shown if flag SBbatV is SET ; SBI : ☐	System	LOWBAT		CLEAR
fF3	MDY ₀	Flag (system)	Month/day/year	SET for MM/DD/YYYY display mode ; CLEAR for MM/DD/YYYY display mode inactive ; Format : MM/DD/YYYY ; Info : SBI is shown if flag SBdate is SET ; SBI : MM/DD/YYYY	Display	MDY		CLEAR
fF4	MNU _{p1} ☐	Flag	Menu opens on p1	SET for menu opens on p1 ; CLEAR for menu opens on page last used	User interface	MNU _{p1}		SET
fF5	MONIT ☐	Flag	Iteration monitoring	SET for displaying iteration status ; CLEAR for not displaying iteration status ; Info : Pertains to executing programmable sums, solvers and integrator	Status	MONIT		SET
fF6	MULT $\times$ ☐	Flag	Multiplication symbol	SET for displaying multiplication symbol $\times$; CLEAR for displaying multiplication symbol $\cdot$; Info : Multiplication symbol is used in exponential and complex notation ; symbol may be displayed in annunciator(s) related to FRACT settings	Display	MULT $\times$		SET
gF1	MyMb ☐	Flag	MyMenu shown	SET for MyMenu shown ; CLEAR for MyMenu not shown ; Info : MyMb and HOME _b are linked (both cannot be SET at the same time) ; applies when all menus are exited using EXIT	Customisation	MyMb		SET
gF2	MyM _f ^g ☐	Flag	MyMenu f/g shortcut	SET for MyMenu activated by triple and longerpress f/g-shift ; CLEAR for MyMenu f/g shortcut inactive ; Info : MyM _f ^g and HOME _f ^g are linked (both cannot be SET at the same time) ; MyM _f ^g pertains to layouts containing key [f/g] only and also enables longerpress assignment to this key	Customisation	MyM _f ^g		CLEAR
gF3	NUM ☐	Flag	Numlock	SET for numlock ; CLEAR for numlock inactive ; SBI : N	Numeric input	NUM		CLEAR
gF4	NUM.IN ☐	Flag	Numeric entry	SET for numeric entry ; CLEAR for numeric entry inactive	Numeric input	NUM.IN		CLEAR

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF5	OVERFL ☐	Flag	Overflow	SET for overflow; CLEAR for no overflow ; Info : SBI ° is shown if flag SBoc is SET ; SBI : °	<i>Bits and bytes</i>	OVERFL		CLEAR
gF6	PFX.All ☐	Flag	Show all SI prefixes	SET for showing full range of SI prefixes in UNIT display mode; CLEAR for showing limited range of SI prefixes in UNIT display mode ; Info : Full range is 10 ⁻³⁰ to 10 ³⁰ ; limited range is 10 ⁻¹⁵ to 10 ¹⁵ ; not applicable when flag 1024° is SET ; Ref : https://47calc.com/doc/C47/Reference/C47_UNIT_prefix.pdf	<i>Plotting</i>	PFX.All		CLEAR

CFLG (SYS.FL)	Configuration flags					
g-shift	PLvec ☐	PLxy:1 ☐	PLx.ax ☐	PLy.ax ☐	POLAR ☐	PROPFR ☒
f-shift	PLintg ☐	PLline ☒	PLnvec ☐	PLplus ☐	PLrms ☐	PLshad ☐
unshifted	PLbox ☒	PLcros ☐	PLcurve ☐	PLcxp ☐	PLdiff ☐	PLimp ☐
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	CFLG (SYS.FL)	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To-ur.pdf	Flags		SYS.FL	
F1	PLbox ☐	Flag	Box markers	SET for box markers ; CLEAR for box markers inactive ; Info : If PLbox is SET, PLCros and PLplus are CLEARED ; PLine is SET when all three curve markers are deselected	Plotting	PLbox		SET
F2	PLcros ☐	Flag	Cross markers	SET for cross markers ; CLEAR for cross markers inactive ; Info : If PLCros is SET, PLbox and PLplus are CLEARED ; PLine is SET when all three curve markers are deselected	Plotting	PLcros		CLEAR
F3	PLcurve ☐	Flag	[future] Curve smoothing	SET for [future] curve smoothing ; CLEAR for [future] curve smoothing inactive ; Info : Reserved for future use	Plotting	PLcurve		CLEAR
F4	PLcxp ☐	Flag	Complex plot	SET for Complex plot ; CLEAR for Complex plot inactive ; Info : PLcxp and PLimp are linked (both cannot be SET at the same time)	Plotting	PLcxp		CLEAR
F5	PLdiff ☐	Flag	Add differential curve	SET for adding the graphical point-to-point differential of the main graph ; CLEAR for not adding the differential curve ; Info : Δ Numerical slope is displayed	Plotting	PLdiff		CLEAR
F6	PLimp ☐	Flag	Plot imaginary part	SET for plotting imaginary part ; CLEAR for plotting real part ; Info : PLimp and PLcxp are linked (both cannot be SET at the same time)	Plotting	PLimp		CLEAR
fF1	PLintg ☐	Flag	Add integral curve	SET for adding the graphical integral curve, calculated from the point-to-point discrete integral ; CLEAR for not adding the integral curve ; Info : Vertical placement of the integral is at RMS of the graph points ; ☐ Trapezoid integral is displayed	Plotting	PLintg		CLEAR
fF2	PLline ☐	Flag	Draw line	SET for connecting graph points using line segments ; CLEAR for not connecting graph points using line segments ; Info : If PLine is CLEARED, PLbox may be SET if necessary (when no curve markers are selected)	Plotting	PLline		SET
fF3	PLnvec ☐	Flag	Clockwise vectors	SET for clockwise vectors ; CLEAR for clockwise vectors inactive ; Info : Treat coordinate pairs as navigation vectors, clockwise from the positive y-axis as reference ; PLnvec and PLvec are linked (both cannot be SET at the same time)	Plotting	PLnvec		CLEAR
fF4	PLplus ☐	Flag	Plus markers	SET for plus markers ; CLEAR for plus markers inactive ; Info : If PLplus is SET, PLbox and PLCros are CLEARED ; PLine is SET when all three curve markers are deselected	Plotting	PLplus		CLEAR
fF5	PLrms ☐	Flag	Add RMS curve	SET for adding the graphical root mean square curve, accumulated from left to right ; CLEAR for not adding the RMS curve ; Info : ☒ Root mean square RMS is displayed	Plotting	PLrms		CLEAR
fF6	PLshad ☐	Flag	Shade curve	SET for shading the trapezoid integral from the graph points ; CLEAR for not shading the curve ; Info : ☐ Trapezoid integral is displayed	Plotting	PLshad		CLEAR
gF1	PLvec ☐	Flag	Anti-clockwise vectors	SET for anti-clockwise vectors ; CLEAR for anti-clockwise vectors inactive ; Info : Treat coordinate pairs as vectors, anti-clockwise from the positive x-axis as reference ; PLvec and PLnvec are linked (both cannot be SET at the same time)	Plotting	PLvec		CLEAR
gF2	PLxy:1 ☐	Flag	Forcing autoscale	SET for forcing autoscale on x- and y-axis to be the same ; CLEAR for not forcing autoscale on x- and y-axis to be the same	Plotting	PLxy:1		CLEAR
gF3	PLx.ax ☐	Flag	Autoscaling to show x-axis	SET for autoscaling to show x-axis ; CLEAR for not autoscaling to show x-axis	Plotting	PLx.ax		CLEAR
gF4	PLy.ax ☐	Flag	Autoscaling to show y-axis	SET for autoscaling to show y-axis ; CLEAR for not autoscaling to show y-axis	Plotting	PLy.ax		CLEAR
gF5	POLAR ☐	Flag	Polar notation	SET for polar notation ; CLEAR for rectangular notation ; Info : SBI $\angle$; $\odot$ is shown if flag SBcpX is SET ; SBI $\angle$; $\odot$	Complex and coordinates	POLAR		CLEAR
gF6	PROPPFR ☐	Flag	Proper fractions	SET for proper fractions (mixed fractions) ; CLEAR for improper fractions ; SBI : a^b/n ; b/n ; $[+z]$; a^b/cxI ; b/cxI ; $[+z]$	Fractions	PROPPFR		SET

CFLG (SYS.FL)	Configuration flags					
g-shift	SBoc ☐	SBprn ☐	SBser ☐	SBshfR ☐	SBss ☐	SBstw ☐
f-shift	SBcpx ☐	SBCr ☐	SBdate ☐	SBfrac ☐	SBint ☐	SBmx ☐
unshifted	QUIET ☐	RP _{HP} ☐	RUNTIM ₀	SBadm ☐	SBang ☐	SBbatV ☐
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_CFLG_page_6.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p5	CFLG (SYS.FL)	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To_ur.pdf	Flags		SYS.FL	
F1	QUIET □	Flag	Quiet	SET for beeper disabled; CLEAR for beeper enabled ; Info : Silences every sound source and clamps volume at both ends	System	QUIET		CLEAR
F2	RP _{HP} ▣	Flag	Classic (HP) Rect/Polar	SET for x : Re ; y : Im (RECT) ; r ; θ (POLAR) in X, Y; CLEAR for y : Im ; x : Re (RECT) ; θ ; r (POLAR) in X, Y ; Info : RP _{HP} CLEAR conforms to the way the C47 deals with complex numbers	Complex and coordinates	RP _{HP}		SET
F3	RUNTIM ₀	Flag (system)	Stopwatch running	SET for stopwatch running; CLEAR for stopwatch not running ; Info : SBI  is shown if flag SB _{stw} is SET ; SBI : 	Stopwatch	RUNTIM		CLEAR
F4	SB _{adm} ▣	Flag	Show degree symbol	SET for displaying degree symbol (°) in status bar; CLEAR for not displaying degree symbol (°) in status bar ; Info : Setting flag SB _{ang} also sets SB _{adm} ; clearing SB _{adm} also clears flag SB _{ang} ; SBI : (°)	Status	SB _{adm}		SET
F5	SB _{ang} □	Flag	Show angle symbol	SET for displaying angle symbol (∠) in status bar; CLEAR for not displaying angle symbol (∠) in status bar ; Info : Setting flag SB _{ang} also sets SB _{adm} ; clearing SB _{adm} also clears flag SB _{ang} ; SBI : (∠)	Status	SB _{ang}		CLEAR
F6	SB _{batV} □	Flag	Show battery depletion	SET for displaying battery depletion () in status bar; CLEAR for not displaying battery depletion () in status bar ; Info : If SB _{batV} is CLEAR, the regular icon () will show, but only when the battery is low (flag LOWBAT is SET) ; when SB _{batV} is SET the special battery symbol has length proportional to 2.054 V to 3.045 V ; SBI : ()	Status	SB _{batV}		CLEAR
fF1	SB _{cpx} ▣	Flag	Show complex mode	SET for displaying Complex mode (L ; ⊙) in status bar; CLEAR for not displaying Complex mode (L ; ⊙) in status bar ; SBI : (L ; ⊙)	Status	SB _{cpx}		SET
fF2	SB _{cr} □	Flag	Show complex results	SET for displaying Complex results (C ; R) in status bar; CLEAR for not displaying Complex results (C ; R) in status bar ; SBI : (C ; R)	Status	SB _{cr}		CLEAR
fF3	SB _{date} ▣	Flag	Show date	SET for displaying date (CLK ; YY) in status bar; CLEAR for not displaying date (CLK ; YY) in status bar ; Info : SB _{date} , SB _{time} and SB _{wuy} are linked, only two out of three can be SET at most ; SBI : (CLK ; YY)	Status	SB _{date}		SET
fF4	SB _{frac} ▣	Flag	Show Fractions Mode and #BASE Mode	SET for displaying Fractions Mode and #BASE Mode (a ^b /n ; ^b /n ; [+∞] ; a ^b /c×I ; ^b /c×I ; [+∞] ; #BASE ; #KEY _{A-F}) in status bar; CLEAR for not displaying Fractions Mode and #BASE Mode (a ^b /n ; ^b /n ; [+∞] ; a ^b /c×I ; ^b /c×I ; [+∞] ; #BASE ; #KEY _{A-F}) in status bar ; SBI : (a ^b /n ; ^b /n ; [+∞] ; a ^b /c×I ; ^b /c×I ; [+∞] ; #BASE ; #KEY _{A-F})	Status	SB _{frac}		SET
fF5	SB _{int} ▣	Flag	Show integer mode	SET for displaying integer mode (<w>:<m>) in status bar; CLEAR for not displaying integer mode (<w>:<m>) in status bar ; Info : <w> in SBI indicates word size (menu BITSET) ; <m> in SBI indicates sign mode (menu BITSET) ; SBI : (<w>:<m>)	Status	SB _{int}		SET
fF6	SB _{mx} □	Flag	Show matrix mode	SET for displaying matrix mode (wrap ; grow) in status bar; CLEAR for not displaying matrix mode (wrap ; grow) in status bar ; SBI : (wrap ; grow)	Status	SB _{mx}		CLEAR
gF1	SB _{oc} ▣	Flag	Show overflow/carry mode	SET for displaying overflow/carry mode (° ; c) in status bar; CLEAR for not displaying overflow/carry mode (° ; c) in status bar ; SBI : (° ; c)	Status	SB _{oc}		SET
gF2	SB _{prn} ▣	Flag	Show printing	SET for displaying printing () in status bar; CLEAR for not displaying printing () in status bar ; SBI : ()	Status	SB _{prn}		SET
gF3	SB _{ser} ▣	Flag	Show serial I/O	SET for displaying serial I/O () in status bar; CLEAR for not displaying serial I/O () in status bar ; SBI : ()	Status	SB _{ser}		SET
gF4	SB _{shfR} □	Flag	Show shift on the right	SET for displaying shift on the right (f ; ) in status bar; CLEAR for displaying shift on the left (f ; ) in status bar ; SBI : (f ; )	Status	SB _{shfR}		CLEAR
gF5	SB _{ss} □	Flag	Show stack size	SET for displaying stack size (8 ; 4) in status bar; CLEAR for not displaying stack size (8 ; 4) in status bar ; SBI : (8 ; 4)	Status	SB _{ss}		CLEAR
gF6	SB _{stw} ▣	Flag	Show stopwatch running	SET for displaying stopwatch running () in status bar; CLEAR for not displaying stopwatch running () in status bar ; SBI : ()	Status	SB _{stw}		SET

CFLG (SYS.FL)	Configuration flags					
g-shift	VMDISP ₀	WRPEDG ₀	WRPEND ₀	YMD ₁	αCAP ₀	←DROP ☐
f-shift	SOLVING ₀	SPCRES ☐	SSIZE8 ☐	TDM24 ☐	USB ₀	USER ☐
unshifted	SBtime ☐	SBtvm ☐	SBwoy ☐	SH.4s ☐	SIG0 ☐	SLOW ☐
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_CFLG_page_7.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p6	CFLG (SYS.FL)	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To-ur.pdf	Flags		SYS.FL	
F1	SBtime □	Flag	Show time	SET for displaying time (HH24:MM ; HH:MMam/pm) in status bar ; CLEAR for not displaying time (HH24:MM ; HH:MMam/pm) in status bar ; Info : SBtime, SBdate and SBwoy are linked, only two out of three can be SET at most ; SBI : (HH24:MM ; HH:MMam/pm)	Status	SBtime		CLEAR
F2	SBtvm ▣	Flag	Show TVM mode	SET for displaying TVM mode (END ; BEG) in status bar ; CLEAR for not displaying TVM mode (END ; BEG) in status bar ; SBI : (END ; BEG)	Status	SBtvm		SET
F3	SBwoy □	Flag	Show Week of Year and day number	SET for displaying Week of Year and day number (Ww*-d#) in status bar ; CLEAR for not displaying Week of Year and day number (Ww*-d#) in status bar ; Info : SBwoy, SBdate and SBtime are linked, only two out of three can be SET at most ; SBI : (Ww*-d#)	Status	SBwoy		CLEAR
F4	SH.4s □	Flag	Shift time-out of 4s	SET for shift time-out of 4s ; CLEAR for shift time-out of 4s inactive ; Info : For layouts containing key [f/g] only	User interface	SH.4s		CLEAR
F5	SIG0 ▣	Flag	Apply SIG zeros	SET for applying SIG zeros ; CLEAR for not applying SIG zeros ; Info : 'Apply SIG zeros' means displaying zeros for the integer part and trailing zeros for the fractional part ; zeros are required for the strict interpretation of SIG as implemented in prior C47/C43 and WP34S ; if SIG0 is CLEAR, SIG may be understood as 'maximum digits' and displays the resulting value in a more commonly used way	Display	SIG0		SET
F6	SLOW □	Flag	Slow mode	SET for slow mode ; CLEAR for slow mode inactive ; Info : Slow mode limits battery drain	System	SLOW		CLEAR
fF1	SOLVING ₀	Flag (system)	Solving	SET for solver running ; CLEAR for solver not running	Solver	SOLVING		CLEAR
fF2	SPCRES ▣	Flag	Special results	SET for special results ; CLEAR for special results inactive ; Info : Special results are: infinity (±∞) and not-a-number (NaN), an error will not occur for such values when SPCRES is SET ; also, ±0. may be used	Mathematics	SPCRES		SET
fF3	SSIZE8 ▣	Flag	Stack Size 8	SET for 8 register stack ; CLEAR for 4 register stack ; Info : SBI 8 ; 4 is shown if flag SBss is SET ; SBI : 8 ; 4	Stack	SSIZE8		SET
fF4	TDM24 ▣	Flag	Time display 24h	SET for 24h time display ; CLEAR for 12h time display ; Format : HH24:MM ; HH:MMam/pm ; Info : SBI is shown if flag SBtime is SET ; SBI : HH24:MM ; HH:MMam/pm	Display	TDM24		SET
fF5	USB ₀	Flag (system)	USB Power	SET for calculator running on USB power ; CLEAR for calculator running on battery power ; SBI : Ψ	System	USB		CLEAR
fF6	USER □	Flag	USER mode	SET for USER mode ; CLEAR for Normal Mode ; SBI : Π	Customisation	USER		CLEAR
gF1	VMDISP ₀	Flag (system)	Variable menu displayed	SET for variable menu displayed ; CLEAR for variable menu not displayed	Programming	VMDISP		CLEAR
gF2	WRPEDG ₀	Flag (system)	Wrap edge	SET for wrap edge ; CLEAR for wrap edge inactive	Matrix operations	WRPEDG		CLEAR
gF3	WRPEND ₀	Flag (system)	Wrap end	SET for wrap end ; CLEAR for wrap end inactive	Matrix operations	WRPEND		CLEAR
gF4	YMD ₁	Flag (system)	Year-month-day	SET for YYYY-MM-DD display mode ; CLEAR for YYYY-MM-DD display mode inactive ; Format : YYYY-MM-DD ; Info : SBI is shown if flag SBdate is SET ; SBI : YYYY-MM-DD	Display	YMD		SET
gF5	αCAP ₀	Flag (system)	Alpha capslock	SET for alpha capslock ; CLEAR for alpha capslock inactive ; SBI : A ; a	Text input	αCAP		CLEAR
gF6	←DROP □	Flag	[←] executes DROPx or CLX	SET for [←] executing DROPx (when not in NIM) ; CLEAR for [←] executing CLX (when not in NIM)	User interface	←DROP		CLEAR

CFLG (SYS.FL)	Configuration flags					
g-shift						
f-shift						
unshifted	 ACT ₀	 EN ☐	 NORM ☐	 TRACE ☐		
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p7	CFLG (SYS.FL)	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To-ur.pdf	Flags		SYS.FL	
F1	ACT	Flag (system)	Print port active	SET for infrared print port active ; CLEAR for infrared print port inactive ; Info : If flag ACT is SET, the infrared port is enabled ; if CLEAR, the infrared port is disabled	Printing	ACT		CLEAR
F2	EN	Flag	Printing enabled	SET for printing enabled ; CLEAR for printing disabled	Printing	EN		CLEAR
F3	NORM	Flag	Printer mode Normal/Trace	SET for printer mode Normal (flag TRACE is CLEAR) or printer mode Stack trace (flag TRACE is SET) ; CLEAR for printer mode Manual (flag TRACE is CLEAR) or printer mode Trace (flag TRACE is SET) ; Info : There are four print modes : MAN, NORM, TRACE and STRACE, which are set by two flags : TRACE and NORM	Printing	NORM		CLEAR
F4	TRACE	Flag	Printer mode Trace/Stack trace	SET for printer mode Trace (flag NORM is CLEAR) or printer mode Stack trace (flag NORM is SET) ; CLEAR for printer mode Manual (flag NORM is CLEAR) or printer mode Normal (flag NORM is SET) ; Info : There are four print modes : MAN, NORM, TRACE and STRACE, which are set by two flags : TRACE and NORM	Printing	TRACE		CLEAR
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

CHARS	Characters					
g-shift						
f-shift						
unshifted	Myα	A...Ω	αMath	αMisc	αINTL	
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Next menu

https://47calc.com/doc/C47/Menus/C47_Menu_Chef_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CHARS	MENU	Characters	Access to all character submenus (Myα ; A...Ω/α...ω ; αMath ; αMisc ; αINTL/αintl)	Catalog		CHARS	
F1	Myα	MENU	MyAlpha	User menu to quickly access user selected special characters ; all buttons are user assignable ('riveted' look) ; initially unpopulated ; reset using Myα.R ; Shortcut : alpha long [EXIT] ; EIM long [EXIT]	Customisation		Myα	
F2	A...Ω	MENU	ALPHA...OMEGA	Uppercase Greek characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		A...Ω	
F3	αMath	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		αMath	
F4	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F5	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	CHARS	Link
F1	My α	https://47calc.com/doc/C47/Menus/C47_Menu_MyAlpha_page_1.pdf
F2	A... Ω	https://47calc.com/doc/C47/Menus/C47_Menu_Alpha-0mega_page_1.pdf
F3	α Math	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMATH_page_1.pdf
F4	α Misc	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMisc_page_1.pdf
F5	α INTL	https://47calc.com/doc/C47/Menus/C47_Menu_alphaINTL_page_1.pdf
F6		
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

Chef:	Cooking unit conversions					
g-shift	mℓ ←	→ floz _{UK}	mℓ ←	→ pint _{UK}	mℓ ←	→ qt _{UK}
f-shift	tsp _{UK} ←	→ floz _{UK}	tbsp _{UK} ←	→ floz _{UK}	cup _{UK} ←	→ floz _{UK}
unshifted	tsp _{UK} ←	→ mℓ	tbsp _{UK} ←	→ mℓ	cup _{UK} ←	→ mℓ
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Chef_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Chef:	MENU	Cooking unit conversions	Convert between cooking units ; this menu has two pages, one for the UK (imperial) units, the other for the US (customary) units : this is determined by flag CONV _{US} , which is SET for US units on page 1 ; CLEAR for UK units on page 1 (default CLEAR) ; Info : Flag CONV _{HP} may be SET for <to> ←> <to> unit conversion buttons ; CLEAR for <from> →< ←<from> unit conversion buttons (default SET)	Cooking unit conversions		Chef:	
F1	mℓ→tsp _{UK} (tsp _{UK} ←)	Function (monadic, linked)	mℓ to tsp _{UK}	Convert millilitre to UK imperial teaspoon ; TI : tsp _{UK} :	Volume conversions	CONV _{HP}		
F2	tsp _{UK} →mℓ (→ mℓ)	Function (monadic, linked)	tsp _{UK} to mℓ	Convert UK imperial teaspoon to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
F3	mℓ→tbsp _{UK} (tbsp _{UK} ←)	Function (monadic, linked)	mℓ to tbsp _{UK}	Convert millilitre to UK imperial tablespoon ; TI : tbsp _{UK} :	Volume conversions	CONV _{HP}		
F4	tbsp _{UK} →mℓ (→ mℓ)	Function (monadic, linked)	tbsp _{UK} to mℓ	Convert UK imperial tablespoon to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
F5	mℓ→cup _{UK} (cup _{UK} ←)	Function (monadic, linked)	mℓ to cup _{UK}	Convert millilitre to UK imperial cup ; TI : cup _{UK} :	Volume conversions	CONV _{HP}		
F6	cup _{UK} →mℓ (→ mℓ)	Function (monadic, linked)	cup _{UK} to mℓ	Convert UK imperial cup to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
fF1	floz _{UK} →tsp _{UK} (tsp _{UK} ←)	Function (monadic, linked)	floz _{UK} to tsp _{UK}	Convert UK fluid ounce to UK imperial teaspoon ; TI : tsp _{UK} :	Volume conversions	CONV _{HP}		
fF2	tsp _{UK} →floz _{UK} (→ floz _{UK})	Function (monadic, linked)	tsp _{UK} to floz _{UK}	Convert UK imperial teaspoon to UK fluid ounce ; TI : floz _{UK} :	Volume conversions	CONV _{HP}		
fF3	floz _{UK} →tbsp _{UK} (tbsp _{UK} ←)	Function (monadic, linked)	floz _{UK} to tbsp _{UK}	Convert UK fluid ounce to UK imperial tablespoon ; TI : tbsp _{UK} :	Volume conversions	CONV _{HP}		
fF4	tbsp _{UK} →floz _{UK} (→ floz _{UK})	Function (monadic, linked)	tbsp _{UK} to floz _{UK}	Convert UK imperial tablespoon to UK fluid ounce ; TI : floz _{UK} :	Volume conversions	CONV _{HP}		
fF5	floz _{UK} →cup _{UK} (cup _{UK} ←)	Function (monadic, linked)	floz _{UK} to cup _{UK}	Convert UK fluid ounce to UK imperial cup ; TI : cup _{UK} :	Volume conversions	CONV _{HP}		
fF6	cup _{UK} →floz _{UK} (→ floz _{UK})	Function (monadic, linked)	cup _{UK} to floz _{UK}	Convert UK imperial cup to UK fluid ounce ; TI : floz _{UK} :	Volume conversions	CONV _{HP}		
gF1	floz _{UK} →mℓ (mℓ ←)	Function (monadic, linked)	floz _{UK} to mℓ	Convert UK fluid ounce to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
gF2	mℓ→floz _{UK} (→ floz _{UK})	Function (monadic, linked)	mℓ to floz _{UK}	Convert millilitre to UK fluid ounce ; TI : floz _{UK} :	Volume conversions	CONV _{HP}		
gF3	pint _{UK} →mℓ (mℓ ←)	Function (monadic, linked)	pint _{UK} to mℓ	Convert UK imperial pint to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
gF4	mℓ→pint _{UK} (→ pint _{UK})	Function (monadic, linked)	mℓ to pint _{UK}	Convert millilitre to UK imperial pint ; TI : pint _{UK} :	Volume conversions	CONV _{HP}		
gF5	qt _{UK} →mℓ (mℓ ←)	Function (monadic, linked)	qt _{UK} to mℓ	Convert UK quart to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
gF6	mℓ→qt _{UK} (→ qt _{UK})	Function (monadic, linked)	mℓ to qt _{UK}	Convert millilitre to UK quart ; TI : qt _{UK} :	Volume conversions	CONV _{HP}		

Chef:	Cooking unit conversions					
g-shift	mℓ ←	→ floz _{us}	mℓ ←	→ pint _{us}	mℓ ←	→ qt _{us}
f-shift	tsp _{us} ←	→ floz _{us}	Tbsp _{us} ←	→ floz _{us}	cup _{us} ←	→ floz _{us}
unshifted	tsp _{us} ←	→ mℓ	Tbsp _{us} ←	→ mℓ	cup _{us} ←	→ mℓ
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_CLK_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	Chef:	MENU	Cooking unit conversions	Convert between cooking units ; this menu has two pages, one for the UK (imperial) units, the other for the US (customary) units : this is determined by flag CONV _{US} , which is SET for US units on page 1 ; CLEAR for UK units on page 1 (default CLEAR) ; Info : Flag CONV _{HP} may be SET for <to> ←> <to> unit conversion buttons ; CLEAR for <from> → ← <from> unit conversion buttons (default SET)	Cooking unit conversions		Chef:	
F1	mℓ→tsp _{US} (tsp _{US} ←)	Function (monadic, linked)	mℓ to tsp _{US}	Convert millilitre to US customary teaspoon ; TI : tsp _{US} :	Volume conversions	CONV _{HP}		
F2	tsp _{US} →mℓ (→ mℓ)	Function (monadic, linked)	tsp _{US} to mℓ	Convert US customary teaspoon to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
F3	mℓ→Tbsp _{US} (Tbsp _{US} ←)	Function (monadic, linked)	mℓ to Tbsp _{US}	Convert millilitre to US customary tablespoon ; TI : Tbsp _{US} :	Volume conversions	CONV _{HP}		
F4	Tbsp _{US} →mℓ (→ mℓ)	Function (monadic, linked)	Tbsp _{US} to mℓ	Convert US customary tablespoon to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
F5	mℓ→cup _{US} (cup _{US} ←)	Function (monadic, linked)	mℓ to cup _{US}	Convert millilitre to US customary cup ; TI : cup _{US} :	Volume conversions	CONV _{HP}		
F6	cup _{US} →mℓ (→ mℓ)	Function (monadic, linked)	cup _{US} to mℓ	Convert US customary cup to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
fF1	floz _{US} →tsp _{US} (tsp _{US} ←)	Function (monadic, linked)	floz _{US} to tsp _{US}	Convert US fluid ounce to US customary teaspoon ; TI : tsp _{US} :	Volume conversions	CONV _{HP}		
fF2	tsp _{US} →floz _{US} (→ floz _{US})	Function (monadic, linked)	tsp _{US} to floz _{US}	Convert US customary teaspoon to US fluid ounce ; TI : floz _{US} :	Volume conversions	CONV _{HP}		
fF3	floz _{US} →Tbsp _{US} (Tbsp _{US} ←)	Function (monadic, linked)	floz _{US} to Tbsp _{US}	Convert US fluid ounce to US customary tablespoon ; TI : Tbsp _{US} :	Volume conversions	CONV _{HP}		
fF4	Tbsp _{US} →floz _{US} (→ floz _{US})	Function (monadic, linked)	Tbsp _{US} to floz _{US}	Convert US customary tablespoon to US fluid ounce ; TI : floz _{US} :	Volume conversions	CONV _{HP}		
fF5	floz _{US} →cup _{US} (cup _{US} ←)	Function (monadic, linked)	floz _{US} to cup _{US}	Convert US fluid ounce to US customary cup ; TI : cup _{US} :	Volume conversions	CONV _{HP}		
fF6	cup _{US} →floz _{US} (→ floz _{US})	Function (monadic, linked)	cup _{US} to floz _{US}	Convert US customary cup to US fluid ounce ; TI : floz _{US} :	Volume conversions	CONV _{HP}		
gF1	floz _{US} →mℓ (mℓ ←)	Function (monadic, linked)	floz _{US} to mℓ	Convert US fluid ounce to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
gF2	mℓ→floz _{US} (→ floz _{US})	Function (monadic, linked)	mℓ to floz _{US}	Convert millilitre to US fluid ounce ; TI : floz _{US} :	Volume conversions	CONV _{HP}		
gF3	pint _{US} →mℓ (mℓ ←)	Function (monadic, linked)	pint _{US} to mℓ	Convert US liquid pint to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
gF4	mℓ→pint _{US} (→ pint _{US})	Function (monadic, linked)	mℓ to pint _{US}	Convert millilitre to US liquid pint ; TI : pint _{US} :	Volume conversions	CONV _{HP}		
gF5	qt _{US} →mℓ (mℓ ←)	Function (monadic, linked)	qt _{US} to mℓ	Convert US quart to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
gF6	mℓ→qt _{US} (→ qt _{US})	Function (monadic, linked)	mℓ to qt _{US}	Convert millilitre to US quart ; TI : qt _{US} :	Volume conversions	CONV _{HP}		

$\chi^2:$	Chi-squared distribution					
g-shift	ST0M v					
f-shift						
unshifted	$\chi^2_p(x)$		$\chi^2_x(x)$	$\chi^2_{\Delta}(x)$		$(\chi^2)^{-1}$
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Next menu

https://47calc.com/doc/C47/Menus/C47_Menu_VectorConv_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	$\chi^2:$	MENU	Chi-squared distribution	Chi-squared probability distribution (continuous) ; TI : RegM = v =	Probability (real)		$\chi^2:$	
F1	$\chi^2_p(x)$	Function (monadic)	Chi-squared pdf chi2	Chi-squared probability density function	Probability (real)		$\chi^2_p(x)$	
F2								
F3	$\chi^2_{\Delta}(x)$	Function (monadic)	Chi-squared cdf (lower) chi2	Chi-squared cumulative distribution (lower tail)	Probability (real)		$\chi^2_{\Delta}(x)$	
F4	$\chi^2_{\Delta}(x)$	Function (monadic)	Chi-squared cdf (upper) chi2	Chi-squared cumulative distribution (upper tail)	Probability (real)		$\chi^2_{\Delta}(x)$	
F5								
F6	$(\chi^2)^{-1}$	Function (monadic)	Chi-squared qf (inverse)	Chi-squared inverse cumulative distribution (quantile)	Probability (real)		$(\chi^2)^{-1}$	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	STO _M v	Command	Store v in M	Store parameter v : degrees of freedom in register M ; Split screen : RegM = v =	Probability (real)			
gF2								
gF3								
gF4								
gF5								
gF6								

CLK	Clock					
g-shift	$zyx \rightarrow D$	$x \rightarrow D$	$zyx \rightarrow T$	$H.MS \rightarrow T$	$H \rightarrow T$	YY_0
f-shift	$D \rightarrow zyx$	$D \rightarrow x$	$T \rightarrow zyx$	$.ms^{-1}$	$.d$	LEAP?
unshifted	$Date \rightarrow D$	$D \rightarrow J$	$Time \rightarrow T$	$DT \rightarrow J$	$J \rightarrow DT$	STOPW
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0014_C47_JM_dms_hms_and_ms.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CLK	MENU	Clock	Clock functions, including setting date and time and julian day numbers (astronomy) ; Info : Use TDISP to set time display format : 0 = full ; 1,2 = hours/minutes ; 3 = hours/minutes/seconds ; 4,5,6 = 1,2,3 decimal places for the seconds ; Ref : https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf	Time functions		CLK	
F1	Date→D	Command	Date	Current date ; TI : Weekday (shown for dates in X, Y, Z)	Time functions		Date→D	
F2	D→J	Function (monadic)	Date to Julian day number	Convert date to Julian day number (JDN) ; Info : Years are astronomical, 0 equals 1 BCE ; JDN .0 equals noon!	Time functions		D→J	
F3	Time→T	Command	Time	Current time	Time functions		Time→T	
F4	DT→J	Function (dyadic)	Date-time to Julian day number	Convert date, time in stack to Julian day number (JDN) ; Info : Date, time can be in Y, X or X, Y ; Years are astronomical, 0 equals 1 BCE ; JDN .0 equals noon!	Time functions		DT→J	
F5	J→DT	Command	Julian day number to date-time	Convert Julian day number (JDN) to date in Y and time in X ; Info : Years are astronomical, 0 equals 1 BCE ; JDN .0 equals noon!	Time functions		J→DT	
F6	STOPW	App	Stopwatch	Stopwatch with running time, counter and countdown (playing BEEP after running down) ; SBI : ⏱	Time functions	RUNTIM	STOPW	
fF1	D→zyx	Function (monadic)	Decompose date	Decompose date to Z, Y, X according to CLK settings for date format	Time functions		D→zyx	
fF2	D→x	Function (monadic)	Date to X	Convert date to date input number according to CLK date format settings DD.MM.YYYY, MM/DD/YYYY or YYYY-MM-DD ; implied conversion set by YY does not apply ; TI : yyyy.mmdd:	Time functions		D→x	
fF3	T→zyx	Function (monadic)	Decompose time	Decompose time to 24H hours in Z, minutes in Y, seconds in X	Time functions		T→zyx	
fF4	.ms ⁻¹	Function (monadic)	Sexagesimal	Convert hh:mm:ss hours or dd°mm'ss" degrees to sexagesimal format number (untag) ; TI : hh/dd.mmss: ; Info : puts sexagesimal NIM input of .ms back as decimal number on the stack	Time/angle conversions		.ms ⁻¹	
fF5	.d	Function (monadic)	Decimal (Real) or Date	Convert to decimal (Real) or date value ; untag (ADM) angle ; clear Fractions Mode, #BASE Mode ; convert angles / Times / Dates to Real ; convert NIM input to Date (according to CLK date format settings and implied conversion set by YY ; convert Complex number with zero imaginary part to Real ; when editing angles using EDIT, key .d removes the angle tag (Normal Mode and PEM) ; when editing short integers, key .d removes the base (Normal Mode and PEM) ; in PEM, .d registers as →REAL ; TI : decimal h: or yyyy.mmdd: ; Ref : https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf	Reals	FRACT		
fF6	LEAP?	Command (logical)	Leap year?	Test X is a date in a leap year (test function D? must be true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		LEAP?	
gF1	zyx→D	Function (triadic)	Compose date	Compose date from Z, Y, X according to CLK date format settings DD.MM.YYYY, MM/DD/YYYY or YYYY-MM-DD ; implied conversion set by YY does not apply ; TI : Weekday ; Ref : https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf	Time functions		zyx→D	
gF2	x→D	Function (monadic)	X to date	Convert date input number to date according to CLK date format settings DD.MM.YYYY, MM/DD/YYYY or YYYY-MM-DD ; implied conversion set by YY does not apply ; TI : Weekday ; Ref : https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf	Time functions		x→D	
gF3	zyx→T	Function (monadic)	Compose time	Compose time from 24H hours in Z, minutes in Y, seconds in X	Time functions		zyx→T	
gF4	H.MS→T	Function (monadic)	Convert sexagesimal to time	Convert sexagesimal format input sequence to hh:mm:ss hours ; Info : NIM input treated as sexagesimal (hh.mmss) format ; stack input treated as decimal value	Time functions		H.MS→T	
gF5	H→T	Function (monadic)	Convert decimal hours to time	Convert decimal hours to hh:mm:ss hours ; Info : NIM input treated as sexagesimal (hh.mmss) format ; stack input treated as decimal value ; zero time (interval) displayed as "0.1s"	Time functions		H→T	
gF6	YY ₀	Setting (pgm)	Two digit year limit	Set the limit <ccyy> for two digit year conversion in function .d (in NIM only), up to which the specified (tracked) century <cc> is implied and above which the prior century <cc-1> is used ; TAM : YY ____ TamNonRegTrk menu ; Info : Displayed with subscript <ccyy> as YY _{ccyy}	Time functions		YY ₀	0

CLK	Clock					
g-shift	Date→D	Time→T	WOY	SECOND	MINUTE	HOUR
f-shift	SETDAT	SETTIM	WDAY	DAY	MONTH	YEAR
unshifted	CLK12 ○	CLK24 ⊗	TDISP ₀	DMY ○	MDY ○	YMD ⊗
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0014_C47_JM_dms_hms_and_ms.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	CLK	MENU	Clock	Clock functions, including setting date and time and julian day numbers (astronomy) ; Info : Use TDISP to set time display format : 0 = full ; 1,2 = hours/minutes ; 3 = hours/minutes/seconds ; 4,5,6 = 1,2,3 decimal places for the seconds ; Ref : https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf	Time functions		CLK	
F1	CLK12 O	Setting (pgm)	12 hour clock	Switch on 12h time display ; Format : HH24:MM ; HH:MMam/pm ; Info : SBI is shown if flag SBtime is SET ; SBI : HH:MMam/pm	Display	TDM24	CLK12 O	OFF
F2	CLK24 @	Setting (pgm)	24 hour clock	Switch on 24h time display ; Format : HH24:MM ; HH:MMam/pm ; Info : SBI is shown if flag SBtime is SET ; SBI : HH24:MM	Display	TDM24	CLK24 @	ON
F3	TDISP0	Setting (pgm)	Time display format	Set time display format : 0 = full ; 1,2 = hours/minutes ; 3 = hours/minutes/seconds ; 4,5,6 = 1,2,3 decimal places for the seconds ; TAM : TDISP _ TamNonReg menu	Display		TDISP0	0
F4	DMY O	Setting (pgm)	Day.month.year	Switch on DD.MM.YYYY display mode ; Format : DD.MM.YYYY ; Info : SBI is shown if flag SBdate is SET ; SBI : DD.MM.YYYY	Display	DMY	DMY O	OFF
F5	MDY O	Setting (pgm)	Month/day/year	Switch on MM/DD/YYYY display mode ; Format : MM/DD/YYYY ; Info : SBI is shown if flag SBdate is SET ; SBI : MM/DD/YYYY	Display	MDY	MDY O	OFF
F6	YMD @	Setting (pgm)	Year-month-day	Switch on YYYY-MM-DD display mode ; Format : YYYY-MM-DD ; Info : SBI is shown if flag SBdate is SET ; SBI : YYYY-MM-DD	Display	YMD	YMD @	ON
fF1	SETDAT	Setting (pgm, HW)	Set date	Set date ; hardware only (DMCP setting) ; Info : Error 126 -- Not available on the simulator -- is raised when this setting is performed on the simulator	Time functions		SETDAT	
fF2	SETTIM	Setting (pgm, HW)	Set time	Set time ; hardware only (DMCP setting) ; Info : Error 126 -- Not available on the simulator -- is raised when this setting is performed on the simulator	Time functions		SETTIM	
fF3	WDAY	Function (monadic)	Day of week number (ISO)	Day of week number (ISO, of date in X) regardless of Week of Year rule set ; TI : [ISO day] Weekday	Time functions		WDAY	
fF4	DAY	Function (monadic)	Day	Day (of date in X)	Time functions		DAY	
fF5	MONTH	Function (monadic)	Month	Month (of date in X)	Time functions		MONTH	
fF6	YEAR	Function (monadic)	Year	Year (of date in X)	Time functions		YEAR	
gF1	Date→D	Command	Date	Current date ; TI : Weekday (shown for dates in X, Y, Z)	Time functions		Date→D	
gF2	Time→T	Command	Time	Current time	Time functions		Time→T	
gF3	WOY	Function (monadic)	Week of Year	Week of Year (of date in X) according to rule set (default : WOY150) ; TI : Week of Year =	Time functions		WOY	
gF4	SECOND	Function (monadic)	Seconds	Seconds (of time in X)	Time functions		SECOND	
gF5	MINUTE	Function (monadic)	Minutes	Minutes (of time in X)	Time functions		MINUTE	
gF6	HOURL	Function (monadic)	Hours	Hours (of time in X)	Time functions		HOURL	

CLK	Clock					
g-shift						
f-shift	WOY#			WOY _{ISO}	WOY _{US}	WOY _{ME}
unshifted	J/G#	J/G	JG.1582	JG.1752	JG.1873	JG.1949
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0014_C47_JM_dms_hms_and_ms.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	CLK	MENU	Clock	Clock functions, including setting date and time and julian day numbers (astronomy) ; Info : Use TDISP to set time display format : 0 = full ; 1,2 = hours/minutes ; 3 = hours/minutes/seconds ; 4,5,6 = 1,2,3 decimal places for the seconds ; Ref : https://47calc.com/doc/C47/Reference/C47_Date_formats.pdf	Time functions		CLK	
F1	J/G#	Command	Get Julian-Gregorian transition	Get the day that Julian date changes over to Gregorian date ; Info : Set by J/G	Time functions		J/G#	1752-09-14
F2	J/G	Function (monadic)	Set Julian-Gregorian transition	Set the day that Julian date changes over to Gregorian date (using date in X) ; Info : Input real number according to function x→D	Time functions		J/G	1752-09-14
F3	JG.1582	Setting (pgm)	Julian-Gregorian transition 1582	Set Julian-Gregorian transition date to 1582-10-15 ; Info : First Gregorian day set: 1582-10-15	Time functions		JG.1582	
F4	JG.1752	Setting (pgm)	Julian-Gregorian transition 1752	Set Julian-Gregorian transition date to 1752-09-14 ; Info : First Gregorian day set: 1752-09-14	Time functions		JG.1752	
F5	JG.1873	Setting (pgm)	Julian-Gregorian transition 1873	Set Julian-Gregorian transition date to 1873-01-01 ; Info : First Gregorian day set: 1873-01-01	Time functions		JG.1873	
F6	JG.1949	Setting (pgm)	Julian-Gregorian transition 1949	Set Julian-Gregorian transition date to 1949-10-01 ; Info : First Gregorian day set: 1949-10-01	Time functions		JG.1949	
fF1	WOY#	Command	Get Week of Year rule	Get Week of Year rule (default : WOY _{ISO} , week starts on Monday and week number depends on the first Thursday ; returns 1.4)	Time functions		WOY#	1.4
fF2								
fF3								
fF4	WOY _{ISO}	Setting (pgm)	ISO Week of Year rule	Set Week of Year rule to ISO ; week starts on Monday and week number depends on the first Thursday ; returns 1.4 ; TI : Week of Year rule set: Monday.Thursday ; Info : SBI Ww#-d# is shown if flag SBwoy is SET ; SBI : Ww#-d#	Time functions	SBwoy	WOY _{ISO}	ON
fF5	WOY _{US}	Setting (pgm)	US Week of Year rule	Set Week of Year rule to US ; week starts on Sunday and week number depends on the first Saturday ; returns 7.6 ; TI : Week of Year rule set: Sunday.Saturday ; Info : SBI Ww#-d# is shown if flag SBwoy is SET ; SBI : Ww#-d#	Time functions	SBwoy	WOY _{US}	OFF
fF6	WOY _{ME}	Setting (pgm)	Middle East Week of Year rule	Set Week of Year rule to Middle East ; week starts on Saturday and week number depends on the first Friday ; returns 6.5 ; TI : Week of Year rule set: Saturday.Friday ; Info : SBI Ww#-d# is shown if flag SBwoy is SET ; SBI : Ww#-d#	Time functions	SBwoy	WOY _{ME}	OFF
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

CLR	Clear					
g-shift	RESET	CLRM0D	CLTVM	CLGRF		DELETE
f-shift	CLFall	CLMall	CLVall	CLD	CLLCD	CLREGS
unshifted	CLΣ	CLMENU	CLCVAR	CLα	CLX	CLSTK
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CLR	MENU	Clear	Clear flags, programs, registers, stacks, variables and reset calculator	Cleanup		CLR	
F1	CLΣ	Command	Clear statistics	Clear all statistics data ; delete matrices HIST0 and STATS	Cleanup		CLΣ	
F2	CLMENU	Command	Clear (program) menu	Clear the programmable menu	Cleanup		CLMENU	
F3	CLCVAR	Command	Clear current (program) variables	Clear current program variables	Cleanup		CLCVAR	
F4	CLα	Command	Clear alpha	Clear any register or variable and initialize it with an empty text string ; TAM : CLα __ Tam menu	Cleanup		CLα	
F5	CLX	Command	Clear X	Clear X-register and disable automatic stack lift for next entry	Cleanup		CLX	
F6	CLSTK	Command	Clear stack	Clear stack registers : when stack size is 8, clears XYZT ABCD ; when stack size is 4, clears XYZT ; if setting i LI is ON, the stack is filled with 0 (Long integers) ; when used while plotting, CLSTK returns to the normal screen as the stack is expected to show, implying an exit from graph and other modes ; Shortcut : longpress [←] ; SBI : 8 ; 4	Cleanup	SSIZE8	CLSTK	
fF1	CLFall	Command	Clear (user) flags	Clear all user flags (numbered and lettered) ; YESNO : Clear all flags? ; TI : All global user flags cleared	Cleanup		CLFall	
fF2	CLMall	Command	Clear all menus	Clear assignments to all user defined menus ; YESNO : Clear all user menus? ; TI : All user menus cleared	Cleanup		CLMall	
fF3	CLVall	Command	Clear all variables	Clear all user variables ; clear matrices HIST0, STATS, Mat A, Mat B, Mat X ; YESNO : Clear all user variables? ; TI : All user variables cleared	Cleanup		CLVall	
fF4	CLD	Command	Clear message from display	Clear message from display	Cleanup		CLD	
fF5	CLLCD	Command (42)	Clear LCD	Clear the whole LCD display ; this is a 42-compatibility command	Cleanup		CLLCD	
fF6	CLREGS	Command	Clear registers	Clear registers : general purpose 00-99 and IJKMNPQRSEFGH0UVW, local .00-.98 (if allocated) ; when stack size is 8, does not clear XYZT ABCD ; when stack size is 4, does not clear XYZT, but DOES clear ABCD ; YESNO : Clear registers? ; SBI : 8 ; 4	Cleanup	SSIZE8	CLREGS	
gF1	RESET	Command	Reset	Reset the calculator ; fill registers R10-R38 with special values ; this is the only way to do a clean restart if an autoloading file is present ; YESNO : Reset? ; Info : Clean startup, no autoloading of SAVFILES/C47auto.sav or SAVFILES/C47.sav ; does not reset the keyboard layout chosen in menu KEYS	System		RESET	
gF2	CLRM0D	Command	Clear modes	Clear all menus, entry, fraction and base modes ; when used while plotting in Program Entry Mode, leaves a graph and carries on ; Shortcut : longerpress [EXIT] ; NIM longer [EXIT] ; alpha longer [EXIT] ; PEM longest [EXIT] ; EIM longer [EXIT]	Cleanup		CLRM0D	
gF3	CLTVM	Command	Clear TVM variables	Clear TVM variables	Cleanup		CLTVM	
gF4	CLGRF	Command (nonpgm)	Clear graph	Clear graph	Cleanup		CLGRF	
gF5								
gF6	DELETE	MENU	Delete	Commands for clearing and deleting (user) menus, variables, programs and backup files ; Info : User menus can be defined using ASSIGN	Cleanup		DELETE	

p1	CLR	Link
F1	CLΣ	
F2	CLMENU	
F3	CLCVAR	
F4	CLα	
F5	CLX	
F6	CLSTK	
fF1	CLFall	
fF2	CLMall	
fF3	CLVall	
fF4	CLD	
fF5	CLLCD	
fF6	CLREGS	
gF1	RESET	
gF2	CLRM0D	
gF3	CLTVM	
gF4	CLGRF	
gF5		
gF6	DELETE	https://47calc.com/doc/C47/Menus/C47_Menu_DELETE_page_1.pdf

CNST	Constants					
g-shift	G_0	G_c	g_e	$GM_\oplus$	$g_\oplus$	h
f-shift	ϱ	e	F	F_α	F_δ	G
unshifted	a_g	$a_{H\alpha\alpha n}$	$a_\oplus$	c	c_1	c_2
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https://47calc.com/doc/C47/Reference/C47_Constants.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CNST	MENU (ASM)	Constants	Important scientific and technical constants ; Info : In Program Entry Mode, constants selected from the menu are stored in programs as "# ", the reference number, the label and the abbreviated name ; in the equation editor the label is simply preceded by "#" ; Type characters 1-2 to search; TI : <constant abbreviation> = <value> ; Ref : https://47calc.com/doc/C47/Reference/C47_Constants.pdf	Catalog		CNST	
F1	a _g	Constant	Days per year (Gregorian)	Constant # 1 a _g yr.gregor = +3.652425 × 10 ² ; Unit : d	Constants			
F2	a _{Moon}	Constant	Moon orbit (semi major axis)	Constant # 3 a _{Moon} orb.moon = +3.844 × 10 ⁸ ; Unit : m	Constants			
F3	a _⊕	Constant	Earth orbit (semi major axis)	Constant # 4 a _⊕ orb.earth = +1.495979 × 10 ¹¹ ; Unit : m	Constants			
F4	c	Constant	Speed of light (vacuum)	Constant # 5 c lightspeed = +2.99792458 × 10 ⁸ ; Unit : m/s	Constants			
F5	c ₁	Constant	1st radiation constant	Constant # 6 c ₁ c.radiatn1 = +3.74177185219275801136715555929985 × 10 ⁻¹⁶ ; Unit : z	Constants			
F6	c ₂	Constant	2nd radiation constant	Constant # 7 c ₂ c.radiatn2 = +1.438776877503933802146671601543912 × 10 ⁻² ; Unit : mK	Constants			
fF1	ℓ	Constant	Euler's	Constant # 9 ℓ e.euler = +2.718281828459045235360287471352662	Constants			
fF2	e	Constant	Elementary charge	Constant # 8 e charge.elem = +1.602176634 × 10 ⁻¹⁹ ; Unit : As	Constants			
fF3	F	Constant	Faraday constant	Constant # 10 F c.faraday = +9.64853321233100184 × 10 ⁴ ; Unit : As/mol	Constants			
fF4	F _α	Constant	Feigenbaum alpha	Constant # 11 F _α α.feigenbm = +2.502907875095892822283902873218216	Constants			
fF5	F _δ	Constant	Feigenbaum delta	Constant # 12 F _δ δ.feigenbm = +4.669201609102990671853203820466202	Constants			
fF6	G	Constant	Newtonian constant of gravitation	Constant # 13 G c.grav.nwt = +6.6743 × 10 ⁻¹¹ ; Unit : m ³ /kg.s ²	Constants			
gF1	G ₀	Constant	Conductance quantum	Constant # 14 G ₀ cond.quant = +7.748091729863650646680823323308764 × 10 ⁻⁵ ; Unit : Ω ⁻¹	Constants			
gF2	G _C	Constant	Catalan's constant	Constant # 15 G _C c.catalan = +9.159655941772190150546035149323841 × 10 ⁻¹	Constants			
gF3	g _e	Constant	Landé's electron g-factor	Constant # 16 g _e gfact.elec = -2.00231930436092	Constants			
gF4	GM _⊕	Constant	Geocentric gravitational constant	Constant # 17 GM _⊕ c.grav.geo = +3.986004418 × 10 ¹⁴ ; Unit : m ³ /s ²	Constants			
gF5	g _⊕	Constant	Standard Earth acceleration	Constant # 18 g _⊕ acc.earth = +9.80665 ; Unit : m/s ²	Constants			
gF6	h	Constant	Planck constant	Constant # 19 h c.planck = +6.62607015 × 10 ⁻³⁴ ; Unit : Js	Constants			

CNST	Constants					
g-shift	m_u	$m_u c^2$	m_μ	$M_\odot$	$M_\oplus$	N_A
f-shift	M_{Moon}	m_n	m_n/m_p	m_p	m_{pL}	m_p/m_e
unshifted	$\hbar$	K_0	k_B	K_J	l_{pL}	m_e
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Ref 1

https://47calc.com/doc/C47/Reference/C47_Constants.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	CNST	MENU (ASM)	Constants	Important scientific and technical constants ; Info : In Program Entry Mode, constants selected from the menu are stored in programs as "# ", the reference number, the label and the abbreviated name ; in the equation editor the label is simply preceded by "#" ; Type characters 1-2 to search ; TI : <constant abbreviation> = <value> ; Ref : https://47calc.com/doc/C47/Reference/C47_Constants.pdf	Catalog		CNST	
F1	$\hbar$	Constant	Reduced Planck constant	Constant # 20 $\hbar$ red.planck = +1.054571817646156391262428003302281 $\times 10^{-34}$; Unit : Js	Constants			
F2	K_0	Constant	Khinchin constant	Constant # 57 K_0 c.khinchin = +2.685452001065306445309714835481796	Constants			
F3	k_B	Constant	Boltzmann constant	Constant # 21 k_B c.boltzmn = +1.380649 $\times 10^{-23}$; Unit : J/K	Constants			
F4	K_J	Constant	Josephson constant	Constant # 22 K_J c.josephsn = +4.835978484169836324476582850545281 $\times 10^{14}$; Unit : Hz/V	Constants			
F5	l_{PL}	Constant	Planck length	Constant # 23 l_{PL} len.planck = +1.616255 $\times 10^{-35}$; Unit : m	Constants			
F6	m_e	Constant	Electron rest mass	Constant # 24 m_e mass.elec = +9.1093837139 $\times 10^{-31}$; Unit : kg	Constants			
fF1	M_{Moon}	Constant	Mass of the Moon	Constant # 25 M_{Moon} mass.moon = +7.349 $\times 10^{22}$; Unit : kg	Constants			
fF2	m_n	Constant	Neutron rest mass	Constant # 26 m_n mass.neu = +1.67492750056 $\times 10^{-27}$; Unit : kg	Constants			
fF3	m_n/m_p	Constant	Neutron / proton rest mass	Constant # 27 m_n/m_p r.neu.prot = +1.00137841946	Constants			
fF4	m_p	Constant	Proton rest mass	Constant # 28 m_p mass.prot = +1.67262192595 $\times 10^{-27}$; Unit : kg	Constants			
fF5	m_{PL}	Constant	Planck mass	Constant # 29 m_{PL} mass.planck = +2.176434 $\times 10^{-8}$; Unit : kg	Constants			
fF6	m_p/m_e	Constant	Proton / electron rest mass	Constant # 30 m_p/m_e r.prot.elec = +1.83615267342 $\times 10^3$	Constants			
gF1	m_u	Constant	Atomic mass constant	Constant # 31 m_u mass.atom = +1.6605390689 $\times 10^{-27}$; Unit : kg	Constants			
gF2	$m_u c^2$	Constant	Energy equivalent of m_u	Constant # 32 $m_u c^2$ energy.atom = +1.4924180876 $\times 10^{-10}$; Unit : J	Constants			
gF3	m_μ	Constant	Muon rest mass	Constant # 33 m_μ mass.muon = +1.883531627 $\times 10^{-28}$; Unit : kg	Constants			
gF4	$M_\odot$	Constant	Mass of the Sun	Constant # 34 $M_\odot$ mass.sun = +1.9891 $\times 10^{30}$; Unit : kg	Constants			
gF5	$M_\oplus$	Constant	Mass of the Earth	Constant # 35 $M_\oplus$ mass.earth = +5.9736 $\times 10^{24}$; Unit : kg	Constants			
gF6	N_A	Constant	Avogadro's number	Constant # 36 N_A nr.avogadro = +6.02214076 $\times 10^{23}$; Unit : /mol	Constants			

CNST	Constants					
g-shift	Se^2	Se'^2	Sf^{-1}	T_0	T_P	t_{PL}
f-shift	R_{Moon}	R_∞	$R_\odot$	$R_\oplus$	$S_{a\oplus}$	$S_{b\oplus}$
unshifted	NaN	p_0	R	r_{Bohr}	r_e	R_K
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	CNST	MENU (ASM)	Constants	Important scientific and technical constants ; Info : In Program Entry Mode, constants selected from the menu are stored in programs as "# ", the reference number, the label and the abbreviated name ; in the equation editor the label is simply preceded by "#" ; Type characters 1-2 to search ; TI : <constant abbreviation> = <value> ; Ref : https://47calc.com/doc/C47/Reference/C47_Constants.pdf	Catalog		CNST	
F1	NaN	Constant	Not a Number	Constant # 37 NaN not.a.nr = Not a number	Constants			
F2	p ₀	Constant	Standard atmospheric pressure	Constant # 38 p ₀ press.atm = +1.01325 × 10 ⁵ ; Unit : Pa	Constants			
F3	R	Constant	Molar gas constant	Constant # 39 R c.mol.gas = +8.31446261815324 ; Unit : J/mol K	Constants			
F4	r _{Bohr}	Constant	Bohr radius	Constant # 2 r _{Bohr} rad.bohr = +5.29177210544 × 10 ⁻¹¹ ; Unit : m	Constants			
F5	r _e	Constant	Classical electron radius	Constant # 40 r _e rad.elec = +2.8179403205 × 10 ⁻¹⁵ ; Unit : m	Constants			
F6	R _K	Constant	Von Klitzing constant	Constant # 41 R _K c.klitzing = +2.581280745930450666004551670608744 × 10 ⁴ ; Unit : Ω	Constants			
fF1	R _{Moon}	Constant	Mean radius of the Moon	Constant # 42 R _{Moon} rad.moon = +1.73753 × 10 ⁶ ; Unit : m	Constants			
fF2	R _∞	Constant	Rydberg constant	Constant # 43 R _∞ c.rydberg = +1.097373156815 × 10 ⁷ ; Unit : /mol	Constants			
fF3	R _⊙	Constant	Mean radius of the Sun	Constant # 44 R _⊙ rad.sun = +6.96 × 10 ⁸ ; Unit : m	Constants			
fF4	R _⊕	Constant	Mean radius of the Earth	Constant # 45 R _⊕ rad.earth = +6.37101 × 10 ⁶ ; Unit : m	Constants			
fF5	S _{a⊕}	Constant	Semi-major axis of the Earth	Constant # 46 S _{a⊕} majax.earth = +6.378137 × 10 ⁶ ; Unit : m	Constants			
fF6	S _{b⊕}	Constant	Semi-minor axis of the Earth	Constant # 47 S _{b⊕} minax.earth = +6.3567523142 × 10 ⁶ ; Unit : m	Constants			
gF1	Se ²	Constant	1st eccentricity squared	Constant # 48 Se ² sq.eccent1 = +6.69437999014 × 10 ⁻³	Constants			
gF2	Se' ²	Constant	2nd eccentricity squared	Constant # 49 Se' ² sq.eccent2 = +6.73949674228 × 10 ⁻³	Constants			
gF3	Sf ⁻¹	Constant	Flattening factor	Constant # 50 Sf ⁻¹ f.flatteng = +2.98257223563 × 10 ²	Constants			
gF4	T ₀	Constant	Standard temperature	Constant # 51 T ₀ temp.stand = +2.7315 × 10 ² ; Unit : K	Constants			
gF5	T _P	Constant	Planck temperature	Constant # 52 T _P temp.planck = +1.416784 × 10 ³² ; Unit : K	Constants			
gF6	t _{PL}	Constant	Planck time	Constant # 53 t _{PL} time.planck = +5.391247 × 10 ⁻⁴⁴ ; Unit : s	Constants			

CNST	Constants					
g-shift	μ_B	μ_e	μ_e/μ_B	μ_B	μ_n	μ_p
f-shift	$\Delta\nu_{CS}$	ϵ_0	λ_C	λ_{Cn}	λ_{Cp}	μ_0
unshifted	V_m	Z_0	α_F	γ_{EH}	γ_p	δ_s
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	CNST	MENU (ASM)	Constants	Important scientific and technical constants ; Info : In Program Entry Mode, constants selected from the menu are stored in programs as "# ", the reference number, the label and the abbreviated name ; in the equation editor the label is simply preceded by "#" ; Type characters 1-2 to search; TI : <constant abbreviation> = <value> ; Ref : https://47calc.com/doc/C47/Reference/C47_Constants.pdf	Catalog		CNST	
F1	V _m	Constant	Volume of ideal gas	Constant # 54 V _m volume.gas = +2.241396954501413773501110288675056 × 10 ⁻² ; Unit : m ³ /mol	Constants			
F2	Z ₀	Constant	Characteristic impedance of vacuum	Constant # 55 Z ₀ imped.vac = +3.76730313412 × 10 ² ; Unit : Ω	Constants			
F3	α _F	Constant	Fine-structure constant	Constant # 56 α _F c.finestruc = +7.2973525643 × 10 ⁻³	Constants			
F4	γ _{EM}	Constant	Euler-Mascheroni constant	Constant # 58 γ _{EM} c.eul.masc = +5.772156649015328606065120900824024 × 10 ⁻¹	Constants			
F5	γ _p	Constant	Proton gyromagnetic ratio	Constant # 59 γ _p r.gyro.prot = +2.6752218708 × 10 ⁸	Constants			
F6	δ _s	Constant	Silver ratio	Constant # 81 δ _s r.silver = +2.414213562373095048801688724209698 -- see https://arxiv.org/pdf/2309.05050.pdf ; Info : δ _s = 1 + √2	Constants			
fF1	Δν _{cs}	Constant	Hyperfine transition frequency of ¹³³ Cs	Constant # 60 Δν _{cs} frq.hypf.cs = +9.19263177 × 10 ⁹ ; Unit : Hz	Constants			
fF2	ε ₀	Constant	Vacuum electric permittivity	Constant # 61 ε ₀ epermt.vac = +8.8541878188 × 10 ⁻¹² ; Unit : As/Vm	Constants			
fF3	λ _c	Constant	Compton wavelength of the electron	Constant # 62 λ _c wavln.elec = +2.42631023538 × 10 ⁻¹² ; Unit : m	Constants			
fF4	λ _{cn}	Constant	Compton wavelength of the neutron	Constant # 63 λ _{cn} wavln.neu = +1.31959090382 × 10 ⁻¹⁵ ; Unit : m	Constants			
fF5	λ _{cp}	Constant	Compton wavelength of the proton	Constant # 64 λ _{cp} wavln.prot = +1.32140985360 × 10 ⁻¹⁵ ; Unit : m	Constants			
fF6	μ ₀	Constant	Vacuum magnetic permeability	Constant # 65 μ ₀ mpermb.vac = +1.25663706127 × 10 ⁻⁶ ; Unit : Vs/Am	Constants			
gF1	μ _B	Constant	Bohr's magneton	Constant # 66 μ _B magn.both = +9.274010065 × 10 ⁻²⁴ ; Unit : J/T	Constants			
gF2	μ _e	Constant	Electron magnetic moment	Constant # 67 μ _e mgmom.elec = -9.2847646917 × 10 ⁻²⁴ ; Unit : J/T	Constants			
gF3	μ _e /μ _B	Constant	Electron magnetic moment / Bohr's magneton	Constant # 68 μ _e /μ _B r.elec.bohr = -1.00115965218046	Constants			
gF4	μ _G	Constant	Gerver constant	Constant # 82 μ _G c.gerver = +2.21953166887197 -- see https://en.wikipedia.org/wiki/Moving_sofa_problem ; Info : Moving sofa problem	Constants			
gF5	μ _n	Constant	Neutron magnetic moment	Constant # 69 μ _n magmom.neu = -9.6623653 × 10 ⁻²⁷ ; Unit : J/T	Constants			
gF6	μ _p	Constant	Proton magnetic moment	Constant # 70 μ _p mgmom.prot = +1.41060679545 × 10 ⁻²⁶ ; Unit : J/T	Constants			

CNST	Constants					
g-shift						
f-shift	ϕ	Φ_0	ω_B	$-\infty$	$+\infty$	
unshifted	μ_u	μ_μ	ξ_B	π	σ_B	τ
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p5	CNST	MENU (ASM)	Constants	Important scientific and technical constants ; Info : In Program Entry Mode, constants selected from the menu are stored in programs as "# ", the reference number, the label and the abbreviated name ; in the equation editor the label is simply preceded by "#" ; Type characters 1-2 to search; TI : <constant abbreviation> = <value> ; Ref : https://47calc.com/doc/C47/Reference/C47_Constants.pdf	Catalog		CNST	
F1	μ_u	Constant	Nuclear magneton	Constant # 71 μ_u magn.nucl = $+5.0507837393 \times 10^{-27}$; Unit : J/T	Constants			
F2	μ_μ	Constant	Muon magnetic moment	Constant # 72 μ_μ mgmom.muon = $-4.4904483 \times 10^{-26}$; Unit : J/T	Constants			
F3	ξ_B	Constant	Backbone exponent	Constant # 80 ξ_B exp.bbone = $+3.566668367128895828373073810012663 \times 10^{-1}$ -- see https://en.wikipedia.org/wiki/Silver_ratio	Constants			
F4	π	Constant	pi	Constant # 84 π pi = $+3.141592653589793238462643383279503$	Constants			
F5	σ_B	Constant	Stefan-Boltzmann constant	Constant # 73 σ_B c.stephol = $+5.670374419184429453970996731889231 \times 10^{-8}$; Unit : W/m ² K ⁴	Constants			
F6	τ	Constant	tau	Constant # 83 τ c.circle = $+6.283185307179586476925286766559006$	Constants			
fF1	ϕ	Constant	Golden ratio	Constant # 74 ϕ r.golden = $+1.618033988749894848204586834365638$; Info : $\phi = (1 + \sqrt{5}) / 2$	Constants			
fF2	Φ_0	Constant	Magnetic flux quantum	Constant # 75 Φ_0 fluxq.magn = $+2.067833848461929323081115412147497 \times 10^{-15}$; Unit : Vs	Constants			
fF3	$\omega_\oplus$	Constant	Nominal mean angular velocity of the Earth	Constant # 76 $\omega_\oplus$ vangle.earth = $+7.292115 \times 10^{-5}$; Unit : rad/s	Constants			
fF4	$-\infty$	Constant	Minus infinity	Constant # 77 $-\infty$ inf.minus = $-\infty$	Constants			
fF5	$+\infty$	Constant	Plus infinity	Constant # 78 $+\infty$ inf.plus = $+\infty$	Constants			
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

CONFIGS	Config variables					
g-shift						
f-shift						
unshifted						
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CONFIGS	MENU	Config variables	Auto-generated catalog of variables of the specified datatype : Config (9)	Catalog		CONFIGS	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

CONV	Unit conversions					
g-shift	Misc:	Struct:				FFF+:
f-shift	Power:	Ymmv:	Angle:	Speed:	F&p:	Chef:
unshifted	Energy:	Mass:	Temp:	Length:	Area:	Volume:
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_CPX_page_1.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0024_C47_R47_JM_Assigning_custom_conversion_pairs.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CONV	MENU	Unit conversions	Unit conversions ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0024_C47_R47_JM_Assigning_custom_conversion_pairs.pdf	Unit conversions		CONV	
F1	Energy:	MENU	Energy conversions	Convert between units of energy ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Energy conversions	CONV _{HP}	Energy:	
F2	Mass:	MENU	Mass conversions	Convert between units of mass ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Mass conversions	CONV _{HP}	Mass:	
F3	Temp:	MENU	Temperature conversions	Convert between units of temperature ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Temperature conversions	CONV _{HP}	Temp:	
F4	Length:	MENU	Length conversions	Convert between units of length ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Distance conversions	CONV _{HP}	Length:	
F5	Area:	MENU	Area conversions	Convert between units of area ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Area conversions	CONV _{HP}	Area:	
F6	Volume:	MENU	Volume conversions	Convert between units of volume ; this menu has two pages, one for the UK (imperial) units, the other for the US (customary) units : this is determined by flag CONV _{US} , which is SET for US units on page 1 ; CLEAR for UK units on page 1 (default CLEAR) ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Volume conversions	CONV _{HP}	Volume:	
fF1	Power:	MENU	Power conversions	Convert between units of power ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Power conversions	CONV _{HP}	Power:	
fF2	Ymmv:	MENU	Mileage conversions	Convert between units of mileage ("Your mileage may vary") ; Info : "E" designates "kWh" ; Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Mileage conversions	CONV _{HP}	Ymmv:	
fF3	Angle:	MENU	Angle and angular velocity conversions	Convert between units of angle or angular velocity ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Angular/Speed conversions	CONV _{HP}	Angle:	
fF4	Speed:	MENU	Speed conversions	Convert between units of speed ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Speed conversions	CONV _{HP}	Speed:	
fF5	F&p:	MENU	Force & Pressure conversions	Convert between units of force and pressure ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Force & Pressure conversions	CONV _{HP}	F&p:	
fF6	Chef:	MENU	Cooking unit conversions	Convert between cooking units ; this menu has two pages, one for the UK (imperial) units, the other for the US (customary) units : this is determined by flag CONV _{US} , which is SET for US units on page 1 ; CLEAR for UK units on page 1 (default CLEAR) ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Cooking unit conversions	CONV _{HP}	Chef:	
gF1	Misc:	MENU	Miscellaneous conversions	Time, torque, power and field ratio conversions ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Miscellaneous conversions	CONV _{HP}	Misc:	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF2	Struct:	MENU	Structural conversions	Section and material properties, force and moment load conversions ; Info : Flag CONV _{HP} may be SET for <to> < > <to> unit conversion buttons ; CLEAR for <from> > < <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Miscellaneous conversions	CONV _{HP}	Struct:	
gF3								
gF4								
gF5								
gF6	FFF+:	MENU	Humorous conversions	Conversions to and from the furlong-firkin-fortnight (FFF) system (and bananas and beardseconds) -- see https://en.wikipedia.org/wiki/FFF_system ; Info : Flag CONV _{HP} may be SET for <to> < > <to> unit conversion buttons ; CLEAR for <from> > < <from> unit conversion buttons (default SET)	Humorous conversions	CONV _{HP}	FFF+:	

p1	CONV	Link
F1	Energy:	https://47calc.com/doc/C47/Menus/C47_Menu_Energy_page_1.pdf
F2	Mass:	https://47calc.com/doc/C47/Menus/C47_Menu_Mass_page_1.pdf
F3	Temp:	https://47calc.com/doc/C47/Menus/C47_Menu_Temp_page_1.pdf
F4	Length:	https://47calc.com/doc/C47/Menus/C47_Menu_Length_page_1.pdf
F5	Area:	https://47calc.com/doc/C47/Menus/C47_Menu_Area_page_1.pdf
F6	Volume:	https://47calc.com/doc/C47/Menus/C47_Menu_Volume_page_1.pdf
fF1	Power:	https://47calc.com/doc/C47/Menus/C47_Menu_Power_page_1.pdf
fF2	Ymmv:	https://47calc.com/doc/C47/Menus/C47_Menu_Ymmv_page_1.pdf
fF3	Angle:	https://47calc.com/doc/C47/Menus/C47_Menu_Angle_page_1.pdf
fF4	Speed:	https://47calc.com/doc/C47/Menus/C47_Menu_Speed_page_1.pdf
fF5	F&p:	https://47calc.com/doc/C47/Menus/C47_Menu_F-and-p_page_1.pdf
fF6	Chef:	https://47calc.com/doc/C47/Menus/C47_Menu_Chef_page_1.pdf
gF1	Misc:	https://47calc.com/doc/C47/Menus/C47_Menu_Misc_page_1.pdf
gF2	Struct:	https://47calc.com/doc/C47/Menus/C47_Menu_Struct_page_1.pdf
gF3		
gF4		
gF5		
gF6	FFF+:	https://47calc.com/doc/C47/Menus/C47_Menu_FFF+_page_1.pdf

CPX	Complex functions					
g-shift	→R	→P	↔R	R↔C	RECT @	POLAR O
f-shift	COMPLEX	UNITV	x	∠	dot	cross
unshifted	Re	Im	conj	ReZIm	<i>i</i>	<i>i</i> _⊙
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CPX	MENU	Complex functions	Complex functions ; Ref : https://47calc.com/doc/Application%20Notes/AN0001_C47_R47_JM_Complex_number_engineering_example.pdf	Complex numbers		CPX	
F1	Re	Function (monadic)	Real part	Real part of Complex number	Complex numbers		Re	
F2	Im	Function (monadic)	Imaginary part	Imaginary part of Complex number	Complex numbers		Im	
F3	conj	Function (monadic)	Complex conjugate	Complex conjugate	Complex numbers		CONJ	
F4	Re↔Im	Command	Exchange real and imaginary part	Exchange real and imaginary part of Complex number	Complex numbers		Re↔Im	
F5	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in a + b i ; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ i	
F6	$i_{\odot}$	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a $i_{\odot}$ b ENTER results in a $\angle$ b (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ $i_{\odot}$	
ff1	COMPLEX	Function (dyadic)	Complex number	Convert to or from Complex number (2.0-2.5)	Complex numbers		COMPLEX	
ff2	UNITV	Command	Unit vector or matrix	Unit vector or matrix for Real or Complex matrix or vector ; the result will have Euclidean magnitude 1 ; Info : UNITV also applies to Complex numbers	Complex numbers		UNITV	
ff3	x	Function (monadic)	Magnitude	Magnitude (absolute value) of Complex number	Complex numbers		x	
ff4	$\angle$	Function (monadic)	Argument (angle)	Argument (angle) of Complex number	Complex numbers		$\angle$	
ff5	dot	Function (dyadic)	Dot product (·)	Dot product of vectors in X and Y	Complex numbers		DOT	
ff6	cross	Function (dyadic)	Cross product (×)	Cross product of vectors in X and Y	Complex numbers		CROSS	
gF1	→R	Function (monadic, dyadic)	To rectangular	Transform polar to rectangular coordinates (dyadic, stack conventions according to flag RP _{HP} SET or CLEAR) ; transform Complex number or 2D/3D vector to rectangular notation (monadic) and set RECT tag ; TI : x : Re = ; y : Im = (RECT) ; Info : in Program Entry Mode, flag RP _{HP} determines whether →RECT _{HP} or →RECT _{EX} is stored ; vector display depends on flag 3Dxyz, for 2D rectangular vector : [ij] [v ₁ v ₂] ; 3D rectangular vector : [ijk] [v ₁ v ₂ v ₃]	Complex and coordinates	RP _{HP}	→RECT	
gF2	→P	Function (monadic, dyadic)	To polar	Transform rectangular to polar coordinates (dyadic, stack conventions according to flag RP _{HP} SET or CLEAR) ; transform Complex number or 2D/3D vector to polar notation (monadic) and set POLAR tag ; TI : r = ; θ = (POLAR) ; Info : in Program Entry Mode, flag RP _{HP} determines whether →POL _{HP} or →POL _{EX} is stored ; for a 3D vector in X, function →POLAR (→P) cycles through →SPH, then →CYL ; vector display depends on flag 3Dxyz, for 2D polar vector : [r θ ;ij] [v ₁ v ₂] ^P ; 3D spherical vector : [r θ ;ijk] _M [v ₁ v ₂ v ₃] ^a ; 3D cylindrical vector : [r θ ;ijk] [v ₁ v ₂ v ₃] ^c	Complex and coordinates	RP _{HP}	→POLAR	
gF3	↔R	Function (monadic)	Complex to Real	Convert Complex to Real (in POLAR, using angle tag or ADM) ; TI : Im = ; Re = (RECT) ; θ = ; r = (POLAR) in X, Y	Complex numbers		↔R	
gF4	R↔C	Function (dyadic)	Real to Complex	Convert Real to Complex (in POLAR, using angle tag or ADM)	Complex numbers		R↔C	
gF5	RECT $\odot$	Setting (pgm)	Rectangular notation	Switch on rectangular notation ; Info : SBI $\angle$; $\odot$ is shown if flag SBcp _x is SET ; SBI : $\angle$	Complex and coordinates	POLAR	RECT $\odot$	ON
gF6	POLAR $\odot$	Setting (pgm)	Polar notation	Switch on polar notation ; Info : SBI $\angle$; $\odot$ is shown if flag SBcp _x is SET ; SBI : $\odot$	Complex and coordinates	POLAR	POLAR $\odot$	OFF

CPXS	Complex variables					
g-shift						
f-shift						
unshifted						
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	CPXS	MENU	Complex variables	Auto-generated catalog of variables of the specified datatype : Complex number (2.0-2.5)	Catalog		CPXS	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

DATES	Date variables					
g-shift						
f-shift						
unshifted						
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_DELETE_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	DATES	MENU	Date variables	Auto-generated catalog of variables of the specified datatype : Date (4)	Catalog		DATES	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

DELETE	Delete					
g-shift						DELITM
f-shift						
unshifted	DELall	DELMall	DELvall	DELPall	DELP	DELBkup
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_DELITM_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	DELETE	MENU	Delete	Commands for clearing and deleting (user) menus, variables, programs and backup files ; Info : User menus can be defined using ASSIGN	Cleanup		DELETE	
F1	DELall	Command	Delete all	Delete all user created programs, user menus, user variables and their assignments ; clear all keyboard user assignments ; reset user configurable menus to defaults ; YESNO : Delete all? ; TI : All user menus deleted ; All data, programs and definitions cleared	Cleanup		DELall	
F2	DELMall	Command	Delete all menus	Delete all user defined menus and their assignments ; YESNO : Delete all user menus? ; TI : All user menus deleted	Cleanup		DELMall	
F3	DELvall	Command	Delete all variables	Delete all user variables and their assignments ; clear matrices HISTO, STATS, Mat A, Mat B, Mat X ; YESNO : Delete all user variables? ; TI : All user variables deleted	Cleanup		DELvall	
F4	DELPall	Command	Delete all programs	Delete all user created programs and remove all assignments of all global labels used in the programs ; YESNO : Delete all programs? ; TI : All user programs deleted	Cleanup		DELPall	
F5	DELP	Command	Delete (current) program	Delete current program and remove all assignments of the global labels in the program (careful!) ; TAM : DELP _ TamLblOnly menu	Cleanup		DELP	
F6	DELBkup	Command	Delete Backup	Delete configuration backup file (LOAD, SAVE) ; YESNO : Delete both backup files?	Cleanup		DELBkup	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	DELITM	MENU (item)	Delete items	Delete user defined items (and their assignments), selected from category (programs - will also remove all assignments of the global labels in the program ; variables ; user defined menus) ; Trailing : DELITM_ menu DELITM ; Info : User menus can be defined using ASSIGN	Cleanup		DELITM	

p1	DELETE	Link
F1	DELall	
F2	DELMall	
F3	DELvall	
F4	DELPall	
F5	DELP	
F6	DELBkup	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6	DELITM	https://47calc.com/doc/C47/Menus/C47_Menu_DELITM_page_1.pdf

DELITM	Delete items					
g-shift						
f-shift						
unshifted				PROGS	VARs	MENUS
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_DEV_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	DELITM	MENU (item)	Delete items	Delete user defined items (and their assignments), selected from category (programs - will also remove all assignments of the global labels in the program ; variables ; user defined menus) ; Trailing : DELITM_ menu DELITM ; Info : User menus can be defined using ASSIGN	Cleanup		DELITM	
F1								
F2								
F3								
F4	PROGS	MENU (ASM)	Programs	Auto-generated catalog of programs	Catalog		PROGS	
F5	VARs	MENU	Variables	Auto-generated variable catalogs	Catalog		VARs	
F6	MENUS	MENU (ASM)	Menus	Catalog of all menus (including user defined menus) ; Info : Type characters 1-2 to search ; Ref : https://47calc.com/doc/C47/Reference/C47_CAT-MENUS.pdf	Catalog		MENUS	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	DELITM	Link
F1		
F2		
F3		
F4	PROGS	https://47calc.com/doc/C47/Menus/C47_Menu_PROGS_page_1.pdf
F5	VARs	https://47calc.com/doc/C47/Menus/C47_Menu_VARS_page_1.pdf
F6	MENUS	https://47calc.com/doc/C47/Menus/C47_Menu_MENUS_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

DEV	Developer menu					
g-shift						
f-shift						
unshifted	HP35	47	JM	RJ		
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	DEV	MENU (hidden)	Developer menu	Developer menu	Developer			
F1	HP35	Setting (group)	Set HP-35 tribute profile	Set HP-35 tribute profile ; Info : The current configuration is stored in register 35 when setting the HP-35 tribute profile	Developer			OFF
F2	47	Setting (group)	Return from HP-35 to C47 profile	Return from HP-35 tribute to C47 profile ; Info : The configuration is restored from register 35 where it was stored by setting the HP-35 tribute profile	Developer			ON
F3	JM	Setting (group)	Set JM profile	Set JM profile ; Info : JM is one of the C47/R47 developers	Developer			OFF
F4	RJ	Setting (group)	Set RJ profile	Set RJ profile ; Info : RJ is one of the C47/R47 developers	Developer			OFF
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

DISP	Display settings					
g-shift	IPART _↓	RADIX _↓	FPART _↓	FDIGS ₃₄	FRCYC ☐	TDISP ₀
f-shift	FRACT ☐	IRFRAC ☐	PROPFR ☒	DMX ₆₄	DENANY ☐	DENFIX ☐
unshifted	FIX ☐	SCI ☐	ENG ☐	UNIT ☐	SIG ☐	ALL ₃ ☒
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Ref 1

https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Ref 2

https://47calc.com/doc/C47/Reference/C47_Regional.pdf

Ref 3

https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	DISP	MENU	Display settings	Display settings ; Info : On DISP page 3, special indicators are used : $\diamond$: all group settings comply, $\diamond$: ≥ 1 group settings differ ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_ToUr.pdf	Display		DISP	
F1	FIX $\circ$	Setting (pgm)	FIXed notation	Set numeric display mode to fixed notation with nn decimals (NDEC = nn = 0-19 ; DF = 1) ; TAM : FIX __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		FIX $\circ$	OFF
F2	SCI $\circ$	Setting (pgm)	SCientific notation	Set numeric display mode to scientific notation with nn decimals = nn+1 digits (NDEC = nn = 0-19 ; DF = 2) ; TAM : SCI __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		SCI $\circ$	OFF
F3	ENG $\circ$	Setting (pgm)	ENGineering notation	Set numeric display mode to engineering notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 3) ; TAM : ENG __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		ENG $\circ$	OFF
F4	UNIT $\circ$	Setting (pgm)	Unit (prefix) notation	Set numeric display mode to unit (prefix) notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 5) ; showing all or limited set of SI-prefixes depending on flag PFX.ALL ; if flag 1024 ⁿ is SET, binary prefixes are shown if available and long integer values are indicated by Z ; prefixes can be selected directly from menu Prefix ; TAM : UNIT __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display	1024 ⁿ	UNIT $\circ$	OFF
F5	SIG $\circ$	Setting (pgm)	SIGNificant digits notation	Set numeric display mode to significant digits notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 4) ; switching over to scientific or engineering notation when number of rounded trailing zeros exceeds group size (IPGRP) ; TAM : SIG __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		SIG $\circ$	OFF
F6	ALL ₃ $\odot$	Setting (pgm)	All digits notation	Set numeric display mode to ALL digits notation ; display all digits as far as possible with maximum nn decimal zeros (NDEC = nn = 0-19 ; DF = 0) ; TAM : ALL __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		ALL ₃ $\odot$	3
ff1	FRACT $\square$	Setting	Fractions mode	Switch on fractions mode ; not programmable - in PEM, use flag FRACT ; Info : FRACT and IRFRAC are linked (both cannot be ON at the same time ; /n or /max denotes maximum denominator (set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3]ff5 (DMXX)) ; prefixes < and > may be shown as needed for rational fractions ; also see flag IRFRAC ; SBI : a ^b /n ; ^b /n ; [+ $\approx$]	Fractions	FRACT	FRACT $\square$	OFF
ff2	IRFRAC $\square$	Setting	Irrational fractions mode	Switch on irrational fractions mode ; not programmable - in PEM, use flag IRFRAC ; Info : IRFRAC and FRACT are linked (both cannot be ON at the same time ; SBI $\times$ I or $\cdot$ I indicates that approximate multiples or fractions can be used, of the irrational numbers $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{7}$, ϕ , π^{-2} , π^{-1} , $\sqrt{\pi}$, π , π^2 , e^{-2} , e^{-1} , e and e^2 (with tolerance 10^{-24}) ; Prefix $\approx$ + <approximation> ; multiplication symbol SET for displaying multiplication symbol $\times$; CLEAR for displaying multiplication symbol $\cdot$ or SET for displaying multiplication symbol $\times$; CLEAR for displaying multiplication symbol $\cdot$ according to flag MULT $\times$; SBI $\approx$ indicates FDIGS < 34 ; SBI is shown if flag SBfrac is SET ; exit fraction modes by .d or CLRMOD (longerpress [EXIT]) ; SBI : a ^b /c $\times$ I ; ^b /c $\times$ I ; [+ $\approx$]	Fractions	IRFRAC	IRFRAC $\square$	OFF
ff3	PROFPR $\blacksquare$	Setting	Proper fractions	Switch on proper fractions (mixed fractions) ; not programmable - in PEM, use flag PROFPR ; SBI : a ^b /n ; ^b /n ; [+ $\approx$] ; a ^b /c $\times$ I ; ^b /c $\times$ I ; [+ $\approx$]	Fractions	PROFPR	PROFPR $\blacksquare$	ON
ff4	DMX ₆₄	Setting (pgm)	Set max denominator for fractions [TAM]	Set max denominator for fractions [TAM variant] ; maximum value of 32500 is set by button DMXmax on [TamNonRegMax.1]F2, stored as 0 and displayed as DMX _{max} ; TAM : DMX ____ TamNonRegMax menu ; range is [2, 9999] or 0, indicating DMXmax = 32500 ; SBI is shown if flag SBfrac is SET ; SBI : /nnnn ; /max	Fractions		DMX ₆₄	64
ff5	DENANY $\square$	Setting	Denominator any	Switch on any denominator (up to value set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3]ff5 (DMXX)) in fraction display mode ; not programmable - in PEM, use flag DENANY ; Info : DENANY and DENFIX are linked (both cannot be ON at the same time ; SBI [+ $\times$] is shown if flag SBfrac is SET ; SBI : [+ $\times$]	Fractions	DENANY	DENANY $\square$	OFF

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
fF6	DENFIX $\square$	Setting	Denominator fixed	Switch on fixed denominator (set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3] fF5 (DMXX)) in fraction display mode ; not programmable - in PEM, use flag DENFIX ; Info : DENFIX and DENANY are linked (both cannot be ON at the same time ; SBI [+f] is shown if flag SBfrac is SET ; SBI : [+f]	Fractions	DENFIX	DENFIX $\square$	OFF
gF1	IPART $_$	MENU (item, nonpgm)	Select IP separator	Select integer part separator ; button label showing current separator ($_$) ; symbol $\emptyset$ for no separator ; Info : CAT.MENUS IPART	Display		IPART	
gF2	RADIX.	MENU (item, nonpgm)	Select radix	Select radix ; button label showing current radix (.) ; Info : CAT.MENUS RADIX	Display		RADIX	
gF3	FPART $_$	MENU (item, nonpgm)	Select FP separator	Select fractional part separator ; button label showing current separator ($_$) ; symbol $\emptyset$ for no separator ; Info : CAT.MENUS FPART	Display		FPART	
gF4	FDIGS ₃₄	Setting (pgm)	Set significant digits for fractions	Set the number of significant digits (1-34) used by the approximations of the fraction modes ; SBI $\approx$ indicates fractions can be approximated to be close enough (displayed if FDIGS < 34) ; TAM : FDIGS $_$ TamNonReg menu ; Info : SBI [+ $\approx$] is shown if flag SBfrac is SET ; SBI : [+ $\approx$]	Fractions	SBfrac	FDIGS ₃₄	34
gF5	FRCYC $\square$	Setting	Fraction mode full cycle	Switch on full cycle on key a b/c (g [Σ +]) ; not programmable - in PEM, use flag FRCYC ; Info : When FRCYC is ON full cycle is available, when OFF, flag PROPFR is excluded (used as is) and OFF state is included in cycle	Fractions	FRCYC	FRCYC $\square$	OFF
gF6	TDISP ₀	Setting (pgm)	Time display format	Set time display format : 0 = full ; 1,2 = hours/minutes ; 3 = hours/minutes/seconds ; 4,5,6 = 1,2,3 decimal places for the seconds ; TAM : TDISP $_$ TamNonReg menu	Display		TDISP ₀	0

p1	DISP	Link
F1	FIX ☐	
F2	SCI ☐	
F3	ENG ☐	
F4	UNIT ☐	
F5	SIG ☐	
F6	ALL ₃ ☐	
fF1	FRACT ☐	
fF2	IRFRAC ☐	
fF3	PROPFR ☐	
fF4	DMX ₆₄	
fF5	DENANY ☐	
fF6	DENFIX ☐	
gF1	IPART _L	https://47calc.com/doc/C47/Menus/xxx1.pdf
gF2	RADIX _L	https://47calc.com/doc/C47/Menus/xxx1.pdf
gF3	FPART _L	https://47calc.com/doc/C47/Menus/xxx1.pdf
gF4	FDIGS ₃₄	
gF5	FRCYC ☐	
gF6	TDISP ₀	

DISP	Display settings					
g-shift	SCIOVR 	ENG0VR 	SIG0 		RNG _{6,145}	HIDE ₀
f-shift	CPX <i>i</i> 	CPX <i>j</i> 		CPXmul 	MULT× 	MULT• 
unshifted	dLrgLI 	dZ.0 	dSTACK ₄	dSI ₂	dBASE ₀	DTSET
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Ref 2 https://47calc.com/doc/C47/Reference/C47_Regional.pdf

