

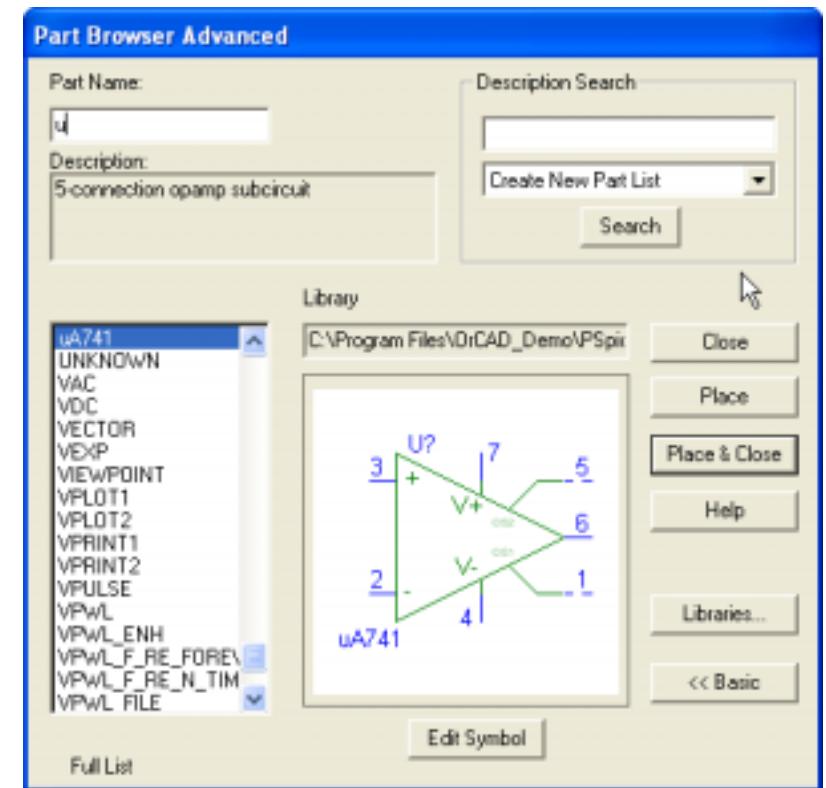
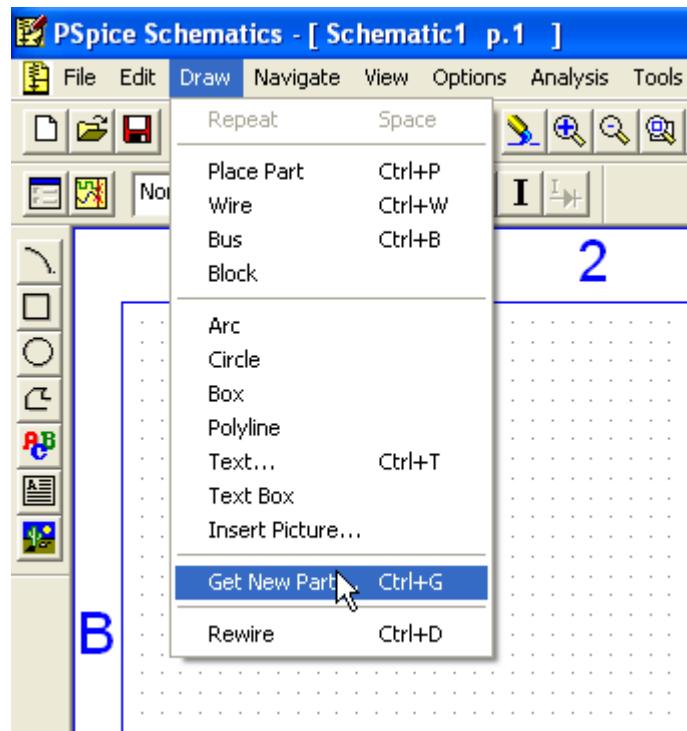
PSPICE (2. OP Amp) for Network Analysis & Lab

