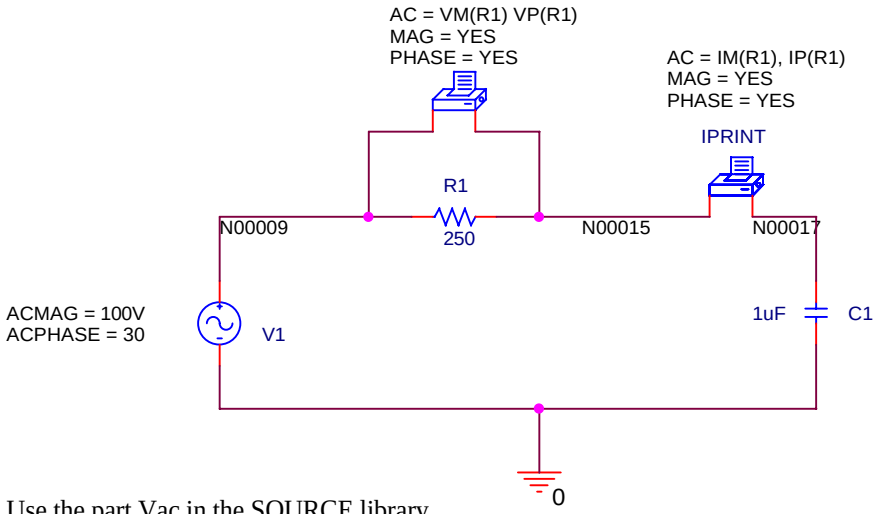
EGR 272
Circuit Theory II
File: AC Analysis - Phasors.opj

AC Circuit Analysis using Phasors

Purpose: To analyze the circuit below using a frequency of 1 kHz and to determine the magnitude and phase angle of the current and the resistor voltage.

Analysis type: AC Sweep



Use the part Vac in the SOURCE library
Phase angle is in degrees. Default value is zero degrees.

To display a node value, double-click on the wire, then right-click on the Name, and choose Display and pick Value Only as the Display Format.

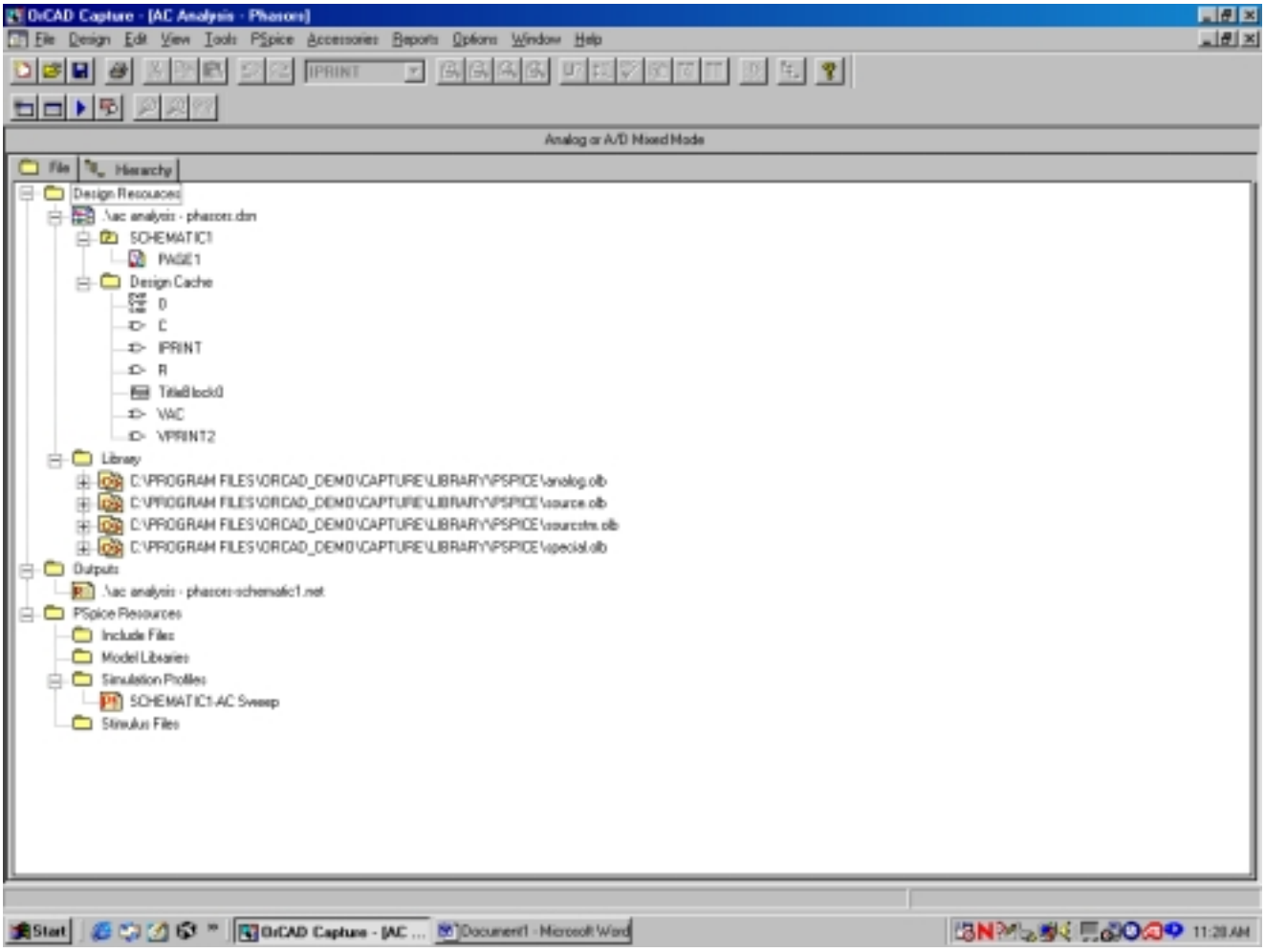
Use the part VPRINT2 in the SPECIAL library for the voltage printer.