Ref 3 https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	DISP	MENU	Display settings	Display settings ; Info : On DISP page 3, special indicators are used : $\diamond$: all group settings comply, $\diamond$: ≥ 1 group settings differ ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_ToUr.pdf	Display		DISP	
F1	dLrgLI $\blacksquare$	Setting	Large Long integers display	Switch on (large) Long integers to always display in large text ; not programmable - in PEM, use flag dLrgLI ; Info : dLrgLI is overruled by dZ.0	Display	dLrgLI	dLrgLI $\blacksquare$	ON
F2	dZ.0 $\square$	Setting	Display Long integers as Real	Switch on displaying Long integers as Real ; not programmable - in PEM, use flag dZ.0 ; Info : dZ.0 overrules dLrgLI ; Prefix : $\mathbb{Z}$; radix not displayed if DSP = 0 ; larger values are displayed using scientific notation and indicated as Long integer by prefix "Z:" even if dZ.0 is CLEAR ; button shows current radix preference	Integers	dZ.0	dZ.0 $\square$	OFF
F3	dSTACK ₄	Setting (pgm)	Stack display lines	Set the number of stack registers to be displayed ; TAM : dSTACK _ TamNonReg menu	Stack		dSTACK ₄	4
F4	dSI ₂	Setting (pgm)	Short integer split screen lines	Set the short integer split screen lines for the display of X in #BASE Mode ; TAM : dSI _ TamNonReg menu ; Info : Range is 0 : <none> ; 1 : HEX ; 2 : HEX/DEC ; 3 : HEX/BIN/DEC ; if flag BCD is SET, instead of HEX, BCD is displayed with subscript digits and followed by subscript _{bcd}	Number bases	BCD	dSI ₂	2
F5	dBASE ₀	Setting (pgm)	Base number display	Display long integer in X as base number in the T-line (base 2-62) ; exit by entering dBASE 0 ; TAM : dBASE __ TamNonReg menu ; Split screen : Displaying X:z: <value>bb ; Ref : https://47calc.com/doc/C47/Reference/C47_Base_digits.pdf	Number bases		dBASE ₀	0
F6	DTSET	MENU (item)	Date and time settings	Activate menu CLK page 2 to access date and time settings ; Info : Previews/OPENM as CLK $\leftarrow$ 2	Time functions		CLK $\leftarrow$ 2	
fF1	CPX $\hat{i}$ $\odot$	Setting (pgm)	Imaginary $\hat{i}$	Switch on displaying $\hat{i}$ as the imaginary number ; Info : $\hat{i}$ or $\hat{j}$ displayed in stack and on soft buttons	Complex numbers	CPX $\hat{j}$	CPX $\hat{i}$ $\odot$	ON
fF2	CPX $\hat{j}$ $\odot$	Setting (pgm)	Imaginary $\hat{j}$	Switch on displaying $\hat{j}$ as the imaginary number ; Info : $\hat{i}$ or $\hat{j}$ displayed in stack and on soft buttons	Complex numbers	CPX $\hat{j}$	CPX $\hat{j}$ $\odot$	OFF
fF3								
fF4	CPXmul $\square$	Setting	Complex multiplier	Switch on displaying Complex multiplier ; not programmable - in PEM, use flag CPXmul ; Info : If OFF, trailing $\hat{i}$ or $\hat{j}$ is used ; complex multiplier is set by MULT $\times$	Complex numbers	CPXmul	CPXmul $\square$	OFF
fF5	MULT $\times$ $\odot$	Setting (pgm)	Multiplication symbol $\times$	Switch on displaying multiplication symbol $\times$	Display	MULT $\times$	MULT $\times$ $\odot$	ON
fF6	MULT $\cdot$ $\odot$	Setting (pgm)	Multiplication symbol $\cdot$	Switch on displaying multiplication symbol $\cdot$	Display	MULT $\times$	MULT $\cdot$ $\odot$	OFF
gF1	SCIOVR $\odot$	Setting (pgm)	Scientific display large Real numbers	Switch on displaying large Real numbers in scientific notation	Display	ENG0VR	SCIOVR $\odot$	ON
gF2	ENG0VR $\odot$	Setting (pgm)	Engineering display large Real numbers	Switch on displaying large Real numbers in engineering notation	Display	ENG0VR	ENG0VR $\odot$	OFF
gF3	SIG0 $\blacksquare$	Setting (pgm)	Apply SIG zeros	Switch on applying SIG zeros ; Info : 'Apply SIG zeros' means displaying zeros for the integer part and trailing zeros for the fractional part ; zeros are required for the strict interpretation of SIG as implemented in prior C47/C43 and WP34S ; if SIG0 is CLEAR, SIG may be understood as 'maximum digits' and displays the resulting value in a more commonly used way	Display	SIG0	SIG0 $\blacksquare$	ON
gF4								
gF5	RNG ₆₁₄₅	Setting (pgm)	Set number range	Set number range as 10^{nn} , where nn in [99, 6145] ; TAM : RNG ____ TamNonReg menu ; Info : numbers smaller than 10^{RNG} (or the value set by HIDE) will be displayed as ≈ 0 ; numbers greater than 10^{RNG} will be displayed as ' ∞ ' (or ∞ if RNG is 6145 and provided flag SPCRES is SET)	Reals	SPCRES	RNG ₆₁₄₅	6145
gF6	HIDE ₀	Setting (pgm)	Set hide parameter	Set parameter to hide small Real numbers or parts ; display ≈ 0 . for numbers with absolute values $< 10^{-n}$, where n in [12, 99] ; useful e.g. in matrices ; reset by HIDE 0 ; when menu XFCNS is open, setting HIDE is ignored ; TAM : HIDE _ TamNonReg menu ; Info : numbers smaller than the range specified by RNG are also displayed as ≈ 0 .	Display		HIDE ₀	0

p2	DISP	Link
F1	dLrgLI 	
F2	dZ.0 	
F3	dSTACK ₄	
F4	dSI ₂	
F5	dBASE ₀	
F6	DTSET	https://47calc.com/doc/C47/Menus/C47_Menu_DTSET_page_1.pdf
fF1	CPX _i 	
fF2	CPX _j 	
fF3		
fF4	CPXmul 	
fF5	MULT _x 	
fF6	MULT _o 	
gF1	SCIOVR 	
gF2	ENG0VR 	
gF3	SIG0 	
gF4		
gF5	RNG _{6,145}	
gF6	HIDE ₀	

DISP	Display settings					
g-shift						
f-shift						DEFLT ◇
unshifted	CHINA ◇	EUROP ◇	INDIA ◇	JAPAN ◇	UK ◇	USA ◇
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Ref 2 https://47calc.com/doc/C47/Reference/C47_Regional.pdf

Ref 3 https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	DISP	MENU	Display settings	Display settings ; Info : On DISP page 3, special indicators are used : ◇ : all group settings comply, ◇ : ≥1 group settings differ ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To ur.pdf	Display		DISP	
F1	CHINA ◇	Setting (pgm)	Chinese formatting	Set to Chinese regional formats (date, time, calendar, number formatting) ; TI : First Gregorian day set: 1949-10-01 ; Week of Year rule set: Monday.Thursday	Display		S.CHN ◇	OFF
F2	EUROP ◇	Setting (pgm)	European formatting	Set to European regional formats (date, time, calendar, number formatting) ; TI : First Gregorian day set: 15.10.1582 ; Week of Year rule set: Monday.Thursday	Display		S.EUR ◇	OFF
F3	INDIA ◇	Setting (pgm)	Indian formatting	Set to Indian regional formats (date, time, calendar, number formatting) ; TI : First Gregorian day set: 14.09.1752 ; Week of Year rule set: Sunday.Saturday	Display		S.IND ◇	OFF
F4	JAPAN ◇	Setting (pgm)	Japanese formatting	Set to Japanese regional formats (date, time, calendar, number formatting) ; TI : First Gregorian day set: 1873-01-01 ; Week of Year rule set: Sunday.Saturday	Display		S.JPN ◇	OFF
F5	UK ◇	Setting (pgm)	UK formatting	Set to UK regional formats (date, time, calendar, number formatting) ; TI : First Gregorian day set: 14.09.1752 ; Week of Year rule set: Monday.Thursday	Display		S.UK ◇	OFF
F6	USA ◇	Setting (pgm)	USA formatting	Set to USA regional formats (date, time, calendar, number formatting) ; TI : First Gregorian day set: 09/14/1752 ; Week of Year rule set: Sunday.Saturday	Display		S.USA ◇	OFF
fF1								
fF2								
fF3								
fF4								
fF5								
fF6	DEFLT ◇	Setting (pgm)	Default regional formatting	Set to default regional formats (date, time, calendar, number formatting) ; TI : First Gregorian day set: 1752-09-14 ; Week of Year rule set: Monday.Thursday	Display		S.DEFLT ◇	ON
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

DISTR	Distributions					
g-shift		DisUni:	Geom:	Hyper:	Poiss:	Binom:
f-shift	Φ :	Uniform:	Cauch:	Pareto:	Logis:	GEV:
unshifted	Norml:	χ^2 :	t:	F:	Expon:	Weibl:
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Distr_param.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	DISTR	MENU	Distributions	Probability distribution functions ; Split screen : Displaying <register> = <parameter> = <value> for the probability distribution submenus ; Ref : https://47calc.com/doc/C47/Reference/C47_Distr_param.pdf	Probability		DISTR	
F1	Norml:	MENU	Normal & Log normal distribution	Normal & Log normal probability distribution (continuous) ; TI : RegM = μ = ; RegS = σ =	Probability (real)		Norml:	
F2	χ^2 :	MENU	Chi-squared distribution	Chi-squared probability distribution (continuous) ; TI : RegM = ν =	Probability (real)		χ^2 :	
F3	t:	MENU	Student's t distribution	Student's t probability distribution (continuous) ; TI : RegM = ν =	Probability (real)		t:	
F4	F:	MENU	Fisher's F distribution	Fisher's F probability distribution (continuous) ; TI : RegM = d_1 = ; RegN = d_2 =	Probability (real)		F:	
F5	Expon:	MENU	Exponential distribution	Exponential probability distribution (continuous) ; TI : RegR = λ =	Probability (real)		Expon:	
F6	Weibl:	MENU	Weibull distribution	Weibull probability distribution (continuous) ; TI : RegQ = k = ; RegS = λ =	Probability (real)		Weibl:	
ff1	Φ :	MENU	Standard normal distribution	Standard normal probability distribution (continuous) ; Info : mean = 0 ; standard deviation = 1	Probability (real)		Φ :	
ff2	Uniform:	MENU	Uniform distribution	Uniform probability distribution (continuous) ; TI : RegM = a = ; RegN = b =	Probability (real)		Uniform:	
ff3	Cauch:	MENU	Cauchy-Lorentz distribution	Cauchy-Lorentz probability distribution (continuous) ; TI : RegM = x_0 = ; RegS = γ =	Probability (real)		Cauch:	
ff4	Pareto:	MENU	Pareto distribution	Pareto probability distribution (continuous) -- see https://en.wikipedia.org/wiki/Pareto_distribution#Pareto_types_I-IV ; TI : RegM = μ = ; RegS = σ = ; RegQ = α =	Probability (real)		Pareto:	
ff5	Logis:	MENU	Logistic distribution	Logistic probability distribution (continuous) ; TI : RegM = μ = ; RegS = s =	Probability (real)		Logis:	
ff6	GEV:	MENU	Generalised extreme value distribution	Generalised extreme value probability distribution (continuous) ; TI : RegM = μ = ; RegS = σ = ; RegQ = ξ =	Probability (real)		GEV:	
gf1								
gf2	DisUni:	MENU	Discrete uniform distribution	Discrete uniform probability distribution (discrete) ; TI : RegM = a = ; RegN = b =	Probability (int)		DisUni:	
gf3	Geom:	MENU	Geometric distribution	Geometric probability distribution (discrete) ; TI : RegP = p =	Probability (int)		Geom:	
gf4	Hyper:	MENU	Hypergeometric distribution	Hypergeometric probability distribution (discrete) ; TI : RegM = N = ; RegN = n = ; RegQ = K =	Probability (int)		Hyper:	
gf5	Poiss:	MENU	Poisson distribution	Poisson probability distribution (discrete) -- see https://en.wikipedia.org/wiki/Poisson_distribution#Definitions ; TI : RegR = λ =	Probability (int)		Poiss:	
gf6	Binom:	MENU	Binomial & Negative binomial distribution	Binomial & Negative binomial probability distribution (discrete) ; TI : RegP = p = ; RegN = n =	Probability (int)		Binom:	

p1	DISTR	Link
F1	Norml:	https://47calc.com/doc/C47/Menus/C47_Menu_Norml_page_1.pdf
F2	χ^2 :	https://47calc.com/doc/C47/Menus/C47_Menu_Chi2_page_1.pdf
F3	t:	https://47calc.com/doc/C47/Menus/C47_Menu_t_page_1.pdf
F4	F:	https://47calc.com/doc/C47/Menus/C47_Menu_F_page_1.pdf
F5	Expon:	https://47calc.com/doc/C47/Menus/C47_Menu_Expon_page_1.pdf
F6	Weibl:	https://47calc.com/doc/C47/Menus/C47_Menu_Weibl_page_1.pdf
fF1	Φ :	https://47calc.com/doc/C47/Menus/C47_Menu_StdNorml_page_1.pdf
fF2	Uniform:	https://47calc.com/doc/C47/Menus/C47_Menu_Uniform_page_1.pdf
fF3	Cauch:	https://47calc.com/doc/C47/Menus/C47_Menu_Cauch_page_1.pdf
fF4	Pareto:	https://47calc.com/doc/C47/Menus/C47_Menu_Pareto_page_1.pdf
fF5	Logis:	https://47calc.com/doc/C47/Menus/C47_Menu_Logis_page_1.pdf
fF6	GEV:	https://47calc.com/doc/C47/Menus/C47_Menu_GEV_page_1.pdf
gF1		
gF2	DisUni:	https://47calc.com/doc/C47/Menus/C47_Menu_DisUni_page_1.pdf
gF3	Geom:	https://47calc.com/doc/C47/Menus/C47_Menu_Geom_page_1.pdf
gF4	Hyper:	https://47calc.com/doc/C47/Menus/C47_Menu_Hyper_page_1.pdf
gF5	Poiss:	https://47calc.com/doc/C47/Menus/C47_Menu_Poiss_page_1.pdf
gF6	Binom:	https://47calc.com/doc/C47/Menus/C47_Menu_Binom_page_1.pdf

DisUni:	Discrete uniform distribution					
g-shift	$ST0_M a$	$ST0_M b$				
f-shift						
unshifted	$DisU_p$		$DisU_{\Delta}$	$DisU_{\Delta}$		$DisU^{-1}$
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	DisUni:	MENU	Discrete uniform distribution	Discrete uniform probability distribution (discrete) ; TI : RegM = a = ; RegN = b =	Probability (int)		DisUni:	
F1	DisU _p	Function (monadic)	Discrete uniform pmf	Discrete uniform probability mass function	Probability (int)		DisU _p	
F2								
F3	DisU _Δ	Function (monadic)	Discrete uniform cdf (lower)	Discrete uniform cumulative distribution (lower tail)	Probability (int)		DisU _Δ	
F4	DisU _Δ	Function (monadic)	Discrete uniform cdf (upper)	Discrete uniform cumulative distribution (upper tail)	Probability (int)		DisU _Δ	
F5								
F6	DisU ⁻¹	Function (monadic)	Discrete uniform qf (inverse)	Discrete uniform inverse cumulative distribution (quantile)	Probability (int)		DisU ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	STO _M a	Command	Store a in M	Store parameter a : lower limit in register M ; Split screen : RegM = a =	Probability (int)			
gF2	STO _N b	Command	Store b in N	Store parameter b : upper limit in register N ; Split screen : RegN = b =	Probability (int)			
gF3								
gF4								
gF5								
gF6								

Draw (PLFUNC)	Draw (variable limits)					
g-shift	-ZOOM ₀	+ZOOM ₀				
f-shift	X:Y=1 □	PLTRST				
unshifted	↓X ₋₁₀	↑X ₁₀				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Draw_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Draw (PLFUNC)	MENU (item)	Draw (variable limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set by variables ($\downarrow X$, $\uparrow X$) and Y-axis limits by variables ($\downarrow Y$, $\uparrow Y$) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw	
F1	$\downarrow X_{-10}$	Variable (real)	Lower limit for X-axis	Reserved Real variable for the lower limit for X-axis ($\downarrow X$) ; set interactively from menu Graphs and set by Draw [*] ; TI : ' $\downarrow X$ ' :	Plotting		$\downarrow X$	-10
F2	$\uparrow X_{10}$	Variable (real)	Upper limit for X-axis	Reserved Real variable for the upper limit for X-axis ($\uparrow X$) ; set interactively from menu Graphs and set by Draw [*] ; TI : ' $\uparrow X$ ' :	Plotting		$\uparrow X$	10
F3								
F4								
F5								
F6								
fF1	X:Y=1 ☐	Setting	Forcing autoscale	Switch on forcing autoscale on x- and y-axis to be the same ; not programmable - in PEM, use flag PLxy:1	Plotting	PLxy:1		OFF
fF2	PLTRST	Command (PEM)	Reset plot	Reset all plot options and redraw graph ; Info : Resets options for lines, boxes, crosses, plusses and scaling ; PLTRST also resets $\downarrow Y$ and $\uparrow Y$ to zero	Plotting		PLTRST	
fF3								
fF4								
fF5								
fF6								
gF1	-ZOOM ₀	Command	Zoom out on y-axis	Decrease zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; -ZOOM resets $\uparrow Y$ and $\downarrow Y$ to zero	Plotting			0
gF2	+ZOOM ₀	Command	Zoom in on y-axis	Increase zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; +ZOOM resets $\uparrow Y$ and $\downarrow Y$ to zero	Plotting			0
gF3								
gF4								
gF5								
gF6								

Draw (PLFUNC)	Draw (variable limits)					
g-shift	Graphs	SNAP				
f-shift	CXPLT ☐	IMPLT ☐				
unshifted	X.AXIS ☐	Y.AXIS ☐				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Draw_page_3.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	Draw (PLFUNC)	MENU (item)	Draw (variable limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set by variables (ΨX , $\uparrow X$) and Y-axis limits by variables (ΨY , $\uparrow Y$) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw	
F1	X.AXIS ☐	Setting	Autoscaling to show x-axis	Switch on autoscaling to show x-axis ; not programmable - in PEM, use flag PLx.ax ; Info : axis 0.0 or x-axis y=0 or y-axis x=0 is displayed	Plotting	PLx.ax		OFF
F2	Y.AXIS ☐	Setting	Autoscaling to show y-axis	Switch on autoscaling to show y-axis ; not programmable - in PEM, use flag PLy.ax ; Info : axis 0.0 or x-axis y=0 or y-axis x=0 is displayed	Plotting	PLy.ax		OFF
F3								
F4								
F5								
F6								
fF1	CXPLT ☐	Setting	Complex plot	Switch on Complex plot ; not programmable - in PEM, use flag PLCxp ; Info : CXPLT and IMPLT are linked (both cannot be ON at the same time)	Plotting	PLcxp		OFF
fF2	IMPLT ☐	Setting	Plot imaginary part	Switch on plotting imaginary part ; not programmable - in PEM, use flag PLimp ; Info : IMPLT and CXPLT are linked (both cannot be ON at the same time)	Plotting	PLimp		OFF
fF3								
fF4								
fF5								
fF6								
gF1	Graphs	MENU	Graphing...	Equation graphing functions	Plotting		Graphs	
gF2	SNAP	Command	Screenshot	Save screenshot to backup file (.bmp) and save contents of stack or alpha buffer as backup file (.REGS.TSV) in FAT ; plays clicking sound ; Shortcut : [f/g] + [E] (DMCP-shortcut for screenshot bitmap only) ; Info : screenshot is saved in file SCREENS/<YYYYMMDD-HHMMSS00>.bmp ; SNAP also appends data to file DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; new datafile after timeout of 2 minutes	Input-Output		SNAP	
gF3								
gF4								
gF5								
gF6								

p2	Draw (PLFUNC)	Link
F1	X.AXIS □	
F2	Y.AXIS □	
F3		
F4		
F5		
F6		
fF1	CXPLT □	
fF2	IMPLT □	
fF3		
fF4		
fF5		
fF6		
gF1	Graphs	https://47calc.com/doc/C47/Menus/C47_Menu_Graphs_page_1.pdf
gF2	SNAP	
gF3		
gF4		
gF5		
gF6		

Draw (PLFUNC)	Draw (variable limits)					
g-shift	CURVE 	LISTXY				
f-shift	LINE 	BOX 				
unshifted	CROSS 	PLUS 				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	Draw (PLFUNC)	MENU (item)	Draw (variable limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set by variables (ΨX , $\uparrow X$) and Y-axis limits by variables (ΨY , $\uparrow Y$) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw	
F1	CROSS 	Setting	Cross markers	Switch on cross markers ; not programmable - in PEM, use flag PLCros ; Info : If CROSS is switched ON, BOX and PLUS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLcros		OFF
F2	PLUS 	Setting	Plus markers	Switch on plus markers ; not programmable - in PEM, use flag PLplus ; Info : If PLUS is switched ON, BOX and CROSS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLplus		OFF
F3								
F4								
F5								
F6								
fF1	LINE 	Setting	Draw line	Switch on connecting graph points using line segments ; not programmable - in PEM, use flag PLLine ; Info : if LINE is switched OFF, BOX may be switched ON if necessary (when no curve markers are selected)	Plotting	PLline		ON
fF2	BOX 	Setting	Box markers	Switch on box markers ; not programmable - in PEM, use flag PLbox ; Info : If BOX is switched ON, CROSS and PLUS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLbox		ON
fF3								
fF4								
fF5								
fF6								
gF1	CURVE 	Setting (strike)	[future] Curve smoothing	Switch on [future] curve smoothing ; not programmable - in PEM, use flag PLcurve ; Info : Reserved for future use	Plotting	PLcurve		OFF
gF2	LISTXY	Command	List graph coordinates	List the actual STATS graph coordinates (7 digit floating point)	Plotting			
gF3								
gF4								
gF5								
gF6								

Draw (PLFUNC)	Draw (variable limits)					
g-shift	N.VECT ☐	VECT ☐				
f-shift	RMS ☐	∫AREA ☐				
unshifted	Δy/Δx ☐	ΣyΔx ☐				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	Draw (PLFUNC)	MENU (item)	Draw (variable limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set by variables (ΨX , $\uparrow X$) and Y-axis limits by variables (ΨY , $\uparrow Y$) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw	
F1	$\Delta y/\Delta x$ ☐	Setting	Add differential curve	Switch on adding the graphical point-to-point differential of the main graph ; not programmable - in PEM, use flag PLdiff ; Info : Δ Numerical slope is displayed ; switching ON $\int$ AREA also switches ON $\Delta y/\Delta x$; switching OFF $\Delta y/\Delta x$ also switches OFF $\int$ AREA ; cannot be combined with N.VECT, VECT	Plotting	PLdiff		OFF
F2	$\Sigma y\Delta x$ ☐	Setting	Add integral curve	Switch on adding the graphical integral curve, calculated from the point-to-point discrete integral ; not programmable - in PEM, use flag PLIntg ; Info : Vertical placement of the integral is at RMS of the graph points ; $\int$ Trapezoid integral is displayed ; cannot be combined with N.VECT, VECT	Plotting	PLIntg		OFF
F3								
F4								
F5								
F6								
fF1	RMS ☐	Setting	Add RMS curve	Switch on adding the graphical root mean square curve, accumulated from left to right ; not programmable - in PEM, use flag PLrms ; Info : ■ Root mean square RMS is displayed ; cannot be combined with N.VECT, VECT	Plotting	PLrms		OFF
fF2	$\int$ AREA ☐	Setting	Shade curve	Switch on shading the trapezoid integral from the graph points ; not programmable - in PEM, use flag PLshad ; Info : $\int$ Trapezoid integral is displayed ; switching ON $\int$ AREA also switches ON $\Delta y/\Delta x$; switching OFF $\Delta y/\Delta x$ also switches OFF $\int$ AREA ; cannot be combined with N.VECT, VECT	Plotting	PLshad		OFF
fF3								
fF4								
fF5								
fF6								
gF1	N.VECT ☐	Setting	Clockwise vectors	Switch on clockwise vectors ; not programmable - in PEM, use flag PLnvec ; Info : N.VECT and VECT are linked (both cannot be ON at the same time) ; cannot be combined with RMS, $\int$ AREA, $\Delta y/\Delta x$, $\Sigma y\Delta x$	Plotting	PLnvec		OFF
gF2	VECT ☐	Setting	Anti-clockwise vectors	Switch on anti-clockwise vectors ; not programmable - in PEM, use flag PLvec ; Info : VECT and N.VECT are linked (both cannot be ON at the same time) ; cannot be combined with RMS, $\int$ AREA, $\Delta y/\Delta x$, $\Sigma y\Delta x$	Plotting	PLvec		OFF
gF3								
gF4								
gF5								
gF6								

Draw _Y ^X (PLFUNC)	Draw (stack limits)					
g-shift	-ZOOM ₀	+ZOOM ₀				
f-shift	X:Y=1 □	PLTRST				
unshifted	↓X -10	↑X 10				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Draw _y ^x (PLFUNC)	MENU (item)	Draw (stack limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set from stack (Y, X) and Y-axis limits by variables (↓Y, ↑Y) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw _y ^x	
F1	↓X ₋₁₀	Variable (real)	Lower limit for X-axis	Reserved Real variable for the lower limit for X-axis (↓X) ; set interactively from menu Graphs and set by Draw _y ^x ; TI : '↓X' :	Plotting		↓X	-10
F2	↑X ₁₀	Variable (real)	Upper limit for X-axis	Reserved Real variable for the upper limit for X-axis (↑X) ; set interactively from menu Graphs and set by Draw _y ^x ; TI : '↑X' :	Plotting		↑X	10
F3								
F4								
F5								
F6								
fF1	X:Y=1 □	Setting	Forcing autoscale	Switch on forcing autoscale on x- and y-axis to be the same ; not programmable - in PEM, use flag PLxy:1	Plotting	PLxy:1		OFF
fF2	PLTRST	Command (PEM)	Reset plot	Reset all plot options and redraw graph ; Info : Resets options for lines, boxes, crosses, plusses and scaling ; PLTRST also resets ↓Y and ↑Y to zero	Plotting		PLTRST	
fF3								
fF4								
fF5								
fF6								
gF1	-ZOOM ₀	Command	Zoom out on y-axis	Decrease zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; -ZOOM resets ↑Y and ↓Y to zero	Plotting			0
gF2	+ZOOM ₀	Command	Zoom in on y-axis	Increase zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; +ZOOM resets ↑Y and ↓Y to zero	Plotting			0
gF3								
gF4								
gF5								
gF6								

Draw _y ^x (PLFUNC)	Draw (stack limits)					
g-shift	Graphs	SNAP				
f-shift	CXPLT ☐	IMPLT ☐				
unshifted	X.AXIS ☐	Y.AXIS ☐				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_DrawYX_page_3.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	Draw _y ^x (PLFUNC)	MENU (item)	Draw (stack limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set from stack (Y, X) and Y-axis limits by variables (↓Y, ↑Y) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw _y ^x	
F1	X.AXIS □	Setting	Autoscaling to show x-axis	Switch on autoscaling to show x-axis ; not programmable - in PEM, use flag PLx.ax ; Info : axis 0.0 or x-axis y=0 or y-axis x=0 is displayed	Plotting	PLx.ax		OFF
F2	Y.AXIS □	Setting	Autoscaling to show y-axis	Switch on autoscaling to show y-axis ; not programmable - in PEM, use flag PLy.ax ; Info : axis 0.0 or x-axis y=0 or y-axis x=0 is displayed	Plotting	PLy.ax		OFF
F3								
F4								
F5								
F6								
fF1	CXPLT □	Setting	Complex plot	Switch on Complex plot ; not programmable - in PEM, use flag PLCxp ; Info : CXPLT and IMPLT are linked (both cannot be ON at the same time)	Plotting	PLcxp		OFF
fF2	IMPLT □	Setting	Plot imaginary part	Switch on plotting imaginary part ; not programmable - in PEM, use flag PLimp ; Info : IMPLT and CXPLT are linked (both cannot be ON at the same time)	Plotting	PLimp		OFF
fF3								
fF4								
fF5								
fF6								
gF1	Graphs	MENU	Graphing...	Equation graphing functions	Plotting		Graphs	
gF2	SNAP	Command	Screenshot	Save screenshot to backup file (.bmp) and save contents of stack or alpha buffer as backup file (.REGS.TSV) in FAT ; plays clicking sound ; Shortcut : [f/g] + [E] (DMCP-shortcut for screenshot bitmap only) ; Info : screenshot is saved in file SCREENS/<YYYYMMDD-HHMMSS00>.bmp ; SNAP also appends data to file DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; new datafile after timeout of 2 minutes	Input-Output		SNAP	
gF3								
gF4								
gF5								
gF6								

p2	Draw _y ^x (PLFUNC)	Link
F1	X.AXIS □	
F2	Y.AXIS □	
F3		
F4		
F5		
F6		
fF1	CXPLT □	
fF2	IMPLT □	
fF3		
fF4		
fF5		
fF6		
gF1	Graphs	https://47calc.com/doc/C47/Menus/C47_Menu_Graphs_page_1.pdf
gF2	SNAP	
gF3		
gF4		
gF5		
gF6		

Draw _Y (PLFUNC)	Draw (stack limits)					
g-shift	CURVE 	LISTXY				
f-shift	LINE 	BOX 				
unshifted	CROSS 	PLUS 				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	Draw _y ^x (PLFUNC)	MENU (item)	Draw (stack limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set from stack (Y, X) and Y-axis limits by variables (↓Y, ↑Y) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw _y ^x	
F1	CROSS □	Setting	Cross markers	Switch on cross markers ; not programmable - in PEM, use flag PLCros ; Info : If CROSS is switched ON, BOX and PLUS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLcros		OFF
F2	PLUS □	Setting	Plus markers	Switch on plus markers ; not programmable - in PEM, use flag PLplus ; Info : If PLUS is switched ON, BOX and CROSS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLplus		OFF
F3								
F4								
F5								
F6								
fF1	LINE ▣	Setting	Draw line	Switch on connecting graph points using line segments ; not programmable - in PEM, use flag PLLine ; Info : if LINE is switched OFF, BOX may be switched ON if necessary (when no curve markers are selected)	Plotting	PLline		ON
fF2	BOX ▣	Setting	Box markers	Switch on box markers ; not programmable - in PEM, use flag PLbox ; Info : If BOX is switched ON, CROSS and PLUS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLbox		ON
fF3								
fF4								
fF5								
fF6								
gF1	CURVE ▣	Setting (strike)	[future] Curve smoothing	Switch on [future] curve smoothing ; not programmable - in PEM, use flag PLcurve ; Info : Reserved for future use	Plotting	PLcurve		OFF
gF2	LISTXY	Command	List graph coordinates	List the actual STATS graph coordinates (7 digit floating point)	Plotting			
gF3								
gF4								
gF5								
gF6								

Draw _y ^x (PLFUNC)	Draw (stack limits)					
g-shift	N.VECT ☐	VECT ☐				
f-shift	RMS ☐	∫AREA ☐				
unshifted	Δy/Δx ☐	ΣyΔx ☐				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_DTSET_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	Draw _y ^x (PLFUNC)	MENU (item)	Draw (stack limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set from stack (Y, X) and Y-axis limits by variables ($\downarrow Y$, $\uparrow Y$) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw _y ^x	
F1	$\Delta y/\Delta x$ ☐	Setting	Add differential curve	Switch on adding the graphical point-to-point differential of the main graph ; not programmable - in PEM, use flag PLdiff ; Info : Δ Numerical slope is displayed ; switching ON $\int$ AREA also switches ON $\Delta y/\Delta x$; switching OFF $\Delta y/\Delta x$ also switches OFF $\int$ AREA ; cannot be combined with N.VECT, VECT	Plotting	PLdiff		OFF
F2	$\Sigma y\Delta x$ ☐	Setting	Add integral curve	Switch on adding the graphical integral curve, calculated from the point-to-point discrete integral ; not programmable - in PEM, use flag PLIntg ; Info : Vertical placement of the integral is at RMS of the graph points ; $\int$ Trapezoid integral is displayed ; cannot be combined with N.VECT, VECT	Plotting	PLIntg		OFF
F3								
F4								
F5								
F6								
fF1	RMS ☐	Setting	Add RMS curve	Switch on adding the graphical root mean square curve, accumulated from left to right ; not programmable - in PEM, use flag PLrms ; Info : ■ Root mean square RMS is displayed ; cannot be combined with N.VECT, VECT	Plotting	PLrms		OFF
fF2	$\int$ AREA ☐	Setting	Shade curve	Switch on shading the trapezoid integral from the graph points ; not programmable - in PEM, use flag PLshad ; Info : $\int$ Trapezoid integral is displayed ; switching ON $\int$ AREA also switches ON $\Delta y/\Delta x$; switching OFF $\Delta y/\Delta x$ also switches OFF $\int$ AREA ; cannot be combined with N.VECT, VECT	Plotting	PLshad		OFF
fF3								
fF4								
fF5								
fF6								
gF1	N.VECT ☐	Setting	Clockwise vectors	Switch on clockwise vectors ; not programmable - in PEM, use flag PLnvec ; Info : N.VECT and VECT are linked (both cannot be ON at the same time) ; cannot be combined with RMS, $\int$ AREA, $\Delta y/\Delta x$, $\Sigma y\Delta x$	Plotting	PLnvec		OFF
gF2	VECT ☐	Setting	Anti-clockwise vectors	Switch on anti-clockwise vectors ; not programmable - in PEM, use flag PLvec ; Info : VECT and N.VECT are linked (both cannot be ON at the same time) ; cannot be combined with RMS, $\int$ AREA, $\Delta y/\Delta x$, $\Sigma y\Delta x$	Plotting	PLvec		OFF
gF3								
gF4								
gF5								
gF6								

DTSET (CLK)	Date and time settings					
g-shift	Date→D	Time→T	WOY	SECOND	MINUTE	HOUR
f-shift	SETDAT	SETTIM	WDAY	DAY	MONTH	YEAR
unshifted	CLK12 ○	CLK24 ⊗	TDISP ₀	DMY ○	MDY ○	YMD ⊗
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	DTSET (CLK)	MENU (item)	Date and time settings	Activate menu CLK page 2 to access date and time settings ; Info : Previews/OPENM as CLK<2	Time functions		CLK<2	
F1	CLK12 o	Setting (pgm)	12 hour clock	Switch on 12h time display ; Format : HH24:MM ; HH:MMam/pm ; Info : SBI is shown if flag SBtime is SET ; SBI : HH:MMam/pm	Display	TDM24	CLK12 o	OFF
F2	CLK24 @	Setting (pgm)	24 hour clock	Switch on 24h time display ; Format : HH24:MM ; HH:MMam/pm ; Info : SBI is shown if flag SBtime is SET ; SBI : HH24:MM	Display	TDM24	CLK24 @	ON
F3	TDISP0	Setting (pgm)	Time display format	Set time display format : 0 = full ; 1,2 = hours/minutes ; 3 = hours/minutes/seconds ; 4,5,6 = 1,2,3 decimal places for the seconds ; TAM : TDISP _ TamNonReg menu	Display		TDISP0	0
F4	DMY o	Setting (pgm)	Day.month.year	Switch on DD.MM.YYYY display mode ; Format : DD.MM.YYYY ; Info : SBI is shown if flag SBdate is SET ; SBI : DD.MM.YYYY	Display	DMY	DMY o	OFF
F5	MDY o	Setting (pgm)	Month/day/year	Switch on MM/DD/YYYY display mode ; Format : MM/DD/YYYY ; Info : SBI is shown if flag SBdate is SET ; SBI : MM/DD/YYYY	Display	MDY	MDY o	OFF
F6	YMD @	Setting (pgm)	Year-month-day	Switch on YYYY-MM-DD display mode ; Format : YYYY-MM-DD ; Info : SBI is shown if flag SBdate is SET ; SBI : YYYY-MM-DD	Display	YMD	YMD @	ON
fF1	SETDAT	Setting (pgm, HW)	Set date	Set date ; hardware only (DMCP setting) ; Info : Error 126 -- Not available on the simulator -- is raised when this setting is performed on the simulator	Time functions		SETDAT	
fF2	SETTIM	Setting (pgm, HW)	Set time	Set time ; hardware only (DMCP setting) ; Info : Error 126 -- Not available on the simulator -- is raised when this setting is performed on the simulator	Time functions		SETTIM	
fF3	WDAY	Function (monadic)	Day of week number (ISO)	Day of week number (ISO, of date in X) regardless of Week of Year rule set ; TI : [ISO day] Weekday	Time functions		WDAY	
fF4	DAY	Function (monadic)	Day	Day (of date in X)	Time functions		DAY	
fF5	MONTH	Function (monadic)	Month	Month (of date in X)	Time functions		MONTH	
fF6	YEAR	Function (monadic)	Year	Year (of date in X)	Time functions		YEAR	
gF1	Date→D	Command	Date	Current date ; TI : Weekday (shown for dates in X, Y, Z)	Time functions		Date→D	
gF2	Time→T	Command	Time	Current time	Time functions		Time→T	
gF3	WOY	Function (monadic)	Week of Year	Week of Year (of date in X) according to rule set (default : WOYiso) ; TI : Week of Year =	Time functions		WOY	
gF4	SECOND	Function (monadic)	Seconds	Seconds (of time in X)	Time functions		SECOND	
gF5	MINUTE	Function (monadic)	Minutes	Minutes (of time in X)	Time functions		MINUTE	
gF6	HOURL	Function (monadic)	Hours	Hours (of time in X)	Time functions		HOURL	

EDIT (EQ_EDIT)	Edit equation					
g-shift						
f-shift	CAPS □	NUM □	^{SUP} _{SUB} □	:	(	)
unshifted	<i>e</i> ^x	x	^	✓	←	→
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Ref 1

https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf

Ref 2

https://47calc.com/doc/C47/Reference/C47_Variable_naming.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	EDIT (EQ_EDIT)	Command (submnu)	Edit equation	Open equation editor menu to edit equation (previous equation loaded) ; Info : EIM = Equation Input Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQ.EDIT	
F1	e^x	Symbol	e to the power x	e to the power x	Mathematics and characters			
F2	x	Symbol	Variable x	Variable x	Equations			
F3	^	Symbol	Raise to power	Raise to power ; Shortcut : alpha g [$1/x$] ; Info : Fontcode : 005E ₁₆	Mathematics and characters			
F4	√	Symbol	Square root	Square root ; Shortcut : alpha g [$\sqrt{x}$] ; Info : Fontcode : 221A ₁₆	Mathematics and characters			
F5	←	Arrow	Move cursor left	Move cursor left	Navigation			
F6	→	Arrow	Move cursor right	Move cursor right	Navigation			
ff1	CAPS □	Setting	Alpha capslock	Switch on alpha capslock ; not programmable ; Shortcut : alpha f [▲] / alpha f [▼] ; Info : sets initial case of menu A...Ω/α...ω and αINTL/αintl; toggling alpha capslock clears Numlock ; SBI : A ; a	Text input	αCAP		OFF
ff2	NUM □	Setting	Numlock	Switch on numlock ; not programmable - in PEM, use flag NUM ; Shortcut : alpha f [▲] / alpha f [▼] ; SBI : N	Numeric input	NUM		OFF
ff3	^{SUB} □	Setting (cyclic)	Normal-super-subscript	Cycle normal-super-subscript (locking) ; Shortcut : alpha g [▲] / alpha g [▼] ; Info : button shows ^{SUB} ; α ^{SUP} ; α _{SUB} ; SBI : AA ^A ; aa ^a ; NN ^N	Text input			Normal
ff4	:	Character	Colon	Character : ; in the equation editor, the colon can be used to name an expression (<name> : <expression>) ; Shortcut : alpha [0] ; Fontcode : 003A ₁₆	Characters			
ff5	(	Symbol	Left parenthesis	Open (left) parenthesis ; Fontcode : 0028 ₁₆	Mathematics and characters			
ff6	)	Symbol	Right parenthesis	Close (right) parenthesis ; Fontcode : 0029 ₁₆	Mathematics and characters			
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

EDIT (EQ_EDIT)	Edit equation					
g-shift						
f-shift	ASIN	ACOS	ATAN	<i>i</i>		⌘
unshifted	SIN	COS	TAN	π	←	→
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Ref 1

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Ref 2

https://47calc.com/doc/C47/Reference/C47_Variable_naming.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	EDIT (EQ_EDIT)	Command (submnu)	Edit equation	Open equation editor menu to edit equation (previous equation loaded) ; Info : EIM = Equation Input Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQ.EDIT	
F1	SIN	Function (monadic)	Sine	Sine	Trigonometry		SIN	
F2	COS	Function (monadic)	Cosine	Cosine	Trigonometry		COS	
F3	TAN	Function (monadic)	Tangent	Tangent	Trigonometry		TAN	
F4	π	Symbol	pi	Mathematical symbol π ; Shortcut : alpha g[R+] ; Info : Fontcode : 03C0 ₁₆ ; press [$\blacktriangle$] for Π at [A...Ω.i] gF5	Mathematics and characters			
F5	←	Arrow	Move cursor left	Move cursor left	Navigation			
F6	→	Arrow	Move cursor right	Move cursor right	Navigation			
fF1	ASIN	Function (monadic)	Arc sine	Inverse sine ; Info : Returns the principal value of the inverse sine of X ; if flag CPXRES is SET, the domain is extended beyond [-1, +1] and complex results may be returned ; SBI : C ; R	Trigonometry	CPXRES	ARCSIN	
fF2	ACOS	Function (monadic)	Arc cosine	Inverse cosine ; Info : Returns the principal value of the inverse cosine of X ; if flag CPXRES is SET, the domain is extended beyond [-1, +1] and complex results may be returned ; SBI : C ; R	Trigonometry	CPXRES	ARCCOS	
fF3	ATAN	Function (monadic)	Arc tangent	Inverse tangent ; Info : Returns the principal value of the inverse tangent of X ; if flag SPCRES is SET, infinity input is allowed and the range is extended to [-90°, 90°] (inclusive)	Trigonometry	SPCRES	ARCTAN	
fF4	i	Symbol	Imaginary unit	Mathematical symbol i ; Info : Displayed according to flag CPX.j	Complex numbers	CPX.j		
fF5		Symbol	Bar	Open or close absolute value ; Shortcut : alpha g[ST0] ; Info : Fontcode : 007C ₁₆	Mathematics and characters			
fF6	$\angle$	Function (monadic)	Argument (angle)	Argument (angle) of Complex number	Complex numbers		$\angle$	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

EDIT (EQ_EDIT)	Edit equation					
g-shift						
f-shift	=					
unshifted	!	Poly4	X.EDIT	X.SWAP	←	→
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Ref 1

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Ref 2

https://47calc.com/doc/C47/Reference/C47_Variable_naming.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	EDIT (EQ_EDIT)	Command (submnu)	Edit equation	Open equation editor menu to edit equation (previous equation loaded) ; Info : EIM = Equation Input Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQ.EDIT	
F1	!	Symbol	Exclamation mark	In edit equation, used as Factorial x! or $\Gamma(x+1)$; Shortcut : alpha f [R/S] ; Info : Fontcode : 0021 ₁₆	Mathematics and characters			
F2	Poly4	Function (monadic)	Polynomial 4th degree	Create polynomial : $a_4 \times x^4 + a_3 \times x^3 + a_2 \times x^2 + a_1 \times x + a_0$	Mathematics			
F3	X.EDIT	Command	Edit X	Edit contents of stack register X as text ; Shortcut : alpha long [ENTER] ; EIM long [ENTER]	Text input		X.EDIT	
F4	X.SWAP	Command	Swap X	Swap contents of X register with input of alpha buffer or equation editor	Text input		X.SWAP	
F5	←	Arrow	Move cursor left	Move cursor left	Navigation			
F6	→	Arrow	Move cursor right	Move cursor right	Navigation			
fF1	=	Symbol	Equal	Equal ; Info : Fontcode : 003D ₁₆	Mathematics and characters			
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

EDIT (M_EDIT)	Edit matrix					
g-shift	DELR	DELC			WRAP ☹	GROW ☹
f-shift	INSR	INSC	<i>i</i> ☹	OLD	↑	↓
unshifted	ROW+1	COL+1	<i>i</i>	GOTO	←	→
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	EDIT (M_EDIT)	MENU (item, nonpgm)	Edit matrix	Open matrix editor for matrix in X ; Info : CAT.MENUS M_EDIT ; MIM = Matrix Input Mode ; [$\blacktriangle$] or [$\blacktriangledown$] to move up or down one position ; Ref : 1/x, which is a shortcut for $[M]^{-1}$, use -1 y* instead ; and $\sqrt{x}$, which is a shortcut for MSQRT, use 0.5 y* instead	Matrix operations		M.EDIT	
F1	ROW+1	Command	Add row	Add row to matrix, at the bottom edge	Matrix operations		M.ROW+1	
F2	COL+1	Command	Add column	Add column to matrix, at the right edge	Matrix operations		M.COL+1	
F3	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in a + b i ; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ i	
F4	GOTO	Command	Go to matrix element	Go to matrix element using GOTO Row ; GOTO Column ; (TAM) : GOTO Row ; GOTO Column	Matrix operations		M.GOTO	
F5	$\leftarrow$	Arrow	Move left	Move left one position ; Fontcode : 2190 ₁₆	Navigation and characters			
F6	$\rightarrow$	Arrow	Move right	Move right one position ; Fontcode : 2192 ₁₆	Navigation and characters			
fF1	INSR	Command	Insert row	Insert row into matrix, at the cursor position	Matrix operations		M.INSR	
fF2	INSC	Command	Insert column	Insert column into matrix, at the cursor position	Matrix operations		M.INSC	
fF3	$i_{\odot}$	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a $i_{\odot}$ b ENTER results in a $\angle$ b (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ $i_{\odot}$	
fF4	OLD	Command	Old (matrix)	Revert to old element (while editing)	Matrix operations		M.OLD	
fF5	$\uparrow$	Arrow	Move up	Move up one position ; Fontcode : 2191 ₁₆	Navigation and characters			
fF6	$\downarrow$	Arrow	Move down	Move down one position ; Fontcode : 2193 ₁₆	Navigation and characters			
gF1	DELR	Command	Delete row	Delete row from matrix, at the cursor position	Matrix operations		M.DELR	
gF2	DELC	Command	Delete column	Delete column from matrix, at the cursor position	Matrix operations		M.DELC	
gF3								
gF4								
gF5	WRAP $\odot$	Setting	Grow (matrix edit)	Switch on wrap (matrix edit) ; not programmable - in PEM, use flag GROW ; Info : SBI is shown if flag SBmx is SET ; SBI : wrap	Matrix operations	GROW	M.WRAP $\odot$	ON
gF6	GROW $\circ$	Setting	Grow (matrix edit)	Switch on grow (matrix edit) ; not programmable - in PEM, use flag GROW ; Info : SBI is shown if flag SBmx is SET ; SBI : grow	Matrix operations	GROW	M.GROW $\circ$	OFF

EDITN (M_EDIT)	Edit matrix (named)					
g-shift	DELR	DELC			WRAP ☹	GROW ☹
f-shift	INSR	INSC	<i>i</i> ☹	OLD	↑	↓
unshifted	ROW+1	COL+1	<i>i</i>	GOTO	←	→
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	EDITN (M_EDIT)	MENU (item, nonpgm)	Edit matrix (named)	Open matrix editor for matrix in register or variable ; TAM : M.EDITN __ Tam menu	Matrix operations		M.EDITN	
F1	ROW+1	Command	Add row	Add row to matrix, at the bottom edge	Matrix operations		M.ROW+1	
F2	COL+1	Command	Add column	Add column to matrix, at the right edge	Matrix operations		M.COL+1	
F3	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in a + b i ; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX j when in RECT mode	Complex numbers	CPX j	op_ i	
F4	GOTO	Command	Go to matrix element	Go to matrix element using GOTO Row ; GOTO Column ; (TAM) : GOTO Row ; GOTO Column	Matrix operations		M.GOTO	
F5	←	Arrow	Move left	Move left one position ; Fontcode : 2190 ₁₆	Navigation and characters			
F6	→	Arrow	Move right	Move right one position ; Fontcode : 2192 ₁₆	Navigation and characters			
fF1	INSR	Command	Insert row	Insert row into matrix, at the cursor position	Matrix operations		M.INSR	
fF2	INSC	Command	Insert column	Insert column into matrix, at the cursor position	Matrix operations		M.INSC	
fF3	$i_{\odot}$	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a $i_{\odot}$ b ENTER results in a $\times$ b (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX j when in RECT mode	Complex numbers	CPX j	op_ $i_{\odot}$	
fF4	OLD	Command	Old (matrix)	Revert to old element (while editing)	Matrix operations		M.OLD	
fF5	↑	Arrow	Move up	Move up one position ; Fontcode : 2191 ₁₆	Navigation and characters			
fF6	↓	Arrow	Move down	Move down one position ; Fontcode : 2193 ₁₆	Navigation and characters			
gF1	DELR	Command	Delete row	Delete row from matrix, at the cursor position	Matrix operations		M.DELR	
gF2	DELC	Command	Delete column	Delete column from matrix, at the cursor position	Matrix operations		M.DELC	
gF3								
gF4								
gF5	WRAP @	Setting	Grow (matrix edit)	Switch on wrap (matrix edit) ; not programmable - in PEM, use flag GROW ; Info : SBI is shown if flag SBmx is SET ; SBI : wrap	Matrix operations	GROW	M.WRAP @	ON
gF6	GROW O	Setting	Grow (matrix edit)	Switch on grow (matrix edit) ; not programmable - in PEM, use flag GROW ; Info : SBI is shown if flag SBmx is SET ; SBI : grow	Matrix operations	GROW	M.GROW O	OFF

ELEC	Electrical engineering					
g-shift	DEG $\odot$	RAD $\circ$	$zyx \rightarrow M$	$M \rightarrow zyx$	RECT $\odot$	POLAR $\circ$
f-shift	$\Rightarrow$ DEG	$\Rightarrow$ RAD	a	a ²	[A]	[A ⁻¹]
unshifted	<i>i</i>	<i>i</i> _{$\odot$}	x ²	[M] ⁻¹		CLSTK
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0006_C47_R47_JM_ELEC.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	ELEC	MENU	Electrical engineering	Electrical engineering functions and custom programs ; Ref : https://47calc.com/doc/Application%20Notes/AN0006_C47_R47_JM_ELEC.pdf	Electrical engineering		ELEC	
F1	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in a + b i ; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ i	
F2	$i_{\odot}$	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a $i_{\odot}$ b ENTER results in a $\angle$ b (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ $i_{\odot}$	
F3	x^2	Function (monadic)	Square	Square of X	Mathematics		x^2	
F4	$[M]^{-1}$	Function (monadic)	Invert matrix	Invert matrix in X (exists only when $ M \neq 0$) ; Shortcut : $[1/x]$; Info : Error 22 -- Singular matrix -- is raised when $ M = 0$	Matrix operations		$[M]^{-1}$	
F5	$ $	Function (dyadic)	Parallel impedance	Parallel impedance : $(X \times Y) / (X + Y)$	Electrical engineering and characters		$ $	
F6	CLSTK	Command	Clear stack	Clear stack registers : when stack size is 8, clears XYZT ABCD ; when stack size is 4, clears XYZT ; if setting I LI is ON, the stack is filled with 0 (Long integers) ; when used while plotting, CLSTK returns to the normal screen as the stack is expected to show, implying an exit from graph and other modes ; Shortcut : longpress [$\leftarrow$] ; SBI : 8 ; 4	Cleanup	SSIZE8	CLSTK	
fF1	$\rightarrow$ DEG	Function (monadic)	Set DEG tag or convert to DEG	If untagged, set tag to DEG (degrees) ; if tagged, convert X to DEG ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		$\rightarrow$ DEG	
fF2	$\rightarrow$ RAD	Function (monadic)	Set RAD tag or convert to RAD	If untagged, set tag to RAD (radians) ; if tagged, convert X to RAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		$\rightarrow$ RAD	
fF3	a	Command	Operator a	Insert value of $1 \angle 120^\circ$	Electrical engineering		op_a	
fF4	a ²	Command	Operator a ²	Insert value of $1 \angle 240^\circ$	Electrical engineering		op_a ²	
fF5	[A]	Command	Create 3x3 A-Matrix	Create 3x3 A-Matrix relating to Fortescue's Symmetrical Components -- see https://en.wikipedia.org/wiki/Symmetrical_components#A_matrix	Electrical engineering		op_A	
fF6	[A ⁻¹]	Command	Create 3x3 A(inverse)-Matrix	Create 3x3 A(inverse)-Matrix relating to Fortescue's Symmetrical Components -- see https://en.wikipedia.org/wiki/Symmetrical_components#A_matrix	Electrical engineering		op_A ⁻¹	
gF1	DEG $\odot$	Setting (pgm)	Set ADM to DEG	Set Angular Display Mode to degrees mode (ADM = 0) ; Info : SBI ° is shown if flag SBadm is SET ; SBI $\angle$ is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBadm	DEG $\odot$	ON
gF2	RAD $\odot$	Setting (pgm)	Set ADM to RAD	Set Angular Display Mode to radians mode (ADM = 2) ; Info : SBI $\angle$ is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBang	RAD $\odot$	OFF
gF3	zyx $\rightarrow$ M	Function (triadic)	Compose 3x1 matrix	Compose 3x1 matrix from Z, Y, X	Electrical engineering		zyx $\rightarrow$ M	
gF4	M $\rightarrow$ zyx	Function (monadic)	Decompose 3x1 matrix	Decompose 3x1 matrix to Z, Y, X	Electrical engineering		M $\rightarrow$ zyx	
gF5	RECT $\odot$	Setting (pgm)	Rectangular notation	Switch on rectangular notation ; Info : SBI L ; $\odot$ is shown if flag SBcp _x is SET ; SBI : L	Complex and coordinates	POLAR	RECT $\odot$	ON
gF6	POLAR $\odot$	Setting (pgm)	Polar notation	Switch on polar notation ; Info : SBI L ; $\odot$ is shown if flag SBcp _x is SET ; SBI : $\odot$	Complex and coordinates	POLAR	POLAR $\odot$	OFF

ELEC	Electrical engineering					
g-shift	3ST0V ₉₀	3ST0I ₉₃	3ST0Z ₉₆	abc→012	012→abc	3R↔3P
f-shift	3RCLV ₉₀	3RCLI ₉₃	3RCLZ ₉₆	Δ → Y	Y → Δ	MULTSTK
unshifted	V=I×Z	I=V÷Z	Z=V÷I	X → BAL	3SWAP	3DROP
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0006_C47_R47_JM_ELEC.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	ELEC	MENU	Electrical engineering	Electrical engineering functions and custom programs ; Ref : https://47calc.com/doc/Application%20Notes/AN0006_C47_R47_JM_ELEC.pdf	Electrical engineering		ELEC	
F1	V=I×Z	Function (triadic)	Triple V = I × Z	X = R93 × R96 ; Y = R94 × R97 ; Z = R95 × R98	Electrical engineering		V=I×Z	
F2	I=V÷Z	Function (triadic)	Triple I = V ÷ Z	X = R90 / R96 ; Y = R91 / R97 ; Z = R92 / R98	Electrical engineering		I=V÷Z	
F3	Z=V÷I	Function (triadic)	Triple Z = V ÷ I	X = R90 / R93 ; Y = R91 / R94 ; Z = R92 / R95	Electrical engineering		Z=V÷I	
F4	X → BAL	Function (monadic)	X Balanced	Create balanced 3 phase quantities by pushing onto stack X × a, then X × a × a	Electrical engineering		X → BAL	
F5	3SWAP	Command	Swap X, Y, Z and T, A, B	Swap X, Y, Z and T, A, B	Stack		3SWAP	
F6	3DROP	Command	Drop X, Y, Z	Drop X, Y, Z	Stack		3DROP	
ff1	3RCLV ₉₀	Command	Recall triple V	Push R90, R91, R92 to X, Y, Z ; used in menu ELEC and as dedicated registers for Virtual compound data types, as a "Triplet" stored in R90, R91, R92, interpreted as FMA (fused multiply-add) of R90 × R91 + R92 when used by extended accuracy functions in menu XFCNS ; split screen may show "No error" ; Info : R90, mapped to R90, R91, R92	Electrical engineering		3RCLV ₉₀	
ff2	3RCLI ₉₃	Command	Recall triple I	Push R93, R94, R95 to X, Y, Z ; used in menu ELEC and as dedicated registers for Virtual compound data types, as a "Triplet" stored in R93, R94, R95, interpreted as FMA (fused multiply-add) of R93 × R94 + R95 when used by extended accuracy functions in menu XFCNS ; split screen may show "No error" ; Info : R93, mapped to R93, R94, R95	Electrical engineering		3RCLI ₉₃	
ff3	3RCLZ ₉₆	Command	Recall triple Z	Push R96, R97, R98 to X, Y, Z ; used in menu ELEC and as dedicated registers for Virtual compound data types, as a "Triplet" stored in R96, R97, R98, interpreted as FMA (fused multiply-add) of R96 × R97 + R98 when used by extended accuracy functions in menu XFCNS ; split screen may show "No error" ; Info : R96, mapped to R96, R97, R98	Electrical engineering		3RCLZ ₉₆	
ff4	Δ → Y	Function (triadic)	Delta to Star (Wye)	Convert star connected impedances X, Y, Z to delta impedances X, Y, Z ; TI : a : ; b : ; c :	Electrical engineering		Δ → Y	
ff5	Y → Δ	Function (triadic)	Star (Wye) to Delta	Convert delta connected impedances X, Y, Z to star impedances X, Y, Z ; TI : ca : ; ab : ; bc :	Electrical engineering		Y → Δ	
ff6	MULTSTK	MENU	Multi-stack commands	Multi-stack commands	Stack		MULTSTK	
gf1	3STOV ₉₀	Command	Store triple V	Copy X, Y, Z to R90, R91, R92 ; used in menu ELEC and as dedicated registers for Virtual compound data types, as a "Triplet" stored in R90, R91, R92, interpreted as FMA (fused multiply-add) of R90 × R91 + R92 when used by extended accuracy functions in menu XFCNS ; split screen may show "No error" ; Info : R90, mapped to R90, R91, R92	Electrical engineering		3STOV ₉₀	
gf2	3STOI ₉₃	Command	Store triple I	Copy X, Y, Z to R93, R94, R95 ; used in menu ELEC and as dedicated registers for Virtual compound data types, as a "Triplet" stored in R93, R94, R95, interpreted as FMA (fused multiply-add) of R93 × R94 + R95 when used by extended accuracy functions in menu XFCNS ; split screen may show "No error" ; Info : R93, mapped to R93, R94, R95	Electrical engineering		3STOI ₉₃	
gf3	3STOZ ₉₆	Command	Store triple Z	Copy X, Y, Z to R96, R97, R98 ; used in menu ELEC and as dedicated registers for Virtual compound data types, as a "Triplet" stored in R96, R97, R98, interpreted as FMA (fused multiply-add) of R96 × R97 + R98 when used by extended accuracy functions in menu XFCNS ; split screen may show "No error" ; Info : R96, mapped to R96, R97, R98	Electrical engineering		3STOZ ₉₆	
gf4	abc→012	Function (triadic)	Convert to symmetrical components	Convert 3-phase a, b, c in Z, Y, X to symmetrical components a0, a1, a2 in Z, Y, X	Electrical engineering		AtoSYM	
gf5	012→abc	Function (triadic)	Convert from symmetrical components	Convert symmetrical components a0, a1, a2 in Z, Y, X to 3-phase a, b, c in Z, Y, X	Electrical engineering		SYMtoA	
gf6	3R↔3P	Function (triadic)	Convert triple RECT ↔ POLAR	Convert Real Z, Y, X to Complex Z, Y, X (according to flag POLAR) and vice versa ; Info : Three-phase rectangular-polar conversion	Electrical engineering		3R↔3P	

p2	ELEC	Link
F1	$V=I \times Z$	
F2	$I=V \div Z$	
F3	$Z=V \div I$	
F4	$X \rightarrow \text{BAL}$	
F5	3SWAP	
F6	3DROP	
fF1	3RCLV ₉₀	
fF2	3RCLI ₉₃	
fF3	3RCLZ ₉₆	
fF4	$\Delta \rightarrow Y$	
fF5	$Y \rightarrow \Delta$	
fF6	MULTSTK	https://47calc.com/doc/C47/Menus/C47_Menu_MULTSTK_page_1.pdf
gF1	3STOV ₉₀	
gF2	3STOI ₉₃	
gF3	3STOZ ₉₆	
gF4	abc $\rightarrow$ 012	
gF5	012 $\rightarrow$ abc	
gF6	3R $\leftrightarrow$ 3P	

Ellipt	Elliptical functions					
g-shift	$\theta \rightarrow m$	$m \rightarrow \theta$	$a, b \rightarrow m$	$\rightarrow \text{DEG}$	$\rightarrow \text{D.MS}$	$\rightarrow \text{RAD}$
f-shift	$k \rightarrow m$	$m \rightarrow k$	$\text{am}(u, m)$	$F(\phi, m)$	$E(\phi, m)$	$Z(\phi, m)$
unshifted	$\text{sn}(u, m)$	$\text{cn}(u, m)$	$\text{dn}(u, m)$	$K(m)$	$E(m)$	$\Pi(n, m)$
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0023_C47_R47_WGR_JM_DE_Elliptic_Incl_An1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Ellipt	MENU	Elliptical functions	Elliptical functions ; Ref : https://47calc.com/doc/Application%20Notes/AN0023_C47_R47_WGR_JM_DE_Elliptic_Incl_AnX1.pdf	Mathematics		ELLIPT	
F1	sn(u,m)	Function (dyadic)	Elliptic sine	Elliptic sine ; Parameter : u = X ; m = Y ; Info : u is Real number (1.0), not an Angle (1.1-1.5)	Mathematics		sn(u,m)	
F2	cn(u,m)	Function (dyadic)	Elliptic cosine	Elliptic cosine ; Parameter : u = X ; m = Y ; Info :	Mathematics		cn(u,m)	
F3	dn(u,m)	Function (dyadic)	Elliptic delta amplitude	Elliptic delta amplitude ; Parameter : u = X ; m = Y ; Info : u is a Real number (1.0), not an Angle (1.1-1.5)	Mathematics		dn(u,m)	
F4	K(m)	Function (monadic)	Complete elliptic integral (1st)	Complete elliptic integral of the 1st kind -- see https://mathworld.wolfram.com/CompleteEllipticIntegraloftheFirstKind.html ; Parameter : m = X	Mathematics		K(m)	
F5	E(m)	Function (monadic)	Complete elliptic integral (2nd)	Complete elliptic integral of the 2nd kind -- see https://mathworld.wolfram.com/CompleteEllipticIntegraloftheSecondKind.html ; Parameter : m = X	Mathematics		E(m)	
F6	Π(n,m)	Function (dyadic)	Complete elliptic integral (2rd)	Complete elliptic integral of the 3rd kind ; Parameter : n = X ; m = Y	Mathematics		Π(n,m)	
fF1	k→m	Function (monadic)	Eccentricity to modulus	Ellipse eccentricity to modulus : $m = k^2$; TI : modulus $m=k^2$:	Mathematics		k→m	
fF2	m→k	Function (monadic)	Modulus to eccentricity	Ellipse modulus to eccentricity : $k = \sqrt{m}$; TI : eccentricity $e=k=\sqrt{m}$:	Mathematics		m→k	
fF3	am(u,m)	Function (dyadic)	Elliptic amplitude	Elliptic amplitude ; Parameter : u = X ; m = Y ; Info : u is a Real number (1.0), not an Angle (1.1-1.5)	Mathematics		am(u,m)	
fF4	F(φ,m)	Function (dyadic)	Incomplete elliptic integral (1st)	Incomplete elliptic integral of the 1st kind ; Parameter : φ = X ; m = Y ; Info : φ is amplitude angle (any angle mode)	Mathematics		F(φ,m)	
fF5	E(φ,m)	Function (dyadic)	Incomplete elliptic integral (2nd)	Incomplete elliptic integral of the 2nd kind ; Parameter : φ = X ; m = Y ; Info : φ is amplitude angle (any angle mode)	Mathematics		E(φ,m)	
fF6	Z(φ,m)	Function (dyadic)	Jacobi's Zeta	Jacobi's Zeta ; Parameter : φ = X ; m = Y ; Info : φ is amplitude angle (any angle mode)	Mathematics		Z(φ,m)	
gF1	θ→m	Function (monadic)	Angle to modulus	Ellipse eccentricity angle to modulus : $m = \sin^2(\theta)$; TI : modulus $m=k^2$:	Mathematics		θ→m	
gF2	m→θ	Function (monadic)	Modulus to angle	Ellipse modulus to eccentricity angle : $\theta = \arcsin(\sqrt{m})$; TI : eccentricity angle θ :	Mathematics		m→θ	
gF3	a,b→m	Function (dyadic)	Dimensions to modulus	Ellipse dimensions to modulus : $m = 1-(a/b)^2$, where b is the larger axis ; TI : modulus $m=k^2$:	Mathematics		a,b→m	
gF4	→DEG	Function (monadic)	Set DEG tag or convert to DEG	If untagged, set tag to DEG (degrees) ; if tagged, convert X to DEG ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→DEG	
gF5	→D.MS	Function (monadic)	Set D.MS tag or convert to D.MS	If untagged, set tag to D.MS (sexagesimal degrees) ; if tagged, convert X to D.MS ; does not change Angular Display Mode ; Tag : °' "	Angle tagging or conversion		→D.MS	
gF6	→RAD	Function (monadic)	Set RAD tag or convert to RAD	If untagged, set tag to RAD (radians) ; if tagged, convert X to RAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→RAD	

Energy:	Energy conversions					
g-shift						
f-shift	J ←	→ eV	J ←	→ erg	J ←	→ foe
unshifted	J ←	→ Wh	J ←	→ cal	J ←	→ Btu
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Energy:	MENU	Energy conversions	Convert between units of energy ; Info : Flag CONV _{HP} may be SET for <to> $\leftarrow$ $\rightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow$ $\leftarrow$ <from> unit conversion buttons (default SET)	Energy conversions		Energy:	
F1	Wh $\rightarrow$ J (J $\leftarrow$)	Function (monadic, linked)	Wh to J	Convert Watt-hour to Joule ; TI : J:	Energy conversions	CONV _{HP}		
F2	J $\rightarrow$ Wh ($\rightarrow$ Wh)	Function (monadic, linked)	J to Wh	Convert Joule to Watt-hour ; TI : Wh:	Energy conversions	CONV _{HP}		
F3	cal $\rightarrow$ J (J $\leftarrow$)	Function (monadic, linked)	cal to J	Convert calorie to Joule ; TI : J:	Energy conversions	CONV _{HP}		
F4	J $\rightarrow$ cal ($\rightarrow$ cal)	Function (monadic, linked)	J to cal	Convert Joule to calorie ; TI : cal:	Energy conversions	CONV _{HP}		
F5	Btu $\rightarrow$ J (J $\leftarrow$)	Function (monadic, linked)	Btu to J	Convert British Thermal Unit to Joule ; TI : J:	Energy conversions	CONV _{HP}		
F6	J $\rightarrow$ Btu ($\rightarrow$ Btu)	Function (monadic, linked)	J to Btu	Convert Joule to British Thermal Unit ; TI : Btu:	Energy conversions	CONV _{HP}		
fF1	eV $\rightarrow$ J (J $\leftarrow$)	Function (monadic, linked)	eV to J	Convert electronvolt to Joule ; TI : J:	Energy conversions	CONV _{HP}		
fF2	J $\rightarrow$ eV ($\rightarrow$ eV)	Function (monadic, linked)	J to eV	Convert Joule to electronvolt ; TI : eV:	Energy conversions	CONV _{HP}		
fF3	erg $\rightarrow$ J (J $\leftarrow$)	Function (monadic, linked)	erg to J	Convert erg to Joule ; TI : J:	Energy conversions	CONV _{HP}		
fF4	J $\rightarrow$ erg ($\rightarrow$ erg)	Function (monadic, linked)	J to erg	Convert Joule to erg ; TI : erg:	Energy conversions	CONV _{HP}		
fF5	foe $\rightarrow$ J (J $\leftarrow$)	Function (monadic, linked)	foe to J	Convert foe to Joule ; TI : J:	Energy conversions	CONV _{HP}		
fF6	J $\rightarrow$ foe ($\rightarrow$ foe)	Function (monadic, linked)	J to foe	Convert Joule to foe ; TI : foe:	Energy conversions	CONV _{HP}		
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

EQN	Equation editor					
g-shift						
f-shift	DELETE					f Graph
unshifted	NEW	EDIT	f''	f'	∫ f	f Solve
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf

Ref 2 https://47calc.com/doc/C47/Reference/C47_Variable_naming.pdf

Ref 3 https://47calc.com/doc/Application%20Notes/AN0011_C47_JM_EQN_and_ADV_menu_solver_integrator_updated.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	EQN	MENU	Equation editor	Equation editor to enter multiple expressions ; Info : EIM = Equation Input Mode ; when no expression has been entered, only button NEW is shown in this menu ; when two or more expressions have been entered, use $\blacktriangle$ or $\blacktriangledown$ to select ; menu CAT [EQN] is available on keyboard f[*] in EIM ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQN	
F1	NEW	MENU (item, nonpgm)	New equation	Open equation editor menu to create new equation (previous equation pushed) ; Info : EIM = Equation Input Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQ.NEW	
F2	EDIT	Command (submenu)	Edit equation	Open equation editor menu to edit equation (previous equation loaded) ; Info : EIM = Equation Input Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQ.EDIT	
F3	f''	MENU	Second derivative menu [EQN]	Numerically calculate second derivative using current expression, at value of starred variable and using step size of δ_d , as specified using the buttons in this menu ; TI : $\delta=$; f'' $\approx$; Info : if no step size is entered, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	Equations		f''	
F4	f'	MENU	First derivative menu [EQN]	Numerically calculate first derivative using current expression, at value of starred variable and using step size of δ_d , as specified using the buttons in this menu ; TI : $\delta=$; f' $\approx$; Info : if no step size is entered, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	Equations		f'	
F5	$\int f$	MENU	Integrator [EQN]	Integrator (variables) menu for the algebraic expression entered in the equation editor ; enter value and press <var _n > button(s) to set variables, then press button for variable to be used by the integrator in menu Tool $\int$ or this menu ; if only one variable exists it will be selected and starred automatically ; tolerance set by variable ACC ; Info : TI : "Select Integrator Variable" is presented if Tool $\int$ is activated without a variable having been selected first	Integrator		$\int f$	
F6	f Solve	MENU	Solver [EQN]	Solver (variables) menu for the algebraic expression (= 0) entered in NEW ; enter value and press <var _n > button(s) to initialise variable(s), then press button for variable to be solved for by the solver(s) in menu ToolS ; if only one variable exists it will be selected and starred automatically ; Info : TI : "Select Solver Variable" is presented if ToolS is activated without a variable having been selected first	Solver		f Solve	
fF1	DELETE	Command	Delete	Delete equation	Cleanup		EQ.DEL	
fF2								
fF3								
fF4								
fF5								
fF6	f Graph	MENU	Grapher [EQN]	Grapher (variables) menu for the algebraic expression entered in EQ.NEW ; enter value and press <var _n > button(s) to initialise variable(s), then press button for variable to be plotted using the drawing functions in menu Graphs ; if only one variable exists it will be selected and starred automatically ; Ref : https://47calc.com/doc/Application%20Notes/AN0013_C47_JM_Graphs.pdf	Equations		f Graph	
gF1								
gF2								
gF3								
gF4								
gF5								

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF6								

p1	EQN	Link
F1	NEW	https://47calc.com/doc/C47/Menus/C47_Menu_NEW_page_1.pdf
F2	EDIT	
F3	f''	https://47calc.com/doc/C47/Menus/C47_Menu_f-double_page_1.pdf
F4	f'	https://47calc.com/doc/C47/Menus/C47_Menu_f-prime_page_1.pdf
F5	$\int f$	https://47calc.com/doc/C47/Menus/C47_Menu_integral-f_page_1.pdf
F6	f Solve	https://47calc.com/doc/C47/Menus/C47_Menu_f_Solve_page_1.pdf
fF1	DELETE	
fF2		
fF3		
fF4		
fF5		
fF6	f Graph	https://47calc.com/doc/C47/Menus/C47_Menu_f_Graph_page_1.pdf
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

EXP	Exponential					
g-shift	$\sinh$	$\cosh$	$\tanh$	arsinh	arcosh	artanh
f-shift	$\sqrt[3]{x}$	$\sqrt[3]{y}$	$\sqrt{x}$	2^x	e^{x-1}	e^x
unshifted	x^3	y^x	$\sqrt{1+x^2}$	LB	$\operatorname{LN}(1+x)$	LOG_xy
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Expon_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	EXP	MENU	Exponential	Exponential functions	Mathematics		EXP	
F1	x^3	Function (monadic)	Cube	Raise to power of 3	Mathematics		x^3	
F2	y^x	Function (dyadic)	y to the power x	Raise value in the Y-register to the power in the X-register	Mathematics		y^x	
F3	$\sqrt{(1+x^2)}$	Function (monadic)	$\sqrt{(1+x^2)}$	Calculate $\sqrt{(1+x^2)}$	Mathematics		$\sqrt{(1+x^2)}$	
F4	LB	Function (monadic)	Binary logarithm	Binary logarithm (base 2)	Mathematics		LB	
F5	$\text{LN}(1+x)$	Function (monadic)	$\text{LN}(1+x)$	More accurate calculation of $\text{LN}(1+x)$ for $x \approx 0$	Mathematics		$\text{LN}(1+x)$	
F6	LOG_xy	Function (dyadic)	LOG_xy	Logarithm of Y for base X	Mathematics		LOG_xy	
fF1	$\sqrt[3]{x}$	Function (monadic)	Cube root	Cube root of X	Mathematics		$\sqrt[3]{x}$	
fF2	$\sqrt[y]{y}$	Function (dyadic)	xth root	Xth root of Y	Mathematics		$\sqrt[y]{y}$	
fF3	$\sqrt{x}$	Function (monadic)	Square root	Square root of X ; Info : When X is a matrix $\sqrt{x}$ calculates its square root (MSQRT)	Mathematics		$\sqrt{x}$	
fF4	2^x	Function (monadic)	2 to the power x	Raise 2 to the power in the X-register	Mathematics		2^x	
fF5	e^{x-1}	Function (monadic)	$e^x - 1$	More accurate calculation of $e^x - 1$ for $x \approx 0$	Mathematics		e^{x-1}	
fF6	e^x	Function (monadic)	e to the power x	Raise e to the power in the X-register	Mathematics		e^x	
gF1	sinh	Function (monadic)	Hyperbolic sine	Hyperbolic sine	Mathematics		sinh	
gF2	cosh	Function (monadic)	Hyperbolic cosine	Hyperbolic cosine	Mathematics		cosh	
gF3	tanh	Function (monadic)	Hyperbolic tangent	Hyperbolic tangent	Mathematics		tanh	
gF4	arsinh	Function (monadic)	Inverse hyperbolic sine	Inverse hyperbolic sine	Mathematics		arsinh	
gF5	arcosh	Function (monadic)	Inverse hyperbolic cosine	Inverse hyperbolic cosine	Mathematics		arcosh	
gF6	artanh	Function (monadic)	Inverse hyperbolic tangent	Inverse hyperbolic tangent	Mathematics		artanh	

Expon:	Exponential distribution					
g-shift	ST0 _R λ					
f-shift						
unshifted	Expon _p		Expon _{Δ}	Expon _{Δ}		Expon ⁻¹
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_f_Graph_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Expon:	MENU	Exponential distribution	Exponential probability distribution (continuous) ; TI : RegR = λ =	Probability (real)		Expon:	
F1	Expon _p	Function (monadic)	Exponential pdf	Exponential probability density function	Probability (real)		Expon _p	
F2								
F3	Expon _Δ	Function (monadic)	Exponential cdf (lower)	Exponential cumulative distribution (lower tail)	Probability (real)		Expon _Δ	
F4	Expon _Δ	Function (monadic)	Exponential cdf (upper)	Exponential cumulative distribution (upper tail)	Probability (real)		Expon _Δ	
F5								
F6	Expon ⁻¹	Function (monadic)	Exponential qf (inverse)	Exponential inverse cumulative distribution (quantile)	Probability (real)		Expon ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	STO _R λ	Command	Store λ in R	Store parameter λ : rate parameter in register R ; Split screen : RegR = λ =	Probability (real)			
gF2								
gF3								
gF4								
gF5								
gF6								

f Graph	Grapher [EQN]					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>		Graphs	Draw _{xy}
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0013_C47_JM_Graphs.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	f Graph	MENU	Grapher [EQN]	Grapher (variables) menu for the algebraic expression entered in EQ.NEW ; enter value and press <var _n > button(s) to initialise variable(s), then press button for variable to be plotted using the drawing functions in menu Graphs ; if only one variable exists it will be selected and starred automatically ; Ref : https://47calc.com/doc/Application%20Notes/AN0013_C47_JM_Graphs.pdf	Equations		f Graph	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 of the expression entered in EQ.NEW (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5	Graphs	MENU	Graphing...	Equation graphing functions	Plotting		Graphs	
F6	Draw _y	MENU (item)	Draw (stack limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set from stack (Y, X) and Y-axis limits by variables (↓Y, ↑Y) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw _y	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	f Graph	Link
F1	<var ₁ >	
F2	<var ₂ >*	
F3	<var...>	
F4		
F5	Graphs	https://47calc.com/doc/C47/Menus/C47_Menu_Graphs_page_1.pdf
F6	Draw _g	https://47calc.com/doc/C47/Menus/C47_Menu_DrawYX_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

F:	Fisher's F distribution					
g-shift	ST0 _M d ₁	ST0 _N d ₂				
f-shift						
unshifted	F _p (x)		F _Δ (x)	F _Δ (x)		F ⁻¹ (p)
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	F:	MENU	Fisher's F distribution	Fisher's F probability distribution (continuous) ; TI : RegM = $d_1 =$; RegN = $d_2 =$	Probability (real)		F:	
F1	$F_p(x)$	Function (monadic)	Fisher's F pdf	Fisher's F probability density function	Probability (real)		$F_p(x)$	
F2								
F3	$F_{\Delta}(x)$	Function (monadic)	Fisher's F cdf (lower)	Fisher's F cumulative distribution (lower tail)	Probability (real)		$F_{\Delta}(x)$	
F4	$F_{\Delta}(x)$	Function (monadic)	Fisher's F cdf (upper)	Fisher's F cumulative distribution (upper tail)	Probability (real)		$F_{\Delta}(x)$	
F5								
F6	$F^{-1}(p)$	Function (monadic)	Fisher's F qf (inverse)	Fisher's F inverse cumulative distribution (quantile)	Probability (real)		$F^{-1}(p)$	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	ST0M d_1	Command	Store d_1 in M	Store parameter d_1 : degree of freedom in register M ; Split screen : RegM = $d_1 =$	Probability (real)			
gF2	ST0N d_2	Command	Store d_2 in N	Store parameter d_2 : degree of freedom in register N ; Split screen : RegN = $d_2 =$	Probability (real)			
gF3								
gF4								
gF5								
gF6								

f Solve	Solver [EQN]					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var ₂ >*		ToolS	Calc f
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	f Solve	MENU	Solver [EQN]	Solver (variables) menu for the algebraic expression (= 0) entered in NEW ; enter value and press <var _n > button(s) to initialise variable(s), then press button for variable to be solved for by the solver(s) in menu ToolS ; if only one variable exists it will be selected and starred automatically ; Info : TI : "Select Solver Variable" is presented if ToolS is activated without a variable having been selected first	Solver		f Solve	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 of the expression entered in EQ.NEW (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var ₂ >*	Variable (user)	Variable 2	Variable 2 of the expression entered in EQ.NEW (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F4								
F5	ToolS	MENU	Solver tools	Solver tools and parameter settings ; Ref : https://47calc.com/doc/C47/Reference/C47_Solver_Result_Codes.pdf	Solver		ToolS	
F6	Calc f	Command	Calculate result	Calculate value of the result for the expression ; TI : f =	Equations		Calc f	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	f Solve	Link
F1	<var ₁ >	
F2	<var ₂ >*	
F3	<var ₂ >*	
F4		
F5	ToolS	https://47calc.com/doc/C47/Menus/C47_Menu_ToolSlv_page_1.pdf
F6	Calc f	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

F&p:	Force & Pressure conversions					
g-shift	Pa ←	→ bar	Pa ←	→ torr		
f-shift	Pa ←	→ atm	Pa ←	→ psi		
unshifted	Pa ←	→ mmHg	Pa ←	→ inHg	N ←	→ lbf
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_FCNS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	F&p:	MENU	Force & Pressure conversions	Convert between units of force and pressure ; Info : Flag CONV _{HP} may be SET for <to> ←> <to> unit conversion buttons ; CLEAR for <from> →← <from> unit conversion buttons (default SET)	Force & Pressure conversions		F&p:	
F1	mmHg→Pa (Pa ←)	Function (monadic, linked)	mmHg to Pa	Convert millimetre of Mercury to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
F2	Pa→mmHg (→ mmHg)	Function (monadic, linked)	Pa to mmHg	Convert Pascal to millimetre of Mercury ; TI : mmHg:	Pressure conversions	CONV _{HP}		
F3	inHg→Pa (Pa ←)	Function (monadic, linked)	inHg to Pa	Convert inch of Mercury to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
F4	Pa→inHg (→ inHg)	Function (monadic, linked)	Pa to inHg	Convert Pascal to inch of Mercury ; TI : inHg:	Pressure conversions	CONV _{HP}		
F5	lbf→N (N ←)	Function (monadic, linked)	lbf to N	Convert pound force to Newton ; TI : N:	Force conversions	CONV _{HP}		
F6	N→lbf (→ lbf)	Function (monadic, linked)	N to lbf	Convert Newton to pound force ; TI : lbf:	Force conversions	CONV _{HP}		
fF1	atm→Pa (Pa ←)	Function (monadic, linked)	atm to Pa	Convert atmosphere to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
fF2	Pa→atm (→ atm)	Function (monadic, linked)	Pa to atm	Convert Pascal to atmosphere ; TI : atm:	Pressure conversions	CONV _{HP}		
fF3	psi→Pa (Pa ←)	Function (monadic, linked)	psi to Pa	Convert pound force per square inch to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
fF4	Pa→psi (→ psi)	Function (monadic, linked)	Pa to psi	Convert Pascal to pound force per square inch ; TI : psi:	Pressure conversions	CONV _{HP}		
fF5								
fF6								
gF1	bar→Pa (Pa ←)	Function (monadic, linked)	bar to Pa	Convert bar to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
gF2	Pa→bar (→ bar)	Function (monadic, linked)	Pa to bar	Convert Pascal to bar ; TI : bar:	Pressure conversions	CONV _{HP}		
gF3	torr→Pa (Pa ←)	Function (monadic, linked)	torr to Pa	Convert torr to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
gF4	Pa→torr (→ torr)	Function (monadic, linked)	Pa to torr	Convert Pascal to torr ; TI : torr:	Pressure conversions	CONV _{HP}		
gF5								
gF6								

f" (MVAR)	First derivative (RPN)					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>			δ _d
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	f" (MVAR)	Command (submnu)	First derivative (RPN)	Numerically calculate first derivative using RPN program, at value of starred MVAR variable and using step size of δ_d , as specified using the buttons in the (MVAR (delta)) menu presented ; TAM : f" ___ TamLb1Only menu ; TI : $\delta=$; f" $\approx$; Info : if no step size is entered, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as "δ"	RPN Calculus and plotting		f"	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 as created by MVAR (in RPN program) (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5								
F6	δ_d	Variable (real)	Delta value for derivatives	Delta value for derivatives, used as the step size ; Info : After a value has been entered, it is show as a subscript ; if no value is entered, or a variable 'δ _d ' has already been defined by the user, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as "δ"	Mathematics		δ_d	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

f''	Second derivative menu [EQN]					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>		δ_d	Calc f''
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	f''	MENU	Second derivative menu [EQN]	Numerically calculate second derivative using current expression, at value of starred variable and using step size of δ_d , as specified using the buttons in this menu ; TI : $\delta =$; $f'' \approx$; Info : if no step size is entered, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	Equations		f''	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 of the expression entered in EQ.NEW (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5	δ_d	Variable (real)	Delta value for derivatives	Delta value for derivatives, used as the step size ; Info : After a value has been entered, it is show as a subscript ; if no value is entered, or a variable ' δ_d ' has already been defined by the user, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	Mathematics		δ_d	
F6	Calc f''	Command	Second derivative [EQN]	Numerically calculate second derivative for (starred) variable ; TI : $f'' =$	Equations		Calc f''	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

f' (MVAR)	Second derivative (RPN)					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>			δ_d
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	f' (MVAR)	Command (submnu)	Second derivative (RPN)	Numerically calculate second derivative using RPN program, at value of starred MVAR variable and using step size of δ_d , as specified using the buttons in the (MVAR (delta)) menu presented ; TAM : f' __ TamLb1Only menu ; TI : $\delta=$; $f'\approx$; Info : if no step size is entered, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	RPN Calculus and plotting		f'	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 as created by MVAR (in RPN program) (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5								
F6	δ_d	Variable (real)	Delta value for derivatives	Delta value for derivatives, used as the step size ; Info : After a value has been entered, it is show as a subscript ; if no value is entered, or a variable ' δ_d ' has already been defined by the user, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	Mathematics		δ_d	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

f'	First derivative menu [EQN]					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>		δ_d	Calc f'
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	f'	MENU	First derivative menu [EQN]	Numerically calculate first derivative using current expression, at value of starred variable and using step size of δ_d , as specified using the buttons in this menu ; TI : $\delta =$; $f' \approx$; Info : if no step size is entered, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	Equations		f'	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 of the expression entered in EQ.NEW (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5	δ_d	Variable (real)	Delta value for derivatives	Delta value for derivatives, used as the step size ; Info : After a value has been entered, it is show as a subscript ; if no value is entered, or a variable ' δ_d ' has already been defined by the user, an automatic step size is determined by iteration in 16 steps, starting with 1/10 ; the step size will always be displayed as " δ "	Mathematics		δ_d	
F6	Calc f'	Command	First derivative [EQN]	Numerically calculate first derivative for (starred) variable ; TI : $f' =$	Equations		Calc f'	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

FCNS	Functions (equation)					
g-shift	CONJ	COS	cosh	erf	erfc	e^x
f-shift	artanh	ATAN2	B_n	B_n^*	ceil	COMB
unshifted	$\sqrt[3]{x}$	ARCCOS	arcosh	ARCSIN	ARCTAN	arsinh
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	FCNS	MENU (ASM)	Functions (equation)	Catalog of all calculator functions available in Equation Input Mode ; Info : Type characters 1-2 to search	Catalog		FCNSe	
F1	$\sqrt[3]{x}$	Function (monadic)	Cube root	Cube root of X	Mathematics		$\sqrt[3]{x}$	
F2	ARCCOS	Function (monadic)	Arc cosine	Inverse cosine ; Info : Returns the principal value of the inverse cosine of X ; if flag CPXRES is SET, the domain is extended beyond [-1, +1] and complex results may be returned ; SBI : $\mathbb{C}$; $\mathbb{R}$	Trigonometry	CPXRES	ARCCOS	
F3	arcosh	Function (monadic)	Inverse hyperbolic cosine	Inverse hyperbolic cosine	Mathematics		arcosh	
F4	ARCSIN	Function (monadic)	Arc sine	Inverse sine ; Info : Returns the principal value of the inverse sine of X ; if flag CPXRES is SET, the domain is extended beyond [-1, +1] and complex results may be returned ; SBI : $\mathbb{C}$; $\mathbb{R}$	Trigonometry	CPXRES	ARCSIN	
F5	ARCTAN	Function (monadic)	Arc tangent	Inverse tangent ; Info : Returns the principal value of the inverse tangent of X ; if flag SPCRES is SET, infinity input is allowed and the range is extended to $[-90^\circ, 90^\circ]$ (inclusive)	Trigonometry	SPCRES	ARCTAN	
F6	arsinh	Function (monadic)	Inverse hyperbolic sine	Inverse hyperbolic sine	Mathematics		arsinh	
fF1	artanh	Function (monadic)	Inverse hyperbolic tangent	Inverse hyperbolic tangent	Mathematics		artanh	
fF2	ATAN2	Function (dyadic)	Expanded inverse tangent	Arc tangent of Y / X	Trigonometry		ATAN2	
fF3	B_n	Function (monadic)	Bernoulli number (new definition)	Bernoulli number (new definition)	Mathematics		B_n	
fF4	B_n^*	Function (monadic)	Bernoulli number (old definition)	Bernoulli number (old definition)	Mathematics		B_n^*	
fF5	ceil	Function (monadic)	Ceiling	Mathematical ceiling of number	Reals		ceil	
fF6	COMB	Function (dyadic)	Combinations	Combinations of X out of Y	Trigonometry		COMB	
gF1	CONJ	Function (monadic)	Complex conjugate	Complex conjugate	Complex numbers		CONJ	
gF2	COS	Function (monadic)	Cosine	Cosine	Trigonometry		COS	
gF3	cosh	Function (monadic)	Hyperbolic cosine	Hyperbolic cosine	Mathematics		cosh	
gF4	erf	Function (monadic)	Error function	Error function	Mathematics		erf	
gF5	erfc	Function (monadic)	Complementary error function	Complementary error function	Mathematics		erfc	
gF6	e^x	Function (monadic)	e to the power x	Raise e to the power in the X-register	Mathematics		e^x	

FCNS	Functions (equation)					
g-shift	LN ^Γ	LOG	LOG _x y	MAX	MIN	MOD
f-shift	IDIV	Im	LB	L _m	L _m ^(∞)	LN
unshifted	FIB	floor	g _d	g _d ⁻¹	H _n	H _{nP}
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_FCNS_EQN_page_3.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	FCNS	MENU (ASM)	Functions (equation)	Catalog of all calculator functions available in Equation Input Mode ; Info : Type characters 1-2 to search	Catalog		FCNSe	
F1	FIB	Function (monadic)	Fibonacci number	Fibonacci number n , where $n = X$ -- see https://en.wikipedia.org/wiki/Fibonacci_sequence	Mathematics		FIB	
F2	floor	Function (monadic)	Floor	Mathematical floor of number	Reals		floor	
F3	ga	Function (monadic)	Gudermannian function	Gudermannian function -- see http://en.wikipedia.org/wiki/Gudermannian_function	Mathematics		ga	
F4	ga^{-1}	Function (monadic)	Inverse Gudermannian function	Inverse Gudermannian function -- see http://en.wikipedia.org/wiki/Gudermannian_function	Mathematics		ga^{-1}	
F5	H_n	Function (dyadic)	Hermite polynomials (probability)	Hermite polynomials (probability) ; Parameter : $x = X$; $n = Y$	Mathematics		H_n	
F6	H_{np}	Function (dyadic)	Hermite polynomials (physics)	Hermite polynomials (physics) ; Parameter : $x = X$; $n = Y$	Mathematics		H_{np}	
fF1	IDIV	Function (dyadic)	Integer divide	Integer divide	Integers		IDIV	
fF2	Im	Function (monadic)	Imaginary part	Imaginary part of Complex number	Complex numbers		Im	
fF3	LB	Function (monadic)	Binary logarithm	Binary logarithm (base 2)	Mathematics		LB	
fF4	L_m	Function (dyadic)	Laguerre polynomials	Laguerre polynomials ; Parameter : $x = X$; $m = Y$	Mathematics		L_m	
fF5	$L_m^{(\alpha)}$	Function (triadic)	Laguerre generalised polynomials	Laguerre generalised polynomials ; Parameter : $x = X$; $m = Y$; $\alpha = Z$	Mathematics		$L_m^{(\alpha)}$	
fF6	LN	Function (monadic)	Natural logarithm	Natural logarithm (base e)	Mathematics		LN	
gF1	$LN\Gamma$	Function (monadic)	Natural logarithm of Gamma function	Natural logarithm of Gamma function	Mathematics		$LN\Gamma$	
gF2	LOG	Function (monadic)	Common logarithm	Common logarithm (base 10)	Mathematics		LOG	
gF3	LOG_{xy}	Function (dyadic)	LOG_{xy}	Logarithm of Y for base X	Mathematics		LOG_{xy}	
gF4	MAX	Function (dyadic)	Maximum	Maximum of X and Y	Mathematics		MAX	
gF5	MIN	Function (dyadic)	Minimum	Minimum of X and Y	Mathematics		MIN	
gF6	MOD	Function (dyadic)	Modulo	Y modulo X	Mathematics		MOD	

FCNS	Functions (equation)					
g-shift	w_m	w_p	w^{-1}	$\sqrt[y]{x}$	$x!$	$\Gamma(x)$
f-shift	$\text{sinc}\pi$	$\sinh$	TAN	$\tanh$	T_n	U_n
unshifted	PERM	P_n	Re	RMD	SIN	sinc
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	FCNS	MENU (ASM)	Functions (equation)	Catalog of all calculator functions available in Equation Input Mode ; Info : Type characters 1-2 to search	Catalog		FCNSe	
F1	PERM	Function (dyadic)	Permutations	Permutations of X out of Y	Probability		PERM	
F2	P _n	Function (dyadic)	Legendre polynomials	Legendre polynomials ; Parameter : x = X ; n = Y	Mathematics		P _n	
F3	Re	Function (monadic)	Real part	Real part of Complex number	Complex numbers		Re	
F4	RMD	Function (dyadic)	Remainder	Remainder of division of Y by X	Integers		RMD	
F5	SIN	Function (monadic)	Sine	Sine	Trigonometry		SIN	
F6	sinc	Function (monadic)	Sinc	Calculate (Sine of X) / X ; Info : Integers and untagged reals are assumed to be radians	Mathematics		sinc	
fF1	sinc π	Function (monadic)	Sinc pi	Calculate (Sine of $\pi \times X$) / ($\pi \times X$) ; Info : Integers and untagged reals are assumed to be radians	Mathematics		sinc π	
fF2	sinh	Function (monadic)	Hyperbolic sine	Hyperbolic sine	Mathematics		sinh	
fF3	TAN	Function (monadic)	Tangent	Tangent	Trigonometry		TAN	
fF4	tanh	Function (monadic)	Hyperbolic tangent	Hyperbolic tangent	Mathematics		tanh	
fF5	T _n	Function (dyadic)	Chebyshev polynomials (1st)	Chebyshev polynomials of the 1st kind ; Parameter : x = X ; n = Y	Mathematics		T _n	
fF6	U _n	Function (dyadic)	Chebyshev polynomials (2nd)	Chebyshev polynomials of the 2nd kind ; Parameter : x = X ; n = Y	Mathematics		U _n	
gF1	W _m	Function (monadic)	Lambert's W function (negative)	Lambert's W function (negative branch) ; m = minus -- see http://en.wikipedia.org/wiki/Lambert_W_function	Mathematics		W _m	
gF2	W _p	Function (monadic)	Lambert's W function (principal)	Lambert's W function (principal branch) -- see http://mathworld.wolfram.com/LambertW-Function.html	Mathematics		W _p	
gF3	W ⁻¹	Function (monadic)	Inverse of Lambert's W function (principal)	Inverse of Lambert's W function (principal branch, ≥ -1)	Mathematics		W ⁻¹	
gF4	$\sqrt[y]{x}$	Function (dyadic)	xth root	Xth root of Y	Mathematics		$\sqrt[y]{x}$	
gF5	x!	Function (monadic)	Factorial x! or $\Gamma(x+1)$	For Long integers : x! ; for Reals : $\Gamma(x+1)$; Info : Max integer: 450 (up to 1000 digits accurate) ; max real : 2123.549 956 662 463 236 31 ; integers > max are converted to reals	Mathematics		x!	
gF6	$\Gamma(x)$	Function (monadic)	Gamma function	Gamma function	Mathematics		$\Gamma(x)$	