Dr. Charles J. Kim

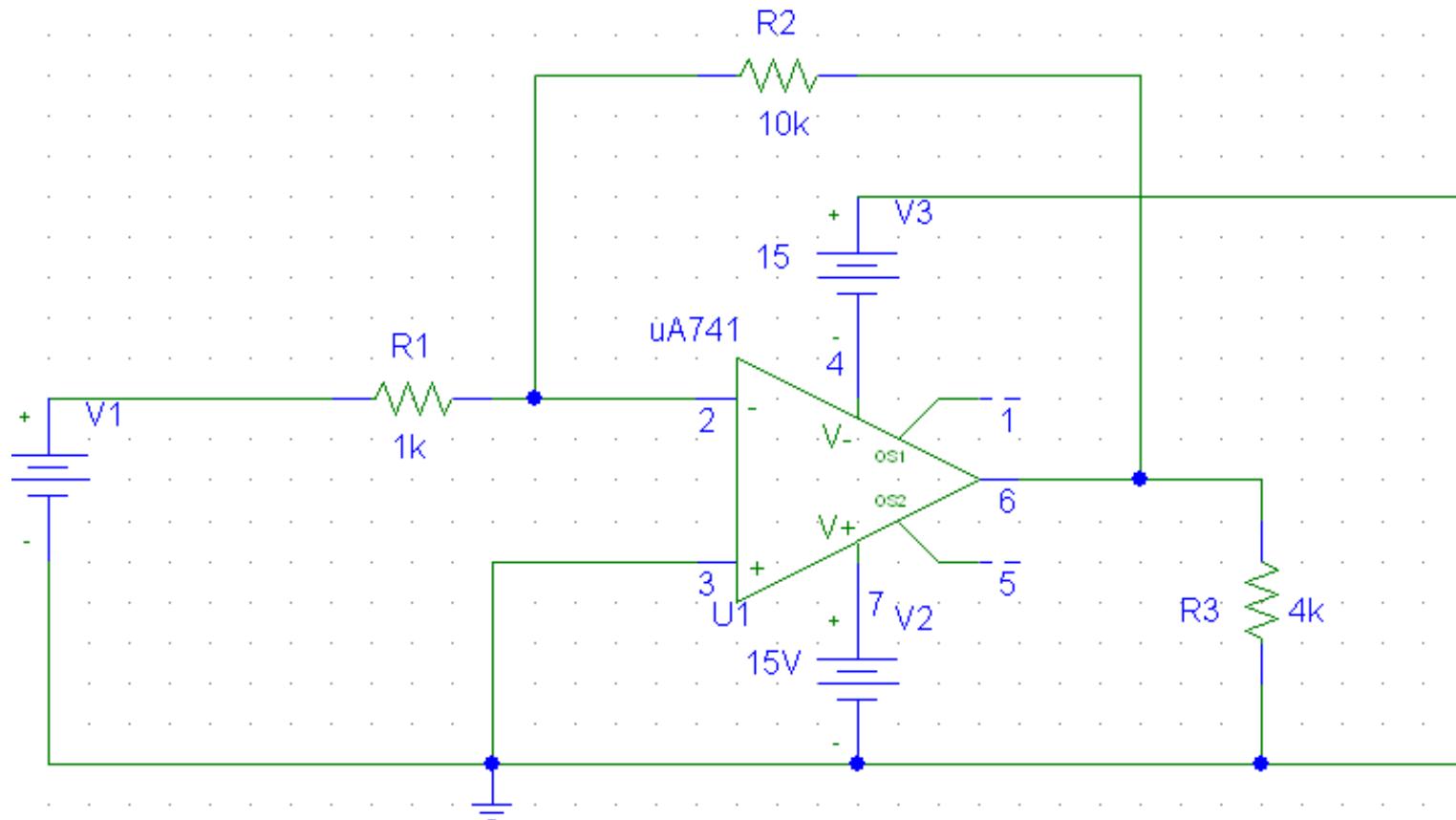
Howard University

Simulating a circuit containing Op Amp:

