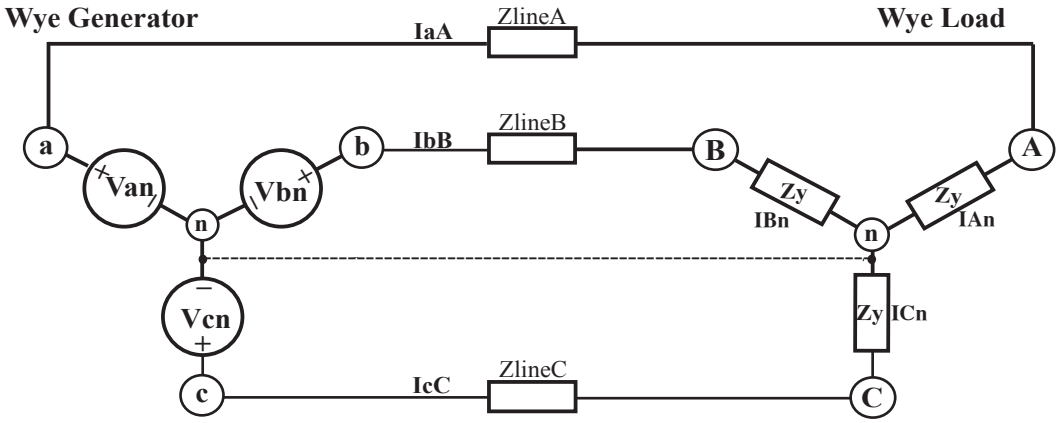
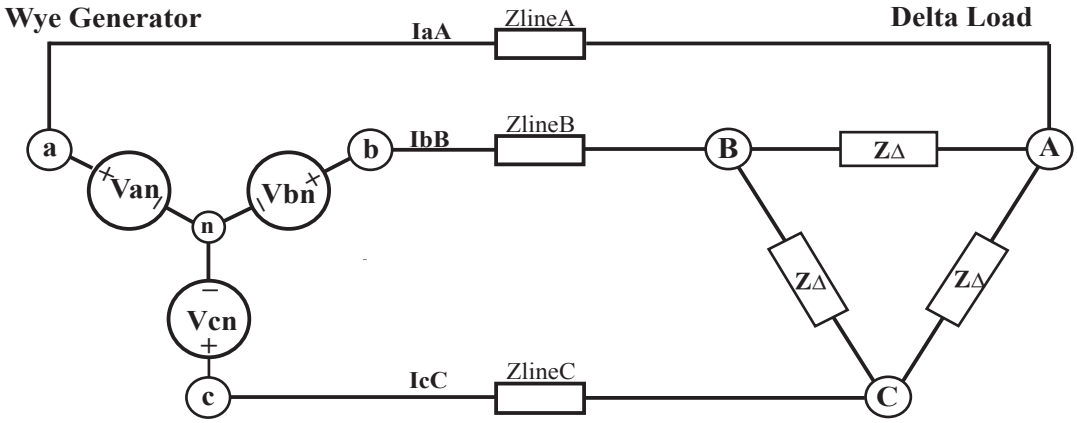
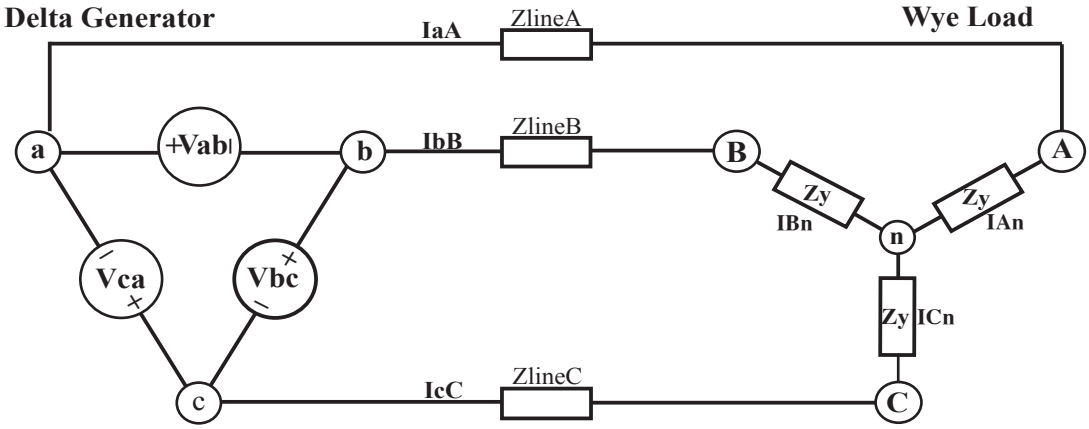
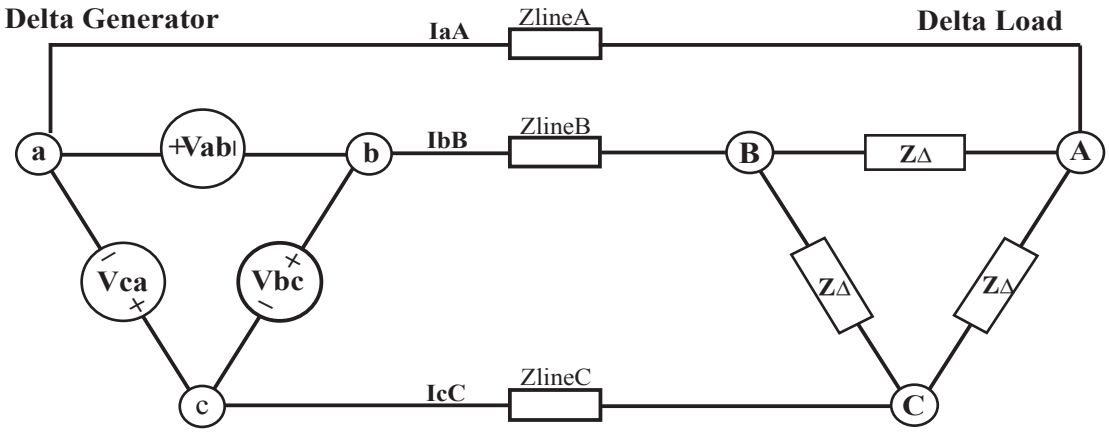
Polyphase Balanced Three Phase Circuits BM