FCNS	Functions (equation)					
g-shift						
f-shift						
unshifted	$\zeta(x)$	$ x $	$\sqrt{x}$	x		
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	FCNS	MENU (ASM)	Functions (equation)	Catalog of all calculator functions available in Equation Input Mode ; Info : Type characters 1-2 to search	Catalog		FCNSe	
F1	$\zeta(x)$	Function (monadic)	Riemann's Zeta for real arguments	Riemann's Zeta for real arguments -- see http://mathworld.wolfram.com/RiemannZetaFunction.html	Mathematics		$\zeta(x)$	
F2	$ x $	Function (monadic)	Magnitude	Magnitude (absolute value) of Complex number	Complex numbers		$ x $	
F3	$\sqrt{x}$	Function (monadic)	Square root	Square root of X ; Info : When X is a matrix $\sqrt{x}$ calculates its square root (MSQRT)	Mathematics		$\sqrt{x}$	
F4	$\angle$	Function (monadic)	Argument (angle)	Argument (angle) of Complex number	Complex numbers		$\angle$	
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

FCNS	Functions					
g-shift						
f-shift						
unshifted						
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	FCNS	MENU (ASM)	Functions	Catalog of all calculator functions ; Info : Type characters 1-2 to search ; Ref : https://47calc.com/doc/C47/Reference/C47_CAT-FCNS.pdf	Catalog		FCNS	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

FFF+:	Humorous conversions					
g-shift	in ←	→ Banana	lbs ←	→ fir	mph ←	→ fur/ftn
f-shift	mm ←	→ Banana	kg ←	→ fir	km/h ←	→ fur/ftn
unshifted	m ←	→ fur	s ←	→ ftn	m/s ←	→ fur/ftn
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_FFF+_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	FFF+:	MENU	Humorous conversions	Conversions to and from the furlong-firkin-fortnight (FFF) system (and bananas and beardseconds) -- see https://en.wikipedia.org/wiki/FFF_system ; Info : Flag CONV _{HP} may be SET for <to> ↔ <to> unit conversion buttons ; CLEAR for <from> →↵ <from> unit conversion buttons (default SET)	Humorous conversions		FFF+:	
F1	fur→m (m ↔)	Function (monadic, linked)	fur to m	Convert furlong to metre ; TI : m:	Distance conversions	CONV _{HP}		
F2	m→fur (→ fur)	Function (monadic, linked)	m to fur	Convert metre to furlong ; TI : fur:	Distance conversions	CONV _{HP}		
F3	ftn→s (s ↔)	Function (monadic, linked)	ftn to s	Convert fortnight to second ; TI : s:	Time conversions	CONV _{HP}		
F4	s→ftn (→ ftn)	Function (monadic, linked)	s to ftn	Convert second to fortnight ; TI : ftn:	Time conversions	CONV _{HP}		
F5	fur/ftn→m/s (m/s ↔)	Function (monadic, linked)	fur/ftn to m/s	Convert furlong per fortnight to metre per second ; TI : m/s:	Speed conversions	CONV _{HP}		
F6	m/s→fur/ftn (→ fur/ftn)	Function (monadic, linked)	m/s to fur/ftn	Convert metre per second to furlong per fortnight ; TI : fur/ftn ; Info : single = ur/ftn↵	Speed conversions	CONV _{HP}		
fF1	Banana→mm (mm ↔)	Function (monadic, linked)	Banana to mm	Convert Banana length to millimetre ; TI : mm:	Distance conversions	CONV _{HP}		
fF2	mm→Banana (→ Banana)	Function (monadic, linked)	mm to Banana	Convert millimetre to Banana length ; TI : Banana:	Distance conversions	CONV _{HP}		
fF3	fir→kg (kg ↔)	Function (monadic, linked)	fir to kg	Convert firkin to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
fF4	kg→fir (→ fir)	Function (monadic, linked)	kg to fir	Convert kilogram to firkin ; TI : fir:	Mass conversions	CONV _{HP}		
fF5	fur/ftn→km/h (km/h ↔)	Function (monadic, linked)	fur/ftn to km/h	Convert furlong per fortnight to kilometre per hour ; TI : km/h:	Speed conversions	CONV _{HP}		
fF6	km/h→fur/ftn (→ fur/ftn)	Function (monadic, linked)	km/h to fur/ftn	Convert kilometre per hour to furlong per fortnight ; TI : fur/ftn ; Info : single = ur/ftn↵	Speed conversions	CONV _{HP}		
gF1	Banana→in (in ↔)	Function (monadic, linked)	Banana to in	Convert Banana length to inch ; TI : in:	Distance conversions	CONV _{HP}		
gF2	in→Banana (→ Banana)	Function (monadic, linked)	in to Banana	Convert inch to Banana length ; TI : Banana:	Distance conversions	CONV _{HP}		
gF3	fir→lbs (lbs ↔)	Function (monadic, linked)	fir to lbs	Convert firkin to pound ; TI : lbs:	Mass conversions	CONV _{HP}		
gF4	lbs→fir (→ fir)	Function (monadic, linked)	lbs to fir	Convert pound to firkin ; TI : fir:	Mass conversions	CONV _{HP}		
gF5	fur/ftn→mph (mph ↔)	Function (monadic, linked)	fur/ftn to mph	Convert furlong per fortnight to mile per hour ; TI : mph:	Speed conversions	CONV _{HP}		
gF6	mph→fur/ftn (→ fur/ftn)	Function (monadic, linked)	mph to fur/ftn	Convert mile per hour to furlong per fortnight ; TI : fur/ftn ; Info : single = ur/ftn↵	Speed conversions	CONV _{HP}		

FFF+:	Humorous conversions					
g-shift						
f-shift						
unshifted	m ←	→ brds	in ←	→ brds		
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	FFF+:	MENU	Humorous conversions	Conversions to and from the furlong-firkin-fortnight (FFF) system (and bananas and beardseconds) -- see https://en.wikipedia.org/wiki/FFF_system ; Info : Flag CONV _{HP} may be SET for <to> ⇐⇨ <to> unit conversion buttons; CLEAR for <from> ⇨⇐ <from> unit conversion buttons (default SET)	Humorous conversions		FFF+:	
F1	brds→m (m ⇐)	Function (monadic, linked)	brds to m	Convert beardsecond to metre ; TI : m:	Distance conversions	CONV _{HP}		
F2	m→brds (→ brds)	Function (monadic, linked)	m to brds	Convert metre to beardsecond ; TI : brds:	Distance conversions	CONV _{HP}		
F3	brds→in (in ⇐)	Function (monadic, linked)	brds to in	Convert beardsecond to inch ; TI : in:	Distance conversions	CONV _{HP}		
F4	in→brds (→ brds)	Function (monadic, linked)	in to brds	Convert inch to beardsecond ; TI : brds:	Distance conversions	CONV _{HP}		
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

FIN	Financial					
g-shift	CLΣ	%Σ	%Σ,Δ% $\bar{x}_1$	Δ% $\bar{x}_1$	CASHFL	TVM
f-shift	Σ-	Σx	n	$\bar{x}_1$		
unshifted	Σ+	%T	%	Δ%	%+MG	%MRR
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Formulas.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	FIN	MENU	Financial	Financial calculations including time value of money (TVM) and TVM cash flow ; Ref : https://47calc.com/doc/C47/Reference/C47_Formulas.pdf	Financial		FIN	
F1	$\Sigma+$	Command	Sigma+	Enter data into the statistics matrix (STATS) ; the [$\Sigma+$] key also is the hotkey that can be used for special key assignments in NORMAL mode, using menu $\Sigma+$ KEY ; TI : nnn data point(s) ; Info : if a nx2 matrix is in X, $\Sigma+$ appends the data to the STATS matrix (creating it as necessary) ; $\Sigma+$ disables automatic stack lift for the next entry	Summary statistics		$\Sigma+$	
F2	%T	Function (dyadic)	Percentage of total	Percentage of total, keeping Y on stack -- see Formula_PCT.png : https://47calc.com/doc/Images/Formula_PCT.png ; TI : % :	Financial		%T	
F3	%	Function (dyadic)	Percent	X Percent of Y, keeping Y on stack -- see Formula_PC.png : https://47calc.com/doc/Images/Formula_PC.png	Financial		%	
F4	$\Delta\%$	Function (dyadic)	Delta percent	Delta percentage from Y to X, keeping Y on stack -- see Formula_DELTAPC.png : https://47calc.com/doc/Images/Formula_DELTAPC.png ; TI : $\Delta\%$:	Financial		$\Delta\%$	
F5	%+MG	Function (dyadic)	Sales price having margin	Find sales price having margin of X percent over cost Y : $\%+MG = Y / (1 - X/100)$ -- see Formula_PCPMG.png : https://47calc.com/doc/Images/Formula_PCPMG.png ; Info : Margin is percentage of sales price	Financial		%+MG	
F6	%MRR	Command	Mean rate of return	Mean rate of return in percentage per period : $\%MRR = 100 \times (x/y - 1) ^ (1/z)$ -- see Formula_PCMRR.png : https://47calc.com/doc/Images/Formula_PCMRR.png ; TI : % :	Financial		%MRR	
fF1	$\Sigma-$	Command	Sigma-	Remove data from the statistics matrix (STATS) and put the values on the stack ; TI : nnn data points ; Info : $\Sigma-$ pushes values onto the stack unless automatic stack lift is disabled, e.g. by $\Sigma+$	Summary statistics		$\Sigma-$	
fF2	Σx	Command	Summation of x	Summation of x using statistics matrix (STATS)	Summation		Σx	
fF3	n	Command	n	Number of samples	Summary statistics		n Σ	
fF4	$\bar{x}_1$	Command	Arithmetic means, x only	Arithmetic means, x only ; TI : $\bar{x} =$	Financial		$\bar{x}_1$	
fF5								
fF6								
gF1	CL Σ	Command	Clear statistics	Clear all statistics data ; delete matrices HIST0 and STATS	Cleanup		CL Σ	
gF2	% Σ	Function (monadic)	Percentage of sum	Percentage of x to Σx : $\% \Sigma = 100 \times x / \Sigma x$ -- see Formula_PCSIGMA.png : https://47calc.com/doc/Images/Formula_PCSIGMA.png ; TI : % :	Financial		% Σ	
gF3	% $\Sigma_1 \Delta\% \bar{x}_1$	Function (monadic)	Pct of sum and delta pct to mean	Percentage of x to Σx and delta percentage to mean using statistics matrix (STATS) ; TI : $\Delta\%$; % :	Financial		% $\Sigma_1 \Delta\% \bar{x}_1$	
gF4	$\Delta\% \bar{x}_1$	Function (monadic)	Delta percentage to mean	Delta percentage from $\bar{x}$ to x using statistics matrix (STATS) -- see Formula_DPCMEAN.png : https://47calc.com/doc/Images/Formula_DPCMEAN.png ; TI : $\Delta\%$:	Financial		$\Delta\% \bar{x}_1$	
gF5	CASHFL	MENU (strike)	TVM cash flow	TVM cash flow ; Info : When menu CASHFL is open, [RCL]/[STO] activates menu TamRclTVM/TamStoTVM	Financial		CASHFL	
gF6	TVM	MENU	Time value of money	Time value of money functions ; Info : When menu TVM is open, [RCL]/[STO] activates menu TamRclTVM/TamStoTVM ; TVM variable values are displayed as subscripts ; symbol $\llcorner$ is used for very small values ; symbol $\lrcorner$ for very large values ; Ref : https://47calc.com/doc/Application%20Notes/AN0012_C47_R47_JM_TVM.pdf	Financial		TVM	

p1	FIN	Link
F1	$\Sigma+$	
F2	%T	
F3	%	
F4	$\Delta\%$	
F5	%+MG	
F6	%MRR	
fF1	$\Sigma-$	
fF2	Σx	
fF3	n	
fF4	$\bar{x}_1$	
fF5		
fF6		
gF1	CL Σ	
gF2	% Σ	
gF3	% Σ , $\Delta\%$ $\bar{x}_1$	
gF4	$\Delta\%\bar{x}_1$	
gF5	CASHFL	https://47calc.com/doc/C47/Menus/C47_Menu_CASHFL_page_1.pdf
gF6	TVM	https://47calc.com/doc/C47/Menus/C47_Menu_TVM_page_1.pdf

FLAG	Flags					
g-shift						CLFall
f-shift	FS?S	FS?C	FS?F	FC?F	FC?S	FC?C
unshifted	SF	FS?	FF	STATUS	FC?	CF
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	FLAG	MENU	Flags	Setting, clearing and testing flags	Programming		FLAG	
F1	SF	Command	Set flag	Set flag ; TAM : SF __ TamFlag menu	Programming		SF	
F2	FS?	Command (logical)	Flag set?	Test flag set? ; TAM : FS? __ TamFlag menu	Programming		FS?	
F3	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	Programming		FF	
F4	STATUS	Browser	Status	Show status pages (status overview, system flags, flags 00-99, lettered flags) ; Info : Press [EXIT] to exit Status and browse using [▲] and [▼] ; browser FLGS (g[▼]) shows the same status pages in a different order ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_p1.pdf	Status		STATUS	
F5	FC?	Command (logical)	Flag clear?	Test flag clear? ; TAM : FC? __ TamFlag menu	Programming		FC?	
F6	CF	Command	Clear flag	Clear flag ; TAM : CF __ TamFlag menu	Programming		CF	
fF1	FS?S	Command (logical)	Flag set? and set	Test flag set? and set ; TAM : FS?S __ TamFlag menu	Programming		FS?S	
fF2	FS?C	Command (logical)	Flag set? and clear	Test flag set? and clear ; TAM : FS?C __ TamFlag menu	Programming		FS?C	
fF3	FS?F	Command (logical)	Flag set? and flip	Test flag set? and flip ; TAM : FS?F __ TamFlag menu	Programming		FS?F	
fF4	FC?F	Command (logical)	Flag clear? and flip	Test flag clear? and flip ; TAM : FC?F __ TamFlag menu	Programming		FC?F	
fF5	FC?S	Command (logical)	Flag clear? and set	Test flag clear? and set ; TAM : FC?S __ TamFlag menu	Programming		FC?S	
fF6	FC?C	Command (logical)	Flag clear? and clear	Test flag clear? and clear ; TAM : FC?C __ TamFlag menu	Programming		FC?C	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	CLFall	Command	Clear (user) flags	Clear all user flags (numbered and lettered) ; YESNO : Clear all flags? ; TI : All global user flags cleared	Cleanup		CLFALL	

FLG	TAM (flag)					
g-shift	I	J	X	Y	Z	T
f-shift	K	L	A	B	C	D
unshifted	M	N	P	Q	R	S
Page 1	F1	F2	F3	F4	F5	F6

Prev menu https://47calc.com/doc/C47/Menus/C47_Menu_FLAG_page_1.pdf

Next menu https://47calc.com/doc/C47/Menus/C47_Menu_FLG_page_2.pdf

Ref 1 https://47calc.com/doc/C47/Reference/C47_Flags_p1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	FLG	MENU (TAM)	TAM (flag)	Presented in menu TamFlag to quickly select lettered flags ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_p1.pdf	Trailing input			
F1	M	EasyAccess (TAM)	Flag M	Easy access to Flag M (211) ; Shortcut : FF {M}	Trailing input			
F2	N	EasyAccess (TAM)	Flag N	Easy access to Flag N (212) ; Shortcut : FF {N}	Trailing input			
F3	P	EasyAccess (TAM)	Flag P	Easy access to Flag P (213)	Trailing input			
F4	Q	EasyAccess (TAM)	Flag Q	Easy access to Flag Q (214)	Trailing input			
F5	R	EasyAccess (TAM)	Flag R	Easy access to Flag R (215)	Trailing input			
F6	S	EasyAccess (TAM)	Flag S	Easy access to Flag S (216)	Trailing input			
ff1	K	EasyAccess (TAM)	Flag K	Easy access to Flag K (111) ; Shortcut : FF {K}	Trailing input			
ff2	L	EasyAccess (TAM)	Flag L	Easy access to Flag L (108) ; Shortcut : FF {L}	Trailing input			
ff3	A	EasyAccess (TAM)	Flag A	Easy access to Flag A (104) ; Shortcut : FF {A}	Trailing input			
ff4	B	EasyAccess (TAM)	Flag B	Easy access to Flag B (105) ; Shortcut : FF {B}	Trailing input			
ff5	C	EasyAccess (TAM)	Flag C	Easy access to Flag C (106) ; Shortcut : FF {C}	Trailing input			
ff6	D	EasyAccess (TAM)	Flag D	Easy access to Flag D (107) ; Shortcut : FF {D}	Trailing input			
gF1	I	EasyAccess (TAM)	Flag I	Easy access to Flag I (109) ; Shortcut : FF {I}	Trailing input			
gF2	J	EasyAccess (TAM)	Flag J	Easy access to Flag J (110) ; Shortcut : FF {J}	Trailing input			
gF3	X	EasyAccess (TAM)	Flag X	Easy access to Flag X (100)	Trailing input			
gF4	Y	EasyAccess (TAM)	Flag Y	Easy access to Flag Y (101)	Trailing input			
gF5	Z	EasyAccess (TAM)	Flag Z	Easy access to Flag Z (102)	Trailing input			
gF6	T	EasyAccess (TAM)	Flag T	Easy access to Flag T (103)	Trailing input			

FLG	TAM (flag)					
g-shift						
f-shift	V	W				
unshifted	E	F	G	H	O	U
Page 2	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_FLoads_page_1.pdf

Ref 1 https://47calc.com/doc/C47/Reference/C47_Flags_p1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	FLG	MENU (TAM)	TAM (flag)	Presented in menu TamFlag to quickly select lettered flags ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_p1.pdf	Trailing input			
F1	E	EasyAccess (TAM)	Flag E	Easy access to Flag E (217) ; Shortcut : FF {E}	Trailing input			
F2	F	EasyAccess (TAM)	Flag F	Easy access to Flag F (218)	Trailing input			
F3	G	EasyAccess (TAM)	Flag G	Easy access to Flag G (219) ; Shortcut : FF {G}	Trailing input			
F4	H	EasyAccess (TAM)	Flag H	Easy access to Flag H (220) ; Shortcut : FF {H}	Trailing input			
F5	O	EasyAccess (TAM)	Flag O	Easy access to Flag O (221) ; Shortcut : FF {O}	Trailing input			
F6	U	EasyAccess (TAM)	Flag U	Easy access to Flag U (222)	Trailing input			
fF1	V	EasyAccess (TAM)	Flag V	Easy access to Flag V (223)	Trailing input			
fF2	W	EasyAccess (TAM)	Flag W	Easy access to Flag W (224)	Trailing input			
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

FLoads:	Force loads conversions					
g-shift	Struct:	FLoads:	N ←	→ kgf	ft/s ² ←	→ m/s ²
f-shift	N/m ←	→ kgf/m	kgf ←	→ lbf	in/s ² ←	→ m/s ²
unshifted	N/m ←	→ lbf/ft	N ←	→ lbf	·m	·k
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_FPART_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	FLoads:	MENU	Force loads conversions	Convert between units of force loads ; typical structural loads units ; Info : Flag CONV _{HP} may be SET for <to> <-> <to> unit conversion buttons ; CLEAR for <from> > < <from> unit conversion buttons (default SET)	Miscellaneous conversions		FLoads:	
F1	lbf/ft→N/m (N/m <-)	Function (monadic, linked)	lbf/ft to N/m	Convert pound force per foot to Newton per metre ; TI : N/m:	Linear Force Density conversions	CONV _{HP}		
F2	N/m→lbf/ft (→ lbf/ft)	Function (monadic, linked)	N/m to lbf/ft	Convert Newton per metre to pound force per foot ; TI : lbf/ft:	Linear Force Density conversions	CONV _{HP}		
F3	lbf→N (N <-)	Function (monadic, linked)	lbf to N	Convert pound force to Newton ; TI : N:	Force conversions	CONV _{HP}		
F4	N→lbf (→ lbf)	Function (monadic, linked)	N to lbf	Convert Newton to pound force ; TI : lbf:	Force conversions	CONV _{HP}		
F5	-m	Command (nonpgm)	milli	Factor 10 ⁻³	Numeric input			
F6	-k	Command (nonpgm)	kilo	Factor 10 ³	Numeric input			
fF1	kgf/m→N/m (N/m <-)	Function (monadic, linked)	kgf/m to N/m	Convert kilogram force per metre to Newton per metre ; TI : N/m:	Linear Force Density conversions	CONV _{HP}		
fF2	N/m→kgf/m (→ kgf/m)	Function (monadic, linked)	N/m to kgf/m	Convert Newton per metre to kilogram force per metre ; TI : kgf/m:	Linear Force Density conversions	CONV _{HP}		
fF3	lbf→kgf (kgf <-)	Function (monadic, linked)	lbf to kgf	Convert pound force to kilogram force ; TI : kgf:	Force conversions	CONV _{HP}		
fF4	kgf→lbf (→ lbf)	Function (monadic, linked)	kgf to lbf	Convert kilogram force to pound force ; TI : lbf:	Force conversions	CONV _{HP}		
fF5	m/s ² →in/s ² (in/s ² <-)	Function (monadic, linked)	m/s ² to in/s ²	Convert metre per second squared to inch per second squared ; TI : in/s ² :	Acceleration conversions	CONV _{HP}		
fF6	in/s ² →m/s ² (→ m/s ²)	Function (monadic, linked)	in/s ² to m/s ²	Convert inch per second squared to metre per second squared ; TI : m/s ² :	Acceleration conversions	CONV _{HP}		
gF1	Struct:	MENU	Structural conversions	Section and material properties, force and moment load conversions ; Info : Flag CONV _{HP} may be SET for <to> <-> <to> unit conversion buttons ; CLEAR for <from> > < <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Miscellaneous conversions	CONV _{HP}	Struct:	
gF2	FLoads:	MENU	Force loads conversions	Convert between units of force loads ; typical structural loads units ; Info : Flag CONV _{HP} may be SET for <to> <-> <to> unit conversion buttons ; CLEAR for <from> > < <from> unit conversion buttons (default SET)	Miscellaneous conversions		FLoads:	
gF3	kgf→N (N <-)	Function (monadic, linked)	kgf to N	Convert kilogram force to Newton ; TI : N:	Force conversions	CONV _{HP}		
gF4	N→kgf (→ kgf)	Function (monadic, linked)	N to kgf	Convert Newton to kilogram force ; TI : kgf:	Force conversions	CONV _{HP}		
gF5	m/s ² →ft/s ² (ft/s ² <-)	Function (monadic, linked)	m/s ² to ft/s ²	Convert metre per second squared to foot per second squared ; TI : ft/s ² :	Acceleration conversions	CONV _{HP}		
gF6	ft/s ² →m/s ² (→ m/s ²)	Function (monadic, linked)	ft/s ² to m/s ²	Convert foot per second squared to metre per second squared ; TI : m/s ² :	Acceleration conversions	CONV _{HP}		

p1	FLoads:	Link
F1	$\text{lbf/ft} \rightarrow \text{N/m}$ (N/m $\leftarrow$)	
F2	$\text{N/m} \rightarrow \text{lbf/ft}$ ($\rightarrow \text{lbf/ft}$)	
F3	$\text{lbf} \rightarrow \text{N}$ (N $\leftarrow$)	
F4	$\text{N} \rightarrow \text{lbf}$ ($\rightarrow \text{lbf}$)	
F5	$\cdot \text{m}$	
F6	$\cdot \text{k}$	
fF1	$\text{kgf/m} \rightarrow \text{N/m}$ (N/m $\leftarrow$)	
fF2	$\text{N/m} \rightarrow \text{kgf/m}$ ($\rightarrow \text{kgf/m}$)	
fF3	$\text{lbf} \rightarrow \text{kgf}$ (kgf $\leftarrow$)	
fF4	$\text{kgf} \rightarrow \text{lbf}$ ($\rightarrow \text{lbf}$)	
fF5	$\text{m/s}^2 \rightarrow \text{in/s}^2$ (in/s ² $\leftarrow$)	
fF6	$\text{in/s}^2 \rightarrow \text{m/s}^2$ ($\rightarrow \text{m/s}^2$)	
gF1	Struct:	https://47calc.com/doc/C47/Menus/C47_Menu_Struct_page_1.pdf
gF2	FLoads:	https://47calc.com/doc/C47/Menus/C47_Menu_FLoads_page_1.pdf
gF3	$\text{kgf} \rightarrow \text{N}$ (N $\leftarrow$)	
gF4	$\text{N} \rightarrow \text{kgf}$ ($\rightarrow \text{kgf}$)	
gF5	$\text{m/s}^2 \rightarrow \text{ft/s}^2$ (ft/s ² $\leftarrow$)	
gF6	$\text{ft/s}^2 \rightarrow \text{m/s}^2$ ($\rightarrow \text{m/s}^2$)	

FPART	Select FP separator					
g-shift	FPGRP ₃				NSPC _{..} ○	
f-shift	WPER. ○	WCOM, ○	WDOT • ○	WTICK' ○	WSPC _{..} ○	UNDR_ ○
unshifted	PER. ○	COM, ○	DOT • ○	TICK' ○	SPC _{..} @	NONE ○
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Geom_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	FPART	MENU	Select FP separator	Select fractional part separator	Display		FPART	
F1	PER. o	Setting (pgm)	FP separator period	Set fractional part separator to period	Display		FPER. o	OFF
F2	COM, o	Setting (pgm)	FP separator comma	Set fractional part separator to comma	Display		FCOM, o	OFF
F3	DOT. o	Setting (pgm)	FP separator dot	Set fractional part separator to dot	Display		FDOT. o	OFF
F4	TICK' o	Setting (pgm)	FP separator narrow tick	Set fractional part separator to narrow tick	Display		FTICK' o	OFF
F5	SPC_ o	Setting (pgm)	FP separator space	Set fractional part separator to space	Display		FSPC_ o	ON
F6	NONE o	Setting (pgm)	FP separator <none>	Set fractional part separator to <none> ; Info : Menu shows symbol ø	Display		FNONE o	OFF
fF1	WPER. o	Setting (pgm)	FP separator wide period	Set fractional part separator to wide period	Display		FWPER. o	OFF
fF2	WCOM, o	Setting (pgm)	FP separator wide comma	Set fractional part separator to wide comma	Display		FWCOM, o	OFF
fF3	WDOT • o	Setting (pgm)	FP separator wide dot	Set fractional part separator to wide dot	Display		FWDOT • o	OFF
fF4	WTICK' o	Setting (pgm)	FP separator tick	Set fractional part separator to tick	Display		FWTICK' o	OFF
fF5	WSPC_ o	Setting (pgm)	FP separator double space	Set fractional part separator to double space	Display		FWSPC_ o	OFF
fF6	UNDR_ o	Setting (pgm)	FP separator underscore	Set fractional part separator to underscore	Display		FUNDR_ o	OFF
gF1	FPGRP ₃	Setting (pgm)	FP group size	Set fractional part group size (2-9 digits) ; TAM : FPGRP _ TamNonReg menu	Display		FPGRP ₃	3
gF2								
gF3								
gF4								
gF5	NSPC_ o	Setting (pgm)	FP separator narrow space	Set fractional part separator to narrow space	Display		FNSPC_ o	OFF
gF6								

Geom:	Geometric distribution					
g-shift	ST0 _p p					
f-shift						
unshifted	Geom _p		Geom _Δ	Geom _Δ		Geom ⁻¹
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_GEV_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Geom:	MENU	Geometric distribution	Geometric probability distribution (discrete) ; TI : RegP = p =	Probability (int)		Geom:	
F1	Geom _p	Function (monadic)	Geometric pmf	Geometric probability mass function	Probability (int)		Geom _p	
F2								
F3	Geom _Δ	Function (monadic)	Geometric cdf (lower)	Geometric cumulative distribution (lower tail)	Probability (int)		Geom _Δ	
F4	Geom _Δ	Function (monadic)	Geometric cdf (upper)	Geometric cumulative distribution (upper tail)	Probability (int)		Geom _Δ	
F5								
F6	Geom ⁻¹	Function (monadic)	Geometric qf (inverse)	Geometric inverse cumulative distribution (quantile)	Probability (int)		Geom ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	STOp p	Command	Store p in P	Store parameter p : probability in register P ; Split screen : RegP = p =	Probability (int)			
gF2								
gF3								
gF4								
gF5								
gF6								

GEV:	Generalised extreme value distribution					
g-shift	$ST0_M \mu$	$ST0_S \sigma$	$ST0_R \xi$			
f-shift						
unshifted	GEV_p		GEV_{Δ}	GEV_{Δ}		GEV^{-1}
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Graphs_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	GEV:	MENU	Generalised extreme value distribution	Generalised extreme value probability distribution (continuous) ; TI : RegM = μ = ; RegS = σ = ; RegQ = ξ =	Probability (real)		GEV:	
F1	GEV _p	Function (monadic)	Generalised extreme value pdf	Generalised extreme value probability density function	Probability (real)		GEV _p	
F2								
F3	GEV _Δ	Function (monadic)	Generalised extreme value cdf (lower)	Generalised extreme value cumulative distribution (lower tail)	Probability (real)		GEV _Δ	
F4	GEV _Δ	Function (monadic)	Generalised extreme value cdf (upper)	Generalised extreme value cumulative distribution (upper tail)	Probability (real)		GEV _Δ	
F5								
F6	GEV ⁻¹	Function (monadic)	Generalised extreme value qf (inverse)	Generalised extreme value inverse cumulative distribution (quantile)	Probability (real)		GEV ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	ST0 _M μ	Command	Store μ in M	Store parameter μ : location in register M ; Split screen : RegM = μ =	Probability (real)			
gF2	ST0 _S σ	Command	Store σ in S	Store parameter σ : scale in register S ; Split screen : RegS = σ =	Probability (real)			
gF3	ST0 _Q ξ	Command	Store ξ in Q	Store parameter ξ : shape in register Q ; Split screen : RegQ = ξ =	Probability (real)			
gF4								
gF5								
gF6								

Graphs	Graphing...					
g-shift						
f-shift						
unshifted	↓X -10	↑X 10	↓Y 0	↑Y 10	Draw	Draw ^x
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_HIST_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Graphs	MENU	Graphing...	Equation graphing functions	Plotting		Graphs	
F1	$\downarrow X_{-10}$	Variable (real)	Lower limit for X-axis	Reserved Real variable for the lower limit for X-axis ($\downarrow X$) ; set interactively from menu Graphs and set by Draw $\downarrow$; TI : ' $\downarrow X$ ' :	Plotting		$\downarrow X$	-10
F2	$\uparrow X_{10}$	Variable (real)	Upper limit for X-axis	Reserved Real variable for the upper limit for X-axis ($\uparrow X$) ; set interactively from menu Graphs and set by Draw $\downarrow$; TI : ' $\uparrow X$ ' :	Plotting		$\uparrow X$	10
F3	$\downarrow Y_0$	Variable (real)	Lower limit for Y-axis	Reserved Real variable for the lower limit for Y-axis ($\downarrow Y$) ; set interactively from menu Graphs and set by Plot functions ; TI : ' $\downarrow Y$ ' :	Plotting		$\downarrow Y$	0
F4	$\uparrow Y_{10}$	Variable (real)	Upper limit for Y-axis	Reserved Real variable for the upper limit for Y-axis ($\uparrow Y$) ; set interactively from menu Graphs and set by Plot functions ; TI : ' $\uparrow Y$ ' :	Plotting		$\uparrow Y$	10
F5	Draw	MENU (item)	Draw (variable limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set by variables ($\downarrow X$, $\uparrow X$) and Y-axis limits by variables ($\downarrow Y$, $\uparrow Y$) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw	
F6	Draw $\downarrow$	MENU (item)	Draw (stack limits)	Draw graph for expression (or equation) entered in the equation editor ; X-axis limits set from stack (Y, X) and Y-axis limits by variables ($\downarrow Y$, $\uparrow Y$) ; Info : In Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; if an equation was entered (containing "="), the left hand side is plotted	Plotting		Draw $\downarrow$	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	Graphs	Link
F1	↓X -10	
F2	↑X 10	
F3	↓Y 0	
F4	↑Y 10	
F5	Draw	https://47calc.com/doc/C47/Menus/C47_Menu_Draw_page_1.pdf
F6	Draw ^x	https://47calc.com/doc/C47/Menus/C47_Menu_DrawYX_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

HIST	Histogram					
g-shift						
f-shift						
unshifted	HISTOX	HISTOY	↓BIN	nBINS	↑BIN	H PLOT
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_HOME_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	HIST	MENU	Histogram	Histogram functions	Plotting and statistics		HIST	
F1	HISTOX	Command	Histogram X	Evaluate first column of STATS and store in HISTO ; TI : ↑BIN : ; ↓BIN : ; nBINS :	Plotting and statistics		HISTOX	
F2	HISTOY	Command	Histogram Y	Evaluate second column of STATS and store in HISTO ; TI : ↑BIN : ; ↓BIN : ; nBINS :	Plotting and statistics		HISTOY	
F3	↓BIN	Command	Low bin	Low bin ; TI : ↑BIN : ; ↓BIN : ; nBINS :	Plotting and statistics		↓BIN	
F4	nBINS	Command	Number of bins	Number of bins in histogram ; TI : ↑BIN : ; ↓BIN : ; nBINS :	Plotting and statistics			
F5	↑BIN	Command	High bin	High bin ; TI : ↑BIN : ; ↓BIN : ; nBINS :	Plotting and statistics		↑BIN	
F6	HPLOT	MENU (item)	Histogram	Histogram plotting (programmable) ; Info : CAT.MENUS HPLOT	Plotting and statistics		HPLOT	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	HIST	Link
F1	HISTOX	
F2	HISTOY	
F3	↓BIN	
F4	nBINS	
F5	↑BIN	
F6	HPLOT	https://47calc.com/doc/C47/Menus/xxx1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

HOME	HOME					
g-shift	FP	IP	Prefix	ELEC	RECT $\odot$	POLAR $\circ$
f-shift	ROUND	RMD	$x!$	$ $	$e^{i \times}$	LINPOL
unshifted	DRG	y^x	x^2	10^x	e^x	$i_{\odot}$
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_HPLOT_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	HOME	MENU	HOME	User menu to quickly access user selected menus and functions ; all buttons are user assignable ('riveted' look) ; initially populated for basic scitech options ; reset using HOME.R ; Shortcut : triple [f/g] (because HOME _f is SET) ; longerpress [f/g] (because HOME _f is SET)	Customisation		HOME	
F1	DRG	Function (monadic, cyclic, nonpgm)	Degrees-radians-gradians	Add ADM tag to untagged value in X, convert tagged value to degrees-radians-gradians (cyclic) ; Info : Setting tag for complex X also sets POLAR mode for X according to ADM	Angle conversions		DRG	
F2	y ^x	Function (dyadic)	y to the power x	Raise value in the Y-register to the power in the X-register	Mathematics		y ^x	
F3	x ²	Function (monadic)	Square	Square of X	Mathematics		x ²	
F4	10 ^x	Function (monadic)	10 to the power x	Raise 10 to the power in the X-register	Mathematics		10 ^x	
F5	e ^x	Function (monadic)	e to the power x	Raise e to the power in the X-register	Mathematics		e ^x	
F6	i _⊙	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a i _⊙ b ENTER results in a x b (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_i _⊙	
fF1	ROUND	Function (monadic)	Round	Round number to current display format (returns Real number)	Reals		ROUND	
fF2	RMD	Function (dyadic)	Remainder	Remainder of division of Y by X	Integers		RMD	
fF3	x!	Function (monadic)	Factorial x! or Γ(x+1)	For Long integers : x! ; for Reals : Γ(x+1) ; Info : Max integer: 450 (up to 1000 digits accurate) ; max real : 2123.549 956 662 463 236 31 ; integers > max are converted to reals	Mathematics		x!	
fF4		Function (dyadic)	Parallel impedance	Parallel impedance : (X x Y) / (X + Y)	Electrical engineering and characters			
fF5	e ^{ix}	Function (monadic)	Euler's formula	Rotate complex unit vector by X radians : e ^{ix} = cos(x) + i sin(x) ; Info : i or j displayed in stack and on soft buttons	Mathematics	CPX.j	e ^{ix}	
fF6	LINPOL	Function (triadic)	Linear interpolation	Linear interpolation ; also works for Complex numbers and Dates ; Info : <from> ENTER <towards> ENTER <at> (fraction) LINPOL	Mathematics		LINPOL	
gF1	FP	Function (monadic)	Fractional Part	Fractional Part of real number ; Shortcut : #TAM [XEQ] (F) for closed number	Fractions		FP	
gF2	IP	Function (monadic)	Integer Part	Integer Part of number (returns Real number) ; Shortcut : #TAM [R+] (I) for closed number	Fractions		IP	
gF3	Prefix	MENU	Prefixes (UNIT)	Prefixes for UNIT mode	Numeric input		Prefix	
gF4	ELEC	MENU	Electrical engineering	Electrical engineering functions and custom programs ; Ref : https://47calc.com/doc/Application%20Notes/AN0006_C47_R47_JM_ELEC.pdf	Electrical engineering		ELEC	
gF5	RECT ⊙	Setting (pgm)	Rectangular notation	Switch on rectangular notation ; Info : SBI L ; ⊙ is shown if flag SBcpX is SET ; SBI : L	Complex and coordinates	POLAR	RECT ⊙	ON
gF6	POLAR ○	Setting (pgm)	Polar notation	Switch on polar notation ; Info : SBI L ; ○ is shown if flag SBcpX is SET ; SBI : ○	Complex and coordinates	POLAR	POLAR ○	OFF

p1	HOME	Link
F1	DRG	
F2	y^x	
F3	x^2	
F4	10^x	
F5	e^x	
F6	$i_{\odot}$	
fF1	ROUND	
fF2	RMD	
fF3	$x!$	
fF4	$ $	
fF5	e^{i^x}	
fF6	LINPOL	
gF1	FP	
gF2	IP	
gF3	Prefix	https://47calc.com/doc/C47/Menus/C47_Menu_Prefix_page_1.pdf
gF4	ELEC	https://47calc.com/doc/C47/Menus/C47_Menu_ELEC_page_1.pdf
gF5	RECT $\odot$	
gF6	POLAR $\circ$	

HPlot	Histogram					
g-shift						
f-shift						
unshifted	HNORM	-ZOOM ₀				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Hyper_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	HPLLOT	MENU	Histogram	Histogram plotting (programmable)	Plotting and statistics		HPLLOT	
F1	HNORM	Command	Histogram Normal	Fit Gauss distribution through HIST0 data (programmable)	Plotting and statistics		HNORM	
F2	-ZOOM0	Command	Zoom out on y-axis	Decrease zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; -ZOOM resets ↑Y and ↑Y to zero	Plotting			0
F3								
F4								
F5								
F6								
ff1								
ff2								
ff3								
ff4								
ff5								
ff6								
gf1								
gf2								
gf3								
gf4								
gf5								
gf6								

Hyper:	Hypergeometric distribution					
g-shift	ST0 _M N	ST0 _M n	ST0 _R K			
f-shift						
unshifted	Hyper _p		Hyper _Δ	Hyper _Δ		Hyper ⁻¹
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Hyper:	MENU	Hypergeometric distribution	Hypergeometric probability distribution (discrete) ; TI : RegM = N = ; RegN = n = ; RegQ = K =	Probability (int)		Hyper:	
F1	Hyper _p	Function (monadic)	Hypergeometric pmf	Hypergeometric probability mass function	Probability (int)		Hyper _p	
F2								
F3	Hyper _Δ	Function (monadic)	Hypergeometric cdf (lower)	Hypergeometric cumulative distribution (lower tail)	Probability (int)		Hyper _Δ	
F4	Hyper _Δ	Function (monadic)	Hypergeometric cdf (upper)	Hypergeometric cumulative distribution (upper tail)	Probability (int)		Hyper _Δ	
F5								
F6	Hyper ⁻¹	Function (monadic)	Hypergeometric qf (inverse)	Hypergeometric inverse cumulative distribution (quantile)	Probability (int)		Hyper ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	ST0 _M N	Command	Store N in M	Store parameter N : population size in register M ; Split screen : RegM = N =	Probability (int)			
gF2	ST0 _N n	Command	Store n in N	Store parameter n : number of samples in register N ; Split screen : RegN = n =	Probability (int)			
gF3	ST0 _Q K	Command	Store K in Q	Store parameter K : number of special items in the pool in register Q ; Split screen : RegQ = K =	Probability (int)			
gF4								
gF5								
gF6								

I/O	Input/Output					
g-shift	XPORTP	WRXPall	SAVEAUT		SNAP	AUDIO
f-shift	READP	LOADST	LOAD	LOADΣ	LOADSS	PRINT
unshifted	WRITEP	SAVEST	SAVE	LOADP	LOADR	LOADV
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	I/O	MENU	Input/Output	I/O functions (read/load, write/save, export program, in-export registers, SNAP, audio, print)	Input-Output		I/O	
F1	WRITEP	Command	Write/save program	Write/save program to backup file (.p47) in FAT for READP ; TAM : WRITEP _ TamLbLOnly menu ; DMCP : File save dialog ("Save Program" -- PROGRAMS/) ; TI : Saved	Input-Output		WRITEP	
F2	SAVEST	Command (nonpgm)	Save full state file	Save backup file (.s47) in FAT for LOADST ; the state file contains the complete state of the calculator: all memory content (registers, variables, programs, equations), all user assignments (key assignments, user menus) and all settings ; TI : Saving state file ... ; Saved ; DMCP File save dialog ("Save Calculator State" -- STATE/)	Input-Output		SAVEST	
F3	SAVE	Command (nonpgm)	Save full backup	Save full backup to file SAVFILES/C47.sav in FAT ; TI : Saved ; Directory : SAVFILES/	Input-Output		SAVE	
F4	LOADP	Command (nonpgm)	Load programs	Load programs from SAVE file SAVFILES/C47.sav in FAT ; TI : Programs and equations loaded ; appended ; Directory : SAVFILES/	Input-Output		LOADP	
F5	LOADR	Command (nonpgm)	Load registers	Load registers from SAVE file SAVFILES/C47.sav in FAT ; TI : Global and local registers loaded ; (w/ local flags ; Directory : SAVFILES/	Input-Output		LOADR	
F6	LOADV	Command (nonpgm)	Load variables	Load variables from SAVE file SAVFILES/C47.sav in FAT ; TI : User variables loaded ; Directory : SAVFILES/	Input-Output		LOADV	
fF1	READP	Command	Read/load program	Read/load program from WRITEP backup file (.p47) in FAT ; TI : Program file loaded ; DMCP File open dialog ("Load Program" -- PROGRAMS/)	Input-Output		READP	
fF2	LOADST	Command (nonpgm)	Load state	Load state from SAVEST backup file (.s47) in FAT and clear USER mode ; if full state, presenting "WARNING: Current calculator state will be lost. Press [ENTER] to confirm." ; key assignments will be ignored when loading from a state file created on a different model (C47 versus R47 and vice versa) ; TI : Loading state file ... ; State file loaded ; DMCP File open dialog ("Load Calculator State" -- STATE/)	Input-Output		LOADST	
fF3	LOAD	Command (nonpgm)	Load full backup	Load full backup from SAVE file SAVFILES/C47.sav in FAT and auto-clear USER mode ; key assignments will be ignored when loading from a backup file created on a different model (C47 versus R47 and vice versa) ; TI : Backup restored + <version info> ; Directory : SAVFILES/	Input-Output		LOAD	
fF4	LOADΣ	Command (nonpgm)	Load Sigma registers	Load Sigma registers from SAVE file SAVFILES/C47.sav in FAT ; TI : Loading stats ... ; Statistical data loaded ; Directory : SAVFILES/	Input-Output		LOADΣ	
fF5	LOADSS	Command (nonpgm)	Load system state	Load system state from SAVE file SAVFILES/C47.sav in FAT ; TI : System settings loaded ; Directory : SAVFILES/	Input-Output		LOADSS	
fF6	PRINT	MENU	Printing	Printing functions ; Info : Printing is available for new models and simulator, but is currently available on DM42 hardware only in some packages ; Ref : https://47calc.com/doc/Application%20Notes/AN0021_C47_R47_DL_Printing.pdf	Printing		PRINT	
gF1	XPORTP	Command	Export program	Export program to rich text format file (.rtf) in FAT ; TAM : XPORTP _ TamLbLOnly menu ; DMCP : File save dialog ("Export Program RTF" -- PROGRAMS/) ; TI : Saved	Input-Output		XPORTP	
gF2	WRXPall	Command (SIM)	Write/save & export all	Write/save & export all programs as binary and rich text files to PROGRAMS/ALLPGMS/ in FAT ; simulator only ; Info : TI : Only available on the simulator -- is raised when this command is performed on the hardware	Input-Output		WRXPall	
gF3	SAVEAUT	Command (nonpgm, HW)	Save autoloading file	Save autoloading file to file SAVFILES/C47auto.sav in FAT ; hardware only ; TI : Saved ; Directory : SAVFILES/ ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	Input-Output		SAVEAUT	
gF4								
gF5	SNAP	Command	Screenshot	Save screenshot to backup file (.bmp) and save contents of stack or alpha buffer as backup file (.REGS.TSV) in FAT ; plays clicking sound ; Shortcut : [f/g] + [E] (DMCP-shortcut for screenshot bitmap only) ; Info : screenshot is saved in file SCREENS/<YYYYMMDD-HHMMSS00>.bmp ; SNAP also appends data to file DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; new datafile after timeout of 2 minutes	Input-Output		SNAP	
gF6	AUDIO	MENU	Audio	Audio commands	Input-Output		AUDIO	

p1	I/O	Link
F1	WRITEP	
F2	SAVEST	
F3	SAVE	
F4	LOADP	
F5	LOADR	
F6	LOADV	
fF1	READP	
fF2	LOADST	
fF3	LOAD	
fF4	LOADΣ	
fF5	LOADSS	
fF6	PRINT	https://47calc.com/doc/C47/Menus/C47_Menu_PRINT_page_1.pdf
gF1	XPORTP	
gF2	WRXPall	
gF3	SAVEAUT	
gF4		
gF5	SNAP	
gF6	AUDIO	https://47calc.com/doc/C47/Menus/C47_Menu_AUDIO_page_1.pdf

I/O	Input/Output					
g-shift						
f-shift						
unshifted	EXPre	EXPs	EXPl	EXPrg	EXPx	IMPORT
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	I/O	MENU	Input/Output	I/O functions (read/load, write/save, export program, in-export registers, SNAP, audio, print)	Input-Output		I/O	
F1	EXPreg	Command	Export register or variable	Export register or variable to text data file (.d47) in FAT ; TAM : EXPreg ___ Tam menu ; Info : DMCP : File save dialog ("Export Register File" -- DATA/) ; TI : Data file saved	Input-Output		EXPreg	
F2	EXPstk	Command	Export stack	Export stack (8 or 4 registers, depending on flag SSIZE8) to text data file (.d47) in FAT ; Info : DMCP : File save dialog ("Export Register File" -- DATA/) ; TI : Data file saved ; SBI : 8 ; 4	Input-Output	SSIZE8	EXPstk	
F3	EXPltr	Command	Export lettered registers	Export lettered registers A-Z to text data file (.d47) in FAT ; Info : DMCP : File save dialog ("Export Register File" -- DATA/) ; TI : Data file saved	Input-Output		EXPltr	
F4	EXPnrg	Command	Export n registers	Export n registers starting with R00 to text data file (.d47) in FAT ; TAM : EXPnrg ___ TamNonReg menu ; Info : DMCP : File save dialog ("Export Register File" -- DATA/) ; TI : Data file saved	Input-Output		EXPnrg	
F5	EXPxfnx	Command	Export XFN	Export value of virtual compound data type in XYZ to text data file (.d47) in FAT ; Info : DMCP : File save dialog ("Export Register File" -- DATA/) ; TI : Data file saved	Input-Output		EXPxfnx	
F6	IMPORTr	Command	Import registers	Import registers from text data file (.d47), to destination address specified in the file ; Info : DMCP : File open dialog ("Import Register File" -- DATA/) ; TI : Data file loaded ; Ref : https://47calc.com/doc/Application%20Notes/AN0025_C47_R47_JM_d47_fileformat.pdf	Input-Output		IMPORTr	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

INFO	Information					
g-shift						MENU#
f-shift	WHO	BATT	DISK	VOL#	DELAY#	STATE
unshifted	VERS	LSTERR	LASTT	KTYP	LocR#	MEM
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_INFO_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	INFO	MENU	Information	System information and some information about the value in the X-register	Information		INFO	
F1	VERS	Command (nonpgm)	Version	Show firmware version ; TI : Firmware version	System		VERS	
F2	LSTERR	Command	Last error	Retain error code of last function or command executed ; returns 0 for no error ; Ref : https://47calc.com/doc/C47/Reference/C47_Errors_and_messages.pdf ; Info : returns error code even when IGNIER (Ignore one error) is SET	Information		LSTERR	
F3	LASTT	Command	Last Ticks	Get number of ticks for the previous operation (command, function, program) ; Info : One tick is 100 ms	System		LASTT	
F4	KTYP	Command (logical)	Key type?	Get key type for key code returned by KEY? ; TAM : KTYP __ Tam menu ; Info : https://47calc.com/doc/C47/Reference/C47_KeyType.pdf	Programming		KTYP	
F5	LocR#	Command	Get number of local registers	Get number of local registers (current routine) ; Info : Set by LocR	Registers		LocR#	
F6	MEM	Command	Memory (RAM)	Get amount of free RAM memory, in bytes ; TI : Bytes =	System		MEM	
fF1	WHO	Command (nonpgm)	Who	Show calculator development team and contributor's names ; TI : Team names	System		WHO	
fF2	BATT	Command (HW)	Battery voltage	Get battery voltage ± 1 mV ; hardware only ; TI : V = ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	System		BATT	
fF3	DISK	Command (HW)	Disk state	Get DMCP status of the FAT disk ; hardware only ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	System		DISK	
fF4	VOL#	Command (HW)	Get volume	Get volume (0-11) ; hardware only (DMCP setting) ; Info : Set by VOL ; Error 126 -- Not available on the simulator -- is raised when this setting is performed on the simulator	Input-Output		VOL#	11
fF5	▣LAY#	Command	Get printer delay	Get printer delay	Printing			
fF6	STATE	Command	Last statefile loaded	Get name of last full statefile or backup loaded from STATE/<state>.s47, SAVFILES/C47.sav or SAVFILES/C47auto.sav ; TI : Last full state file loaded: <date>: <file>	Input-Output		STATE	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	MENU#	Command	Get current menu	Get current menu name ; followed by ↵ and page number if 2 or higher	Programming		MENU#	

INFO	Information					
g-shift	J/G#	WOY#				
f-shift	RNG#	HIDE#	SDIGS#	FDIGS#	BestF#	WSIZE#
unshifted	TYPE	DIMN#	NEIGHB	ULP	SSIZE#	RMODE#
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	INFO	MENU	Information	System information and some information about the value in the X-register	Information		INFO	
F1	TYPE	Command	Data type	Get datatype of value in X, expressed as a numeric typecode m.nop, where m : 0-9 ; n : 0-5 or 2-16 ; o : 0-4 ; p : 0-2 ; TI : <type> ; Info : note that some datatypes have subcodes ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Information		TYPE	
F2	DIMN#	Command	Matrix dimension? (named)	Get dimensions of matrix in register or variable ; TAM : M.DIMN# __ Tam menu	Matrix operations		M.DIMN#	
F3	NEIGHB	Function (dyadic)	Neighbour	Get neighbour value of X compared to Y (next integer or next machine representable Real number)	Mathematics		NEIGHB	
F4	ULP	Function (monadic)	Unit in the last place	Get minimum difference to next or previous machine representable real, as power of ten ; Info : ULP is for Real numbers in X ; result is displayed as ≈0. because of default HIDE and RNG settings, use SHOW to view result	Mathematics		ULP	10 ⁻⁶¹⁷⁶
F5	SSIZE#	Command	Get Stack size	Get Stack size ; Info : Set by SSIZE4 or SSIZE8 ; Flag SSIZE8 is default SET ; SBI : 8 ; 4	Stack	SSIZE8	SSIZE#	8
F6	RMODE#	Command	Get rounding mode	Get floating point rounding mode ; Info : Set by RMODE	Reals		RMODE#	0
fF1	RNG#	Command	Get number range	Get number range as 10 ⁿⁿ , where nn in [99, 6145] ; Info : Set by RNG	Reals		RNG#	
fF2	HIDE#	Command	Get hide parameter	Get parameter to hide small Real numbers or parts ; Info : Set by HIDE	Display		HIDE#	0
fF3	SDIGS#	Command	Get significant digits	Get the number of significant digits (1-34) for rounding after each operation ; Info : Set by SDIGS	Mathematics		SDIGS#	34
fF4	FDIGS#	Command	Get significant digits for fractions	Get the number of significant digits (1-34) used by the approximations of the fraction modes ; Info : Set by FDIGS	Fractions		FDIGS#	34
fF5	BestF#	Command	Get Best Fit	Get parameter for which models are selected in the LR analysis ; Info : Set in menu MODEL	Plotting and curve fitting		BestF#	
fF6	WSIZE#	Command	Get word size	Get word size in bits, for Short integer (8.02-8.16) ; TI : Bits = ; Info : set by WSIZE	Bits and bytes		WSIZE#	64
gF1	J/G#	Command	Get Julian-Gregorian transition	Get the day that Julian date changes over to Gregorian date ; Info : Set by J/G	Time functions		J/G#	1752-09-14
gF2	WOY#	Command	Get Week of Year rule	Get Week of Year rule (default : WOY _{ISO} , week starts on Monday and week number depends on the first Thursday ; returns 1.4)	Time functions		WOY#	1.4
gF3								
gF4								
gF5								
gF6								

INFO	Information					
g-shift						
f-shift	ADM ₀	ISM ₂	DF ₀	NDEC ₃	DMXX ₆₄	
unshifted	ADM#	ISM#	DF#	NDEC#	DMX#	
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	INFO	MENU	Information	System information and some information about the value in the X-register	Information		INFO	
F1	ADM#	Command	Get angular display mode	Get angular display mode ; set interactively from menu MODE formats or from catalog (DEG ; D.MS ; RAD ; MUL π ; GRAD) and by ADM ; Info : DEG : 0 ; D.MS : 1 ; RAD : 2 ; MUL π : 3 ; GRAD : 4 ; SBI : ° ; " ; ' ; π^r ; π^g	Angle tagging or conversion		ADM#	0
F2	ISM#	Command	Get integer sign mode	Get integer sign mode ; set interactively from menu BITSET (1COMPL ; 2COMPL ; SIGNMT ; UNSIGN) and by ISM ; Info : 1COMPL: 1 ; 2COMPL: 2 ; SIGNMT: -1 ; UNSIGN: 0	Integers		ISM#	2
F3	DF#	Command	Get real number display format	Get real number display format ; set interactively from menu MLoads: (formats FIX ; SCI ; ENG ; UNIT ; SIG ; ALL) and by DF ; Info : FIX : 1 ; SCI : 2 ; ENG : 3 ; UNIT : 5 ; SIG : 4 ; ALL : 0	Reals		DF#	0
F4	NDEC#	Command	Get number of digits displayed	Get number of digits displayed ; set by DSP or interactively from menu MLoads: (parameter for FIX ; SCI ; ENG ; UNIT ; SIG ; ALL) and by NDEC ; Info : Range is [0, 19]	Display		NDEC#	3
F5	DMX#	Command	Get max denominator for fractions	Get max denominator for fractions ; set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3]fF5 (DMXX) ; Info : Range is [2, 9999] or 0, indicating DMXmax = 32500 ; SBI is shown if flag SBfrac is SET ; SBI : /nnnn ; /max	Fractions		DMX#	64
F6								
fF1	ADM ₀	Command	Set angular display mode	Set angular display mode to X ; also set interactively from menu MODE formats or from catalog (DEG ; D.MS ; RAD ; MUL π ; GRAD) ; Info : DEG : 0 ; D.MS : 1 ; RAD : 2 ; MUL π : 3 ; GRAD : 4 ; SBI : ° ; " ; ' ; π^r ; π^g	Angle tagging or conversion		ADM ₀	0
fF2	ISM ₂	Command	Set integer sign mode	Set integer sign mode to X ; also set interactively from menu BITSET (1COMPL ; 2COMPL ; SIGNMT ; UNSIGN) ; Info : 1COMPL: 1 ; 2COMPL: 2 ; SIGNMT: -1 ; UNSIGN: 0	Integers		ISM ₂	2
fF3	DF ₀	Command	Set real number display format	Set real number display format to X ; also set interactively from menu MLoads: (formats FIX ; SCI ; ENG ; UNIT ; SIG ; ALL) ; Info : FIX : 1 ; SCI : 2 ; ENG : 3 ; UNIT : 5 ; SIG : 4 ; ALL : 0	Reals		DF ₀	0
fF4	NDEC ₃	Command	Set number of digits displayed	Set number of digits displayed to X ; also set by DSP or interactively from menu MLoads: (parameter for FIX ; SCI ; ENG ; UNIT ; SIG ; ALL) ; Info : Range is [0, 19]	Display		NDEC ₃	3
fF5	DMXX ₆₄	Command	Set max denominator for fractions	Set max denominator for fractions to value in X ; maximum value of 32500 is set by value 0 in X, stored as 0 and displayed as DMXX ₀ ; also set interactively from menu DISP (DMX TAM variant) ; Info : Range is [2, 9999] or 0, indicating DMXmax = 32500 ; SBI is shown if flag SBfrac is SET ; SBI : /nnnn ; /max	Fractions		DMXX ₆₄	64
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

$\int f$	Integrator [EQN]					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>		Tool $\int$	$\int_y^x$
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	$\int f$	MENU	Integrator [EQN]	Integrator (variables) menu for the algebraic expression entered in the equation editor ; enter value and press <var _n > button(s) to set variables, then press button for variable to be used by the integrator in menu Tool $\int$ or this menu ; if only one variable exists it will be selected and starred automatically ; tolerance set by variable ACC ; Info : TI : "Select Integrator Variable" is presented if Tool $\int$ is activated without a variable having been selected first	Integrator		$\int f$	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 of the expression entered in EQ.NEW (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, of the expression entered in EQ.NEW ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5	Tool $\int$	MENU	Integrator tools [EQN]	Integrator tools and parameter settings	Integrator		Tool $\int$	
F6	$\int_y^x$	Command	Integrator (stack limits)	Solve the integral for the expression entered in the equation editor or the RPN program (with MVAR variables) selected in TAM ; in Program Entry Mode, RPN program must be specified by PGMINT ; integrator limits set from stack (Y, X) ; tolerance set by variable ACC ; TAM : $\int_y^x$... Tam menu (in PEM, to specify variable to integrate for) ; TI : Accuracy $\approx$; Info : $\int \approx$ displays the accumulated integral sum, the current accuracy achieved, the level counter from 7 down to 0 and an iteration counter ; shown if flag MONIT is SET	Integrator	INTING	$\int_y^x$	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	$\int f$	Link
F1	<var ₁ >	
F2	<var ₂ >*	
F3	<var...>	
F4		
F5	Tool $\int$	https://47calc.com/doc/C47/Menus/C47_Menu_ToolInt_EQN_page_1.pdf
F6	$\int_y^x$	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

∫ f d (MVAR)	Integrator (RPN)					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>			
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	$\int f d$ (MVAR)	MENU	Integrator (RPN)	Integrator (variables) menu for the RPN program (with MVAR variables) selected with TamLb1Only menu ; enter value and press <var _n > button(s) to set variables, then press button for variable to be used by the integrator in menu Tool $\int$; in Program Entry Mode, the RPN program must be specified by PGMINT and the variable with the Tam menu ; tolerance set by variable ACC ; TAM : $\int f d$ _ TamLb1Only menu (uses Tam menu in PEM, to specify variable to integrate for)	RPN Calculus and plotting		$\int f d$	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 as created by MVAR (in RPN program) (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

INTS	Integers					
g-shift	DBL÷	DBLR	DBL×	^MOD	SINT	GCD
f-shift	IDIV	RMD	MOD	×MOD	LINT	LCM
unshifted	A	B	C	D	E	F
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_IPART_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	INTS	MENU	Integers	Short integer functions	Integers		INTS	
F1	A	Character	A	Digit A ; Fontcode : 0041 ₁₆	Numeric input and characters			
F2	B	Character	B	Digit B ; Fontcode : 0042 ₁₆	Numeric input and characters			
F3	C	Character	C	Digit C ; Fontcode : 0043 ₁₆	Numeric input and characters			
F4	D	Character	D	Digit D ; Fontcode : 0044 ₁₆	Numeric input and characters			
F5	E	Character	E	Digit E ; Fontcode : 0045 ₁₆	Numeric input and characters			
F6	F	Character	F	Digit F ; Fontcode : 0046 ₁₆	Numeric input and characters			
fF1	IDIV	Function (dyadic)	Integer divide	Integer divide	Integers		IDIV	
fF2	RMD	Function (dyadic)	Remainder	Remainder of division of Y by X	Integers		RMD	
fF3	MOD	Function (dyadic)	Modulo	Y modulo X	Mathematics		MOD	
fF4	xMOD	Function (triadic)	ZxY modulo X	Z x Y, modulo X	Integers		xMOD	
fF5	LINT	Function (monadic)	Long integer	Convert to Long integer (0) ; Info : Max 1000 digits	Integers		LINT	
fF6	LCM	Function (dyadic)	Least common multiple	Least common multiple of X and Y	Integers		LCM	
gF1	DBL÷	Function (triadic)	Double divide	Double word length divide : (Z - least, Y - most significant digits) / (X)	Integers		DBL÷	
gF2	DBLR	Function (triadic)	Double remainder	Double word length remainder	Integers		DBLR	
gF3	DBL×	Function (dyadic)	Double multiply	Double word length multiply (result in Y - least and X - most significant digit)	Integers		DBL×	
gF4	^MOD	Function (triadic)	Z^Y modulo X	Z^Y modulo X	Integers		^MOD	
gF5	SINT	Function (monadic)	Short integer	Convert to Short integer (8.02-8.16)	Integers		SINT	
gF6	GCD	Function (dyadic)	Greatest common divisor	Greatest common divisor of X and Y	Integers		GCD	

IPART	Select IP separator					
g-shift	IPGRP ₃	IPGRP1 ₀	IPGRP1x ₀		NSPC _u ☐	
f-shift	WPER. ☐	WCOM, ☐	WDOT • ☐	WTICK' ☐	WSPC _u ☐	UNDR_ ☐
unshifted	PER. ☐	COM, ☐	DOT• ☐	TICK' ☐	SPC _u ☐	NONE ☐
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_KEYS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	IPART	MENU	Select IP separator	Select integer part separator	Display		IPART	
F1	PER. 0	Setting (pgm)	IP separator period	Set integer part separator to period	Display		IPER. 0	OFF
F2	COM, 0	Setting (pgm)	IP separator comma	Set integer part separator to comma	Display		ICOM, 0	OFF
F3	DOT. 0	Setting (pgm)	IP separator dot	Set integer part separator to dot	Display		IDOT. 0	OFF
F4	TICK' 0	Setting (pgm)	IP separator narrow tick	Set integer part separator to narrow tick	Display		ITICK' 0	OFF
F5	SPC. 0	Setting (pgm)	IP separator space	Set integer part separator to space	Display		ISPC. 0	ON
F6	NONE 0	Setting (pgm)	IP separator <none>	Set integer part separator to <none> ; Info : Menu shows symbol ø	Display		INONE 0	OFF
fF1	WPER. 0	Setting (pgm)	IP separator wide period	Set integer part separator to wide period	Display		IWPER. 0	OFF
fF2	WCOM, 0	Setting (pgm)	IP separator wide comma	Set integer part separator to wide comma	Display		IWCOM, 0	OFF
fF3	WDOT • 0	Setting (pgm)	IP separator wide dot	Set integer part separator to wide dot	Display		IWDOT • 0	OFF
fF4	WTICK' 0	Setting (pgm)	IP separator tick	Set integer part separator to tick	Display		IWTICK' 0	OFF
fF5	WSPC... 0	Setting (pgm)	IP separator double space	Set integer part separator to double space	Display		IWSPC... 0	OFF
fF6	UNDR_ 0	Setting (pgm)	IP separator underscore	Set integer part separator to underscore	Display		IUNDR_ 0	OFF
gF1	IPGRP ₃	Setting (pgm)	IP group size	Set integer part group size (2-9 digits) ; not for SCI or ENG notation ; TAM : IPGRP _ TamNonReg menu	Display		IPGRP ₃	3
gF2	IPGRP1 ₀	Setting (pgm)	IP first group size	Set number of digits of the first group to the left of the radix to be different from IPGRP ; a value of 0 means this setting is ignored (IPGRP is followed) ; TAM : IPGRP1 _ TamNonReg menu	Display		IPGRP1 ₀	0
gF3	IPGRP1x ₀	Setting (pgm)	IP first group extension	Allow the first group to the left of the radix to contain one more digit (up to 1-9) than the number of digits specified by IPGRP1 ; a value of 0 means this setting is ignored (IPGRP1 is followed) ; TAM : IPGRP1x _ TamNonReg menu ; Info : e.g. with first group size set to 3 and extension set to 2, up to a value of 2999 the digits remain grouped (without separator), but 3 000 and higher will not (separator space is assumed here)	Display		IPGRP1x ₀	0
gF4								
gF5	NSPC. 0	Setting (pgm)	IP separator narrow space	Set integer part separator to narrow space	Display		INSPC. 0	OFF
gF6								

KEYS	Keys					
g-shift						
f-shift	C47 ☐	DM42 ○				
unshifted	Σ+ KEY	RIBBONS	RESETS	ASN	USER □	KEYMAP
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Keyboards_side_by_side.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0018_C47_R47_Keyboard.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	KEYS	MENU	Keys	Layouts, ribbons and special key assignments ; Ref : https://47calc.com/doc/C47/Reference/C47_Keyboards_side_by_side.pdf	Customisation		KEYS	
F1	Σ + KEY	MENU	Special [Σ] hotkey assignments	Special hotkey assignments to key [Σ] in NORMAL mode	Customisation		Σ +KEY	
F2	RIBBONS	MENU	Ribbons	Selection of ribbons for MyM (MyMenu) ; Info : Ribbons are predefined sets of buttons to assign to the primary (unshifted) row of MyM (MyMenu)	Customisation		RIBBONS	
F3	RESETS	MENU	Resets	Reset user menus to defaults ; delete user keyboard assignments	Cleanup		RESETS	
F4	ASN	Command	Assign	Assign function, menu or character to a keyboard key or to a button in a menu ; for options including creating user defined menus, see reference page ; TAM : ASSIGN α (f[XEQ]) activates "ASSIGN " - TamAlpha menu _ " and allows a function or command to be spelled, to assign it to a key or button ; Info : "ASSIGN _ _ " indicates that a key or button can be pressed to assign it to another button or key ; use button ASN ([ALPHA.1]fF4) for character assignments in Alpha Input Mode ; this button is not shown in Program Entry Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Assignment.pdf	Text input		ASSIGN	
F5	USER $\square$	Setting	USER mode	Switch on USER mode ; not programmable - in PEM, use flag USER ; Info : To assign USER to a key or button, use ASN (f[1]) and spell the name as 'USER' ; during assignment, pressing USER (f[2]) opens MyMenu ; Ref : https://47calc.com/doc/C47/Reference/C47_Assignment.pdf ; SBI : $\square$	Customisation	USER		OFF
F6	KEYMAP	Browser	Keyboard map	Browse keyboard map (default USER mode) ; also showing special NORMAL hotkey assignment from menu Σ + KEY ; if KEYMAP is activated when in Alpha Input Mode or Equation Input Mode, the alpha keyboard mappings are shown only (default NORMAL mode, starting with alpha g-shift) ; Info : Press and hold key [.] to view USER or NORMAL (STD) keys ; browse using [$\blacktriangle$] and [$\blacktriangledown$] ; press [EXIT] to exit Keyboard map ; Ref : https://47calc.com/doc/C47/Reference/C47_KEYMAP.pdf	Catalog		KEYMAP	
fF1	C47 $\odot$	Layout	C47 layout	C47 keyboard layout ; selecting this layout changes base keys and deletes all keyboard assignments (KEYS.R) ; TI : C47: Classic single shift (DM42/DM42n base) ; the layout is kept even on RESET	Customisation			ON
fF2	DM42 $\circ$	Layout	DM42 layout	DM42 keyboard layout ; selecting this layout changes base keys and deletes all keyboard assignments (KEYS.R) ; TI : DM42: Final compatibility layout ; this layout is supported for DM42 calculators without a bezel by menu BLUE47 ; the layout is kept even on RESET	Customisation			OFF
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	KEYS	Link
F1	Σ+ KEY	https://47calc.com/doc/C47/Menus/C47_Menu_NRMKEY_page_1.pdf
F2	RIBBONS	https://47calc.com/doc/C47/Menus/C47_Menu_RIBBONS_page_1.pdf
F3	RESETS	https://47calc.com/doc/C47/Menus/C47_Menu_RESETS_page_1.pdf
F4	ASN	
F5	USER □	
F6	KEYMAP	
fF1	C47 @	
fF2	DM42 o	
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

L.INTS	Long integer variables					
g-shift						
f-shift						
unshifted	GRAMOD					
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	L.INTS	MENU	Long integer variables	Auto-generated catalog of variables of the specified datatype : Long integer (0)	Catalog		L.INTS	
F1	GRAMOD	Variable (longint)	Graphics display mode	Reserved LongInteger variable for the graphics display mode (GRAMOD) ; set interactively from menu P.FN1 (AGRAPH) ; Info : 0R: 0 ; SET: 1 ; OFF: 2 ; XOR: 3	Programming		GRAMOD	0
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Length:	Length conversions					
g-shift	mi ←	→ nmi	mm ←	→ in	m ←	→ au
f-shift	km ←	→ nmi	m ←	→ ft	m ←	→ ly
unshifted	km ←	→ mi	m ←	→ yd	m ←	→ pc
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Length:	MENU	Length conversions	Convert between units of length ; Info : Flag CONV _{HP} may be SET for <to> ⇄ <to> unit conversion buttons ; CLEAR for <from> → ⇄ <from> unit conversion buttons (default SET)	Distance conversions		Length:	
F1	mi→km (km ⇄)	Function (monadic, linked)	mi to km	Convert mile to kilometre ; TI : km:	Distance conversions	CONV _{HP}		
F2	km→mi (→ mi)	Function (monadic, linked)	km to mi	Convert kilometre to mile ; TI : mi:	Distance conversions	CONV _{HP}		
F3	yd→m (m ⇄)	Function (monadic, linked)	yd to m	Convert yard to metre ; TI : m:	Distance conversions	CONV _{HP}		
F4	m→yd (→ yd)	Function (monadic, linked)	m to yd	Convert metre to yard ; TI : yd:	Distance conversions	CONV _{HP}		
F5	pc→m (m ⇄)	Function (monadic, linked)	pc to m	Convert parsec to metre ; TI : m:	Distance conversions	CONV _{HP}		
F6	m→pc (→ pc)	Function (monadic, linked)	m to pc	Convert metre to parsec ; TI : pc:	Distance conversions	CONV _{HP}		
ff1	nmi→km (km ⇄)	Function (monadic, linked)	nmi to km	Convert nautical mile to kilometre ; TI : km:	Distance conversions	CONV _{HP}		
ff2	km→nmi (→ nmi)	Function (monadic, linked)	km to nmi	Convert kilometre to nautical mile ; TI : nmi:	Distance conversions	CONV _{HP}		
ff3	ft→m (m ⇄)	Function (monadic, linked)	ft to m	Convert foot to metre ; TI : m:	Distance conversions	CONV _{HP}		
ff4	m→ft (→ ft)	Function (monadic, linked)	m to ft	Convert metre to foot ; TI : ft:	Distance conversions	CONV _{HP}		
ff5	ly→m (m ⇄)	Function (monadic, linked)	ly to m	Convert light year to metre ; TI : m:	Distance conversions	CONV _{HP}		
ff6	m→ly (→ ly)	Function (monadic, linked)	m to ly	Convert metre to light year ; TI : ly:	Distance conversions	CONV _{HP}		
gF1	nmi→mi (mi ⇄)	Function (monadic, linked)	nmi to mi	Convert nautical mile to mile ; TI : mi:	Distance conversions	CONV _{HP}		
gF2	mi→nmi (→ nmi)	Function (monadic, linked)	mi to nmi	Convert mile to nautical mile ; TI : nmi:	Distance conversions	CONV _{HP}		
gF3	in→mm (mm ⇄)	Function (monadic, linked)	in to mm	Convert inch to millimetre ; TI : mm:	Distance conversions	CONV _{HP}		
gF4	mm→in (→ in)	Function (monadic, linked)	mm to in	Convert millimetre to inch ; TI : in:	Distance conversions	CONV _{HP}		
gF5	au→m (m ⇄)	Function (monadic, linked)	au to m	Convert astronomical unit to metre ; TI : m:	Distance conversions	CONV _{HP}		
gF6	m→au (→ au)	Function (monadic, linked)	m to au	Convert metre to astronomical unit ; TI : au:	Distance conversions	CONV _{HP}		

Length:	Length conversions					
g-shift			m ←	→ chǐ	m ←	→ fēn
f-shift			m ←	→ zhàng	m ←	→ cùn
unshifted	m ←	→ lǐ	m ←	→ yǐn		
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	Length:	MENU	Length conversions	Convert between units of length ; Info : Flag CONV _{HP} may be SET for <to> ← → <to> unit conversion buttons ; CLEAR for <from> → ← <from> unit conversion buttons (default SET)	Distance conversions		Length:	
F1	lǐ→m (m ←)	Function (monadic, linked)	lǐ to m	Convert lǐ to metre ; TI : m:	Distance conversions	CONV _{HP}		
F2	m→lǐ (→ lǐ)	Function (monadic, linked)	m to lǐ	Convert metre to lǐ ; TI : lǐ:	Distance conversions	CONV _{HP}		
F3	yīn→m (m ←)	Function (monadic, linked)	yīn to m	Convert yīn to metre ; TI : m:	Distance conversions	CONV _{HP}		
F4	m→yīn (→ yīn)	Function (monadic, linked)	m to yīn	Convert metre to yīn ; TI : yīn:	Distance conversions	CONV _{HP}		
F5								
F6								
fF1								
fF2								
fF3	zhāng→m (m ←)	Function (monadic, linked)	zhāng to m	Convert zhāng to metre ; TI : m:	Distance conversions	CONV _{HP}		
fF4	m→zhāng (→ zhāng)	Function (monadic, linked)	m to zhāng	Convert metre to zhāng ; TI : zhāng:	Distance conversions	CONV _{HP}		
fF5	cùn→m (m ←)	Function (monadic, linked)	cùn to m	Convert cùn to metre ; TI : m:	Distance conversions	CONV _{HP}		
fF6	m→cùn (→ cùn)	Function (monadic, linked)	m to cùn	Convert metre to cùn ; TI : cùn:	Distance conversions	CONV _{HP}		
gF1								
gF2								
gF3	chǐ→m (m ←)	Function (monadic, linked)	chǐ to m	Convert chǐ to metre ; TI : m:	Distance conversions	CONV _{HP}		
gF4	m→chǐ (→ chǐ)	Function (monadic, linked)	m to chǐ	Convert metre to chǐ ; TI : chǐ:	Distance conversions	CONV _{HP}		
gF5	fēn→m (m ←)	Function (monadic, linked)	fēn to m	Convert fēn to metre ; TI : m:	Distance conversions	CONV _{HP}		
gF6	m→fēn (→ fēn)	Function (monadic, linked)	m to fēn	Convert metre to fēn ; TI : fēn:	Distance conversions	CONV _{HP}		

Length:	Length conversions					
g-shift			cm ←	→ in		
f-shift	m ←	→ nmi	m ←	→ fathom		
unshifted	m ←	→ mi	m ←	→ survey ft _{us}	mm ←	→ point
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	Length:	MENU	Length conversions	Convert between units of length ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Distance conversions		Length:	
F1	mi $\rightarrow$ m (m $\leftarrow$)	Function (monadic, linked)	mi to m	Convert mile to metre ; TI : m:	Distance conversions	CONV _{HP}		
F2	m $\rightarrow$ mi ($\rightarrow$ mi)	Function (monadic, linked)	m to mi	Convert metre to mile ; TI : mi:	Distance conversions	CONV _{HP}		
F3	survey ft _{US} $\rightarrow$ m (m $\leftarrow$)	Function (monadic, linked)	survey ft _{US} to m	Convert US survey foot to metre ; TI : m:	Distance conversions	CONV _{HP}		
F4	m $\rightarrow$ survey ft _{US} ($\rightarrow$ survey ft _{US})	Function (monadic, linked)	m to survey ft _{US}	Convert metre to US survey foot ; TI : survey ft _{US} ; Info : single = ey ft _{US} $\leftarrow$	Distance conversions	CONV _{HP}		
F5	point $\rightarrow$ mm (mm $\leftarrow$)	Function (monadic, linked)	point to mm	Convert point to millimetre ; TI : mm:	Distance conversions	CONV _{HP}		
F6	mm $\rightarrow$ point ($\rightarrow$ point)	Function (monadic, linked)	mm to point	Convert millimetre to point ; TI : point:	Distance conversions	CONV _{HP}		
fF1	nmi $\rightarrow$ m (m $\leftarrow$)	Function (monadic, linked)	nmi to m	Convert nautical mile to metre ; TI : m:	Distance conversions	CONV _{HP}		
fF2	m $\rightarrow$ nmi ($\rightarrow$ nmi)	Function (monadic, linked)	m to nmi	Convert metre to nautical mile ; TI : nmi:	Distance conversions	CONV _{HP}		
fF3	fathom $\rightarrow$ m (m $\leftarrow$)	Function (monadic, linked)	fathom to m	Convert fathom to metre ; TI : m:	Distance conversions	CONV _{HP}		
fF4	m $\rightarrow$ fathom ($\rightarrow$ fathom)	Function (monadic, linked)	m to fathom	Convert metre to fathom ; TI : fathom:	Distance conversions	CONV _{HP}		
fF5								
fF6								
gF1								
gF2								
gF3	in $\rightarrow$ cm (cm $\leftarrow$)	Function (monadic, linked)	in to cm	Convert inch to Centimetre ; TI : cm:	Distance conversions	CONV _{HP}		
gF4	cm $\rightarrow$ in ($\rightarrow$ in)	Function (monadic, linked)	cm to in	Convert Centimetre to inch ; TI : in:	Distance conversions	CONV _{HP}		
gF5								
gF6								

Logis:	Logistic distribution					
g-shift	ST0 _M μ	ST0 _s s				
f-shift						
unshifted	Logis _p		Logis _A	Logis _A		Logis ⁻¹
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Logis:	MENU	Logistic distribution	Logistic probability distribution (continuous) ; TI : RegM = μ = ; RegS = s =	Probability (real)		Logis:	
F1	Logis _p	Function (monadic)	Logistic pdf	Logistic probability density function	Probability (real)		Logis _p	
F2								
F3	Logis _Δ	Function (monadic)	Logistic cdf (lower)	Logistic cumulative distribution (lower tail)	Probability (real)		Logis _Δ	
F4	Logis _Δ	Function (monadic)	Logistic cdf (upper)	Logistic cumulative distribution (upper tail)	Probability (real)		Logis _Δ	
F5								
F6	Logis ⁻¹	Function (monadic)	Logistic qf (inverse)	Logistic inverse cumulative distribution (quantile)	Probability (real)		Logis ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	ST0 _M μ	Command	Store μ in M	Store parameter μ : location in register M ; Split screen : RegM = μ =	Probability (real)			
gF2	ST0 _S s	Command	Store s in S	Store parameter s : scale in register S ; Split screen : RegS = s =	Probability (real)			
gF3								
gF4								
gF5								
gF6								

LOOP	Looping					
g-shift						
f-shift	DECR					INCR
unshifted	DSE	DSZ	DSL	ISE	ISZ	ISG
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	LOOP	MENU	Looping	Looping (programming) functions	Programming		LOOP	
F1	DSE	Command	Decrement skip on equal	Decrement skip on equal, using range number in register or variable (ccc.fffdd, where ccc is counter, fff is final value, dd is decrement) ; TAM : DSE __ Tam menu	Programming		DSE	
F2	DSZ	Command	Decrement skip on zero	Decrement skip on zero, using range number in register or variable (ccc.fffdd, where ccc is counter, fff is final value, dd is decrement) ; TAM : DSZ __ Tam menu ; Info : time values may be used as the range number, decrement is one hour	Programming		DSZ	
F3	DSL	Command	Decrement skip on less	Decrement skip on less, using range number in register or variable (ccc.fffdd, where ccc is counter, fff is final value, dd is decrement) ; TAM : DSL __ Tam menu	Programming		DSL	
F4	ISE	Command	Increment skip on equal	Increment skip on equal, using range number in register or variable (ccc.fffii, where ccc is counter, fff is final value, ii is increment) ; TAM : ISE __ Tam menu	Programming		ISE	
F5	ISZ	Command	Increment skip on zero	Increment skip on zero, using range number in register or variable (ccc.fffii, where ccc is counter, fff is final value, ii is increment) ; TAM : ISZ __ Tam menu ; Info : time values may be used as the range number, increment is one hour	Programming		ISZ	
F6	ISG	Command	Increment skip on greater	Increment skip on greater, using range number in register or variable (ccc.fffii, where ccc is counter, fff is final value, ii is increment) ; TAM : ISG __ Tam menu	Programming		ISG	
fF1	DECR	Command	Decrement	Decrement range number in register or variable (ccc.fffdd, where ccc is counter, fff is final value, dd is decrement), by decrement ; TAM : DECR __ Tam menu	Programming		DECR	
fF2								
fF3								
fF4								
fF5								
fF6	INCR	Command	Increment	Increment range number in register or variable (ccc.fffii, where ccc is counter, fff is final value, ii is increment), by increment ; TAM : INCR __ Tam menu	Programming		INCR	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

M_EDIT	Matrix editor					
g-shift	DELR	DELC			WRAP ☹	GROW ☹
f-shift	INSR	INSC	<i>i</i> ☹	OLD	↑	↓
unshifted	ROW+1	COL+1	<i>i</i>	GOTO	←	→
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_M_SIMQ_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	M_EDIT	MENU	Matrix editor	Matrix editor ; Info : MIM = Matrix Input Mode ; [$\blacktriangle$] or [$\blacktriangledown$] to move up or down one position ; Ref : $1/x$, which is a shortcut for $[M]^{-1}$, use $-1\ y^x$ instead ; and $\sqrt{x}$, which is a shortcut for MSQRT, use $0.5\ y^x$ instead	Matrix operations		M_EDIT	
F1	ROW+1	Command	Add row	Add row to matrix, at the bottom edge	Matrix operations		M.ROW+1	
F2	COL+1	Command	Add column	Add column to matrix, at the right edge	Matrix operations		M.COL+1	
F3	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in $a + b\ i$; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX j when in RECT mode	Complex numbers	CPX j	op_ i	
F4	GOTO	Command	Go to matrix element	Go to matrix element using GOTO Row ; GOTO Column ; (TAM) : GOTO Row ; GOTO Column	Matrix operations		M.GOTO	
F5	←	Arrow	Move left	Move left one position ; Fontcode : 2190 ₁₆	Navigation and characters			
F6	→	Arrow	Move right	Move right one position ; Fontcode : 2192 ₁₆	Navigation and characters			
fF1	INSR	Command	Insert row	Insert row into matrix, at the cursor position	Matrix operations		M.INSR	
fF2	INSC	Command	Insert column	Insert column into matrix, at the cursor position	Matrix operations		M.INSC	
fF3	$i_{\odot}$	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a $i_{\odot}$ b ENTER results in $a \angle b$ (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX j when in RECT mode	Complex numbers	CPX j	op_ $i_{\odot}$	
fF4	OLD	Command	Old (matrix)	Revert to old element (while editing)	Matrix operations		M.OLD	
fF5	↑	Arrow	Move up	Move up one position ; Fontcode : 2191 ₁₆	Navigation and characters			
fF6	↓	Arrow	Move down	Move down one position ; Fontcode : 2193 ₁₆	Navigation and characters			
gF1	DELR	Command	Delete row	Delete row from matrix, at the cursor position	Matrix operations		M.DELR	
gF2	DELC	Command	Delete column	Delete column from matrix, at the cursor position	Matrix operations		M.DELC	
gF3								
gF4								
gF5	WRAP @	Setting	Grow (matrix edit)	Switch on wrap (matrix edit) ; not programmable - in PEM, use flag GROW ; Info : SBI is shown if flag SBmx is SET ; SBI : wrap	Matrix operations	GROW	M.WRAP @	ON
gF6	GROW o	Setting	Grow (matrix edit)	Switch on grow (matrix edit) ; not programmable - in PEM, use flag GROW ; Info : SBI is shown if flag SBmx is SET ; SBI : grow	Matrix operations	GROW	M.GROW o	OFF

M_SIMQ	Matrix simultaneous equations					
g-shift						
f-shift						
unshifted	Mat A	Mat B				Mat X
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	M_SIMQ	MENU	Matrix simultaneous equations	Matrix simultaneous equations : $\text{Mat A} \cdot \text{Mat X} = \text{Mat B}$, where Mat A is the equation coefficient matrix and Mat B is the equation result vector ; Mat X is the equation solution vector	Matrix operations		M_SIMQ	
F1	Mat A	Variable (matrix)	Matrix A	Reserved Matrix variable for the Matrix A (Mat A) ; enter equation coefficient matrix using menu M_SIMQ ; created after RESET	Matrix operations		Mat_A	
F2	Mat B	Variable (matrix)	Matrix B	Reserved Matrix variable for the Matrix B (Mat B) ; enter equation result vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_B	
F3								
F4								
F5								
F6	Mat X	Command	Matrix X	Create reserved Matrix variable for the Matrix X (Mat X) ; calculate equation solution vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_X	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Mass:	Mass conversions					
g-shift	kg ←	→ slug	kg ←	→ slinch	kg ←	→ blob
f-shift	kg ←	→ stone	kg ←	→ short cwt	g ←	→ tr oz
unshifted	kg ←	→ lbs	kg ←	→ cwt	g ←	→ oz
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Mass:	MENU	Mass conversions	Convert between units of mass ; Info : Flag CONV _{HP} may be SET for <to> ← → <to> unit conversion buttons; CLEAR for <from> → ← <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Mass conversions		Mass:	
F1	lbs→kg (kg ←)	Function (monadic, linked)	lbs to kg	Convert pound to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
F2	kg→lbs (→ lbs)	Function (monadic, linked)	kg to lbs	Convert kilogram to pound ; TI : lbs:	Mass conversions	CONV _{HP}		
F3	cwt→kg (kg ←)	Function (monadic, linked)	cwt to kg	Convert hundredweight to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
F4	kg→cwt (→ cwt)	Function (monadic, linked)	kg to cwt	Convert kilogram to hundredweight ; TI : cwt:	Mass conversions	CONV _{HP}		
F5	oz→g (g ←)	Function (monadic, linked)	oz to g	Convert ounce to gram ; TI : g:	Mass conversions	CONV _{HP}		
F6	g→oz (→ oz)	Function (monadic, linked)	g to oz	Convert gram to ounce ; TI : oz:	Mass conversions	CONV _{HP}		
fF1	stone→kg (kg ←)	Function (monadic, linked)	stone to kg	Convert stone to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
fF2	kg→stone (→ stone)	Function (monadic, linked)	kg to stone	Convert kilogram to stone ; TI : stone:	Mass conversions	CONV _{HP}		
fF3	short cwt→kg (kg ←)	Function (monadic, linked)	short cwt to kg	Convert short hundredweight to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
fF4	kg→short cwt (→ short cwt)	Function (monadic, linked)	kg to short cwt	Convert kilogram to short hundredweight ; TI : short cwt: ; Info : single = r t cwt←	Mass conversions	CONV _{HP}		
fF5	tr oz→g (g ←)	Function (monadic, linked)	tr oz to g	Convert troy ounce to gram ; TI : g:	Mass conversions	CONV _{HP}		
fF6	g→tr oz (→ tr oz)	Function (monadic, linked)	g to tr oz	Convert gram to troy ounce ; TI : tr oz:	Mass conversions	CONV _{HP}		
gF1	slug→kg (kg ←)	Function (monadic, linked)	slug to kg	Convert slug to kilogram ; this is the same conversion as lbf·s ² /ft→kg on [Mass:2] gF1 ; TI : kg:	Mass conversions	CONV _{HP}		
gF2	kg→slug (→ slug)	Function (monadic, linked)	kg to slug	Convert kilogram to slug ; this is the same conversion as kg→lbf·s ² /ft on [Mass:2] gF2 ; TI : slug:	Mass conversions	CONV _{HP}		
gF3	slinch→kg (kg ←)	Function (monadic, linked)	slinch to kg	Convert slinch to kilogram ; this is the same conversion as lbf·s ² /in→kg on [Mass:2] gF3 ; TI : kg:	Mass conversions	CONV _{HP}		
gF4	kg→slinch (→ slinch)	Function (monadic, linked)	kg to slinch	Convert kilogram to slinch ; this is the same conversion as kg→lbf·s ² /in on [Mass:2] gF4 ; TI : slinch:	Mass conversions	CONV _{HP}		
gF5	blob→kg (kg ←)	Function (monadic, linked)	blob to kg	Convert blob to kilogram ; this is the same conversion as lbf·s ² /in→kg on [Mass:2] gF5 ; TI : kg:	Mass conversions	CONV _{HP}		
gF6	kg→blob (→ blob)	Function (monadic, linked)	kg to blob	Convert kilogram to blob ; this is the same conversion as kg→lbf·s ² /in on [Mass:2] gF6 ; TI : blob:	Mass conversions	CONV _{HP}		