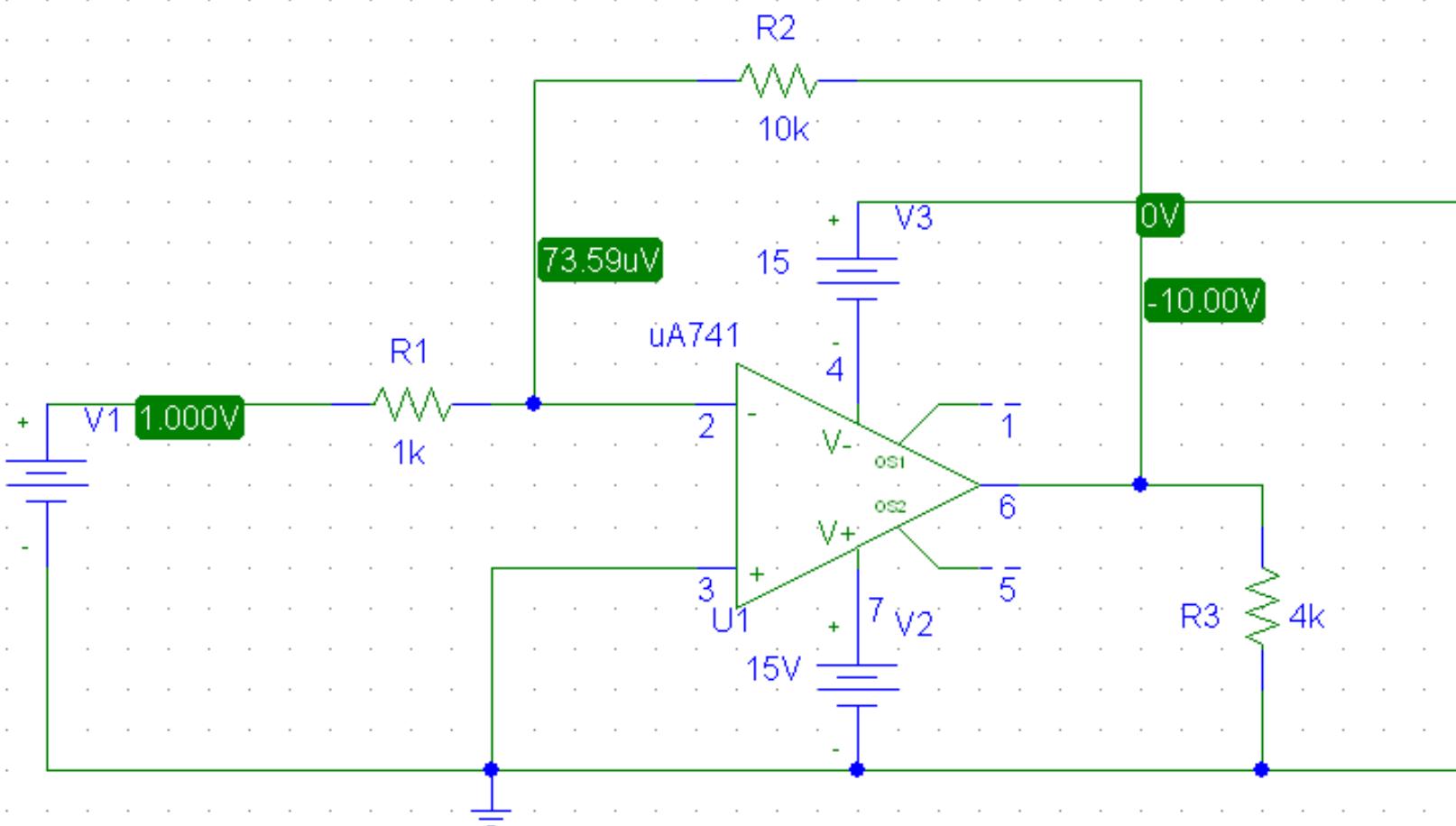
- Placing uA741 Op Amp
- Ignore Pins 1 and 5 of uA741



Create this circuit and Save the schematic

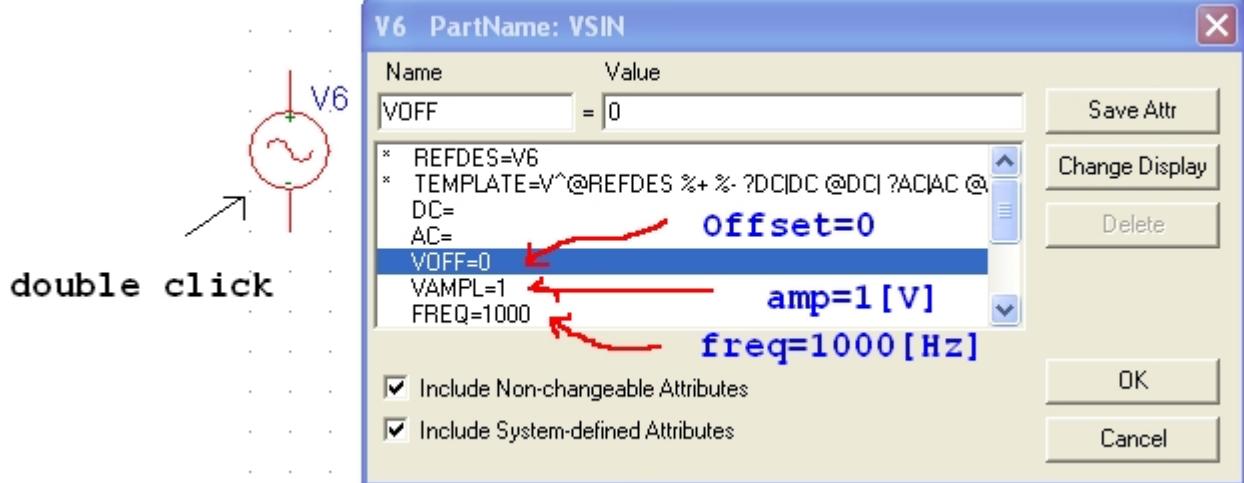
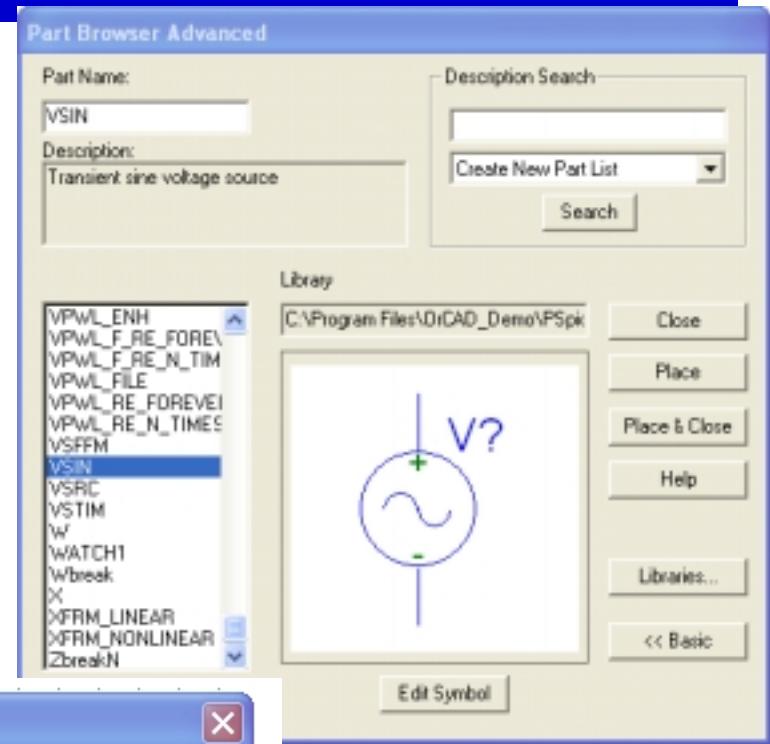