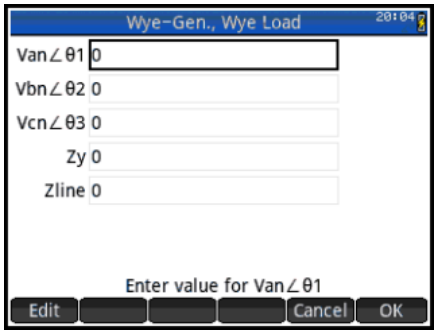






Polyphase/Balanced Three-Phase Circuits

1- **Program Options:**
   1- Bal. Wye-Gen., Wye Load
   2- Bal. Wye-Gen, Delta Load
   3- Bal. Delta-Gen., Wye Load
   4- Bal. Delta-Gen., Delta Load
   5- Clear all Input Vars
   6- 5- Back to Main Menu
   7- Quit EE_Analysis

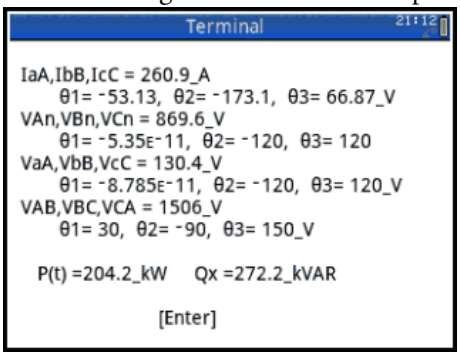


1- **Clear all Input variables.**

The variables used as INPUTS (Z1 to Z0) are Global and are dedicated to the variables below. (Van=Z0, Vbn=Z1, Vcn=Z2, Zy=Z6, Zline=Z8. Vab=Z3, Vbc=Z4, Vca=Z5, ZΔ=Z7, Zline=Z8.)