Mass:	Mass conversions					
g-shift	kg ←	→ lbf·s ² /ft	kg ←	→ lbf·s ² /in	kg ←	→ lbf·s ² /in
f-shift	g ←	→ carat	kg ←	→ jīn	kg ←	→ liǎng
unshifted	kg ←	→ long ton	kg ←	→ short ton	kg ←	→ tonne
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	Mass:	MENU	Mass conversions	Convert between units of mass ; Info : Flag CONV _{HP} may be SET for <to> ⇐⇨ <to> unit conversion buttons ; CLEAR for <from> ⇨⇩ <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Mass conversions		Mass:	
F1	long ton⇨kg (kg ⇐)	Function (monadic, linked)	long ton to kg	Convert long ton to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
F2	kg⇨long ton (⇨ long ton)	Function (monadic, linked)	kg to long ton	Convert kilogram to long ton ; TI : long ton: ; Info : single = ng ton⇩	Mass conversions	CONV _{HP}		
F3	short ton⇨kg (kg ⇐)	Function (monadic, linked)	short ton to kg	Convert short ton to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
F4	kg⇨short ton (⇨ short ton)	Function (monadic, linked)	kg to short ton	Convert kilogram to short ton ; TI : short ton: ; Info : single = rt ton⇩	Mass conversions	CONV _{HP}		
F5	tonne⇨kg (kg ⇐)	Function (monadic, linked)	tonne to kg	Convert metric tonne to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
F6	kg⇨tonne (⇨ tonne)	Function (monadic, linked)	kg to tonne	Convert kilogram to metric tonne ; TI : tonne:	Mass conversions	CONV _{HP}		
fF1	carat⇨g (g ⇐)	Function (monadic, linked)	carat to g	Convert carat to gram ; TI : g:	Mass conversions	CONV _{HP}		
fF2	g⇨carat (⇨ carat)	Function (monadic, linked)	g to carat	Convert gram to carat ; TI : carat:	Mass conversions	CONV _{HP}		
fF3	jīn⇨kg (kg ⇐)	Function (monadic, linked)	jīn to kg	Convert jīn to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
fF4	kg⇨jīn (⇨ jīn)	Function (monadic, linked)	kg to jīn	Convert kilogram to jīn ; TI : jīn:	Mass conversions	CONV _{HP}		
fF5	liǎng⇨kg (kg ⇐)	Function (monadic, linked)	liǎng to kg	Convert liǎng to kilogram ; TI : kg:	Mass conversions	CONV _{HP}		
fF6	kg⇨liǎng (⇨ liǎng)	Function (monadic, linked)	kg to liǎng	Convert kilogram to liǎng ; TI : liǎng:	Mass conversions	CONV _{HP}		
gF1	lbf·s ² /ft⇨kg (kg ⇐)	Function (monadic, linked)	lbf·s ² /ft to kg	Convert lbf·s ² /ft (slug) to kilogram ; this is the same conversion as slug⇨kg on [Mass:.1] gF1 ; TI : kg:	Mass conversions	CONV _{HP}		
gF2	kg⇨lbf·s ² /ft (⇨ lbf·s ² /ft)	Function (monadic, linked)	kg to lbf·s ² /ft	Convert kilogram to lbf·s ² /ft (slug) ; this is the same conversion as kg⇨slug on [Mass:.1] gF2 ; TI : lbf·s ² /ft: ; Info : single = bf·s ² /ft⇩	Mass conversions	CONV _{HP}		
gF3	lbf·s ² /in⇨kg (kg ⇐)	Function (monadic, linked)	lbf·s ² /in to kg	Convert lbf·s ² /in (slinch or blob) to kilogram ; this is the same conversion as slinch⇨kg on [Mass:.1] gF3 ; TI : kg:	Mass conversions	CONV _{HP}		
gF4	kg⇨lbf·s ² /in (⇨ lbf·s ² /in)	Function (monadic, linked)	kg to lbf·s ² /in	Convert kilogram to lbf·s ² /in (slinch or blob) ; this is the same conversion as kg⇨slinch on [Mass:.1] gF4 ; TI : lbf·s ² /in: ; Info : single = bf·s ² /in⇩	Mass conversions	CONV _{HP}		
gF5	lbf·s ² /in⇨kg (kg ⇐)	Function (monadic, linked)	lbf·s ² /in to kg	Convert lbf·s ² /in (slinch or blob) to kilogram ; this is the same conversion as slinch⇨kg on [Mass:.1] gF3 ; TI : kg:	Mass conversions	CONV _{HP}		
gF6	kg⇨lbf·s ² /in (⇨ lbf·s ² /in)	Function (monadic, linked)	kg to lbf·s ² /in	Convert kilogram to lbf·s ² /in (slinch or blob) ; this is the same conversion as kg⇨slinch on [Mass:.1] gF4 ; TI : lbf·s ² /in: ; Info : single = bf·s ² /in⇩	Mass conversions	CONV _{HP}		

MatPrp:	Material properties conversions					
g-shift	Struct:	MatPrp:	blob/in ³ ←	→ lbs/in ³	blob/in ³ ←	→ kg/m ³
f-shift	MPa ←	→ ksi	t/mm ³ ←	→ lbs/in ³	t/mm ³ ←	→ kg/m ³
unshifted	Pa ←	→ psi	kg/m ³ ←	→ lbs/in ³	·m	·k
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MatPrp:	MENU	Material properties conversions	Convert between units of material properties ; typical material properties given in material data sheets references ; Info : Flag CONV _{HP} may be SET for <to> ←> <to> unit conversion buttons ; CLEAR for <from> → ← <from> unit conversion buttons (default SET)	Miscellaneous conversions		MatPrp:	
F1	psi→Pa (Pa ←)	Function (monadic, linked)	psi to Pa	Convert pound force per square inch to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
F2	Pa→psi (→ psi)	Function (monadic, linked)	Pa to psi	Convert Pascal to pound force per square inch ; TI : psi:	Pressure conversions	CONV _{HP}		
F3	lbs/in ³ →kg/m ³ (kg/m ³ ←)	Function (monadic, linked)	lbs/in ³ to kg/m ³	Convert pound per cubic inch to kilogram per cubic metre ; TI : kg/m ³ :	Density conversions	CONV _{HP}		
F4	kg/m ³ →lbs/in ³ (→ lbs/in ³)	Function (monadic, linked)	kg/m ³ to lbs/in ³	Convert kilogram per cubic metre to pound per cubic inch ; TI : lbs/in ³ :	Density conversions	CONV _{HP}		
F5	·m	Command (nonpgm)	milli	Factor 10 ⁻³	Numeric input			
F6	·k	Command (nonpgm)	kilo	Factor 10 ³	Numeric input			
fF1	ksi→MPa (MPa ←)	Function (monadic, linked)	ksi to MPa	Convert kilo-pound force per square inch to MegaPascal ; TI : MPa:	Pressure conversions	CONV _{HP}		
fF2	MPa→ksi (→ ksi)	Function (monadic, linked)	MPa to ksi	Convert MegaPascal to kilo-pound force per square inch ; TI : ksi:	Pressure conversions	CONV _{HP}		
fF3	lbs/in ³ →t/mm ³ (t/mm ³ ←)	Function (monadic, linked)	lbs/in ³ to t/mm ³	Convert pound per cubic inch to metric tonne per cubic millimetre ; TI : t/mm ³ :	Density conversions	CONV _{HP}		
fF4	t/mm ³ →lbs/in ³ (→ lbs/in ³)	Function (monadic, linked)	t/mm ³ to lbs/in ³	Convert metric tonne per cubic millimetre to pound per cubic inch ; TI : lbs/in ³ :	Density conversions	CONV _{HP}		
fF5	kg/m ³ →t/mm ³ (t/mm ³ ←)	Function (monadic, linked)	kg/m ³ to t/mm ³	Convert kilogram per cubic metre to metric tonne per cubic millimetre ; TI : t/mm ³ :	Density conversions	CONV _{HP}		
fF6	t/mm ³ →kg/m ³ (→ kg/m ³)	Function (monadic, linked)	t/mm ³ to kg/m ³	Convert metric tonne per cubic millimetre to kilogram per cubic metre ; TI : kg/m ³ :	Density conversions	CONV _{HP}		
gF1	Struct:	MENU	Structural conversions	Section and material properties, force and moment load conversions ; Info : Flag CONV _{HP} may be SET for <to> ←> <to> unit conversion buttons ; CLEAR for <from> → ← <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Miscellaneous conversions	CONV _{HP}	Struct:	
gF2	MatPrp:	MENU	Material properties conversions	Convert between units of material properties ; typical material properties given in material data sheets references ; Info : Flag CONV _{HP} may be SET for <to> ←> <to> unit conversion buttons ; CLEAR for <from> → ← <from> unit conversion buttons (default SET)	Miscellaneous conversions		MatPrp:	
gF3	lbs/in ³ →blob/in ³ (blob/in ³ ←)	Function (monadic, linked)	lbs/in ³ to blob/in ³	Convert pound per cubic inch to blob per cubic inch ; TI : blob/in ³ ; Info : single = lob/in ³ ←	Density conversions	CONV _{HP}		
gF4	blob/in ³ →lbs/in ³ (→ lbs/in ³)	Function (monadic, linked)	blob/in ³ to lbs/in ³	Convert blob per cubic inch to pound per cubic inch ; TI : lbs/in ³ :	Density conversions	CONV _{HP}		
gF5	kg/m ³ →blob/in ³ (blob/in ³ ←)	Function (monadic, linked)	kg/m ³ to blob/in ³	Convert kilogram per cubic metre to blob per cubic inch ; TI : blob/in ³ ; Info : single = lob/in ³ ←	Density conversions	CONV _{HP}		
gF6	blob/in ³ →kg/m ³ (→ kg/m ³)	Function (monadic, linked)	blob/in ³ to kg/m ³	Convert blob per cubic inch to kilogram per cubic metre ; TI : kg/m ³ :	Density conversions	CONV _{HP}		

p1	MatPrp:	Link
F1	psi→Pa (Pa ←)	
F2	Pa→psi (→ psi)	
F3	lbs/in ³ →kg/m ³ (kg/m ³ ←)	
F4	kg/m ³ →lbs/in ³ (→ lbs/in ³)	
F5	·m	
F6	·k	
fF1	ksi→MPa (MPa ←)	
fF2	MPa→ksi (→ ksi)	
fF3	lbs/in ³ →t/mm ³ (t/mm ³ ←)	
fF4	t/mm ³ →lbs/in ³ (→ lbs/in ³)	
fF5	kg/m ³ →t/mm ³ (t/mm ³ ←)	
fF6	t/mm ³ →kg/m ³ (→ kg/m ³)	
gF1	Struct:	https://47calc.com/doc/C47/Menus/C47_Menu_Struct_page_1.pdf
gF2	MatPrp:	https://47calc.com/doc/C47/Menus/C47_Menu_MatPrp_page_1.pdf
gF3	lbs/in ³ →blob/in ³ (blob/in ³ ←)	
gF4	blob/in ³ →lbs/in ³ (→ lbs/in ³)	
gF5	kg/m ³ →blob/in ³ (blob/in ³ ←)	
gF6	blob/in ³ →kg/m ³ (→ kg/m ³)	

MATRS	Real matrix or vector variables					
g-shift						
f-shift						
unshifted	HISTO	Mat_A	Mat_B	Mat_X	STATS	
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MATRS	MENU	Real matrix or vector variables	Auto-generated catalog of variables of the specified datatype : Real matrix or vector (6) or Complex matrix or vector (7,n) ; Info : Matrix variables STATS and HIST0 are also included in this menu, if created	Catalog		MATRS	
F1	HIST0	Variable (matrix)	Histogram matrix	Reserved Matrix variable (cannot be deleted) for the histogram matrix (HIST0) ; created from STATS using menu HIST ; not created after RESET	Plotting and statistics		HIST0	
F2	Mat_A	Variable (matrix)	Matrix A	Reserved Matrix variable for the Matrix A (Mat A) ; enter equation coefficient matrix using menu M_SIMQ ; created after RESET	Matrix operations		Mat_A	
F3	Mat_B	Variable (matrix)	Matrix B	Reserved Matrix variable for the Matrix B (Mat B) ; enter equation result vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_B	
F4	Mat_X	Variable (matrix)	Matrix X	Reserved Matrix variable for the Matrix X (Mat X) ; calculate equation solution vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_X	
F5	STATS	Variable (matrix)	Statistics matrix	Reserved Matrix variable (cannot be deleted) for the statistics matrix (STATS) ; created from data entered using Σ^+ ; not created after RESET ; TI : Re-calculating sums ... ; may be shown when storing or loading the statistics matrix	Plotting and statistics		STATS	
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MATX	Matrix					
g-shift	$R_{nn} \rightarrow V$	$V \rightarrow R_{nn}$	STOVEL	RCLVEL		
f-shift	IDENT	DIM	DIMgr	DIMN#	CNCATS	CNCATR
unshifted	NEW	$[M]^T$	EDIT	EDITN	SIM EQ	VECTOR
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MATX_page_2.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0020_C47_R47_Matrix_and_Vector.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MATX	MENU	Matrix	Matrix functions ; a matrix is displayed in X and shown in other stack registers as [m×n Matrix] or [m×n C Matrix] when containing complex element(s) ; Ref : https://47calc.com/doc/Application%20Notes/AN0020_C47_R47_Matrix_and_Vector.pdf ; Info : monadic functions work per matrix element (except 1/x, which is a shortcut for [M] ⁻¹ , use -1 y* instead ; and $\sqrt{x}$, which is a shortcut for MSQRT, use 0.5 y* instead) ; in edit mode, all functions work per element ; use registers to input calculation results	Matrix operations		MATX	
F1	NEW	Command (submnu)	New matrix	Create new matrix with Y rows and X columns	Matrix operations		M.NEW	
F2	[M] ^T	Function (monadic)	Transpose matrix	Transpose matrix in X	Matrix operations		[M] ^T	
F3	EDIT	MENU (item, nonpgm)	Edit matrix	Open matrix editor for matrix in X ; Info : CAT.MENUS M_EDIT ; MIM = Matrix Input Mode ; [$\blacktriangle$] or [$\blacktriangledown$] to move up or down one position ; Ref : 1/x, which is a shortcut for [M] ⁻¹ , use -1 y* instead ; and $\sqrt{x}$, which is a shortcut for MSQRT, use 0.5 y* instead	Matrix operations		M.EDIT	
F4	EDITN	MENU (item, nonpgm)	Edit matrix (named)	Open matrix editor for matrix in register or variable ; TAM : M.EDITN __ Tam menu	Matrix operations		M.EDITN	
F5	SIM EQ	MENU (item)	Matrix simultaneous equations	Matrix simultaneous equations : Mat A · Mat X = Mat B, where Mat A is the equation coefficient matrix and Mat B is the equation result vector ; Mat X is the equation solution vector ; TAM : SIM_EQ __ TamNonReg menu to enter number of equations ; Info : CAT.MENUS M_SIMQ	Matrix operations		SIM_EQ	
F6	VECTOR	MENU	Vector menu	Vector functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf ; Info : Vectors are stored internally as rectangular and calculation results are presented in rectangular format ; to edit a vector, first put it in rectangular format ; vector TI's are shown for values in X only and a small font may be used ; vector TI's are minimised if the stack changes or [EXIT] is pressed (only ijk or r0k or p0k is shown, without subscripts or brackets)	Vector operations		VECTOR	
fF1	IDENT	Command	New identity matrix	Create new identity matrix with Y rows and X columns	Matrix operations		M.IDENT	
fF2	DIM	Function (monadic)	Dimension (flow)	Set dimension of matrix (named register or variable) to Y rows and X columns ; refloes elements by row and cuts off excess elements or pads with zero elements ; creates a new matrix if necessary ; TAM : M.DIM __ Tam menu ; Info : also see function DIMgr	Matrix operations		M.DIM	
fF3	DIMgr	Function (monadic)	Dimension (grow)	Set dimension of matrix (named register or variable) to Y rows and X columns ; cuts off rows and columns or pads with zero element rows and columns ; creates a new matrix if necessary ; TAM : M.DIMgr __ Tam menu ; Info : also see function DIM	Matrix operations		M.DIMgr	
fF4	DIMN#	Command	Matrix dimension? (named)	Get dimensions of matrix in register or variable ; TAM : M.DIMN# __ Tam menu	Matrix operations		M.DIMN#	
fF5	CNCATB	Command (strike)	Concatenate (bottom)	Concatenate matrices (bottom) ; TAM : M.CNCTB __ Tam menu	Matrix operations		M.CNCTB	
fF6	CNCATR	Command (strike)	Concatenate (right)	Concatenate matrices (right) ; TAM : M.CNCTR __ Tam menu	Matrix operations		M.CNCTR	
gF1	R _{nn} →V	Command	Fill matrix from registers	Fill matrix or vector in X from ascending range of registers starting with register nn (TAM), where numbers of registers depends on size of matrix or vector ; TAM : R _{nn} →V __ TamIndirect menu ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Matrix operations	3Dxyz	R _{nn} →V	
gF2	V→R _{nn}	Command	Copy elements to registers	Copy elements of matrix or vector in X to ascending range of registers, starting with register nn (TAM), where numbers of registers depends on size of matrix or vector ; TAM : V→R _{nn} __ TamIndirect menu ; be careful when using the range of stack registers (100-107) ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Matrix operations	3Dxyz	V→R _{nn}	
gF3	STOVEL	Command	Store X into vector element	Store X into element n (TAM) of vector or matrix in Y ; Shortcut : [ST0] - ...VEL _{nn} ; TAM : STOVEL __ Tam menu	Matrix operations		STOVEL	
gF4	RCLVEL	Command	Recall vector element	Recall element n (TAM) of vector or matrix in X ; Shortcut : [RCL] - ...VEL _{nn} ; TAM : RCLVEL __ Tam menu	Matrix operations		RCLVEL	
gF5								

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF6								

p1	MATX	Link
F1	NEW	
F2	$[M]^T$	
F3	EDIT	https://47calc.com/doc/C47/Menus/C47_Menu_EDIT_MATX_page_1.pdf
F4	EDITN	https://47calc.com/doc/C47/Menus/C47_Menu_EDITN_page_1.pdf
F5	SIM EQ	https://47calc.com/doc/C47/Menus/C47_Menu_SIM_EQ_page_1.pdf
F6	VECTOR	https://47calc.com/doc/C47/Menus/C47_Menu_VECTOR_page_1.pdf
fF1	IDENT	
fF2	DIM	
fF3	DIMgr	
fF4	DIMN#	
fF5	ENCATB	
fF6	ENCATR	
gF1	$R_{nn} \rightarrow V$	
gF2	$V \rightarrow R_{nn}$	
gF3	STOVEL	
gF4	RCLVEL	
gF5		
gF6		

MATX	Matrix					
g-shift			EIGVEC	EIGVAL	M.LU	M.QR
f-shift	$\ x\ _p$	UNITV	$[M]^T$	$\bar{x}, \bar{y}$	dot	cross
unshifted	$[M]^{-1}$	MSQRT	RSUM	CSUM	$ M $	VECTOR
Page 2	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MATX_page_3.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0020_C47_R47_Matrix_and_Vector.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	MATX	MENU	Matrix	Matrix functions ; a matrix is displayed in X and shown in other stack registers as [m×n Matrix] or [m×n C Matrix] when containing complex element(s) ; Ref : https://47calc.com/doc/Application%20Notes/AN0020_C47_R47_Matrix_and_Vector.pdf ; Info : monadic functions work per matrix element (except 1/x, which is a shortcut for [M] ⁻¹ , use -1 y* instead ; and $\sqrt{x}$, which is a shortcut for MSQRT, use 0.5 y* instead) ; in edit mode, all functions work per element ; use registers to input calculation results	Matrix operations		MATX	
F1	[M] ⁻¹	Function (monadic)	Invert matrix	Invert matrix in X (exists only when M ≠ 0) ; Shortcut : [1/x] ; Info : Error 22 -- Singular matrix -- is raised when M = 0	Matrix operations		[M] ⁻¹	
F2	MSQRT	Function (monadic)	Square root of matrix	Square root of matrix in X : if M = MSQRT(X), M × M = X, where × denotes matrix multiplication ; Shortcut : [$\sqrt{x}$] ; Info : Error 20 -- No root found or Error 21 -- Matrix mismatch may be raised (the latter when the matrix is not square)	Matrix operations		M.SQRT	
F3	RSUM	Command	Row sum	Row sum of vector or matrix in X : RSUM = $\sum a_{ij}$	Matrix operations		RSUM	
F4	CSUM	Command	Column sum	Column sum of vector or matrix in X : CSUM = $\sum a_{ij}$	Matrix operations		CSUM	
F5	M	Function (monadic)	Determinant	Determinant of matrix in X (matrix must be square)	Matrix operations		M	
F6	VECTOR	MENU	Vector menu	Vector functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf ; Info : Vectors are stored internally as rectangular and calculation results are presented in rectangular format ; to edit a vector, first put it in rectangular format ; vector TI's are shown for values in X only and a small font may be used ; vector TI's are minimised if the stack changes or [EXIT] is pressed (only ijk or r0k or p0p is shown, without subscripts or brackets)	Vector operations		VECTOR	
fF1	$\ x\ _p$	Function (monadic)	Norm	Norm of vector or matrix in X with parameter p (trailing input) = 0, 1, 2, ..., 9, ∞ : 0 : Number of non-zeros of vector or matrix in X : $\ x\ _0 = \sum \mathbb{I}(a_i \neq 0)$, where $\mathbb{I}$ is the indicator function, 1 if true, 0 if false ; 1 : Maximum column sum of absolute element values of a matrix in X : $\ x\ _1 = \max_i \sum_j a_{ij} $; 2 : Euclidean magnitude of a vector in X or Frobenius norm of a matrix in X : $\ x\ _2 = \sqrt{\sum_i \sum_j a_{ij} ^2}$; 3 : $\ x\ _3 = \sqrt[3]{\sum_i \sum_j a_{ij} ^3}$; ... ; 9 : $\ x\ _9 = \sqrt[9]{\sum_i \sum_j a_{ij} ^9}$; ∞ : Maximum row sum of absolute element values of a matrix in X : $\ x\ _\infty = \max_i \sum_j a_{ij} $; TAM : $\ x\ _p$ _ TamNorm menu ; Info : parameter 0, 1, 2, ..., 9, ∞ (use [TamNorm.1] F2 to enter ∞)	Matrix operations		$\ x\ _p$	
fF2	UNITV	Command	Unit vector or matrix	Unit vector or matrix for Real or Complex matrix or vector ; the result will have Euclidean magnitude 1 ; Info : UNITV also applies to Complex numbers	Complex numbers		UNITV	
fF3	[M] ^T	Function (monadic)	Transpose matrix	Transpose matrix in X	Matrix operations		[M] ^T	
fF4	$\angle \vec{x}, \vec{y}$	Function (dyadic)	Vector angle	Angle between the 2D or 3D vectors in X and Y	Matrix operations	3Dxyz	$\angle \vec{x}, \vec{y}$	
fF5	dot	Function (dyadic)	Dot product (·)	Dot product of vectors in X and Y	Complex numbers		DOT	
fF6	cross	Function (dyadic)	Cross product (×)	Cross product of vectors in X and Y	Complex numbers		CROSS	
gF1								
gF2								
gF3	EIGVEC	Function (monadic)	Eigenvector	Eigenvector of matrix in X ; tolerance set by SDIGS (use value of 10 ⁻¹⁶ for better performance or higher for better accuracy) ; Info : Displays : i/m Tol: current/target Iter: n, where i/m is count of eigenvalues, n is iteration counter ; shown if flag MONIT is SET ; for new models and simulator, extended internal eigenvalue precision with 159-digit type integration was added, achieving 39-digit accuracy for 2x2 and 3x3 solvers, but this is not applicable to DM42 hardware	Matrix operations	MONIT	EIGVEC	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF4	EIGVAL	Function (monadic)	Eigenvalues	Eigenvalues as a 1xn vector (returned in X) and as the diagonal elements of an nxn matrix (returned in Y) ; tolerance set by SDIGS (use value of 10-16 for better performance or higher for better accuracy) ; Info : Displays : i/m Tol: current/target Iter: n, where i/m is count of eigenvalues, n is iteration counter ; shown if flag MONIT is SET ; for new models and simulator, extended internal eigenvalue precision with 159-digit type integration was added, achieving 39-digit accuracy for 2x2 and 3x3 solvers, but this is not applicable to DM42 hardware	Matrix operations	MONIT	EIGVAL	
gF5	M.LU	Function (monadic)	LU decomposition	Decompose matrix in X into lower (L) in Y and upper (U or R) matrix in X ; pivot matrix in Z ; Info : LU (LR) factorisation, underlies inversion and linear solving	Matrix operations		M.LU	
gF6	M.QR	Function (monadic)	QR decomposition	Decompose matrix in X into unitary (Q) in Y and upper (R) matrix in X ; Info : QR factorisation, underlies eigenvalue computation	Matrix operations		M.QR	

p2	MATX	Link
F1	$[M]^{-1}$	
F2	MSQRT	
F3	RSUM	
F4	CSUM	
F5	$ M $	
F6	VECTOR	https://47calc.com/doc/C47/Menus/C47_Menu_VECTOR_page_1.pdf
fF1	$\ x\ _p$	
fF2	UNITV	
fF3	$[M]^T$	
fF4	$\nabla \bar{x}, \bar{y}$	
fF5	dot	
fF6	cross	
gF1		
gF2		
gF3	EIGVEC	
gF4	EIGVAL	
gF5	M.LU	
gF6	M.QR	

MATX	Matrix					
g-shift	PUTM	GETM	STOEL	RCLEL	STOSEQ	RCLSEQ
f-shift	CMIN	CMAX	R↯R	C↯C	FIND	INDEX
unshifted	I ⁺ _{row}	I ⁻ _{row}	STOIJ	RCLIJ	J ⁻ _{col}	J ⁺ _{col}
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MENU_page_1.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0020_C47_R47_Matrix_and_Vector.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	MATX	MENU	Matrix	Matrix functions ; a matrix is displayed in X and shown in other stack registers as [m×n Matrix] or [m×n C Matrix] when containing complex element(s) ; Ref : https://47calc.com/doc/Application%20Notes/AN0020_C47_R47_Matrix_and_Vector.pdf ; Info : monadic functions work per matrix element (except 1/x, which is a shortcut for [M] ⁻¹ , use -1 y* instead ; and $\sqrt{x}$, which is a shortcut for MSQRT, use 0.5 y* instead) ; in edit mode, all functions work per element ; use registers to input calculation results	Matrix operations		MATX	
F1	I+ _{row}	Command	Increment row index	Increment row index I of indexed matrix ; wraps automatically ; does not put value on the stack ; menu button I+ on [MATX.3] F1 displays value as subscript (only if indexed matrix exists) ; TI : M[I _r J _c]=<name> [<row> <col>]	Matrix operations		I+	<row>
F2	I- _{row}	Command	Decrement row index	Decrement row index I of indexed matrix ; wraps automatically ; does not put value on the stack ; menu button I- on [MATX.3] F2 displays value as subscript (only if indexed matrix exists) ; TI : M[I _r J _c]=<name> [<row> <col>]	Matrix operations		I-	<row>
F3	ST0IJ	Command	Set current matrix index	Set current matrix index (row I and column J) ; Shortcut : [ST0] - ...IJ ; TI : M<name> :I _r = ; M<name> :J _c =	Matrix operations		ST0IJ	
F4	RCLIJ	Command	Recall current matrix index	Recall current matrix index (row I and column J) ; Shortcut : [RCL] - ...IJ ; TI : M<name> :I _r = ; M<name> :J _c =	Matrix operations		RCLIJ	
F5	J- _{col}	Command	Decrement column index	Decrement column index J of indexed matrix ; wraps automatically ; does not put value on the stack ; menu button J- on [MATX.3] F5 displays value as subscript (only if indexed matrix exists) ; TI : M[I _r J _c]=<name> [<row> <col>]	Matrix operations		J-	<col>
F6	J+ _{col}	Command	Increment column index	Increment column index J of indexed matrix ; wraps automatically ; does not put value on the stack ; menu button J+ on [MATX.3] F6 displays value as subscript (only if indexed matrix exists) ; TI : M[I _r J _c]=<name> [<row> <col>]	Matrix operations		J+	<col>
fF1	CMIN	Function (monadic)	Minimum column value	Minimum column value for column (J) of indexed matrix, returns row index (I) in Y and minimum in X ; Info : Set starting row and column index using ST0IJ before executing CMIN	Matrix operations		M.CMIN	
fF2	CMAX	Function (monadic)	Maximum column value	Maximum column value for column (J) of indexed matrix, returns row index (I) in Y and maximum in X ; Info : Set starting row and column index using ST0IJ before executing CMAX	Matrix operations		M.CMAX	
fF3	R↔R	Command	Swap rows	Swap rows X and Y of indexed matrix	Matrix operations		M.R↔R	
fF4	C↔C	Command	Swap columns	Swap columns X and Y of indexed matrix	Matrix operations		M.C↔C	
fF5	FIND	Function (monadic)	Find element	Find element X of indexed matrix, setting row index I and column indexes if found (unchanged otherwise) ; Info : If used in a program, the next step after M.FIND is performed if the element is found, otherwise it is skipped	Matrix operations		M.FIND	
fF6	INDEX	Command	Index matrix	Index matrix in a register or variable ; set row I to 1, column J to 1 ; clear flags WRPEDG and WRPEND ; index wraps automatically, setting these flags ; index is dropped upon exit of matrix editor ; TAM : INDEX __ Tam menu ; TI : M[I _r J _c]=<name> [<row> <col>]	Matrix operations		INDEX	
gF1	PUTM	Command	Put submatrix	Put submatrix in X into the indexed matrix starting at current element	Matrix operations		M.PUTM	
gF2	GETM	Command	Get submatrix	Get submatrix with Y rows and X columns from the indexed matrix starting at current element	Matrix operations		M.GETM	
gF3	ST0EL	Command	Store X into matrix element	Store X into current element of indexed matrix ; Shortcut : [ST0] - Config ; TI : M[I _r J _c]=<name> [<row> <col>]=	Matrix operations		ST0EL	
gF4	RCLLEL	Command	Recall matrix element	Recall current element of indexed matrix ; Shortcut : [RCL] - ...EL ; TI : M[I _r J _c]=<name> [<row> <col>]=	Matrix operations		RCLLEL	
gF5	ST0SEQ	Command	Store X into matrix element and go to next	Store X into current element of indexed matrix, then increment column index J of indexed matrix ; wraps automatically ; TI : M[I _r J _c]=<name> [<row> <col>]=	Matrix operations		ST0SEQ	
gF6	RCLSEQ	Command	Recall matrix element and go to next	Recall current element of indexed matrix, then increment column index J of indexed matrix ; wraps automatically ; TI : M[I _r J _c]=<name> [<row> <col>]=	Matrix operations		RCLSEQ	

MENU (MENUS)	Menu					
g-shift						
f-shift						
unshifted						
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MENU (MENUS)	MENU (ASM)	Menu	Presented in menu TamMenu for commands accessing menus ; Info : Type characters 1-2 to search	Trailing input		MENU	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MENUS	Menus					
g-shift						
f-shift						
unshifted						
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Misc_page_1.pdf

Ref 1 https://47calc.com/doc/C47/Reference/C47_CAT-MENUS.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MENUS	MENU (ASM)	Menus	Catalog of all menus (including user defined menus) ; Info : Type characters 1-2 to search ; Ref : https://47calc.com/doc/C47/Reference/C47_CAT-MENUS.pdf	Category		MENUS	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Misc:	Miscellaneous conversions					
g-shift						
f-shift	s ←	→ year			dB ←	→ pwr
unshifted	HR ←	→ HMS	ft-lbf ←	→ N·m	dB ←	→ fld
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MLoads_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Misc:	MENU	Miscellaneous conversions	Time, torque, power and field ratio conversions ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow$ $\leftarrow$ <from> unit conversion buttons (default SET)	Miscellaneous conversions		Misc:	
F1	HMS $\rightarrow$ HR (HR $\leftarrow$)	Function (monadic, linked)	HMS to HR	Convert sexagesimal format hours to decimal hours ; TI : decimal h ; Ref : https://47calc.com/doc/Application%20Notes/AN0014_C47_JM_dms_hms_and_ms.pdf	Fixed pair conversions	CONV _{HP}		
F2	HR $\rightarrow$ HMS ($\rightarrow$ HMS)	Function (monadic, linked)	HR to HMS	Convert decimal hours to sexagesimal format hours ; TI : hh.mmss ; Ref : https://47calc.com/doc/Application%20Notes/AN0014_C47_JM_dms_hms_and_ms.pdf	Fixed pair conversions	CONV _{HP}		
F3	N-m $\rightarrow$ ft-lbf (ft-lbf $\leftarrow$)	Function (monadic, linked)	N-m to ft-lbf	Convert Newton-metre to foot-pound force ; TI : ft-lbf:	Torque/moment conversions	CONV _{HP}		
F4	ft-lbf $\rightarrow$ N-m ($\rightarrow$ N-m)	Function (monadic, linked)	ft-lbf to N-m	Convert foot-pound force to Newton-metre ; TI : N-m:	Torque/moment conversions	CONV _{HP}		
F5	fld $\rightarrow$ dB (dB $\leftarrow$)	Function (monadic, linked)	fld to dB	Convert field ratio to decibel ; TI : dB:	Fixed pair conversions	CONV _{HP}		
F6	dB $\rightarrow$ fld ($\rightarrow$ fld)	Function (monadic, linked)	dB to fld	Convert decibel to field ratio ; TI : fld:	Fixed pair conversions	CONV _{HP}		
ff1	year $\rightarrow$ s (s $\leftarrow$)	Function (monadic, linked)	year to s	Convert year to second ; TI : s:	Time conversions	CONV _{HP}		
ff2	s $\rightarrow$ year ($\rightarrow$ year)	Function (monadic, linked)	s to year	Convert second to year ; TI : year:	Time conversions	CONV _{HP}		
ff3								
ff4								
ff5	pwr $\rightarrow$ dB (dB $\leftarrow$)	Function (monadic, linked)	pwr to dB	Convert power ratio to decibel ; TI : dB:	Fixed pair conversions	CONV _{HP}		
ff6	dB $\rightarrow$ pwr ($\rightarrow$ pwr)	Function (monadic, linked)	dB to pwr	Convert decibel to power ratio ; TI : pwr:	Fixed pair conversions	CONV _{HP}		
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MLoads:	Moment loads conversions					
g-shift	Struct:	MLoads:	FIX ☐	SCI ☐	ENG ☐	UNIT ☐
f-shift						
unshifted	N·m ←	→ ft·lbf	N·m ←	→ in·lbf	·m	·k
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MLoads:	MENU	Moment loads conversions	Convert between units of moment loads ; typical moment loads units (torque) ; Info : Flag CONV _{HP} may be SET for <to> <f> <to> unit conversion buttons ; CLEAR for <from> <f> <from> unit conversion buttons (default SET)	Torque/moment conversions		MLoads:	
F1	ft-lbf→N-m (N-m ←)	Function (monadic, linked)	ft-lbf to N-m	Convert foot-pound force to Newton-metre ; TI : N-m:	Torque/moment conversions	CONV _{HP}		
F2	N-m→ft-lbf (→ ft-lbf)	Function (monadic, linked)	N-m to ft-lbf	Convert Newton-metre to foot-pound force ; TI : ft-lbf:	Torque/moment conversions	CONV _{HP}		
F3	in-lbf→N-m (N-m ←)	Function (monadic, linked)	in-lbf to N-m	Convert inch-pound force to Newton-metre ; TI : N-m:	Torque/moment conversions	CONV _{HP}		
F4	N-m→in-lbf (→ in-lbf)	Function (monadic, linked)	N-m to in-lbf	Convert Newton-metre to inch-pound force ; TI : in-lbf:	Torque/moment conversions	CONV _{HP}		
F5	-m	Command (nonpgm)	milli	Factor 10 ⁻³	Numeric input			
F6	-k	Command (nonpgm)	kilo	Factor 10 ³	Numeric input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	Struct:	MENU	Structural conversions	Section and material properties, force and moment load conversions ; Info : Flag CONV _{HP} may be SET for <to> <f> <to> unit conversion buttons ; CLEAR for <from> <f> <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Miscellaneous conversions	CONV _{HP}	Struct:	
gF2	MLoads:	MENU	Moment loads conversions	Convert between units of moment loads ; typical moment loads units (torque) ; Info : Flag CONV _{HP} may be SET for <to> <f> <to> unit conversion buttons ; CLEAR for <from> <f> <from> unit conversion buttons (default SET)	Torque/moment conversions		MLoads:	
gF3	FIX O	Setting (pgm)	FIXed notation	Set numeric display mode to fixed notation with nn decimals (NDEC = nn = 0-19 ; DF = 1) ; TAM : FIX __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		FIX O	OFF
gF4	SCI O	Setting (pgm)	SCientific notation	Set numeric display mode to scientific notation with nn decimals = nn+1 digits (NDEC = nn = 0-19 ; DF = 2) ; TAM : SCI __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		SCI O	OFF
gF5	ENG O	Setting (pgm)	ENGINEering notation	Set numeric display mode to engineering notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 3) ; TAM : ENG __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		ENG O	OFF
gF6	UNIT O	Setting (pgm)	Unit (prefix) notation	Set numeric display mode to unit (prefix) notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 5) ; showing all or limited set of SI-prefixes depending on flag PFX.All ; if flag 1024 ⁿ is SET, binary prefixes are shown if available and long integer values are indicated by Z ; prefixes can be selected directly from menu Prefix ; TAM : UNIT __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display	1024 ⁿ	UNIT O	OFF

p1	MLoads:	Link
F1	ft-lbf→N·m (N·m ←)	
F2	N·m→ft-lbf (→ ft-lbf)	
F3	in-lbf→N·m (N·m ←)	
F4	N·m→in-lbf (→ in-lbf)	
F5	·m	
F6	·k	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1	Struct:	https://47calc.com/doc/C47/Menu/C47_Menu_Struct_page_1.pdf
gF2	MLoads:	https://47calc.com/doc/C47/Menu/C47_Menu_MLoads_page_1.pdf
gF3	FIX ○	
gF4	SCI ○	
gF5	ENG ○	
gF6	UNIT ○	

MODE	Mode settings					
g-shift						
f-shift	DMCP	ActUSB		eRPN 	RP _{HP} 	CFLG
unshifted	DEG 	RAD 	GRAD 	SDIGS ₃₄	RECT 	POLAR 
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MODE_page_2.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MODE	MENU	Mode settings	System (mode settings) settings ; Info : MODE replaces R47 menu PREF ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To-ur.pdf	System		MODE	
F1	DEG $\odot$	Setting (pgm)	Set ADM to DEG	Set Angular Display Mode to degrees mode (ADM = 0) ; Info : SBI $\odot$ is shown if flag SBadm is SET ; SBI $\angle$ is shown if flag SBang and SBadm is SET ; SBI : $^\circ$	Angle tagging or conversion	SBadm	DEG $\odot$	ON
F2	RAD $\circ$	Setting (pgm)	Set ADM to RAD	Set Angular Display Mode to radians mode (ADM = 2) ; Info : SBI $\angle$ is shown if flag SBang and SBadm is SET ; SBI : $^\circ$	Angle tagging or conversion	SBang	RAD $\circ$	OFF
F3	GRAD $\circ$	Setting (pgm)	Set ADM to GRAD	Set Angular Display Mode to gradians mode (ADM = 4) ; Info : SBI $\angle$ is shown if flag SBang and SBadm is SET ; SBI : $^\circ$	Angle tagging or conversion	SBang	GRAD $\circ$	OFF
F4	SDIGS ₃₄	Setting (pgm)	Set significant digits	Set the number of significant digits (1-34) for rounding after each operation ; sets tolerance of solvers, plotting and CONV? ; value of 0 sets maximum precision (34) ; TAM : SDIGS __ TamNonReg menu ; Info : when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Mathematics		SDIGS ₃₄	34
F5	RECT $\odot$	Setting (pgm)	Rectangular notation	Switch on rectangular notation ; Info : SBI $\angle$; $\odot$ is shown if flag SBcp _x is SET ; SBI : $\angle$	Complex and coordinates	POLAR	RECT $\odot$	ON
F6	POLAR $\circ$	Setting (pgm)	Polar notation	Switch on polar notation ; Info : SBI $\angle$; $\odot$ is shown if flag SBcp _x is SET ; SBI : $\odot$	Complex and coordinates	POLAR	POLAR $\circ$	OFF
fF1	DMCP	Command (HW)	Access DMCP menu	Access DMCP menu ; hardware only ; use EXIT to return without RESET -- see https://technical.swissmicros.com/dm42/doc/dm42_user_manual.html#dmcp_sys_menu ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator ; Ref : https://47calc.com/doc/C47/Reference/C47_DMCP_menu.pdf	System		DMCP	
fF2	ActUSB	Command (HW)	Activate USB disk	Activate USB disk without exiting to DMCP ; hardware only ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	System		ActUSB	
fF3								
fF4	eRPN $\boxminus$	Setting	Entry RPN mode	Switch on interactive Entry RPN mode ; not programmable - in PEM, use flag eRPN ; Info : If eRPN is ON, in Numeric Input Mode, ENTER pushes the input value onto the stack, and if OFF, then it also duplicates X to Y ; without input or in Program Entry Mode, ENTER always duplicates X to Y ; only if eRPN is OFF, automatic stack lift is disabled after ENTER ; stack size SBI (8 or 4) is displayed in normal font if eRPN is ON and inverted if OFF ; SBI 8 or 4 is shown if flag SBss is ON ; SBI : 8 or 4	Stack	eRPN	eRPN $\boxminus$	ON
fF5	RP _{HP} $\boxminus$	Setting	Classic (HP) Rect/Polar	Switch on x : Re ; y : Im (RECT) ; r ; θ (POLAR) in X, Y ; not programmable - in PEM, use flag RP _{HP} ; Info : RP _{HP} OFF conforms to the way the C47 deals with complex numbers	Complex and coordinates	RP _{HP}	RP _{HP} $\boxminus$	ON
fF6	CFLG	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To-ur.pdf	Flags		SYS.FL	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	MODE	Link
F1	DEG $\odot$	
F2	RAD $\circ$	
F3	GRAD $\circ$	
F4	SDIGS ₃₄	
F5	RECT $\odot$	
F6	POLAR $\circ$	
fF1	DMCP	
fF2	ActUSB	
fF3		
fF4	eRPN $\boxtimes$	
fF5	RP _{HP} $\boxtimes$	
fF6	CFLG	https://47calc.com/doc/C47/Menus/C47_Menu_CFLG_page_1.pdf
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

MODE	Mode settings					
g-shift						
f-shift	i LI/R ⓪	i R ⓪	i C ⓪	i LI ⓪	RMODE⓪	CFLG
unshifted	SSIZE4 ⓪	SSIZE8 ⓪	CPXRES ▣	SPCRES ▣	RECT ⓪	POLAR ⓪
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	MODE	MENU	Mode settings	System (mode settings) settings ; Info : MODE replaces R47 menu PREF ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To ur.pdf	System		MODE	
F1	SSIZE4 0	Setting (pgm)	Stack size 4	Switch on 4 register stack ; Info : SBI 8 ; 4 is shown if flag SBss is SET ; SBI : 4	Stack	SSIZE8	SSIZE4 0	OFF
F2	SSIZE8 0	Setting (pgm)	Stack Size 8	Switch on 8 register stack ; Info : SBI 8 ; 4 is shown if flag SBss is SET ; SBI : 8	Stack	SSIZE8	SSIZE8 0	ON
F3	CPXRES 0	Setting	Complex results	Switch on Complex results ; not programmable - in PEM, use flag CPXRES ; Info : CPXRES is auto-set when entering complex input ; SBI C ; R is shown if flag SBcr is SET ; SBI : C ; R	Complex numbers	CPXRES	CPXRES 0	ON
F4	SPCRES 0	Setting	Special results	Switch on special results ; not programmable - in PEM, use flag SPCRES ; Info : Special results are: infinity ($\pm\infty$) and not-a-number (NaN), an error will not occur for such values when SPCRES is SET ; also, ± 0 . may be used	Mathematics	SPCRES	SPCRES 0	ON
F5	RECT 0	Setting (pgm)	Rectangular notation	Switch on rectangular notation ; Info : SBI L ; 0 is shown if flag SBcpX is SET ; SBI : L	Complex and coordinates	POLAR	RECT 0	ON
F6	POLAR 0	Setting (pgm)	Polar notation	Switch on polar notation ; Info : SBI L ; 0 is shown if flag SBcpX is SET ; SBI : 0	Complex and coordinates	POLAR	POLAR 0	OFF
fF1	i LI/R 0	Setting (pgm)	Input Long integer/Real number	New numeric input is put on the stack as Long integer (0) or Real number (1.0-1.5) ; Info : Uses the decimal radix (default ".") to determine the numeric datatype	Numeric input		i LI/R 0	ON
fF2	i R 0	Setting (pgm)	input Real number	New numeric input is put on the stack as Real number (1.0-1.5)	Numeric input		i R 0	OFF
fF3	i C 0	Setting (pgm)	Input Complex number	New numeric input is put on the stack as Complex number (2.0-2.5)	Numeric input		i C 0	OFF
fF4	i LI 0	Setting (pgm)	input Long integer	New numeric input is put on the stack as Long integer (0) and entry of the decimal radix is ignored ; Info : Switch on dZ.0 for displaying Long integers as Real ; not programmable - in PEM, use flag dZ.0	Numeric input		i LI 0	OFF
fF5	RMODE0	Setting (pgm)	Set rounding mode	Set floating point rounding mode ; used for RSD and RDP ; also used when converting from the extended precision internal format to packed reals ; 0 : $\frac{1}{2}E$ = round half even ; 1 : $\frac{1}{2}U$ = round half up ; 2 : $\frac{1}{2}D$ = round half down ; 3 : $\leftarrow 0 \rightarrow$ = round away from zero ; 4 : $\rightarrow 0 \leftarrow$ = round towards zero ; 5 : $\lceil x \rceil$ = ceiling ; 6 : $\lfloor x \rfloor$ = floor ; TAM : RMODE _ TamNonReg menu ; Info : may be abbreviated as RM in status overviews	Reals		RMODE0	0
fF6	CFLG	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To ur.pdf	Flags		SYS.FL	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p2	MODE	Link
F1	SSIZE4 	
F2	SSIZE8 	
F3	CPXRES 	
F4	SPCRES 	
F5	RECT 	
F6	POLAR 	
fF1	i LI/R 	
fF2	i R 	
fF3	i C 	
fF4	i LI 	
fF5	RMODE ₀	
fF6	CFLG	https://47calc.com/doc/C47/Menus/C47_Menu_CFLG_page_1.pdf
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

MODE	Mode settings					
g-shift	F.14 ☐	F.124 ☐	F.1234 ☐	KEY.LP ☐	MyMf ^s ☐	HOME _f ^s ☐
f-shift	M.14 ☐	M.124 ☐	M.1234 ☐	MNU _p 1 ☐	MyMb ☐	HOME _b ☐
unshifted	SRESET	g.2Tp ☐	SH.4s ☐	fg.GR ☐	fg.LIM ☐	fg.FUL ☐
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Ref 2 https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	MODE	MENU	Mode settings	System (mode settings) settings ; Info : MODE replaces R47 menu PREF ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To_ur.pdf	System		MODE	
F1	SRESET	Command	Safe reset f/g timers	Safe reset, then toggle ON/OFF the timing related user interface options: fg.FUL ☒ , g.2Tp ☒ , SH.4s ☐ , HOMEf ☒	User interface		SRESET	
F2	g.2Tp ☒	Setting	Double tap function keys	Switch on double tap function keys for g-shift ; not programmable - in PEM, use flag g.2Tp ; Info : Blocked for navigation FN-keys (arrows) in editors	User interface	g.2Tp	g.2Tp ☒	ON
F3	SH.4s ☐	Setting	Shift time-out of 4s	Switch on shift time-out of 4s ; not programmable - in PEM, use flag SH.4s ; Info : For layouts containing key [f/g] only	User interface	SH.4s	SH.4s ☐	OFF
F4	fg.GR ☐	Setting (pgm)	Menu f,g-highlighting Grey	Switch on menu f,g-highlighting grey	User interface	fg.GR	fg.GR ☐	OFF
F5	fg.LIM ☐	Setting (pgm)	Menu f,g-highlighting Limited	Switch on menu f,g-highlighting limited ; Info : fg.LIM and fg.FUL are linked (both cannot be ON at the same time)	User interface	fg.LIM	fg.LIM ☐	OFF
F6	fg.FUL ☒	Setting (pgm)	Menu f,g-highlighting Full	Switch on menu f,g-highlighting full ; Info : fg.FUL and fg.LIM are linked (both cannot be ON at the same time)	User interface	fg.FUL	fg.FUL ☒	ON
ff1	M.14 ☐	Setting (pgm)	Math keys skip f- and g-shift	Longpress control : Math keys skip f- and g-shift ; Info : 1. primaryNM : unshifted ; 4. longestpress : NOP ; Math keys are keys in row 2-4 except [E] and [←]	User interface			OFF
ff2	M.124 ☐	Setting (pgm)	Math keys skip g-shift	Longpress control : Math keys skip g-shift ; Info : 1. primaryNM : unshifted ; 2. longestpress : f-shift ; 4. longestpress : NOP ; Math keys are keys in row 2-4 except [E] and [←]	User interface			OFF
ff3	M.1234 ☐	Setting (pgm)	Math keys do full cycle	Longpress control : Math keys do full cycle ; Info : 1. primaryNM : unshifted ; 2. longestpress : f-shift ; 3. longerpress : g-shift ; 4. longestpress : NOP ; Math keys are keys in row 2-4 except [E] and [←]	User interface			ON
ff4	MNUp1 ☒	Setting (pgm)	Menu opens on p1	Switch on menu opens on p1	User interface	MNUp1	MNUp1 ☒	ON
ff5	MyMb ☒	Setting	MyMenu shown	Switch on MyMenu shown ; not programmable - in PEM, use flag MyMb ; Info : MyMb and HOMEb are linked (both cannot be ON at the same time ; applies when all menus are exited using EXIT	Customisation	MyMb	MyMb ☒	ON
ff6	HOMEb ☐	Setting	HOME menu shown	Switch on HOME menu shown ; not programmable - in PEM, use flag HOMEb ; Info : HOMEb and MyMb are linked (both cannot be ON at the same time ; applies when all menus are exited using EXIT	Customisation	HOMEb	HOMEb ☐	OFF
gf1	F.14 ☐	Setting (pgm)	Function keys skip f- and g-shift	Longpress control : Function keys skip f- and g-shift ; Info : 1. primaryNM : unshifted ; 4. longestpress : NOP	User interface			OFF
gf2	F.124 ☐	Setting (pgm)	Function keys skip g-shift	Longpress control : Function keys skip g-shift ; Info : 1. primaryNM : unshifted ; 2. longestpress : f-shift ; 4. longestpress : NOP	User interface			ON
gf3	F.1234 ☐	Setting (pgm)	Function keys do full cycle	Longpress control : Function keys do full cycle ; Info : 1. primaryNM : unshifted ; 2. longestpress : f-shift ; 3. longerpress : g-shift ; 4. longestpress : NOP	User interface			OFF
gf4	KEY.LP ☒	Setting	Longpress f and g shortcuts	Switch on longpress shortcuts for single shift keys ; not programmable - in PEM, use flag KEY.LP ; Info : KEY.LP pertains to R47v0 f/g layout and R47v2 f/g layout only and also enables longpress assignment to single shift keys	User interface	KEY.LP	KEY.LP ☒	ON
gf5	MyMf ☐	Setting	MyMenu f/g shortcut	Switch on MyMenu activated by triple and longerpress f/g-shift ; not programmable - in PEM, use flag MyMf ; Info : MyMf and HOMEf are linked (both cannot be ON at the same time ; MyMf pertains to layouts containing key [f/g] only and also enables longerpress assignment to this key	Customisation	MyMf	MyMf ☐	OFF
gf6	HOMEf ☒	Setting	HOME menu f/g shortcut	Switch on HOME menu activated by triple and longerpress f/g-shift ; not programmable - in PEM, use flag HOMEf ; Info : HOMEf and MyMf are linked (both cannot be ON at the same time ; HOMEf pertains to layouts containing key [f/g] only and also enables longerpress assignment to this key	Customisation	HOMEf	HOMEf ☒	ON

MODEL	Model					
g-shift	ResetF	AllF	BestF ₁	BestF#		OrthoF ☐
f-shift	RootF ☐	HypF ☐	ParabF ☐	CauchF ☐	GaussF ☐	
unshifted	LinF ☒	ExpF ☐	LogF ☐	PowerF ☐	L.R.	ASSESS
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MULTSTK_page_1.pdf

Ref 1 https://47calc.com/doc/C47/Reference/C47_BestF_param.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MODEL	MENU	Model	Functions to set parameter for which models are selected in the LR analysis ; Ref : https://47calc.com/doc/C47/Reference/C47_BestF_param.pdf	Plotting and curve fitting		MODEL	
F1	LinF ☒	Setting	Linear fit	Set <BestF> to include Linear curve fitting : $y = a_0 + a_1x$; deselects OrthoF ; Info : Adds 1 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		LinF ☒	ON
F2	ExpF ☐	Setting	Exponential fit	Set <BestF> to include Exponential curve fitting : $y = a_0 e^{(a_1x)}$; deselects OrthoF ; Info : Adds 2 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		ExpF ☐	OFF
F3	LogF ☐	Setting	Logarithmic fit	Set <BestF> to include Logarithmic curve fitting : $y = a_0 + a_1 \ln(x)$; deselects OrthoF ; Info : Adds 4 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		LogF ☐	OFF
F4	PowerF ☐	Setting	Power fit	Set <BestF> to include Power curve fitting : $y = a_0 x^{a_1}$; deselects OrthoF ; Info : Adds 8 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		PowerF ☐	OFF
F5	L.R.	Command	Linear Regression	Calculate all selected regression models, and select the one with the best coefficient of fit model correlation (r) ; TI : <model>* $a_2 =$; $y = a_1 =$; <formula> $a_0 =$	Plotting and curve fitting		L.R.	
F6	ASSESS	MENU (item)	Assess	Display graphical assessments of the selected regression curves	Plotting and curve fitting			
fF1	RootF ☐	Setting	Root fit	Set <BestF> to include Root curve fitting : $y = a_0 a_1^{(1/x)}$; deselects OrthoF ; Info : Adds 16 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		RootF ☐	OFF
fF2	HypF ☐	Setting	Hyperbolic fit	Set <BestF> to include Hyperbolic curve fitting : $y = (a_0 + a_1x)^{-1}$; deselects OrthoF ; Info : Adds 32 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		HypF ☐	OFF
fF3	ParabF ☐	Setting	Parabolic fit	Set <BestF> to include Parabolic curve fitting : $y = a_0 + a_1x + a_2x^2$; deselects OrthoF ; Info : Adds 64 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		ParabF ☐	OFF
fF4	CauchF ☐	Setting	Cauchy peak fit	Set <BestF> to include Cauchy peak curve fitting : $y = [a_0 (x + a_1)^2 + a_2]^{-1}$; deselects OrthoF ; Info : Adds 128 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		CauchF ☐	OFF
fF5	GaussF ☐	Setting	Gauss peak fit	Set <BestF> to include Gauss peak curve fitting : $y = a_0 e^{[(x - a_1)^2 / a_2]}$; deselects OrthoF ; Info : Adds 256 to <BestF> ; TI : L.R. selected to <BestF>.	Plotting and curve fitting		GaussF ☐	OFF
fF6								
gF1	ResetF	Command	Reset fitting	Reset <BestF> to default (1) ; TI : L.R. selected to 001	Plotting and curve fitting		ResetF	
gF2	AllF	Command	Set all (models)	Set <BestF> to include all curve fitting models (511) ; deselects OrthoF ; TI : L.R. selected to 511	Plotting and curve fitting		AllF	
gF3	BestF ₁	Setting	Set Best Fit	Select curve fit model(s) by setting parameter value directly ; TAM : BestF ---- TamNonReg menu	Plotting and curve fitting		BestF ₁	1
gF4	BestF#	Command	Get Best Fit	Get parameter for which models are selected in the LR analysis ; Info : Set in menu MODEL	Plotting and curve fitting		BestF#	
gF5								
gF6	OrthoF ☐	Setting	Orthogonal fit	Select orthogonal curve fitting (used in PLSTAT) ; deselects other curve fit settings ; Info : Sets <BestF> to 0 ; TI : L.R. selected to OrthoF	Plotting and curve fitting		OrthoF ☐	OFF

p1	MODEL	Link
F1	LinF ☐	
F2	ExpF ☐	
F3	LogF ☐	
F4	PowerF ☐	
F5	L.R.	
F6	ASSESS	https://47calc.com/doc/C47/Menus/C47_Menu_ASSESS_page_1.pdf
fF1	RootF ☐	
fF2	HypF ☐	
fF3	ParabF ☐	
fF4	CauchF ☐	
fF5	GaussF ☐	
fF6		
gF1	ResetF	
gF2	AllF	
gF3	BestF ₁	
gF4	BestF#	
gF5		
gF6	OrthoF ☐	

MULTSTK	Multi-stack commands					
g-shift						
f-shift	2ST0	2RCL	nDROP	nDUP	nSWAP	
unshifted	3ST0	3RCL	3DROP	3DUP	3SWAP	4SWAP
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MyMenu_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MULTSTK	MENU	Multi-stack commands	Multi-stack commands	Stack		MULTSTK	
F1	3STO	Command	Store X, Y, Z	Store X, Y, Z to three consecutive registers, specify first register using TAM ; TAM : 3STO __ Tam menu	Stack		3STO	
F2	3RCL	Command	Recall X, Y, Z	Recall X, Y, Z from three consecutive registers, specify first register using TAM ; TAM : 3RCL __ Tam menu	Stack		3RCL	
F3	3DROP	Command	Drop X, Y, Z	Drop X, Y, Z	Stack		3DROP	
F4	3DUP	Command	Duplicate X, Y, Z to T, A, B	Duplicate X, Y, Z to T, A, B	Stack		3DUP	
F5	3SWAP	Command	Swap X, Y, Z and T, A, B	Swap X, Y, Z and T, A, B	Stack		3SWAP	
F6	4SWAP	Command	Swap X, Y, Z, T and A, B, C, D	Swap X, Y, Z, T and A, B, C, D ; 0 :	Stack		4SWAP	
fF1	2STO	Command	Store X, Y	Store X, Y to two consecutive registers, specify first register using TAM	Stack		2STO	
fF2	2RCL	Command	Recall X, Y	Recall X, Y from two consecutive registers, specify first register using TAM	Stack		2RCL	
fF3	nDROP	Command	Drop n stack registers	Drop bottom n stack registers (n = 1-4) ; TAM : nDROP _ TamNonReg menu	Stack		NDROP	
fF4	nDUP	Command	Duplicate n stack registers	Duplicate bottom n stack registers to the n stack registers above (n = 1-4) ; TAM : nDUP _ TamNonReg menu	Stack		NDUP	
fF5	nSWAP	Command	Swap n stack registers	Swap bottom n stack registers with the n stack registers above (n = 1-4) ; TAM : nSWAP _ TamNonReg menu	Stack		NSWAP	
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Myα	MyAlpha					
g-shift						
f-shift						
unshifted						
Page 1	F1	F2	F3	F4	F5	F6

Prev menu https://47calc.com/doc/C47/Menus/C47_Menu_MyMenu_page_10.pdf

Next menu https://47calc.com/doc/C47/Menus/C47_Menu_NEW_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Myα	MENU	MyAlpha	User menu to quickly access user selected special characters ; all buttons are user assignable ('riveted' look) ; initially unpopulated ; reset using Myα.R ; Shortcut : alpha long [EXIT] ; EIM long [EXIT]	Customisation		Myα	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MyM	MyMenu					
g-shift						
f-shift						
unshifted	DRG	CC	e^{ix}	e^x	$i_{\otimes}$	i
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MyMenu_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyMR ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	DRG	Function (monadic, cyclic, nonpgm)	Degrees-radians-gradians	Add ADM tag to untagged value in X, convert tagged value to degrees-radians-gradians (cyclic) ; Info : Setting tag for complex X also sets POLAR mode for X according to ADM	Angle conversions		DRG	
F2	CC	Command	Compose-cut	Convert to or from Complex number (2.0-2.5) ; Info : a CC b ENTER returns $a+bi$ or $a \times b$ (using angle tag, regardless of POLAR, or ADM) ; CC returns Y : a, X : b ; also accepts 1x2 vectors as input	Complex numbers		CC	
F3	e^{ix}	Function (monadic)	Euler's formula	Rotate complex unit vector by X radians : $e^{ix} = \cos(x) + i \sin(x)$; Info : i or j displayed in stack and on soft buttons	Mathematics	CPX j	e^{ix}	
F4	e^x	Function (monadic)	e to the power x	Raise e to the power in the X-register	Mathematics		e^x	
F5	$i_{\odot}$	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a $i_{\odot}$ b ENTER results in $a \times b$ (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX j when in RECT mode	Complex numbers	CPX j	op_ $i_{\odot}$	
F6	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in $a + b i$; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX j when in RECT mode	Complex numbers	CPX j	op_ i	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MyM	MyMenu					
g-shift						
f-shift						
unshifted	CPX	MATX	π	i	e^x	TRG
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MyMenu_page_3.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyM.R ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	CPX	MENU	Complex functions	Complex functions ; Ref : https://47calc.com/doc/Application%20Notes/AN0001_C47_R47_JM_Complex_number_engineering_example.pdf	Complex numbers		CPX	
F2	MATX	MENU	Matrix	Matrix functions ; a matrix is displayed in X and shown in other stack registers as [m×n Matrix] or [m×n C Matrix] when containing complex element(s) ; Ref : https://47calc.com/doc/Application%20Notes/AN0020_C47_R47_Matrix_and_Vector.pdf ; Info : monadic functions work per matrix element (except 1/x, which is a shortcut for [M] ⁻¹ , use -1 y* instead ; and √x, which is a shortcut for MSQRT, use 0.5 y* instead) ; in edit mode, all functions work per element ; use registers to input calculation results	Matrix operations		MATX	
F3	π	Command	pi	Enter value of pi on the stack	Constants			
F4	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in a + b i ; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_i	
F5	e ^x	Function (monadic)	e to the power x	Raise e to the power in the X-register	Mathematics		e ^x	
F6	TRG	MENU	Trigonometry	Trigonometry functions ; Info : TRG replaces R47 menu TRG_R47 ; Ref : https://47calc.com/doc/C47/Reference/C47_DMS-HMS.pdf	Trigonometry		TRG	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p2	MyM	Link
F1	CPX	https://47calc.com/doc/C47/Menus/C47_Menu_CPX_page_1.pdf
F2	MATX	https://47calc.com/doc/C47/Menus/C47_Menu_MATX_page_1.pdf
F3	π	
F4	i	
F5	e^x	
F6	TRG	https://47calc.com/doc/C47/Menus/C47_Menu_TRG_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

MyM	MyMenu					
g-shift						
f-shift						
unshifted	%	Δ%	y ^x	x ²	10 ^x	FIN
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MyMenu_page_4.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyM.R ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	%	Function (dyadic)	Percent	X Percent of Y, keeping Y on stack -- see Formula_PC.png : https://47calc.com/doc/Images/Formula_PC.png	Financial		%	
F2	Δ%	Function (dyadic)	Delta percent	Delta percentage from Y to X, keeping Y on stack -- see Formula_DELTAPC.png : https://47calc.com/doc/Images/Formula_DELTAPC.png ; TI : Δ% :	Financial		Δ%	
F3	y ^x	Function (dyadic)	y to the power x	Raise value in the Y-register to the power in the X-register	Mathematics		y ^x	
F4	x ²	Function (monadic)	Square	Square of X	Mathematics		x ²	
F5	10 ^x	Function (monadic)	10 to the power x	Raise 10 to the power in the X-register	Mathematics		10 ^x	
F6	FIN	MENU	Financial	Financial calculations including time value of money (TVM) and TVM cash flow ; Ref : https://47calc.com/doc/C47/Reference/C47_Formulas.pdf	Financial		FIN	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p3	MyM	Link
F1	%	
F2	$\Delta\%$	
F3	y^x	
F4	x^2	
F5	10^x	
F6	FIN	https://47calc.com/doc/C47/Menus/C47_Menu_FIN_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

MyM	MyMenu					
g-shift						
f-shift						
unshifted	DMCP	ActUSB	SAVE	LOAD	SAVEST	LOADST
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyMR ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	DMCP	Command (HW)	Access DMCP menu	Access DMCP menu ; hardware only ; use EXIT to return without RESET -- see https://technical.swissmicros.com/dm42/doc/dm42_user_manual.html#dmcp_sys_menu ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator ; Ref : https://47calc.com/doc/C47/Reference/C47_DMCP_menu.pdf	System		DMCP	
F2	ActUSB	Command (HW)	Activate USB disk	Activate USB disk without exiting to DMCP ; hardware only ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	System		ActUSB	
F3	SAVE	Command (nonpgm)	Save full backup	Save full backup to file SAVFILES/C47.sav in FAT ; TI : Saved ; Directory : SAVFILES/	Input-Output		SAVE	
F4	LOAD	Command (nonpgm)	Load full backup	Load full backup from SAVE file SAVFILES/C47.sav in FAT and auto-clear USER mode ; key assignments will be ignored when loading from a backup file created on a different model (C47 versus R47 and vice versa) ; TI : Backup restored + <version info> ; Directory : SAVFILES/	Input-Output		LOAD	
F5	SAVEST	Command (nonpgm)	Save full state file	Save backup file (.s47) in FAT for LOADST ; the state file contains the complete state of the calculator: all memory content (registers, variables, programs, equations), all user assignments (key assignments, user menus) and all settings ; TI : Saving state file ... ; Saved ; DMCP File save dialog ("Save Calculator State" -- STATE/)	Input-Output		SAVEST	
F6	LOADST	Command (nonpgm)	Load state	Load state from SAVEST backup file (.s47) in FAT and clear USER mode ; if full state, presenting "WARNING: Current calculator state will be lost. Press [ENTER] to confirm." ; key assignments will be ignored when loading from a state file created on a different model (C47 versus R47 and vice versa) ; TI : Loading state file ... ; State file loaded ; DMCP File open dialog ("Load Calculator State" -- STATE/)	Input-Output		LOADST	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MyM	MyMenu					
g-shift						
f-shift						
unshifted	DRG	y^x	x^2	10^x	e^x	i_{θ}
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p5	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyMR ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	DRG	Function (monadic, cyclic, nonpgm)	Degrees-radians-gradians	Add ADM tag to untagged value in X, convert tagged value to degrees-radians-gradians (cyclic) ; Info : Setting tag for complex X also sets POLAR mode for X according to ADM	Angle conversions		DRG	
F2	y^x	Function (dyadic)	y to the power x	Raise value in the Y-register to the power in the X-register	Mathematics		y^x	
F3	x^2	Function (monadic)	Square	Square of X	Mathematics		x^2	
F4	10^x	Function (monadic)	10 to the power x	Raise 10 to the power in the X-register	Mathematics		10^x	
F5	e^x	Function (monadic)	e to the power x	Raise e to the power in the X-register	Mathematics		e^x	
F6	$i_{\odot}$	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a $i_{\odot}$ b ENTER results in a $\times$ b (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ $i_{\odot}$	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MyM	MyMenu					
g-shift						
f-shift						
unshifted	<i>i</i>	<i>i</i> _⊙	x!	<i>z</i> _y	10 ^x	<i>e</i> ^x
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_MyMenu_page_7.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p6	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyM.R ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	i	Command	Complex number (rectangular notation)	Enter complex number (rectangular notation) whether RECT is set or not ; e.g. a i b ENTER results in a + b i ; Info : In NIM, works like CC with RECT set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ i	
F2	$i_{\odot}$	Command	Complex number (polar notation)	Enter complex number (polar notation) whether POLAR is set or not ; e.g. a $i_{\odot}$ b ENTER results in a $\times$ b (according to ADM) ; Info : In NIM, works like CC with POLAR set ; displayed according to flag CPX.j when in RECT mode	Complex numbers	CPX.j	op_ $i_{\odot}$	
F3	x!	Function (monadic)	Factorial x! or $\Gamma(x+1)$	For Long integers : x! ; for Reals : $\Gamma(x+1)$; Info : Max integer: 450 (up to 1000 digits accurate) ; max real : 2123.549 956 662 463 236 31 ; integers > max are converted to reals	Mathematics		x!	
F4	$\sqrt[y]{x}$	Function (dyadic)	xth root	Xth root of Y	Mathematics		$\sqrt[y]{x}$	
F5	10 ^x	Function (monadic)	10 to the power x	Raise 10 to the power in the X-register	Mathematics		10 ^x	
F6	e ^x	Function (monadic)	e to the power x	Raise e to the power in the X-register	Mathematics		e ^x	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MyM	MyMenu					
g-shift						
f-shift						
unshifted	%+MG	%T	%	Δ%	TVM	FIN
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p7	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyMR ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	%+MG	Function (dyadic)	Sales price having margin	Find sales price having margin of X percent over cost Y : $\%+MG = Y / (1 - X/100)$ -- see Formula_PCPMG.png : https://47calc.com/doc/Images/Formula_PCPMG.png ; Info : Margin is percentage of sales price	Financial		%+MG	
F2	%T	Function (dyadic)	Percentage of total	Percentage of total, keeping Y on stack -- see Formula_PCT.png : https://47calc.com/doc/Images/Formula_PCT.png ; TI : % :	Financial		%T	
F3	%	Function (dyadic)	Percent	X Percent of Y, keeping Y on stack -- see Formula_PC.png : https://47calc.com/doc/Images/Formula_PC.png	Financial		%	
F4	Δ%	Function (dyadic)	Delta percent	Delta percentage from Y to X, keeping Y on stack -- see Formula_DELTAPC.png : https://47calc.com/doc/Images/Formula_DELTAPC.png ; TI : Δ% :	Financial		Δ%	
F5	TVM	MENU	Time value of money	Time value of money functions ; Info : When menu TVM is open, [RCL]/[STO] activates menu TamRclTVM/TamStoTVM ; TVM variable values are displayed as subscripts ; symbol $\llcorner$ is used for very small values ; symbol $\lrcorner$ for very large values ; Ref : https://47calc.com/doc/Application%20Notes/AN0012_C47_R47_JM_TVM.pdf	Financial		TVM	
F6	FIN	MENU	Financial	Financial calculations including time value of money (TVM) and TVM cash flow ; Ref : https://47calc.com/doc/C47/Reference/C47_Formulas.pdf	Financial		FIN	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p7	MyM	Link
F1	%+MG	
F2	%T	
F3	%	
F4	Δ%	
F5	TVM	https://47calc.com/doc/C47/Menus/C47_Menu_TVM_page_1.pdf
F6	FIN	https://47calc.com/doc/C47/Menus/C47_Menu_FIN_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

MyM	MyMenu					
g-shift						
f-shift						
unshifted	DMCP	ActUSB	WRITEP	READP	SAVEST	LOADST
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p8	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyMR ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	DMCP	Command (HW)	Access DMCP menu	Access DMCP menu ; hardware only ; use EXIT to return without RESET -- see https://technical.swissmicros.com/dm42/doc/dm42_user_manual.html#dmcp_sys_menu ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator ; Ref : https://47calc.com/doc/C47/Reference/C47_DMCP_menu.pdf	System		DMCP	
F2	ActUSB	Command (HW)	Activate USB disk	Activate USB disk without exiting to DMCP ; hardware only ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	System		ActUSB	
F3	WRITEP	Command	Write/save program	Write/save program to backup file (.p47) in FAT for READP ; TAM : WRITEP _ TamLbOnly menu ; DMCP : File save dialog ("Save Program" -- PROGRAMS/) ; TI : Saved	Input-Output		WRITEP	
F4	READP	Command	Read/load program	Read/load program from WRITEP backup file (.p47) in FAT ; TI : Program file loaded ; DMCP File open dialog ("Load Program" -- PROGRAMS/)	Input-Output		READP	
F5	SAVEST	Command (nonpgm)	Save full state file	Save backup file (.s47) in FAT for LOADST ; the state file contains the complete state of the calculator: all memory content (registers, variables, programs, equations), all user assignments (key assignments, user menus) and all settings ; TI : Saving state file ... ; Saved ; DMCP File save dialog ("Save Calculator State" -- STATE/)	Input-Output		SAVEST	
F6	LOADST	Command (nonpgm)	Load state	Load state from SAVEST backup file (.s47) in FAT and clear USER mode ; if full state, presenting "WARNING: Current calculator state will be lost. Press [ENTER] to confirm." ; key assignments will be ignored when loading from a state file created on a different model (C47 versus R47 and vice versa) ; TI : Loading state file ... ; State file loaded ; DMCP File open dialog ("Load Calculator State" -- STATE/)	Input-Output		LOADST	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MyM	MyMenu					
g-shift						
f-shift						
unshifted	DRG	DSP ₃	dZ.0 □	FF	R↑	x!
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p9	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyM.R ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	DRG	Function (monadic, cyclic, nonpgm)	Degrees-radians-gradians	Add ADM tag to untagged value in X, convert tagged value to degrees-radians-gradians (cyclic) ; Info : Setting tag for complex X also sets POLAR mode for X according to ADM	Angle conversions		DRG	
F2	DSP ₃	Setting (pgm)	Display precision	Set display mode precision (only) ; applies to FIX, SCI, ENG, UNIT, SIG, ALL ; TAM : DSP __ TamNonReg menu	Display		DSP ₃	3
F3	dZ.0 □	Setting	Display Long integers as Real	Switch on displaying Long integers as Real ; not programmable - in PEM, use flag dZ.0 ; Info : dZ.0 overrules dLrgLI ; Prefix : Z : ; radix not displayed if DSP = 0 ; larger values are displayed using scientific notation and indicated as Long integer by prefix "Z:" even if dZ.0 is CLEAR ; button shows current radix preference	Integers	dZ.0	dZ.0 □	OFF
F4	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	Programming		FF	
F5	R↑	Command	Roll up	Roll up stack	Stack		R↑	
F6	x!	Function (monadic)	Factorial x! or $\Gamma(x+1)$	For Long integers : x! ; for Reals : $\Gamma(x+1)$; Info : Max integer: 450 (up to 1000 digits accurate) ; max real : 2123.549 956 662 463 236 31 ; integers > max are converted to reals	Mathematics		x!	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

MyM	MyMenu					
g-shift						
f-shift						
unshifted	STOPW	DSP ₃	dZ.0 □	FF	LOOP	TEST
Page 10	F1	F2	F3	F4	F5	F6

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p10	MyM	MENU	MyMenu	User menu presenting a ribbon to quickly access user selected functions (and menus) ; all buttons are user assignable ('riveted' look) ; set by RIBBONS ; reset using MyM.R ; default ribbon M.C47 ; Shortcut : PEM longer [EXIT] ; longpress [EXIT] ; NIM long [EXIT] ; during assignment, pressing USER (f[2]) opens MyMenu ; Info : ribbons are documenten on page 1 : M.CPX ; 2 : M.ENG ; 3 : M.FIN ; 4 : M.SAV ; 5 : M.C47 ; 6 : M.R47 ; 7 : M.FIN+ ; 8 : M.SAV+	Customisation		MyMenu	
F1	STOPW	App	Stopwatch	Stopwatch with running time, counter and countdown (playing BEEP after running down) ; SBI : ⌚	Time functions	RUNTIM	STOPW	
F2	DSP ₃	Setting (pgm)	Display precision	Set display mode precision (only) ; applies to FIX, SCI, ENG, UNIT, SIG, ALL ; TAM : DSP __ TamNonReg menu	Display		DSP ₃	3
F3	dZ.0 □	Setting	Display Long integers as Real	Switch on displaying Long integers as Real ; not programmable - in PEM, use flag dZ.0 ; Info : dZ.0 overrules dLrgLI ; Prefix : Z : ; radix not displayed if DSP = 0 ; larger values are displayed using scientific notation and indicated as Long integer by prefix "Z:" even if dZ.0 is CLEAR ; button shows current radix preference	Integers	dZ.0	dZ.0 □	OFF
F4	FF	Command	Flip flag	Flip flag (toggle) ; TAM : FF __ TamFlag menu	Programming		FF	
F5	LOOP	MENU	Looping	Looping (programming) functions	Programming		LOOP	
F6	TEST	MENU	Testing	Testing functions	Programming		TEST	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p10	MyM	Link
F1	STOPW	
F2	DSP ₃	
F3	dZ.0 □	
F4	FF	
F5	LOOP	https://47calc.com/doc/C47/Menus/C47_Menu_LOOP_page_1.pdf
F6	TEST	https://47calc.com/doc/C47/Menus/C47_Menu_TEST_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

NEW (EQ_EDIT)	New equation					
g-shift						
f-shift	CAPS □	NUM □	^{SUP} _{SUB} □	:	(	)
unshifted	e^x	x	^	√	←	→
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_NEW_page_2.pdf

Ref 1 https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf

Ref 2 https://47calc.com/doc/C47/Reference/C47_Variable_naming.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	NEW (EQ_EDIT)	MENU (item, nonpgm)	New equation	Open equation editor menu to create new equation (previous equation pushed) ; Info : EIM = Equation Input Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQ.NEW	
F1	e^x	Symbol	e to the power x	e to the power x	Mathematics and characters			
F2	x	Symbol	Variable x	Variable x	Equations			
F3	^	Symbol	Raise to power	Raise to power ; Shortcut : alpha g [$1/x$] ; Info : Fontcode : 005E ₁₆	Mathematics and characters			
F4	√	Symbol	Square root	Square root ; Shortcut : alpha g [$\sqrt{x}$] ; Info : Fontcode : 221A ₁₆	Mathematics and characters			
F5	←	Arrow	Move cursor left	Move cursor left	Navigation			
F6	→	Arrow	Move cursor right	Move cursor right	Navigation			
ff1	CAPS □	Setting	Alpha capslock	Switch on alpha capslock ; not programmable ; Shortcut : alpha f [▲] / alpha f [▼] ; Info : sets initial case of menu A...Ω/α...ω and αINTL/αintl ; toggling alpha capslock clears Numlock ; SBI : A ; a	Text input	αCAP		OFF
ff2	NUM □	Setting	Numlock	Switch on numlock ; not programmable - in PEM, use flag NUM ; Shortcut : alpha f [▲] / alpha f [▼] ; SBI : N	Numeric input	NUM		OFF
ff3	^{SUB} □	Setting (cyclic)	Normal-super-subscript	Cycle normal-super-subscript (locking) ; Shortcut : alpha g [▲] / alpha g [▼] ; Info : button shows ^{SUB} ; α ^{SUP} ; α _{SUB} ; SBI : AA ^A ; aa ^a ; NN ^N	Text input			Normal
ff4	:	Character	Colon	Character : ; in the equation editor, the colon can be used to name an expression (<name> : <expression>) ; Shortcut : alpha [0] ; Fontcode : 003A ₁₆	Characters			
ff5	(	Symbol	Left parenthesis	Open (left) parenthesis ; Fontcode : 0028 ₁₆	Mathematics and characters			
ff6	)	Symbol	Right parenthesis	Close (right) parenthesis ; Fontcode : 0029 ₁₆	Mathematics and characters			
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

NEW (EQ_EDIT)	New equation					
g-shift						
f-shift	ASIN	ACOS	ATAN	<i>i</i>		$\frac{\pi}{2}$
unshifted	SIN	COS	TAN	π	←	→
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Next menu

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Ref 1

https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf

Ref 2

https://47calc.com/doc/C47/Reference/C47_Variable_naming.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	NEW (EQ_EDIT)	MENU (item, nonpgm)	New equation	Open equation editor menu to create new equation (previous equation pushed) ; Info : EIM = Equation Input Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQ.NEW	
F1	SIN	Function (monadic)	Sine	Sine	Trigonometry		SIN	
F2	COS	Function (monadic)	Cosine	Cosine	Trigonometry		COS	
F3	TAN	Function (monadic)	Tangent	Tangent	Trigonometry		TAN	
F4	π	Symbol	pi	Mathematical symbol π ; Shortcut : alpha g[R+] ; Info : Fontcode : 03C0 ₁₆ ; press [▲] for Π at [A...Ω.i] gF5	Mathematics and characters			
F5	←	Arrow	Move cursor left	Move cursor left	Navigation			
F6	→	Arrow	Move cursor right	Move cursor right	Navigation			
fF1	ASIN	Function (monadic)	Arc sine	Inverse sine ; Info : Returns the principal value of the inverse sine of X ; if flag CPXRES is SET, the domain is extended beyond [-1, +1] and complex results may be returned ; SBI : C ; R	Trigonometry	CPXRES	ARCSIN	
fF2	ACOS	Function (monadic)	Arc cosine	Inverse cosine ; Info : Returns the principal value of the inverse cosine of X ; if flag CPXRES is SET, the domain is extended beyond [-1, +1] and complex results may be returned ; SBI : C ; R	Trigonometry	CPXRES	ARCCOS	
fF3	ATAN	Function (monadic)	Arc tangent	Inverse tangent ; Info : Returns the principal value of the inverse tangent of X ; if flag SPCRES is SET, infinity input is allowed and the range is extended to [-90°, 90°] (inclusive)	Trigonometry	SPCRES	ARCTAN	
fF4	i	Symbol	Imaginary unit	Mathematical symbol i ; Info : Displayed according to flag CPX.j	Complex numbers	CPX.j		
fF5		Symbol	Bar	Open or close absolute value ; Shortcut : alpha g[ST0] ; Info : Fontcode : 007C ₁₆	Mathematics and characters			
fF6	$\angle$	Function (monadic)	Argument (angle)	Argument (angle) of Complex number	Complex numbers		$\angle$	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

NEW (EQ_EDIT)	New equation					
g-shift						
f-shift	=					
unshifted	!	Poly4	X.EDIT	X.SWAP	←	→
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Next menu

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Ref 1

https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf

Ref 2

https://47calc.com/doc/C47/Reference/C47_Variable_naming.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	NEW (EQ_EDIT)	MENU (item, nonpgm)	New equation	Open equation editor menu to create new equation (previous equation pushed) ; Info : EIM = Equation Input Mode ; Ref : https://47calc.com/doc/C47/Reference/C47_Equation_editor.pdf	Equations		EQ.NEW	
F1	!	Symbol	Exclamation mark	In edit equation, used as Factorial x! or $\Gamma(x+1)$; Shortcut : alpha f [R/S] ; Info : Fontcode : 0021 ₁₆	Mathematics and characters			
F2	Poly4	Function (monadic)	Polynomial 4th degree	Create polynomial : $a4 \times x^4 + a3 \times x^3 + a2 \times x^2 + a1 \times x + a0$	Mathematics			
F3	X.EDIT	Command	Edit X	Edit contents of stack register X as text ; Shortcut : alpha long [ENTER] ; EIM long [ENTER]	Text input		X.EDIT	
F4	X.SWAP	Command	Swap X	Swap contents of X register with input of alpha buffer or equation editor	Text input		X.SWAP	
F5	←	Arrow	Move cursor left	Move cursor left	Navigation			
F6	→	Arrow	Move cursor right	Move cursor right	Navigation			
fF1	=	Symbol	Equal	Equal ; Info : Fontcode : 003D ₁₆	Mathematics and characters			
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Norml:	Normal & Log normal distribution					
g-shift	ST0 _M μ	ST0 _S σ				
f-shift	LgNrm _p		LgNrm _{Δ}	LgNrm _{Δ}		LgNrm ⁻¹
unshifted	Norml _p		Norml _{Δ}	Norml _{Δ}		Norml ⁻¹
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_NUMBRS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Norml:	MENU	Normal & Log normal distribution	Normal & Log normal probability distribution (continuous) ; TI : RegM = μ = ; RegS = σ =	Probability (real)		Norml:	
F1	Norml _p	Function (monadic)	Normal pdf	Normal probability density function	Probability (real)		Norml _p	
F2								
F3	Norml _Δ	Function (monadic)	Normal cdf (lower)	Normal cumulative distribution (lower tail)	Probability (real)		Norml _Δ	
F4	Norml _Δ	Function (monadic)	Normal cdf (upper)	Normal cumulative distribution (upper tail)	Probability (real)		Norml _Δ	
F5								
F6	Norml ⁻¹	Function (monadic)	Normal qf (inverse)	Normal inverse cumulative distribution (quantile)	Probability (real)		Norml ⁻¹	
fF1	LgNrm _p	Function (monadic)	Log normal pdf	Log normal probability density function	Probability (real)		LgNrm _p	
fF2								
fF3	LgNrm _Δ	Function (monadic)	Log normal cdf (lower)	Log normal cumulative distribution (lower tail)	Probability (real)		LgNrm _Δ	
fF4	LgNrm _Δ	Function (monadic)	Log normal cdf (upper)	Log normal cumulative distribution (upper tail)	Probability (real)		LgNrm _Δ	
fF5								
fF6	LgNrm ⁻¹	Function (monadic)	Log normal qf (inverse)	Log normal inverse cumulative distribution (quantile)	Probability (real)		LgNrm ⁻¹	
gF1	ST0 _M μ	Command	Store μ in M	Store parameter μ : location in register M ; Split screen : RegM = μ =	Probability (real)			
gF2	ST0 _S σ	Command	Store σ in S	Store parameter σ : scale in register S ; Split screen : RegS = σ =	Probability (real)			
gF3								
gF4								
gF5								
gF6								

Σ+ KEY	Special [Σ+] hotkey assignments					
g-shift						
f-shift	→DRG ○	→i⓪ ○	→R↑ ○	→x! ○		N→U
unshifted	→Σ+ ⓪	→USER ○	→α ○	→f/g ○	→g ○	U→N
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_StdNorml_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Σ + KEY	MENU	Special [Σ +] assignments	Special hotkey assignments to key [Σ +] in NORMAL mode	Customisation		$\odot\Sigma$ +KEY	
F1	$\rightarrow\Sigma$ + $\odot$	Setting (pgm)	[Σ] Σ +	Assign Σ + to [Σ +] hotkey for NORMAL mode ONLY & deactivate USER mode ; Info : Shown in KEYMAP as Σ + (normal)	Customisation			ON
F2	$\rightarrow$ USER $\odot$	Setting (pgm)	[Σ]+USER	Assign USER to [Σ +] hotkey for NORMAL mode ONLY & deactivate USER mode ; Info : Shown in KEYMAP as [USER] (inverse)	Customisation			OFF
F3	$\rightarrow\alpha$ $\odot$	Setting (pgm)	[Σ]+ α	Assign α to [Σ +] hotkey for NORMAL mode ONLY & deactivate USER mode ; Info : Shown in KEYMAP as [α] (inverse) and in simulator as bright orange key	Customisation			OFF
F4	$\rightarrow$ f/g $\odot$	Setting (pgm)	[Σ]+f/g	Assign f/g to [Σ +] hotkey for NORMAL as well as USER mode ; disables longpress on [Σ +] and the use of this key as A in ASM two character search ; Info : Shown in KEYMAP as [f/g] (inverse)	Customisation			OFF
F5	$\rightarrow$ g $\odot$	Setting (pgm)	[Σ]+g	Assign <g> to [Σ +] hotkey for NORMAL as well as USER mode ; disables longpress on [Σ +] and the use of this key as A in ASM two character search ; Info : Shown in KEYMAP as [g] (inverse)	Customisation			OFF
F6	U $\rightarrow$ N	Command	Copy USER assignment to [Σ]+	Copy [Σ +] USER assignment to [Σ +] NORMAL assignment and deactivate USER mode	Customisation			
fF1	$\rightarrow$ DRG $\odot$	Setting (pgm)	[Σ]+DRG	Assign DRG to [Σ +] hotkey for NORMAL mode ONLY & deactivate USER mode ; Info : Shown in KEYMAP as [DRG] (inverse)	Customisation			OFF
fF2	$\rightarrow i_{\odot}$ $\odot$	Setting (pgm)	[Σ]+ $i_{\odot}$	Assign $i_{\odot}$ to [Σ +] hotkey for NORMAL mode ONLY & deactivate USER mode ; Info : Shown in KEYMAP as [$i_{\odot}$] (inverse)	Customisation			OFF
fF3	$\rightarrow$ R $\uparrow$ $\odot$	Setting (pgm)	[Σ]+R $\uparrow$	Assign R $\uparrow$ to [Σ +] hotkey for NORMAL mode ONLY & deactivate USER mode ; Info : Shown in KEYMAP as [R $\uparrow$] (inverse)	Customisation			OFF
fF4	$\rightarrow$ x! $\odot$	Setting (pgm)	[Σ]+x!	Assign x! to [Σ +] hotkey for NORMAL mode ONLY & deactivate USER mode ; Info : Shown in KEYMAP as [x!] (inverse)	Customisation			OFF
fF5								
fF6	N $\rightarrow$ U	Command	Copy [Σ]+ assignment to USER	Copy [Σ]+ NORMAL assignment to [Σ +] USER assignment and activate USER mode ; Info : Does not copy $\rightarrow$ g or $\rightarrow$ f/g assignment	Customisation			
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

NUMBRS	Number variables					
g-shift	↑Y	↓EST	↓Lim	↓X	↓Y	
f-shift	PMT	PPER/a	PV	↑EST	↑Lim	↑X
unshifted	ACC	CPER/a	FV	GRAMOD	I%/a	NPPER
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_NumTh_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	NUMBRS	MENU	Number variables	Auto-generated catalog of variables of the specified datatype : Number (0 ; 1.0-1.5 ; 2.0-2.5)	Catalog		NUMBRS	
F1	ACC	Variable (real)	Accuracy of the integrator	Reserved Real variable for the accuracy of the integrator (ACC) ; set interactively from menu Toolf ; TI : 'ACC' :	Integrator		ACC	0
F2	CPER/a	Variable (real)	TVM compounding periods	Reserved Real variable for the TVM compounding periods per annum (cp/a) ; displays as c_a or c in menu TVM when value $\neq 0$; TI : CPER/a = Compounding periods p.a. =	Financial		CPER/a	12
F3	FV	Variable (real)	TVM future value	Reserved Real variable for the TVM future value (FV) ; displays as F in menu TVM when value is large ; TI : FV = Future Value =	Financial		FV	0
F4	GRAMOD	Variable (longint)	Graphics display mode	Reserved LongInteger variable for the graphics display mode (GRAMOD) ; set interactively from menu P.FN1 (AGRAPH) ; Info : OR: 0 ; SET: 1 ; OFF: 2 ; XOR: 3	Programming		GRAMOD	0
F5	I%/a	Variable (real)	TVM annual interest rate	Reserved Real variable for the TVM annual interest rate as percentage (I/a) ; use 10 for 10%, not 0.1 ; displays as I_a or I in menu TVM when value is large ; TI : I%/a = I%YR = APR =	Financial		I%/a	0
F6	NPPER	Variable (real)	TVM number of payments	Reserved Real variable for the TVM number of payments (n) ; TI : NPPER = n pay periods =	Financial		NPPER	0
ff1	PMT	Variable (real)	TVM payment	Reserved Real variable for the TVM payment (PMT) ; displays as P_m or P in menu TVM when value is large ; TI : PMT = Payment =	Financial		PMT	0
ff2	PPER/a	Variable (real)	TVM payment period	Reserved Real variable for the TVM payment period per annum (pp/a) ; displays as p_a or p in menu TVM when value $\neq 0$; TI : PPER/a = Pay periods p.a. =	Financial		PPER/a	12
ff3	PV	Variable (real)	TVM present value	Reserved Real variable for the TVM present value (PV) ; displays as P_v or P in menu TVM when value is large ; TI : PV = Present Value =	Financial		PV	0
ff4	↑EST	Variable (real)	Upper estimate for solver	Reserved Real variable for the upper estimate for solver (↑Est) ; displays as ↑E in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv $\frac{x}{y}$ or cpxSlv $\frac{x}{y}$; Split screen : Displaying ↑Est Upper = ; ↓Est Lower =	Solver		↑EST	0
ff5	↑Lim	Variable (real)	Upper limit for integrator	Reserved Real variable for the upper limit for integrator (↑Lim) ; displays as ↑L in menu Toolf for larger values ; set interactively from menu Toolf and set by $\int_y^x$; TI : ↑ Upper limit :	Integrator		↑Lim	0
ff6	↑X	Variable (real)	Upper limit for X-axis	Reserved Real variable for the upper limit for X-axis (↑X) ; set interactively from menu Graphs and set by Draw $\frac{x}{y}$; TI : '↑X' :	Plotting		↑X	10
gf1	↑Y	Variable (real)	Upper limit for Y-axis	Reserved Real variable for the upper limit for Y-axis (↑Y) ; set interactively from menu Graphs and set by Plot functions ; TI : '↑Y' :	Plotting		↑Y	10
gf2	↓EST	Variable (real)	Lower estimate for solver	Reserved Real variable for the lower estimate for solver (↓Est) ; displays as ↓E in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv $\frac{x}{y}$ or cpxSlv $\frac{x}{y}$; Split screen : Displaying ↑Est Upper = ; ↓Est Lower =	Solver		↓EST	0
gf3	↓Lim	Variable (real)	Lower limit for integrator	Reserved Real variable for the lower limit for integrator (↓Lim) ; displays as ↓L in menu Toolf for larger values ; set interactively from menu Toolf and set by $\int_y^x$; TI : ↓ Lower limit :	Integrator		↓Lim	0
gf4	↓X	Variable (real)	Lower limit for X-axis	Reserved Real variable for the lower limit for X-axis (↓X) ; set interactively from menu Graphs and set by Draw $\frac{x}{y}$; TI : '↓X' :	Plotting		↓X	-10
gf5	↓Y	Variable (real)	Lower limit for Y-axis	Reserved Real variable for the lower limit for Y-axis (↓Y) ; set interactively from menu Graphs and set by Plot functions ; TI : '↓Y' :	Plotting		↓Y	0
gf6								