And Simulate!

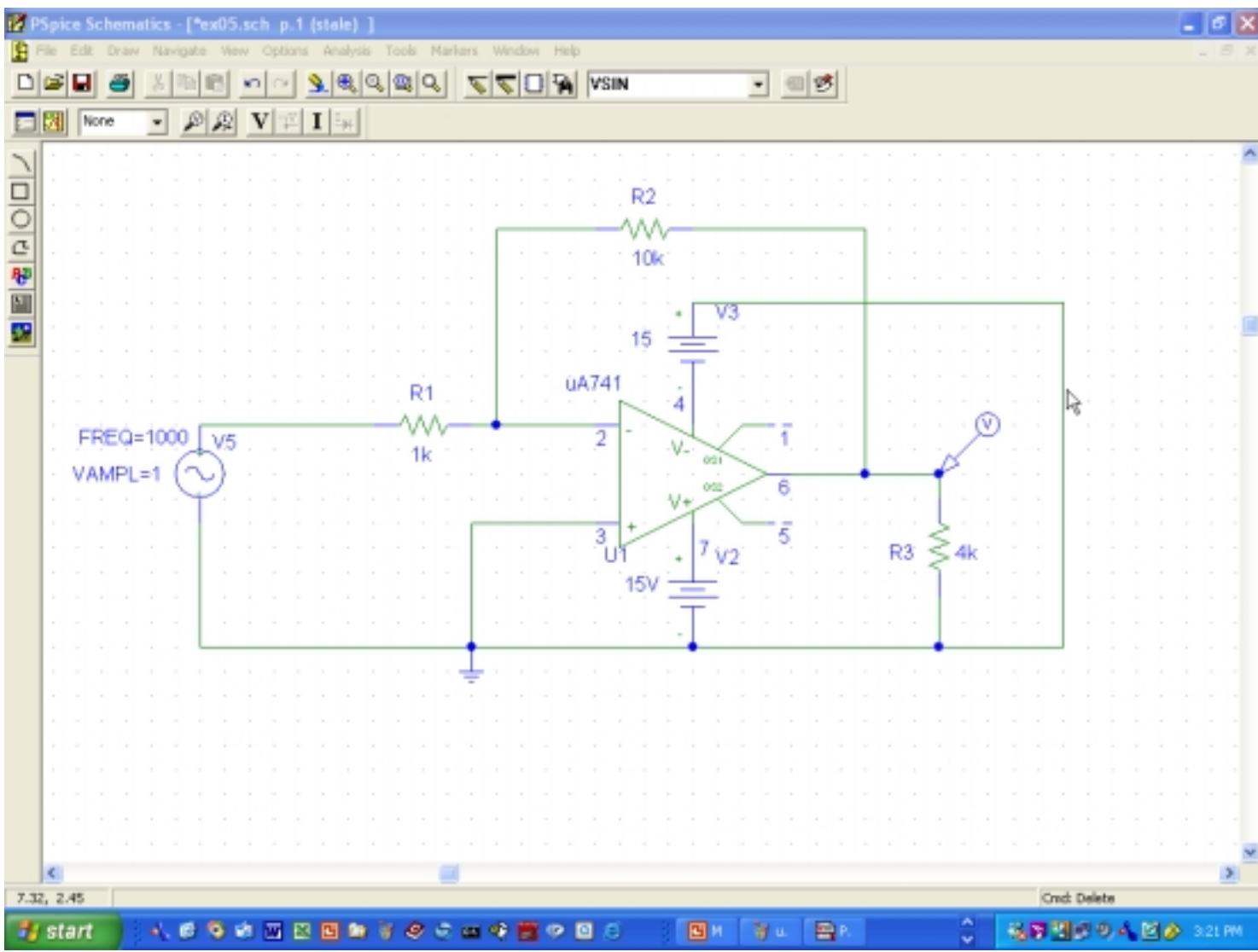


Sample Circuit Creation with Sinusoidal Source

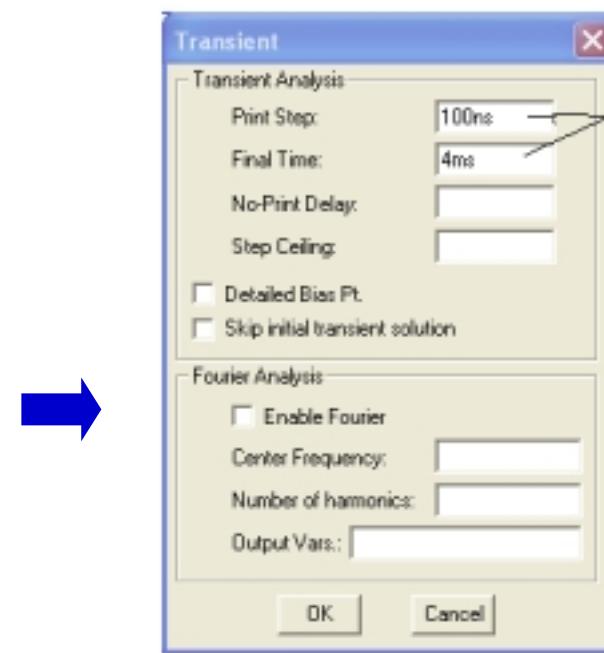