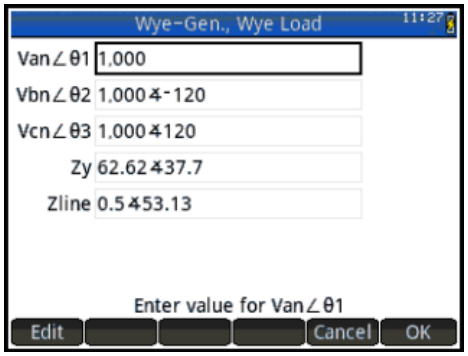
- All input values may be entered in mixed Polar or Rectangular form.
- The value θ1= 0, may appear in the printed results as θ1= 8.75E-11.
- Z10 to Z24 are LOCAL and used in the calculation area only.
- In the variables 'Van', the subscript **'a'** is the positive node and **'n'** the negative.
- In 'Vab', the subscript '**a**' is positive and '**b**' is negative.
- If the LOAD impedance is given as 50_ohms, 0.2_H at 60_Hz, you can convert it to Z by using the Impedance calculator in Section 6- Imp, Reson, Transient, without leaving the program, prior to running the Polyphase section. Also I had to group the 3 sections above to avoid key overlap in the Prog List. This process may be repeated in future UPDATES.

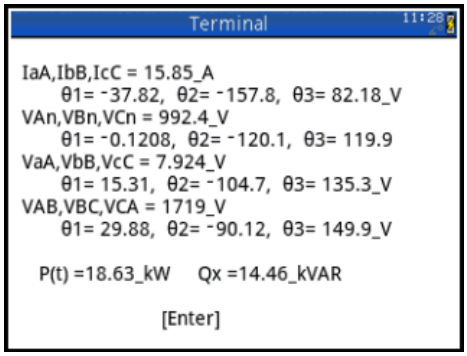
In the result area, notice that the values for VaA, VbB, VcC are identical voltages and need not be repeated.



Only the angles differ and need be displayed separately.

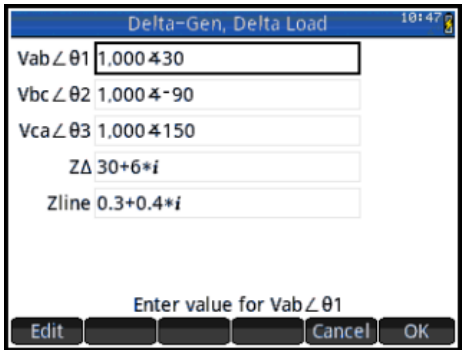
2- The Wye-Gen, Wye Load. (see diagram) is solved directly without conversion.

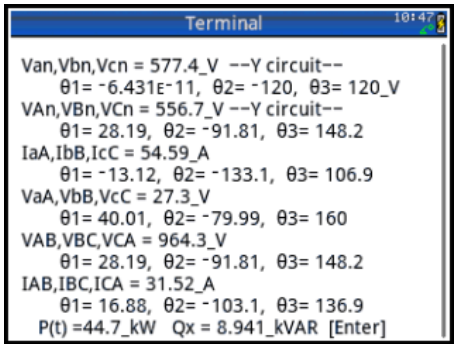




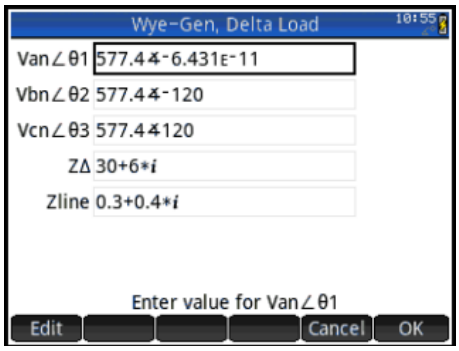
INPUT screen OUTPUT screen

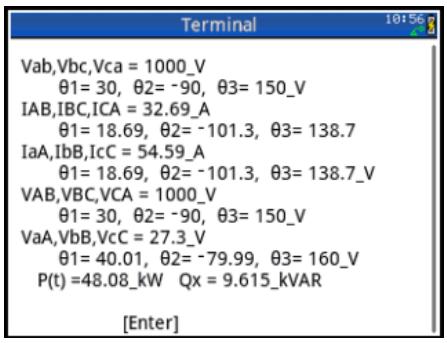
3- The Delta-Gen, Delta Load is solved by converting the Delta-Gen and Delta load. .





4 The Wye-Gen, Delta Load is solved by converting the Delta Load to a Wye Load.





5 The Delta-Gen, Wye Load is solved by converting the Delta-Gen to a Wye Gen.