NumTh	Number theory functions					
g-shift						
f-shift	M.FACT	ϕ_E				
unshifted	FACTORS	σ_0	σ_1	σ_k	σ_1^*	σ_k^*
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Orthog_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	NumTh	MENU	Number theory functions	Number theory functions -- see https://en.wikipedia.org/wiki/Divisor_function	Mathematics		NumTh	
F1	FACTORS	Function (monadic)	Prime factors	Prime factors of the integer input in X ; factors are calculated in Long integer, stored as Real number (34 digits) and returned as a 2 row matrix (row 1 contains the primes, row 2 contains the powers) ; shows status, number being tested and last factor found ; interrupt by [EXIT] ; registers G, H, K are used to store the last three factors, in Long integer (register K stores the remaining number to be factorised after interrupt) -- see https://en.wikipedia.org/wiki/Pollard's_rho_algorithm ; https://en.wikipedia.org/wiki/Shanks's_square_forms_factorization ; Info : Pollard's rho algorithm and Shanks's square forms factorization are used ; prime factors will be accurate up to 3 317 044 064 679 887 385 961 980 ; for input values > 34 digits, the long integer factors are saved in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; during execution, status info may be shown: Factors: Small prime trial: p = Factors: Perfect Sq trial: p = Factors: Shanks/Pollard: n = Factors: Shanks/Pollard: n =	Integers		FACTORS	
F2	σ_0	Function (monadic)	Divisor count function (k = 0)	Divisor count function (k = 0) using either a FACTORS matrix or Long integer as input in X	Mathematics		σ_0	
F3	σ_1	Function (monadic)	Sigma function (k = 1)	Sigma function (k = 1) using either a FACTORS matrix or Long integer as input in X	Mathematics		σ_1	
F4	σ_k	Function (dyadic)	Generalised sigma function	Generalised sigma function using either a FACTORS matrix or Long integer as input in X	Mathematics		σ_k	
F5	σ_1^*	Function (monadic)	Proper sigma function	Proper sigma function using either a FACTORS matrix or Long integer as input in X	Mathematics		σ_1^*	
F6	σ_k^*	Function (dyadic)	Generalised proper sigma function	Generalised proper sigma function using either a FACTORS matrix or Long integer as input in X	Mathematics		σ_k^*	
fF1	M.FACT	Function (monadic)	Multiply (prime) factors	Multiply (prime) factors from a 2 row matrix in X (row 1 contains the factors, row 2 contains the powers) ; Info : E.g. use FACTORS matrix as input in X	Integers		M.FACT	
fF2	ϕ_E	Function (monadic)	Euler's totient function	Euler's totient function using either a FACTORS matrix or Long integer as input in X -- see https://en.wikipedia.org/wiki/Euler's_totient_function	Mathematics		ϕ_E	
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Orthog	Orthogonal polynomials					
g-shift						
f-shift	H_n^p					
unshifted	H_n	L_m	$L_m^{(\alpha)}$	P_n	T_n	U_n
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_P-FN_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Orthog	MENU	Orthogonal polynomials	Orthogonal polynomials	Mathematics		ORTHOG	
F1	H_n	Function (dyadic)	Hermite polynomials (probability)	Hermite polynomials (probability) ; Parameter : $x = X$; $n = Y$	Mathematics		H_n	
F2	L_m	Function (dyadic)	Laguerre polynomials	Laguerre polynomials ; Parameter : $x = X$; $m = Y$	Mathematics		L_m	
F3	$L_m^{(\alpha)}$	Function (triadic)	Laguerre generalised polynomials	Laguerre generalised polynomials ; Parameter : $x = X$; $m = Y$; $\alpha = Z$	Mathematics		$L_m^{(\alpha)}$	
F4	P_n	Function (dyadic)	Legendre polynomials	Legendre polynomials ; Parameter : $x = X$; $n = Y$	Mathematics		P_n	
F5	T_n	Function (dyadic)	Chebyshev polynomials (1st)	Chebyshev polynomials of the 1st kind ; Parameter : $x = X$; $n = Y$	Mathematics		T_n	
F6	U_n	Function (dyadic)	Chebyshev polynomials (2nd)	Chebyshev polynomials of the 2nd kind ; Parameter : $x = X$; $n = Y$	Mathematics		U_n	
fF1	H_{np}	Function (dyadic)	Hermite polynomials (physics)	Hermite polynomials (physics) ; Parameter : $x = X$; $n = Y$	Mathematics		H_{np}	
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

P.FN	Programming functions					
g-shift	EDIT				P.FN3	P.FN2
f-shift					LOOP	TEST
unshifted	LBL	GT0	XEQ	RTN	END	P.FN1
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_P-FN1_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	P.FN	MENU	Programming functions	User menu to quickly access selected menus and functions for programming ; all buttons are user assignable ('riveted' look) ; initially populated for basic programming options ; reset using PFN.R ; Shortcut : PEM long [EXIT] ; PEM triple [f/g] (because either HOME _f or MyM _f is SET and either HOMEB or MyMb is SET) ; PEM longer [f/g] (because either HOME _f or MyM _f is SET and either HOMEB or MyMb is SET)	Programming		P.FN	
F1	LBL	Command (PEM)	Label	Create global or local label ; create global label by pressing key α (f[XEQ]) and entering the name, which will be displayed as '<label>' ; local labels only exist within the scope of the program ; they are numeric : 01-99, single letter : a-l or {A}-{E}, F, {G}-{L} ; or created as local named labels, by pressing button : ([TamLabel.1]F3), then button α ([TamLocalLabel.1]F3) or key α (f[XEQ]) and entering the name, which will be displayed as :<label> ; maximum label length is : 7 characters ; TAM : LBL __ TamLabel menu ; Info : LBL + TAM [XEQ] to enter global LBL 'α TamAlpha menu ; LBL + button : on [TamLabel.1]F3 to enter LBL :__ TamLocalLabel menu to create local labels a-l, D-F or local named labels (additionally pressing button α on [TamLocalLabel.1]F3 or TAM [XEQ] to enter LBL :α TamAlpha menu) ; note that a label may be used multiple times in a program ; local labels are searched forwards from the GT0 or XEQ command, before global labels, which are searched from the start of program memory	Programming		LBL	
F2	GT0	Command (PEM)	Go to	Go to global or local label ; GT0. to go to (local) label or step ; GT0.. to move the program pointer to the end of program memory ; GT0↑ to go to the start of the (previous) program or jump to the start of program memory ; GT0↓ to go to the next program or jump to the end of program memory ; TAM : GT0 __ TamLabel menu ; Info : GT0 + TAM [XEQ] to enter global GT0 'α TamAlpha menu ; GT0 + button : on [TamLabel.1]F3 to enter GT0 :__ TamLocalLabel menu for easy access to local labels a-l, D-F or local named labels (additionally pressing button α on [TamLocalLabel.1]F3 or TAM [XEQ] to enter GT0 :α TamAlpha menu)	Programming		GT0	
F3	XEQ	Command (PEM)	Execute	Execute function or program with global or local label (normal spaces can be used instead of special spaces in labels) ; TAM : XEQ __ TamLabel menu ; Info : XEQ + TAM [XEQ] to enter global XEQ 'α TamAlpha menu ; XEQ + button : on [TamLabel.1]F3 to enter XEQ :__ TamLocalLabel menu for easy access to local labels a-l, D-F or local named labels (additionally pressing button α on [TamLocalLabel.1]F3 or TAM [XEQ] to enter XEQ :α TamAlpha menu)	Programming		XEQ	
F4	RTN	Command (PEM)	Return	Return from subroutine to calling program	Programming		RTN	
F5	END	Command (PEM)	End	End statement	Programming		END	
F6	P.FN1	MENU	Programming functions 1	Programming functions 1 ; this is a normal menu, buttons are not user assignable (P.FN is)	Programming		P.FN1	
fF1								
fF2								
fF3								
fF4								
fF5	LOOP	MENU	Looping	Looping (programming) functions	Programming		LOOP	
fF6	TEST	MENU	Testing	Testing functions	Programming		TEST	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF1	EDIT	Command	Edit item	Edit item in X (any data type, except Config) in Normal Mode ; edit text strings, numbers or function parameters in the current step in Program Entry Mode; when editing angles using EDIT, key .d removes the angle tag (Normal Mode and PEM) ; when editing short integers, key .d removes the base (Normal Mode and PEM) ; Shortcut : longerpress [←]; alpha longer [←]; PEM long [←]; EIM longer [←] ; Info : editing of long integers is limited to two input lines (about 99 digits depening on display settings) ; also note that for new models and simulator, the full set of features is supported (Complex numbers not yet implemented), but for DM42 hardware, numbers cannot be edited	User interface		EDIT	
gF2								
gF3								
gF4								
gF5	P.FN3	MENU	Programming functions 3	Programming functions 3 ; this is a normal menu, buttons are not user assignable (P.FN is)	Programming		P.FN3	
gF6	P.FN2	MENU	Programming functions 2	Programming functions 2 ; this is a normal menu, buttons are not user assignable (P.FN is)	Programming		P.FN2	

p1	P.FN	Link
F1	LBL	
F2	GTO	
F3	XEQ	
F4	RTN	
F5	END	
F6	P.FN1	https://47calc.com/doc/C47/Menus/C47_Menu_P-FN1_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5	LOOP	https://47calc.com/doc/C47/Menus/C47_Menu_LOOP_page_1.pdf
fF6	TEST	https://47calc.com/doc/C47/Menus/C47_Menu_TEST_page_1.pdf
gF1	EDIT	
gF2		
gF3		
gF4		
gF5	P.FN3	https://47calc.com/doc/C47/Menus/C47_Menu_P-FN3_page_1.pdf
gF6	P.FN2	https://47calc.com/doc/C47/Menus/C47_Menu_P-FN2_page_1.pdf

P.FN1	Programming functions 1					
g-shift	PIXEL	POINT	AGRAPH	ZOOM	PLTRST	PLTFCNS
f-shift	MSG	ERR	REM	KEY?	KTYP	PUTK
unshifted	INPUT	AVIEW	PROMPT	PAUSE	TICKS	P.FN2
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	P.FN1	MENU	Programming functions 1	Programming functions 1 ; this is a normal menu, buttons are not user assignable (P.FN is)	Programming		P.FN1	
F1	INPUT	Command (PEM)	Input	Halt program execution, push current value, prompt and accept input for register or variable ; TAM : INPUT __ Tam menu	Programming		INPUT	
F2	AVIEW	Command (PEM)	Alpha view	View the register or variable contents (text string) in the top left part of the screen, without TI (for use in Program Entry Mode) ; if the contents include the ↵ symbol, optionally display one or more TI's at the top, X, Y, Z line ; example: "top line = ↵ X = ↵ Y = ↵ Z = " ; TAM : AVIEW __ Tam menu ; Info : if ⏏ACT is SET, AVIEW will print when executed from the keyboard in MAN, NORM or TRACE ; in Program Entry Mode, ⏏EN must be SET as well ; if ⏏ACT is CLEAR and ⏏EN is SET, AVIEW halts execution (R/S)	Programming		AVIEW	
F3	PROMPT	Command (PEM)	Prompt	Halt program execution and view the register or variable contents (text string) in the top left part of the screen, without TI (for use in Program Entry Mode) ; if the contents include the ↵ symbol, optionally display one or more TI's at the top, X, Y, Z line ; example: "top line = ↵ X = ↵ Y = ↵ Z = " ; TAM : PROMPT __ Tam menu ; Info : if ⏏EN is SET, PROMPT will print when executed from the keyboard in NORM or TRACE ; in Program Entry Mode, ⏏EN must be SET as well	Programming		PROMPT	
F4	PAUSE	Command (PEM)	Pause	Pause program for number of ticks ; range is nn in [0, 98], one tick is 100 ms ; special case : nn = 99 results in sleep mode ; TAM : PAUSE __ TamNonReg menu	Programming		PAUSE	
F5	TICKS	Command (PEM)	Ticks	Number of ticks counted since calculator was turned on (one tick is 100 ms)	Programming		TICKS	
F6	P.FN2	MENU	Programming functions 2	Programming functions 2 ; this is a normal menu, buttons are not user assignable (P.FN is)	Programming		P.FN2	
fF1	MSG	Command (PEM)	Message	Show error message ; TAM : MSG __ TamNonReg menu ; Ref : https://47calc.com/doc/C47/Reference/C47_Errors_and_messages.pdf	Programming		MSG	
fF2	ERR	Command (PEM)	Error	Raise error and show error message ; TAM : ERR __ TamNonReg menu ; Ref : https://47calc.com/doc/C47/Reference/C47_Errors_and_messages.pdf	Programming		ERR	
fF3	REM	Command (PEM)	Remark	Comment line in program (maximum 160 characters) ; Info : REM ' ' ALPHA (ALPHA) menu	Programming		REM	
fF4	KEY?	Command (logical, PEM)	Key pressed?	Test key was pressed : if it is NOT pressed, the next program step will be executed and if it IS pressed, the next program step will be skipped and the keycode is stored in the register specified ; keycode range is 11-85, where the first digit is row, second digit is column number ; TAM : KEY? __ Tam menu ; Info : KEY? should not to be used in short loops, keeps calculator running on full power ; [R/S] and [EXIT] interrupt a program and KEY? will not work for those keys ; Ref : https://47calc.com/doc/C47/Reference/C47_KeyType.pdf	Programming		KEY?	
fF5	KTYP	Command (logical)	Key type?	Get key type for key code returned by KEY? ; TAM : KTYP __ Tam menu ; Info : https://47calc.com/doc/C47/Reference/C47_KeyType.pdf	Programming		KTYP	
fF6	PUTK	Command (PEM)	Put keycode in buffer	Copy keycode from register to keyboard buffer for immediate execution ; TAM : PUTK __ Tam menu	Programming		PUTK	
gF1	PIXEL	Command (PEM)	Display pixel or thin line	Display one pixel at (X, Y) or draw a thin horizontal or vertical line at the (absolute) value of one or both negative coordinates ; this is a Program Entry Mode command ; use CLLCD to clear LCD and PAUSE to pause program for number of ticks in order to view graphic ; Info : Range is X in [0, 399] and Y in [0, 239] (400 x 240 display, where (0, 0) is bottom left) ; -0. is accepted as a valid negative input for line drawing	Programming		PIXEL	
gF2	POINT	Command (PEM)	Display point or thick line	Display 9 (3x3) pixels around (X, Y) or draw a thick horizontal or vertical line at the (absolute) value of one or both negative coordinates ; this is a Program Entry Mode command ; use CLLCD to clear LCD and PAUSE to pause program for number of ticks in order to view graphic ; Info : Range is X in [0, 399] and Y in [0, 239] (400 x 240 display, where (0, 0) is bottom left) ; -0. is accepted as a valid negative input for line drawing	Programming		POINT	
gF3	AGRAPH	Command (PEM)	Alpha graphics	Show a 64 column pattern according to variable GRAMOD (OR: 0 ; SET: 1 ; OFF: 2 ; XOR: 3) ; this command will be redesigned and should not be used in programming! ; TAM : AGRAPH __ Tam menu	Programming		AGRAPH	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF4	ZOOM	Command (PEM)	Zoom (plot)	Zoom plot to factor in X ; Info : -3..-1 : zoom out ; 0 : normal	Programming		ZOOM	
gF5	PLTRST	Command (PEM)	Reset plot	Reset all plot options and redraw graph ; Info : Resets options for lines, boxes, crosses, plusses and scaling ; PLTRST also resets ↓Y and ↑Y to zero	Plotting		PLTRST	
gF6	PLTFCNS	MENU (item)	Plot functions	Plot functions (programmable), displaying graph, value/tick, lower left and upper right coordinate and additional info according to settings ; displays plot options menu ; Info : Please note that this item is in development -- Error 59 : Undefined menu name -- may be raised ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Plotting		PLTFCNS	

p1	P.FN1	Link
F1	INPUT	
F2	AVIEW	
F3	PROMPT	
F4	PAUSE	
F5	TICKS	
F6	P.FN2	https://47calc.com/doc/C47/Menus/C47_Menu_P-FN2_page_1.pdf
fF1	MSG	
fF2	ERR	
fF3	REM	
fF4	KEY?	
fF5	KTYP	
fF6	PUTK	
gF1	PIXEL	
gF2	POINT	
gF3	AGRAPH	
gF4	ZOOM	
gF5	PLTRST	
gF6	PLTFCNS	https://47calc.com/doc/C47/Menus/C47_Menu_PLTFCNS_page_1.pdf

P.FN2	Programming functions 2					
g-shift	R-COPY	R-SORT	R-SWAP	R-CLR		
f-shift	LocR	PopLR	CLMENU	OPENM	EXITall	42
unshifted	KEYG	KEYX	MENU	MVAR	VarMNU	P.FN3
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	P.FN2	MENU	Programming functions 2	Programming functions 2 ; this is a normal menu, buttons are not user assignable (P.FN is)	Programming		P.FN2	
F1	KEYG	Command (PEM)	Key Go to	Used in Program Entry Mode to specify the label to go to when soft button (1-18) of the Programmable MENU, [▲] (19), [▼] (20) or [EXIT] (21) is pressed ; if button 1-18 is specified, KEYG also creates a soft button in the Programmable MENU with the string in X as a label ; TAM : KEYG → KEY __ TamKey menu ; KEY nn GT0 __ TamLabel menu	Programming		KEYG	
F2	KEYX	Command (PEM)	Key Execute	Used in Program Entry Mode to specify the program to execute when soft button (1-18) of the Programmable MENU, [▲] (19), [▼] (20) or [EXIT] (21) is pressed ; if button 1-18 is specified, KEYX also creates a soft button in the Programmable MENU with the string in X as a label ; TAM : KEYX → KEY __ TamKey menu ; KEY nn XEQ __ TamLabel menu	Programming		KEYX	
F3	MENU	Command (PEM)	Display Programmable MENU	Display the Programmable MENU defined with KEYG and/or KEYX	Programming		MENU	
F4	MVAR	Command (PEM)	Define menu variable	Define menu variable in RPN program, for VarMNU, integrator, or solver ; creates variable if it does not exist ; TAM : MVAR __ TamVarOnly menu ; Ref : https://47calc.com/doc/C47/Reference/C47_Variable_naming.pdf	Programming		MVAR	
F5	VarMNU	Command (PEM)	Variable menu	Create variable menu ; uses register K to store variable name when MVAR-defined button (<var...>) is pressed without NIM input ; TAM : VarMNU __ TamLbOnly menu ; Error 25 -- No MVAR found in selected program -- may be raised	Programming		VARMNU	
F6	P.FN3	MENU	Programming functions 3	Programming functions 3 ; this is a normal menu, buttons are not user assignable (P.FN is)	Programming		P.FN3	
fF1	LocR	Command (PEM)	Allocate local registers	Allocate nn (0-99) local registers and 32 local flags (0-31) ; available in the current routine ; TAM : LocR __ TamNonReg menu ; Info : LocR nn (nn > 0) allocates local registers 00..nn-1 and local flags 00..31, LocR 00 allocates only the local flags	Programming		LocR	
fF2	PopLR	Command (PEM)	Pop local registers	Pop local registers (no return to calling routine)	Programming		PopLR	
fF3	CLMENU	Command	Clear (program) menu	Clear the programmable menu	Cleanup		CLMENU	
fF4	OPENM	Command (PEM)	Open menu	Open menu by (catalog) name, optionally followed by ↵ and page number ; TAM : OPENM _ TamMenu menu ; Info : ↵ is on [αMisc.1] F1 ; menu name and page can be stored in a register or variable ; Error 59 -- Undefined menu name -- may be raised	Programming		OPENM	
fF5	EXITall	Command (PEM)	Exit all	Exit all menus ; return to MyMenu (Normal Mode) ; exit VarMNU (program execution)	Programming		EXITALL	
fF6	42	MENU (42)	42-compatible operations	Functions and commands that are 100% compatible with the HP-42S/DM42(n) calculators ; Ref : https://47calc.com/doc/Application%20Notes/AN0026_C47_R47_DL_42S_Compatibility.pdf	Compatibility		42	
gF1	R-COPY	Command (PEM)	Copy registers	Copy registers, using range number in X (sss.nndd means registers from sss through sss + n - 1 to registers ddd through ddd + nn - 1)	Programming		R-COPY	
gF2	R-SORT	Command (PEM)	Sort registers	Sort registers by ascending value, using range number in X (sss.nn means registers from sss through sss + nn - 1) ; Info : R-SORT can also sort by time value stored in the registers	Programming		R-SORT	
gF3	R-SWAP	Command (PEM)	Swap registers	Swap registers, using range number in X (sss.nndd means registers from sss through sss + n - 1 to registers ddd through ddd + nn - 1)	Programming		R-SWAP	
gF4	R-CLR	Command (PEM)	Clear registers	Clear registers, using range number in X (sss.nn means registers from sss through sss + nn - 1)	Programming		R-CLR	
gF5								
gF6								

p1	P.FN2	Link
F1	KEYG	
F2	KEYX	
F3	MENU	
F4	MVAR	
F5	VarMNU	
F6	P.FN3	https://47calc.com/doc/C47/Menus/C47_Menu_P-FN3_page_1.pdf
fF1	LocR	
fF2	PopLR	
fF3	CLMENU	
fF4	OPENM	
fF5	EXITall	
fF6	42	https://47calc.com/doc/C47/Menus/C47_Menu_42_page_1.pdf
gF1	R-COPY	
gF2	R-SORT	
gF3	R-SWAP	
gF4	R-CLR	
gF5		
gF6		

P.FN3	Programming functions 3					
g-shift	EDIT	CASE	RCL.SKP			PFN.R
f-shift	SKIP	BACK	XEQ.SKP	RTN.SKP	LOOP	TEST
unshifted	LBL	GT0	XEQ	RTN	END	P.FN
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	P.FN3	MENU	Programming functions 3	Programming functions 3 ; this is a normal menu, buttons are not user assignable (P.FN is)	Programming		P.FN3	
F1	LBL	Command (PEM)	Label	Create global or local label ; create global label by pressing key α (f[XEQ]) and entering the name, which will be displayed as '<label>' ; local labels only exist within the scope of the program ; they are numeric : 01-99, single letter : a-l or {A}-{E}, F, {G}-{L} ; or created as local named labels, by pressing button : ([TamLabel.1]F3), then button α ([TamLocalLabel.1]F3) or key α (f[XEQ]) and entering the name, which will be displayed as :<label> ; maximum label length is : 7 characters ; TAM : LBL __ TamLabel menu ; Info : LBL + TAM [XEQ] to enter global LBL ' _ TamAlpha menu ; LBL + button : on [TamLabel.1]F3 to enter LBL :__ TamLocalLabel menu to create local labels a-l, D-F or local named labels (additionally pressing button α on [TamLocalLabel.1]F3 or TAM [XEQ] to enter LBL : _ TamAlpha menu) ; note that a label may be used multiple times in a program ; local labels are searched forwards from the GTO or XEQ command, before global labels, which are searched from the start of program memory	Programming		LBL	
F2	GTO	Command (PEM)	Go to	Go to global or local label ; GTO. to go to (local) label or step ; GTO.. to move the program pointer to the end of program memory ; GTO↑ to go to the start of the (previous) program or jump to the start of program memory ; GTO↓ to go to the next program or jump to the end of program memory ; TAM : GTO __ TamLabel menu ; Info : GTO + TAM [XEQ] to enter global GTO ' _ TamAlpha menu ; GTO + button : on [TamLabel.1]F3 to enter GTO :__ TamLocalLabel menu for easy access to local labels a-l, D-F or local named labels (additionally pressing button α on [TamLocalLabel.1]F3 or TAM [XEQ] to enter GTO : _ TamAlpha menu)	Programming		GTO	
F3	XEQ	Command (PEM)	Execute	Execute function or program with global or local label (normal spaces can be used instead of special spaces in labels) ; TAM : XEQ __ TamLabel menu ; Info : XEQ + TAM [XEQ] to enter global XEQ ' _ TamAlpha menu ; XEQ + button : on [TamLabel.1]F3 to enter XEQ :__ TamLocalLabel menu for easy access to local labels a-l, D-F or local named labels (additionally pressing button α on [TamLocalLabel.1]F3 or TAM [XEQ] to enter XEQ : _ TamAlpha menu)	Programming		XEQ	
F4	RTN	Command (PEM)	Return	Return from subroutine to calling program	Programming		RTN	
F5	END	Command (PEM)	End	End statement	Programming		END	
F6	P.FN	MENU	Programming functions	User menu to quickly access selected menus and functions for programming ; all buttons are user assignable ('riveted' look) ; initially populated for basic programming options ; reset using PFN.R ; Shortcut : PEM long [EXIT] ; PEM triple [f/g] (because either HOME ^f or MyM ^f is SET and either HOMEB or MyMb is SET) ; PEM longer [f/g] (because either HOME ^f or MyM ^f is SET and either HOMEB or MyMb is SET)	Programming		P.FN	
fF1	SKIP	Command (PEM)	Skip	Skip n program steps ; TAM : SKIP ____ TamNonReg menu ; Ref : https://47calc.com/doc/C47/Reference/C47_Skipping_program_steps.pdf	Programming		SKIP	
fF2	BACK	Command (PEM)	Back	Jumps back n steps in program ; TAM : BACK __ TamNonReg menu	Programming		BACK	
fF3	XEQ.SKP	Command (PEM)	Execute and skip	Execute function or program with global or local label (normal spaces can be used instead of special spaces in labels) and skip the next instruction (intended use is after a test function, which if true, calls XEQ.SKP and jumps over the next program step, which means that step is executed only if the test function returns false) ; Ref : https://47calc.com/doc/C47/Reference/C47_Skipping_program_steps.pdf	Programming		XEQ.SKP	
fF4	RTN.SKP	Command (PEM)	Return and skip	Return from subroutine to calling program and skip the instruction following the calling XEQ (intended use is to allow a subroutine to function as a built in test function, which if true, returns using RTN and using RTN.SKP otherwise) ; Ref : https://47calc.com/doc/C47/Reference/C47_Skipping_program_steps.pdf	Programming		RTN.SKP	
fF5	LOOP	MENU	Looping	Looping (programming) functions	Programming		LOOP	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
fF6	TEST	MENU	Testing	Testing functions	Programming		TEST	
gF1	EDIT	Command	Edit item	Edit item in X (any data type, except Config) in Normal Mode ; edit text strings, numbers or function parameters in the current step in Program Entry Mode; when editing angles using EDIT, key .d removes the angle tag (Normal Mode and PEM) ; when editing short integers, key .d removes the base (Normal Mode and PEM) ; Shortcut : longerpress [+]; alpha longer [+]; PEM long [+]; EIM longer [+]; Info : editing of long integers is limited to two input lines (about 99 digits depending on display settings) ; also note that for new models and simulator, the full set of features is supported (Complex numbers not yet implemented), but for DM42 hardware, numbers cannot be edited	User interface		EDIT	
gF2	CASE	Command (PEM)	Case	Case statement, skips number of steps given by chosen variable (normally followed by number of GTO statements) ; TAM : CASE __ Tam menu	Programming		CASE	
gF3	RCL.SKP	Command (PEM)	Recall and skip	Recall value from register or variable and skip the next instruction (intended use is after a test function, which if true, calls RCL.SKP and jumps over the next program step, which means that step is executed only if the test function returns false) ; Ref : https://47calc.com/doc/C47/Reference/C47_Skipping_program_steps.pdf	Programming		RCL.SKP	
gF4								
gF5								
gF6	PFN.R	Command	P.FN menu reset	Reset all P.FN user assignments (and open menu) ; TI : P.FN menu reset to default	Cleanup			

p1	P.FN3	Link
F1	LBL	
F2	GTO	
F3	XEQ	
F4	RTN	
F5	END	
F6	P.FN	https://47calc.com/doc/C47/Menus/C47_Menu_P-FN_page_1.pdf
fF1	SKIP	
fF2	BACK	
fF3	XEQ.SKP	
fF4	RTN.SKP	
fF5	LOOP	https://47calc.com/doc/C47/Menus/C47_Menu_LOOP_page_1.pdf
fF6	TEST	https://47calc.com/doc/C47/Menus/C47_Menu_TEST_page_1.pdf
gF1	EDIT	
gF2	CASE	
gF3	RCL.SKP	
gF4		
gF5		
gF6	PFN.R	

Pareto:	Pareto distribution					
g-shift	$ST0_M \mu$	$ST0_S \sigma$	$ST0_R \alpha$			
f-shift	$Prto2_P$		$Prto2_{\Delta}$	$Prto2_{\Delta}$		$Prto2^{-1}$
unshifted	$Prto_P$		$Prto_{\Delta}$	$Prto_{\Delta}$		$Prto^{-1}$
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_PLoads_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Pareto:	MENU	Pareto distribution	Pareto probability distribution (continuous) -- see https://en.wikipedia.org/wiki/Pareto_distribution#Pareto_types_I-IV ; TI : RegM = μ = ; RegS = σ = ; RegQ = α =	Probability (real)		Pareto:	
F1	Prto _p	Function (monadic)	Pareto type I pdf	Pareto type I probability density function	Probability (real)		Prto _p	
F2								
F3	Prto _L	Function (monadic)	Pareto type I cdf (lower)	Pareto type I cumulative distribution (lower tail)	Probability (real)		Prto _L	
F4	Prto _A	Function (monadic)	Pareto type I cdf (upper)	Pareto type I cumulative distribution (upper tail)	Probability (real)		Prto _A	
F5								
F6	Prto ⁻¹	Function (monadic)	Pareto type I qf (inverse)	Pareto type I inverse cumulative distribution (quantile)	Probability (real)		Prto ⁻¹	
fF1	Prto2 _p	Function (monadic)	Pareto type II pdf	Pareto type II probability density function	Probability (real)		Prto2 _p	
fF2								
fF3	Prto2 _L	Function (monadic)	Pareto type II cdf (lower)	Pareto type II cumulative distribution (lower tail)	Probability (real)		Prto2 _L	
fF4	Prto2 _A	Function (monadic)	Pareto type II cdf (upper)	Pareto type II cumulative distribution (upper tail)	Probability (real)		Prto2 _A	
fF5								
fF6	Prto2 ⁻¹	Function (monadic)	Pareto type II qf (inverse)	Pareto type II inverse cumulative distribution (quantile)	Probability (real)		Prto2 ⁻¹	
gF1	ST0 _M μ	Command	Store μ in M	Store parameter μ : location in register M ; Split screen : RegM = μ =	Probability (real)			
gF2	ST0 _S σ	Command	Store σ in S	Store parameter σ : scale in register S ; Split screen : RegS = σ =	Probability (real)			
gF3	ST0 _Q α	Command	Store α in Q	Store parameter α : shape in register Q ; Split screen : RegQ = α =	Probability (real)			
gF4								
gF5								
gF6								

PLoads:	Pressure loads conversions					
g-shift	Struct:	PLoads:	FIX ☐	SCI ☐	ENG ☐	UNIT ☐
f-shift						
unshifted	Pa ←	→ lbf/ft ²	Pa ←	→ psi	·m	·k
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_PLOT_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PLoads:	MENU	Pressure loads conversions	Convert between units of pressure loads ; typical loads presented as pressures ; Info : Flag CONV _{HP} may be SET for <to> <←> <to> unit conversion buttons ; CLEAR for <from> <→> <from> unit conversion buttons (default SET)	Pressure conversions		PLoads:	
F1	lbf/ft ² →Pa (Pa ←)	Function (monadic, linked)	lbf/ft ² to Pa	Convert pound force per square foot to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
F2	Pa→lbf/ft ² (→ lbf/ft ²)	Function (monadic, linked)	Pa to lbf/ft ²	Convert Pascal to pound force per square foot ; TI : lbf/ft ² :	Pressure conversions	CONV _{HP}		
F3	psi→Pa (Pa ←)	Function (monadic, linked)	psi to Pa	Convert pound force per square inch to Pascal ; TI : Pa:	Pressure conversions	CONV _{HP}		
F4	Pa→psi (→ psi)	Function (monadic, linked)	Pa to psi	Convert Pascal to pound force per square inch ; TI : psi:	Pressure conversions	CONV _{HP}		
F5	·m	Command (nonpgm)	milli	Factor 10 ⁻³	Numeric input			
F6	·k	Command (nonpgm)	kilo	Factor 10 ³	Numeric input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	Struct:	MENU	Structural conversions	Section and material properties, force and moment load conversions ; Info : Flag CONV _{HP} may be SET for <to> <←> <to> unit conversion buttons ; CLEAR for <from> <→> <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Miscellaneous conversions	CONV _{HP}	Struct:	
gF2	PLoads:	MENU	Pressure loads conversions	Convert between units of pressure loads ; typical loads presented as pressures ; Info : Flag CONV _{HP} may be SET for <to> <←> <to> unit conversion buttons ; CLEAR for <from> <→> <from> unit conversion buttons (default SET)	Pressure conversions		PLoads:	
gF3	FIX O	Setting (pgm)	FIXed notation	Set numeric display mode to fixed notation with nn decimals (NDEC = nn = 0-19 ; DF = 1) ; TAM : FIX __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		FIX O	OFF
gF4	SCI O	Setting (pgm)	SCientific notation	Set numeric display mode to scientific notation with nn decimals = nn+1 digits (NDEC = nn = 0-19 ; DF = 2) ; TAM : SCI __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		SCI O	OFF
gF5	ENG O	Setting (pgm)	ENGINEERING notation	Set numeric display mode to engineering notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 3) ; TAM : ENG __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		ENG O	OFF
gF6	UNIT O	Setting (pgm)	Unit (prefix) notation	Set numeric display mode to unit (prefix) notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 5) ; showing all or limited set of SI-prefixes depending on flag PFX.All ; if flag 1024 ⁿ is SET, binary prefixes are shown if available and long integer values are indicated by Z ; prefixes can be selected directly from menu Prefix ; TAM : UNIT __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display	1024 ⁿ	UNIT O	OFF

p1	PLoads:	Link
F1	$\text{lbf/ft}^2 \rightarrow \text{Pa}$ (Pa $\leftarrow$)	
F2	$\text{Pa} \rightarrow \text{lbf/ft}^2$ ($\rightarrow$ lbf/ft^2)	
F3	$\text{psi} \rightarrow \text{Pa}$ (Pa $\leftarrow$)	
F4	$\text{Pa} \rightarrow \text{psi}$ ($\rightarrow$ psi)	
F5	$\cdot \text{m}$	
F6	$\cdot \text{k}$	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1	Struct:	https://47calc.com/doc/C47/Menus/C47_Menu_Struct_page_1.pdf
gF2	PLoads:	https://47calc.com/doc/C47/Menus/C47_Menu_PLoads_page_1.pdf
gF3	FIX ☐	
gF4	SCI ☐	
gF5	ENG ☐	
gF6	UNIT ☐	

PLOT	Plotting					
g-shift	n	Σx^3	Σx^4	PLSTAT	HIST	REGR
f-shift	$\Sigma -$	Σx^{-1}	Σx^{-2}	Σy^{-1}	Σy^{-2}	Σxy^{-1}
unshifted	$\Sigma +$	Σx	Σx^2	Σy	Σy^2	Σxy
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PLOT	MENU	Plotting	Plotting and summation functions ; Info : When SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Plotting and summation		PLOT	
F1	$\Sigma+$	Command	Sigma+	Enter data into the statistics matrix (STATS) ; the [$\Sigma+$] key also is the hotkey that can be used for special key assignments in NORMAL mode, using menu $\Sigma+$ KEY ; TI : nnn data point(s) ; Info : if a nx2 matrix is in X, $\Sigma+$ appends the data to the STATS matrix (creating it as necessary) ; $\Sigma+$ disables automatic stack lift for the next entry	Summary statistics		$\Sigma+$	
F2	Σx	Command	Summation of x	Summation of x using statistics matrix (STATS)	Summation		Σx	
F3	Σx^2	Command	Summation of x^2	Summation of x^2 using statistics matrix (STATS)	Summation		Σx^2	
F4	Σy	Command	Summation of y	Summation of y using statistics matrix (STATS)	Summation		Σy	
F5	Σy^2	Command	Summation of y^2	Summation of y^2 using statistics matrix (STATS)	Summation		Σy^2	
F6	Σxy	Command	Summation of xy	Summation of xy using statistics matrix (STATS)	Summation		Σxy	
fF1	$\Sigma-$	Command	Sigma-	Remove data from the statistics matrix (STATS) and put the values on the stack ; TI : nnn data points ; Info : $\Sigma-$ pushes values onto the stack unless automatic stack lift is disabled, e.g. by $\Sigma+$	Summary statistics		$\Sigma-$	
fF2	Σx^{-1}	Command	Summation of x^{-1}	Summation of x^{-1} using statistics matrix (STATS)	Summation		Σx^{-1}	
fF3	Σx^{-2}	Command	Summation of x^{-2}	Summation of x^{-2} using statistics matrix (STATS)	Summation		Σx^{-2}	
fF4	Σy^{-1}	Command	Summation of y^{-1}	Summation of y^{-1} using statistics matrix (STATS)	Summation		Σy^{-1}	
fF5	Σy^{-2}	Command	Summation of y^{-2}	Summation of y^{-2} using statistics matrix (STATS)	Summation		Σy^{-2}	
fF6	Σxy^{-1}	Command	Summation of xy^{-1}	Summation of xy^{-1} using statistics matrix (STATS)	Summation		Σxy^{-1}	
gF1	n	Command	n	Number of samples	Summary statistics		$n\Sigma$	
gF2	Σx^3	Command	Summation of x^3	Summation of x^3 using statistics matrix (STATS)	Summation		Σx^3	
gF3	Σx^4	Command	Summation of x^4	Summation of x^4 using statistics matrix (STATS)	Summation		Σx^4	
gF4	PLSTAT	MENU (item)	Plot statistics	Plot statistics matrix (STATS, programmable) ; TI : Calculating graph coordinates ... may be shown when plotting the statistics matrix ; Info : in Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot (PLTFCNS also displays the plot options menu) ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; Ref : https://47calc.com/doc/Application%20Notes/AN0003_C47_JM_Graphing.pdf	Plotting and statistics		PLSTAT	
gF5	HIST	MENU	Histogram	Histogram functions	Plotting and statistics		HIST	
gF6	REGR	MENU	Regression	Regression functions	Plotting and curve fitting		REGR	

p1	PLOT	Link
F1	$\Sigma+$	
F2	Σx	
F3	Σx^2	
F4	Σy	
F5	Σy^2	
F6	Σxy	
fF1	$\Sigma-$	
fF2	Σx^{-1}	
fF3	Σx^{-2}	
fF4	Σy^{-1}	
fF5	Σy^{-2}	
fF6	Σxy^{-1}	
gF1	n	
gF2	Σx^3	
gF3	Σx^4	
gF4	PLSTAT	https://47calc.com/doc/C47/Menus/C47_Menu_PLSTAT_page_1.pdf
gF5	HIST	https://47calc.com/doc/C47/Menus/C47_Menu_HIST_page_1.pdf
gF6	REGR	https://47calc.com/doc/C47/Menus/C47_Menu_REGR_page_1.pdf

PLOT	Plotting					
g-shift	n			$\Sigma x^{-1} \cdot \ln y$		CLΣ
f-shift	Σ-	$\Sigma y \cdot \ln x$	$\Sigma \ln x \cdot \ln y$	$\Sigma x \cdot \ln y$	$\Sigma x^2 \cdot \ln y$	$\Sigma x^2 y^{-1}$
unshifted	Σ+	$\Sigma \ln x$	$\Sigma \ln^2 x$	$\Sigma \ln y$	$\Sigma \ln^2 y$	$\Sigma x^2 y$
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	PLOT	MENU	Plotting	Plotting and summation functions ; Info : When SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Plotting and summation		PLOT	
F1	$\Sigma+$	Command	Sigma+	Enter data into the statistics matrix (STATS) ; the [$\Sigma+$] key also is the hotkey that can be used for special key assignments in NORMAL mode, using menu $\Sigma+$ KEY ; TI : nnn data point(s) ; Info : if a nx2 matrix is in X, $\Sigma+$ appends the data to the STATS matrix (creating it as necessary) ; $\Sigma+$ disables automatic stack lift for the next entry	Summary statistics		$\Sigma+$	
F2	$\Sigma\ln x$	Command	Summation of $\ln x$	Summation of $\ln x$ using statistics matrix (STATS)	Summation		$\Sigma\ln x$	
F3	$\Sigma\ln^2 x$	Command	Summation of $\ln^2 x$	Summation of $\ln^2 x$ using statistics matrix (STATS)	Summation		$\Sigma\ln^2 x$	
F4	$\Sigma\ln y$	Command	Summation of $\ln y$	Summation of $\ln y$ using statistics matrix (STATS)	Summation		$\Sigma\ln y$	
F5	$\Sigma\ln^2 y$	Command	Summation of $\ln^2 y$	Summation of $\ln^2 y$ using statistics matrix (STATS)	Summation		$\Sigma\ln^2 y$	
F6	$\Sigma x^2 y$	Command	Summation of $x^2 y$	Summation of $x^2 y$ using statistics matrix (STATS)	Summation		$\Sigma x^2 y$	
fF1	$\Sigma-$	Command	Sigma-	Remove data from the statistics matrix (STATS) and put the values on the stack ; TI : nnn data points ; Info : $\Sigma-$ pushes values onto the stack unless automatic stack lift is disabled, e.g. by $\Sigma+$	Summary statistics		$\Sigma-$	
fF2	$\Sigma y \cdot \ln x$	Command	Summation of $y \cdot \ln x$	Summation of $y \cdot \ln x$ using statistics matrix (STATS)	Summation		$\Sigma y \cdot \ln x$	
fF3	$\Sigma \ln x \cdot \ln y$	Command	Summation of $\ln x \cdot \ln y$	Summation of $\ln x \cdot \ln y$ using statistics matrix (STATS)	Summation		$\Sigma \ln x \cdot \ln y$	
fF4	$\Sigma x \cdot \ln y$	Command	Summation of $x \cdot \ln y$	Summation of $x \cdot \ln y$ using statistics matrix (STATS)	Summation		$\Sigma x \cdot \ln y$	
fF5	$\Sigma x^2 \cdot \ln y$	Command	Summation of $x^2 \cdot \ln y$	Summation of $x^2 \cdot \ln y$ using statistics matrix (STATS)	Summation		$\Sigma x^2 \cdot \ln y$	
fF6	$\Sigma x^2 y^{-1}$	Command	Summation of $x^2 y^{-1}$	Summation of $x^2 y^{-1}$ using statistics matrix (STATS)	Summation		$\Sigma x^2 y^{-1}$	
gF1	n	Command	n	Number of samples	Summary statistics		$n\Sigma$	
gF2								
gF3								
gF4	$\Sigma x^{-1} \cdot \ln y$	Command	Summation of $x^{-1} \cdot \ln y$	Summation of $x^{-1} \cdot \ln y$ using statistics matrix (STATS)	Summation		$\Sigma x^{-1} \cdot \ln y$	
gF5								
gF6	CL Σ	Command	Clear statistics	Clear all statistics data ; delete matrices HIST0 and STATS	Cleanup		CL Σ	

PLSTAT	Plot statistics					
g-shift	-ZOOM ₀	+ZOOM ₀				
f-shift	X:Y=1 ☐	PLTRST				
unshifted	X.AXIS ☐	Y.AXIS ☐				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PLSTAT	MENU (item)	Plot statistics	Plot statistics matrix (STATS, programmable) ; TI : Calculating graph coordinates ... may be shown when plotting the statistics matrix ; Info : in Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot (PLTFCNS also displays the plot options menu) ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; Ref : https://47calc.com/doc/Application%20Notes/AN0003_C47_JM_Graphing.pdf	Plotting and statistics		PLSTAT	
F1	X.AXIS □	Setting	Autoscaling to show x-axis	Switch on autoscaling to show x-axis ; not programmable - in PEM, use flag PLx.ax ; Info : axis 0.0 or x-axis y=0 or y-axis x=0 is displayed	Plotting	PLx.ax		OFF
F2	Y.AXIS □	Setting	Autoscaling to show y-axis	Switch on autoscaling to show y-axis ; not programmable - in PEM, use flag PLy.ax ; Info : axis 0.0 or x-axis y=0 or y-axis x=0 is displayed	Plotting	PLy.ax		OFF
F3								
F4								
F5								
F6								
fF1	X:Y=1 □	Setting	Forcing autoscale	Switch on forcing autoscale on x- and y-axis to be the same ; not programmable - in PEM, use flag PLxy:1	Plotting	PLxy:1		OFF
fF2	PLTRST	Command (PEM)	Reset plot	Reset all plot options and redraw graph ; Info : Resets options for lines, boxes, crosses, plusses and scaling ; PLTRST also resets ↓Y and ↑Y to zero	Plotting		PLTRST	
fF3								
fF4								
fF5								
fF6								
gF1	-ZOOM ₀	Command	Zoom out on y-axis	Decrease zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; -ZOOM resets ↑Y and ↓Y to zero	Plotting			0
gF2	+ZOOM ₀	Command	Zoom in on y-axis	Increase zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; +ZOOM resets ↑Y and ↓Y to zero	Plotting			0
gF3								
gF4								
gF5								
gF6								

PLSTAT	Plot statistics					
g-shift	CURVE 	SNAP				
f-shift	LINE 	BOX 				
unshifted	CROSS 	PLUS 				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	PLSTAT	MENU (item)	Plot statistics	Plot statistics matrix (STATS, programmable) ; TI : Calculating graph coordinates ... may be shown when plotting the statistics matrix ; Info : in Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot (PLTFCNS also displays the plot options menu) ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; Ref : https://47calc.com/doc/Application%20Notes/AN0003_C47_JM_Graphing.pdf	Plotting and statistics		PLSTAT	
F1	CROSS □	Setting	Cross markers	Switch on cross markers ; not programmable - in PEM, use flag PLCros ; Info : If CROSS is switched ON, BOX and PLUS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLcros		OFF
F2	PLUS □	Setting	Plus markers	Switch on plus markers ; not programmable - in PEM, use flag PLplus ; Info : If PLUS is switched ON, BOX and CROSS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLplus		OFF
F3								
F4								
F5								
F6								
fF1	LINE ▣	Setting	Draw line	Switch on connecting graph points using line segments ; not programmable - in PEM, use flag PLLine ; Info : if LINE is switched OFF, BOX may be switched ON if necessary (when no curve markers are selected)	Plotting	PLline		ON
fF2	BOX ▣	Setting	Box markers	Switch on box markers ; not programmable - in PEM, use flag PLbox ; Info : If BOX is switched ON, CROSS and PLUS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLbox		ON
fF3								
fF4								
fF5								
fF6								
gF1	CURVE ▣	Setting (strike)	[future] Curve smoothing	Switch on [future] curve smoothing ; not programmable - in PEM, use flag PLcurve ; Info : Reserved for future use	Plotting	PLcurve		OFF
gF2	SNAP	Command	Screenshot	Save screenshot to backup file (.bmp) and save contents of stack or alpha buffer as backup file (.REGS.TSV) in FAT ; plays clicking sound ; Shortcut : [f/g] + [E] (DMCP-shortcut for screenshot bitmap only) ; Info : screenshot is saved in file SCREENS/<YYYYMMDD-HHMMSS00>.bmp ; SNAP also appends data to file DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; new datafile after timeout of 2 minutes	Input-Output		SNAP	
gF3								
gF4								
gF5								
gF6								

PLSTAT	Plot statistics					
g-shift	N.VECT ☐	VECT ☐				
f-shift	RMS ☐	∫AREA ☐				
unshifted	$\Delta y/\Delta x$ ☐	$\Sigma \bar{y} \Delta x$ ☐				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	PLSTAT	MENU (item)	Plot statistics	Plot statistics matrix (STATS, programmable) ; TI : Calculating graph coordinates ... may be shown when plotting the statistics matrix ; Info : in Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot (PLTFCNS also displays the plot options menu) ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; Ref : https://47calc.com/doc/Application%20Notes/AN0003_C47_JM_Graphing.pdf	Plotting and statistics		PLSTAT	
F1	$\Delta y/\Delta x$ □	Setting	Add differential curve	Switch on adding the graphical point-to-point differential of the main graph ; not programmable - in PEM, use flag PLdiff ; Info : Δ Numerical slope is displayed ; switching ON $\int$ AREA also switches ON $\Delta y/\Delta x$; switching OFF $\Delta y/\Delta x$ also switches OFF $\int$ AREA ; cannot be combined with N.VECT, VECT	Plotting	PLdiff		OFF
F2	$\Sigma \bar{y} \Delta x$ □	Setting	Add integral curve	Switch on adding the graphical integral curve, calculated from the point-to-point discrete integral ; not programmable - in PEM, use flag PLintg ; Info : Vertical placement of the integral is at RMS of the graph points ; $\int$ Trapezoid integral is displayed ; cannot be combined with N.VECT, VECT	Plotting	PLintg		OFF
F3								
F4								
F5								
F6								
fF1	RMS □	Setting	Add RMS curve	Switch on adding the graphical root mean square curve, accumulated from left to right ; not programmable - in PEM, use flag PLrms ; Info : ■ Root mean square RMS is displayed ; cannot be combined with N.VECT, VECT	Plotting	PLrms		OFF
fF2	$\int$ AREA □	Setting	Shade curve	Switch on shading the trapezoid integral from the graph points ; not programmable - in PEM, use flag PLshad ; Info : $\int$ Trapezoid integral is displayed ; switching ON $\int$ AREA also switches ON $\Delta y/\Delta x$; switching OFF $\Delta y/\Delta x$ also switches OFF $\int$ AREA ; cannot be combined with N.VECT, VECT	Plotting	PLshad		OFF
fF3								
fF4								
fF5								
fF6								
gF1	N.VECT □	Setting	Clockwise vectors	Switch on clockwise vectors ; not programmable - in PEM, use flag PLnvec ; Info : N.VECT and VECT are linked (both cannot be ON at the same time) ; cannot be combined with RMS, $\int$ AREA, $\Delta y/\Delta x$, $\Sigma \bar{y} \Delta x$	Plotting	PLnvec		OFF
gF2	VECT □	Setting	Anti-clockwise vectors	Switch on anti-clockwise vectors ; not programmable - in PEM, use flag PLvec ; Info : VECT and N.VECT are linked (both cannot be ON at the same time) ; cannot be combined with RMS, $\int$ AREA, $\Delta y/\Delta x$, $\Sigma \bar{y} \Delta x$	Plotting	PLvec		OFF
gF3								
gF4								
gF5								
gF6								

PLT f (MVAR)	Plot (RPN)					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>			
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PLT f (MVAR)	MENU (item)	Plot (RPN)	Plot the RPN program (with MVAR variables) selected with TamLbIOnly menu ; presents menu for variable selection ; in Program Entry Mode, the RPN program must be specified by PGMPLOT and the variable to plot for using the TamVarOnly menu ; TAM : PLT f _ TamLbIOnly menu (uses TamVarOnly menu in PEM, to specify variable to plot for) ; Info : in Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	RPN Calculus and plotting		PLT f	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 as created by MVAR (in RPN program) (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

PLTFCNS (PLFUNC)	Plot functions					
g-shift	-ZOOM ₀	+ZOOM ₀				
f-shift	X:Y=1 □	PLTRST				
unshifted	↓X ₋₁₀	↑X ₁₀				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_PLTFCNS_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PLTFCNS (PLFUNC)	MENU (item)	Plot functions	Plot functions (programmable), displaying graph, value/tick, lower left and upper right coordinate and additional info according to settings ; displays plot options menu ; Info : Please note that this item is in development -- Error 59 : Undefined menu name -- may be raised ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Plotting		PLTFCNS	
F1	$\downarrow X_{-10}$	Variable (real)	Lower limit for X-axis	Reserved Real variable for the lower limit for X-axis ($\downarrow X$) ; set interactively from menu Graphs and set by Draw ^x ; TI : ' $\downarrow X$ ' :	Plotting		$\downarrow X$	-10
F2	$\uparrow X_{10}$	Variable (real)	Upper limit for X-axis	Reserved Real variable for the upper limit for X-axis ($\uparrow X$) ; set interactively from menu Graphs and set by Draw ^x ; TI : ' $\uparrow X$ ' :	Plotting		$\uparrow X$	10
F3								
F4								
F5								
F6								
fF1	X:Y=1 ☐	Setting	Forcing autoscale	Switch on forcing autoscale on x- and y-axis to be the same ; not programmable - in PEM, use flag PLxy:1	Plotting	PLxy:1		OFF
fF2	PLTRST	Command (PEM)	Reset plot	Reset all plot options and redraw graph ; Info : Resets options for lines, boxes, crosses, plusses and scaling ; PLTRST also resets $\downarrow Y$ and $\uparrow Y$ to zero	Plotting		PLTRST	
fF3								
fF4								
fF5								
fF6								
gF1	-ZOOM ₀	Command	Zoom out on y-axis	Decrease zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; -ZOOM resets $\uparrow Y$ and $\downarrow Y$ to zero	Plotting			0
gF2	+ZOOM ₀	Command	Zoom in on y-axis	Increase zoom level on the y-axis (range -16 to +16) ; Info : <0 : zoom out ; 0 : normal ; >0 : zoom in ; +ZOOM resets $\uparrow Y$ and $\downarrow Y$ to zero	Plotting			0
gF3								
gF4								
gF5								
gF6								

PLTFCNS (PLFUNC)	Plot functions					
g-shift	Graphs	SNAP				
f-shift	CXPLT ☐	IMPLT ☐				
unshifted	X.AXIS ☐	Y.AXIS ☐				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	PLTFCNS (PLFUNC)	MENU (item)	Plot functions	Plot functions (programmable), displaying graph, value/tick, lower left and upper right coordinate and additional info according to settings ; displays plot options menu ; Info : Please note that this item is in development -- Error 59 : Undefined menu name -- may be raised ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Plotting		PLTFCNS	
F1	X.AXIS □	Setting	Autoscaling to show x-axis	Switch on autoscaling to show x-axis ; not programmable - in PEM, use flag PLx.ax ; Info : axis 0.0 or x-axis y=0 or y-axis x=0 is displayed	Plotting	PLx.ax		OFF
F2	Y.AXIS □	Setting	Autoscaling to show y-axis	Switch on autoscaling to show y-axis ; not programmable - in PEM, use flag PLy.ax ; Info : axis 0.0 or x-axis y=0 or y-axis x=0 is displayed	Plotting	PLy.ax		OFF
F3								
F4								
F5								
F6								
fF1	CXPLT □	Setting	Complex plot	Switch on Complex plot ; not programmable - in PEM, use flag PLCxp ; Info : CXPLT and IMPLT are linked (both cannot be ON at the same time)	Plotting	PLcxp		OFF
fF2	IMPLT □	Setting	Plot imaginary part	Switch on plotting imaginary part ; not programmable - in PEM, use flag PLimp ; Info : IMPLT and CXPLT are linked (both cannot be ON at the same time)	Plotting	PLimp		OFF
fF3								
fF4								
fF5								
fF6								
gF1	Graphs	MENU	Graphing...	Equation graphing functions	Plotting		Graphs	
gF2	SNAP	Command	Screenshot	Save screenshot to backup file (.bmp) and save contents of stack or alpha buffer as backup file (.REGS.TSV) in FAT ; plays clicking sound ; Shortcut : [f/g] + [E] (DMCP-shortcut for screenshot bitmap only) ; Info : screenshot is saved in file SCREENS/<YYYYMMDD-HHMMSS00>.bmp ; SNAP also appends data to file DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; new datafile after timeout of 2 minutes	Input-Output		SNAP	
gF3								
gF4								
gF5								
gF6								

p2	PLTFCNS (PLFUNC)	Link
F1	X.AXIS □	
F2	Y.AXIS □	
F3		
F4		
F5		
F6		
fF1	CXPLT □	
fF2	IMPLT □	
fF3		
fF4		
fF5		
fF6		
gF1	Graphs	https://47calc.com/doc/C47/Menus/C47_Menu_Graphs_page_1.pdf
gF2	SNAP	
gF3		
gF4		
gF5		
gF6		

PLTFCNS (PLFUNC)	Plot functions					
g-shift	CURVE 	LISTXY				
f-shift	LINE 	BOX 				
unshifted	CROSS 	PLUS 				
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	PLTFCNS (PLFUNC)	MENU (item)	Plot functions	Plot functions (programmable), displaying graph, value/tick, lower left and upper right coordinate and additional info according to settings ; displays plot options menu ; Info : Please note that this item is in development -- Error 59 : Undefined menu name -- may be raised ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Plotting		PLTFCNS	
F1	CROSS □	Setting	Cross markers	Switch on cross markers ; not programmable - in PEM, use flag PLCros ; Info : If CROSS is switched ON, BOX and PLUS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLcros		OFF
F2	PLUS □	Setting	Plus markers	Switch on plus markers ; not programmable - in PEM, use flag PLplus ; Info : If PLUS is switched ON, BOX and CROSS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLplus		OFF
F3								
F4								
F5								
F6								
fF1	LINE ▣	Setting	Draw line	Switch on connecting graph points using line segments ; not programmable - in PEM, use flag PLLine ; Info : if LINE is switched OFF, BOX may be switched ON if necessary (when no curve markers are selected)	Plotting	PLline		ON
fF2	BOX ▣	Setting	Box markers	Switch on box markers ; not programmable - in PEM, use flag PLbox ; Info : If BOX is switched ON, CROSS and PLUS are switched OFF ; LINE is switched ON when all three curve markers are deselected	Plotting	PLbox		ON
fF3								
fF4								
fF5								
fF6								
gF1	CURVE ▣	Setting (strike)	[future] Curve smoothing	Switch on [future] curve smoothing ; not programmable - in PEM, use flag PLcurve ; Info : Reserved for future use	Plotting	PLcurve		OFF
gF2	LISTXY	Command	List graph coordinates	List the actual STATS graph coordinates (7 digit floating point)	Plotting			
gF3								
gF4								
gF5								
gF6								

PLTFCNS (PLFUNC)	Plot functions					
g-shift	N.VECT ☐	VECT ☐				
f-shift	RMS ☐	∫AREA ☐				
unshifted	$\Delta y/\Delta x$ ☐	$\Sigma \bar{y} \Delta x$ ☐				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Poiss_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	PLTFCNS (PLFUNC)	MENU (item)	Plot functions	Plot functions (programmable), displaying graph, value/tick, lower left and upper right coordinate and additional info according to settings ; displays plot options menu ; Info : Please note that this item is in development -- Error 59 : Undefined menu name -- may be raised ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Plotting		PLTFCNS	
F1	$\Delta y/\Delta x$ □	Setting	Add differential curve	Switch on adding the graphical point-to-point differential of the main graph ; not programmable - in PEM, use flag PLdiff ; Info : Δ Numerical slope is displayed ; switching ON $\int$ AREA also switches ON $\Delta y/\Delta x$; switching OFF $\Delta y/\Delta x$ also switches OFF $\int$ AREA ; cannot be combined with N.VECT, VECT	Plotting	PLdiff		OFF
F2	$\Sigma y\Delta x$ □	Setting	Add integral curve	Switch on adding the graphical integral curve, calculated from the point-to-point discrete integral ; not programmable - in PEM, use flag PLIntg ; Info : Vertical placement of the integral is at RMS of the graph points ; $\int$ Trapezoid integral is displayed ; cannot be combined with N.VECT, VECT	Plotting	PLIntg		OFF
F3								
F4								
F5								
F6								
fF1	RMS □	Setting	Add RMS curve	Switch on adding the graphical root mean square curve, accumulated from left to right ; not programmable - in PEM, use flag PLrms ; Info : ■ Root mean square RMS is displayed ; cannot be combined with N.VECT, VECT	Plotting	PLrms		OFF
fF2	$\int$ AREA □	Setting	Shade curve	Switch on shading the trapezoid integral from the graph points ; not programmable - in PEM, use flag PLshad ; Info : $\int$ Trapezoid integral is displayed ; switching ON $\int$ AREA also switches ON $\Delta y/\Delta x$; switching OFF $\Delta y/\Delta x$ also switches OFF $\int$ AREA ; cannot be combined with N.VECT, VECT	Plotting	PLshad		OFF
fF3								
fF4								
fF5								
fF6								
gF1	N.VECT □	Setting	Clockwise vectors	Switch on clockwise vectors ; not programmable - in PEM, use flag PLnvec ; Info : N.VECT and VECT are linked (both cannot be ON at the same time) ; cannot be combined with RMS, $\int$ AREA, $\Delta y/\Delta x$, $\Sigma y\Delta x$	Plotting	PLnvec		OFF
gF2	VECT □	Setting	Anti-clockwise vectors	Switch on anti-clockwise vectors ; not programmable - in PEM, use flag PLvec ; Info : VECT and N.VECT are linked (both cannot be ON at the same time) ; cannot be combined with RMS, $\int$ AREA, $\Delta y/\Delta x$, $\Sigma y\Delta x$	Plotting	PLvec		OFF
gF3								
gF4								
gF5								
gF6								

Poiss:	Poisson distribution					
g-shift	ST0 _R λ					
f-shift						
unshifted	Poiss _p		Poiss _Δ	Poiss _Δ		Poiss ⁻¹
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Poiss:	MENU	Poisson distribution	Poisson probability distribution (discrete) -- see https://en.wikipedia.org/wiki/Poisson_distribution#Definitions ; TI : RegR = λ =	Probability (int)		Poiss:	
F1	Poiss _p	Function (monadic)	Poisson pmf	Poisson probability mass function	Probability (int)		Poiss _p	
F2								
F3	Poiss _Δ	Function (monadic)	Poisson cdf (lower)	Poisson cumulative distribution (lower tail)	Probability (int)		Poiss _Δ	
F4	Poiss _Δ	Function (monadic)	Poisson cdf (upper)	Poisson cumulative distribution (upper tail)	Probability (int)		Poiss _Δ	
F5								
F6	Poiss ⁻¹	Function (monadic)	Poisson qf (inverse)	Poisson inverse cumulative distribution (quantile)	Probability (int)		Poiss ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	STO _R λ	Command	Store λ in R	Store parameter λ : rate parameter in register R ; Split screen : RegR = λ =	Probability (real)			
gF2								
gF3								
gF4								
gF5								
gF6								

Power:	Power conversions					
g-shift						
f-shift						
unshifted	W ←	→ hp _E	W ←	→ hp _{UK}	W ←	→ hp _M
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Power:	MENU	Power conversions	Convert between units of power ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow \leftarrow$ <from> unit conversion buttons (default SET)	Power conversions		Power:	
F1	hp _E $\rightarrow$ W (W $\leftarrow$)	Function (monadic, linked)	hp _E to W	Convert electrical horsepower to Watt ; TI : W:	Power conversions	CONV _{HP}		
F2	W $\rightarrow$ hp _E ($\rightarrow$ hp _E)	Function (monadic, linked)	W to hp _E	Convert Watt to electrical horsepower ; TI : hp _E :	Power conversions	CONV _{HP}		
F3	hp _{UK} $\rightarrow$ W (W $\leftarrow$)	Function (monadic, linked)	hp _{UK} to W	Convert UK horsepower to Watt ; TI : W:	Power conversions	CONV _{HP}		
F4	W $\rightarrow$ hp _{UK} ($\rightarrow$ hp _{UK})	Function (monadic, linked)	W to hp _{UK}	Convert Watt to UK horsepower ; TI : hp _{UK} :	Power conversions	CONV _{HP}		
F5	hp _M $\rightarrow$ W (W $\leftarrow$)	Function (monadic, linked)	hp _M to W	Convert metric horsepower to Watt ; TI : W:	Power conversions	CONV _{HP}		
F6	W $\rightarrow$ hp _M ($\rightarrow$ hp _M)	Function (monadic, linked)	W to hp _M	Convert Watt to metric horsepower ; TI : hp _M :	Power conversions	CONV _{HP}		
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

PREF	Preferences					
g-shift						
f-shift						
unshifted	DMCP	ActUSB	SDIGS ₃₄	eRPN ☐	RP _{HP} ☐	CFLG
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PREF	MENU	Preferences	System preferences ; Info : R47 menu PREF is replaced by MODE ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_ToUr.pdf	System		PREF	
F1	DMCP	Command (HW)	Access DMCP menu	Access DMCP menu ; hardware only ; use EXIT to return without RESET -- see https://technical.swissmicros.com/dm42/doc/dm42_user_manual.html#dmcp_sys_menu ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator ; Ref : https://47calc.com/doc/C47/Reference/C47_DMCP_menu.pdf	System		DMCP	
F2	ActUSB	Command (HW)	Activate USB disk	Activate USB disk without exiting to DMCP ; hardware only ; Info : Error 126 -- Not available on the simulator -- is raised when this command is performed on the simulator	System		ActUSB	
F3	SDIGS ₃₄	Setting (pgm)	Set significant digits	Set the number of significant digits (1-34) for rounding after each operation ; sets tolerance of solvers, plotting and CONVG? ; value of 0 sets maximum precision (34) ; TAM : SDIGS __ TamNonReg menu ; Info : when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Mathematics		SDIGS ₃₄	34
F4	eRPN ☐	Setting	Entry RPN mode	Switch on interactive Entry RPN mode ; not programmable - in PEM, use flag eRPN ; Info : If eRPN is ON, in Numeric Input Mode, ENTER pushes the input value onto the stack, and if OFF, then it also duplicates X to Y ; without input or in Program Entry Mode, ENTER always duplicates X to Y ; only if eRPN is OFF, automatic stack lift is disabled after ENTER ; stack size SBI (8 or 4) is displayed in normal font if eRPN is ON and inverted if OFF ; SBI 8 or 4 is shown if flag SBss is ON ; SBI : 8 or 4	Stack	eRPN	eRPN ☐	ON
F5	RP _{HP} ☐	Setting	Classic (HP) Rect/Polar	Switch on x : Re ; y : Im (RECT) ; r ; θ (POLAR) in X, Y ; not programmable - in PEM, use flag RP _{HP} ; Info : RP _{HP} OFF conforms to the way the C47 deals with complex numbers	Complex and coordinates	RP _{HP}	RP _{HP} ☐	ON
F6	CFLG	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_ToUr.pdf	Flags		SYS.FL	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	PREF	Link
F1	DMCP	
F2	ActUSB	
F3	SDIGS ₃₄	
F4	eRPN 	
F5	RP _{HP} 	
F6	CFLG	https://47calc.com/doc/C47/Menus/C47_Menu_CFLG_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

PREF	Preferences					
g-shift						
f-shift	i LI/R 0	i R 0	i C 0	i LI 0		
unshifted	SSIZE4 0	SSIZE8 0	CPXRES 0	SPCRES 0	RMODE0	CFLG
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Ref 2 https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	PREF	MENU	Preferences	System preferences ; Info : R47 menu PREF is replaced by MODE ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To_ur.pdf	System		PREF	
F1	SSIZE4 0	Setting (pgm)	Stack size 4	Switch on 4 register stack ; Info : SBI 8 ; 4 is shown if flag SBss is SET ; SBI : 4	Stack	SSIZE8	SSIZE4 0	OFF
F2	SSIZE8 0	Setting (pgm)	Stack Size 8	Switch on 8 register stack ; Info : SBI 8 ; 4 is shown if flag SBss is SET ; SBI : 8	Stack	SSIZE8	SSIZE8 0	ON
F3	CPXRES 0	Setting	Complex results	Switch on Complex results ; not programmable - in PEM, use flag CPXRES ; Info : CPXRES is auto-set when entering complex input ; SBI C ; R is shown if flag SBcr is SET ; SBI : C ; R	Complex numbers	CPXRES	CPXRES 0	ON
F4	SPCRES 0	Setting	Special results	Switch on special results ; not programmable - in PEM, use flag SPCRES ; Info : Special results are: infinity ($\pm\infty$) and not-a-number (NaN), an error will not occur for such values when SPCRES is SET ; also, $\pm 0.$ may be used	Mathematics	SPCRES	SPCRES 0	ON
F5	RMODE0	Setting (pgm)	Set rounding mode	Set floating point rounding mode ; used for RSD and RDP ; also used when converting from the extended precision internal format to packed reals ; 0 : $\frac{1}{2}E$ = round half even ; 1 : $\frac{1}{2}\uparrow$ = round half up ; 2 : $\frac{1}{2}\downarrow$ = round half down ; 3 : $\leftarrow 0$ = round away from zero ; 4 : $\rightarrow 0$ = round towards zero ; 5 : $\lceil x \rceil$ = ceiling ; 6 : $\lfloor x \rfloor$ = floor ; TAM : RMODE _ TamNonReg menu ; Info : may be abbreviated as RM in status overviews	Reals		RMODE0	0
F6	CFLG	MENU (item, nonpgm)	Configuration flags	Activate menu for setting system flags using FF (Flip flag) function ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To_ur.pdf	Flags		SYS.FL	
fF1	i LI/R 0	Setting (pgm)	Input Long integer/Real number	New numeric input is put on the stack as Long integer (0) or Real number (1.0-1.5) ; Info : Uses the decimal radix (default ".") to determine the numeric datatype	Numeric input		i LI/R 0	ON
fF2	i R 0	Setting (pgm)	input Real number	New numeric input is put on the stack as Real number (1.0-1.5)	Numeric input		i R 0	OFF
fF3	i C 0	Setting (pgm)	Input Complex number	New numeric input is put on the stack as Complex number (2.0-2.5)	Numeric input		i C 0	OFF
fF4	i LI 0	Setting (pgm)	input Long integer	New numeric input is put on the stack as Long integer (0) and entry of the decimal radix is ignored ; Info : Switch on dZ.0 for displaying Long integers as Real ; not programmable - in PEM, use flag dZ.0	Numeric input		i LI 0	OFF
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p2	PREF	Link
F1	SSIZE4 0	
F2	SSIZE8 0	
F3	CPXRES 0	
F4	SPCRES 0	
F5	RMODE0	
F6	CFLG	https://47calc.com/doc/C47/Menus/C47_Menu_CFLG_page_1.pdf
fF1	i LI/R 0	
fF2	i R 0	
fF3	i C 0	
fF4	i LI 0	
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

PREF	Preferences					
g-shift	F.14 ☐	F.124 ☐	F.1234 ☐	KEY.LP ☐	MyMp ^s ☐	HOME _r ^s ☐
f-shift	M.14 ☐	M.124 ☐	M.1234 ☐	MNU _p 1 ☐	MyMb ☐	HOME _b ☐
unshifted	SRESET	g.2Tp ☐	SH.4s ☐	fg.GR ☐	fg.LIM ☐	fg.FUL ☐
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Prefix_page_1.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0015_C47_R47_JM_Write_and_Read_Setting_Groups.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	PREF	MENU	Preferences	System preferences ; Info : R47 menu PREF is replaced by MODE ; Ref : https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_To_ur.pdf	System		PREF	
F1	SRESET	Command	Safe reset f/g timers	Safe reset, then toggle ON/OFF the timing related user interface options: fg.FUL ☒ , g.2Tp ☒ , SH.4s ☐ , HOMEf ☒	User interface		SRESET	
F2	g.2Tp ☒	Setting	Double tap function keys	Switch on double tap function keys for g-shift ; not programmable - in PEM, use flag g.2Tp ; Info : Blocked for navigation FN-keys (arrows) in editors	User interface	g.2Tp	g.2Tp ☒	ON
F3	SH.4s ☐	Setting	Shift time-out of 4s	Switch on shift time-out of 4s ; not programmable - in PEM, use flag SH.4s ; Info : For layouts containing key [f/g] only	User interface	SH.4s	SH.4s ☐	OFF
F4	fg.GR ☐	Setting (pgm)	Menu f,g-highlighting Grey	Switch on menu f,g-highlighting grey	User interface	fg.GR	fg.GR ☐	OFF
F5	fg.LIM ☐	Setting (pgm)	Menu f,g-highlighting Limited	Switch on menu f,g-highlighting limited ; Info : fg.LIM and fg.FUL are linked (both cannot be ON at the same time)	User interface	fg.LIM	fg.LIM ☐	OFF
F6	fg.FUL ☒	Setting (pgm)	Menu f,g-highlighting Full	Switch on menu f,g-highlighting full ; Info : fg.FUL and fg.LIM are linked (both cannot be ON at the same time)	User interface	fg.FUL	fg.FUL ☒	ON
ff1	M.14 ☐	Setting (pgm)	Math keys skip f- and g-shift	Longpress control : Math keys skip f- and g-shift ; Info : 1. primaryNM : unshifted ; 4. longestpress : NOP ; Math keys are keys in row 2-4 except [E] and [←]	User interface			OFF
ff2	M.124 ☐	Setting (pgm)	Math keys skip g-shift	Longpress control : Math keys skip g-shift ; Info : 1. primaryNM : unshifted ; 2. longpress : f-shift ; 4. longestpress : NOP ; Math keys are keys in row 2-4 except [E] and [←]	User interface			OFF
ff3	M.1234 ☒	Setting (pgm)	Math keys do full cycle	Longpress control : Math keys do full cycle ; Info : 1. primaryNM : unshifted ; 2. longpress : f-shift ; 3. longerpress : g-shift ; 4. longestpress : NOP ; Math keys are keys in row 2-4 except [E] and [←]	User interface			ON
ff4	MNUp1 ☒	Setting (pgm)	Menu opens on p1	Switch on menu opens on p1	User interface	MNUp1	MNUp1 ☒	ON
ff5	MyMb ☒	Setting	MyMenu shown	Switch on MyMenu shown ; not programmable - in PEM, use flag MyMb ; Info : MyMb and HOMEb are linked (both cannot be ON at the same time ; applies when all menus are exited using EXIT	Customisation	MyMb	MyMb ☒	ON
ff6	HOMEb ☐	Setting	HOME menu shown	Switch on HOME menu shown ; not programmable - in PEM, use flag HOMEb ; Info : HOMEb and MyMb are linked (both cannot be ON at the same time ; applies when all menus are exited using EXIT	Customisation	HOMEb	HOMEb ☐	OFF
gf1	F.14 ☐	Setting (pgm)	Function keys skip f- and g-shift	Longpress control : Function keys skip f- and g-shift ; Info : 1. primaryNM : unshifted ; 4. longestpress : NOP	User interface			OFF
gf2	F.124 ☒	Setting (pgm)	Function keys skip g-shift	Longpress control : Function keys skip g-shift ; Info : 1. primaryNM : unshifted ; 2. longpress : f-shift ; 4. longestpress : NOP	User interface			ON
gf3	F.1234 ☐	Setting (pgm)	Function keys do full cycle	Longpress control : Function keys do full cycle ; Info : 1. primaryNM : unshifted ; 2. longpress : f-shift ; 3. longerpress : g-shift ; 4. longestpress : NOP	User interface			OFF
gf4	KEY.LP ☒	Setting	Longpress f and g shortcuts	Switch on longpress shortcuts for single shift keys ; not programmable - in PEM, use flag KEY.LP ; Info : KEY.LP pertains to R47v0 f/g layout and R47v2 f/g layout only and also enables longpress assignment to single shift keys	User interface	KEY.LP	KEY.LP ☒	ON
gf5	MyMf ☐	Setting	MyMenu f/g shortcut	Switch on MyMenu activated by triple and longerpress f/g-shift ; not programmable - in PEM, use flag MyMf ; Info : MyMf and HOMEf are linked (both cannot be ON at the same time ; MyMf pertains to layouts containing key [f/g] only and also enables longerpress assignment to this key	Customisation	MyMf	MyMf ☐	OFF
gf6	HOMEf ☒	Setting	HOME menu f/g shortcut	Switch on HOME menu activated by triple and longerpress f/g-shift ; not programmable - in PEM, use flag HOMEf ; Info : HOMEf and MyMf are linked (both cannot be ON at the same time ; HOMEf pertains to layouts containing key [f/g] only and also enables longerpress assignment to this key	Customisation	HOMEf	HOMEf ☒	ON

Prefix	Prefixes (UNIT)					
g-shift	·Ki	·Mi	·Gi	·Ti	·Pi	1024 ⁿ □
f-shift	·m	·μ	·n	·p	·f	DSP ₃
unshifted	·k	·M	·G	·T	·P	FSE _{ALL}
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_PRINT_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Prefix	MENU	Prefixes (UNIT)	Prefixes for UNIT mode	Numeric input		Prefix	
F1	-k	Command (nonpgm)	kilo	Factor 10^3	Numeric input			
F2	-M	Command (nonpgm)	Mega	Factor 10^6	Numeric input			
F3	-G	Command (nonpgm)	Giga	Factor 10^9	Numeric input			
F4	-T	Command (nonpgm)	Tera	Factor 10^{12}	Numeric input			
F5	-P	Command (nonpgm)	Peta	Factor 10^{15}	Numeric input			
F6	FSE _{ALL}	Setting (cyclic)	Fixed-Scientific-Engineering	Display mode cycling (FIX ; SCI ; ENG ; UNIT ; SIG ; ALL) ; Info : FSE _{FIX} ; FSE _{SCI} ; FSE _{ENG} ; FSE _{UNIT} ; FSE _{SIG} ; FSE _{ALL}	Display		FSE _{ALL}	ALL
fF1	-m	Command (nonpgm)	milli	Factor 10^{-3}	Numeric input			
fF2	-μ	Command (nonpgm)	micro	Factor 10^{-6}	Numeric input			
fF3	-n	Command (nonpgm)	nano	Factor 10^{-9}	Numeric input			
fF4	-p	Command (nonpgm)	pico	Factor 10^{-12}	Numeric input			
fF5	-f	Command (nonpgm)	femto	Factor 10^{-15}	Numeric input			
fF6	DSP ₃	Setting (pgm)	Display precision	Set display mode precision (only) ; applies to FIX, SCI, ENG, UNIT, SIG, ALL ; TAM : DSP __ TamNonReg menu	Display		DSP ₃	3
gF1	-Ki	Command (nonpgm)	Kilo binary	Factor 10^{10}	Numeric input			
gF2	-Mi	Command (nonpgm)	Mega binary	Factor 10^{20}	Numeric input			
gF3	-Gi	Command (nonpgm)	Giga binary	Factor 10^{30}	Numeric input			
gF4	-Ti	Command (nonpgm)	Tera binary	Factor 10^{40}	Numeric input			
gF5	-Pi	Command (nonpgm)	Peta binary	Factor 10^{50}	Numeric input			
gF6	1024 ⁿ □	Setting	Binary prefixes	Switch on binary prefixes in UNIT display mode ; not programmable - in PEM, use flag 1024 ⁿ ; Info : Binary prefixes designate powers of 1024, applicable to long integers (will be indicated by Z:) and reals in UNIT display mode	Numeric input	1024 ⁿ	1024 ⁿ □	OFF

PRINT	Printing					
g-shift			MAN 	NORM 	TRACE 	STRACE 
f-shift						
unshifted						
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_PRINT_page_2.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0021_C47_R47_DL_Printing.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PRINT	MENU	Printing	Printing functions ; Info : Printing is available for new models and simulator, but is currently available on DM42 hardware only in some packages ; Ref : https://47calc.com/doc/Application%20Notes/AN0021_C47_R47_DL_Printing.pdf	Printing		PRINT	
F1	 ADV	Command	Printer advance	Advance print paper, after printing the contents of the print buffer ; Info : SBI  is shown if flag SBprn is SET ; SBI : 	Printing		 ADV	
F2	 STK	Command	Print stack	Print stack registers, labeled, in TZYX or DCBA TZYX order, depending on stack size set by SSIZE8 ; Info : If  OFF, writes stack to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI  ; 8 ; 4 is shown if flag SBprn is SET ; SBI :  ; 8 ; 4	Printing	SSIZE8	 STK	
F3	 x	Command	Print X	Print X register, marked with *** ; Info : If  OFF, writes X to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI  is shown if flag SBprn is SET ; SBI : 	Printing		 x	
F4	 r	Command	Print register or variable	Print single register or variable, labeled with the register or variable name ; TAM :  __ Tam menu ; Info : if  OFF, writes register or variable to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI  is shown if flag SBprn is SET ; SBI : 	Printing		 r	
F5	 α	Command	Print alpha	Print contents of register or variable as text ; Info : If  OFF,  α writes alpha to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI  is shown if flag SBprn is SET ; SBI : 	Printing		 α	
F6	 PROG	Command (nonpgm)	Print program	Print program, with date and time printed at the top of the listing ; TAM :  PROG _ TamLb1Only menu ; Info : If  OFF, executes XPORTP ; [EXIT] or [R/S] can be pressed at any time to stop the listing ; in printer mode Trace, the program listing is printed in condensed form ; SBI  is shown if flag SBprn is SET ; SBI : 	Printing		 PROG	
fF1	 ON ○	Setting (pgm)	Printing ON	Switch on printing and send commands to infrared print port ; Info :  ON sets flag  ACT (infrared print port active) and  EN (printing enabled)	Printing	 ACT	 ON ○	OFF
fF2	 OFF ⊗	Setting (pgm)	Printing OFF	Switch off printing and print to file (selected commands) ; Info :  OFF clears flag  ACT (infrared print port inactive) and  EN (printing disabled) ; Error 63 -- Printing Is Disabled -- may be shown when executing a print command	Printing	 ACT	 OFF ⊗	 OFF
fF3	 #	Command	Print byte	Print single byte (value 0-255), to be used as character or ESC sequence ; TAM :  # ___ TamNonReg menu ; Info : SBI  is shown if flag SBprn is SET ; SBI : 	Printing		 #	
fF4								
fF5	 CHAR	Command	Print character	Print single character from Unicode value specified in a register or variable ; TAM :  CHAR ___ Tam menu ; Info : only characters in the C47 standard font are supported ; SBI  is shown if flag SBprn is SET ; SBI : 	Printing		 CHAR	
fF6	 LIST	Command (nonpgm)	Print list	Print specified number of lines of current program ; TAM :  LIST ____ TamNonReg menu ; Info : [EXIT] or [R/S] can be pressed at any time to stop the listing ; in printer mode Trace, the program listing is printed in condensed form ; SBI  is shown if flag SBprn is SET ; SBI : 	Printing		 LIST	
gF1	 82240	MENU	Printer control	Printer control ; the menu button, e.g. on [PRINT.1] gF1 shows the default printer selected :  82240 ; Info : Printing is available for new models and simulator, but is currently available on DM42 hardware only in some packages	Printing			82240
gF2								
gF3	MAN ⊗	Setting (pgm)	Printer mode Manual	Switch on printer mode Manual (flag  TRACE is CLEAR and flag  NORM is CLEAR) ; Info : In MAN mode, the printer is idle and only prints when a print command is executed ; VIEW and AVIEW can also generate print output in this mode	Printing	 NORM	MAN ⊗	ON
gF4	NORM ○	Setting (pgm)	Printer mode Normal	Switch on printer mode Normal (flag  TRACE is CLEAR and flag  NORM is SET) ; Info : In NORM mode, the printer prints numbers and alpha strings that are keyed in, names of functions executed from the keyboard and output from print functions ; running programs only print from print commands or from PROMPT	Printing	 NORM	NORM ○	OFF

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF5	TRACE O	Setting (pgm)	Printer mode Trace	Switch on printer mode Trace (flag  TRACE is SET and flag  NORM is CLEAR) ; Info : In TRACE mode, the printer prints numbers and alpha strings that are keyed in, names of functions executed from the keyboard, intermediate and final results and output from print functions ; if a program is running, each step is printed as it executes ; in this mode, program listings are printed in condensed form	Printing	 TRACE	TRACE O	OFF
gF6	STRACE O	Setting (pgm)	Printer mode Stack trace	Switch on printer mode Stack trace (flag  TRACE is SET and flag  NORM is SET) ; Info : In STRACE mode, the printer prints the stack and alpha strings that are keyed in, names of functions executed from the keyboard, intermediate and final results and output from print functions ; if a program is running, each step is printed as it executes ; in this mode, program listings are printed in condensed form	Printing	 TRACE	STRACE O	OFF

p1	PRINT	Link
F1	 ADV	
F2	 STK	
F3	 x	
F4	 r	
F5	 α	
F6	 PROG	
fF1	 ON ○	
fF2	 OFF ○	
fF3	 #	
fF4		
fF5	 CHAR	
fF6	 LIST	
gF1	 82240	https://47calc.com/doc/C47/Menus/C47_Menu_Printer_page_1.pdf
gF2		
gF3	MAN ○	
gF4	NORM ○	
gF5	TRACE ○	
gF6	STRACE ○	

PRINT	Printing					
g-shift						
f-shift						
unshifted						
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_PROB_page_1.pdf

Ref 1 https://47calc.com/doc/Application%20Notes/AN0021_C47_R47_DL_Printing.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	PRINT	MENU	Printing	Printing functions ; Info : Printing is available for new models and simulator, but is currently available on DM42 hardware only in some packages ; Ref : https://47calc.com/doc/Application%20Notes/AN0021_C47_R47_DL_Printing.pdf	Printing		PRINT	
F1	ADV	Command	Printer advance	Advance print paper, after printing the contents of the print buffer ; Info : SBI is shown if flag SBprn is SET ; SBI : is	Printing		ADV	
F2	Σ	Command	Print summation registers	Print summation registers, labeled ; Info : SBI is shown if flag SBprn is SET ; SBI : is	Printing		Σ	
F3	xy	Command	Print X and Y	Print X and Y registers on the same line, X on the left, Y on the right ; a 2xn or nx2 matrix is printed in two columns ; maximum 11 characters per column including number sign and separator(s) ; this is very limited for Complex numbers ; Info : If OFF, writes X and Y to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI is shown if flag SBprn is SET ; SBI : is	Printing		xy	
F4	REGS	Command	Print registers	Print registers, using range number in X (sss.nn means registers from sss through sss + nn - 1) ; Info : [EXIT] or [R/S] can be pressed at any time to stop the listing ; If OFF, writes registers to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI is shown if flag SBprn is SET ; SBI : is	Printing		REGS	
F5	TAB	Command	Print column	Position print head to print column nnn (HP-82240 : 1-166 columns, Martel : 1-384 columns) ; TAM : TAB ___ Tam menu ; Info : SBI is shown if flag SBprn is SET ; SBI : is	Printing		TAB	
F6	USER	Command	Print user items	Print user items : variable names and values and a list of global program labels and program numbers ; Info : [EXIT] or [R/S] can be pressed at any time to stop the listing ; SBI is shown if flag SBprn is SET ; SBI : is	Printing		USER	
ff1	ON O	Setting (pgm)	Printing ON	Switch on printing and send commands to infrared print port ; Info : ON sets flag ACT (infrared print port active) and EN (printing enabled)	Printing	ACT	ON O	OFF
ff2	OFF @	Setting (pgm)	Printing OFF	Switch off printing and print to file (selected commands) ; Info : OFF clears flag ACT (infrared print port inactive) and EN (printing disabled) ; Error 63 -- Printing Is Disabled -- may be shown when executing a print command	Printing	ACT	OFF @	OFF
ff3	XFN	Command (strike)	Print XFN	Print all digits of X × Y + Z for Virtual compound data type (0/1.0-1.5 ; 0/1.0 ; 0/1.0), used in extended accuracy functions (menu XFCNS) ; Info : If OFF, writes XFN to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI is shown if flag SBprn is SET ; SBI : is	Printing		XFN	
ff4	ALLr	Command	Print all registers	Print all registers, labeled ; prints a listing of all global and currently allocated local registers (if any) ; Info : [EXIT] or [R/S] can be pressed at any time to stop the listing ; If OFF, writes all registers to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI is shown if flag SBprn is SET ; SBI : is	Printing		ALLr	
ff5	WIDTH	Command (strike)	Printer width	Number of columns used to print a string specified in a register or variable ; Info : The number of columns returned depends on the printer type selected and (possibly) on MODE ; SBI is shown if flag SBprn is SET ; SBI : is	Printing		WIDTH	
ff6	LCD	Command (strike)	Print LCD	Print LCD display ; on the Martel, the full LCD can be printed, but on the 82240 this has not been implemented yet ; note that printing graphics is slow ; Info : If OFF, LCD works like SNAP : writes LCD screenshot to file SCREENS/<YYYYMMDD-HHMMSS00>.bmp and writes stack to file DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI is shown if flag SBprn is SET ; SBI : is	Printing		LCD	
gf1	82240	MENU	Printer control	Printer control ; the menu button, e.g. on [PRINT.1] gf1 shows the default printer selected : 82240 ; Info : Printing is available for new models and simulator, but is currently available on DM42 hardware only in some packages	Printing			82240
gf2	ITEMS	Command (SIM)	Print all items	Print all items (for testing purposes on simulator only, not available on hardware) ; Info : [EXIT] or [R/S] can be pressed at any time to stop the listing ; If OFF, writes all items to file in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; SBI is shown if flag SBprn is SET ; SBI : is	Printing			

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF3	MAN ⑥	Setting (pgm)	Printer mode Manual	Switch on printer mode Manual (flag ⑥TRACE is CLEAR and flag ⑥NORM is CLEAR) ; Info : In MAN mode, the printer is idle and only prints when a print command is executed ; VIEW and AVIEW can also generate print output in this mode	Printing	⑥NORM	MAN ⑥	ON
gF4	NORM ①	Setting (pgm)	Printer mode Normal	Switch on printer mode Normal (flag ⑥TRACE is CLEAR and flag ⑥NORM is SET) ; Info : In NORM mode, the printer prints numbers and alpha strings that are keyed in, names of functions executed from the keyboard and output from print functions ; running programs only print from print commands or from PROMPT	Printing	⑥NORM	NORM ①	OFF
gF5	TRACE ①	Setting (pgm)	Printer mode Trace	Switch on printer mode Trace (flag ⑥TRACE is SET and flag ⑥NORM is CLEAR) ; Info : In TRACE mode, the printer prints numbers and alpha strings that are keyed in, names of functions executed from the keyboard, intermediate and final results and output from print functions ; if a program is running, each step is printed as it executes ; in this mode, program listings are printed in condensed form	Printing	⑥TRACE	TRACE ①	OFF
gF6	STRACE ①	Setting (pgm)	Printer mode Stack trace	Switch on printer mode Stack trace (flag ⑥TRACE is SET and flag ⑥NORM is SET) ; Info : In STRACE mode, the printer prints the stack and alpha strings that are keyed in, names of functions executed from the keyboard, intermediate and final results and output from print functions ; if a program is running, each step is printed as it executes ; in this mode, program listings are printed in condensed form	Printing	⑥TRACE	STRACE ①	OFF

p2	PRINT	Link
F1	ADV	
F2	Σ	
F3	xy	
F4	REGS	
F5	TAB	
F6	USER	
fF1	ON ○	
fF2	OFF ●	
fF3	XFN	
fF4	ALLr	
fF5	WIDTH	
fF6	LCD	
gF1	82240	https://47calc.com/doc/C47/Menus/C47_Menu_Printer_page_1.pdf
gF2	ITEMS	
gF3	MAN ●	
gF4	NORM ○	
gF5	TRACE ○	
gF6	STRACE ○	

	Printer control					
g-shift						
f-shift						
unshifted	82240 @	Martel O			 MODE	 DELAY ₁₈
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_42_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1		MENU	Printer control	Printer control ; the menu button, e.g. on [PRINT.1] gF1 shows the default printer selected :  82240 ; Info : Printing is available for new models and simulator, but is currently available on DM42 hardware only in some packages	Printing			
F1	82240 	Setting	HP-82240 printer	Set the printer type to HP-82240 ; Info : Select this option for the HP-82240A or HP-82240B, or any printer compatible with the HP-82240	Printing		82240 	ON
F2	Martel 	Setting	Martel printer	Set the printer type to Martel ; Info : The Martel printer supporting the HPIR interface may show some slight variations in character size or text position, in comparison to the 82240	Printing		Martel 	OFF
F3								
F4								
F5		Setting (pgm, strike)	Printer mode	Set printer mode ; TAM :  MODE _ Tam menu ; Info : only mode 0 is implemented for the time being	Printing			0
F6	 DELAY ₁₈	Setting (pgm)	Set printer delay	Set printer delay time between lines ; TAM :  DELAY __ Tam menu ; Info : Set printer delay default (18) is set by DMCP ; on the simulator, the default is 0	Printing		 DELAY ₁₈	18
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

PROB	Probability					
g-shift						
f-shift	SEED					
unshifted	RAN#	RANI#	C _{yx}	P _{yx}	x!	DISTR
Page 1	F1	F2	F3	F4	F5	F6

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PROB	MENU	Probability	Probability functions	Probability		PROB	
F1	RAN#	Command	Random number	Pseudo random number generator (type Real) with bounds 0 and 1 ; uses the SEED ; Info : Range is [0, 1) -- left closed, right open interval	Probability		RAN#	
F2	RANI#	Function (dyadic)	Random Long integer or Real	Pseudo random Long integer or Real number generator with bounds X and Y ; uses the SEED ; Info : Result is Long integer and range is [X, Y] when X and Y are Long integer ; result is Real and range is [X, Y] when X or Y are Real ; bounds may be entered in either order	Probability		RANI#	
F3	C _{yx}	Function (dyadic)	Combinations	Combinations of X out of Y	Trigonometry		COMB	
F4	P _{yx}	Function (dyadic)	Permutations	Permutations of X out of Y	Probability		PERM	
F5	x!	Function (monadic)	Factorial x! or $\Gamma(x+1)$	For Long integers : x! ; for Reals : $\Gamma(x+1)$; Info : Max integer: 450 (up to 1000 digits accurate) ; max real : 2123.549 956 662 463 236 31 ; integers > max are converted to reals	Mathematics		x!	
F6	DISTR	MENU	Distributions	Probability distribution functions ; Split screen : Displaying <register> = <parameter> = <value> for the probability distribution submenus ; Ref : https://47calc.com/doc/C47/Reference/C47_Distr_param.pdf	Probability		DISTR	
fF1	SEED	Command	Seed	Set seed for the pseudo random number generators RAN# and RANI# ; Info : If X = 0, then SEED will use a combination of available memory and current time to create a random-like new seed ; for any other (numeric) input the resulting pseudo random sequence will be repeatable	Probability		SEED	
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	PROB	Link
F1	RAN#	
F2	RANI#	
F3	Cyx	
F4	Pyx	
F5	x!	
F6	DISTR	https://47calc.com/doc/C47/Menus/C47_Menu_DISTR_page_1.pdf
fF1	SEED	
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