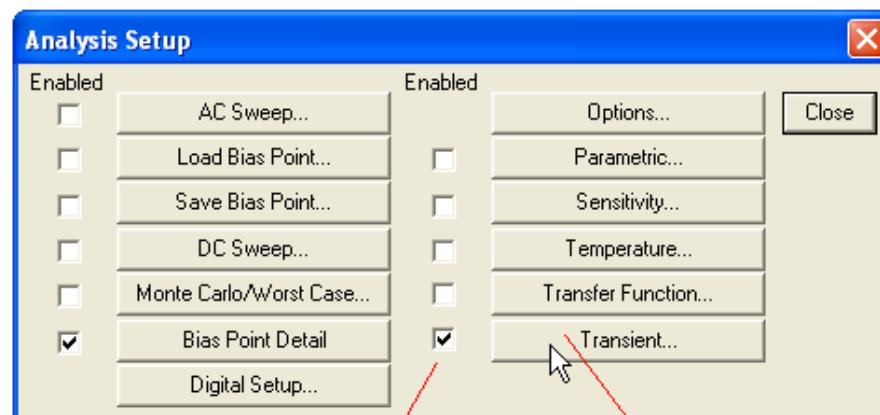
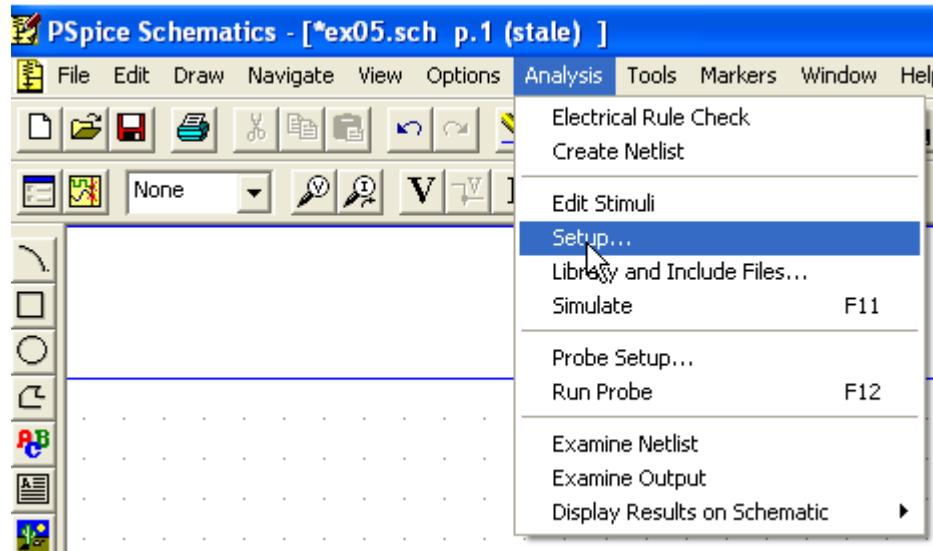
- Sinusoidal source placement
- Amplitude and Frequency Setting
- Don't forget to set VOFF=0