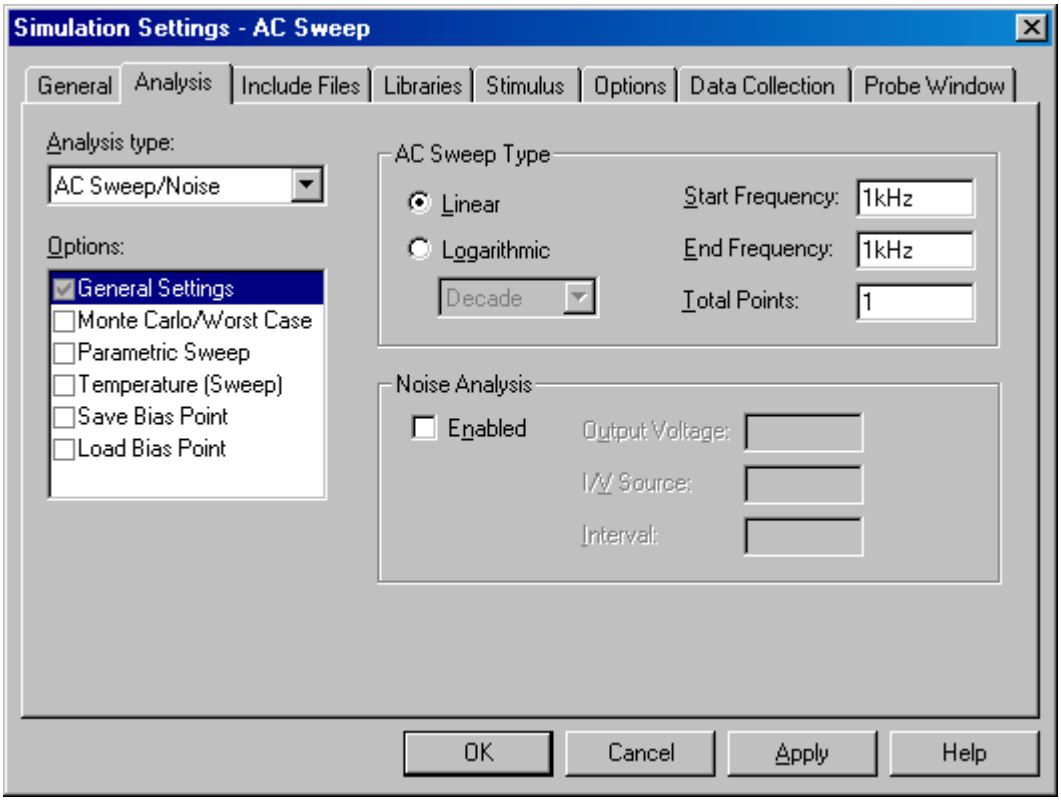
Use the part IPRINT in the SPECIAL library for the current printer.

Note: Use the following notation with printers:
VM = voltage magnitude
VP = voltage phase
IM = current magnitude
IP = current phase

Edit attributes of parts as follows:
1) If the attribute appears next to the part, double click it and then change its value
2) If the attribute does not appear next to the part, double click on the part, find the desired attribute, right click on it and select DISPLAY. Then indicate what Display Format is desired. Once the attribute has been displayed, double-click on it and change the value.