PROG (PROGS)	TAM (program)					
g-shift	Len5	Len6	Len7	Len8	LISSAJ	OMp209
f-shift	IBessI	IBessP	IntP	Len2	Len3	Len4
unshifted	AllOps	Bairsto	ECA	FreeF	FreeFp	FreFp2
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PROG (PROGS)	MENU (TAM, ASM)	TAM (program)	Presented in TAM menus for commands accessing global or local named labels ; TAM : CAT.PROGS.* menu ; Info : Type characters 1-2 to search ; open menu PROG e.g. from button : on [TamLabel.1]F3 to activate menu TamLocalLabel, then menu PROG, to find local labels (if in scope)	Trailing input		PROG	
F1	AllOps	User Program	AllOps	AllOps test program, available to load from PROGRAMS/ALLPGMS/AllOps.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F2	Bairsto	User Program	Bairsto	Bairsto test program, available to load from PROGRAMS/ALLPGMS/Bairsto.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F3	ECA	User Program	ECA	ECA test program, available to load from PROGRAMS/ALLPGMS/ECA.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F4	FreeF	User Program	FreeF	FreeF test program, available to load from PROGRAMS/ALLPGMS/FreeF.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F5	FreeFp	User Program	FreeFp	FreeFp test program, available to load from PROGRAMS/ALLPGMS/FreeFp.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F6	FreFp2	User Program	FreFp2	FreFp2 test program, available to load from PROGRAMS/ALLPGMS/FreFp2.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF1	IBessI	User Program	IBessI	IBessI test program, available to load from PROGRAMS/ALLPGMS/IBessI.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF2	IBessP	User Program	IBessP	IBessP test program, available to load from PROGRAMS/ALLPGMS/IBessP.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF3	IntP	User Program	IntP	IntP test program, available to load from PROGRAMS/ALLPGMS/IntP.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF4	Len2	User Program	Len2	Len2 test program, available to load from PROGRAMS/ALLPGMS/Len2.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF5	Len3	User Program	Len3	Len3 test program, available to load from PROGRAMS/ALLPGMS/Len3.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF6	Len4	User Program	Len4	Len4 test program, available to load from PROGRAMS/ALLPGMS/Len4.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF1	Len5	User Program	Len5	Len5 test program, available to load from PROGRAMS/ALLPGMS/Len5.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF2	Len6	User Program	Len6	Len6 test program, available to load from PROGRAMS/ALLPGMS/Len6.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF3	Len7	User Program	Len7	Len7 test program, available to load from PROGRAMS/ALLPGMS/Len7.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF4	Len8	User Program	Len8	Len8 test program, available to load from PROGRAMS/ALLPGMS/Len8.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF5	LISSAJ	User Program	LISSAJ	LISSAJ test program, available to load from PROGRAMS/ALLPGMS/LISSAJ.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF6	OMp209	User Program	OMp209	OMp209 test program, available to load from PROGRAMS/ALLPGMS/OMp209.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			

PROG (PROGS)	TAM (program)					
g-shift	Speed	SPIRAL	STAT000	STAT001	STAT002	STAT111
f-shift	PICTURE	Prime	PROD	ReMp261	SlvCnst	SlvExtr
unshifted	OMp212	OMp224	OMp226	OMp233	OMp235	OMp237
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	PROG (PROGS)	MENU (TAM, ASM)	TAM (program)	Presented in TAM menus for commands accessing global or local named labels ; TAM : CAT.PROGS.* menu ; Info : Type characters 1-2 to search ; open menu PROG e.g. from button : on [TamLabel.1]F3 to activate menu TamLocalLabel, then menu PROG, to find local labels (if in scope)	Trailing input		PROG	
F1	OMp212	User Program	OMp212	OMp212 test program, available to load from PROGRAMS/ALLPGMS/OMp212.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F2	OMp224	User Program	OMp224	OMp224 test program, available to load from PROGRAMS/ALLPGMS/OMp224.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F3	OMp226	User Program	OMp226	OMp226 test program, available to load from PROGRAMS/ALLPGMS/OMp226.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F4	OMp233	User Program	OMp233	OMp233 test program, available to load from PROGRAMS/ALLPGMS/OMp233.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F5	OMp235	User Program	OMp235	OMp235 test program, available to load from PROGRAMS/ALLPGMS/OMp235.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F6	OMp237	User Program	OMp237	OMp237 test program, available to load from PROGRAMS/ALLPGMS/OMp237.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF1	PICTURE	User Program	PICTURE	PICTURE test program, available to load from PROGRAMS/ALLPGMS/PICTURE.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF2	Prime	User Program	Prime	Prime test program, available to load from PROGRAMS/ALLPGMS/Prime.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF3	PROD	User Program	PROD	PROD test program, available to load from PROGRAMS/ALLPGMS/PROD.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF4	ReMp261	User Program	ReMp261	ReMp261 test program, available to load from PROGRAMS/ALLPGMS/ReMp261.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF5	SlvCnst	User Program	SlvCnst	SlvCnst test program, available to load from PROGRAMS/ALLPGMS/SlvCnst.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF6	SlvExtr	User Program	SlvExtr	SlvExtr test program, available to load from PROGRAMS/ALLPGMS/SlvExtr.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF1	Speed	User Program	Speed	Speed test program, available to load from PROGRAMS/ALLPGMS/Speed.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF2	SPIRAL	User Program	SPIRAL	SPIRAL test program, available to load from PROGRAMS/ALLPGMS/SPIRAL.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF3	STAT000	User Program	STAT000	STAT000 test program, available to load from PROGRAMS/ALLPGMS/STAT000.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF4	STAT001	User Program	STAT001	STAT001 test program, available to load from PROGRAMS/ALLPGMS/STAT001.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF5	STAT002	User Program	STAT002	STAT002 test program, available to load from PROGRAMS/ALLPGMS/STAT002.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF6	STAT111	User Program	STAT111	STAT111 test program, available to load from PROGRAMS/ALLPGMS/STAT111.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			

PROG (PROGS)	TAM (program)					
g-shift						
f-shift						
unshifted	STAT113	STAT115	STATgr	ΣV		
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	PROG (PROGS)	MENU (TAM, ASM)	TAM (program)	Presented in TAM menus for commands accessing global or local named labels ; TAM : CAT.PROGS.* menu ; Info : Type characters 1-2 to search ; open menu PROG e.g. from button : on [TamLabel.1]F3 to activate menu TamLocalLabel, then menu PROG, to find local labels (if in scope)	Trailing input		PROG	
F1	STAT113	User Program	STAT113	STAT113 test program, available to load from PROGRAMS/ALLPGMS/STAT113.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F2	STAT115	User Program	STAT115	STAT115 test program, available to load from PROGRAMS/ALLPGMS/STAT115.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F3	STATgr	User Program	STATgr	STATgr test program, available to load from PROGRAMS/ALLPGMS/STATgr.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F4	ΣV	User Program	ΣV	ΣV test program, available to load from PROGRAMS/ALLPGMS/SigmaV.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

PROGS	Programs					
g-shift	Len5	Len6	Len7	Len8	LISSAJ	OMp209
f-shift	IBessI	IBessP	IntP	Len2	Len3	Len4
unshifted	AllOps	Bairsto	ECA	FreeF	FreeFp	FreFp2
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	PROGS	MENU (ASM)	Programs	Auto-generated catalog of programs	Catalog		PROGS	
F1	AllOps	User Program	AllOps	AllOps test program, available to load from PROGRAMS/ALLPGMS/AllOps.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F2	Bairsto	User Program	Bairsto	Bairsto test program, available to load from PROGRAMS/ALLPGMS/Bairsto.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F3	ECA	User Program	ECA	ECA test program, available to load from PROGRAMS/ALLPGMS/ECA.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F4	FreeF	User Program	FreeF	FreeF test program, available to load from PROGRAMS/ALLPGMS/FreeF.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F5	FreeFp	User Program	FreeFp	FreeFp test program, available to load from PROGRAMS/ALLPGMS/FreeFp.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F6	FreFp2	User Program	FreFp2	FreFp2 test program, available to load from PROGRAMS/ALLPGMS/FreFp2.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF1	IBessI	User Program	IBessI	IBessI test program, available to load from PROGRAMS/ALLPGMS/IBessI.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF2	IBessP	User Program	IBessP	IBessP test program, available to load from PROGRAMS/ALLPGMS/IBessP.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF3	IntP	User Program	IntP	IntP test program, available to load from PROGRAMS/ALLPGMS/IntP.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF4	Len2	User Program	Len2	Len2 test program, available to load from PROGRAMS/ALLPGMS/Len2.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF5	Len3	User Program	Len3	Len3 test program, available to load from PROGRAMS/ALLPGMS/Len3.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF6	Len4	User Program	Len4	Len4 test program, available to load from PROGRAMS/ALLPGMS/Len4.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF1	Len5	User Program	Len5	Len5 test program, available to load from PROGRAMS/ALLPGMS/Len5.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF2	Len6	User Program	Len6	Len6 test program, available to load from PROGRAMS/ALLPGMS/Len6.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF3	Len7	User Program	Len7	Len7 test program, available to load from PROGRAMS/ALLPGMS/Len7.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF4	Len8	User Program	Len8	Len8 test program, available to load from PROGRAMS/ALLPGMS/Len8.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF5	LISSAJ	User Program	LISSAJ	LISSAJ test program, available to load from PROGRAMS/ALLPGMS/LISSAJ.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF6	OMp209	User Program	OMp209	OMp209 test program, available to load from PROGRAMS/ALLPGMS/OMp209.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			

PROGS	Programs					
g-shift	Speed	SPIRAL	STAT000	STAT001	STAT002	STAT111
f-shift	PICTURE	Prime	PROD	ReMp261	SlvCnst	SlvExtr
unshifted	OMp212	OMp224	OMp226	OMp233	OMp235	OMp237
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	PROGS	MENU (ASM)	Programs	Auto-generated catalog of programs	Catalog		PROGS	
F1	OMp212	User Program	OMp212	OMp212 test program, available to load from PROGRAMS/ALLPGMS/OMp212.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F2	OMp224	User Program	OMp224	OMp224 test program, available to load from PROGRAMS/ALLPGMS/OMp224.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F3	OMp226	User Program	OMp226	OMp226 test program, available to load from PROGRAMS/ALLPGMS/OMp226.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F4	OMp233	User Program	OMp233	OMp233 test program, available to load from PROGRAMS/ALLPGMS/OMp233.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F5	OMp235	User Program	OMp235	OMp235 test program, available to load from PROGRAMS/ALLPGMS/OMp235.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F6	OMp237	User Program	OMp237	OMp237 test program, available to load from PROGRAMS/ALLPGMS/OMp237.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF1	PICTURE	User Program	PICTURE	PICTURE test program, available to load from PROGRAMS/ALLPGMS/PICTURE.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF2	Prime	User Program	Prime	Prime test program, available to load from PROGRAMS/ALLPGMS/Prime.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF3	PROD	User Program	PROD	PROD test program, available to load from PROGRAMS/ALLPGMS/PROD.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF4	ReMp261	User Program	ReMp261	ReMp261 test program, available to load from PROGRAMS/ALLPGMS/ReMp261.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF5	SlvCnst	User Program	SlvCnst	SlvCnst test program, available to load from PROGRAMS/ALLPGMS/SlvCnst.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
fF6	SlvExtr	User Program	SlvExtr	SlvExtr test program, available to load from PROGRAMS/ALLPGMS/SlvExtr.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF1	Speed	User Program	Speed	Speed test program, available to load from PROGRAMS/ALLPGMS/Speed.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF2	SPIRAL	User Program	SPIRAL	SPIRAL test program, available to load from PROGRAMS/ALLPGMS/SPIRAL.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF3	STAT000	User Program	STAT000	STAT000 test program, available to load from PROGRAMS/ALLPGMS/STAT000.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF4	STAT001	User Program	STAT001	STAT001 test program, available to load from PROGRAMS/ALLPGMS/STAT001.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF5	STAT002	User Program	STAT002	STAT002 test program, available to load from PROGRAMS/ALLPGMS/STAT002.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
gF6	STAT111	User Program	STAT111	STAT111 test program, available to load from PROGRAMS/ALLPGMS/STAT111.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			

PROGS	Programs					
g-shift						
f-shift						
unshifted	STAT113	STAT115	STATgr	ΣV		
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	PROGS	MENU (ASM)	Programs	Auto-generated catalog of programs	Catalog		PROGS	
F1	STAT113	User Program	STAT113	STAT113 test program, available to load from PROGRAMS/ALLPGMS/STAT113.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F2	STAT115	User Program	STAT115	STAT115 test program, available to load from PROGRAMS/ALLPGMS/STAT115.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F3	STATgr	User Program	STATgr	STATgr test program, available to load from PROGRAMS/ALLPGMS/STATgr.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F4	ΣV	User Program	ΣV	ΣV test program, available to load from PROGRAMS/ALLPGMS/SigmaV.p47, using READP (after unzipping resources/testPgms.zip)	Test programs			
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

RADIX	Select radix					
g-shift						
f-shift						
unshifted	PER. @	COM, o	DOT • o	WPER. o	WCOM, o	WDOT • o
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	RADIX	MENU	Select radix	Select radix	Display		RADIX	
F1	PER. @	Setting (pgm)	Radix period	Radix decimal period	Display		RPER. @	ON
F2	COM, o	Setting (pgm)	Radix comma	Radix decimal comma	Display		RCOM, o	OFF
F3	DOT. o	Setting (pgm)	Radix dot	Radix decimal dot	Display		RDOT. o	OFF
F4	WPER. o	Setting (pgm)	Radix wide period	Radix decimal wide period	Display		RWPER. o	OFF
F5	WCOM, o	Setting (pgm)	Radix wide comma	Radix decimal wide comma ; 0 :	Display		RWCOM, o	OFF
F6	WDOT • o	Setting (pgm)	Radix wide dot	Radix decimal wide dot	Display		RWDOT • o	OFF
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

REAL	Real					
g-shift	floor	ceil	x	⁄	Re	Im
f-shift	SDL	SDR	ROUND	ROUNDI	RDP	RSD
unshifted	IP	FP	MANT	EXPT	sign	DECOMP
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_REALS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	REAL	MENU	Real	Functions on Real numbers and Complex numbers	Reals		REAL	
F1	IP	Function (monadic)	Integer Part	Integer Part of number (returns Real number) ; Shortcut : #TAM [R+] (I) for closed number	Fractions		IP	
F2	FP	Function (monadic)	Fractional Part	Fractional Part of real number ; Shortcut : #TAM [XEQ] (F) for closed number	Fractions		FP	
F3	MANT	Function (monadic)	Mantissa	Mantissa of real number	Reals		MANT	
F4	EXPT	Function (monadic)	Exponent	Exponent of real number	Reals		EXPT	
F5	sign	Function (monadic)	Sign	Sign of number ; Info : Sign is -1 for negative numbers, 0 for zero, +1 for positive numbers ; for nonzero Complex numbers, $\text{sign}(z) = z / z $ (a.k.a. UNITV)	Reals		sign	
F6	DECOMP	Function (monadic)	Decompose	Convert (improper) real number fraction in X to nominator in Y, denominator in X ; Info : Honours settings DENANY, DENFIX and DMX	Reals		DECOMP	
fF1	SDL	Function (monadic)	Shift Digits Left	Shift digits of Integer Part of real number to the left (zeros are added) ; TAM : SDL __ TamNonReg menu	Reals		SDL	
fF2	SDR	Function (monadic)	Shift Digits Right	Shift digits of Integer Part of real number to the right (digits are dropped) ; TAM : SDR __ TamNonReg menu	Reals		SDR	
fF3	ROUND	Function (monadic)	Round	Round number to current display format (returns Real number)	Reals		ROUND	
fF4	ROUNDI	Function (monadic)	Round to integer	Round real number to nearest long integer (max 1000 digits)	Reals		ROUNDI	
fF5	RDP	Function (monadic)	Round to decimal places	Round real number to number of decimal places, subject to rounding mode (RMODE) ; TAM : RDP __ TamNonReg menu ; Range is [0, 34]	Reals		RDP	
fF6	RSD	Function (monadic)	Round to significant digits	Round real number to number of significant digits, subject to rounding mode (RMODE) ; TAM : RSD __ TamNonReg menu	Reals		RSD	
gF1	floor	Function (monadic)	Floor	Mathematical floor of number	Reals		floor	
gF2	ceil	Function (monadic)	Ceiling	Mathematical ceiling of number	Reals		ceil	
gF3	x	Function (monadic)	Magnitude	Magnitude (absolute value) of Complex number	Complex numbers		x	
gF4	∠	Function (monadic)	Argument (angle)	Argument (angle) of Complex number	Complex numbers		∠	
gF5	Re	Function (monadic)	Real part	Real part of Complex number	Complex numbers		Re	
gF6	Im	Function (monadic)	Imaginary part	Imaginary part of Complex number	Complex numbers		Im	

REALS	Real variables					
g-shift	↓EST	↓Lim	↓X	↓Y		
f-shift	PPER/a	PV	↑EST	↑Lim	↑X	↑Y
unshifted	ACC	CPER/a	FV	I%/a	NPPER	PMT
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	REALS	MENU	Real variables	Auto-generated catalog of variables of the specified datatype : Real number (1.0-1.5)	Catalog		REALS	
F1	ACC	Variable (real)	Accuracy of the integrator	Reserved Real variable for the accuracy of the integrator (ACC) ; set interactively from menu Toolf ; TI : 'ACC' :	Integrator		ACC	0
F2	CPER/a	Variable (real)	TVM compounding periods	Reserved Real variable for the TVM compounding periods per annum (cp/a) ; displays as c_a or c in menu TVM when value $\neq 0$; TI : CPER/a = Compounding periods p.a. =	Financial		CPER/a	12
F3	FV	Variable (real)	TVM future value	Reserved Real variable for the TVM future value (FV) ; displays as F in menu TVM when value is large ; TI : FV = Future Value =	Financial		FV	0
F4	I%/a	Variable (real)	TVM annual interest rate	Reserved Real variable for the TVM annual interest rate as percentage (I/a) ; use 10 for 10%, not 0.1 ; displays as I_a or I in menu TVM when value is large ; TI : I%/a = I%YR = APR =	Financial		I%/a	0
F5	NPPER	Variable (real)	TVM number of payments	Reserved Real variable for the TVM number of payments (n) ; TI : NPPER = n pay periods =	Financial		NPPER	0
F6	PMT	Variable (real)	TVM payment	Reserved Real variable for the TVM payment (PMT) ; displays as P_m or P in menu TVM when value is large ; TI : PMT = Payment =	Financial		PMT	0
fF1	PPER/a	Variable (real)	TVM payment period	Reserved Real variable for the TVM payment period per annum (pp/a) ; displays as p_a or p in menu TVM when value $\neq 0$; TI : PPER/a = Pay periods p.a. =	Financial		PPER/a	12
fF2	PV	Variable (real)	TVM present value	Reserved Real variable for the TVM present value (PV) ; displays as P_v or P in menu TVM when value is large ; TI : PV = Present Value =	Financial		PV	0
fF3	↑EST	Variable (real)	Upper estimate for solver	Reserved Real variable for the upper estimate for solver (↑Est) ; displays as ↑E in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv $\downarrow$ or cpxSlv $\downarrow$; Split screen : Displaying ↑Est Upper = ; ↓Est Lower =	Solver		↑EST	0
fF4	↑Lim	Variable (real)	Upper limit for integrator	Reserved Real variable for the upper limit for integrator (↑Lim) ; displays as ↑L in menu Toolf for larger values ; set interactively from menu Toolf and set by f $\downarrow$; TI : ↑ Upper limit :	Integrator		↑Lim	0
fF5	↑X	Variable (real)	Upper limit for X-axis	Reserved Real variable for the upper limit for X-axis (↑X) ; set interactively from menu Graphs and set by Draw $\downarrow$; TI : '↑X' :	Plotting		↑X	10
fF6	↑Y	Variable (real)	Upper limit for Y-axis	Reserved Real variable for the upper limit for Y-axis (↑Y) ; set interactively from menu Graphs and set by Plot functions ; TI : '↑Y' :	Plotting		↑Y	10
gF1	↓EST	Variable (real)	Lower estimate for solver	Reserved Real variable for the lower estimate for solver (↓Est) ; displays as ↓E in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv $\downarrow$ or cpxSlv $\downarrow$; Split screen : Displaying ↑Est Upper = ; ↓Est Lower =	Solver		↓EST	0
gF2	↓Lim	Variable (real)	Lower limit for integrator	Reserved Real variable for the lower limit for integrator (↓Lim) ; displays as ↓L in menu Toolf for larger values ; set interactively from menu Toolf and set by f $\downarrow$; TI : ↓ Lower limit :	Integrator		↓Lim	0
gF3	↓X	Variable (real)	Lower limit for X-axis	Reserved Real variable for the lower limit for X-axis (↓X) ; set interactively from menu Graphs and set by Draw $\downarrow$; TI : '↓X' :	Plotting		↓X	-10
gF4	↓Y	Variable (real)	Lower limit for Y-axis	Reserved Real variable for the lower limit for Y-axis (↓Y) ; set interactively from menu Graphs and set by Plot functions ; TI : '↓Y' :	Plotting		↓Y	0
gF5								
gF6								

REG	TAM (register)					
g-shift	I	J	X	Y	Z	T
f-shift	K	L	A	B	C	D
unshifted	M	N	P	Q	R	S
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Registers.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			
F1	M	EasyAccess (TAM)	Register M	Easy access to Register M (211) : General purpose register M ; also used to store distribution parameter : mean, median, location, degree of freedom 1, centre, lower limit ; Shortcut : STO/RCL {M} ; TI : M:	Trailing input			
F2	N	EasyAccess (TAM)	Register N	Easy access to Register N (212) : General purpose register N ; also used to store distribution parameter : degree of freedom 2, quantity, upper limit ; Shortcut : STO/RCL {N} ; TI : N:	Trailing input			
F3	P	EasyAccess (TAM)	Register P	Easy access to Register P (213) : General purpose register P ; also used to store distribution parameter : probability ; TI : P:	Trailing input			
F4	Q	EasyAccess (TAM)	Register Q	Easy access to Register Q (214) : General purpose register Q ; also used to store distribution parameter : shape, 3rd integer ; TI : Q:	Trailing input			
F5	R	EasyAccess (TAM)	Register R	Easy access to Register R (215) : General purpose register R ; also used to store distribution parameter : rate ; TI : R:	Trailing input			
F6	S	EasyAccess (TAM)	Register S	Easy access to Register S (216) : General purpose register S ; also used to store distribution parameter : scale, spread ; TI : S:	Trailing input			
fF1	K	EasyAccess (TAM)	Register K	Easy access to Register K (111) : General purpose register K ; also used in VarMNU to store variable name when MVAR-defined button (<var...>) is pressed without NIM input ; also used to store last long integer prime factor for FACTORS or the remaining number to be factorised ; also used as the default alpha register for commands compatible with the HP-42S/DM42(n) calculator ; Shortcut : STO/RCL {K} ; TI : K:	Trailing input			
fF2	L	EasyAccess (TAM)	Register L	Easy access to Register L (108) : Last X ; Shortcut : STO/RCL {L} ; TI : L:	Trailing input			
fF3	A	EasyAccess (TAM)	Register A	Easy access to Register A (104) : Stack level 5 ; Shortcut : STO/RCL {A} ; TI : A:	Trailing input			
fF4	B	EasyAccess (TAM)	Register B	Easy access to Register B (105) : Stack level 6 ; Shortcut : STO/RCL {B} ; TI : B:	Trailing input			
fF5	C	EasyAccess (TAM)	Register C	Easy access to Register C (106) : Stack level 7 ; Shortcut : STO/RCL {C} ; TI : C:	Trailing input			
fF6	D	EasyAccess (TAM)	Register D	Easy access to Register D (107) : Stack level 8 ; Shortcut : STO/RCL {D} ; TI : D:	Trailing input			
gF1	I	EasyAccess (TAM)	Register I	Easy access to Register I (109) : General purpose register I ; also used to store current row of indexed matrix ; Shortcut : STO/RCL {I} ; TI : I: or M[I _r J _c]=<name> [<row> <col>] (if indexed matrix exists)	Trailing input			
gF2	J	EasyAccess (TAM)	Register J	Easy access to Register J (110) : General purpose register J ; also used to store current column of indexed matrix ; Shortcut : STO/RCL {J} ; TI : J: or M[I _r J _c]=<name> [<row> <col>] (if indexed matrix exists)	Trailing input			
gF3	X	EasyAccess (TAM)	Register X	Easy access to Register X (100) : Stack level 1 ; TI : X:	Trailing input			
gF4	Y	EasyAccess (TAM)	Register Y	Easy access to Register Y (101) : Stack level 2 ; TI : Y:	Trailing input			
gF5	Z	EasyAccess (TAM)	Register Z	Easy access to Register Z (102) : Stack level 3 ; TI : Z:	Trailing input			
gF6	T	EasyAccess (TAM)	Register T	Easy access to Register T (103) : Stack level 4 ; TI : T:	Trailing input			

REG	TAM (register)					
g-shift						
f-shift	V	W				
unshifted	E	F	G	H	O	U
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Registers.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			
F1	E	EasyAccess (TAM)	Register E	Easy access to Register E (217) : General purpose register E ; Shortcut : ST0/RCL {E} ; TI : E:	Trailing input			
F2	F	EasyAccess (TAM)	Register F	Easy access to Register F (218) : General purpose register F ; TI : F:	Trailing input			
F3	G	EasyAccess (TAM)	Register G	Easy access to Register G (219) : General purpose register G ; also used to store third to last long integer prime factor for FACTORS ; Shortcut : ST0/RCL {G} ; TI : G:	Trailing input			
F4	H	EasyAccess (TAM)	Register H	Easy access to Register H (220) : General purpose register H ; also used to store second to last long integer prime factor for FACTORS ; Shortcut : ST0/RCL {H} ; TI : H:	Trailing input			
F5	O	EasyAccess (TAM)	Register O	Easy access to Register O (221) : General purpose register O ; Shortcut : ST0/RCL {O} ; TI : O:	Trailing input			
F6	U	EasyAccess (TAM)	Register U	Easy access to Register U (222) : General purpose register U ; TI : U:	Trailing input			
fF1	V	EasyAccess (TAM)	Register V	Easy access to Register V (223) : General purpose register V ; TI : V:	Trailing input			
fF2	W	EasyAccess (TAM)	Register W	Easy access to Register W (224) : General purpose register W ; TI : W:	Trailing input			
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

REGR	Regression					
g-shift	LR:a0	LR:a1	LR:a2	MODEL	ASSESS	SCATR
f-shift	s(a)					
unshifted	L.R.	r	s _{xy}	cov	$\hat{x}$	$\hat{y}$
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_RESETS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	REGR	MENU	Regression	Regression functions	Plotting and curve fitting		REGR	
F1	L.R.	Command	Linear Regression	Calculate all selected regression models, and select the one with the best coefficient of fit model correlation (r) ; TI : <model>* a ₂ = ; y = a ₁ = ; <formula> a ₀ =	Plotting and curve fitting		L.R.	
F2	r	Command	Fit model correlation	Fit model correlation	Plotting and curve fitting		CORR	
F3	s _{xy}	Command	s _{xy}	Sample covariance	Plotting and curve fitting		s _{xy}	
F4	cov	Command	Fit model covariance	Fit model covariance	Plotting and curve fitting		COV	
F5	$\hat{x}$	Command	x hat	Estimation of x	Plotting and curve fitting		$\hat{x}$	
F6	$\hat{y}$	Command	y hat	Estimation of y	Plotting and curve fitting		$\hat{y}$	
fF1	s(a)	Command	Standard errors	Standard errors of line fitted ; s(a ₀) in X ; s(a ₁) in Y ; Info : Works for ExpF ; LinF ; LogF ; OrthoF ; PowerF ; does not work for CauchF ; GaussF ; HypF ; ParabF ; RootF	Plotting and curve fitting		s(a)	
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	LR:a0	Command	Retrieve LR-param a ₀	Retrieve linear regression parameter a ₀ and show formula and parameter name ; TI : y = <formula> : a ₀ =	Plotting and curve fitting		LR:a0	
gF2	LR:a1	Command	Retrieve LR-param a ₁	Retrieve linear regression parameter a ₁ and show formula and parameter name ; TI : y = <formula> : a ₁ =	Plotting and curve fitting		LR:a1	
gF3	LR:a2	Command	Retrieve LR-param a ₂	Retrieve linear regression parameter a ₂ and show formula and parameter name ; TI : y = <formula> : a ₂ =	Plotting and curve fitting		LR:a2	
gF4	MODEL	MENU	Model	Functions to set parameter for which models are selected in the LR analysis ; Ref : https://47calc.com/doc/C47/Reference/C47_BestF_param.pdf	Plotting and curve fitting		MODEL	
gF5	ASSESS	MENU (item)	Assess	Display graphical assessments of the selected regression curves	Plotting and curve fitting			
gF6	SCATR	MENU (item)	Scatter plot	Scatter plot of measurements (programmable) ; Info : CENTRL (re)starts menu SCATR ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Measurement		SCATR	

p1	REGR	Link
F1	L.R.	
F2	r	
F3	s _{xy}	
F4	cov	
F5	$\hat{x}$	
F6	$\hat{y}$	
fF1	s(a)	
fF2		
fF3		
fF4		
fF5		
fF6		
gF1	LR:a0	
gF2	LR:a1	
gF3	LR:a2	
gF4	MODEL	https://47calc.com/doc/C47/Menus/C47_Menu_MODEL_page_1.pdf
gF5	ASSESS	https://47calc.com/doc/C47/Menus/C47_Menu_ASSESS_page_1.pdf
gF6	SCATR	https://47calc.com/doc/C47/Menus/C47_Menu_SCATR_page_1.pdf

RESETS	Resets					
g-shift						
f-shift						
unshifted	Myα.R	MyM.L.R	HOME.R	PFN.R		KEYS.R
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_RIBBONS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	RESETS	MENU	Resets	Reset user menus to defaults ; delete user keyboard assignments	Cleanup		RESETS	
F1	Myα.R	Command	Myα menu reset	Clean (delete) all Myα menu user assignments ; TI : Myα menu cleaned	Cleanup			
F2	MyM.R	Command	MyMenu reset	Clean (delete) all MyMenu user assignments ; TI : MyMenu menu cleaned	Cleanup			
F3	HOME.R	Command	HOME menu reset	Reset all HOME menu user assignments (and open menu) ; TI : HOME menu reset to default	Cleanup			
F4	PFN.R	Command	P.FN menu reset	Reset all P.FN user assignments (and open menu) ; TI : P.FN menu reset to default	Cleanup			
F5								
F6	KEYS.R	Command	Keyboard reset	Clean (delete) all key assignments , including the Normal Mode assignment (if any) to key [Σ+] ; TI : Key assignments cleaned ; Info : the Normal Mode key assignment can be set in menu Σ+ KEY if the calculator layout allows it	Cleanup			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

RIBBONS	Ribbons					
g-shift						
f-shift			M.FIN+	M.SAV+	M.C47+	M.R47+
unshifted	M.CPX	M.ENG	M.FIN	M.SAV	M.C47	M.R47
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_S-INTS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	RIBBONS	MENU	Ribbons	Selection of ribbons for MyM (MyMenu) ; Info : Ribbons are predefined sets of buttons to assign to the primary (unshifted) row of MyM (MyMenu)	Customisation		RIBBONS	
F1	M.CPX	Command	MyMenu Complex	MyMenu primary F-key Complex ribbon ; leaves shifted rows intact ; documented as MyMenu p1 ; TI : MyMenu primary F-key Complex ribbon	Customisation		M.CPX	
F2	M.ENG	Command	MyMenu Engineering	MyMenu primary F-key Engineering ribbon ; leaves shifted rows intact ; documented as MyMenu p2 ; TI : MyMenu primary F-key Engineering ribbon ; Info : ribbon M.ENG is layout dependent	Customisation		M.ENG	
F3	M.FIN	Command	MyMenu Financial	MyMenu primary F-key Financial ribbon ; leaves shifted rows intact ; documented as MyMenu p3 ; TI : MyMenu primary F-key Financial ribbon	Customisation		M.FIN	
F4	M.SAV	Command	MyMenu Save/Load	MyMenu primary F-key Save/Load ribbon ; leaves shifted rows intact ; documented as MyMenu p4 ; TI : MyMenu primary F-key Save/Load ribbon	Customisation		M.SAV	
F5	M.C47	Command	MyMenu C47	MyMenu primary F-key C47 ribbon ; leaves shifted rows intact ; documented as MyMenu p5 ; TI : MyMenu primary F-key C47 ribbon	Customisation		M.C47	
F6	M.R47	Command	MyMenu R47	MyMenu primary F-key R47 ribbon ; leaves shifted rows intact ; documented as MyMenu p6 ; TI : MyMenu primary F-key R47 ribbon	Customisation		M.R47	
fF1								
fF2								
fF3	M.FIN+	Command	MyMenu Financial Plus	MyMenu primary F-key Financial Plus ribbon ; leaves shifted rows intact ; documented as MyMenu p7 ; TI : MyMenu primary F-key Financial Plus ribbon	Customisation		M.FIN+	
fF4	M.SAV+	Command	MyMenu Save/Load Plus	MyMenu primary F-key Save/Load Plus ribbon ; leaves shifted rows intact ; documented as MyMenu p8 ; TI : MyMenu primary F-key Save/Load Plus ribbon	Customisation		M.SAV+	
fF5	M.C47+	Command	MyMenu C47 Plus	MyMenu primary F-key C47 Plus ribbon ; leaves shifted rows intact ; documented as MyMenu p9 ; TI : MyMenu primary F-key C47 Plus ribbon	Customisation		M.C47+	
fF6	M.R47+	Command	MyMenu R47 Plus	MyMenu primary F-key R47 Plus ribbon ; leaves shifted rows intact ; documented as MyMenu p10 ; TI : MyMenu primary F-key R47 Plus ribbon	Customisation		M.R47+	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

S.INTS	Short integer variables					
g-shift						
f-shift						
unshifted						
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_SCATR_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	S.INTS	MENU	Short integer variables	Auto-generated catalog of variables of the specified datatype : Short integer (8.02-8.16)	Catalog		S.INTS	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

SCATR	Scatter plot					
g-shift						
f-shift						
unshifted	CENTRL	S _{mi}				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_SecPrp_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	SCATR	MENU (item)	Scatter plot	Scatter plot of measurements (programmable) ; Info : CENTRL (re)starts menu SCATR ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Measurement		SCATR	
F1	CENTRL	Command (submnu)	(Plot) Central	Orthogonal curve fit and show parameters, requires 30 data pairs ; Info : Opens the graph mode and (re)starts menu SCATR	Measurement		CENTRL	
F2	S _{mi}	Command	Precision	Precision of measuring instrument investigated, requires 30 data pairs -- see https://blog.minitab.com/en/real-world-quality-improvement/orthogonal-regression-testing-the-equivalence-of-instruments ; TI : S _{mi} =	Measurement		S _{mi}	
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

SecPrp:	Section properties conversions					
g-shift	Struct:	SecPrp:	mm ³ ←	→ in ³	mm ⁶ ←	→ in ⁶
f-shift			mm ² ←	→ in ²	mm ⁴ ←	→ in ⁴
unshifted	kg/m ←	→ lbs/ft	mm ←	→ in	·m	·k
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_SIM_EQ_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	SecPrp:	MENU	Section properties conversions	Convert between units of section properties ; typical properties given in tables of steel/ALU sections ; Info : Flag CONV _{HP} may be SET for <to> < > <to> unit conversion buttons ; CLEAR for <from> < > <from> unit conversion buttons (default SET)	Miscellaneous conversions		SecPrp:	
F1	lbs/ft→kg/m (kg/m ←)	Function (monadic, linked)	lbs/ft to kg/m	Convert pound per foot to kilogram per metre ; TI : kg/m:	Fixed pair conversions	CONV _{HP}		
F2	kg/m→lbs/ft (→ lbs/ft)	Function (monadic, linked)	kg/m to lbs/ft	Convert kilogram per metre to pound per foot ; TI : lbs/ft:	Fixed pair conversions	CONV _{HP}		
F3	in→mm (mm ←)	Function (monadic, linked)	in to mm	Convert inch to millimetre ; TI : mm:	Distance conversions	CONV _{HP}		
F4	mm→in (→ in)	Function (monadic, linked)	mm to in	Convert millimetre to inch ; TI : in:	Distance conversions	CONV _{HP}		
F5	·m	Command (nonpgm)	milli	Factor 10 ⁻³	Numeric input			
F6	·k	Command (nonpgm)	kilo	Factor 10 ³	Numeric input			
fF1								
fF2								
fF3	in ² →mm ² (mm ² ←)	Function (monadic, linked)	in ² to mm ²	Convert square inch to square millimetre ; TI : mm ² :	Area conversions	CONV _{HP}		
fF4	mm ² →in ² (→ in ²)	Function (monadic, linked)	mm ² to in ²	Convert square millimetre to square inch ; TI : in ² :	Area conversions	CONV _{HP}		
fF5	in ⁴ →mm ⁴ (mm ⁴ ←)	Function (monadic, linked)	in ⁴ to mm ⁴	Convert inch to the power 4 to millimetre to the power 4 ; TI : mm ⁴ :	Fixed pair conversions	CONV _{HP}		
fF6	mm ⁴ →in ⁴ (→ in ⁴)	Function (monadic, linked)	mm ⁴ to in ⁴	Convert millimetre to the power 4 to inch to the power 4 ; TI : in ⁴ :	Fixed pair conversions	CONV _{HP}		
gF1	Struct:	MENU	Structural conversions	Section and material properties, force and moment load conversions ; Info : Flag CONV _{HP} may be SET for <to> < > <to> unit conversion buttons ; CLEAR for <from> < > <from> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Miscellaneous conversions	CONV _{HP}	Struct:	
gF2	SecPrp:	MENU	Section properties conversions	Convert between units of section properties ; typical properties given in tables of steel/ALU sections ; Info : Flag CONV _{HP} may be SET for <to> < > <to> unit conversion buttons ; CLEAR for <from> < > <from> unit conversion buttons (default SET)	Miscellaneous conversions		SecPrp:	
gF3	in ³ →mm ³ (mm ³ ←)	Function (monadic, linked)	in ³ to mm ³	Convert cubic inch to cubic millimetre ; TI : mm ³ :	Volume conversions	CONV _{HP}		
gF4	mm ³ →in ³ (→ in ³)	Function (monadic, linked)	mm ³ to in ³	Convert cubic millimetre to cubic inch ; TI : in ³ :	Volume conversions	CONV _{HP}		
gF5	in ⁶ →mm ⁶ (mm ⁶ ←)	Function (monadic, linked)	in ⁶ to mm ⁶	Convert inch to the power 6 to millimetre to the power 6 ; TI : mm ⁶ :	Fixed pair conversions	CONV _{HP}		
gF6	mm ⁶ →in ⁶ (→ in ⁶)	Function (monadic, linked)	mm ⁶ to in ⁶	Convert millimetre to the power 6 to inch to the power 6 ; TI : in ⁶ :	Fixed pair conversions	CONV _{HP}		

p1	SecPrp:	Link
F1	lbs/ft→kg/m (kg/m ←)	
F2	kg/m→lbs/ft (→ lbs/ft)	
F3	in→mm (mm ←)	
F4	mm→in (→ in)	
F5	·m	
F6	·k	
fF1		
fF2		
fF3	in ² →mm ² (mm ² ←)	
fF4	mm ² →in ² (→ in ²)	
fF5	in ⁴ →mm ⁴ (mm ⁴ ←)	
fF6	mm ⁴ →in ⁴ (→ in ⁴)	
gF1	Struct:	https://47calc.com/doc/C47/Menus/C47_Menu_Struct_page_1.pdf
gF2	SecPrp:	https://47calc.com/doc/C47/Menus/C47_Menu_SecPrp_page_1.pdf
gF3	in ³ →mm ³ (mm ³ ←)	
gF4	mm ³ →in ³ (→ in ³)	
gF5	in ⁶ →mm ⁶ (mm ⁶ ←)	
gF6	mm ⁶ →in ⁶ (→ in ⁶)	

SIM EQ (M_SIMQ)	Matrix simultaneous equations					
g-shift						
f-shift						
unshifted	Mat A	Mat B				Mat X
Page 1	F1	F2	F3	F4	F5	F6

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	SIM EQ (M_SIMQ)	MENU (item)	Matrix simultaneous equations	Matrix simultaneous equations : Mat A · Mat X = Mat B, where Mat A is the equation coefficient matrix and Mat B is the equation result vector ; Mat X is the equation solution vector ; TAM : SIM_EQ __ TamNonReg menu to enter number of equations ; Info : CAT.MENUS M_SIMQ	Matrix operations		SIM_EQ	
F1	Mat A	Variable (matrix)	Matrix A	Reserved Matrix variable for the Matrix A (Mat A) ; enter equation coefficient matrix using menu M_SIMQ ; created after RESET	Matrix operations		Mat_A	
F2	Mat B	Variable (matrix)	Matrix B	Reserved Matrix variable for the Matrix B (Mat B) ; enter equation result vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_B	
F3								
F4								
F5								
F6	Mat X	Command	Matrix X	Create reserved Matrix variable for the Matrix X (Mat X) ; calculate equation solution vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_X	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

SOLVE (MVAR)	Solver (RPN)					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>			
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Speed_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	SOLVE (MVAR)	Command (submnu)	Solver (RPN)	Real solver for the RPN program (with MVAR variables) selected with TamLblOnly menu ; presents menu for initial guesses and variable selection ; interrupt by [EXIT] ; tolerance set by SDIGS ; in Program Entry Mode, the RPN program must be specified by PGMSLV and the variable to solve for using the TamVarOnly menu ; SOLVE will skip the next program step if no root is found ; TAM : SOLVE __ TamLblOnly menu (uses TamVarOnly menu in PEM, to specify variable to solve for) ; Info : displays current top and bottom results and iteration counter ; shown if flag MONIT is SET ; Displays : Accuracy $\approx$; <var!..n> =	RPN Calculus and plotting		SOLVE	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 as created by MVAR (in RPN program) (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Speed:	Speed conversions					
g-shift	km/h ←	→ knot	mph ←	→ knot	m/s ←	→ knot
f-shift	km/h ←	→ ft/s	mph ←	→ ft/s	m/s ←	→ ft/s
unshifted	km/h ←	→ m/s	mph ←	→ km/h	m/s ←	→ mph
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_STAT_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Speed:	MENU	Speed conversions	Convert between units of speed ; Info : Flag CONV _{HP} may be SET for <to> ← → <to> unit conversion buttons ; CLEAR for <from> → ← <from> unit conversion buttons (default SET)	Speed conversions		Speed:	
F1	m/s→km/h (km/h ←)	Function (monadic, linked)	m/s to km/h	Convert metre per second to kilometre per hour ; TI : km/h:	Speed conversions	CONV _{HP}		
F2	km/h→m/s (→ m/s)	Function (monadic, linked)	km/h to m/s	Convert kilometre per hour to metre per second ; TI : m/s:	Speed conversions	CONV _{HP}		
F3	km/h→mph (mph ←)	Function (monadic, linked)	km/h to mph	Convert kilometre per hour to mile per hour ; TI : mph:	Speed conversions	CONV _{HP}		
F4	mph→km/h (→ km/h)	Function (monadic, linked)	mph to km/h	Convert mile per hour to kilometre per hour ; TI : km/h:	Speed conversions	CONV _{HP}		
F5	mph→m/s (m/s ←)	Function (monadic, linked)	mph to m/s	Convert mile per hour to metre per second ; TI : m/s:	Speed conversions	CONV _{HP}		
F6	m/s→mph (→ mph)	Function (monadic, linked)	m/s to mph	Convert metre per second to mile per hour ; TI : mph:	Speed conversions	CONV _{HP}		
fF1	ft/s→km/h (km/h ←)	Function (monadic, linked)	ft/s to km/h	Convert foot per second to kilometre per hour ; TI : km/h:	Speed conversions	CONV _{HP}		
fF2	km/h→ft/s (→ ft/s)	Function (monadic, linked)	km/h to ft/s	Convert kilometre per hour to foot per second ; TI : ft/s:	Speed conversions	CONV _{HP}		
fF3	ft/s→mph (mph ←)	Function (monadic, linked)	ft/s to mph	Convert foot per second to mile per hour ; TI : mph:	Speed conversions	CONV _{HP}		
fF4	mph→ft/s (→ ft/s)	Function (monadic, linked)	mph to ft/s	Convert mile per hour to foot per second ; TI : ft/s:	Speed conversions	CONV _{HP}		
fF5	ft/s→m/s (m/s ←)	Function (monadic, linked)	ft/s to m/s	Convert foot per second to metre per second ; TI : m/s:	Speed conversions	CONV _{HP}		
fF6	m/s→ft/s (→ ft/s)	Function (monadic, linked)	m/s to ft/s	Convert metre per second to foot per second ; TI : ft/s:	Speed conversions	CONV _{HP}		
gF1	knot→km/h (km/h ←)	Function (monadic, linked)	knot to km/h	Convert knot to kilometre per hour ; TI : km/h:	Speed conversions	CONV _{HP}		
gF2	km/h→knot (→ knot)	Function (monadic, linked)	km/h to knot	Convert kilometre per hour to knot ; TI : knot:	Speed conversions	CONV _{HP}		
gF3	knot→mph (mph ←)	Function (monadic, linked)	knot to mph	Convert knot to mile per hour ; TI : mph:	Speed conversions	CONV _{HP}		
gF4	mph→knot (→ knot)	Function (monadic, linked)	mph to knot	Convert mile per hour to knot ; TI : knot:	Speed conversions	CONV _{HP}		
gF5	knot→m/s (m/s ←)	Function (monadic, linked)	knot to m/s	Convert knot to metre per second ; TI : m/s:	Speed conversions	CONV _{HP}		
gF6	m/s→knot (→ knot)	Function (monadic, linked)	m/s to knot	Convert metre per second to knot ; TI : knot:	Speed conversions	CONV _{HP}		

STAT	Statistics					
g-shift	n	$\bar{x}_G$	ε	ε_P	ε_m	REGR
f-shift	Σ^-	$\bar{x}_u$	s_u	σ_u	s_{mu}	$\bar{x}_H$
unshifted	Σ^+	$\bar{x}$	s	σ	s_m	$\bar{x}_{RMS}$
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Formulas.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	STAT	MENU	Statistics	Statistics functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Formulas.pdf	Summary statistics		STAT	
F1	$\Sigma+$	Command	Sigma+	Enter data into the statistics matrix (STATS) ; the [$\Sigma+$] key also is the hotkey that can be used for special key assignments in NORMAL mode, using menu $\Sigma+$ KEY ; TI : nnn data point(s) ; Info : if a nx2 matrix is in X, $\Sigma+$ appends the data to the STATS matrix (creating it as necessary) ; $\Sigma+$ disables automatic stack lift for the next entry	Summary statistics		$\Sigma+$	
F2	$\bar{x}$	Command	Arithmetic means	Arithmetic means, x and y -- see Formula_XBAR.png : https://47calc.com/doc/Images/Formula_XBAR.png ; TI : $\bar{x} =$; $\bar{y} =$	Summary statistics		$\bar{x}$	
F3	s	Command	Sample standard deviation	Sample standard deviation -- see Formula_STDDEVWEIGHTED.png : https://47calc.com/doc/Images/Formula_STDDEVWEIGHTED.png ; TI : $s_x =$; $s_y =$	Summary statistics		s	
F4	σ	Command	Population standard deviation	Population standard deviation -- see Formula_STDDEV.png : https://47calc.com/doc/Images/Formula_STDDEV.png ; TI : $\sigma_x =$; $\sigma_y =$	Summary statistics		σ	
F5	s_m	Command	Standard error of the mean	Standard error of the mean -- see Formula_SM.png : https://47calc.com/doc/Images/Formula_SM.png ; TI : $s_{mx} =$; $s_{my} =$	Summary statistics		s_m	
F6	$\bar{x}_{RMS}$	Command	Quadratic mean	Data evaluation of quadratic mean -- see Formula_XRMS.png : https://47calc.com/doc/Images/Formula_XRMS.png ; TI : $\bar{x}_{RMS} =$; $\bar{y}_{RMS} =$	Summary statistics		$\bar{x}_{RMS}$	
fF1	$\Sigma-$	Command	Sigma-	Remove data from the statistics matrix (STATS) and put the values on the stack ; TI : nnn data points ; Info : $\Sigma-$ pushes values onto the stack unless automatic stack lift is disabled, e.g. by $\Sigma+$	Summary statistics		$\Sigma-$	
fF2	$\bar{x}_w$	Command	Weighted mean	Data evaluation of weighted mean -- see Formula_XW.png : https://47calc.com/doc/Images/Formula_XW.png ; TI : $\bar{x}_w =$	Summary statistics		$\bar{x}_w$	
fF3	s_w	Command	Weighted population standard deviation	Weighted population standard deviation -- see Formula_SW.png : https://47calc.com/doc/Images/Formula_SW.png ; TI : $s_w =$	Summary statistics		s_w	
fF4	σ_w	Command	Weighted population standard deviation	Weighted population standard deviation -- see Formula_STDDEVPOP.png : https://47calc.com/doc/Images/Formula_STDDEVPOP.png ; TI : $\sigma_w =$	Summary statistics		σ_w	
fF5	s_{mw}	Command	Standard error of the weighted mean	Standard error of the weighted mean -- see Formula_SMW.png : https://47calc.com/doc/Images/Formula_SMW.png ; TI : $s_{mw} =$	Summary statistics		s_{mw}	
fF6	$\bar{x}_H$	Command	Harmonic mean	Data evaluation of harmonic mean -- see Formula_XH.png : https://47calc.com/doc/Images/Formula_XH.png ; TI : $\bar{x}_H =$; $\bar{y}_H =$	Summary statistics		$\bar{x}_H$	
gF1	n	Command	n	Number of samples	Summary statistics		$n\Sigma$	
gF2	$\bar{x}_G$	Command	Geometric mean	Data evaluation of geometric mean -- see Formula_XG.png : https://47calc.com/doc/Images/Formula_XG.png ; TI : $\bar{x}_G =$; $\bar{y}_G =$	Summary statistics		$\bar{x}_G$	
gF3	ϵ	Command	Scattering factor for a lognormal sample	Scattering factor for a lognormal sample -- see Formula_SCATTFACT.png : https://47calc.com/doc/Images/Formula_SCATTFACT.png ; TI : $\epsilon_x =$; $\epsilon_y =$	Summary statistics		ϵ	
gF4	ϵ_p	Command	Scattering factor for a lognormal population	Scattering factor for a lognormal population -- see Formula_SCATTFACTp.png : https://47calc.com/doc/Images/Formula_SCATTFACTp.png ; TI : $\epsilon_{px} =$; $\epsilon_{py} =$	Summary statistics		ϵ_p	
gF5	ϵ_m	Command	Scattering factor of the geometric mean	Scattering factor of the geometric mean -- see Formula_SCATTFACTm.png : https://47calc.com/doc/Images/Formula_SCATTFACTm.png ; TI : $\epsilon_{mx} =$; $\epsilon_{my} =$	Summary statistics		ϵ_m	
gF6	REGR	MENU	Regression	Regression functions	Plotting and curve fitting		REGR	

p1	STAT	Link
F1	Σ^+	
F2	$\bar{x}$	
F3	s	
F4	σ	
F5	s_m	
F6	$\bar{x}_{RMS}$	
fF1	Σ^-	
fF2	$\bar{x}_w$	
fF3	s_w	
fF4	σ_w	
fF5	s_{mw}	
fF6	$\bar{x}_H$	
gF1	n	
gF2	$\bar{x}_G$	
gF3	ε	
gF4	ε_p	
gF5	ε_m	
gF6	REGR	https://47calc.com/doc/C47/Menus/C47_Menu_REGR_page_1.pdf

STAT	Statistics					
g-shift						CLΣ
f-shift		X%ILE	XHAB	XIQR		XRANGE
unshifted	XMIN	XQ1	XMEDN	XQ3	XMAX	XSUM
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_STK_page_1.pdf

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	STAT	MENU	Statistics	Statistics functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Formulas.pdf	Summary statistics		STAT	
F1	X _{MIN}	Command	Minima	Minima ; TI : x _{MIN} = ; y _{MIN} =	Summary statistics		X _{MIN}	
F2	X _{Q1}	Command	Lower quartile	Lower quartile for both X and Y -- see https://en.wikipedia.org/wiki/Quartile#Method_1 ; TI : Q ₁ x = ; Q ₁ y =	Summary statistics		X _{Q1}	
F3	X _{MEDN}	Command	Median	Sort the data and return the middle value for both X and Y ; for an even number of samples, the arithmetic mean of the two middle values is returned ; TI : md _x = ; md _y =	Summary statistics		X _{MEDN}	
F4	X _{Q3}	Command	Upper quartile	Upper quartile for both X and Y -- see https://en.wikipedia.org/wiki/Quartile#Method_1 ; TI : Q ₃ x = ; Q ₃ y =	Summary statistics		X _{Q3}	
F5	X _{MAX}	Command	Maxima	Maxima ; TI : x _{MAX} = ; y _{MAX} =	Summary statistics		X _{MAX}	
F6	X _{SUM}	Command	x _{SUM}	Return Σx and Σy in X and Y respectively ; TI : Σ _x = ; Σ _y =	Summary statistics		X _{SUM}	
fF1								
fF2	x%ILE	Command	Percentile	Percentile ; TI : pctl _x = ; pctl _y =	Summary statistics		x%ILE	
fF3	X _{MAD}	Command	Median absolute deviation	Median absolute deviation for both X and Y ; this is the median of the differences between each data point and the overall median ; TI : mad _x = ; mad _y =	Summary statistics		X _{MAD}	
fF4	X _{IQR}	Command	Interquartile range	Interquartile range for both X and Y ; this is equal to Q.3 - Q.1 ; TI : iqr _x = ; iqr _y =	Summary statistics		X _{IQR}	
fF5								
fF6	X _{RANGE}	Command	Stats range	Range for both X and Y ; this is equal to MAX - MIN of the statistics matrix (STATS) ; TI : rg _x = ; rg _y =	Summary statistics		X _{RANGE}	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	CLΣ	Command	Clear statistics	Clear all statistics data ; delete matrices HIST0 and STATS	Cleanup		CLΣ	

Φ_z	Standard normal distribution					
g-shift						
f-shift						
unshifted	Φ_p		Φ_{Δ}	Φ_{Δ}		Φ^{-1}
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Φ :	MENU	Standard normal distribution	Standard normal probability distribution (continuous) ; Info : mean = 0 ; standard deviation = 1	Probability (real)		Φ :	
F1	ϕ_p	Function (monadic)	Standard normal pdf	Standard normal probability density function	Probability (real)		ϕ_p	
F2								
F3	Φ_{Δ}	Function (monadic)	Standard normal cdf (lower)	Standard normal cumulative distribution (lower tail)	Probability (real)		Φ_{Δ}	
F4	Φ_{Δ}	Function (monadic)	Standard normal cdf (upper)	Standard normal cumulative distribution (upper tail)	Probability (real)		Φ_{Δ}	
F5								
F6	Φ^{-1}	Function (monadic)	Standard normal qf (inverse)	Standard normal inverse cumulative distribution (quantile)	Probability (real)		Φ^{-1}	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

STK	Stack					
g-shift	4SWAP					MULTSTK
f-shift	DROPy	x↯	y↯	z↯	t↯	↯
unshifted	DROPx	R↓	R↑	LASTx	FILL	CLSTK
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	STK	MENU	Stack	Stack functions	Stack		STK	
F1	DROPx	Command	Drop X	Drop X from stack ; Shortcut : double [←] (if ←DROP is CLEAR -- default)	Stack		DROPx	
F2	R↓	Command	Roll down	Roll down stack	Stack		R↓	
F3	R↑	Command	Roll up	Roll up stack	Stack		R↑	
F4	LASTx	Command	Last X	Recall last X (Register L)	Stack		LASTx	
F5	FILL	Command	Fill stack	Fill stack with value in the X-register	Stack		FILL	
F6	CLSTK	Command	Clear stack	Clear stack registers : when stack size is 8, clears XYZT ABCD ; when stack size is 4, clears XYZT ; if setting iLI is ON, the stack is filled with 0 (Long integers) ; when used while plotting, CLSTK returns to the normal screen as the stack is expected to show, implying an exit from graph and other modes ; Shortcut : longpress [←] ; SBI : 8 ; 4	Cleanup	SSIZE8	CLSTK	
fF1	DROPy	Command	Drop Y	Drop Y from stack	Stack		DROPy	
fF2	x↕	Command	Swap X	Swap X and register ; TAM : x↕ __ Tam menu	Stack		x↕	
fF3	y↕	Command	Swap Y	Swap Y and register ; TAM : y↕ __ Tam menu	Stack		y↕	
fF4	z↕	Command	Swap Z	Swap Z and register ; TAM : z↕ __ Tam menu	Stack		z↕	
fF5	t↕	Command	Swap T	Swap T and register ; TAM : t↕ __ Tam menu	Stack		t↕	
fF6	↕	Command	Shuffle stack	Shuffle stack: replace X Y Z T by selection of X Y Z T ; TAM : ↕ ____ TamShuffle menu	Stack		↕	
gF1	4SWAP	Command	Swap X, Y, Z, T and A, B, C, D	Swap X, Y, Z, T and A, B, C, D ; 0 :	Stack		4SWAP	
gF2								
gF3								
gF4								
gF5								
gF6	MULTSTK	MENU	Multi-stack commands	Multi-stack commands	Stack		MULTSTK	

p1	STK	Link
F1	DR0Px	
F2	R↓	
F3	R↑	
F4	LASTx	
F5	FILL	
F6	CLSTK	
fF1	DR0Py	
fF2	x↯	
fF3	y↯	
fF4	z↯	
fF5	t↯	
fF6	↯	
gF1	4SWAP	
gF2		
gF3		
gF4		
gF5		
gF6	MULTSTK	https://47calc.com/doc/C47/Menus/C47_Menu_MULTSTK_page_1.pdf

STOPW	Stopwatch					
g-shift	[Σ+]	[+]	[ENTER]	[.]	[R/S]	[←]
f-shift	PLSTAT	REGS	RCL	RCL ^Σ	0.1s	CLΣ
unshifted	TIM→Σ ₀	LAP→Σ ₀	TIM→R ₀	LAP→R ₀	R/S	RESET
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_STRINGS_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	STOPW	App	Stopwatch	Stopwatch with running time, counter and countdown (playing BEEP after running down)	Time functions		STOPW	
F1	TIM→Σ ₀	Command	Add time to STATS	Add time to STATS (statistics matrix) ; subscript shows number of data points ; Shortcut : [Σ+] (STOPW active)	Stopwatch			0
F2	LAP→Σ ₀	Command	Add lap time to STATS	Add lap time to STATS (statistics matrix) and reset lap timer ; subscript shows number of data points ; Shortcut : [+] (STOPW active)	Stopwatch			0
F3	TIM→R ₀	Command	Store time in register	Store time in register and increment CRA (Current Register Address) ; subscript shows R/S ; Shortcut : [ENTER] (STOPW active)	Stopwatch			0
F4	LAP→R ₀	Command	Store lap time in register	Store lap time in register, increment CRA (Current Register Address) and reset lap timer ; subscript shows CRA ; Shortcut : [.] (STOPW active)	Stopwatch			0
F5	R/S	Command	Start/stop stopwatch	Start/stop the stopwatch ; Shortcut : [R/S] (STOPW active)	Stopwatch			
F6	RESET	Command	Reset stopwatch	Reset the stopwatch ; Shortcut : [←] (STOPW active)	Stopwatch			
fF1	PLSTAT	MENU (item)	Plot statistics	Plot statistics matrix (STATS, programmable) ; TI : Calculating graph coordinates ... may be shown when plotting the statistics matrix ; Info : in Program Entry Mode, use PAUSE, SNAP or PLTFCNS to view the plot (PLTFCNS also displays the plot options menu) ; when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS ; Ref : https://47calc.com/doc/Application%20Notes/AN0003_C47_JM_Graphing.pdf	Plotting and statistics		PLSTAT	
fF2	REGS	Browser	Register browser	Browse all registers ; Shortcut : [.] : Switch register/variable view,[R/S] : Switch contents/storage view,[RCL] : Recall bottom item,[▲], [▼], ABCDEGHIJKLMNOP, 00..99 : Navigate, [EXIT] : Exit Register browser ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Status		REGS	
fF3	RCL	Command (nonpgm)	Recall and load to timer	Recall register value and load to stopwatch timer (decimal hours or time value) ; Shortcut : [RCL] (STOPW active)	Stopwatch			
fF4	RCL ^Σ	Command (nonpgm)	Recall and load to countdown	Recall register value and load to countdown timer (decimal hours or time value)	Stopwatch			
fF5	0.1s	Setting (pgm)	Tenths of seconds	Show running time with tenths of seconds	Stopwatch			ON
fF6	CLΣ	Command	Clear statistics	Clear all statistics data ; delete matrices HIST0 and STATS	Cleanup		CLΣ	
gF1	[Σ+]	Shortcut (key)	Stopwatch key [Σ+]	Keyboard shortcut for button TIM→Σ "Add time to STATS"	Stopwatch			
gF2	[+]	Shortcut (key)	Stopwatch key [+]	Keyboard shortcut for button LAP→Σ "Add lap time to STATS"	Stopwatch			
gF3	[ENTER]	Shortcut (key)	Stopwatch key [ENTER]	Keyboard shortcut for button TIM→R "Store time in register"	Stopwatch			
gF4	[.]	Shortcut (key)	Stopwatch key [.]	Keyboard shortcut for button LAP→R "Store lap time in register"	Stopwatch			
gF5	[R/S]	Shortcut (key)	Stopwatch key [R/S]	Keyboard shortcut for button R/S "Start/stop stopwatch"	Stopwatch			
gF6	[←]	Shortcut (key)	Stopwatch key [←]	Keyboard shortcut for button RESET "Reset stopwatch"	Stopwatch			

p1	STOPW	Link
F1	TIM→Σ ₀	
F2	LAP→Σ ₀	
F3	TIM→R ₀	
F4	LAP→R ₀	
F5	R/S	
F6	RESET	
fF1	PLSTAT	https://47calc.com/doc/C47/Menus/C47_Menu_PLSTAT_page_1.pdf
fF2	REGS	
fF3	RCL	
fF4	RCL ^Σ	
fF5	0.1s	
fF6	CLΣ	
gF1	[Σ+]	
gF2	[+]	
gF3	[ENTER]	
gF4	[.]	
gF5	[R/S]	
gF6	[←]	

STRINGS	Text string variables					
g-shift						
f-shift						
unshifted						
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Struct_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	STRINGS	MENU	Text string variables	Auto-generated catalog of variables of the specified datatype : Text string (5)	Catalog		STRINGS	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Struct:	Structural conversions					
g-shift	FIX ☐	SCI ☐	ENG ☐	UNIT ☐	SIG ☐	ALL ₃ ☐
f-shift						
unshifted	SecPrp:	MatPrp:	FLoads:	MLoads:	PLoads:	Mass:
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Struct:	MENU	Structural conversions	Section and material properties, force and moment load conversions ; Info : Flag CONV _{HP} may be SET for <to> <from> unit conversion buttons; CLEAR for <from> <to> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Miscellaneous conversions		Struct:	
F1	SecPrp:	MENU	Section properties conversions	Convert between units of section properties ; typical properties given in tables of steel/ALU sections ; Info : Flag CONV _{HP} may be SET for <to> <from> unit conversion buttons; CLEAR for <from> <to> unit conversion buttons (default SET)	Miscellaneous conversions		SecPrp:	
F2	MatPrp:	MENU	Material properties conversions	Convert between units of material properties ; typical material properties given in material data sheets references ; Info : Flag CONV _{HP} may be SET for <to> <from> unit conversion buttons; CLEAR for <from> <to> unit conversion buttons (default SET)	Miscellaneous conversions		MatPrp:	
F3	FLoads:	MENU	Force loads conversions	Convert between units of force loads ; typical structural loads units ; Info : Flag CONV _{HP} may be SET for <to> <from> unit conversion buttons; CLEAR for <from> <to> unit conversion buttons (default SET)	Miscellaneous conversions		FLoads:	
F4	MLoads:	MENU	Moment loads conversions	Convert between units of moment loads ; typical moment loads units (torque) ; Info : Flag CONV _{HP} may be SET for <to> <from> unit conversion buttons; CLEAR for <from> <to> unit conversion buttons (default SET)	Torque/moment conversions		MLoads:	
F5	PLoads:	MENU	Pressure loads conversions	Convert between units of pressure loads ; typical loads presented as pressures ; Info : Flag CONV _{HP} may be SET for <to> <from> unit conversion buttons; CLEAR for <from> <to> unit conversion buttons (default SET)	Pressure conversions		PLoads:	
F6	Mass:	MENU	Mass conversions	Convert between units of mass ; Info : Flag CONV _{HP} may be SET for <to> <from> unit conversion buttons; CLEAR for <from> <to> unit conversion buttons (default SET) ; Ref : https://47calc.com/doc/Application%20Notes/AN0027_C47_R47_DA_Structural_conversions.pdf	Mass conversions	CONV _{HP}	Mass:	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	FIX O	Setting (pgm)	FIXed notation	Set numeric display mode to fixed notation with nn decimals (NDEC = nn = 0-19 ; DF = 1) ; TAM : FIX ___ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		FIX O	OFF
gF2	SCI O	Setting (pgm)	SCientific notation	Set numeric display mode to scientific notation with nn decimals = nn+1 digits (NDEC = nn = 0-19 ; DF = 2) ; TAM : SCI ___ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		SCI O	OFF
gF3	ENG O	Setting (pgm)	ENGineering notation	Set numeric display mode to engineering notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 3) ; TAM : ENG ___ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		ENG O	OFF
gF4	UNIT O	Setting (pgm)	Unit (prefix) notation	Set numeric display mode to unit (prefix) notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 5) ; showing all or limited set of SI-prefixes depending on flag PFX.All ; if flag 1024 ⁿ is SET, binary prefixes are shown if available and long integer values are indicated by Z ; prefixes can be selected directly from menu Prefix ; TAM : UNIT ___ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display	1024 ⁿ	UNIT O	OFF

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF5	SIG 0	Setting (pgm)	SIGNificant digits notation	Set numeric display mode to significant digits notation with nn+1 digits (NDEC = nn = 0-19 ; DF = 4) ; switching over to scientific or engineering notation when number of rounded trailing zeros exceeds group size (IPGRP) ; TAM : SIG __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		SIG 0	OFF
gF6	ALL ₃ 0	Setting (pgm)	All digits notation	Set numeric display mode to ALL digits notation ; display all digits as far as possible with maximum nn decimal zeros (NDEC = nn = 0-19 ; DF = 0) ; TAM : ALL __ TamNonReg menu ; Info : this setting applies to Real numbers and Complex numbers	Display		ALL ₃ 0	3

p1	Struct:	Link
F1	SecPrp:	https://47calc.com/doc/C47/Menus/C47_Menu_SecPrp_page_1.pdf
F2	MatPrp:	https://47calc.com/doc/C47/Menus/C47_Menu_MatPrp_page_1.pdf
F3	FLoads:	https://47calc.com/doc/C47/Menus/C47_Menu_FLoads_page_1.pdf
F4	MLoads:	https://47calc.com/doc/C47/Menus/C47_Menu_MLoads_page_1.pdf
F5	PLoads:	https://47calc.com/doc/C47/Menus/C47_Menu_PLoads_page_1.pdf
F6	Mass:	https://47calc.com/doc/C47/Menus/C47_Menu_Mass_page_1.pdf
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1	FIX ☐	
gF2	SCI ☐	
gF3	ENG ☐	
gF4	UNIT ☐	
gF5	SIG ☐	
gF6	ALL ☐	

SYS.FL	System flags					
g-shift	CONV _{HP} ☐	CONV _{US} ☐	CPX _J ☐	CPXmul ☐	CPXRES ☐	DENANY ☐
f-shift	AUTOFF ☐	AUTXEQ ☐	BASE _{HP} ☐	BCD ☐	BOLD ☐	CARRY ☐
unshifted	1024 ⁿ ☐	3DPHYS ☐	3Dxyz ☐	ALPHA ☐	ALP.IN ☐	ASLIFT ₁
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Ref 2 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	SYS.FL	MENU (ASM)	System flags	Presented in menu TamFlag for commands accessing system flags ; Info : Type characters 1-2 to search ; If SYS.FL is accessed from CAT.MENUS, soft buttons return flag status, otherwise toggle flag status ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf	Flags		SYS.FL	
F1	1024 ⁿ □	Flag	Binary prefixes	SET for binary prefixes in UNIT display mode ; CLEAR for decimal prefixes in UNIT display mode ; Info : Binary prefixes designate powers of 1024, applicable to long integers (will be indicated by Z:) and reals in UNIT display mode	Numeric input	1024 ⁿ		CLEAR
F2	3DPHYS □	Flag	Physics or Math	SET for Physics conventions in spherical polar vectors ; CLEAR for Math conventions in spherical polar vectors ; Info : The notation convention is indicated by the TI subscript of the spherical polar vector : <i>p</i> for Physics, <i>m</i> for Math (determines ordering of vector elements, works on whole stack)	Vector operations	3DPHYS		CLEAR
F3	3Dxyz □	Flag	xyz or ijk vector display	SET for xyz (rθz) display of vectors ; CLEAR for ijk (rθk) display of vectors ; Info : Indicated by TI subscript of vector elements : <i>xyz</i> or <i>ijk</i>	Vector operations	3Dxyz		CLEAR
F4	ALPHA □	Flag	Alpha Input Mode	SET for alpha input mode ; CLEAR for alpha input mode inactive ; SBI : A ; a ; N	Text input	ALPHA		CLEAR
F5	ALP.IN □	Flag	Alpha Entry	SET for alpha entry ; CLEAR for alpha entry inactive	Text input	ALP.IN		CLEAR
F6	ASLIFT ₁	Flag (system)	Automatic Stack Lift	SET for automatic stack lift ; CLEAR for automatic stack lift inactive ; Info : SBI is SIM only ; SBI : SL	Stack	ASLIFT		SET
fF1	AUTOFF ▣	Flag	Automatic shutdown	SET for automatic shutdown ; CLEAR for automatic shutdown inactive ; Info : Automatic shutdown delay is 10 m	System	AUTOFF		SET
fF2	AUTXEQ □	Flag	Auto execute program	SET for auto execute program ; CLEAR for auto execute program inactive ; Info : Automatically starts program when calculator turns on	Programming	AUTXEQ		CLEAR
fF3	BASE _{HP} ▣	Flag	Classic (HP) style base	SET for applying number base to the whole stack ; CLEAR for applying number base to X only ; Info : Shortint values only	Number bases	BASE _{HP}		SET
fF4	BCD □	Flag	Binary coded decimal	SET for binary coded decimal (BCD) display of Long integer in #BASE Mode ; CLEAR for binary coded decimal display inactive ; Info : If menu BASE is open (#BASE Mode), BCD is displayed with subscript digits and followed by subscript _{bcd}	Bits and bytes	BCD		CLEAR
fF5	BOLD □	Flag	Bold font mode	SET for bold font mode ; CLEAR for regular font mode	User interface	BOLD		CLEAR
fF6	CARRY □	Flag	Carry (bit)	SET for carry (bit) ; CLEAR for carry (bit) inactive ; Info : SBI _c is shown if flag SBoc is SET ; SBI : _c	Bits and bytes	CARRY		CLEAR
gF1	CONV _{HP} ▣	Flag	Classic (HP) conversions	SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow$ <from> unit conversion buttons	Unit conversions	CONV _{HP}		SET
gF2	CONV _{US} □	Flag	US or UK units	SET for US unit preference ; CLEAR for UK unit preference	Unit conversions	CONV _{US}		CLEAR
gF3	CPX _j □	Flag	Complex <i>j</i>	SET for displaying <i>j</i> as the imaginary number ; CLEAR for displaying <i>i</i> as the imaginary number ; Info : <i>i</i> or <i>j</i> displayed in stack and on soft buttons	Complex numbers	CPX _j		CLEAR
gF4	CPXmul □	Flag	Complex multiplier	SET for displaying Complex multiplier ; CLEAR for not displaying Complex multiplier ; Info : If CLEAR, trailing <i>i</i> or <i>j</i> is used ; complex multiplier is set by MULT _x	Complex numbers	CPXmul		CLEAR
gF5	CPXRES ▣	Flag	Complex results	SET for Complex results ; CLEAR for Real results only ; Info : CPXRES is auto-set when entering complex input ; SBI C ; R is shown if flag SBcr is SET ; SBI : C ; R	Complex numbers	CPXRES		SET
gF6	DENANY □	Flag	Denominator any	SET for any denominator (up to value set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3] fF5 (DMXX)) in fraction display mode ; CLEAR for fixed denominator in fraction display mode ; Info : DENANY and DENFIX are linked (both cannot be SET at the same time) ; SBI [+×] is shown if flag SBfrac is SET ; SBI : [+×]	Fractions	DENANY		CLEAR

SYS.FL	System flags					
g-shift	FRCYC ☐	GR0W ☐	g.2Tp ☐	HOMEb ☐	HOME _f ☐	HP12C ☐
f-shift	eRPN ☐	fg.FUL ☐	fg.GR ☐	fg.LIM ☐	FRACT ☐	FRCSRN ☐
unshifted	DENFIX ☐	dLrgLI ☐	DMY ₀	dZ.0 ☐	ENDPMT ₁	ENG0VR ☐
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Ref 2 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	SYS.FL	MENU (ASM)	System flags	Presented in menu TamFlag for commands accessing system flags ; Info : Type characters 1-2 to search ; If SYS.FL is accessed from CAT.MENUS, soft buttons return flag status, otherwise toggle flag status ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf	Flags		SYS.FL	
F1	DENFIX □	Flag	Denominator fixed	SET for fixed denominator (set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3] fF5 (DMXX)) in fraction display mode ; CLEAR for any denominator in fraction display mode ; Info : DENFIX and DENANY are linked (both cannot be SET at the same time) ; SBI [+f] is shown if flag SBfrac is SET ; SBI : [+f]	Fractions	DENFIX		CLEAR
F2	dLrgLI ▣	Flag	Large Long integers display	SET for (large) Long integers to always display in large text ; CLEAR for (large) Long integers to display in small text ; Info : dLrgLI is overruled by dZ.0	Display	dLrgLI		SET
F3	DMY ₀	Flag (system)	Day.month.year	SET for DD.MM.YYYY display mode ; CLEAR for DD.MM.YYYY display mode inactive ; Format : DD.MM.YYYY ; Info : SBI is shown if flag SBdate is SET ; SBI : DD.MM.YYYY	Display	DMY		CLEAR
F4	dZ.0 □	Flag	Display Long integers as Real	SET for displaying Long integers as Real ; CLEAR for not displaying Long integers as Real ; Info : dZ.0 overrides dLrgLI ; Prefix : Z : ; radix not displayed if DSP = 0 ; larger values are displayed using scientific notation and indicated as Long integer by prefix "Z:" even if dZ.0 is CLEAR	Integers	dZ.0		CLEAR
F5	ENDPMT ₁	Flag (system)	TVM end payments	SET for TVM end payments ; CLEAR for TVM begin payments ; Info : SBI END ; BEG is shown if flag SBtvm is SET ; SBI : END ; BEG	Financial	ENDPMT		SET
F6	ENG0VR □	Flag	Engineering/Scientific display large Real numbers	SET for displaying large Real numbers in engineering notation ; CLEAR for displaying large Real numbers in scientific notation	Display	ENG0VR		CLEAR
fF1	eRPN ▣	Flag	Entry RPN mode	SET for interactive Entry RPN mode ; CLEAR for interactive Entry RPN mode inactive ; Info : If eRPN is SET, in Numeric Input Mode, ENTER pushes the input value onto the stack, and if CLEAR, then it also duplicates X to Y ; without input or in Program Entry Mode, ENTER always duplicates X to Y ; only if eRPN is CLEAR, automatic stack lift is disabled after ENTER ; stack size SBI (8 or 4) is displayed in normal font if eRPN is SET and inverted if CLEAR ; SBI 8 or 4 is shown if flag SBss is SET ; SBI : 8 or 4	Stack	eRPN		SET
fF2	fg.FUL ▣	Flag	Menu f,g-highlighting Full	SET for menu f,g-highlighting full ; CLEAR for menu f,g-highlighting full inactive ; Info : fg.FUL and fg.LIM are linked (both cannot be SET at the same time)	User interface	fg.FUL		SET
fF3	fg.GR □	Flag	Menu f,g-highlighting Grey	SET for menu f,g-highlighting grey ; CLEAR for menu f,g-highlighting grey inactive	User interface	fg.GR		CLEAR
fF4	fg.LIM □	Flag	Menu f,g-highlighting Limited	SET for menu f,g-highlighting limited ; CLEAR for menu f,g-highlighting limited inactive ; Info : fg.LIM and fg.FUL are linked (both cannot be SET at the same time)	User interface	fg.LIM		CLEAR
fF5	FRACT □	Flag	Fractions mode	SET for fractions mode ; CLEAR for fractions mode inactive ; Info : FRACT and IRFRAC are linked (both cannot be SET at the same time) ; /n or /max denotes maximum denominator (set interactively from menu DISP (DMX TAM variant) and from menu [INFO.3] fF5 (DMXX)) ; prefixes < and > may be shown as needed for rational fractions ; also see flag IRFRAC ; SBI ≈ indicates FDIGS < 34 ; SBI is shown if flag SBfrac is SET ; exit fraction modes by .d or CLRMOD (longerpress [EXIT]) ; SBI : a ^b /n ; ^b /n ; [+≈]	Fractions	FRACT		CLEAR
fF6	FRCSRN □	Flag	Fraction show register name	SET for displaying register name in fractions mode ; CLEAR for not displaying register name in fractions mode ; Prefix : x, y, z, t < or = or > or ≈	Fractions	FRCSRN		CLEAR
gF1	FRCYC □	Flag	Fraction mode full cycle	SET for full cycle on key a b/c (g[Σ+]) ; CLEAR for limited cycle on key a b/c (g[Σ+]) ; Info : When FRCYC is SET full cycle is available, when CLEAR, flag PROPFR is excluded (used as is) and OFF state is included in cycle	Fractions	FRCYC		CLEAR
gF2	GROW □	Flag	Grow (matrix edit)	SET for grow (matrix edit) ; CLEAR for wrap (matrix edit) ; Info : SBI is shown if flag SBmx is SET ; SBI : wrap ; grow	Matrix operations	GROW		CLEAR
gF3	g.2Tp ▣	Flag	Double tap function keys	SET for double tap function keys for g-shift ; CLEAR for double tap function keys inactive ; Info : Blocked for navigation FN-keys (arrows) in editors	User interface	g.2Tp		SET

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF4	HOMEb □	Flag	HOME menu shown	SET for HOME menu shown; CLEAR for HOME menu not shown ; Info : HOMEb and MyMb are linked (both cannot be SET at the same time) ; applies when all menus are exited using EXIT	Customisation	HOMEb		CLEAR
gF5	HOMEf ^g ▣	Flag	HOME menu f/g shortcut	SET for HOME menu activated by triple and longerpress f/g-shift; CLEAR for HOME menu f/g shortcut inactive ; Info : HOMEf ^g and MyMf ^g are linked (both cannot be SET at the same time) ; HOMEf ^g pertains to layouts containing key [f/g] only and also enables longerpress assignment to this key	Customisation	HOMEf ^g		SET
gF6	HP12C □	Flag	HP12C standard precision	SET for HP12C standard precision of 2 decimals; CLEAR for full C47 accuracy ; Info : The HP12C standard precision means that PMT is rounded to 2 decimals before amortisation is computed, so the schedule matches a printed bank statement	Financial	HP12C		CLEAR

SYS.FL	System flags					
g-shift	MyMb ☐	MyM _F ^S ☐	NUM ☐	NUM.IN ☐	OVERFL ☐	PFX.ALL ☐
f-shift	LEAD.0 ☐	LOWBAT ₀	MDY ₀	MNU _p 1 ☐	MONIT ☐	MULT _x ☐
unshifted	IGN1ER ☐	INTING ₀	IRFRAC ☐	IRFR ₀	KEY _{A~F} ☐	KEY.LP ☐
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	SYS.FL	MENU (ASM)	System flags	Presented in menu TamFlag for commands accessing system flags ; Info : Type characters 1-2 to search ; If SYS.FL is accessed from CAT.MENUS, soft buttons return flag status, otherwise toggle flag status ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf	Flags		SYS.FL	
F1	IGN1ER ☐	Flag	Ignore one error	SET for calculator ignoring next error; CLEAR for calculator not ignoring error(s) ; Info : IGN1ER is cleared subsequently	Programming	IGN1ER		CLEAR
F2	INTING ₀	Flag (system)	Integrator running	SET for integrator running; CLEAR for integrator not running	Integrator	INTING		CLEAR
F3	IRFRAC ☐	Flag	Irrational fractions mode	SET for irrational fractions mode; CLEAR for irrational fractions mode inactive ; IRFRAC gives fractional results only if a simple fraction exists ; on battery power, matrices and vectors are ignored to prevent heavy calculations ; Info : IRFRAC and FRACT are linked (both cannot be SET at the same time) ; SBI $\times 1$ or $\cdot 1$ indicates that approximate multiples or fractions can be used, of the irrational numbers $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{7}$, ϕ , π^{-2} , π^{-1} , $\sqrt{\pi}$, π , π^2 , e^{-2} , e^{-1} , e and e^2 (with tolerance 10^{-24}) ; Prefix $\approx$ + <approximation> ; multiplication symbol SET for displaying multiplication symbol $\times$; CLEAR for displaying multiplication symbol $\cdot$ or SET for displaying multiplication symbol $\times$; CLEAR for displaying multiplication symbol $\cdot$ according to flag MULT $\times$; SBI $\approx$ indicates FDIGS < 34; SBI is shown if flag SBfrac is SET ; exit fraction modes by .d or CLRM0D (longerpress [EXIT]) ; SBI : $a^{b/c} \times 1$; $b/c \times 1$; [+ $\approx$]	Fractions	IRFRAC		CLEAR
F4	IRFR ₀	Flag (system)	Irrational fractions mode preferred	SET for irrational fractions mode preferred; CLEAR for irrational fractions mode not preferred ; Info : IRFR is SET by IRFRAC and CLEARED by FRACT to preserve state when toggling fraction modes using a b/c and .d	Fractions	IRFR		CLEAR
F5	KEY _{A-F} ☐	Flag	A-F keys	SET for row 2 keys to enter digits A-F in #BASE Mode; CLEAR for row 2 keys to work normally ; Info : Entering digits A-F switches the calculator to hexadecimal mode ; when KEY _{A-F} is SET, the respective digit is included in the row 2 key's longpress preview cycle ; SBI : #KEY _{A-F}	Number bases	KEY _{A-F}		SET
F6	KEY.LP ☐	Flag	Longpress f and g shortcuts	SET for longpress shortcuts for single shift keys; CLEAR for longpress f and g shortcuts inactive ; Info : KEY.LP pertains to R47v0 f g layout and R47v2 f ^g g layout only and also enables longpress assignment to single shift keys	User interface	KEY.LP		SET
fF1	LEAD.0 ☐	Flag	Leading zeros	SET for leading zeros (shortint bases 2, 4, 8, 16) ; CLEAR for no leading zeros (shortint bases 2, 4, 8, 16)	Display	LEAD.0		CLEAR
fF2	LOWBAT ₀	Flag (system)	Low Battery	SET for low battery voltage; CLEAR for no low battery voltage ; Info : SBI ☐ is shown if flag SBbatV is SET ; SBI : ☐	System	LOWBAT		CLEAR
fF3	MDY ₀	Flag (system)	Month/day/year	SET for MM/DD/YYYY display mode; CLEAR for MM/DD/YYYY display mode inactive ; Format : MM/DD/YYYY ; Info : SBI is shown if flag SBdate is SET ; SBI : MM/DD/YYYY	Display	MDY		CLEAR
fF4	MNU _{p1} ☐	Flag	Menu opens on p1	SET for menu opens on p1; CLEAR for menu opens on page last used	User interface	MNU _{p1}		SET
fF5	MONIT ☐	Flag	Iteration monitoring	SET for displaying iteration status; CLEAR for not displaying iteration status ; Info : Pertains to executing programmable sums, solvers and integrator	Status	MONIT		SET
fF6	MULT $\times$ ☐	Flag	Multiplication symbol	SET for displaying multiplication symbol $\times$; CLEAR for displaying multiplication symbol $\cdot$; Info : Multiplication symbol is used in exponential and complex notation ; symbol may be displayed in annunciator(s) related to FRACT settings	Display	MULT $\times$		SET
gF1	MyMb ☐	Flag	MyMenu shown	SET for MyMenu shown; CLEAR for MyMenu not shown ; Info : MyMb and HOME _b are linked (both cannot be SET at the same time) ; applies when all menus are exited using EXIT	Customisation	MyMb		SET
gF2	MyM _{f^g} ☐	Flag	MyMenu f/g shortcut	SET for MyMenu activated by triple and longerpress f/g-shift; CLEAR for MyMenu f/g shortcut inactive ; Info : MyM _{f^g} and HOME _{f^g} are linked (both cannot be SET at the same time) ; MyM _{f^g} pertains to layouts containing key [f/g] only and also enables longerpress assignment to this key	Customisation	MyM _{f^g}		CLEAR
gF3	NUM ☐	Flag	Numlock	SET for numlock; CLEAR for numlock inactive ; SBI : N	Numeric input	NUM		CLEAR
gF4	NUM.IN ☐	Flag	Numeric entry	SET for numeric entry; CLEAR for numeric entry inactive	Numeric input	NUM.IN		CLEAR

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF5	OVERFL ☐	Flag	Overflow	SET for overflow; CLEAR for no overflow ; Info : SBI ° is shown if flag SBoc is SET ; SBI : °	<i>Bits and bytes</i>	OVERFL		CLEAR
gF6	PFX.All ☐	Flag	Show all SI prefixes	SET for showing full range of SI prefixes in UNIT display mode; CLEAR for showing limited range of SI prefixes in UNIT display mode ; Info : Full range is 10 ⁻³⁰ to 10 ³⁰ ; limited range is 10 ⁻¹⁵ to 10 ¹⁵ ; not applicable when flag 1024° is SET ; Ref : https://47calc.com/doc/C47/Reference/C47_UNIT_prefix.pdf	<i>Plotting</i>	PFX.All		CLEAR

SYS.FL	System flags					
g-shift	PLvec ☐	PLxy:1 ☐	PLx.ax ☐	PLy.ax ☐	POLAR ☐	PROPFR ☐
f-shift	PLintg ☐	PLline ☐	PLnvec ☐	PLplus ☐	PLrms ☐	PLshad ☐
unshifted	PLbox ☐	PLcros ☐	PLcurve ☐	PLcxp ☐	PLdiff ☐	PLimp ☐
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Ref 2 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p4	SYS.FL	MENU (ASM)	System flags	Presented in menu TamFlag for commands accessing system flags ; Info : Type characters 1-2 to search ; If SYS.FL is accessed from CAT.MENUS, soft buttons return flag status, otherwise toggle flag status ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf	Flags		SYS.FL	
F1	PLbox 	Flag	Box markers	SET for box markers ; CLEAR for box markers inactive ; Info : If PLbox is SET, PLcros and PLplus are CLEARED ; PLLine is SET when all three curve markers are deselected	Plotting	PLbox		SET
F2	PLcros 	Flag	Cross markers	SET for cross markers ; CLEAR for cross markers inactive ; Info : If PLcros is SET, PLbox and PLplus are CLEARED ; PLLine is SET when all three curve markers are deselected	Plotting	PLcros		CLEAR
F3	PLcurve 	Flag	[future] Curve smoothing	SET for [future] curve smoothing ; CLEAR for [future] curve smoothing inactive ; Info : Reserved for future use	Plotting	PLcurve		CLEAR
F4	PLcxp 	Flag	Complex plot	SET for Complex plot ; CLEAR for Complex plot inactive ; Info : PLcxp and PLimp are linked (both cannot be SET at the same time)	Plotting	PLcxp		CLEAR
F5	PLdiff 	Flag	Add differential curve	SET for adding the graphical point-to-point differential of the main graph ; CLEAR for not adding the differential curve ; Info : Δ Numerical slope is displayed	Plotting	PLdiff		CLEAR
F6	PLimp 	Flag	Plot imaginary part	SET for plotting imaginary part ; CLEAR for plotting real part ; Info : PLimp and PLcxp are linked (both cannot be SET at the same time)	Plotting	PLimp		CLEAR
fF1	PLintg 	Flag	Add integral curve	SET for adding the graphical integral curve, calculated from the point-to-point discrete integral ; CLEAR for not adding the integral curve ; Info : Vertical placement of the integral is at RMS of the graph points ; $\int$ Trapezoid integral is displayed	Plotting	PLintg		CLEAR
fF2	PLline 	Flag	Draw line	SET for connecting graph points using line segments ; CLEAR for not connecting graph points using line segments ; Info : If PLline is CLEARED, PLbox may be SET if necessary (when no curve markers are selected)	Plotting	PLline		SET
fF3	PLnvec 	Flag	Clockwise vectors	SET for clockwise vectors ; CLEAR for clockwise vectors inactive ; Info : Treat coordinate pairs as navigation vectors, clockwise from the positive y-axis as reference ; PLnvec and PLvec are linked (both cannot be SET at the same time)	Plotting	PLnvec		CLEAR
fF4	PLplus 	Flag	Plus markers	SET for plus markers ; CLEAR for plus markers inactive ; Info : If PLplus is SET, PLbox and PLcros are CLEARED ; PLLine is SET when all three curve markers are deselected	Plotting	PLplus		CLEAR
fF5	PLrms 	Flag	Add RMS curve	SET for adding the graphical root mean square curve, accumulated from left to right ; CLEAR for not adding the RMS curve ; Info : ■ Root mean square RMS is displayed	Plotting	PLrms		CLEAR
fF6	PLshad 	Flag	Shade curve	SET for shading the trapezoid integral from the graph points ; CLEAR for not shading the curve ; Info : $\int$ Trapezoid integral is displayed	Plotting	PLshad		CLEAR
gF1	PLvec 	Flag	Anti-clockwise vectors	SET for anti-clockwise vectors ; CLEAR for anti-clockwise vectors inactive ; Info : Treat coordinate pairs as vectors, anti-clockwise from the positive x-axis as reference ; PLvec and PLnvec are linked (both cannot be SET at the same time)	Plotting	PLvec		CLEAR
gF2	PLxy:1 	Flag	Forcing autoscale	SET for forcing autoscale on x- and y-axis to be the same ; CLEAR for not forcing autoscale on x- and y-axis to be the same	Plotting	PLxy:1		CLEAR
gF3	PLx.ax 	Flag	Autoscaling to show x-axis	SET for autoscaling to show x-axis ; CLEAR for not autoscaling to show x-axis	Plotting	PLx.ax		CLEAR
gF4	PLy.ax 	Flag	Autoscaling to show y-axis	SET for autoscaling to show y-axis ; CLEAR for not autoscaling to show y-axis	Plotting	PLy.ax		CLEAR
gF5	POLAR 	Flag	Polar notation	SET for polar notation ; CLEAR for rectangular notation ; Info : SBI $\angle$; $\odot$ is shown if flag SBcpx is SET ; SBI : $\angle$; $\odot$	Complex and coordinates	POLAR		CLEAR
gF6	PROPF 	Flag	Proper fractions	SET for proper fractions (mixed fractions) ; CLEAR for improper fractions ; SBI : a^b/n ; b/n ; $[\pm]$; a^b/cxI ; b/cxI ; $[\pm]$	Fractions	PROPF		SET