Create this circuit

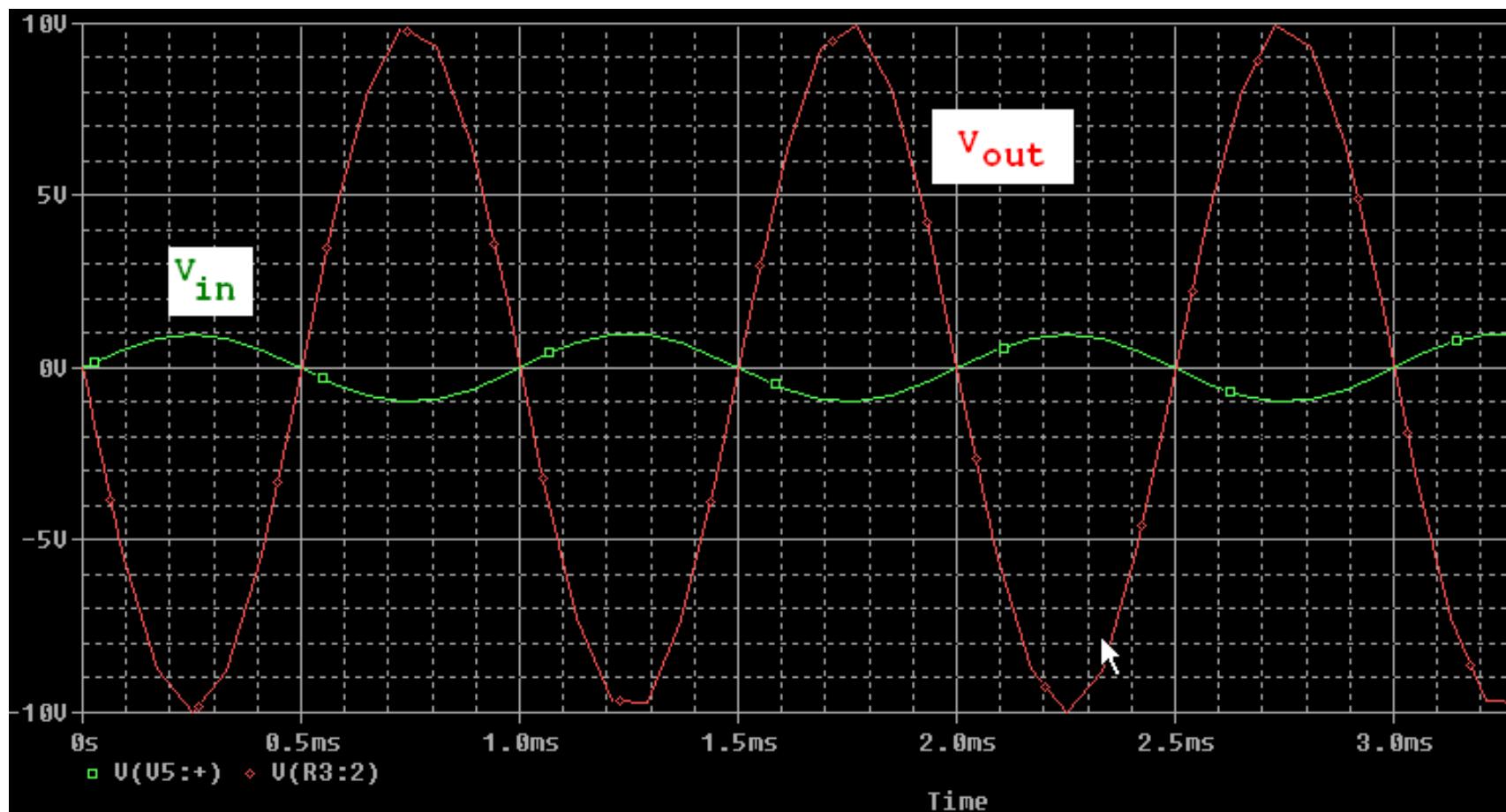


Transient Analysis Setup

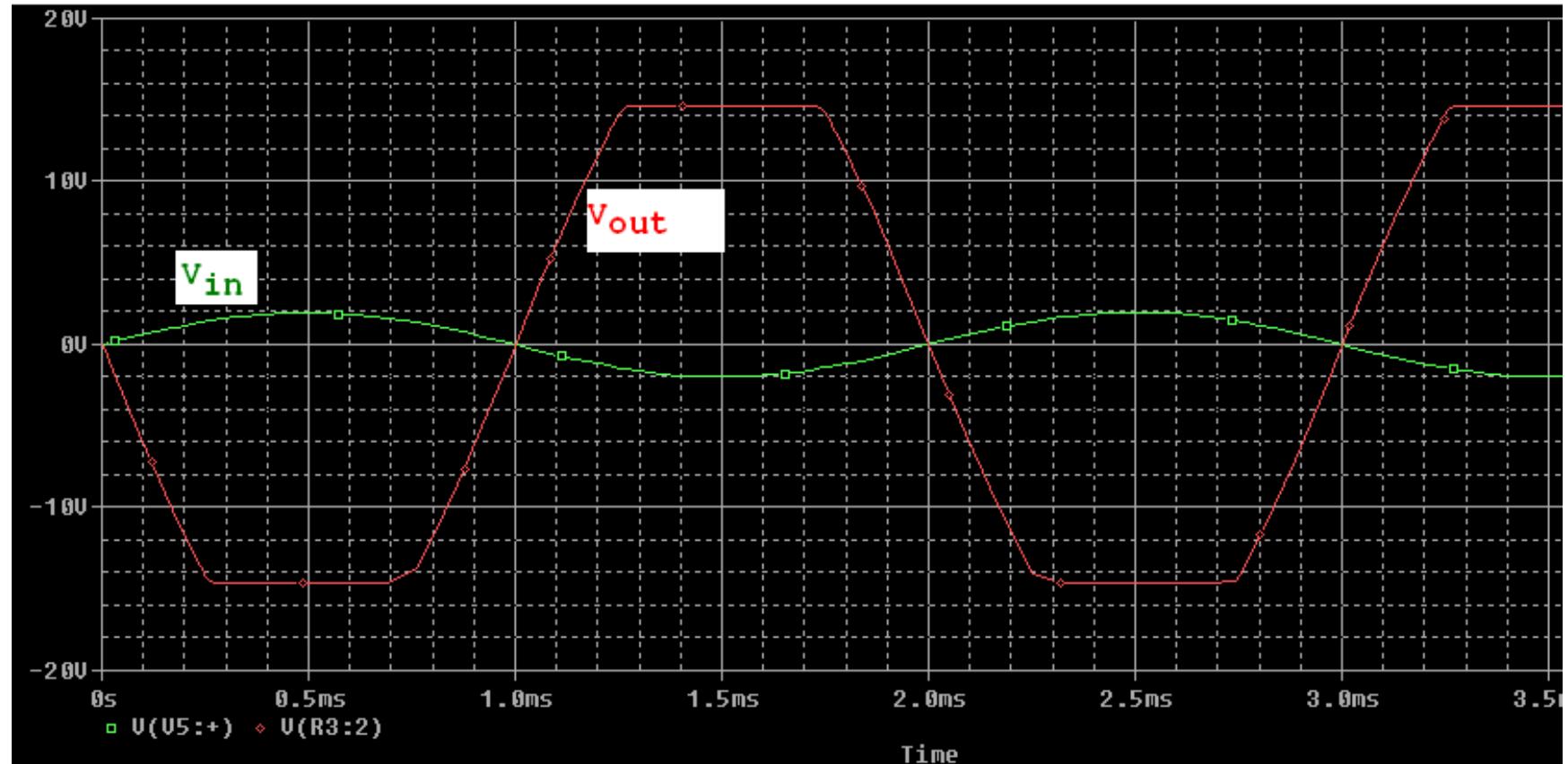


Type these numbers
(later, try another number and see the difference in your simulation)