Title <Title>		
Size A	Document Number <Doc>	Rev <RevCode>
Date: Tuesday, January 25, 2000	Sheet 1 of 1	


OrCAD Capture - [AC Analysis - Phasors]
File Design Edit View Tools PSpice Accessories Reports Options Window Help
Analog or A/D Mixed Mode
File Hierarchy
Design Resources
.\ac analysis - phasors.dsn
SCHEMATIC1
PAGE1
Design Cache
0
C
IPRINT
R
TitleBlock0
VAC
VPRINT2
Library
C:\PROGRAM FILES\ORCAD_DEM0\CAPTURE\LIBRARY\PSPICE\analog.olb
C:\PROGRAM FILES\ORCAD_DEM0\CAPTURE\LIBRARY\PSPICE\source.olb
C:\PROGRAM FILES\ORCAD_DEM0\CAPTURE\LIBRARY\PSPICE\sourcstm.olb
C:\PROGRAM FILES\ORCAD_DEM0\CAPTURE\LIBRARY\PSPICE\special.olb
Outputs
.\ac analysis - phasors-schematic1.net
PSpice Resources
Include Files
Model Libraries
Simulation Profiles
SCHEMATIC1-AC Sweep
Stimulus Files
Start
OrCAD Capture - [AC ...
Document1 - Microsoft Word
11:28 AM


Simulation Settings - AC Sweep
General
Analysis
Include Files
Libraries
Stimulus
Options
Data Collection
Probe Window
Analysis type:
AC Sweep/Noise
Options:
General Settings
Monte Carlo/Worst Case
Parametric Sweep
Temperature (Sweep)
Save Bias Point
Load Bias Point
AC Sweep Type
Linear
Logarithmic
Decade
Start Frequency:
1kHz
End Frequency:
1kHz
Total Points:
1
Noise Analysis
Enabled
Output Voltage:
I/V Source:
Interval:
OK
Cancel
Apply
Help

```
**** 01/25/00 11:25:16 *********** Evaluation PSpice (Mar 1999) **************

 ** circuit file for profile: AC Sweep

 ****     CIRCUIT DESCRIPTION

******************************************************************************

** WARNING: THIS AUTOMATICALLY GENERATED FILE MAY BE OVERWRITTEN BY SUBSEQUENT
PROFILES

*Libraries:
* Local Libraries :
* From [PSPICE NETLIST] section of pspiceev.ini file:
.lib nom.lib

*Analysis directives:
.AC LIN 1 1kHz 1kHz
.PROBE
.INC "ac analysis - phasors-SCHEMATIC1.net"


**** INCLUDING "ac analysis - phasors-SCHEMATIC1.net" ****
* source AC ANALYSIS - PHASORS
V_V1         N00009 0 DC 0Vdc AC 100V 30
R_R1         N00009 N00015  250
C_C1         N00017 0  1uF

.PRINT         AC
+ VM([N00009],[N00015])
+ VP([N00009],[N00015])
V_PRINT2         N00015 N00017 0V

.PRINT        AC
+ IM(V_PRINT2)
+ IP(V_PRINT2)

**** RESUMING "ac analysis - phasors-SCHEMATIC1-AC Sweep.sim.cir" ****
.INC "ac analysis - phasors-SCHEMATIC1.als"


**** INCLUDING "ac analysis - phasors-SCHEMATIC1.als" ****
.ALIASES
V_V1            V1(+=N00009 -=0 )
R_R1            R1(1=N00009 2=N00015 )
C_C1            C1(1=N00017 2=0 )
V_PRINT2          PRINT2(1=N00015 2=N00017 )

.ENDALIASES

**** RESUMING "ac analysis - phasors-SCHEMATIC1-AC Sweep.sim.cir" ****
.END

**** 01/25/00 11:25:16 *********** Evaluation PSpice (Mar 1999) **************

 ** circuit file for profile: AC Sweep
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```
 ****     SMALL SIGNAL BIAS SOLUTION       TEMPERATURE =   27.000 DEG C
*******************************************************************************

 NODE   VOLTAGE     NODE   VOLTAGE     NODE   VOLTAGE     NODE   VOLTAGE

(N00009)    0.0000 (N00015)    0.0000 (N00017)    0.0000

    VOLTAGE SOURCE CURRENTS
    NAME         CURRENT

    V_V1         0.000E+00
    V_PRINT2     0.000E+00

    TOTAL POWER DISSIPATION   0.00E+00  WATTS

**** 01/25/00 11:25:16 *********** Evaluation PSpice (Mar 1999) **************

 ** circuit file for profile: AC Sweep

 ****     AC ANALYSIS                      TEMPERATURE =   27.000 DEG C
*******************************************************************************

  FREQ        VM(N00009,N00015)VP(N00009,N00015)

   1.000E+03   8.436E+01   6.248E+01        So V = 84.36/62.48° A

**** 01/25/00 11:25:16 *********** Evaluation PSpice (Mar 1999) **************

 ** circuit file for profile: AC Sweep

 ****     AC ANALYSIS                      TEMPERATURE =   27.000 DEG C
*******************************************************************************

  FREQ        IM(V_PRINT2)IP(V_PRINT2)

   1.000E+03   3.374E-01   6.248E+01        So I = 0.3374/62.48° A

          JOB CONCLUDED

          TOTAL JOB TIME            .03
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