SYS.FL	System flags					
g-shift	SBoc ☐	SBprn ☐	SBser ☐	SBshfR ☐	SBss ☐	SBstw ☐
f-shift	SBcpx ☐	SBcr ☐	SBdate ☐	SBfrac ☐	SBint ☐	SBmx ☐
unshifted	QUIET ☐	RP _{HP} ☐	RUNTIM ₀	SBadm ☐	SBang ☐	SBbatV ☐
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p5	SYS.FL	MENU (ASM)	System flags	Presented in menu TamFlag for commands accessing system flags ; Info : Type characters 1-2 to search ; If SYS.FL is accessed from CAT.MENUS, soft buttons return flag status, otherwise toggle flag status ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf	Flags		SYS.FL	
F1	QUIET ☐	Flag	Quiet	SET for beeper disabled; CLEAR for beeper enabled ; Info : Silences every sound source and clamps volume at both ends	System	QUIET		CLEAR
F2	RP _{HP} ☐	Flag	Classic (HP) Rect/Polar	SET for x : Re ; y : Im (RECT) ; r ; θ (POLAR) in X, Y; CLEAR for y : Im ; x : Re (RECT) ; θ ; r (POLAR) in X, Y ; Info : RP _{HP} CLEAR conforms to the way the C47 deals with complex numbers	Complex and coordinates	RP _{HP}		SET
F3	RUNTIM ₀	Flag (system)	Stopwatch running	SET for stopwatch running; CLEAR for stopwatch not running ; Info : SBI  is shown if flag SB _{stw} is SET ; SBI : 	Stopwatch	RUNTIM		CLEAR
F4	SB _{adm} ☐	Flag	Show degree symbol	SET for displaying degree symbol (°) in status bar ; CLEAR for not displaying degree symbol (°) in status bar ; Info : Setting flag SB _{ang} also sets SB _{adm} ; clearing SB _{adm} also clears flag SB _{ang} ; SBI : (°)	Status	SB _{adm}		SET
F5	SB _{ang} ☐	Flag	Show angle symbol	SET for displaying angle symbol (∠) in status bar ; CLEAR for not displaying angle symbol (∠) in status bar ; Info : Setting flag SB _{ang} also sets SB _{adm} ; clearing SB _{adm} also clears flag SB _{ang} ; SBI : (∠)	Status	SB _{ang}		CLEAR
F6	SB _{batV} ☐	Flag	Show battery depletion	SET for displaying battery depletion () in status bar ; CLEAR for not displaying battery depletion () in status bar ; Info : If SB _{batV} is CLEAR, the regular icon () will show, but only when the battery is low (flag LOWBAT is SET) ; when SB _{batV} is SET the special battery symbol has length proportional to 2.054 V to 3.045 V ; SBI : ()	Status	SB _{batV}		CLEAR
fF1	SB _{cpX} ☐	Flag	Show complex mode	SET for displaying Complex mode (L ; ⊙) in status bar ; CLEAR for not displaying Complex mode (L ; ⊙) in status bar ; SBI : (L ; ⊙)	Status	SB _{cpX}		SET
fF2	SB _{cr} ☐	Flag	Show complex results	SET for displaying Complex results (C ; R) in status bar ; CLEAR for not displaying Complex results (C ; R) in status bar ; SBI : (C ; R)	Status	SB _{cr}		CLEAR
fF3	SB _{date} ☐	Flag	Show date	SET for displaying date (CLK ; YY) in status bar ; CLEAR for not displaying date (CLK ; YY) in status bar ; Info : SB _{date} , SB _{time} and SB _{woy} are linked, only two out of three can be SET at most ; SBI : (CLK ; YY)	Status	SB _{date}		SET
fF4	SB _{frac} ☐	Flag	Show Fractions Mode and #BASE Mode	SET for displaying Fractions Mode and #BASE Mode (a ^{b/n} ; b/n ; [+∞] ; a ^{b/cxI} ; b/cxI ; [+∞] ; #BASE ; #KEY _{A-F}) in status bar ; CLEAR for not displaying Fractions Mode and #BASE Mode (a ^{b/n} ; b/n ; [+∞] ; a ^{b/cxI} ; b/cxI ; [+∞] ; #BASE ; #KEY _{A-F}) in status bar ; SBI : (a ^{b/n} ; b/n ; [+∞] ; a ^{b/cxI} ; b/cxI ; [+∞] ; #BASE ; #KEY _{A-F})	Status	SB _{frac}		SET
fF5	SB _{int} ☐	Flag	Show integer mode	SET for displaying integer mode (<w>;<m>) in status bar ; CLEAR for not displaying integer mode (<w>;<m>) in status bar ; Info : <w> in SBI indicates word size (menu BITSET) ; <m> in SBI indicates sign mode (menu BITSET) ; SBI : (<w>;<m>)	Status	SB _{int}		SET
fF6	SB _{mx} ☐	Flag	Show matrix mode	SET for displaying matrix mode (wrap ; grow) in status bar ; CLEAR for not displaying matrix mode (wrap ; grow) in status bar ; SBI : (wrap ; grow)	Status	SB _{mx}		CLEAR
gF1	SB _{oc} ☐	Flag	Show overflow/carry mode	SET for displaying overflow/carry mode (° ; c) in status bar ; CLEAR for not displaying overflow/carry mode (° ; c) in status bar ; SBI : (° ; c)	Status	SB _{oc}		SET
gF2	SB _{prn} ☐	Flag	Show printing	SET for displaying printing () in status bar ; CLEAR for not displaying printing () in status bar ; SBI : ()	Status	SB _{prn}		SET
gF3	SB _{ser} ☐	Flag	Show serial I/O	SET for displaying serial I/O () in status bar ; CLEAR for not displaying serial I/O () in status bar ; SBI : ()	Status	SB _{ser}		SET
gF4	SB _{shfR} ☐	Flag	Show shift on the right	SET for displaying shift on the right (f ; ) in status bar ; CLEAR for displaying shift on the left (f ; ) in status bar ; SBI : (f ; )	Status	SB _{shfR}		CLEAR
gF5	SB _{ss} ☐	Flag	Show stack size	SET for displaying stack size (8 ; 4) in status bar ; CLEAR for not displaying stack size (8 ; 4) in status bar ; SBI : (8 ; 4)	Status	SB _{ss}		CLEAR
gF6	SB _{stw} ☐	Flag	Show stopwatch running	SET for displaying stopwatch running () in status bar ; CLEAR for not displaying stopwatch running () in status bar ; SBI : ()	Status	SB _{stw}		SET

SYS.FL	System flags					
g-shift	VMDISP ₀	WRPEDG ₀	WRPEND ₀	YMD ₁	αCAP ₀	←DROP ☐
f-shift	SOLVING ₀	SPCRES ☐	SSIZE8 ☐	TDM24 ☐	USB ₀	USER ☐
unshifted	SBtime ☐	SBtvm ☐	SBwoy ☐	SH.4s ☐	SIG0 ☐	SLOW ☐
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p6	SYS.FL	MENU (ASM)	System flags	Presented in menu TamFlag for commands accessing system flags ; Info : Type characters 1-2 to search ; If SYS.FL is accessed from CAT.MENUS, soft buttons return flag status, otherwise toggle flag status ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf	Flags		SYS.FL	
F1	SBtime □	Flag	Show time	SET for displaying time (HH24:MM ; HH:MMam/pm) in status bar ; CLEAR for not displaying time (HH24:MM ; HH:MMam/pm) in status bar ; Info : SBtime, SBdate and SBwoy are linked, only two out of three can be SET at most ; SBI : (HH24:MM ; HH:MMam/pm)	Status	SBtime		CLEAR
F2	SBtvm ▣	Flag	Show TVM mode	SET for displaying TVM mode (END ; BEG) in status bar ; CLEAR for not displaying TVM mode (END ; BEG) in status bar ; SBI : (END ; BEG)	Status	SBtvm		SET
F3	SBwoy □	Flag	Show Week of Year and day number	SET for displaying Week of Year and day number (Ww#-d#) in status bar ; CLEAR for not displaying Week of Year and day number (Ww#-d#) in status bar ; Info : SBwoy, SBdate and SBtime are linked, only two out of three can be SET at most ; SBI : (Ww#-d#)	Status	SBwoy		CLEAR
F4	SH.4s □	Flag	Shift time-out of 4s	SET for shift time-out of 4s ; CLEAR for shift time-out of 4s inactive ; Info : For layouts containing key [f/g] only	User interface	SH.4s		CLEAR
F5	SIG0 ▣	Flag	Apply SIG zeros	SET for applying SIG zeros ; CLEAR for not applying SIG zeros ; Info : 'Apply SIG zeros' means displaying zeros for the integer part and trailing zeros for the fractional part ; zeros are required for the strict interpretation of SIG as implemented in prior C47/C43 and WP34S ; if SIG0 is CLEAR, SIG may be understood as 'maximum digits' and displays the resulting value in a more commonly used way	Display	SIG0		SET
F6	SLOW □	Flag	Slow mode	SET for slow mode ; CLEAR for slow mode inactive ; Info : Slow mode limits battery drain	System	SLOW		CLEAR
fF1	SOLVING ₀	Flag (system)	Solving	SET for solver running ; CLEAR for solver not running	Solver	SOLVING		CLEAR
fF2	SPCRES ▣	Flag	Special results	SET for special results ; CLEAR for special results inactive ; Info : Special results are: infinity (±∞) and not-a-number (NaN), an error will not occur for such values when SPCRES is SET ; also, ±0. may be used	Mathematics	SPCRES		SET
fF3	SSIZE8 ▣	Flag	Stack Size 8	SET for 8 register stack ; CLEAR for 4 register stack ; Info : SBI 8 ; 4 is shown if flag SBss is SET ; SBI : 8 ; 4	Stack	SSIZE8		SET
fF4	TDM24 ▣	Flag	Time display 24h	SET for 24h time display ; CLEAR for 12h time display ; Format : HH24:MM ; HH:MMam/pm ; Info : SBI is shown if flag SBtime is SET ; SBI : HH24:MM ; HH:MMam/pm	Display	TDM24		SET
fF5	USB ₀	Flag (system)	USB Power	SET for calculator running on USB power ; CLEAR for calculator running on battery power ; SBI : Ψ	System	USB		CLEAR
fF6	USER □	Flag	USER mode	SET for USER mode ; CLEAR for Normal Mode ; SBI : Π	Customisation	USER		CLEAR
gF1	VMDISP ₀	Flag (system)	Variable menu displayed	SET for variable menu displayed ; CLEAR for variable menu not displayed	Programming	VMDISP		CLEAR
gF2	WRPEDG ₀	Flag (system)	Wrap edge	SET for wrap edge ; CLEAR for wrap edge inactive	Matrix operations	WRPEDG		CLEAR
gF3	WRPEND ₀	Flag (system)	Wrap end	SET for wrap end ; CLEAR for wrap end inactive	Matrix operations	WRPEND		CLEAR
gF4	YMD ₁	Flag (system)	Year-month-day	SET for YYYY-MM-DD display mode ; CLEAR for YYYY-MM-DD display mode inactive ; Format : YYYY-MM-DD ; Info : SBI is shown if flag SBdate is SET ; SBI : YYYY-MM-DD	Display	YMD		SET
gF5	αCAP ₀	Flag (system)	Alpha capslock	SET for alpha capslock ; CLEAR for alpha capslock inactive ; SBI : A ; a	Text input	αCAP		CLEAR
gF6	↵DROP □	Flag	[↵] executes DROPx or CLX	SET for [↵] executing DROPx (when not in NIM) ; CLEAR for [↵] executing CLX (when not in NIM)	User interface	↵DROP		CLEAR

SYS.FL	System flags					
g-shift						
f-shift						
unshifted	 ACT ₀	 EN □	 NORM □	 TRACE □		
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Ref 2 https://47calc.com/doc/Application%20Notes/AN0028_C47_R47_JM_Configurability_Tour.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p7	SYS.FL	MENU (ASM)	System flags	Presented in menu TamFlag for commands accessing system flags ; Info : Type characters 1-2 to search ; If SYS.FL is accessed from CAT.MENUS, soft buttons return flag status, otherwise toggle flag status ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf	Flags		SYS.FL	
F1	▣ACT0	Flag (system)	Print port active	SET for infrared print port active ; CLEAR for infrared print port inactive ; Info : If flag ▣ACT is SET, the infrared port is enabled ; if CLEAR, the infrared port is disabled	Printing	▣ACT		CLEAR
F2	▣EN □	Flag	Printing enabled	SET for printing enabled ; CLEAR for printing disabled	Printing	▣EN		CLEAR
F3	▣NORM □	Flag	Printer mode Normal/Trace	SET for printer mode Normal (flag ▣TRACE is CLEAR) or printer mode Stack trace (flag ▣TRACE is SET) ; CLEAR for printer mode Manual (flag ▣TRACE is CLEAR) or printer mode Trace (flag ▣TRACE is SET) ; Info : There are four print modes : MAN, NORM, TRACE and STRACE, which are set by two flags : ▣TRACE and ▣NORM	Printing	▣NORM		CLEAR
F4	▣TRACE □	Flag	Printer mode Trace/Stack trace	SET for printer mode Trace (flag ▣NORM is CLEAR) or printer mode Stack trace (flag ▣NORM is SET) ; CLEAR for printer mode Manual (flag ▣NORM is CLEAR) or printer mode Normal (flag ▣NORM is SET) ; Info : There are four print modes : MAN, NORM, TRACE and STRACE, which are set by two flags : ▣TRACE and ▣NORM	Printing	▣TRACE		CLEAR
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

t:	Student's t distribution					
g-shift	STO _M v					
f-shift						
unshifted	t _p (x)		t _α (x)	t _Δ (x)		t ⁻¹ (p)
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	$t:$	MENU	Student's t distribution	Student's t probability distribution (continuous) ; TI : RegM = $v =$	Probability (real)		$t:$	
F1	$t_p(x)$	Function (monadic)	Student's t pdf	Student's t probability density function	Probability (real)		$t_p(x)$	
F2								
F3	$t_{\Delta}(x)$	Function (monadic)	Student's t cdf (lower)	Student's t cumulative distribution (lower tail)	Probability (real)		$t_{\Delta}(x)$	
F4	$t_{\Delta}(x)$	Function (monadic)	Student's t cdf (upper)	Student's t cumulative distribution (upper tail)	Probability (real)		$t_{\Delta}(x)$	
F5								
F6	$t^{-1}(p)$	Function (monadic)	Student's t qf (inverse)	Student's t inverse cumulative distribution (quantile)	Probability (real)		$t^{-1}(p)$	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	STO Δ v	Command	Store v in M	Store parameter v : degrees of freedom in register M ; Split screen : RegM = $v =$	Probability (real)			
gF2								
gF3								
gF4								
gF5								
gF6								

Tam	TAM mode (general)					
g-shift						REG
f-shift						
unshifted	→	VAR	X	Y	Z	T
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Prev menu https://47calc.com/doc/C47/Menus/C47_Menu_t_page_1.pdf

Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamAlpha_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Tam	MENU (TAM)	TAM mode (general)	Transient Alpha Mode is activated for trailing input (general) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection (→) activates TamIndirect ; Tam menu is typically activated by VIEW on f[0]	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.* menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F3	X	EasyAccess (TAM)	Register X	Easy access to Register X (100) : Stack level 1 ; TI : X:	Trailing input			
F4	Y	EasyAccess (TAM)	Register Y	Easy access to Register Y (101) : Stack level 2 ; TI : Y:	Trailing input			
F5	Z	EasyAccess (TAM)	Register Z	Easy access to Register Z (102) : Stack level 3 ; TI : Z:	Trailing input			
F6	T	EasyAccess (TAM)	Register T	Easy access to Register T (103) : Stack level 4 ; TI : T:	Trailing input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			

p1	Tam	Link
F1	→	
F2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
F3	X	
F4	Y	
F5	Z	
F6	T	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6	REG	https://47calc.com/doc/C47/Menus/C47_Menu_REG_page_1.pdf

TamAlpha	TAM mode (alpha)					
g-shift	CAPS ▣	NUM ▣	^{SUP} _{SUB} ▣	USER ▣		
f-shift	Myα					
unshifted	A...Ω	αMath	αMisc	αINTL	←	→
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamCmp_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamAlpha	MENU (TAM)	TAM mode (alpha)	Transient Alpha Mode is activated for trailing input (alpha) ; Shortcut : Activated from TAM menus by α (f[XEQ]) or TAM [XEQ] ; Info : Alpha Input Mode is opened in UPPERCASE for labels, lowercase for variables ; menu CAT [ALPHA] is available on keyboard alpha f[+] ; alpha g-shift characters can also be reached from alpha longpress keyboard	Trailing input			
F1	A...Ω	MENU	ALPHA...OMEGA	Uppercase Greek characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		A...Ω	
F2	αMath	MENU	Alpha Math	Mathematical symbols ; Info : Single character selection	Characters		αMath	
F3	αMisc	MENU	Alpha miscellaneous	Special characters ; Info : Single character selection	Characters		αMisc	
F4	αINTL	MENU	Alpha international	Uppercase international characters ; Info : Lowercase menu via [▼] ; single character selection	Characters		αINTL	
F5	←	Arrow	Cursor left	Move cursor left	Text input			
F6	→	Arrow	Cursor right	Move cursor right	Text input			
fF1	Myα	MENU	MyAlpha	User menu to quickly access user selected special characters ; all buttons are user assignable ('riveted' look) ; initially unpopulated ; reset using Myα.R ; Shortcut : alpha long [EXIT] ; EIM long [EXIT]	Customisation		Myα	
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	CAPS ▣	Setting	Alpha capslock	Switch on alpha capslock ; not programmable ; Shortcut : alpha f[▲] / alpha f[▼] ; Info : sets initial case of menu A...Ω/α...ω and αINTL/αintl ; toggling alpha capslock clears Numlock ; SBI : A ; a	Text input	αCAP		ON
gF2	NUM □	Setting	Numlock	Switch on numlock ; not programmable - in PEM, use flag NUM ; Shortcut : alpha f[▲] / alpha f[▼] ; SBI : N	Numeric input	NUM		OFF
gF3	^{SUB} □	Setting (cyclic)	Normal-super-subscript	Cycle normal-super-subscript (locking) ; Shortcut : alpha g[▲] / alpha g[▼] ; Info : button shows ^{SUB} ; α ^{SUB} ; α _{SUB} ; SBI : AA ^A ; aa ^a ; nN ^N	Text input			Normal
gF4	USER □	Setting	USER mode	Switch on USER mode ; not programmable - in PEM, use flag USER ; Info : To assign USER to a key or button, use ASN (f[1]) and spell the name as 'USER' ; during assignment, pressing USER (f[2]) opens MyMenu ; Ref : https://47calc.com/doc/C47/Reference/C47_Assignment.pdf ; SBI : U	Customisation	USER		OFF
gF5								
gF6								

p1	TamAlpha	Link
F1	A...Ω	https://47calc.com/doc/C47/Menus/C47_Menu_Alpha-0mega_page_1.pdf
F2	αMath	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMATH_page_1.pdf
F3	αMisc	https://47calc.com/doc/C47/Menus/C47_Menu_alphaMisc_page_1.pdf
F4	αINTL	https://47calc.com/doc/C47/Menus/C47_Menu_alphaINTL_page_1.pdf
F5	←	
F6	→	
fF1	Myα	https://47calc.com/doc/C47/Menus/C47_Menu_MyAlpha_page_1.pdf
fF2		
fF3		
fF4		
fF5		
fF6		
gF1	CAPS ☐	
gF2	NUM ☐	
gF3	^{SUP} _{SUB} ☐	
gF4	USER ☐	
gF5		
gF6		

TamCmp	TAM mode (compare)					
g-shift						REG
f-shift	0.	1.				
unshifted	→	VAR	X	Y	Z	T
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamFlag_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamCmp	MENU (TAM)	TAM mode (compare)	Transient Alpha Mode is activated for trailing input (compare) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection ($\rightarrow$) activates TamIndirect ; TamCmp menu is typically activated by $x = ?$ on [TEST.1] F3	Trailing input			
F1	$\rightarrow$	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.* menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F3	X	EasyAccess (TAM)	Register X	Easy access to Register X (100) : Stack level 1 ; TI : X:	Trailing input			
F4	Y	EasyAccess (TAM)	Register Y	Easy access to Register Y (101) : Stack level 2 ; TI : Y:	Trailing input			
F5	Z	EasyAccess (TAM)	Register Z	Easy access to Register Z (102) : Stack level 3 ; TI : Z:	Trailing input			
F6	T	EasyAccess (TAM)	Register T	Easy access to Register T (103) : Stack level 4 ; TI : T:	Trailing input			
fF1	0.	Command (TAM)	Real zero	Presented in menu TamCmp for comparisons (e.g. $x < ?$) to quickly enter 0.	Trailing input			
fF2	1.	Command (TAM)	Real one	Presented in menu TamCmp for comparisons (e.g. $x < ?$) to quickly enter 1.	Trailing input			
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			

p1	TamCmp	Link
F1	→	
F2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
F3	X	
F4	Y	
F5	Z	
F6	T	
fF1	0.	
fF2	1.	
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6	REG	https://47calc.com/doc/C47/Menus/C47_Menu_REG_page_1.pdf

TamFlag	TAM mode (flag)					
g-shift	BCD ☐	KEY _{A-F} ☐	LEAD.0 ☐	OVERFL ☐	CARRY ☐	FLG
f-shift						
unshifted	→	SYS.FL	X	Y	Z	T
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamIndirect_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamFlag	MENU (TAM)	TAM mode (flag)	Transient Alpha Mode is activated for trailing input (flag) ; Info : Indirection (→) activates TamIndirect ; TamFlag menu is typically activated by SF on [FLAG.1]F1	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	SYS.FL	MENU (ASM)	System flags	Presented in menu TamFlag for commands accessing system flags ; Info : Type characters 1-2 to search ; If SYS.FL is accessed from CAT.MENUS, soft buttons return flag status, otherwise toggle flag status ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_named.pdf	Flags		SYS.FL	
F3	X	EasyAccess (TAM)	Flag X	Easy access to Flag X (100)	Trailing input			
F4	Y	EasyAccess (TAM)	Flag Y	Easy access to Flag Y (101)	Trailing input			
F5	Z	EasyAccess (TAM)	Flag Z	Easy access to Flag Z (102)	Trailing input			
F6	T	EasyAccess (TAM)	Flag T	Easy access to Flag T (103)	Trailing input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	BCD □	Flag	Binary coded decimal	SET for binary coded decimal (BCD) display of Long integer in #BASE Mode ; CLEAR for binary coded decimal display inactive ; Info : If menu BASE is open (#BASE Mode), BCD is displayed with subscript digits and followed by subscript _{bcd}	Bits and bytes	BCD		CLEAR
gF2	KEY _{A-F} ▣	Flag	A-F keys	SET for row 2 keys to enter digits A-F in #BASE Mode ; CLEAR for row 2 keys to work normally ; Info : Entering digits A-F switches the calculator to hexadecimal mode ; when KEY _{A-F} is SET, the respective digit is included in the row 2 key's longpress preview cycle ; SBI : #KEY _{A-F}	Number bases	KEY _{A-F}		SET
gF3	LEAD.0 □	Flag	Leading zeros	SET for leading zeros (shortint bases 2, 4, 8, 16) ; CLEAR for no leading zeros (shortint bases 2, 4, 8, 16)	Display	LEAD.0		CLEAR
gF4	OVERFL □	Flag	Overflow	SET for overflow ; CLEAR for no overflow ; Info : SBI ° is shown if flag SBoc is SET ; SBI : °	Bits and bytes	OVERFL		CLEAR
gF5	CARRY □	Flag	Carry (bit)	SET for carry (bit) ; CLEAR for carry (bit) inactive ; Info : SBI _c is shown if flag SBoc is SET ; SBI : _c	Bits and bytes	CARRY		CLEAR
gF6	FLG	MENU (TAM)	TAM (flag)	Presented in menu TamFlag to quickly select lettered flags ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Flags_p1.pdf	Trailing input			

p1	TamFlag	Link
F1	→	
F2	SYS.FL	https://47calc.com/doc/C47/Menus/C47_Menu_SYS-FL_page_1.pdf
F3	X	
F4	Y	
F5	Z	
F6	T	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1	BCD ☐	
gF2	KEYA-F ☐	
gF3	LEAD.0 ☐	
gF4	OVERFL ☐	
gF5	CARRY ☐	
gF6	FLG	https://47calc.com/doc/C47/Menus/C47_Menu_FLG_page_1.pdf

TamIndirect	TAM mode (indirect)					
g-shift						REG
f-shift						
unshifted		VAR	X	Y	Z	T
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamKey_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamIndirect	MENU (TAM)	TAM mode (indirect)	Transient Alpha Mode is activated for trailing input (indirect) ; Shortcut : Activated from TAM menus by Indirection (→) ; α (f[XEQ]) or TAM [XEQ] activates TamAlpha	Trailing input			
F1								
F2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.* menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F3	X	EasyAccess (TAM)	Register X	Easy access to Register X (100) : Stack level 1 ; TI : X:	Trailing input			
F4	Y	EasyAccess (TAM)	Register Y	Easy access to Register Y (101) : Stack level 2 ; TI : Y:	Trailing input			
F5	Z	EasyAccess (TAM)	Register Z	Easy access to Register Z (102) : Stack level 3 ; TI : Z:	Trailing input			
F6	T	EasyAccess (TAM)	Register T	Easy access to Register T (103) : Stack level 4 ; TI : T:	Trailing input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			

p1	TamIndirect	Link
F1		
F2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
F3	X	
F4	Y	
F5	Z	
F6	T	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6	REG	https://47calc.com/doc/C47/Menus/C47_Menu_REG_page_1.pdf

TamKey	TAM mode (KEY)					
g-shift	13	14	15	16	17	18
f-shift	7	8	9	10	11	12
unshifted	1	2	3	4	5	6
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamLabel_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamKey	MENU (TAM)	TAM mode (KEY)	Transient Alpha Mode is activated for trailing input (KEYG, KEYX) ; Info : TamKey menu is typically activated by	Trailing input			
F1	1	Button (black)	Button 1	Soft button 1 for selection by KEYG or KEYX command	Programming			
F2	2	Button (black)	Button 2	Soft button 2 for selection by KEYG or KEYX command	Programming			
F3	3	Button (black)	Button 3	Soft button 3 for selection by KEYG or KEYX command	Programming			
F4	4	Button (black)	Button 4	Soft button 4 for selection by KEYG or KEYX command	Programming			
F5	5	Button (black)	Button 5	Soft button 5 for selection by KEYG or KEYX command	Programming			
F6	6	Button (black)	Button 6	Soft button 6 for selection by KEYG or KEYX command	Programming			
fF1	7	Button (black)	Button 7	Soft button 7 for selection by KEYG or KEYX command	Programming			
fF2	8	Button (black)	Button 8	Soft button 8 for selection by KEYG or KEYX command	Programming			
fF3	9	Button (black)	Button 9	Soft button 9 for selection by KEYG or KEYX command	Programming			
fF4	10	Button (black)	Button 10	Soft button 10 for selection by KEYG or KEYX command	Programming			
fF5	11	Button (black)	Button 11	Soft button 11 for selection by KEYG or KEYX command	Programming			
fF6	12	Button (black)	Button 12	Soft button 12 for selection by KEYG or KEYX command	Programming			
gF1	13	Button (black)	Button 13	Soft button 13 for selection by KEYG or KEYX command	Programming			
gF2	14	Button (black)	Button 14	Soft button 14 for selection by KEYG or KEYX command	Programming			
gF3	15	Button (black)	Button 15	Soft button 15 for selection by KEYG or KEYX command	Programming			
gF4	16	Button (black)	Button 16	Soft button 16 for selection by KEYG or KEYX command	Programming			
gF5	17	Button (black)	Button 17	Soft button 17 for selection by KEYG or KEYX command	Programming			
gF6	18	Button (black)	Button 18	Soft button 18 for selection by KEYG or KEYX command	Programming			

TamLabel	TAM mode (label)					
g-shift	g	h	i	j	k	l
f-shift	a	b	c	d	e	f
unshifted	→	PR0G	:	D	E	F
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamLblOnly_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamLabel	MENU (TAM)	TAM mode (label)	Transient Alpha Mode is activated for trailing input (label) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection ($\rightarrow$) activates TamIndirect ; Colon button (:) activates TamLocalLabel ; TamLabel menu is typically activated by LBL on g[LN] ; keyboard shortcuts {A}, {B}, {C}, {D}, {E}, {G}, {H}, {I}, {J}, {K}, {L} are available while menu TamLabel is open ([Σ +] = {A}, [$\prime$ /x] = {B}, ..., [TAN] = {L})	Trailing input			
F1	$\rightarrow$	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	PR0G	MENU (TAM, ASM)	TAM (program)	Presented in TAM menus for commands accessing global or local named labels ; TAM : CAT.PROGS.* menu ; Info : Type characters 1-2 to search ; open menu PR0G e.g. from button : on [TamLabel.1]F3 to activate menu TamLocalLabel, then menu PR0G, to find local labels (if in scope)	Trailing input		PR0G	
F3	:	Symbol	Colon button	Special colon button on (e.g.) [TamLabel.1]F3 to create or specify a local named label for LBL, GT0 or XEQ ; TAM : LBL, GT0 or XEQ :__ TamLocalLabel menu	Trailing input			
F4	D	EasyAccess (TAM)	Local label D	Easy access to local label D ; Shortcut : LBL {D}	Trailing input			
F5	E	EasyAccess (TAM)	Local label E	Easy access to local label E ; Shortcut : LBL {E}	Trailing input			
F6	F	EasyAccess (TAM)	Local label F	Easy access to local label F	Trailing input			
fF1	a	EasyAccess (TAM)	Local label a	Easy access to local label a	Trailing input			
fF2	b	EasyAccess (TAM)	Local label b	Easy access to local label b	Trailing input			
fF3	c	EasyAccess (TAM)	Local label c	Easy access to local label c	Trailing input			
fF4	d	EasyAccess (TAM)	Local label d	Easy access to local label d	Trailing input			
fF5	e	EasyAccess (TAM)	Local label e	Easy access to local label e	Trailing input			
fF6	f	EasyAccess (TAM)	Local label f	Easy access to local label f	Trailing input			
gF1	g	EasyAccess (TAM)	Local label g	Easy access to local label g	Trailing input			
gF2	h	EasyAccess (TAM)	Local label h	Easy access to local label h	Trailing input			
gF3	i	EasyAccess (TAM)	Local label i	Easy access to local label i	Trailing input			
gF4	j	EasyAccess (TAM)	Local label j	Easy access to local label j	Trailing input			
gF5	k	EasyAccess (TAM)	Local label k	Easy access to local label k	Trailing input			
gF6	l	EasyAccess (TAM)	Local label l	Easy access to local label l	Trailing input			

p1	TamLabel	Link
F1	→	
F2	PR0G	https://47calc.com/doc/C47/Menu/C47_Menu_PR0G_page_1.pdf
F3	:	
F4	D	
F5	E	
F6	F	
fF1	a	
fF2	b	
fF3	c	
fF4	d	
fF5	e	
fF6	f	
gF1	g	
gF2	h	
gF3	i	
gF4	j	
gF5	k	
gF6	l	

TamLblOnly	TAM mode (label only)					
g-shift						
f-shift						
unshifted	→	PR0G	:			
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamLocalLabel_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamLblOnly	MENU (TAM)	TAM mode (label only)	Transient Alpha Mode is activated for trailing input (label only) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection (→) activates TamIndirect ; TamLblOnly menu is typically activated by PGMINT on [ADV.1] fF4	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	PRG	MENU (TAM, ASM)	TAM (program)	Presented in TAM menus for commands accessing global or local named labels ; TAM : CAT.PROGS.* menu ; Info : Type characters 1-2 to search ; open menu PRG e.g. from button : on [TamLabel.1] F3 to activate menu TamLocalLabel, then menu PRG, to find local labels (if in scope)	Trailing input		PRG	
F3	:	Symbol	Colon button	Special colon button on (e.g.) [TamLabel.1] F3 to create or specify a local named label for LBL, GT0 or XEQ ; TAM : LBL, GT0 or XEQ :__ TamLocalLabel menu	Trailing input			
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	TamLb1Only	Link
F1	→	
F2	PR0G	https://47calc.com/doc/C47/Menus/C47_Menu_PR0G_page_1.pdf
F3	:	
F4		
F5		
F6		
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

TamLocalLabel	TAM mode (local label)					
g-shift						
f-shift						
unshifted		PR0G	α			
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamMenu_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamLocalLabel	MENU (TAM)	TAM mode (local label)	Transient Alpha Mode is activated for trailing input (local label) ; Shortcut : Activated from TAM menus by Colon button (:); alpha button (α) activates TamAlpha	Trailing input			
F1								
F2	PROG	MENU (TAM, ASM)	TAM (program)	Presented in TAM menus for commands accessing global or local named labels ; TAM : CAT.PROGS.+ menu ; Info : Type characters 1-2 to search ; open menu PROG e.g. from button : on [TamLocalLabel.1]F3 to activate menu TamLocalLabel, then menu PROG, to find local labels (if in scope)	Trailing input		PROG	
F3	α	Symbol	alpha button	Special alpha button on [TamLocalLabel.1]F3 to enter a local label name for LBL, GT0 or XEQ ; TAM : LBL, GT0 or XEQ := TamAlpha menu ; the label will be entered as :<label>:	Trailing input			
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	TamLocalLabel	Link
F1		
F2	PR0G	https://47calc.com/doc/C47/Menus/C47_Menu_PR0G_page_1.pdf
F3	α	
F4		
F5		
F6		
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

TamMenu	TAM mode					
g-shift						
f-shift						
unshifted	→	MENU	→X	→Y	→Z	→T
Page 1	F1	F2	F3	F4	F5	F6

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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamNonReg_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamMenu	MENU (TAM)	TAM mode	Transient Alpha Mode is activated for trailing input (menu selection) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection (→) activates TamIndirect ; TamMenu menu is typically activated by OPENM on [P.FN2.1] fF4	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	MENU	MENU (ASM)	Menu	Presented in menu TamMenu for commands accessing menus ; Info : Type characters 1-2 to search	Trailing input		MENU	
F3	→X	Command (TAM)	Indirect X	Presented in TAM menus for commands accessing indirect input using stack register X	Trailing input			
F4	→Y	Command (TAM)	Indirect Y	Presented in TAM menus for commands accessing indirect input using stack register Y	Trailing input			
F5	→Z	Command (TAM)	Indirect Z	Presented in TAM menus for commands accessing indirect input using stack register Z	Trailing input			
F6	→T	Command (TAM)	Indirect T	Presented in TAM menus for commands accessing indirect input using stack register T	Trailing input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	TamMenu	Link
F1	→	
F2	MENU	https://47calc.com/doc/C47/Menus/C47_Menu_MENU_page_1.pdf
F3	→X	
F4	→Y	
F5	→Z	
F6	→T	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

TamNonReg	TAM mode (value)					
g-shift						
f-shift						
unshifted	→		→X	→Y	→Z	→T
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamNonRegMax_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamNonReg	MENU (TAM)	TAM mode (value)	Transient Alpha Mode is activated for trailing input (value) ; Info : Indirection (→) activates TamIndirect ; TamNonReg menu is typically activated by DSP on [Prefix.1] fF6	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2								
F3	→X	Command (TAM)	Indirect X	Presented in TAM menus for commands accessing indirect input using stack register X	Trailing input			
F4	→Y	Command (TAM)	Indirect Y	Presented in TAM menus for commands accessing indirect input using stack register Y	Trailing input			
F5	→Z	Command (TAM)	Indirect Z	Presented in TAM menus for commands accessing indirect input using stack register Z	Trailing input			
F6	→T	Command (TAM)	Indirect T	Presented in TAM menus for commands accessing indirect input using stack register T	Trailing input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

TamNonRegMax	TAM mode (DMX)					
g-shift						
f-shift						
unshifted	→	DMXmax	→X	→Y	→Z	→T
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamNonRegTrk_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamNonRegMax	MENU (TAM)	TAM mode (DMX)	Transient Alpha Mode is activated for trailing input (DMX), allows selection of DMXmax ; Info : Indirection (→) activates TamIndirect ; TamNonRegMax menu is typically activated by DMX on [DISP.1] fF4	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	DMXmax	Command	Set DMX to maximum	Set DMX to maximum value (32500, stored as 0) ; Info : SBI /max is shown if flag SBfrac is SET ; SBI : /max	Trailing input		DMXmax	64
F3	→X	Command (TAM)	Indirect X	Presented in TAM menus for commands accessing indirect input using stack register X	Trailing input			
F4	→Y	Command (TAM)	Indirect Y	Presented in TAM menus for commands accessing indirect input using stack register Y	Trailing input			
F5	→Z	Command (TAM)	Indirect Z	Presented in TAM menus for commands accessing indirect input using stack register Z	Trailing input			
F6	→T	Command (TAM)	Indirect T	Presented in TAM menus for commands accessing indirect input using stack register T	Trailing input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

TamNonRegTrk	TAM mode (track)					
g-shift						
f-shift		YYoff				
unshifted	→	YYtrack	→X	→Y	→Z	→T
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamNonRegTrk	MENU (TAM)	TAM mode (track)	Transient Alpha Mode is activated for trailing input (two digit year and century tracking), allows setting YYtrack or YYoff ; Info : Indirection (→) activates TamIndirect ; TamNonRegTrk menu is typically activated by YY on [CLK.1] gF6	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	YYtrack	Command	Two digit year tracking	Switch on two digit year conversion tracking to imply the latest century <cc> used in function .d and set the limit for YY to <cc99> to use the full range of years ; Info : Displayed in button for .d ; YY with subscript "T" as .d ; YY _{cc99} t	Time functions		YYtrack	
F3	→X	Command (TAM)	Indirect X	Presented in TAM menus for commands accessing indirect input using stack register X	Trailing input			
F4	→Y	Command (TAM)	Indirect Y	Presented in TAM menus for commands accessing indirect input using stack register Y	Trailing input			
F5	→Z	Command (TAM)	Indirect Z	Presented in TAM menus for commands accessing indirect input using stack register Z	Trailing input			
F6	→T	Command (TAM)	Indirect T	Presented in TAM menus for commands accessing indirect input using stack register T	Trailing input			
fF1								
fF2	YYoff	Command	Two digit year off	Switch off two digit year conversion in function .d ; Info : Displayed in button for YY with subscript "off" as YY _{off}	Time functions		YYoff	
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

TamNorm	TAM mode (norm)					
g-shift						
f-shift		NNZ	RNORM	CNORM	ENORM	
unshifted	→	∞	→X	→Y	→Z	→T
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamRcl_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamNorm	MENU (TAM)	TAM mode (norm)	Transient Alpha Mode is activated for trailing input (norm) ; Info : Indirection (→) activates TamIndirect ; TamNorm menu is typically activated by $\ x\ _p$ on [MATX.2] fF1	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	∞	EasyAccess (TAM)	Infinity	Special infinity button on [TamNorm.1] F2 to enter parameter value ∞	Trailing input			
F3	→X	Command (TAM)	Indirect X	Presented in TAM menus for commands accessing indirect input using stack register X	Trailing input			
F4	→Y	Command (TAM)	Indirect Y	Presented in TAM menus for commands accessing indirect input using stack register Y	Trailing input			
F5	→Z	Command (TAM)	Indirect Z	Presented in TAM menus for commands accessing indirect input using stack register Z	Trailing input			
F6	→T	Command (TAM)	Indirect T	Presented in TAM menus for commands accessing indirect input using stack register T	Trailing input			
fF1								
fF2	NNZ	Function (monadic)	Number of non-zeros	Number of non-zeros of vector or matrix in X : $\ x\ _0 = \sum_i \mathbb{I}(a_i \neq 0)$, where $\mathbb{I}$ is the indicator function, 1 if true, 0 if false ; Info : If NNZ is selected from menu [TamNorm.1] fF2, it enters $\ x\ _p$ with parameter 0 : Number of non-zeros of vector or matrix in X : $\ x\ _0 = \sum_i \mathbb{I}(a_i \neq 0)$, where $\mathbb{I}$ is the indicator function, 1 if true, 0 if false	Matrix operations		NNZ	
fF3	RNORM	Function (monadic)	Row or Maximum norm	Maximum row sum of absolute element values of a matrix in X : $\ x\ _\infty = \max_i \sum_j a_{ij} $; Info : If RNORM is selected from menu [TamNorm.1] fF3, it enters $\ x\ _p$ with parameter ∞ : Maximum row sum of absolute element values of a matrix in X : $\ x\ _\infty = \max_i \sum_j a_{ij} $	Matrix operations		RNORM	
fF4	CNORM	Function (monadic)	Column or Manhattan norm	Maximum column sum of absolute element values of a matrix in X : $\ x\ _1 = \max_j \sum_i a_{ij} $; Info : If CNORM is selected from menu [TamNorm.1] fF4, it enters $\ x\ _p$ with parameter 1 : Maximum column sum of absolute element values of a matrix in X : $\ x\ _1 = \max_j \sum_i a_{ij} $	Matrix operations		CNORM	
fF5	ENORM	Function (monadic)	Euclidean or Frobenius norm	Euclidean magnitude of a vector in X or Frobenius norm of a matrix in X : $\ x\ _2 = \sqrt{\sum_i \sum_j a_{ij} ^2}$; Info : If ENORM is selected from menu [TamNorm.1] fF5, it enters $\ x\ _p$ with parameter 2 : Euclidean magnitude of a vector in X or Frobenius norm of a matrix in X : $\ x\ _2 = \sqrt{\sum_i \sum_j a_{ij} ^2}$	Matrix operations		ENORM	
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

TamRcl	TAM mode (recall)					
g-shift	...EL	...IJ	...VEL ₁	...VEL ₂	...VEL ₃	REG
f-shift	Config	Stack	...VEL _{nn}		...Min	...Max
unshifted	→	VAR	X	Y	Z	T
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamRclTVM_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamRcl	MENU (TAM)	TAM mode (recall)	Transient Alpha Mode is activated for trailing input (recall) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection ($\rightarrow$) activates TamIndirect ; TamRcl menu is typically activated by [RCL]	Trailing input			
F1	$\rightarrow$	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.* menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F3	X	EasyAccess (TAM)	Register X	Easy access to Register X (100) : Stack level 1 ; TI : X:	Trailing input			
F4	Y	EasyAccess (TAM)	Register Y	Easy access to Register Y (101) : Stack level 2 ; TI : Y:	Trailing input			
F5	Z	EasyAccess (TAM)	Register Z	Easy access to Register Z (102) : Stack level 3 ; TI : Z:	Trailing input			
F6	T	EasyAccess (TAM)	Register T	Easy access to Register T (103) : Stack level 4 ; TI : T:	Trailing input			
fF1	Config	Command (TAM)	Recall config	Presented in menu TamRcl to recall config from register or variable ; Shortcut : [RCL] - Config ; TAM : RCLCFG __ TamRcl menu ; Info : displays "Configuration data" in the stack	Trailing input		RCLCFG	
fF2	Stack	Command (TAM)	Recall stack	Presented in menu TamRcl to recall complete stack from 4 or 8 registers ; Shortcut : [RCL] - Stack ; TAM : RCLS __ TamRcl menu	Trailing input		RCLS	
fF3	...VEL _{nn}	Command (TAM)	Recall vector element	Presented in menu TamRcl to recall element n (TAM) of vector or matrix in X ; Shortcut : [RCL] - ...VEL _{nn} ; TAM : RCLVEL __ Tam menu	Trailing input		RCLVEL	
fF4								
fF5	...Min	Command (TAM)	Recall minimum	Presented in menu TamRcl to recall minimum of X and register or variable ; Shortcut : [RCL] - [▼] ; TAM : RCL↓ __ TamRcl menu	Trailing input		RCL↓	
fF6	...Max	Command (TAM)	Recall maximum	Presented in menu TamRcl to recall maximum of X and register or variable ; Shortcut : [RCL] - [▲] ; TAM : RCL↑ __ TamRcl menu	Trailing input		RCL↑	
gF1	...EL	Command (TAM)	Recall matrix element	Presented in menu TamRcl to recall current element of indexed matrix ; Shortcut : [RCL] - ...EL ; TI : M[I _r ,J _c]=<name> [<row> <col>]=	Trailing input		RCELE	
gF2	...IJ	Command (TAM)	Recall current matrix index	Presented in menu TamRcl to recall current matrix index (row I and column J) ; Shortcut : [RCL] - ...IJ ; TI : M<name> :I _r = ; M<name> :J _c =	Trailing input		RCLIJ	
gF3	...VEL ₁	Command (TAM)	Recall vector element 1	Presented in menu TamRcl to recall element 1 of vector or matrix in X	Trailing input		RCLVEL ₁	
gF4	...VEL ₂	Command (TAM)	Recall vector element 2	Presented in menu TamRcl to recall element 2 of vector or matrix in X	Trailing input		RCLVEL ₂	
gF5	...VEL ₃	Command (TAM)	Recall vector element 3	Presented in menu TamRcl to recall element 3 of vector or matrix in X	Trailing input		RCLVEL ₃	
gF6	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			

p1	TamRcl	Link
F1	→	
F2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
F3	X	
F4	Y	
F5	Z	
F6	T	
fF1	Config	
fF2	Stack	
fF3	...VEL _{nn}	
fF4		
fF5	...Min	
fF6	...Max	
gF1	...EL	
gF2	...IJ	
gF3	...VEL ₁	
gF4	...VEL ₂	
gF5	...VEL ₃	
gF6	REG	https://47calc.com/doc/C47/Menus/C47_Menu_REG_page_1.pdf

TamRclTVM	TAM mode (recall TVM)					
g-shift	→	VAR	...Min	...Max		REG
f-shift						cp/a 12
unshifted	n 0	I/a 0	PV 0	PMT 0	FV 0	pp/a 12
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamRclTVM	MENU (TAM)	TAM mode (recall TVM)	Transient Alpha Mode is activated for trailing input (recall TVM) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection ($\rightarrow$) activates TamIndirect ; TamRclTVM menu is typically activated by [RCL] when menu TVM, AMORT or CASHFL is open	Trailing input			
F1	n ₀	EasyAccess (TAM)	TVM number of payments	Easy access to variable NPER to recall TVM number of payments (RCL 'NPER') ; TI : 'NPER' :	Trailing input			0
F2	I/a ₀	EasyAccess (TAM)	TVM annual interest rate	Easy access to variable I%/a to recall TVM annual interest rate (RCL 'I%/a') ; TI : 'I%/a' :	Trailing input			0
F3	PV ₀	EasyAccess (TAM)	TVM present value	Easy access to variable PV to recall TVM present value (RCL 'PV') ; TI : 'PV' :	Trailing input			0
F4	PMT ₀	EasyAccess (TAM)	TVM payment	Easy access to variable PMT to recall TVM payment (RCL 'PMT') ; TI : 'PMT' :	Trailing input			0
F5	FV ₀	EasyAccess (TAM)	TVM future value	Easy access to variable FV to recall TVM future value (RCL 'FV') ; TI : 'FV' :	Trailing input			0
F6	pp/a ₁₂	EasyAccess (TAM)	TVM payment period	Easy access to variable PPER/a to recall TVM payment period (RCL 'PPER/a') ; TI : 'PPER/a' :	Trailing input			12
fF1								
fF2								
fF3								
fF4								
fF5								
fF6	cp/a ₁₂	EasyAccess (TAM)	TVM compounding periods	Easy access to variable CPER/a to recall TVM compounding periods (RCL 'CPER/a') ; TI : 'CPER/a' :	Trailing input			12
gF1	$\rightarrow$	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
gF2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.+ menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
gF3	...Min	Command (TAM)	Recall minimum	Presented in menu TamRcl to recall minimum of X and register or variable ; Shortcut : [RCL] - [▼] ; TAM : RCL↓ __ TamRcl menu	Trailing input		RCL↓	
gF4	...Max	Command (TAM)	Recall maximum	Presented in menu TamRcl to recall maximum of X and register or variable ; Shortcut : [RCL] - [▲] ; TAM : RCL↑ __ TamRcl menu	Trailing input		RCL↑	
gF5								
gF6	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			

p1	TamRclTVM	Link
F1	n_0	
F2	I/a_0	
F3	PV_0	
F4	PMT_0	
F5	FV_0	
F6	pp/a_{12}	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6	cp/a_{12}	
gF1	$\rightarrow$	
gF2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
gF3	...Min	
gF4	...Max	
gF5		
gF6	REG	https://47calc.com/doc/C47/Menus/C47_Menu_REG_page_1.pdf

TamShuffle	TAM mode (shuffle)					
g-shift						
f-shift						
unshifted			X	Y	Z	T
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamShuffle	MENU (TAM)	TAM mode (shuffle)	Transient Alpha Mode is activated for trailing input (shuffle) ; Info : TamShuffle menu is typically activated by $\bar{z}$ on [STK.1] fF6	Trailing input			
F1								
F2								
F3	X	EasyAccess (TAM)	Register X	Easy access to Register X (100) : Stack level 1 ; TI : X:	Trailing input			
F4	Y	EasyAccess (TAM)	Register Y	Easy access to Register Y (101) : Stack level 2 ; TI : Y:	Trailing input			
F5	Z	EasyAccess (TAM)	Register Z	Easy access to Register Z (102) : Stack level 3 ; TI : Z:	Trailing input			
F6	T	EasyAccess (TAM)	Register T	Easy access to Register T (103) : Stack level 4 ; TI : T:	Trailing input			
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

TamSto	TAM mode (store)					
g-shift	...EL	...IJ	...VEL ₁	...VEL ₂	...VEL ₃	REG
f-shift	Config	Stack	...VEL _{nn}	...INDEX	...Min	...Max
unshifted	→	VAR	X	Y	Z	T
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamSto	MENU (TAM)	TAM mode (store)	Transient Alpha Mode is activated for trailing input (store) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection ($\rightarrow$) activates TamIndirect ; TamSto menu is typically activated by [ST0]	Trailing input			
F1	$\rightarrow$	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.* menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F3	X	EasyAccess (TAM)	Register X	Easy access to Register X (100) : Stack level 1 ; TI : X:	Trailing input			
F4	Y	EasyAccess (TAM)	Register Y	Easy access to Register Y (101) : Stack level 2 ; TI : Y:	Trailing input			
F5	Z	EasyAccess (TAM)	Register Z	Easy access to Register Z (102) : Stack level 3 ; TI : Z:	Trailing input			
F6	T	EasyAccess (TAM)	Register T	Easy access to Register T (103) : Stack level 4 ; TI : T:	Trailing input			
fF1	Config	Command (TAM)	Store config	Presented in menu TamSto to store config in register or variable ; Shortcut : [ST0] - Config ; TAM : STOCFG __ TamSto menu ; Info : displays "Configuration data" in the stack	Trailing input		STOCFG	
fF2	Stack	Command (TAM)	Store stack	Presented in menu TamSto to store entire stack in 4 or 8 registers ; Shortcut : [ST0] - Stack ; TAM : STOS __ TamSto menu	Trailing input		STOS	
fF3	...VEL _{nn}	Command (TAM)	Store X into vector element	Presented in menu TamSto to store X into element n (TAM) of vector or matrix in Y ; Shortcut : [ST0] - ...VEL _{nn} ; TAM : STOVEL __ Tam menu	Trailing input		STOVEL	
fF4	...INDEX	Command (TAM)	Index matrix	Presented in menu TamSto to Index matrix in a register or variable ; set row I to 1, column J to 1 ; clear flags WRPEDG and WRPEND ; index wraps automatically, setting these flags ; index is dropped upon exit of matrix editor ; TAM : INDEX __ Tam menu ; TI : M[I _r J _c]=<name> [<row> <col>]	Trailing input		INDEX	
fF5	...Min	Command (TAM)	Store minimum	Presented in menu TamSto to store minimum of X and register or variable ; Shortcut : [ST0] - [▼] ; TAM : STO↓ __ TamSto menu	Trailing input		STO↓	
fF6	...Max	Command (TAM)	Store maximum	Presented in menu TamSto to store maximum of X and register or variable ; Shortcut : [ST0] - [▲] ; TAM : STO↑ __ TamSto menu	Trailing input		STO↑	
gF1	...EL	Command (TAM)	Store X into matrix element	Presented in menu TamSto to store X into current element of indexed matrix ; Shortcut : [ST0] - Config ; TI : M[I _r J _c]=<name> [<row> <col>]=	Trailing input		STOEL	
gF2	...IJ	Command (TAM)	Set current matrix index	Presented in menu TamSto to set current matrix index (row I and column J) ; Shortcut : [ST0] - ...IJ ; TI : M<name> :I _r = ; M<name> :J _c =	Trailing input		STOIJ	
gF3	...VEL ₁	Command (TAM)	Store X into vector element 1	Presented in menu TamSto to store X into element 1 of vector or matrix in Y	Trailing input		STOVEL ₁	
gF4	...VEL ₂	Command (TAM)	Store X into vector element 2	Presented in menu TamSto to store X into element 2 of vector or matrix in Y	Trailing input		STOVEL ₂	
gF5	...VEL ₃	Command (TAM)	Store X into vector element 3	Presented in menu TamSto to store X into element 3 of vector or matrix in Y	Trailing input		STOVEL ₃	
gF6	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			

p1	TamSto	Link
F1	→	
F2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
F3	X	
F4	Y	
F5	Z	
F6	T	
fF1	Config	
fF2	Stack	
fF3	...VEL _{nn}	
fF4	...INDEX	
fF5	...Min	
fF6	...Max	
gF1	...EL	
gF2	...IJ	
gF3	...VEL ₁	
gF4	...VEL ₂	
gF5	...VEL ₃	
gF6	REG	https://47calc.com/doc/C47/Menus/C47_Menu_REG_page_1.pdf

TamStoTVM	TAM mode (store TVM)					
g-shift	→	VAR	...Min	...Max		REG
f-shift						cp/a 12
unshifted	n 0	I/a 0	PV 0	PMT 0	FV 0	pp/a 12
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TamVarOnly_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamStoTVM	MENU (TAM)	TAM mode (store TVM)	Transient Alpha Mode is activated for trailing input (store TVM) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection ($\rightarrow$) activates TamIndirect ; TamStoTVM menu is typically activated by [STO] when menu TVM, AMORT or CASHFL is open	Trailing input			
F1	n ₀	EasyAccess (TAM)	TVM number of payments	Easy access to variable NPER to store TVM number of payments (STO 'NPER') ; TI : 'NPER' :	Trailing input			0
F2	I/a ₀	EasyAccess (TAM)	TVM annual interest rate	Easy access to variable I%/a to store TVM annual interest rate (STO 'I%/a') ; TI : 'I%/a' :	Trailing input			0
F3	PV ₀	EasyAccess (TAM)	TVM present value	Easy access to variable PV to store TVM present value (STO 'PV') ; TI : 'PV' :	Trailing input			0
F4	PMT ₀	EasyAccess (TAM)	TVM payment	Easy access to variable PMT to store TVM payment (STO 'PMT') ; TI : 'PMT' :	Trailing input			0
F5	FV ₀	EasyAccess (TAM)	TVM future value	Easy access to variable FV to store TVM future value (STO 'FV') ; TI : 'FV' :	Trailing input			0
F6	pp/a ₁₂	EasyAccess (TAM)	TVM payment period	Easy access to variable PPER/a to store TVM payment period (STO 'PPER/a') ; TI : 'PPER/a' :	Trailing input			12
fF1								
fF2								
fF3								
fF4								
fF5								
fF6	cp/a ₁₂	EasyAccess (TAM)	TVM compounding periods	Easy access to variable CPER/a to store TVM compounding periods (STO 'CPER/a') ; TI : 'CPER/a' :	Trailing input			12
gF1	$\rightarrow$	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
gF2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.+ menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
gF3	...Min	Command (TAM)	Recall minimum	Presented in menu TamRcl to recall minimum of X and register or variable ; Shortcut : [RCL] - [▼] ; TAM : RCL↓ __ TamRcl menu	Trailing input		RCL↓	
gF4	...Max	Command (TAM)	Recall maximum	Presented in menu TamRcl to recall maximum of X and register or variable ; Shortcut : [RCL] - [▲] ; TAM : RCL↑ __ TamRcl menu	Trailing input		RCL↑	
gF5								
gF6	REG	MENU (TAM)	TAM (register)	Presented in TAM menus to quickly select lettered registers ; Info : Shortcut {A} indicates character key A (in TAM), etcetera ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Trailing input			

p1	TamStoTVM	Link
F1	n_0	
F2	I/a_0	
F3	PV_0	
F4	PMT_0	
F5	FV_0	
F6	pp/a_{12}	
fF1		
fF2		
fF3		
fF4		
fF5		
fF6	cp/a_{12}	
gF1	$\rightarrow$	
gF2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
gF3	...Min	
gF4	...Max	
gF5		
gF6	REG	https://47calc.com/doc/C47/Menus/C47_Menu_REG_page_1.pdf

TamVarOnly	TAM mode (variable only)					
g-shift						
f-shift						
unshifted	→	VAR				
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Temp_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TamVarOnly	MENU (TAM)	TAM mode (variable only)	Transient Alpha Mode is activated for trailing input (variable only) ; Info : α (f[XEQ]) or TAM [XEQ] activates TamAlpha ; Indirection (→) activates TamIndirect ; TamVarOnly menu is typically activated by MVAR on [P.FN2.1] F4	Trailing input			
F1	→	Command (TAM)	Indirection	Presented in TAM menus for commands accessing indirect input ; Info : Opens TamIndirect menu for the command that activated the current TAM menu	Trailing input			
F2	VAR	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.* menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	TamVarOnly	Link
F1	→	
F2	VAR	https://47calc.com/doc/C47/Menus/C47_Menu_VAR_page_1.pdf
F3		
F4		
F5		
F6		
fF1		
fF2		
fF3		
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

Temp:	Temperature conversions					
g-shift						
f-shift	°F ←	→ °R	K ←	→ °R	K ←	→ eV/k _B
unshifted	°F ←	→ °C	K ←	→ °C	K ←	→ °F
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Temp:	MENU	Temperature conversions	Convert between units of temperature ; Info : Flag CONV _{HP} may be SET for <to> $\leftrightarrow$ <to> unit conversion buttons ; CLEAR for <from> $\rightarrow$ $\leftarrow$ <from> unit conversion buttons (default SET)	Temperature conversions		Temp:	
F1	$^{\circ}\text{C} \rightarrow ^{\circ}\text{F}$ ($^{\circ}\text{F} \leftarrow$)	Function (monadic, linked)	$^{\circ}\text{C}$ to $^{\circ}\text{F}$	Convert degrees Celsius to degrees Fahrenheit ; TI : $^{\circ}\text{F}$:	Temperature conversions	CONV _{HP}		
F2	$^{\circ}\text{F} \rightarrow ^{\circ}\text{C}$ ($\rightarrow ^{\circ}\text{C}$)	Function (monadic, linked)	$^{\circ}\text{F}$ to $^{\circ}\text{C}$	Convert degrees Fahrenheit to degrees Celsius ; TI : $^{\circ}\text{C}$:	Temperature conversions	CONV _{HP}		
F3	$^{\circ}\text{C} \rightarrow \text{K}$ ($\text{K} \leftarrow$)	Function (monadic, linked)	$^{\circ}\text{C}$ to K	Convert degrees Celsius to Kelvin ; TI : K:	Temperature conversions	CONV _{HP}		
F4	$\text{K} \rightarrow ^{\circ}\text{C}$ ($\rightarrow ^{\circ}\text{C}$)	Function (monadic, linked)	K to $^{\circ}\text{C}$	Convert Kelvin to degrees Celsius ; TI : $^{\circ}\text{C}$:	Temperature conversions	CONV _{HP}		
F5	$^{\circ}\text{F} \rightarrow \text{K}$ ($\text{K} \leftarrow$)	Function (monadic, linked)	$^{\circ}\text{F}$ to K	Convert degrees Fahrenheit to Kelvin ; TI : K:	Temperature conversions	CONV _{HP}		
F6	$\text{K} \rightarrow ^{\circ}\text{F}$ ($\rightarrow ^{\circ}\text{F}$)	Function (monadic, linked)	K to $^{\circ}\text{F}$	Convert Kelvin to degrees Fahrenheit ; TI : $^{\circ}\text{F}$:	Temperature conversions	CONV _{HP}		
fF1	$^{\circ}\text{R} \rightarrow ^{\circ}\text{F}$ ($^{\circ}\text{F} \leftarrow$)	Function (monadic, linked)	$^{\circ}\text{R}$ to $^{\circ}\text{F}$	Convert degrees Rankine to degrees Fahrenheit ; TI : $^{\circ}\text{F}$:	Temperature conversions	CONV _{HP}		
fF2	$^{\circ}\text{F} \rightarrow ^{\circ}\text{R}$ ($\rightarrow ^{\circ}\text{R}$)	Function (monadic, linked)	$^{\circ}\text{F}$ to $^{\circ}\text{R}$	Convert degrees Fahrenheit to degrees Rankine ; TI : $^{\circ}\text{R}$:	Temperature conversions	CONV _{HP}		
fF3	$^{\circ}\text{R} \rightarrow \text{K}$ ($\text{K} \leftarrow$)	Function (monadic, linked)	$^{\circ}\text{R}$ to K	Convert degrees Rankine to Kelvin ; TI : K:	Temperature conversions	CONV _{HP}		
fF4	$\text{K} \rightarrow ^{\circ}\text{R}$ ($\rightarrow ^{\circ}\text{R}$)	Function (monadic, linked)	K to $^{\circ}\text{R}$	Convert Kelvin to degrees Rankine ; TI : $^{\circ}\text{R}$:	Temperature conversions	CONV _{HP}		
fF5	$\text{eV}/k_{\text{B}} \rightarrow \text{K}$ ($\text{K} \leftarrow$)	Function (monadic, linked)	eV/k_{B} to K	Convert electronvolt/Boltzmann constant to Kelvin ; TI : K:	Temperature conversions	CONV _{HP}		
fF6	$\text{K} \rightarrow \text{eV}/k_{\text{B}}$ ($\rightarrow \text{eV}/k_{\text{B}}$)	Function (monadic, linked)	K to eV/k_{B}	Convert Kelvin to electronvolt/Boltzmann constant ; TI : eV/k_{B} :	Temperature conversions	CONV _{HP}		
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

TEST	Testing					
g-shift	ENTRY?	KEY?	LBL?	TOP?	LEAP?	CONVG?
f-shift	$x=-0$?	$x=+0$?	$x\approx$?	PRIME?	$x\leq 0$?	$x\geq +0$?
unshifted	$x<$?	$x\leq$?	$x=$?	$x\neq$?	$x\geq$?	$x>$?
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TEST	MENU	Testing	Testing functions	Programming		TEST	
F1	$x < ?$	Command (logical)	X less than?	Test X is less than register or variable contents ; TAM : $x < ?$ __ TamCmp menu	Programming		$x < ?$	
F2	$x \leq ?$	Command (logical)	X less than or equal to?	Test X is less than or equal to register or variable contents ; TAM : $x \leq ?$ __ TamCmp menu	Programming		$x \leq ?$	
F3	$x = ?$	Command (logical)	X equals?	Test X equals register or variable contents ; TAM : $x = ?$ __ TamCmp menu ; SBI : 0	Programming		$x = ?$	
F4	$x \neq ?$	Command (logical)	X not equal to?	Test X is not equal to register or variable contents ; TAM : $x \neq ?$ __ TamCmp menu	Programming		$x \neq ?$	
F5	$x \geq ?$	Command (logical)	X greater than or equal to?	Test X is greater than or equal to register or variable contents ; TAM : $x \geq ?$ __ TamCmp menu	Programming		$x \geq ?$	
F6	$x > ?$	Command (logical)	X greater than?	Test X is greater than register or variable contents ; TAM : $x > ?$ __ TamCmp menu	Programming		$x > ?$	
fF1	$x = -0 ?$	Command (logical)	X equals -0?	Test X equals -0 (Real number)	Programming		$x = -0 ?$	
fF2	$x = +0 ?$	Command (logical)	X equals +0?	Test X equals +0 (Real number) ; SBI : 0	Programming		$x = +0 ?$	
fF3	$x \approx ?$	Command (logical)	X approximates?	Test X approximates register or variable contents (rounded values are equal) ; TAM : $x \approx ?$ __ TamCmp menu	Programming		$x \approx ?$	
fF4	PRIME?	Command (logical)	Primality test	Test X is a prime number (must be integer) -- see https://en.wikipedia.org/wiki/Miller%E2%80%93Rabin_primality_test ; Info : Miller-Rabin probabilistic primality test is used (25 repetitions) ; PRIME? is correct up to 3 317 044 064 679 887 385 961 980 ; above that limit there are no false negatives, but there is a very low probability of false positives (albeit no known cases)	Programming		PRIME?	
fF5	$x \leq -0 ?$	Command (logical)	X less than or equal to -0?	Test X is less than or equal to -0 (Real number)	Programming		$x \leq -0 ?$	
fF6	$x \geq +0 ?$	Command (logical)	X greater than or equal to +0?	Test X is greater than or equal to +0 (Real number)	Programming		$x \geq +0 ?$	
gF1	ENTRY?	Command (logical)	(Data) entry?	Test internal entry flag for data entry	Programming		ENTRY?	
gF2	KEY?	Command (logical, PEM)	Key pressed?	Test key was pressed : if it is NOT pressed, the next program stap will be executed and if it IS pressed, the next program step will be skipped and the keycode is stored in the register specified ; keycode range is 11-85, where the first digit is row, second digit is column number ; TAM : KEY? __ Tam menu ; Info : KEY? should not be used in short loops, keeps calculator running on full power ; [R/S] and [EXIT] interrupt a program and KEY? will not work for those keys ; Ref : https://47calc.com/doc/C47/Reference/C47_KeyType.pdf	Programming		KEY?	
gF3	LBL?	Command (logical)	Label exists?	Test label exists ; TAM : LBL? __ TamLabel menu	Programming		LBL?	
gF4	TOP?	Command (logical)	Top?	Test program pointer is in top routine (as opposed to in subroutine)	Programming		TOP?	
gF5	LEAP?	Command (logical)	Leap year?	Test X is a date in a leap year (test function D? must be true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		LEAP?	
gF6	CONVG?	Command (logical)	Convergence?	Test convergence of X and Y using binary coded parameter for comparison mode and special numbers ; tolerance is derived from setting SDIGS ; TAM : CONVG? _ TamNonReg menu ; Ref : https://47calc.com/doc/C47/Reference/C47_CONVG_param.pdf	Programming		CONVG?	

TEST	Testing					
g-shift	STRl?		Rmatx?	Cmatx?		Config?
f-shift						
unshifted	SINT?	LINT?	R?	C?	D?	T?
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	TEST	MENU	Testing	Testing functions	Programming		TEST	
F1	SINT?	Command (logical)	Short integer?	Test type of X is Short integer (8.02-8.16) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		SINT?	
F2	LINT?	Command (logical)	Long integer?	Test type of X is Long integer (0) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		LINT?	
F3	R?	Command (logical)	Real number?	Test type of X is Real number (1.0-1.5) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		R?	
F4	C?	Command (logical)	Complex number?	Test type of X is Complex number (2.0-2.5) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		C?	
F5	D?	Command (logical)	Date?	Test type of X is Date (4) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		D?	
F6	T?	Command (logical)	Time?	Test type of X is Time (3) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		T?	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	STRI?	Command (logical)	Text string?	Test type of X is Text string (5) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		STRI?	
gF2								
gF3	Rmatx?	Command (logical)	Real matrix or vector?	Test type of X is Real matrix or vector (6) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		Rmatx?	
gF4	Cmatx?	Command (logical)	Complex matrix or vector?	Test type of X is Complex matrix or vector (7.n) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		Cmatx?	
gF5								
gF6	Config?	Command (logical)	Config?	Test type of X is Config (9) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		Config?	

TEST	Testing					
g-shift	NUMBR?	ANGLE?	NaN?	$\pm\infty$?	SPEC?	
f-shift	EVEN?	ODD?	Re $\neq$ 0?	Im $\neq$ 0?	VECT2D?	VECT3D?
unshifted	FP?	INT?	Re=0?	Im=0?	MATR?	M.SQR?
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TIMES_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	TEST	MENU	Testing	Testing functions	Programming		TEST	
F1	FP?	Command (logical)	Fractional Part?	Test X has nonzero fractional part and is Real number (1.0-1.5) (test function R? is true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		FP?	
F2	INT?	Command (logical)	Integer?	Test X is short integer (8.02-8.16), long integer (0) or Real number (1.0-1.5) with zero fractional part (test function SINT?, LINT? or R? is true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		INT?	
F3	Re=0?	Command (logical)	Zero real part?	Test X has real part equal to zero	Programming		Re=0?	
F4	Im=0?	Command (logical)	Zero imaginary part?	Test X has imaginary part equal to zero	Programming		Im=0?	
F5	MATR?	Command (logical)	Real matrix or vector?	Test type of X is Real matrix or vector (6) or Complex matrix or vector (7.n) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		MATR?	
F6	M.SQR?	Command (logical)	Square matrix?	Test X is a square matrix (test function MATR? is true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		M.SQR?	
fF1	EVEN?	Command (logical)	Even?	Test X is even and integer (test function INT? is true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		EVEN?	
fF2	ODD?	Command (logical)	Odd?	Test X is odd and integer (test function INT? is true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		ODD?	
fF3	Re≠0?	Command (logical)	Non-zero real part?	Test X has real part not equal to zero	Programming		Re≠0?	
fF4	Im≠0?	Command (logical)	Non-zero imaginary part?	Test X has imaginary part not equal to zero	Programming		Im≠0?	
fF5	VECT2D?	Command (logical)	2D vector?	Test X is a 2D vector (test function MATR? is true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		VECT2D?	
fF6	VECT3D?	Command (logical)	3D vector?	Test X is a 3D vector (test function MATR? is true) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		VECT3D?	
gF1	NUMBR?	Command (logical)	Number?	Test type of X is Number (0 ; 1.0-1.5 ; 2.0-2.5) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		NUMBR?	
gF2	ANGLE?	Command (logical)	Angle?	Test type of X is Angle (1.1-1.5) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Programming		ANGLE?	
gF3	NaN?	Command (logical)	not-a-number?	Test X is not-a-number	Programming		NaN?	
gF4	±∞?	Command (logical)	Infinites?	Test X contains positive or negative infinite value	Programming		±∞?	
gF5	SPEC?	Command (logical)	Special?	Test X is special (±∞ or NaN)	Programming		SPEC?	
gF6								

TIMES	Time variables					
g-shift						
f-shift						
unshifted						
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TIMES	MENU	Time variables	Auto-generated catalog of variables of the specified datatype : Time (3)	Catalog		TIMES	
F1								
F2								
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Tool $\int$	Integrator tools (RPN)					
g-shift						
f-shift		$-\infty$	$+\infty$			
unshifted	ACC_0	$\int_y^x$	$\int$	$\Downarrow Lim_0$	$\Uparrow Lim_0$	
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Prev menu

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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Tool $\int$	MENU	Integrator tools (RPN)	Integrator tools and parameter settings ; Info : Tool $\int$ menu is typically activated by <var ₂ >* on [[fd (MVAR).1]F2	Integrator			
F1	ACC ₀	Variable (real)	Accuracy of the integrator	Reserved Real variable for the accuracy of the integrator (ACC) ; set interactively from menu Tool $\int$; TI : 'ACC' :	Integrator		ACC	0
F2	$\int_y^x$	Command	Integrator (stack limits)	Solve the integral for the expression entered in the equation editor or the RPN program (with MVAR variables) selected in TAM ; in Program Entry Mode, RPN program must be specified by PGMINT ; integrator limits set from stack (Y, X) ; tolerance set by variable ACC ; TAM : $\int_y^x$ __ Tam menu (in PEM, to specify variable to integrate for) ; TI : Accuracy $\approx$; Info : $\int \approx$ displays the accumulated integral sum, the current accuracy achieved, the level counter from 7 down to 0 and an iteration counter ; shown if flag MONIT is SET	Integrator	INTING	$\int_y^x$	
F3	$\int$	Command	Integrator (variable limits)	Solve the integral for the expression entered in the equation editor or the RPN program (with MVAR variables) selected in TAM ; in Program Entry Mode, RPN program must be specified by PGMINT ; integrator limits set by variables ($\downarrow$ Lim, $\uparrow$ Lim) ; tolerance set by variable ACC ; TAM : $\int$ __ Tam menu (in PEM, to specify variable to integrate for) ; TI : Accuracy $\approx$; Info : $\int \approx$ displays the accumulated integral sum, the current accuracy achieved, the level counter from 7 down to 0 and an iteration counter ; shown if flag MONIT is SET	Integrator	INTING	$\int$ fd	
F4	$\downarrow$ Lim ₀	Variable (real)	Lower limit for integrator	Reserved Real variable for the lower limit for integrator ($\downarrow$ Lim) ; displays as $\downarrow$ L in menu Tool $\int$ for larger values ; set interactively from menu Tool $\int$ and set by $\int_y^x$; TI : $\downarrow$ Lower limit :	Integrator		$\downarrow$ Lim	0
F5	$\uparrow$ Lim ₀	Variable (real)	Upper limit for integrator	Reserved Real variable for the upper limit for integrator ($\uparrow$ Lim) ; displays as $\uparrow$ L in menu Tool $\int$ for larger values ; set interactively from menu Tool $\int$ and set by $\int_y^x$; TI : $\uparrow$ Upper limit :	Integrator		$\uparrow$ Lim	0
F6								
fF1								
fF2	$-\infty$	Constant	Minus infinity	Constant # 77 $-\infty$ inf.minus = $-\infty$	Constants			
fF3	$+\infty$	Constant	Plus infinity	Constant # 78 $+\infty$ inf.plus = $+\infty$	Constants			
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Tool $\int$	Integrator tools [EQN]					
g-shift						
f-shift		$-\infty$	$+\infty$			
unshifted	ACC_0	$\int_y^x$	$\int$	$\Downarrow Lim_0$	$\Uparrow Lim_0$	Graphs
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Tool $\int$	MENU	Integrator tools [EQN]	Integrator tools and parameter settings	Integrator		Tool $\int$	
F1	ACC ₀	Variable (real)	Accuracy of the integrator	Reserved Real variable for the accuracy of the integrator (ACC) ; set interactively from menu Tool $\int$; TI : 'ACC' :	Integrator		ACC	0
F2	$\int_y^x$	Command	Integrator (stack limits)	Solve the integral for the expression entered in the equation editor or the RPN program (with MVAR variables) selected in TAM ; in Program Entry Mode, RPN program must be specified by PGMINT ; integrator limits set from stack (Y, X) ; tolerance set by variable ACC ; TAM : $\int_y^x$ __ Tam menu (in PEM, to specify variable to integrate for) ; TI : Accuracy $\approx$; Info : $\int \approx$ displays the accumulated integral sum, the current accuracy achieved, the level counter from 7 down to 0 and an iteration counter ; shown if flag MONIT is SET	Integrator	INTING	$\int_y^x$	
F3	$\int$	Command	Integrator (variable limits)	Solve the integral for the expression entered in the equation editor or the RPN program (with MVAR variables) selected in TAM ; in Program Entry Mode, RPN program must be specified by PGMINT ; integrator limits set by variables ($\downarrow$ Lim, $\uparrow$ Lim) ; tolerance set by variable ACC ; TAM : $\int$ __ Tam menu (in PEM, to specify variable to integrate for) ; TI : Accuracy $\approx$; Info : $\int \approx$ displays the accumulated integral sum, the current accuracy achieved, the level counter from 7 down to 0 and an iteration counter ; shown if flag MONIT is SET	Integrator	INTING	$\int$ f d	
F4	$\downarrow$ Lim ₀	Variable (real)	Lower limit for integrator	Reserved Real variable for the lower limit for integrator ($\downarrow$ Lim) ; displays as $\downarrow$ L in menu Tool $\int$ for larger values ; set interactively from menu Tool $\int$ and set by $\int_y^x$; TI : $\downarrow$ Lower limit :	Integrator		$\downarrow$ Lim	0
F5	$\uparrow$ Lim ₀	Variable (real)	Upper limit for integrator	Reserved Real variable for the upper limit for integrator ($\uparrow$ Lim) ; displays as $\uparrow$ L in menu Tool $\int$ for larger values ; set interactively from menu Tool $\int$ and set by $\int_y^x$; TI : $\uparrow$ Upper limit :	Integrator		$\uparrow$ Lim	0
F6	Graphs	MENU	Graphing...	Equation graphing functions	Plotting		Graphs	
fF1								
fF2	$-\infty$	Constant	Minus infinity	Constant # 77 $-\infty$ inf.minus = $-\infty$	Constants			
fF3	$+\infty$	Constant	Plus infinity	Constant # 78 $+\infty$ inf.plus = $+\infty$	Constants			
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	Tool $\int$	Link
F1	ACC ₀	
F2	$\int_y^x$	
F3	$\int$	
F4	$\Downarrow \text{Lim}_0$	
F5	$\Uparrow \text{Lim}_0$	
F6	Graphs	https://47calc.com/doc/C47/Menus/C47_Menu_Graphs_page_1.pdf
fF1		
fF2	$-\infty$	
fF3	$+\infty$	
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

ToolS	Solver tools					
g-shift						
f-shift		realSlv _y [*]	realSlv			
unshifted	SDIGS ₃₄	cpxSlv _y [*]	cpxSlv	↓Est ₀	↑Est ₀	Graphs
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Solver_Result_Codes.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0002_C47_JM_Graphs_and_complex_solver.pdf

Ref 3 https://47calc.com/doc/Application%20Notes/AN0010_C47_JM_Complex_solver_continued_r1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	ToolS	MENU	Solver tools	Solver tools and parameter settings ; Ref : https://47calc.com/doc/C47/Reference/C47_Solver_Result_Codes.pdf	Solver		ToolS	
F1	SDIGS ₃₄	Setting (pgm)	Set significant digits	Set the number of significant digits (1-34) for rounding after each operation ; sets tolerance of solvers, plotting and CONVG? ; value of 0 sets maximum precision (34) ; TAM : SDIGS __ TamNonReg menu ; Info : when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Mathematics		SDIGS ₃₄	34
F2	cpxSlv _y ^x	Command (nonpgm)	Complex solver (stack limits)	Solve the algebraic expression (= 0) entered in the equation editor for complex roots ; interrupt by [EXIT] ; tolerance set by SDIGS ; solver estimates set from stack (Y, X) ; Info : Displays current evaluated number and iteration counter ; shown if flag MONIT is SET ; TI : Result Code = ; Accuracy ≈ ; <var> _{prev} = ; <var> = (optionally: conjugates) ; Ref : https://47calc.com/doc/C47/Reference/C47_Solver_Result_Codes.pdf	Solver	SOLVING	cpxSlv _y ^x	
F3	cpxSlv	Command (nonpgm)	Complex solver (variable limits)	Solve the algebraic expression (= 0) entered in the equation editor for complex roots ; interrupt by [EXIT] ; tolerance set by SDIGS ; solver estimates set from variables (↓Est, ↑Est) ; Info : Displays current evaluated number and iteration counter ; shown if flag MONIT is SET ; TI : Result Code = ; Accuracy ≈ ; <var> _{prev} = ; <var> = (optionally: conjugates) ; Ref : https://47calc.com/doc/C47/Reference/C47_Solver_Result_Codes.pdf	Solver	SOLVING	cpxSlv	
F4	↓Est ₀	Variable (real)	Lower estimate for solver	Reserved Real variable for the lower estimate for solver (↓Est) ; displays as ↓E in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv _y ^x or cpxSlv _y ^x ; Split screen : Displaying ↑Est Upper = ; ↓Est Lower =	Solver		↓EST	0
F5	↑Est ₀	Variable (real)	Upper estimate for solver	Reserved Real variable for the upper estimate for solver (↑Est) ; displays as ↑E in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv _y ^x or cpxSlv _y ^x ; Split screen : Displaying ↑Est Upper = ; ↓Est Lower =	Solver		↑EST	0
F6	Graphs	MENU	Graphing...	Equation graphing functions	Plotting		Graphs	
fF1								
fF2	realSlv _y ^x	Command (nonpgm)	Real solver (stack limits)	Solve the algebraic expression (= 0) entered in the equation editor for real roots ; interrupt by [EXIT] ; tolerance set by SDIGS ; monitoring set by MONIT ; solver estimates set from stack (Y, X) ; Info : Displays current evaluated number and iteration counter ; shown if flag MONIT is SET ; TI : Result Code = ; Accuracy ≈ ; <var> _{prev} = ; <var> =	Solver	SOLVING	realSlv _y ^x	
fF3	realSlv	Command (nonpgm)	Real solver (variable limits)	Solve the algebraic expression (= 0) entered in the equation editor for real roots ; interrupt by [EXIT] ; tolerance set by SDIGS ; monitoring set by MONIT ; solver estimates set from variables (↓Est, ↑Est) ; Info : Displays current evaluated number and iteration counter ; shown if flag MONIT is SET ; TI : Result Code = ; Accuracy ≈ ; <var> _{prev} = ; <var> =	Solver	SOLVING	realSlv	
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	ToolS	Link
F1	SDIGS ₃₄	
F2	cpxSlv _y ^x	
F3	cpxSlv	
F4	↓Est ₀	
F5	↑Est ₀	
F6	Graphs	https://47calc.com/doc/C47/Menus/C47_Menu_Graphs_page_1.pdf
fF1		
fF2	realSlv _y ^x	
fF3	realSlv	
fF4		
fF5		
fF6		
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

TRG...	More trig/hyperbolics					
g-shift	sinh	cosh	tanh	arsinh	arcosh	artanh
f-shift	sinc	sinc π	ATAN2	ASIN	ACOS	ATAN
unshifted	↷DEG	↷RAD	↷GRAD	SIN	COS	TAN
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TRG...	MENU	More trig/hyperbolics	Extended trigonometry (and access to hyperbolic) functions	Trigonometry		TRG...	
F1	→DEG	Function (monadic)	Set DEG tag or convert to DEG	If untagged, set tag to DEG (degrees) ; if tagged, convert X to DEG ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→DEG	
F2	→RAD	Function (monadic)	Set RAD tag or convert to RAD	If untagged, set tag to RAD (radians) ; if tagged, convert X to RAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→RAD	
F3	→GRAD	Function (monadic)	Set GRAD tag or convert to GRAD	If untagged, set tag to GRAD (gradians) ; if tagged, convert X to GRAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→GRAD	
F4	SIN	Function (monadic)	Sine	Sine	Trigonometry		SIN	
F5	COS	Function (monadic)	Cosine	Cosine	Trigonometry		COS	
F6	TAN	Function (monadic)	Tangent	Tangent	Trigonometry		TAN	
fF1	sinc	Function (monadic)	Sinc	Calculate (Sine of X) / X ; Info : Integers and untagged reals are assumed to be radians	Mathematics		sinc	
fF2	sincπ	Function (monadic)	Sinc pi	Calculate (Sine of π × X) / (π × X) ; Info : Integers and untagged reals are assumed to be radians	Mathematics		sincπ	
fF3	ATAN2	Function (dyadic)	Expanded inverse tangent	Arc tangent of Y / X	Trigonometry		ATAN2	
fF4	ASIN	Function (monadic)	Arc sine	Inverse sine ; Info : Returns the principal value of the inverse sine of X ; if flag CPXRES is SET, the domain is extended beyond [-1, +1] and complex results may be returned ; SBI : ℂ ; ℝ	Trigonometry	CPXRES	ARCSIN	
fF5	ACOS	Function (monadic)	Arc cosine	Inverse cosine ; Info : Returns the principal value of the inverse cosine of X ; if flag CPXRES is SET, the domain is extended beyond [-1, +1] and complex results may be returned ; SBI : ℂ ; ℝ	Trigonometry	CPXRES	ARCCOS	
fF6	ATAN	Function (monadic)	Arc tangent	Inverse tangent ; Info : Returns the principal value of the inverse tangent of X ; if flag SPCRES is SET, infinity input is allowed and the range is extended to [-90°, 90°] (inclusive)	Trigonometry	SPCRES	ARCTAN	
gF1	sinh	Function (monadic)	Hyperbolic sine	Hyperbolic sine	Mathematics		sinh	
gF2	cosh	Function (monadic)	Hyperbolic cosine	Hyperbolic cosine	Mathematics		cosh	
gF3	tanh	Function (monadic)	Hyperbolic tangent	Hyperbolic tangent	Mathematics		tanh	
gF4	arsinh	Function (monadic)	Inverse hyperbolic sine	Inverse hyperbolic sine	Mathematics		arsinh	
gF5	arcosh	Function (monadic)	Inverse hyperbolic cosine	Inverse hyperbolic cosine	Mathematics		arcosh	
gF6	artanh	Function (monadic)	Inverse hyperbolic tangent	Inverse hyperbolic tangent	Mathematics		artanh	

TRG	Trigonometry					
g-shift	DEG $\circ$	RAD $\circ$	GRAD $\circ$	D.MS $\circ$	MUL π $\circ$	ATAN2
f-shift	sinc	sinc π	.ms	.ms ⁻¹	$\rightarrow$ R	$\rightarrow$ P
unshifted	$\Rightarrow$ DEG	$\Rightarrow$ RAD	$\Rightarrow$ GRAD	$\Rightarrow$ D.MS	$\Rightarrow$ MUL π	DRG
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Ref 1 https://47calc.com/doc/C47/Reference/C47_DMS-HMS.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TRG	MENU	Trigonometry	Trigonometry functions ; Info : TRG replaces R47 menu TRG_R47 ; Ref : https://47calc.com/doc/C47/Reference/C47_DMS-HMS.pdf	Trigonometry		TRG	
F1	→DEG	Function (monadic)	Set DEG tag or convert to DEG	If untagged, set tag to DEG (degrees) ; if tagged, convert X to DEG ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→DEG	
F2	→RAD	Function (monadic)	Set RAD tag or convert to RAD	If untagged, set tag to RAD (radians) ; if tagged, convert X to RAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→RAD	
F3	→GRAD	Function (monadic)	Set GRAD tag or convert to GRAD	If untagged, set tag to GRAD (gradians) ; if tagged, convert X to GRAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→GRAD	
F4	→D.MS	Function (monadic)	Set D.MS tag or convert to D.MS	If untagged, set tag to D.MS (sexagesimal degrees) ; if tagged, convert X to D.MS ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→D.MS	
F5	→MULπ	Function (monadic)	Set MULπ tag or convert to MULπ	If untagged, set tag to MULπ (multiple of pi radians) ; if tagged, convert X to MULπ ; does not change Angular Display Mode ; Tag : π	Angle tagging or conversion		→MULπ	
F6	DRG	Function (monadic, cyclic, nonpgm)	Degrees-radians-gradians	Add ADM tag to untagged value in X, convert tagged value to degrees-radians-gradians (cyclic) ; Info : Setting tag for complex X also sets POLAR mode for X according to ADM	Angle conversions		DRG	
fF1	sinc	Function (monadic)	Sinc	Calculate (Sine of X) / X ; Info : Integers and untagged reals are assumed to be radians	Mathematics		sinc	
fF2	sincπ	Function (monadic)	Sinc pi	Calculate (Sine of π × X) / (π × X) ; Info : Integers and untagged reals are assumed to be radians	Mathematics		sincπ	
fF3	.ms	Function (monadic, cyclic)	Minutes & seconds	Convert sexagesimal format input sequence or decimal stack value to hh:mm:ss hours or dd°mm'ss" degrees (cyclic) ; Info : NIM input treated as sexagesimal (hh/dd.mmss) format ; stack input treated as decimal value	Time/angle conversions		.ms	
fF4	.ms ⁻¹	Function (monadic)	Sexagesimal	Convert hh:mm:ss hours or dd°mm'ss" degrees to sexagesimal format number (untag) ; TI : hh/dd.mmss ; Info : puts sexagesimal NIM input of .ms back as decimal number on the stack	Time/angle conversions		.ms ⁻¹	
fF5	→R	Function (monadic, dyadic)	To rectangular	Transform polar to rectangular coordinates (dyadic, stack conventions according to flag RPH SET or CLEAR) ; transform Complex number or 2D/3D vector to rectangular notation (monadic) and set RECT tag ; TI : x : Re = ; y : Im = (RECT) ; Info : in Program Entry Mode, flag RPH determines whether →RECT _{hp} or →RECT _{cx} is stored ; vector display depends on flag 3Dxyz, for 2D rectangular vector : [ij] [v ₁ v ₂] ; 3D rectangular vector : [ijk] [v ₁ v ₂ v ₃]	Complex and coordinates	RPH	→RECT	
fF6	→P	Function (monadic, dyadic)	To polar	Transform rectangular to polar coordinates (dyadic, stack conventions according to flag RPH SET or CLEAR) ; transform Complex number or 2D/3D vector to polar notation (monadic) and set POLAR tag ; TI : r = ; θ = (POLAR) ; Info : in Program Entry Mode, flag RPH determines whether →POL _{hp} or →POL _{cx} is stored ; for a 3D vector in X, function →POLAR (→P) cycles through →SPH, then →CYL ; vector display depends on flag 3Dxyz, for 2D polar vector : [rθ;ij] [v ₁ v ₂] ^P ; 3D spherical vector : [rθ;ijk] [v ₁ v ₂ v ₃] ^P ; 3D cylindrical vector : [rθ;ijk] [v ₁ v ₂ v ₃] ^c	Complex and coordinates	RPH	→POLAR	
gF1	DEG 0	Setting (pgm)	Set ADM to DEG	Set Angular Display Mode to degrees mode (ADM = 0) ; Info : SBI ° is shown if flag SBadm is SET ; SBI ° is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBadm	DEG 0	ON
gF2	RAD 0	Setting (pgm)	Set ADM to RAD	Set Angular Display Mode to radians mode (ADM = 2) ; Info : SBI ° is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBang	RAD 0	OFF
gF3	GRAD 0	Setting (pgm)	Set ADM to GRAD	Set Angular Display Mode to gradians mode (ADM = 4) ; Info : SBI ° is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBang	GRAD 0	OFF
gF4	D.MS 0	Setting (pgm)	Set ADM to D.MS	Set Angular Display Mode to sexagesimal degrees mode (ADM = 1) ; Info : SBI ° is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBang	D.MS 0	OFF
gF5	MULπ 0	Setting (pgm)	Set ADM to MULπ	Set Angular Display Mode to multiple of pi radians mode (ADM = 3) ; Info : SBI ° is shown if flag SBang and SBadm is SET ; SBI : π	Angle tagging or conversion	SBang	MULπ 0	OFF
gF6	ATAN2	Function (dyadic)	Expanded inverse tangent	Arc tangent of Y / X	Trigonometry		ATAN2	

TRG_R47	Trigonometry					
g-shift	→R	→P	.ms	.ms ⁻¹	sinc	sinc π
f-shift	⇒DEG	⇒RAD	⇒GRAD	⇒D.MS	⇒MULT π	
unshifted	DEG $\odot$	RAD $\odot$	GRAD $\odot$	D.MS $\odot$	MULT π $\odot$	ATAN2
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_TRG_MORE_page_1.pdf

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TRG_R47	MENU	Trigonometry	Trigonometry functions ; Info : R47 menu TRG_R47 is replaced by TRG ; Ref : https://47calc.com/doc/C47/Reference/C47_DMS-HMS.pdf	Trigonometry		TRG_R47	
F1	DEG @	Setting (pgm)	Set ADM to DEG	Set Angular Display Mode to degrees mode (ADM = 0) ; Info : SBI ° is shown if flag SBadm is SET ; SBI ʼ is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBadm	DEG @	ON
F2	RAD O	Setting (pgm)	Set ADM to RAD	Set Angular Display Mode to radians mode (ADM = 2) ; Info : SBI ʼ is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBang	RAD O	OFF
F3	GRAD O	Setting (pgm)	Set ADM to GRAD	Set Angular Display Mode to gradians mode (ADM = 4) ; Info : SBI ʼ is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBang	GRAD O	OFF
F4	D.MS O	Setting (pgm)	Set ADM to D.MS	Set Angular Display Mode to sexagesimal degrees mode (ADM = 1) ; Info : SBI ʼ is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBang	D.MS O	OFF
F5	MULπ O	Setting (pgm)	Set ADM to MULπ	Set Angular Display Mode to multiple of pi radians mode (ADM = 3) ; Info : SBI ʼ is shown if flag SBang and SBadm is SET ; SBI : π°	Angle tagging or conversion	SBang	MULπ O	OFF
F6	ATAN2	Function (dyadic)	Expanded inverse tangent	Arc tangent of Y / X	Trigonometry		ATAN2	
fF1	→DEG	Function (monadic)	Set DEG tag or convert to DEG	If untagged, set tag to DEG (degrees) ; if tagged, convert X to DEG ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→DEG	
fF2	→RAD	Function (monadic)	Set RAD tag or convert to RAD	If untagged, set tag to RAD (radians) ; if tagged, convert X to RAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→RAD	
fF3	→GRAD	Function (monadic)	Set GRAD tag or convert to GRAD	If untagged, set tag to GRAD (gradians) ; if tagged, convert X to GRAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→GRAD	
fF4	→D.MS	Function (monadic)	Set D.MS tag or convert to D.MS	If untagged, set tag to D.MS (sexagesimal degrees) ; if tagged, convert X to D.MS ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→D.MS	
fF5	→MULπ	Function (monadic)	Set MULπ tag or convert to MULπ	If untagged, set tag to MULπ (multiple of pi radians) ; if tagged, convert X to MULπ ; does not change Angular Display Mode ; Tag : π°	Angle tagging or conversion		→MULπ	
fF6								
gF1	→R	Function (monadic, dyadic)	To rectangular	Transform polar to rectangular coordinates (dyadic, stack conventions according to flag RPH SET or CLEAR) ; transform Complex number or 2D/3D vector to rectangular notation (monadic) and set RECT tag ; TI : x : Re = ; y : Im = (RECT) ; Info : in Program Entry Mode, flag RPH determines whether →RECT _{hp} or →RECT _{ex} is stored ; vector display depends on flag 3Dxyz, for 2D rectangular vector : [ij] [v ₁ v ₂] ; 3D rectangular vector : [ijk] [v ₁ v ₂ v ₃]	Complex and coordinates	RPH	→RECT	
gF2	→P	Function (monadic, dyadic)	To polar	Transform rectangular to polar coordinates (dyadic, stack conventions according to flag RPH SET or CLEAR) ; transform Complex number or 2D/3D vector to polar notation (monadic) and set POLAR tag ; TI : r = ; θ = (POLAR) ; Info : in Program Entry Mode, flag RPH determines whether →POL _{hp} or →POL _{ex} is stored ; for a 3D vector in X, function →POLAR (→P) cycles through →SPH, then →CYL ; vector display depends on flag 3Dxyz, for 2D polar vector : [rθ;ij] [v ₁ v ₂] ^P ; 3D spherical vector : [rθ;ijk] _M [v ₁ v ₂ v ₃] ^a ; 3D cylindrical vector : [rθ;jk] [v ₁ v ₂ v ₃] ^c	Complex and coordinates	RPH	→POLAR	
gF3	.ms	Function (monadic, cyclic)	Minutes & seconds	Convert sexagesimal format input sequence or decimal stack value to hh:mm:ss hours or dd°mm'ss" degrees (cyclic) ; Info : NIM input treated as sexagesimal (hh/dd.mmss) format ; stack input treated as decimal value	Time/angle conversions		.ms	
gF4	.ms ⁻¹	Function (monadic)	Sexagesimal	Convert hh:mm:ss hours or dd°mm'ss" degrees to sexagesimal format number (untag) ; TI : hh/dd.mmss ; Info : puts sexagesimal NIM input of .ms back as decimal number on the stack	Time/angle conversions		.ms ⁻¹	
gF5	sinc	Function (monadic)	Sinc	Calculate (Sine of X) / X ; Info : Integers and untagged reals are assumed to be radians	Mathematics		sinc	
gF6	sincπ	Function (monadic)	Sinc pi	Calculate (Sine of π × X) / (π × X) ; Info : Integers and untagged reals are assumed to be radians	Mathematics		sincπ	

