The exercise originating from the WP34C complex example document, dated 2019-10, redone on C47 to illustrate the compatible sequence of HP.RP[].

Item from WP34C document, p3	C47 steps using COMPLEX with →R →P in new mode, HP.RP (clear)	Stack	C47 using only →R →P in new mode, HP.RP (clear)	Stack	Comments
Defaults assumed, i.e. eRPN, DEG, RECT	f[MODE] HP.RP[] f[DISP] [SIG] 03	0.000 0.000 0.000 0.000	f[MODE] HP.RP[] f[MODE] SIG 03	0.000 0.000 0.000 0.000	Clear HP.RP to use natural sequence for COMPLEX, →R, →P
1. Calculate the 132 kV source impedance, given the specified fault level is 16.5 kA with X/R=10. Z = V / I	132000 ENTER 16500 ÷ 3 √x ÷ 10 f[ATAN]	0.000 0.000 4.619 84.29°	10 f[ATAN] 132000 ENTER 16500 ÷ 3 √x ÷	0.000 0.000 84.29° 4.619	Source impedance = 4.619 Ω ∠ 84.29°
	g[→R] Change 2xReals to Rect ! f[COMPLEX] g[→P] Change X to Polar !	0.000 0.000 0.000 4.619∠84.29°	← C47 remains in RECT mode, but the X, Y inputs are Polar. Convert to Re, Im, do COMPLEX, then change X to Polar just to demonstrate the impedance in Polar.		
2. Refer the source impedance to the 33 kV side in order to later calculate the 33 kV maximum current.	33 ENTER 132 ÷ x^2 ×	0.000 0.000 0.000 0.02872+0.2872*i*	33 ENTER 132 ÷ x^2 × x⇄y g[→R] Change 2xReals to Rect !	0.000 0.000 Re = 0.02872 Im = 0.2872	Natural entry sequence: r, θ Source impedance = 0.02872 + i.0.2872 Ω
3. Calculate the impedance of the 132/33 kV transformer, 80 MVA, 11%, X/R=28.67, referred to 33 kV side. S = VI Z = V / I	g[HOME] ↓ HOME, Dn to UNITS 80[•M] 33[•k] ÷ 3√x ÷ 0.11 ÷ 33[•k] 3√x ÷ x⇄y ÷ 28.67 f[ATAN] g[→R] Change 2xReals to Rect ! f[COMPLEX]	0.000 0.000 0.02872+0.2872*i* 0.05220+1.496*i*	28.67 f[ATAN] fff ↓ fff gets to HOME, Dn to UNITS 80[•M] 33[•k] ÷ 3√x ÷ 0.11 ÷ 33[•k] 3√x ÷ x⇄y ÷	0.02872 0.2872 88.00° 1.497	Reach HOME by fff or g[HOME] Calc Z angle Calc Z Tx, Tx Impedance = 1.497 ∠ 88.00° Ω

4. Calculate the current at the 33 kV side of the transformer I = V / ΣZ	+ 33 [•k] 3 √x ÷ x⇄y ÷	0.000 0.000 0.000 483.6+10660.*i*	x⇄y g[→R] **Change 2xReals to Rect !** RCL+ Z x⇄y RCL+ T x⇄y g[→P] **Change 2xReals to Polar** x⇄y 33 [•k] 3 √x ÷ x⇄y ÷	0.02872 0.2872 87.40° 10670 Current is 10670 ∠ -87.40° A	Add impedances
5. Estimate the cross-section area for Aluminium cable, assuming 0.5-second fault clearance time. $t = k^2 A^2 / I^2$	f [|x|] f x^2 0.5 × √x 94 ÷	0.000 0.000 0.000 80.27	f x^2 0.5 × √x 94 ÷	0.02872 0.2872 87.40° 80.27 Minimum size is 80.27 mm², and the cable must be the next size up, i.e. 95 mm² cross sectional area.	Ignore angle, use scalar current Calculate minimum area

Reference: Original 2019-10 WP34C application note with this example: https://cocoon-creations.com/download/WP34C_Complex_Description_Jaco.pdf

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