TVM	Time value of money					
g-shift	Begin $\textcircled{0}$	End $\textcircled{0}$	SDIGS ₃₄			AMORT
f-shift	CLTVM	EFF $\rightarrow$ I/a	I $\rightarrow$ EFF/a			cp/a ₁₂
unshifted	n ₀	I/a ₀	PV ₀	PMT ₀	FV ₀	pp/a ₁₂
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Ref 1 https://47calc.com/doc/Application%20Notes/AN0012_C47_R47_JM_TVM.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	TVM	MENU	Time value of money	Time value of money functions ; Info : When menu TVM is open, [RCL]/[STO] activates menu TamRclTVM/TamStoTVM ; TVM variable values are displayed as subscripts ; symbol $\ll$ is used for very small values ; symbol $\gg$ for very large values ; Ref : https://47calc.com/doc/Application%20Notes/AN0012_C47_R47_JM_TVM.pdf	Financial		TVM	
F1	n_0	Variable (real)	TVM number of payments	Reserved Real variable for the TVM number of payments (n) ; TI : NPPER = n pay periods =	Financial		NPPER	0
F2	I/a_0	Variable (real)	TVM annual interest rate	Reserved Real variable for the TVM annual interest rate as percentage (I/a) ; use 10 for 10%, not 0.1 ; displays as I_a or I in menu TVM when value is large ; TI : $I\%/a = I\%YR = APR =$	Financial		$I\%/a$	0
F3	PV_0	Variable (real)	TVM present value	Reserved Real variable for the TVM present value (PV) ; displays as P_v or P in menu TVM when value is large ; TI : PV = Present Value =	Financial		PV	0
F4	PMT_0	Variable (real)	TVM payment	Reserved Real variable for the TVM payment (PMT) ; displays as P_m or P in menu TVM when value is large ; TI : PMT = Payment =	Financial		PMT	0
F5	FV_0	Variable (real)	TVM future value	Reserved Real variable for the TVM future value (FV) ; displays as F in menu TVM when value is large ; TI : FV = Future Value =	Financial		FV	0
F6	pp/a_{12}	Variable (real)	TVM payment period	Reserved Real variable for the TVM payment period per annum (pp/a) ; displays as p_a or p in menu TVM when value $\neq 0$; TI : PPER/a = Pay periods p.a. =	Financial		PPER/a	12
fF1	CLTVM	Command	Clear TVM variables	Clear TVM variables	Cleanup		CLTVM	
fF2	$EFF \rightarrow I/a$	Function (monadic)	Nominal TVM annual rate	Calculate Nominal TVM annual rate from the Effective TVM annual rate in X and copy value to I/a (variable $I\%/a$) -- see Formula_EFFT01.png : https://47calc.com/doc/Images/Formula_EFFT01.png ; TI : $I\%/a = I\%YR = NAR =$	Financial		$EFF \rightarrow I/a$	
fF3	$I \rightarrow EFF/a$	Function (monadic)	Effective TVM annual rate	Calculate Effective TVM annual rate from the TVM annual interest rate in I/a (variable $I\%/a$) -- see Formula_ITOEFF.png : https://47calc.com/doc/Images/Formula_ITOEFF.png ; TI : $EFF\%/a = EFF\%YR = EAR =$	Financial		$I \rightarrow EFF/a$	
fF4								
fF5								
fF6	cp/a_{12}	Variable (real)	TVM compounding periods	Reserved Real variable for the TVM compounding periods per annum (cp/a) ; displays as c_a or c in menu TVM when value $\neq 0$; TI : CPER/a = Compounding periods p.a. =	Financial		CPER/a	12
gF1	Begin $\bigcirc$	Setting (pgm)	TVM begin payments	Switch on TVM begin payments ; Info : SBI END ; BEG is shown if flag Sbtvm is SET and menu TVM, AMORT or CASHFL is open ; SBI : BEG	Financial	ENDPMT	BeginP $\bigcirc$	OFF
gF2	End $\odot$	Setting (pgm)	TVM end payments	Switch on TVM end payments ; Info : SBI END ; BEG is shown if flag Sbtvm is SET and menu TVM, AMORT or CASHFL is open ; SBI : END	Financial	ENDPMT	ENDP $\odot$	ON
gF3	$SDIGS_{34}$	Setting (pgm)	Set significant digits	Set the number of significant digits (1-34) for rounding after each operation ; sets tolerance of solvers, plotting and CONVG? ; value of 0 sets maximum precision (34) ; TAM : SDIGS __ TamNonReg menu ; Info : when SDIGS is set to the maximum value of 34, plotting uses 15 instead, otherwise it uses the value set by SDIGS	Mathematics		$SDIGS_{34}$	34
gF4								
gF5								
gF6	AMORT	MENU	TVM amortisation	TVM amortisation ; Info : When menu AMORT is open, [RCL]/[STO] activates menu TamRclTVM/TamStoTVM ; Ref : https://47calc.com/doc/Application%20Notes/AN0012_C47_R47_JM_TVM.pdf	Financial		AMORT	

p1	TVM	Link
F1	n_0	
F2	I/a_0	
F3	PV_0	
F4	PMT_0	
F5	FV_0	
F6	pp/a_{12}	
fF1	CLTVM	
fF2	$EFF \rightarrow I/a$	
fF3	$I \rightarrow EFF/a$	
fF4		
fF5		
fF6	cp/a_{12}	
gF1	Begin $\odot$	
gF2	End $\ominus$	
gF3	$SDIGS_{34}$	
gF4		
gF5		
gF6	AMORT	https://47calc.com/doc/C47/Menus/C47_Menu_AMORT_page_1.pdf

Uniform:	Uniform distribution					
g-shift	$ST0_M a$	$ST0_M b$				
f-shift						
unshifted	$Unfm_p$		$Unfm_{\Delta}$	$Unfm_{\Delta}$		$Unfm^{-1}$
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Uniform:	MENU	Uniform distribution	Uniform probability distribution (continuous) ; TI : RegM = a = ; RegN = b =	Probability (real)		Uniform:	
F1	Unfm _p	Function (monadic)	Uniform pdf	Uniform probability density function	Probability (real)		Unfm _p	
F2								
F3	Unfm _Δ	Function (monadic)	Uniform cdf (lower)	Uniform cumulative distribution (lower tail)	Probability (real)		Unfm _Δ	
F4	Unfm _Δ	Function (monadic)	Uniform cdf (upper)	Uniform cumulative distribution (upper tail)	Probability (real)		Unfm _Δ	
F5								
F6	Unfm ⁻¹	Function (monadic)	Uniform qf (inverse)	Uniform inverse cumulative distribution (quantile)	Probability (real)		Unfm ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	ST0 _M a	Command	Store a in M	Store parameter a : lower limit in register M ; Split screen : RegM = a =	Probability (int)			
gF2	ST0 _N b	Command	Store b in N	Store parameter b : upper limit in register N ; Split screen : RegN = b =	Probability (int)			
gF3								
gF4								
gF5								
gF6								

VAR (ALL)	VAR					
g-shift	PV	STATS	↑EST	↑Lim	↑X	↑Y
f-shift	Mat_A	Mat_B	Mat_X	NPPER	PMT	PPER/a
unshifted	ACC	CPER/a	FV	GRAMOD	HISTO	I%/a
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Next menu

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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	VAR (ALL)	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.* menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F1	ACC	Variable (real)	Accuracy of the integrator	Reserved Real variable for the accuracy of the integrator (ACC) ; set interactively from menu Toolf ; TI : 'ACC' :	Integrator		ACC	0
F2	CPER/a	Variable (real)	TVM compounding periods	Reserved Real variable for the TVM compounding periods per annum (cp/a) ; displays as c_a or c in menu TVM when value $\neq 0$; TI : CPER/a = Compounding periods p.a. =	Financial		CPER/a	12
F3	FV	Variable (real)	TVM future value	Reserved Real variable for the TVM future value (FV) ; displays as F in menu TVM when value is large ; TI : FV = Future Value =	Financial		FV	0
F4	GRAMOD	Variable (longint)	Graphics display mode	Reserved LongInteger variable for the graphics display mode (GRAMOD) ; set interactively from menu P.FN1 (AGRAPH) ; Info : OR: 0 ; SET: 1 ; OFF: 2 ; XOR: 3	Programming		GRAMOD	0
F5	HISTO	Variable (matrix)	Histogram matrix	Reserved Matrix variable (cannot be deleted) for the histogram matrix (HISTO) ; created from STATS using menu HIST ; not created after RESET	Plotting and statistics		HISTO	
F6	I%/a	Variable (real)	TVM annual interest rate	Reserved Real variable for the TVM annual interest rate as percentage (I/a) ; use 10 for 10%, not 0.1 ; displays as I_a or I in menu TVM when value is large ; TI : I%/a = I%YR = APR =	Financial		I%/a	0
fF1	Mat_A	Variable (matrix)	Matrix A	Reserved Matrix variable for the Matrix A (Mat A) ; enter equation coefficient matrix using menu M_SIMQ ; created after RESET	Matrix operations		Mat_A	
fF2	Mat_B	Variable (matrix)	Matrix B	Reserved Matrix variable for the Matrix B (Mat B) ; enter equation result vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_B	
fF3	Mat_X	Variable (matrix)	Matrix X	Reserved Matrix variable for the Matrix X (Mat X) ; calculate equation solution vector using menu M_SIMQ ; created after RESET	Matrix operations		Mat_X	
fF4	NPPER	Variable (real)	TVM number of payments	Reserved Real variable for the TVM number of payments (n) ; TI : NPPER = n pay periods =	Financial		NPPER	0
fF5	PMT	Variable (real)	TVM payment	Reserved Real variable for the TVM payment (PMT) ; displays as P_m or P in menu TVM when value is large ; TI : PMT = Payment =	Financial		PMT	0
fF6	PPER/a	Variable (real)	TVM payment period	Reserved Real variable for the TVM payment period per annum (pp/a) ; displays as p_a or p in menu TVM when value $\neq 0$; TI : PPER/a = Pay periods p.a. =	Financial		PPER/a	12
gF1	PV	Variable (real)	TVM present value	Reserved Real variable for the TVM present value (PV) ; displays as P_v or P in menu TVM when value is large ; TI : PV = Present Value =	Financial		PV	0
gF2	STATS	Variable (matrix)	Statistics matrix	Reserved Matrix variable (cannot be deleted) for the statistics matrix (STATS) ; created from data entered using $\Sigma+$; not created after RESET ; TI : Re-calculating sums ... ; may be shown when storing or loading the statistics matrix	Plotting and statistics		STATS	
gF3	$\uparrow$ EST	Variable (real)	Upper estimate for solver	Reserved Real variable for the upper estimate for solver ($\uparrow$ Est) ; displays as $\uparrow E$ in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv $\frac{x}{y}$ or cpxSlv $\frac{x}{y}$; Split screen : Displaying $\uparrow$ Est Upper = ; $\downarrow$ Est Lower =	Solver		$\uparrow$ EST	0
gF4	$\uparrow$ Lim	Variable (real)	Upper limit for integrator	Reserved Real variable for the upper limit for integrator ($\uparrow$ Lim) ; displays as $\uparrow L$ in menu Toolf for larger values ; set interactively from menu Toolf and set by f $\frac{x}{y}$; TI : $\uparrow$ Upper limit :	Integrator		$\uparrow$ Lim	0
gF5	$\uparrow$ X	Variable (real)	Upper limit for X-axis	Reserved Real variable for the upper limit for X-axis ($\uparrow$ X) ; set interactively from menu Graphs and set by Draw $\frac{x}{y}$; TI : ' $\uparrow$ X' :	Plotting		$\uparrow$ X	10
gF6	$\uparrow$ Y	Variable (real)	Upper limit for Y-axis	Reserved Real variable for the upper limit for Y-axis ($\uparrow$ Y) ; set interactively from menu Graphs and set by Plot functions ; TI : ' $\uparrow$ Y' :	Plotting		$\uparrow$ Y	10

VAR (ALL)	VAR					
g-shift						
f-shift						
unshifted	↓EST	↓Lim	↓X	↓Y		
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	VAR (ALL)	MENU (ASM)	VAR	Presented in TAM menus for commands accessing variables ; TAM : CAT.VARS.+ menu ; Info : Type characters 1-2 to search ; Matrix variables STATS and HISTO are also included in this menu, if created	Trailing input		VAR	
F1	↓EST	Variable (real)	Lower estimate for solver	Reserved Real variable for the lower estimate for solver (↓Est) ; displays as ↓E in menu ToolS for larger values ; set interactively from menu ToolS and set by realSlv _y ^x or cpxSlv _y ^x ; Split screen : Displaying ↑Est Upper = ; ↓Est Lower =	Solver		↓EST	0
F2	↓Lim	Variable (real)	Lower limit for integrator	Reserved Real variable for the lower limit for integrator (↓Lim) ; displays as ↓L in menu ToolS for larger values ; set interactively from menu ToolS and set by f _y ^x ; TI : ↓ Lower limit :	Integrator		↓Lim	0
F3	↓X	Variable (real)	Lower limit for X-axis	Reserved Real variable for the lower limit for X-axis (↓X) ; set interactively from menu Graphs and set by Draw _y ^x ; TI : '↓X' :	Plotting		↓X	-10
F4	↓Y	Variable (real)	Lower limit for Y-axis	Reserved Real variable for the lower limit for Y-axis (↓Y) ; set interactively from menu Graphs and set by Plot functions ; TI : '↓Y' :	Plotting		↓Y	0
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

VarMNU (MVAR)	Variable menu					
g-shift						
f-shift						
unshifted	<var ₁ >	<var ₂ >*	<var...>			
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	VarMNU (MVAR)	Command (PEM)	Variable menu	Create variable menu ; uses register K to store variable name when MVAR-defined button (<var...>) is pressed without NIM input ; TAM : VarMNU ... TamLb1Only menu ; Error 25 -- No MVAR found in selected program -- may be raised	Programming		VARMNU	
F1	<var ₁ >	Variable (user)	Variable 1	Variable 1 as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var ₁ >*) to indicate it is selected for a subsequent operation	Equations			
F2	<var ₂ >*	Variable (user)	Variable 2	Variable 2 as created by MVAR (in RPN program) (starred) ; Info : The variable name is starred (<var ₂ >*) after a value has been entered, to indicate it is selected for a subsequent operation	Equations			
F3	<var...>	Variable (user)	Variable ...	Next variable(s) if any, as created by MVAR (in RPN program) ; Info : After a value has been entered, the variable name is starred (<var...>*) to indicate it is selected for a subsequent operation	Equations			
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

VARs	Variables					
g-shift						
f-shift	CONFIGS	MATRS	DATES	TIMES	S.INTS	STRINGS
unshifted	NUMBRS	CPXS	REALS	ANGLES	L.INTS	ALL
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	VARS	MENU	Variables	Auto-generated variable catalogs	Catalog		VARS	
F1	NUMBRS	MENU	Number variables	Auto-generated catalog of variables of the specified datatype : Number (0 ; 1.0-1.5 ; 2.0-2.5)	Catalog		NUMBRS	
F2	CPXS	MENU	Complex variables	Auto-generated catalog of variables of the specified datatype : Complex number (2.0-2.5)	Catalog		CPXS	
F3	REALS	MENU	Real variables	Auto-generated catalog of variables of the specified datatype : Real number (1.0-1.5)	Catalog		REALS	
F4	ANGLES	MENU	Angle variables	Auto-generated catalog of variables of the specified datatype : Angle (1.1-1.5)	Catalog		ANGLES	
F5	L.INTS	MENU	Long integer variables	Auto-generated catalog of variables of the specified datatype : Long integer (0)	Catalog		L.INTS	
F6	ALL	MENU (ASM)	All variables	Auto-generated catalog of all variables ; Info : Matrix variables STATS and HIST0 are also included in this menu, if created	Catalog		ALLVARS	
fF1	CONFIGS	MENU	Config variables	Auto-generated catalog of variables of the specified datatype : Config (9)	Catalog		CONFIGS	
fF2	MATRS	MENU	Real matrix or vector variables	Auto-generated catalog of variables of the specified datatype : Real matrix or vector (6) or Complex matrix or vector (7.n) ; Info : Matrix variables STATS and HIST0 are also included in this menu, if created	Catalog		MATRS	
fF3	DATES	MENU	Date variables	Auto-generated catalog of variables of the specified datatype : Date (4)	Catalog		DATES	
fF4	TIMES	MENU	Time variables	Auto-generated catalog of variables of the specified datatype : Time (3)	Catalog		TIMES	
fF5	S.INTS	MENU	Short integer variables	Auto-generated catalog of variables of the specified datatype : Short integer (8.02-8.16)	Catalog		S.INTS	
fF6	STRINGS	MENU	Text string variables	Auto-generated catalog of variables of the specified datatype : Text string (5)	Catalog		STRINGS	
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

p1	VARS	Link
F1	NUMBRS	https://47calc.com/doc/C47/Menus/C47_Menu_NUMBRS_page_1.pdf
F2	CPXS	https://47calc.com/doc/C47/Menus/C47_Menu_CPXS_page_1.pdf
F3	REALS	https://47calc.com/doc/C47/Menus/C47_Menu_REALS_page_1.pdf
F4	ANGLES	https://47calc.com/doc/C47/Menus/C47_Menu_ANGLES_page_1.pdf
F5	L.INTS	https://47calc.com/doc/C47/Menus/C47_Menu_L-INTS_page_1.pdf
F6	ALL	https://47calc.com/doc/C47/Menus/C47_Menu_ALLVARS_page_1.pdf
fF1	CONFIGS	https://47calc.com/doc/C47/Menus/C47_Menu_CONFIGS_page_1.pdf
fF2	MATRS	https://47calc.com/doc/C47/Menus/C47_Menu_MATRS_page_1.pdf
fF3	DATES	https://47calc.com/doc/C47/Menus/C47_Menu_DATES_page_1.pdf
fF4	TIMES	https://47calc.com/doc/C47/Menus/C47_Menu_TIMES_page_1.pdf
fF5	S.INTS	https://47calc.com/doc/C47/Menus/C47_Menu_S-INTS_page_1.pdf
fF6	STRINGS	https://47calc.com/doc/C47/Menus/C47_Menu_STRINGS_page_1.pdf
gF1		
gF2		
gF3		
gF4		
gF5		
gF6		

VECTOR	Vector menu					
g-shift	→DEG	→RAD	→MUL π	$\vec{v}_3[100]$	$\vec{v}_3[010]$	$\vec{v}_3[001]$
f-shift	$\ \vec{x}\ _p$	UNITV	$\ \vec{x}-\vec{y}\ _2$	$\times \vec{x}, \vec{y}$	dot	cross
unshifted	→R	→SPH	→CYL	$zyx \leftrightarrow \vec{v}_3$	$\vec{v} \leftarrow \vec{v}$	DRG
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	VECTOR	MENU	Vector menu	Vector functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf ; Info : Vectors are stored internally as rectangular and calculation results are presented in rectangular format ; to edit a vector, first put it in rectangular format ; vector TI's are shown for values in X only and a small font may be used ; vector TI's are minimised if the stack changes or [EXIT] is pressed (only ijk or rθk or pθφ is shown, without subscripts or brackets)	Vector operations		VECTOR	
F1	→R	Function (monadic, dyadic)	To rectangular	Transform polar to rectangular coordinates (dyadic, stack conventions according to flag RPH SET or CLEAR) ; transform Complex number or 2D/3D vector to rectangular notation (monadic) and set RECT tag ; TI : x : Re = ; y : Im = (RECT) ; Info : in Program Entry Mode, flag RPH determines whether →RECT _{HP} or →RECT _{EX} is stored ; vector display depends on flag 3Dxyz, for 2D rectangular vector : [ij] [v ₁ v ₂] ; 3D rectangular vector : [ijk] [v ₁ v ₂ v ₃]	Complex and coordinates	RPH	→RECT	
F2	→SPH	Function (monadic)	Tag as Spherical	Tag a 3D vector as having spherical coordinates, according to Physics or Math conventions (for spherical polar vectors) as set by flag 3DPHYS (default CLEAR) and indicated by the TI subscript of the spherical polar vector : p for Physics, m for Math (determines ordering of vector elements, works on whole stack) ; Shortcut : →P cycles through →SPH, then →CYL ; Info : display depends on flag 3DPHYS, for spherical vector : [pθ _i φ _k] _m [v ₁ v ₂ v ₃] ^s	Vector operations	3DPHYS	→SPH	
F3	→CYL	Function (monadic)	Tag as Cylindrical	Tag a 3D vector as having cylindrical coordinates ; Shortcut : →P cycles through →SPH, then →CYL ; Info : display depends on flag 3Dxyz, for cylindrical vector : [rθ _i ; _j k] [v ₁ v ₂ v ₃] ^c	Vector operations	3Dxyz	→CYL	
F4	zyx↔v ₃	Function (triadic, nonpgm)	Compose/decompose 1x3 vector	Compose/decompose 1x3 vector from/to Z, Y, X, according to Physics or Math conventions (for spherical polar vectors) as set by flag 3DPHYS (default CLEAR) ; tagged angles in the input will be recognized and the appropriate coordinate tag will be applied to the vector ; Info : Display depends on flag 3Dxyz, for rectangular vector : [ijk] [v ₁ v ₂ v ₃] ; rectangular elements : [i] = ; [j] = ; [k] = ; spherical vector : [pθ _i ; _j φ _k] _m [v ₁ v ₂ v ₃] ^s ; spherical elements : [p] = ; [θ _i] = ; [φ _k] = ; cylindrical vector : [rθ _i ; _j k] [v ₁ v ₂ v ₃] ^c ; cylindrical elements : [r] = ; [θ _i] = ; [k] =	Vector operations	3Dxyz	zyx↔v ₃	
F5	↔↔↔	MENU	Vector conversions	Vector conversion functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf ; Info : Vectors are stored internally as rectangular and calculation results are presented in rectangular format ; to edit a vector, first put it in rectangular format ; vector TI's are shown for values in X only and a small font may be used ; vector TI's are minimised if the stack changes or [EXIT] is pressed (only ijk or rθk or pθφ is shown, without subscripts or brackets)	Vector operations		↔↔↔	
F6	DRG	Function (monadic, cyclic, nonpgm)	Degrees-radians-gradians	Add ADM tag to untagged value in X, convert tagged value to degrees-radians-gradians (cyclic) ; Info : Setting tag for complex X also sets POLAR mode for X according to ADM	Angle conversions		DRG	
fF1	x _p	Function (monadic)	Norm	Norm of vector or matrix in X with parameter p (trailing input) = 0, 1, 2, ..., 9, ∞ : 0 : Number of non-zeros of vector or matrix in X : x ₀ = Σ _i Σ _j I(a _{ij} ≠0), where I is the indicator function, 1 if true, 0 if false ; 1 : Maximum column sum of absolute element values of a matrix in X : x ₁ = max _i Σ _j a _{ij} ; 2 : Euclidean magnitude of a vector in X or Frobenius norm of a matrix in X : x ₂ = √Σ _i Σ _j a _{ij} ² ; 3 : x ₃ = √Σ _i Σ _j a _{ij} ³ ; ... ; 9 : x ₉ = √Σ _i Σ _j a _{ij} ⁹ ; ∞ : Maximum row sum of absolute element values of a matrix in X : x _∞ = max _j Σ _i a _{ij} ; TAM : x _p _ TamNorm menu ; Info : parameter 0, 1, 2, ..., 9, ∞ (use [TamNorm.1] F2 to enter ∞)	Matrix operations		x _p	
fF2	UNITV	Command	Unit vector or matrix	Unit vector or matrix for Real or Complex matrix or vector ; the result will have Euclidean magnitude 1 ; Info : UNITV also applies to Complex numbers	Complex numbers		UNITV	
fF3	x-ȳ ₂	Function (dyadic)	Perpendicular distance	Perpendicular distance between Real matrices or vectors ; Complex matrices or vectors	Vector operations	3Dxyz	x-ȳ ₂	
fF4	↔x,ȳ	Function (dyadic)	Vector angle	Angle between the 2D or 3D vectors in X and Y	Matrix operations	3Dxyz	↔x,ȳ	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
fF5	dot	Function (dyadic)	Dot product (·)	Dot product of vectors in X and Y	Complex numbers		DOT	
fF6	cross	Function (dyadic)	Cross product (×)	Cross product of vectors in X and Y	Complex numbers		CROSS	
gF1	→DEG	Function (monadic)	Set DEG tag or convert to DEG	If untagged, set tag to DEG (degrees) ; if tagged, convert X to DEG ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→DEG	
gF2	→RAD	Function (monadic)	Set RAD tag or convert to RAD	If untagged, set tag to RAD (radians) ; if tagged, convert X to RAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→RAD	
gF3	→MULπ	Function (monadic)	Set MULπ tag or convert to MULπ	If untagged, set tag to MULπ (multiple of pi radians) ; if tagged, convert X to MULπ ; does not change Angular Display Mode ; Tag : π	Angle tagging or conversion		→MULπ	
gF4	$\vec{v}_3[100]$	Command	Unit vector $[1\ 0\ 0]$	Create a new 3D unit vector with elements $[1\ 0\ 0]$; Info : Display depends on flag 3Dxyz, for rectangular vector : $[ijk] \begin{bmatrix} v_1 & v_2 & v_3 \end{bmatrix}$	Vector operations	3Dxyz	$\vec{v}_3[100]$	
gF5	$\vec{v}_3[010]$	Command	Unit vector $[0\ 1\ 0]$	Create a new 3D unit vector with elements $[0\ 1\ 0]$; Info : Display depends on flag 3Dxyz, for rectangular vector : $[ijk] \begin{bmatrix} v_1 & v_2 & v_3 \end{bmatrix}$	Vector operations	3Dxyz	$\vec{v}_3[010]$	
gF6	$\vec{v}_3[001]$	Command	Unit vector $[0\ 0\ 1]$	Create a new 3D unit vector with elements $[0\ 0\ 1]$; Info : Display depends on flag 3Dxyz, for rectangular vector : $[ijk] \begin{bmatrix} v_1 & v_2 & v_3 \end{bmatrix}$	Vector operations	3Dxyz	$\vec{v}_3[001]$	

p1	VECTOR	Link
F1	$\rightarrow R$	
F2	$\rightarrow SPH$	
F3	$\rightarrow CYL$	
F4	$zyx \leftrightarrow \vec{v}_3$	
F5	$\vec{v} \leftrightarrow \vec{v}$	https://47calc.com/doc/C47/Menus/C47_Menu_VectorConv_page_1.pdf
F6	DRG	
fF1	$\ x\ _p$	
fF2	UNITV	
fF3	$\ \vec{x} - \vec{y}\ _2$	
fF4	$\angle \vec{x}, \vec{y}$	
fF5	dot	
fF6	cross	
gF1	$\rightarrow DEG$	
gF2	$\rightarrow RAD$	
gF3	$\rightarrow MUL\pi$	
gF4	$\vec{v}_3[100]$	
gF5	$\vec{v}_3[010]$	
gF6	$\vec{v}_3[001]$	

VECTOR	Vector menu					
g-shift	→DEG	→RAD	→MUL π		$\vec{v}_2[10]$	$\vec{v}_2[01]$
f-shift	$\ x\ _p$	UNITV	$\ \vec{x}-\vec{y}\ _2$	$\times \vec{x}, \vec{y}$	dot	cross
unshifted	→R	→P	$\mathbb{C} \leftrightarrow \vec{v}_2$	$y \times \leftrightarrow \vec{v}_2$	$\vec{v} \leftarrow \rightarrow \vec{v}$	DRG
Page 2	F1	F2	F3	F4	F5	F6

Prev menu https://47calc.com/doc/C47/Menus/C47_Menu_VECTOR_page_1.pdf

Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Volume_page_1.pdf

Ref 1 https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	VECTOR	MENU	Vector menu	Vector functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf ; Info : Vectors are stored internally as rectangular and calculation results are presented in rectangular format ; to edit a vector, first put it in rectangular format ; vector TI's are shown for values in X only and a small font may be used ; vector TI's are minimised if the stack changes or [EXIT] is pressed (only ijk or rθk or pθφ is shown, without subscripts or brackets)	Vector operations		VECTOR	
F1	→R	Function (monadic, dyadic)	To rectangular	Transform polar to rectangular coordinates (dyadic, stack conventions according to flag RP _{HP} SET or CLEAR) ; transform Complex number or 2D/3D vector to rectangular notation (monadic) and set RECT tag ; TI : x : Re = ; y : Im = (RECT) ; Info : in Program Entry Mode, flag RP _{HP} determines whether →RECT _{HP} or →RECT _{EX} is stored ; vector display depends on flag 3Dxyz, for 2D rectangular vector : [i,j] [v ₁ v ₂] ; 3D rectangular vector : [ijk] [v ₁ v ₂ v ₃]	Complex and coordinates	RP _{HP}	→RECT	
F2	→P	Function (monadic, dyadic)	To polar	Transform rectangular to polar coordinates (dyadic, stack conventions according to flag RP _{HP} SET or CLEAR) ; transform Complex number or 2D/3D vector to polar notation (monadic) and set POLAR tag ; TI : r = ; θ = (POLAR) ; Info : in Program Entry Mode, flag RP _{HP} determines whether →POL _{HP} or →POL _{EX} is stored ; for a 3D vector in X, function →POLAR (→P) cycles through →SPH, then →CYL ; vector display depends on flag 3Dxyz, for 2D polar vector : [rθi,j] [v ₁ v ₂] ^P ; 3D spherical vector : [pθi,jk] _M [v ₁ v ₂ v ₃] ^S ; 3D cylindrical vector : [rθi,jk] [v ₁ v ₂ v ₃] ^C	Complex and coordinates	RP _{HP}	→POLAR	
F3	ℂ↔V ₂	Function (monadic)	Complex to or from 1x2 vector	Convert Complex number to or from 1x2 vector ; Info : Display depends on flag 3Dxyz, for rectangular vector : [i,j] [v ₁ v ₂]	Vector operations	3Dxyz	ℂ↔V ₂	
F4	yx↔V ₂	Function (dyadic, nonpgm)	Compose/decompose 1x2 vector	Compose/decompose 1x2 vector from/to Y, X ; tagged angles in the input will be recognized and the appropriate coordinate tag will be applied to the vector ; Info : Display depends on flag 3Dxyz, for rectangular vector : [i,j] [v ₁ v ₂] ; rectangular elements : [i] = ; [j] = ; polar vector : [rθi,j] [v ₁ v ₂] ^P ; polar elements : [r] = ; [θi,j] =	Vector operations	3Dxyz	yx↔V ₂	
F5	V↔→V	MENU	Vector conversions	Vector conversion functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf ; Info : Vectors are stored internally as rectangular and calculation results are presented in rectangular format ; to edit a vector, first put it in rectangular format ; vector TI's are shown for values in X only and a small font may be used ; vector TI's are minimised if the stack changes or [EXIT] is pressed (only ijk or rθk or pθφ is shown, without subscripts or brackets)	Vector operations		V↔→V	
F6	DRG	Function (monadic, cyclic, nonpgm)	Degrees-radians-gradians	Add ADM tag to untagged value in X, convert tagged value to degrees-radians-gradians (cyclic) ; Info : Setting tag for complex X also sets POLAR mode for X according to ADM	Angle conversions		DRG	
fF1	x _p	Function (monadic)	Norm	Norm of vector or matrix in X with parameter p (trailing input) = 0, 1, 2, ..., 9, ∞ : 0 : Number of non-zeros of vector or matrix in X : x ₀ = Σ _i Σ _j I(a _{ij} ≠0), where I is the indicator function, 1 if true, 0 if false ; 1 : Maximum column sum of absolute element values of a matrix in X : x ₁ = max _j Σ _i a _{ij} ; 2 : Euclidean magnitude of a vector in X or Frobenius norm of a matrix in X : x ₂ = √Σ _i Σ _j a _{ij} ² ; 3 : x ₃ = √Σ _i Σ _j a _{ij} ³ ; ... ; 9 : x ₉ = √Σ _i Σ _j a _{ij} ⁹ ; ∞ : Maximum row sum of absolute element values of a matrix in X : x _∞ = max _i Σ _j a _{ij} ; TAM : x _p _ TamNorm menu ; Info : parameter 0, 1, 2, ..., 9, ∞ (use [TamNorm.1] F2 to enter ∞)	Matrix operations		x _p	
fF2	UNITV	Command	Unit vector or matrix	Unit vector or matrix for Real or Complex matrix or vector ; the result will have Euclidean magnitude 1 ; Info : UNITV also applies to Complex numbers	Complex numbers		UNITV	
fF3	x-y ₂	Function (dyadic)	Perpendicular distance	Perpendicular distance between Real matrices or vectors ; Complex matrices or vectors	Vector operations	3Dxyz	x-y ₂	
fF4	∠x,y	Function (dyadic)	Vector angle	Angle between the 2D or 3D vectors in X and Y	Matrix operations	3Dxyz	∠x,y	
fF5	dot	Function (dyadic)	Dot product (·)	Dot product of vectors in X and Y	Complex numbers		DOT	
fF6	cross	Function (dyadic)	Cross product (×)	Cross product of vectors in X and Y	Complex numbers		CROSS	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF1	→DEG	Function (monadic)	Set DEG tag or convert to DEG	If untagged, set tag to DEG (degrees) ; if tagged, convert X to DEG ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→DEG	
gF2	→RAD	Function (monadic)	Set RAD tag or convert to RAD	If untagged, set tag to RAD (radians) ; if tagged, convert X to RAD ; does not change Angular Display Mode ; Tag : °	Angle tagging or conversion		→RAD	
gF3	→MULπ	Function (monadic)	Set MULπ tag or convert to MULπ	If untagged, set tag to MULπ (multiple of pi radians) ; if tagged, convert X to MULπ ; does not change Angular Display Mode ; Tag : π°	Angle tagging or conversion		→MULπ	
gF4								
gF5	$\vec{v}_2[10]$	Command	Unit vector [1 0]	Create a new 2D unit vector with elements [1 0] ; Info : Display depends on flag 3Dxyz, for rectangular vector : [ij] [v ₁ v ₂]	Vector operations	3Dxyz	$\vec{v}_2[10]$	
gF6	$\vec{v}_2[01]$	Command	Unit vector [0 1]	Create a new 2D unit vector with elements [0 1] ; Info : Display depends on flag 3Dxyz, for rectangular vector : [ij] [v ₁ v ₂]	Vector operations	3Dxyz	$\vec{v}_2[01]$	

p2	VECTOR	Link
F1	$\rightarrow R$	
F2	$\rightarrow P$	
F3	$\mathbb{C} \leftrightarrow \vec{v}_2$	
F4	$y \times \leftrightarrow \vec{v}_2$	
F5	$\vec{v} \leftrightarrow \rightarrow \vec{v}$	https://47calc.com/doc/C47/Menus/C47_Menu_VectorConv_page_1.pdf
F6	DRG	
f F1	$\ x\ _p$	
f F2	UNITV	
f F3	$\ \vec{x} - \vec{y}\ _2$	
f F4	$\angle \vec{x}, \vec{y}$	
f F5	dot	
f F6	cross	
g F1	$\rightarrow \text{DEG}$	
g F2	$\rightarrow \text{RAD}$	
g F3	$\rightarrow \text{MUL}\pi$	
g F4		
g F5	$\vec{v}_2[10]$	
g F6	$\vec{v}_2[01]$	

$\vec{v} \leftrightarrow \vec{v}$	Vector conversions					
g-shift	$\mathbb{C} \rightarrow \vec{v}_2$	$\vec{v}_2 \rightarrow \mathbb{C}$	$V \rightarrow R_{nn}$	$R_{nn} \rightarrow V$	3DPHYS $\square$	3Dxyz $\square$
f-shift	$yx \leftrightarrow \vec{v}_2$		$zyx \leftrightarrow \vec{v}_3$		$tzyx \leftrightarrow \vec{v}_4$	
unshifted	$yx \rightarrow \vec{v}_2$	$\vec{v}_2 \rightarrow yx$	$zyx \rightarrow \vec{v}_3$	$\vec{v}_3 \rightarrow zyx$	$tzyx \rightarrow \vec{v}_4$	$\vec{v}_4 \rightarrow tzyx$
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Arrow_page_1.pdf

Ref 1 https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	$\vec{v} \leftarrow \rightarrow \vec{v}$	MENU	Vector conversions	Vector conversion functions ; Ref : https://47calc.com/doc/C47/Reference/C47_Vector_display.pdf ; Info : Vectors are stored internally as rectangular and calculation results are presented in rectangular format ; to edit a vector, first put it in rectangular format ; vector TI's are shown for values in X only and a small font may be used ; vector TI's are minimised if the stack changes or [EXIT] is pressed (only ijk or rθk or pθφ is shown, without subscripts or brackets)	Vector operations		$\vec{v} \leftarrow \rightarrow \vec{v}$	
F1	$yx \rightarrow \vec{v}_2$	Function (dyadic)	Compose 1x2 vector	Compose 1x2 vector from Y, X ; tagged angles in the input will be recognized and the appropriate coordinate tag will be applied to the vector ; Info : Display depends on flag 3Dxyz, for rectangular vector : [ij] [v ₁ v ₂] ; polar vector : [rθ _i] [v ₁ v ₂] ^p	Vector operations	3Dxyz	$yx \rightarrow \vec{v}_2$	
F2	$\vec{v}_2 \rightarrow yx$	Function (monadic)	Decompose 1x2 vector	Decompose 1x2 vector to Y, X ; Info : Display depends on flag 3Dxyz, for rectangular elements : [i]= ; [j]= ; polar elements : [r]= ; [θ _i]=	Vector operations	3Dxyz	$\vec{v}_2 \rightarrow yx$	
F3	$zyx \rightarrow \vec{v}_3$	Function (triadic)	Compose 1x3 vector	Compose 1x3 vector from Z, Y, X, according to Physics or Math conventions (for spherical polar vectors) as set by flag 3DPHYS (default CLEAR) ; tagged angles in the input will be recognized and the appropriate coordinate tag will be applied to the vector ; Info : Display depends on flag 3Dxyz, for rectangular vector : [ijk] [v ₁ v ₂ v ₃] ; spherical vector : [pθ _i φ _k] _M [v ₁ v ₂ v ₃] ^s ; cylindrical vector : [rθ _i ; _k] [v ₁ v ₂ v ₃] ^c ; in Program Entry Mode, flag 3DPHYS determines whether $zyx \rightarrow \vec{v}_{3M}$ or $zyx \rightarrow \vec{v}_{3P}$ is stored ; notation convention is indicated by the TI subscript of the spherical polar vector : p for Physics, M for Math (determines ordering of vector elements, works on whole stack)	Vector operations	3Dxyz	$zyx \rightarrow \vec{v}_3$	
F4	$\vec{v}_3 \rightarrow zyx$	Function (monadic)	Decompose 1x3 vector	Decompose 1x3 vector to Z, Y, X, according to Physics or Math conventions (for spherical polar vectors) as set by flag 3DPHYS (default CLEAR) ; Info : Display depends on flag 3Dxyz, for rectangular elements : [i]= ; [j]= ; [k]= ; spherical elements : [p]= ; [θ _i]= ; [φ _k]= ; cylindrical elements : [r]= ; [θ _i]= ; [k]= ; in Program Entry Mode, flag 3DPHYS determines whether $\vec{v}_3 \rightarrow zyx_M$ or $\vec{v}_3 \rightarrow zyx_P$ is stored	Vector operations	3Dxyz	$\vec{v}_3 \rightarrow zyx$	
F5	$tzyx \rightarrow \vec{v}_4$	Function (tetradic)	Compose 1x4 vector	Compose 1x4 vector from T, Z, Y, X	Vector operations		$tzyx \rightarrow \vec{v}_4$	
F6	$\vec{v}_4 \rightarrow tzyx$	Function (monadic)	Decompose 1x4 vector	Decompose 1x4 vector to T, Z, Y, X	Vector operations		$\vec{v}_4 \rightarrow tzyx$	
fF1	$yx \leftrightarrow \vec{v}_2$	Function (dyadic, nonpgm)	Compose/decompose 1x2 vector	Compose/decompose 1x2 vector from/to Y, X ; tagged angles in the input will be recognized and the appropriate coordinate tag will be applied to the vector ; Info : Display depends on flag 3Dxyz, for rectangular vector : [ij] [v ₁ v ₂] ; rectangular elements : [i]= ; [j]= ; polar vector : [rθ _i] [v ₁ v ₂] ^p ; polar elements : [r]= ; [θ _i]=	Vector operations	3Dxyz	$yx \leftrightarrow \vec{v}_2$	
fF2								
fF3	$zyx \leftrightarrow \vec{v}_3$	Function (triadic, nonpgm)	Compose/decompose 1x3 vector	Compose/decompose 1x3 vector from/to Z, Y, X, according to Physics or Math conventions (for spherical polar vectors) as set by flag 3DPHYS (default CLEAR) ; tagged angles in the input will be recognized and the appropriate coordinate tag will be applied to the vector ; Info : Display depends on flag 3Dxyz, for rectangular vector : [ijk] [v ₁ v ₂ v ₃] ; rectangular elements : [i]= ; [j]= ; [k]= ; spherical vector : [pθ _i φ _k] _M [v ₁ v ₂ v ₃] ^s ; spherical elements : [p]= ; [θ _i]= ; [φ _k]= ; cylindrical vector : [rθ _i ; _k] [v ₁ v ₂ v ₃] ^c ; cylindrical elements : [r]= ; [θ _i]= ; [k]=	Vector operations	3Dxyz	$zyx \leftrightarrow \vec{v}_3$	
fF4								
fF5	$tzyx \leftrightarrow \vec{v}_4$	Function (tetradic, nonpgm)	Compose/decompose 1x4 vector	Compose/decompose 1x4 vector from/to T, Z, Y, X	Vector operations		$tzyx \leftrightarrow \vec{v}_4$	
fF6								
gF1	$\mathbb{C} \rightarrow \vec{v}_2$	Function (monadic)	Complex to 1x2 vector	Convert Complex number to 1x2 vector ; Info : Display depends on flag 3Dxyz, for rectangular vector : [ij] [v ₁ v ₂]	Vector operations	3Dxyz	$\mathbb{C} \rightarrow \vec{v}_2$	
gF2	$\vec{v}_2 \rightarrow \mathbb{C}$	Function (monadic)	1x2 vector to Complex number	Convert 1x2 vector to Complex number (2.0-2.5)	Vector operations	3Dxyz	$\vec{v}_2 \rightarrow \mathbb{C}$	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF3	V→R _{nn}	Command	Copy elements to registers	Copy elements of matrix or vector in X to ascending range of registers, starting with register nn (TAM), where numbers of registers depends on size of matrix or vector ; TAM : V→R _{nn} __ TamIndirect menu ; be careful when using the range of stack registers (100-107) ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Matrix operations	3Dxyz	V→R _{nn}	
gF4	R _{nn} →V	Command	Fill matrix from registers	Fill matrix or vector in X from ascending range of registers starting with register nn (TAM), where numbers of registers depends on size of matrix or vector ; TAM : R _{nn} →V __ TamIndirect menu ; Ref : https://47calc.com/doc/C47/Reference/C47_Registers.pdf	Matrix operations	3Dxyz	R _{nn} →V	
gF5	3DPHYS □	Setting (pgm)	Physics or Math	Switch on Physics conventions in spherical polar vectors ; Info : The notation convention is indicated by the TI subscript of the spherical polar vector : _p for Physics, _m for Math (determines ordering of vector elements, works on whole stack)	Vector operations	3DPHYS		OFF
gF6	3Dxyz □	Setting (pgm)	xyz or ijk vector display	Switch on xyz (rθz) display of vectors ; Info : Indicated by TI subscript of vector elements : _{xyz} or _{ijk}	Vector operations	3Dxyz		OFF

Volume:	Volume conversions					
g-shift	gal _{UK} ←	→ floz _{UK}	m ³ ←	→ barrel	ℓ ←	→ qt _{UK}
f-shift	mℓ ←	→ floz _{UK}	ft ³ ←	→ gal _{UK}	ℓ ←	→ gal _{UK}
unshifted	mℓ ←	→ in ³	in ³ ←	→ floz _{UK}	ℓ ←	→ ft ³
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Volume_page_2.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Volume:	MENU	Volume conversions	Convert between units of volume ; this menu has two pages, one for the UK (imperial) units, the other for the US (customary) units : this is determined by flag CONV _{US} , which is SET for US units on page 1 ; CLEAR for UK units on page 1 (default CLEAR) ; Info : Flag CONV _{HP} may be SET for <to> ←> <to> unit conversion buttons ; CLEAR for <from> → ← <from> unit conversion buttons (default SET)	Volume conversions		Volume:	
F1	in ³ →mℓ (mℓ ←)	Function (monadic, linked)	in ³ to mℓ	Convert cubic inch to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
F2	mℓ→in ³ (→ in ³)	Function (monadic, linked)	mℓ to in ³	Convert millilitre to cubic inch ; TI : in ³ :	Volume conversions	CONV _{HP}		
F3	floz _{UK} →in ³ (in ³ ←)	Function (monadic, linked)	floz _{UK} to in ³	Convert UK fluid ounce to cubic inch ; TI : in ³ :	Volume conversions	CONV _{HP}		
F4	in ³ →floz _{UK} (→ floz _{UK})	Function (monadic, linked)	in ³ to floz _{UK}	Convert cubic inch to UK fluid ounce ; TI : floz _{UK} :	Volume conversions	CONV _{HP}		
F5	ft ³ →ℓ (ℓ ←)	Function (monadic, linked)	ft ³ to ℓ	Convert cubic foot to litre ; TI : ℓ:	Volume conversions	CONV _{HP}		
F6	ℓ→ft ³ (→ ft ³)	Function (monadic, linked)	ℓ to ft ³	Convert litre to cubic foot ; TI : ft ³ :	Volume conversions	CONV _{HP}		
fF1	floz _{UK} →mℓ (mℓ ←)	Function (monadic, linked)	floz _{UK} to mℓ	Convert UK fluid ounce to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
fF2	mℓ→floz _{UK} (→ floz _{UK})	Function (monadic, linked)	mℓ to floz _{UK}	Convert millilitre to UK fluid ounce ; TI : floz _{UK} :	Volume conversions	CONV _{HP}		
fF3	gal _{UK} →ft ³ (ft ³ ←)	Function (monadic, linked)	gal _{UK} to ft ³	Convert UK gallon to cubic foot ; TI : ft ³ :	Volume conversions	CONV _{HP}		
fF4	ft ³ →gal _{UK} (→ gal _{UK})	Function (monadic, linked)	ft ³ to gal _{UK}	Convert cubic foot to UK gallon ; TI : gal _{UK} :	Volume conversions	CONV _{HP}		
fF5	gal _{UK} →ℓ (ℓ ←)	Function (monadic, linked)	gal _{UK} to ℓ	Convert UK gallon to litre ; TI : ℓ:	Volume conversions	CONV _{HP}		
fF6	ℓ→gal _{UK} (→ gal _{UK})	Function (monadic, linked)	ℓ to gal _{UK}	Convert litre to UK gallon ; TI : gal _{UK} :	Volume conversions	CONV _{HP}		
gF1	floz _{UK} →gal _{UK} (gal _{UK} ←)	Function (monadic, linked)	floz _{UK} to gal _{UK}	Convert UK fluid ounce to UK gallon ; TI : gal _{UK} :	Volume conversions	CONV _{HP}		
gF2	gal _{UK} →floz _{UK} (→ floz _{UK})	Function (monadic, linked)	gal _{UK} to floz _{UK}	Convert UK gallon to UK fluid ounce ; TI : floz _{UK} :	Volume conversions	CONV _{HP}		
gF3	barrel→m ³ (m ³ ←)	Function (monadic, linked)	barrel to m ³	Convert barrel to cubic metre ; TI : m ³ :	Volume conversions	CONV _{HP}		
gF4	m ³ →barrel (→ barrel)	Function (monadic, linked)	m ³ to barrel	Convert cubic metre to barrel ; TI : barrel:	Volume conversions	CONV _{HP}		
gF5	qt _{UK} →ℓ (ℓ ←)	Function (monadic, linked)	qt _{UK} to ℓ	Convert UK quart to litre ; TI : ℓ:	Volume conversions	CONV _{HP}		
gF6	ℓ→qt _{UK} (→ qt _{UK})	Function (monadic, linked)	ℓ to qt _{UK}	Convert litre to UK quart ; TI : qt _{UK} :	Volume conversions	CONV _{HP}		

Volume:	Volume conversions					
g-shift	gal _{us} ←	→ floz _{us}	m ³ ←	→ barrel	ℓ ←	→ qt _{us}
f-shift	mℓ ←	→ floz _{us}	ft ³ ←	→ gal _{us}	ℓ ←	→ gal _{us}
unshifted	mℓ ←	→ in ³	in ³ ←	→ floz _{us}	ℓ ←	→ ft ³
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_Weibl_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	Volume:	MENU	Volume conversions	Convert between units of volume ; this menu has two pages, one for the UK (imperial) units, the other for the US (customary) units : this is determined by flag CONV _{US} , which is SET for US units on page 1 ; CLEAR for UK units on page 1 (default CLEAR) ; Info : Flag CONV _{HP} may be SET for <to> ←> <to> unit conversion buttons ; CLEAR for <from> → ← <from> unit conversion buttons (default SET)	Volume conversions		Volume:	
F1	in ³ →mℓ (mℓ ←)	Function (monadic, linked)	in ³ to mℓ	Convert cubic inch to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
F2	mℓ→in ³ (→ in ³)	Function (monadic, linked)	mℓ to in ³	Convert millilitre to cubic inch ; TI : in ³ :	Volume conversions	CONV _{HP}		
F3	floz _{US} →in ³ (in ³ ←)	Function (monadic, linked)	floz _{US} to in ³	Convert US fluid ounce to cubic inch ; TI : in ³ :	Volume conversions	CONV _{HP}		
F4	in ³ →floz _{US} (→ floz _{US})	Function (monadic, linked)	in ³ to floz _{US}	Convert cubic inch to US fluid ounce ; TI : floz _{US} :	Volume conversions	CONV _{HP}		
F5	ft ³ →ℓ (ℓ ←)	Function (monadic, linked)	ft ³ to ℓ	Convert cubic foot to litre ; TI : ℓ:	Volume conversions	CONV _{HP}		
F6	ℓ→ft ³ (→ ft ³)	Function (monadic, linked)	ℓ to ft ³	Convert litre to cubic foot ; TI : ft ³ :	Volume conversions	CONV _{HP}		
fF1	floz _{US} →mℓ (mℓ ←)	Function (monadic, linked)	floz _{US} to mℓ	Convert US fluid ounce to millilitre ; TI : mℓ:	Volume conversions	CONV _{HP}		
fF2	mℓ→floz _{US} (→ floz _{US})	Function (monadic, linked)	mℓ to floz _{US}	Convert millilitre to US fluid ounce ; TI : floz _{US} :	Volume conversions	CONV _{HP}		
fF3	gal _{US} →ft ³ (ft ³ ←)	Function (monadic, linked)	gal _{US} to ft ³	Convert US gallon to cubic foot ; TI : ft ³ :	Volume conversions	CONV _{HP}		
fF4	ft ³ →gal _{US} (→ gal _{US})	Function (monadic, linked)	ft ³ to gal _{US}	Convert cubic foot to US gallon ; TI : gal _{US} :	Volume conversions	CONV _{HP}		
fF5	gal _{US} →ℓ (ℓ ←)	Function (monadic, linked)	gal _{US} to ℓ	Convert US gallon to litre ; TI : ℓ:	Volume conversions	CONV _{HP}		
fF6	ℓ→gal _{US} (→ gal _{US})	Function (monadic, linked)	ℓ to gal _{US}	Convert litre to US gallon ; TI : gal _{US} :	Volume conversions	CONV _{HP}		
gF1	floz _{US} →gal _{US} (gal _{US} ←)	Function (monadic, linked)	floz _{US} to gal _{US}	Convert US fluid ounce to US gallon ; TI : gal _{US} :	Volume conversions	CONV _{HP}		
gF2	gal _{US} →floz _{US} (→ floz _{US})	Function (monadic, linked)	gal _{US} to floz _{US}	Convert US gallon to US fluid ounce ; TI : floz _{US} :	Volume conversions	CONV _{HP}		
gF3	barrel→m ³ (m ³ ←)	Function (monadic, linked)	barrel to m ³	Convert barrel to cubic metre ; TI : m ³ :	Volume conversions	CONV _{HP}		
gF4	m ³ →barrel (→ barrel)	Function (monadic, linked)	m ³ to barrel	Convert cubic metre to barrel ; TI : barrel:	Volume conversions	CONV _{HP}		
gF5	qt _{US} →ℓ (ℓ ←)	Function (monadic, linked)	qt _{US} to ℓ	Convert US quart to litre ; TI : ℓ:	Volume conversions	CONV _{HP}		
gF6	ℓ→qt _{US} (→ qt _{US})	Function (monadic, linked)	ℓ to qt _{US}	Convert litre to US quart ; TI : qt _{US} :	Volume conversions	CONV _{HP}		

Weibl:	Weibull distribution					
g-shift	ST0 _g k	ST0 _s λ				
f-shift						
unshifted	Weibl _p		Weibl _Δ	Weibl _Δ		Weibl ⁻¹
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Next menu https://47calc.com/doc/C47/Menus/C47_Menu_X-FN_page_1.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Weibl:	MENU	Weibull distribution	Weibull probability distribution (continuous) ; TI : RegQ = k = ; RegS = λ =	Probability (real)		Weibl:	
F1	Weibl _p	Function (monadic)	Weibull pdf	Weibull probability density function	Probability (real)		Weibl _p	
F2								
F3	Weibl _Δ	Function (monadic)	Weibull cdf (lower)	Weibull cumulative distribution (lower tail)	Probability (real)		Weibl _Δ	
F4	Weibl _Δ	Function (monadic)	Weibull cdf (upper)	Weibull cumulative distribution (upper tail)	Probability (real)		Weibl _Δ	
F5								
F6	Weibl ⁻¹	Function (monadic)	Weibull qf (inverse)	Weibull inverse cumulative distribution (quantile)	Probability (real)		Weibl ⁻¹	
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	ST0 _Q k	Command	Store k in Q	Store parameter k : shape in register Q ; Split screen : RegQ = k =	Probability (real)			
gF2	ST0 _S λ	Command	Store λ in S	Store parameter λ : scale in register S ; Split screen : RegS = λ =	Probability (real)			
gF3								
gF4								
gF5								
gF6								

X.FN	Extended functions					
g-shift	g_d	g_d^{-1}	NumTh	XFCNS	B_n	B_n^*
f-shift	$\zeta(x)$	$ $	M.FACT	e^{ix}	$(-1)^x$	$x!$
unshifted	NEXTP	PRIME?	FACTORS	FIB	AGM	LINPOL
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Prime_numbers.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	X.FN	MENU	Extended functions	Extended functions (Bessel, Bernoulli, Gamma, Elliptical, Orthogonal, etcetera) ; Ref : https://47calc.com/doc/C47/Reference/C47_Prime_numbers.pdf	Mathematics		X.FN	
F1	NEXTP	Function (monadic)	Next prime	Next prime of the integer X ; Info : Prime numbers are calculated only if $X < 10^{30}$, or NEXTP raises Error 1 -- An argument exceeds the function domain (may depend on flag CPXRES and SPCRES)	Mathematics		NEXTP	
F2	PRIME?	Command (logical)	Primality test	Test X is a prime number (must be integer) -- see https://en.wikipedia.org/wiki/Miller%E2%80%93Rabin_primality_test ; Info : Miller-Rabin probabilistic primality test is used (25 repetitions) ; PRIME? is correct up to 3 317 044 064 679 887 385 961 980 ; above that limit there are no false negatives, but there is a very low probability of false positives (albeit no known cases)	Programming		PRIME?	
F3	FACTORS	Function (monadic)	Prime factors	Prime factors of the integer input in X ; factors are calculated in Long integer, stored as Real number (34 digits) and returned as a 2 row matrix (row 1 contains the primes, row 2 contains the powers) ; shows status, number being tested and last factor found ; interrupt by [EXIT] ; registers G, H, K are used to store the last three factors, in Long integer (register K stores the remaining number to be factorised after interrupt) -- see https://en.wikipedia.org/wiki/Pollard's_rho_algorithm ; https://en.wikipedia.org/wiki/Shanks%27s_square_forms_factorization ; Info : Pollard's rho algorithm and Shanks's square forms factorization are used ; prime factors will be accurate up to 3 317 044 064 679 887 385 961 980 ; for input values > 34 digits, the long integer factors are saved in DATA/<YYYYMMDD-HHMMSS00>.REGS.TSV ; during execution, status info may be shown: Factors: Small prime trial: p = Factors: Perfect Sq trial: p = Factors: Shanks/Pollard's n = Factors: Shanks/Pollard's n =	Integers		FACTORS	
F4	FIB	Function (monadic)	Fibonacci number	Fibonacci number n, where $n = X$ -- see https://en.wikipedia.org/wiki/Fibonacci_sequence	Mathematics		FIB	
F5	AGM	Function (dyadic)	Arithmetic geometric mean	Arithmetic geometric mean of X and Y	Mathematics		AGM	
F6	LINPOL	Function (triadic)	Linear interpolation	Linear interpolation ; also works for Complex numbers and Dates ; Info : <from> ENTER <towards> ENTER <at> (fraction) LINPOL	Mathematics		LINPOL	
ff1	$\zeta(x)$	Function (monadic)	Riemann's Zeta for real arguments	Riemann's Zeta for real arguments -- see http://mathworld.wolfram.com/RiemannZetaFunction.html	Mathematics		$\zeta(x)$	
ff2		Function (dyadic)	Parallel impedance	Parallel impedance : $(X \times Y) / (X + Y)$	Electrical engineering and characters			
ff3	M.FACT	Function (monadic)	Multiply (prime) factors	Multiply (prime) factors from a 2 row matrix in X (row 1 contains the factors, row 2 contains the powers) ; Info : E.g. use FACTORS matrix as input in X	Integers		M.FACT	
ff4	e^{ix}	Function (monadic)	Euler's formula	Rotate complex unit vector by X radians : $e^{ix} = \cos(x) + i \sin(x)$; Info : i or j displayed in stack and on soft buttons	Mathematics	CPX.j	e^{ix}	
ff5	$(-1)^x$	Function (monadic)	Cosine of πx	Cosine of πx ; for complex parameter : $(-1)^x = e^{i\pi x} = \cos(\pi x) + i \sin(\pi x)$; Info : Esp. for non-integer x	Mathematics		$(-1)^x$	
ff6	x!	Function (monadic)	Factorial x! or $\Gamma(x+1)$	For Long integers : x! ; for Reals : $\Gamma(x+1)$; Info : Max integer: 450 (up to 1000 digits accurate) ; max real : 2123.549 956 662 463 236 31 ; integers > max are converted to reals	Mathematics		x!	
gF1	gd	Function (monadic)	Gudermannian function	Gudermannian function -- see http://en.wikipedia.org/wiki/Gudermannian_function	Mathematics		gd	
gF2	gd ⁻¹	Function (monadic)	Inverse Gudermannian function	Inverse Gudermannian function -- see http://en.wikipedia.org/wiki/Gudermannian_function	Mathematics		gd ⁻¹	
gF3	NumTh	MENU	Number theory functions	Number theory functions -- see https://en.wikipedia.org/wiki/Divisor_function	Mathematics		NumTh	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF4	XFCNS	MENU	Extended functions	Extended accuracy functions for compounded input from three or six consecutive registers, effectively to 1000 digits for new models and simulator, but function not available on DM42 hardware ; when working from the stack, the compound result overwrites X, Y, Z, but when working from other registers, the compound result is pushed onto the stack ; Y will contain Long integer ; when menu XFCNS is open, setting HIDE is ignored ; Split screen : Displaying $X \times Y + Z = \langle \text{value} \rangle$ and $T \times A + B = \langle \text{value} \rangle$ (or "Invalid register type/angle") when menu XFCNS is open (on new stack input, using ALL notation ; Info : extended accuracy functions are defined for (compound) real input and output only, or will result in NaN (Not a Number) or Error 31 -- Input data types do not match ; when menu XFCNS is open, if XYZ contains result in Virtual compound data type, SHOW displays $X : XY + Z = \langle \text{value} \rangle$ and ditto for T : $TA + B$ and for the dedicated triple register storage, e.g. R90 : FMA: (fused multiply-add) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Extended accuracy		XFCNS	
gF5	B_n	Function (monadic)	Bernoulli number (new definition)	Bernoulli number (new definition)	Mathematics		B_n	
gF6	B_n^*	Function (monadic)	Bernoulli number (old definition)	Bernoulli number (old definition)	Mathematics		B_n^*	

p1	X.FN	Link
F1	NEXTP	
F2	PRIME?	
F3	FACTORS	
F4	FIB	
F5	AGM	
F6	LINPOL	
fF1	$\zeta(x)$	
fF2	$ $	
fF3	M.FACT	
fF4	e^{ix}	
fF5	$(-1)^x$	
fF6	$x!$	
gF1	g_d	
gF2	g_d^{-1}	
gF3	NumTh	https://47calc.com/doc/C47/Menus/C47_Menu_NumTh_page_1.pdf
gF4	XFCNS	https://47calc.com/doc/C47/Menus/C47_Menu_XFCNS_page_1.pdf
gF5	B_n	
gF6	B_n^*	

X.FN	Extended functions					
g-shift	Ellipt	Orthog	$J_y(x)$	$Y_y(x)$	erf	erfc
f-shift	W_m	W_p	W^{-1}	I_{xyz}	$\beta(x,y)$	$LN\beta$
unshifted	γ_{xy}	Γ_{xy}	$I\Gamma_p$	$I\Gamma_q$	$\Gamma(x)$	$LN\Gamma$
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Prime_numbers.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	X.FN	MENU	Extended functions	Extended functions (Bessel, Bernoulli, Gamma, Elliptical, Orthogonal, etcetera) ; Ref : https://47calc.com/doc/C47/Reference/C47_Prime_numbers.pdf	Mathematics		X.FN	
F1	γ_{xy}	Function (dyadic)	Lower incomplete Gamma function	Lower incomplete Gamma function -- see https://en.wikipedia.org/wiki/Incomplete_gamma_function	Mathematics		γ_{xy}	
F2	Γ_{xy}	Function (dyadic)	Upper incomplete Gamma function	Upper incomplete Gamma function -- see https://en.wikipedia.org/wiki/Incomplete_gamma_function	Mathematics		Γ_{xy}	
F3	$I\Gamma_p$	Function (dyadic)	Lower regularised incomplete Gamma function	Lower regularised incomplete Gamma function (P) -- see https://mathworld.wolfram.com/RegularizedGammaFunction.html	Mathematics		$I\Gamma_p$	
F4	$I\Gamma_q$	Function (dyadic)	Upper regularised incomplete Gamma function	Upper regularised incomplete Gamma function (Q) -- see https://mathworld.wolfram.com/RegularizedGammaFunction.html	Mathematics		$I\Gamma_q$	
F5	$\Gamma(x)$	Function (monadic)	Gamma function	Gamma function	Mathematics		$\Gamma(x)$	
F6	$\text{LN}\Gamma$	Function (monadic)	Natural logarithm of Gamma function	Natural logarithm of Gamma function	Mathematics		$\text{LN}\Gamma$	
fF1	W_m	Function (monadic)	Lambert's W function (negative)	Lambert's W function (negative branch) ; m = minus -- see http://en.wikipedia.org/wiki/Lambert_W_function	Mathematics		W_m	
fF2	W_p	Function (monadic)	Lambert's W function (principal)	Lambert's W function (principal branch) -- see http://mathworld.wolfram.com/LambertW-Function.html	Mathematics		W_p	
fF3	W^{-1}	Function (monadic)	Inverse of Lambert's W function (principal)	Inverse of Lambert's W function (principal branch, ≥ -1)	Mathematics		W^{-1}	
fF4	I_{xyz}	Function (triadic)	Regularised (incomplete) Beta function	Regularised (incomplete) Beta function -- see https://en.wikipedia.org/wiki/Beta_function	Mathematics		I_{xyz}	
fF5	$\beta(x,y)$	Function (dyadic)	Euler's Beta function	Euler's Beta function	Mathematics		$\beta(x,y)$	
fF6	$\text{LN}\beta$	Function (dyadic)	Natural logarithm of Euler's Beta function	Natural logarithm of Euler's Beta function	Mathematics		$\text{LN}\beta$	
gF1	Ellipt	MENU	Elliptical functions	Elliptical functions ; Ref : https://47calc.com/doc/Application%20Notes/AN0023_C47_R47_WGR_JM_DE_Elliptic_Incl_Anxi.pdf	Mathematics		ELLIPT	
gF2	Orthog	MENU	Orthogonal polynomials	Orthogonal polynomials	Mathematics		ORTHOG	
gF3	$J_y(x)$	Function (monadic)	Bessel function of the 1st kind	Bessel function of the 1st kind and order y -- see http://en.wikipedia.org/wiki/Bessel_function	Mathematics		$J_y(x)$	
gF4	$Y_y(x)$	Command	Bessel function of the 2nd kind	Bessel function of the 2nd kind and order y -- see http://en.wikipedia.org/wiki/Bessel_function	Mathematics		$Y_y(x)$	
gF5	erf	Function (monadic)	Error function	Error function	Mathematics		erf	
gF6	erfc	Function (monadic)	Complementary error function	Complementary error function	Mathematics		erfc	

p2	X.FN	Link
F1	γ_{xy}	
F2	Γ_{xy}	
F3	$I\Gamma_p$	
F4	$I\Gamma_q$	
F5	$\Gamma(x)$	
F6	$LN\Gamma$	
fF1	W_m	
fF2	W_p	
fF3	W^{-1}	
fF4	I_{xyz}	
fF5	$\beta(x,y)$	
fF6	$LN\beta$	
gF1	Ellipt	https://47calc.com/doc/C47/Menus/C47_Menu_Ellipt_page_1.pdf
gF2	Orthog	https://47calc.com/doc/C47/Menus/C47_Menu_Orthog_page_1.pdf
gF3	$J_y(x)$	
gF4	$Y_y(x)$	
gF5	erf	
gF6	erfc	

X.FN	Extended functions					
g-shift						
f-shift						
unshifted	MIN	MAX				
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Prime_numbers.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	X.FN	MENU	Extended functions	Extended functions (Bessel, Bernoulli, Gamma, Elliptical, etcetera) ; Ref : https://47calc.com/doc/C47/Reference/C47_Prime_numbers.pdf	Mathematics		X.FN	
F1	MIN	Function (dyadic)	Minimum	Minimum of X and Y	Mathematics		MIN	
F2	MAX	Function (dyadic)	Maximum	Maximum of X and Y	Mathematics		MAX	
F3								
F4								
F5								
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

XFCNS	Extended functions					
g-shift	X↔XFN	XDRG	XATAN2	XASIN	XACOS	XATAN
f-shift	DEG ◐	RAD ◐	Xπ	XSIN	XCOS	XTAN
unshifted	X↔DEG	X↔RAD	XADD	XSUB	XMULT	XDIV
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https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf

Ref 2

https://47calc.com/doc/Application%20Notes/AN0016_C47_R47_The_1000_digit_issue.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	XFCNS	MENU	Extended functions	Extended accuracy functions for compounded input from three or six consecutive registers, effectively to 1000 digits for new models and simulator, but function not available on DM42 hardware ; when working from the stack, the compound result overwrites X, Y, Z, but when working from other registers, the compound result is pushed onto the stack ; Y will contain Long integer ; when menu XFCNS is open, setting HIDE is ignored ; Split screen : Displaying $X \times Y + Z = \langle \text{value} \rangle$ and $T \times A + B = \langle \text{value} \rangle$ (or "Invalid register type/angle") when menu XFCNS is open (on new stack input, using ALL notation ; Info : extended accuracy functions are defined for (compound) real input and output only, or will result in NaN (Not a Number) or Error 31 -- Input data types do not match ; when menu XFCNS is open, if XYZ contains result in Virtual compound data type, SHOW displays $X : XY + Z = \langle \text{value} \rangle$ and ditto for T : $TA + B$ and for the dedicated triple register storage, e.g. R90 : FMA: (fused multiply-add) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Extended accuracy		XFCNS	
F1	X→DEG	Function (monadic, XFN)	XFN : Set DEG tag or convert to DEG	Extended accuracy function : Set DEG tag or convert to DEG, for compound input from three consecutive stack registers, operates on X ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\times$ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		X→DEG	
F2	X→RAD	Function (monadic, XFN)	XFN : Set RAD tag or convert to RAD	Extended accuracy function : Set RAD tag or convert to RAD, for compound input from three consecutive stack registers, operates on X ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\times$ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		X→RAD	
F3	XADD	Function (dyadic, XFN)	XFN : Add	Extended accuracy function : Add, for compound input from six consecutive stack registers : $(T \times A + B) + (X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XADD to [+] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\times$ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XADD	
F4	XSUB	Function (dyadic, XFN)	XFN : Subtract	Extended accuracy function : Subtract, for compound input from six consecutive stack registers : $(T \times A + B) - (X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XSUB to [-] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\times$ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XSUB	
F5	XMULT	Function (dyadic, XFN)	XFN : Multiply	Extended accuracy function : Multiply, for compound input from six consecutive stack registers : $(T \times A + B) \times (X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XMULT to [x] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\times$ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XMULT	
F6	XDIV	Function (dyadic, XFN)	XFN : Divide	Extended accuracy function : Divide, for compound input from six consecutive stack registers : $(T \times A + B) / (X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XDIV to [:] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\times$ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XDIV	
fF1	DEG °	Setting (pgm)	Set ADM to DEG	Set Angular Display Mode to degrees mode (ADM = 0) ; Info : SBI ° is shown if flag SBadm is SET ; SBI $\angle$ is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBadm	DEG °	ON
fF2	RAD °	Setting (pgm)	Set ADM to RAD	Set Angular Display Mode to radians mode (ADM = 2) ; Info : SBI $\angle$ is shown if flag SBang and SBadm is SET ; SBI : °	Angle tagging or conversion	SBang	RAD °	OFF

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
fF3	X π	Command (XFN)	XFN : π	Extended accuracy command : X π , to push π onto the stack as a Virtual compound data type triplet with factor 1 of $1. \times 10^{-999}$ in X, factor 2 of 1000 digits of π as 0/1.0 ; 0/1.0 ; Long integer in Y and term of 0. in Z ; load state file STATE/xfnToC47user.s47 to assign X π to f[R↓] (π) in USER mode ; Info : SBI Σ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		X π	
fF4	XSIN	Function (monadic, XFN)	XFN : Sine	Extended accuracy function : Sine, for compound input from three consecutive stack registers : SIN(X $\times$ Y + Z) ; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XSIN to [SIN] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI Σ is displayed during calculation ; displays : Taylor Iter: m/1000; Dig: n/1040, where m is iteration counter, n is number of digits, shown if flag MONIT is SET ; function not available on DM42 hardware	Extended accuracy		XSIN	
fF5	XCOS	Function (monadic, XFN)	XFN : Cosine	Extended accuracy function : Cosine, for compound input from three consecutive stack registers : COS(X $\times$ Y + Z) ; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XCOS to [COS] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI Σ is displayed during calculation ; displays : Taylor Iter: m/1000; Dig: n/1040, where m is iteration counter, n is number of digits, shown if flag MONIT is SET ; function not available on DM42 hardware	Extended accuracy		XCOS	
fF6	XTAN	Function (monadic, XFN)	XFN : Tangent	Extended accuracy function : Tangent, for compound input from three consecutive stack registers : TAN(X $\times$ Y + Z) ; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XTAN to [TAN] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI Σ is displayed during calculation ; displays : Taylor Iter: m/1000; Dig: n/1040, where m is iteration counter, n is number of digits, shown if flag MONIT is SET ; function not available on DM42 hardware	Extended accuracy		XTAN	
gF1	X $\rightarrow$ XFN	Command (XFN)	XFN : Convert X to compound	Extended accuracy functionVirtual compound data type (0/1.0-1.5 ; 0/1.0 ; 0/1.0) : Convert X to Virtual compound data type (1.0-1.5 ; 0 ; 1.0) triplet in X, Y, Z ; load state file STATE/xfnToC47user.s47 to assign X $\rightarrow$ XFN to [Σ +] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI Σ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		X $\rightarrow$ XFN	
gF2	XDRG	Function (monadic, cyclic, nonpgm, XFN)	XFN : Degrees-radians-gradians	Extended accuracy function : Degrees-radians-gradians, for compound input from three consecutive stack registers : DRG(X $\times$ Y + Z) ; returns compound result in X, Y, Z, where Y contains Long integer (0) ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI Σ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XDRG	
gF3	XATAN2	Function (dyadic, XFN)	XFN : Expanded inverse tangent	Extended accuracy function : Expanded inverse tangent, for compound input from six consecutive stack registers : ARCTAN{(T $\times$ A + B) / (X $\times$ Y + Z)} ; returns compound result in X, Y, Z, where Y contains Long integer (0) ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI Σ is displayed during calculation ; displays : Taylor Iter: m/1000; Dig: n/1040, where m is iteration counter, n is number of digits, shown if flag MONIT is SET ; function not available on DM42 hardware	Extended accuracy		XATAN2	
gF4	XASIN	Function (monadic, XFN)	XFN : Arc sine	Extended accuracy function : Arc sine, for compound input from three consecutive stack registers : ARCSIN(X $\times$ Y + Z) ; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XASIN to f[SIN] (ASIN) in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI Σ is displayed during calculation ; displays : Taylor Iter: m/1000; Dig: n/1040, where m is iteration counter, n is number of digits, shown if flag MONIT is SET ; function not available on DM42 hardware	Extended accuracy		XASIN	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF5	XACOS	Function (monadic, XFN)	XFN : Arc cosine	Extended accuracy function : Arc cosine, for compound input from three consecutive stack registers : $\text{ARCCOS}(X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XACOS to f[COS] (ACOS) in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\bar{x}$ is displayed during calculation ; displays : Taylor Iter: m/1000; Dig: n/1040, where m is iteration counter, n is number of digits, shown if flag MONIT is SET ; function not available on DM42 hardware	Extended accuracy		XACOS	
gF6	XATAN	Function (monadic, XFN)	XFN : Arc tangent	Extended accuracy function : Arc tangent, for compound input from three consecutive stack registers : $\text{ARCTAN}(X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XATAN to f[TAN] (ATAN) in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\bar{x}$ is displayed during calculation ; displays : Taylor Iter: m/1000; Dig: n/1040, where m is iteration counter, n is number of digits, shown if flag MONIT is SET ; function not available on DM42 hardware	Extended accuracy		XATAN	

XFCNS	Extended functions					
g-shift	X↔XFN	XXRTY				XCHS
f-shift	XMOD↔	XPOWER	XSQR	X10*X	Xe*X	XRSD
unshifted	XMOD	X1/X	XSQRT	XLOG	XLN	XRDP
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0016_C47_R47_The_1000_digit_issue.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p2	XFCNS	MENU	Extended functions	Extended accuracy functions for compounded input from three or six consecutive registers, effectively to 1000 digits for new models and simulator, but function not available on DM42 hardware ; when working from the stack, the compound result overwrites X, Y, Z, but when working from other registers, the compound result is pushed onto the stack ; Y will contain Long integer ; when menu XFCNS is open, setting HIDE is ignored ; Split screen : Displaying $X \times Y + Z = \langle \text{value} \rangle$ and $T \times A + B = \langle \text{value} \rangle$ (or "Invalid register type/angle") when menu XFCNS is open (on new stack input, using ALL notation ; Info : extended accuracy functions are defined for (compound) real input and output only, or will result in NaN (Not a Number) or Error 31 -- Input data types do not match ; when menu XFCNS is open, if XYZ contains result in Virtual compound data type, SHOW displays X : $XY + Z = \langle \text{value} \rangle$ and ditto for T : $TA + B$ and for the dedicated triple register storage, e.g. R90 : FMA: (fused multiply-add) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Extended accuracy		XFCNS	
F1	XMOD	Function (dyadic, XFN)	XFN : Modulo	Extended accuracy function : Modulo, for compound input from six consecutive stack registers : $\text{MOD}\{(T \times A + B), (X \times Y + Z)\}$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XMOD	
F2	X1/X	Function (monadic, XFN)	XFN : Reciprocal	Extended accuracy function : Reciprocal, for compound input from three consecutive stack registers : $1 / (X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign X1/X to [1/x] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		X1/X	
F3	XSQRT	Function (monadic, XFN)	XFN : Square root	Extended accuracy function : Square root, for compound input from three consecutive stack registers : $\sqrt{X \times Y + Z}$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XSQRT to [$\sqrt{x}$] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XSQRT	
F4	XLOG	Function (monadic, XFN)	XFN : Common logarithm	Extended accuracy function : Common logarithm, for compound input from three consecutive stack registers : $\text{LOG}(X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XLOG to [LOG] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XLOG	
F5	XLN	Function (monadic, XFN)	XFN : Natural logarithm	Extended accuracy function : Natural logarithm, for compound input from three consecutive stack registers : $\text{LN}(X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XLN to [LN] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XLN	
F6	XRDP	Function (monadic, XFN)	XFN : Round to decimal places	Extended accuracy function : Round real number to number of decimal places, subject to rounding mode (RMODE), for compound input from three consecutive stack registers : $\text{RDP}(X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; TAM : XRDP _____ TamNonReg menu ; Range is [0, 1034] ; Info : function not available on DM42 hardware	Extended accuracy		XRDP	

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
fF1	XMOD ₄	Function (dyadic, XFN)	XFN : Modulo (angle)	Extended accuracy function : Modulo (angle), for compound input from three consecutive stack registers : $\text{MOD}\{(X \times Y + Z), \langle \text{full circle} \rangle\}$, where $\langle \text{full circle} \rangle$ value is derived from angle tag or Angular Display Mode ; returns compound result in X, Y, Z, where Y contains Long integer (0) ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XMOD ₄	
fF2	XPOWER	Function (dyadic, XFN)	XFN : y to the power x	Extended accuracy function : y to the power x, for compound input from six consecutive stack registers : $(T \times A + B)^{X \times Y + Z}$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XPOWER to f[1/x] (y ^x) in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XPOWER	
fF3	XSQR	Function (monadic, XFN)	XFN : Square	Extended accuracy function : Square, for compound input from three consecutive stack registers : $(X \times Y + Z)^2$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XSQR to f[$\sqrt{x}$] (x^2) in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XSQR	
fF4	X10 ^X	Function (monadic, XFN)	XFN : 10 to the power x	Extended accuracy function : 10 to the power x, for compound input from three consecutive stack registers : $10^{X \times Y + Z}$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign X10 ^X to f[LOG] (10 ^x) in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		X10 ^X	
fF5	Xe ^X	Function (monadic, XFN)	XFN : e to the power x	Extended accuracy function : e to the power x, for compound input from three consecutive stack registers : $e^{X \times Y + Z}$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign Xe ^X to f[LN] (e ^x) in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		Xe ^X	
fF6	XRSD	Function (monadic, XFN)	XFN : Round to significant digits	Extended accuracy function : Round real number to number of significant digits, subject to rounding mode (RMODE), for compound input from three consecutive stack registers : $\text{RSD}(X \times Y + Z)$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; TAM : XRSD ____ TamNonReg menu ; Range is [0, 1034] ; Info : function not available on DM42 hardware	Extended accuracy		XRSD	
gF1	X→XFN	Command (XFN)	XFN : Convert X to compound	Extended accuracy functionVirtual compound data type (0/1.0-1.5 ; 0/1.0 ; 0/1.0) : Convert X to Virtual compound data type (1.0-1.5 ; 0 ; 1.0) triplet in X, Y, Z ; load state file STATE/xfnToC47user.s47 to assign X→XFN to [Σ+] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		X→XFN	
gF2	XXRTY	Function (dyadic, XFN)	XFN : xth root	Extended accuracy function : xth root, for compound input from six consecutive stack registers : $^{X \times Y + Z}\sqrt{(T \times A + B)}$; returns compound result in X, Y, Z, where Y contains Long integer (0) ; load state file STATE/xfnToC47user.s47 to assign XXRTY to g[R ₄] ($\sqrt[y]{x}$) in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI ∞ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XXRTY	
gF3								
gF4								
gF5								

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
gF6	XCHS	Function (monadic, XFN)	XFN : Change sign	Extended accuracy function : Change sign, for compound input from three consecutive stack registers : - (X × Y + Z) ; returns compound result in X, Y, Z, where Y contains Long integer (0) and sign of X and Z is changed ; load state file STATE/xfnToC47user.s47 to assign XCHS to [CHS] in USER mode ; Info : Error 31 -- Input data types do not match -- is raised when input contains Complex number (2.0-2.5) ; SBI $\bar{x}$ is displayed during calculation ; function not available on DM42 hardware	Extended accuracy		XCHS	

XFCNS	Extended functions					
g-shift	dLrgLI ▣	dZ.0 ▣				
f-shift						
unshifted	3ST0	3RCL	3DROP	3SWAP	3DUP	
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Ref 1 https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf

Ref 2 https://47calc.com/doc/Application%20Notes/AN0016_C47_R47_The_1000_digit_issue.pdf

Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p3	XFCNS	MENU	Extended functions	Extended accuracy functions for compounded input from three or six consecutive registers, effectively to 1000 digits for new models and simulator, but function not available on DM42 hardware ; when working from the stack, the compound result overwrites X, Y, Z, but when working from other registers, the compound result is pushed onto the stack ; Y will contain Long integer ; when menu XFCNS is open, setting HIDE is ignored ; Split screen : Displaying $X \times Y + Z = \langle \text{value} \rangle$ and $T \times A + B = \langle \text{value} \rangle$ (or "Invalid register type/angle") when menu XFCNS is open (on new stack input, using ALL notation ; Info : extended accuracy functions are defined for (compound) real input and output only, or will result in NaN (Not a Number) or Error 31 -- Input data types do not match ; when menu XFCNS is open, if XYZ contains result in Virtual compound data type, SHOW displays X : $XY + Z = \langle \text{value} \rangle$ and ditto for T : $TA + B$ and for the dedicated triple register storage, e.g. R90 : FMA: (fused multiply-add) ; Ref : https://47calc.com/doc/C47/Reference/C47_Datatypes.pdf	Extended accuracy		XFCNS	
F1	3STO	Command	Store X, Y, Z	Store X, Y, Z to three consecutive registers, specify first register using TAM ; TAM : 3STO __ Tam menu	Stack		3STO	
F2	3RCL	Command	Recall X, Y, Z	Recall X, Y, Z from three consecutive registers, specify first register using TAM ; TAM : 3RCL __ Tam menu	Stack		3RCL	
F3	3DROP	Command	Drop X, Y, Z	Drop X, Y, Z	Stack		3DROP	
F4	3SWAP	Command	Swap X, Y, Z and T, A, B	Swap X, Y, Z and T, A, B	Stack		3SWAP	
F5	3DUP	Command	Duplicate X, Y, Z to T, A, B	Duplicate X, Y, Z to T, A, B	Stack		3DUP	
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1	dLrgLI 	Setting	Large Long integers display	Switch on (large) Long integers to always display in large text ; not programmable - in PEM, use flag dLrgLI ; Info : dLrgLI is overruled by dZ.0	Display	dLrgLI	dLrgLI 	ON
gF2	dZ.0 	Setting	Display Long integers as Real	Switch on displaying Long integers as Real ; not programmable - in PEM, use flag dZ.0 ; Info : dZ.0 overrules dLrgLI ; Prefix : $\mathbb{Z}$: ; radix not displayed if DSP = 0 ; larger values are displayed using scientific notation and indicated as Long integer by prefix "Z:" even if dZ.0 is CLEAR ; button shows current radix preference	Integers	dZ.0	dZ.0 	OFF
gF3								
gF4								
gF5								
gF6								

YESNO	Confirmation					
g-shift						
f-shift						
unshifted		YES			NO	
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	YESNO	MENU (dialog)	Confirmation	Confirmation menu ; Info : YESNO menu is typically activated by RESET on [CLR.1] gF1	User interface			
F1								
F2	YES	Command	Yes	Respond : Yes	User interface			
F3								
F4								
F5	NO	Command	No	Respond : No	User interface			
F6								
fF1								
fF2								
fF3								
fF4								
fF5								
fF6								
gF1								
gF2								
gF3								
gF4								
gF5								
gF6								

Ymmv:	Mileage conversions					
g-shift	$\text{mpg}_{\text{UK}} \leftarrow$	$\rightarrow \ell/\text{100km}$	$\text{E}/\text{100mi} \leftarrow$	$\rightarrow \text{mpge}_{\text{UK}}$	$\text{mi}/\text{E} \leftarrow$	$\rightarrow \text{E}/\text{100mi}$
f-shift	$\text{mpg}_{\text{US}} \leftarrow$	$\rightarrow \ell/\text{100km}$	$\text{E}/\text{100mi} \leftarrow$	$\rightarrow \text{mpge}_{\text{US}}$	$\text{E}/\text{100km} \leftarrow$	$\rightarrow \text{E}/\text{100mi}$
unshifted	$\text{km}/\ell \leftarrow$	$\rightarrow \ell/\text{100km}$	$\text{E}/\text{100km} \leftarrow$	$\rightarrow \text{km}/\ell_{\text{e}}$	$\text{km}/\text{E} \leftarrow$	$\rightarrow \text{E}/\text{100km}$
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Level	Label	Type	FullName	Extended description	Category	Flag	Catalog	Default
Menu p1	Ymmv:	MENU	Mileage conversions	Convert between units of mileage ("Your mileage may vary"); Info : "E" designates "kWh" ; Flag CONV _{HP} may be SET for <to> ⇐ ⇨ <to> unit conversion buttons ; CLEAR for <from> ⇨ ⇐ <from> unit conversion buttons (default SET)	Mileage conversions		Ymmv:	
F1	ℓ/l ₁₀₀ km→km/ℓ (km/ℓ ⇐)	Function (monadic, linked)	ℓ/l ₁₀₀ km to km/ℓ	Convert litre per 100 kilometre to kilometre per litre ; TI : km/ℓ:	Fuel economy conversions	CONV _{HP}		
F2	km/ℓ⇨ℓ/l ₁₀₀ km (⇨ ℓ/l ₁₀₀ km)	Function (monadic, linked)	km/ℓ to ℓ/l ₁₀₀ km	Convert kilometre per litre to litre per 100 kilometre ; TI : ℓ/100km:	Fuel economy conversions	CONV _{HP}		
F3	km/ℓ _E →kWh/l ₁₀₀ km (E/l ₁₀₀ km ⇐)	Function (monadic, linked)	km/ℓ _E to kWh/l ₁₀₀ km	Convert kilometre per litre equivalent to kiloWatt-hour per 100 kilometre ; TI : kWh/100km: ; Info : single = E/l ₁₀₀ km⇐	EV economy conversions	CONV _{HP}		
F4	kWh/l ₁₀₀ km→km/ℓ _E (⇨ km/ℓ _E)	Function (monadic, linked)	kWh/l ₁₀₀ km to km/ℓ _E	Convert kiloWatt-hour per 100 kilometre to kilometre per litre equivalent ; TI : km/ℓ _E :	EV economy conversions	CONV _{HP}		
F5	kWh/l ₁₀₀ km→km/kWh (km/E ⇐)	Function (monadic, linked)	kWh/l ₁₀₀ km to km/kWh	Convert kiloWatt-hour per 100 kilometre to kilometre per kiloWatt-hour ; TI : km/kWh: ; Info : single = km/E⇐	EV economy conversions	CONV _{HP}		
F6	km/kWh⇨kWh/l ₁₀₀ km (⇨ E/l ₁₀₀ km)	Function (monadic, linked)	km/kWh to kWh/l ₁₀₀ km	Convert kilometre per kiloWatt-hour to kiloWatt-hour per 100 kilometre ; TI : kWh/100km: ; Info : single = E/l ₁₀₀ km⇐	EV economy conversions	CONV _{HP}		
fF1	ℓ/l ₁₀₀ km→mpg _{US} (mpg _{US} ⇐)	Function (monadic, linked)	ℓ/l ₁₀₀ km to mpg _{US}	Convert litre per 100 kilometre to mile per gallon US ; TI : mpg _{US} :	Fuel economy conversions	CONV _{HP}		
fF2	mpg _{US} ⇨ℓ/l ₁₀₀ km (⇨ ℓ/l ₁₀₀ km)	Function (monadic, linked)	mpg _{US} to ℓ/l ₁₀₀ km	Convert mile per gallon US to litre per 100 kilometre ; TI : ℓ/100km:	Fuel economy conversions	CONV _{HP}		
fF3	mpg _{EUS} →kWh/l ₁₀₀ mi (E/l ₁₀₀ mi ⇐)	Function (monadic, linked)	mpg _{EUS} to kWh/l ₁₀₀ mi	Convert mpg gasoline equivalent US to kiloWatt-hour per 100 mile ; TI : kWh/100mi: ; Info : single = E/l ₁₀₀ mi⇐	EV economy conversions	CONV _{HP}		
fF4	kWh/l ₁₀₀ mi→mpg _{EUS} (⇨ mpg _{EUS})	Function (monadic, linked)	kWh/l ₁₀₀ mi to mpg _{EUS}	Convert kiloWatt-hour per 100 mile to mpg gasoline equivalent US ; TI : mpg _{EUS} :	EV economy conversions	CONV _{HP}		
fF5	kWh/l ₁₀₀ mi→kWh/l ₁₀₀ km (E/l ₁₀₀ km ⇐)	Function (monadic, linked)	kWh/l ₁₀₀ mi to kWh/l ₁₀₀ km	Convert kiloWatt-hour per 100 mile to kiloWatt-hour per 100 kilometre ; TI : kWh/100km: ; Info : single = E/l ₁₀₀ km⇐	EV economy conversions	CONV _{HP}		
fF6	kWh/l ₁₀₀ km→kWh/l ₁₀₀ mi (⇨ E/l ₁₀₀ mi)	Function (monadic, linked)	kWh/l ₁₀₀ km to kWh/l ₁₀₀ mi	Convert kiloWatt-hour per 100 kilometre to kiloWatt-hour per 100 mile ; TI : kWh/100mi: ; Info : single = E/l ₁₀₀ mi⇐	EV economy conversions	CONV _{HP}		
gF1	ℓ/l ₁₀₀ km→mpg _{UK} (mpg _{UK} ⇐)	Function (monadic, linked)	ℓ/l ₁₀₀ km to mpg _{UK}	Convert litre per 100 kilometre to mile per gallon UK ; TI : mpg _{UK} :	Fuel economy conversions	CONV _{HP}		
gF2	mpg _{UK} ⇨ℓ/l ₁₀₀ km (⇨ ℓ/l ₁₀₀ km)	Function (monadic, linked)	mpg _{UK} to ℓ/l ₁₀₀ km	Convert mile per gallon UK to litre per 100 kilometre ; TI : ℓ/100km:	Fuel economy conversions	CONV _{HP}		
gF3	mpg _{EUK} →kWh/l ₁₀₀ mi (E/l ₁₀₀ mi ⇐)	Function (monadic, linked)	mpg _{EUK} to kWh/l ₁₀₀ mi	Convert mpg gasoline equivalent UK to kiloWatt-hour per 100 mile ; TI : kWh/100mi: ; Info : single = E/l ₁₀₀ mi⇐	EV economy conversions	CONV _{HP}		
gF4	kWh/l ₁₀₀ mi→mpg _{EUK} (⇨ mpg _{EUK})	Function (monadic, linked)	kWh/l ₁₀₀ mi to mpg _{EUK}	Convert kiloWatt-hour per 100 mile to mpg gasoline equivalent UK ; TI : mpg _{EUK} :	EV economy conversions	CONV _{HP}		
gF5	kWh/l ₁₀₀ mi→mi/kWh (mi/E ⇐)	Function (monadic, linked)	kWh/l ₁₀₀ mi to mi/kWh	Convert kiloWatt-hour per 100 mile to mile per kiloWatt-hour ; TI : mi/kWh: ; Info : single = mi/E⇐	EV economy conversions	CONV _{HP}		
gF6	mi/kWh⇨kWh/l ₁₀₀ mi (⇨ E/l ₁₀₀ mi)	Function (monadic, linked)	mi/kWh to kWh/l ₁₀₀ mi	Convert mile per kiloWatt-hour to kiloWatt-hour per 100 mile ; TI : kWh/100mi: ; Info : single = E/l ₁₀₀ mi⇐	EV economy conversions	CONV _{HP}		