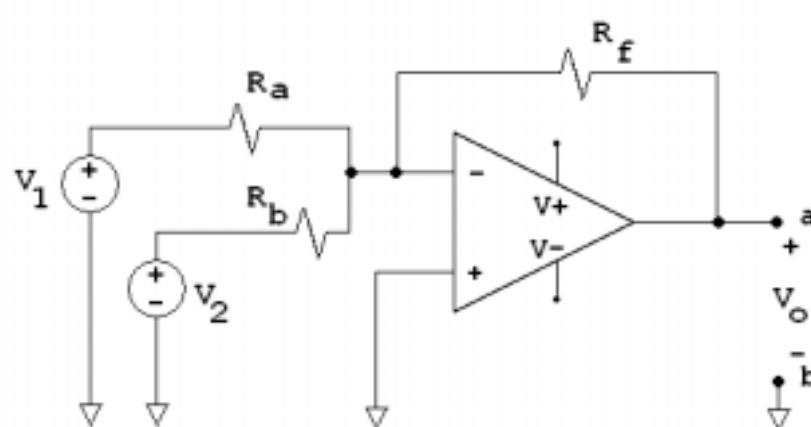
And simulate!



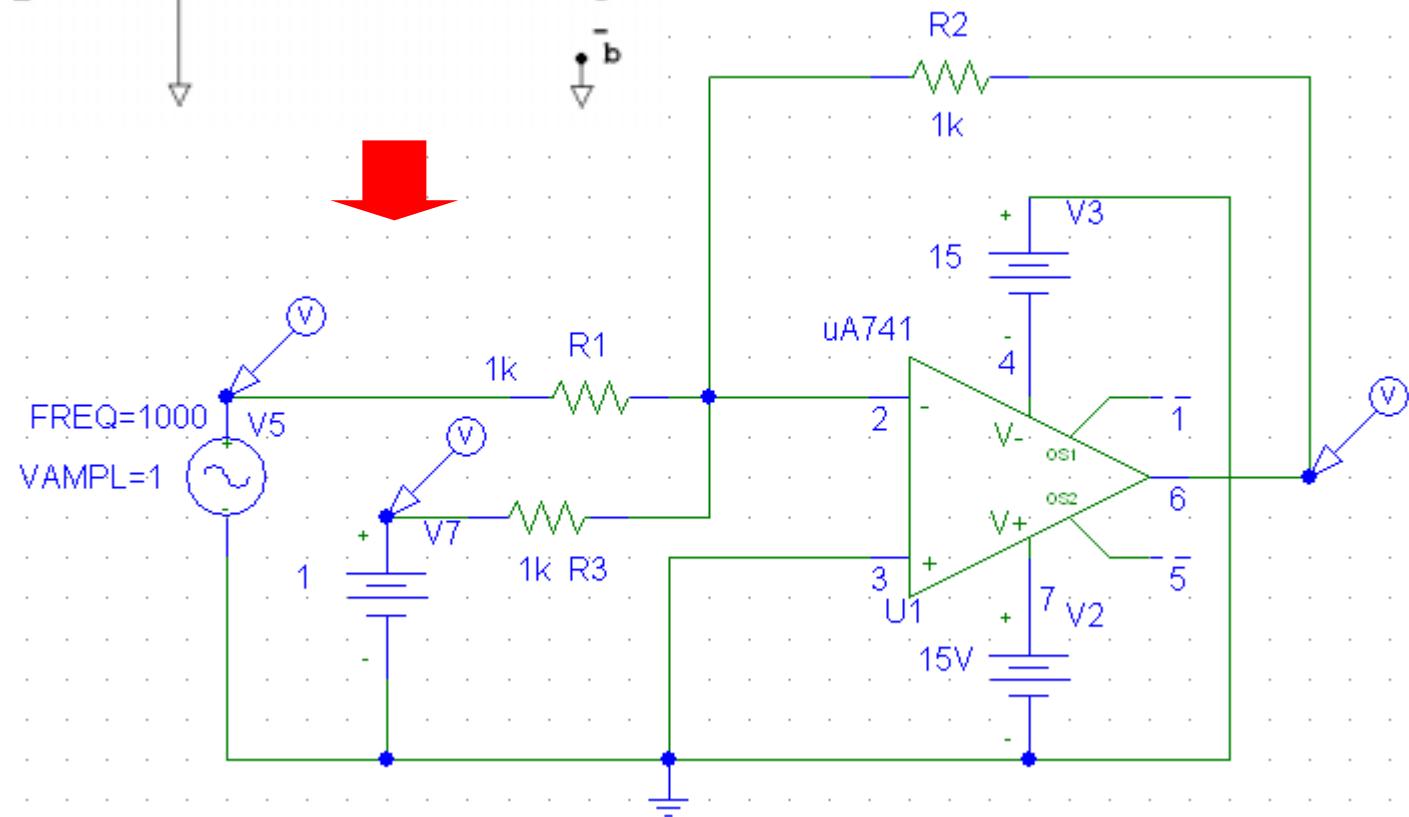
Simulate again with Amp=2 and Freq=500



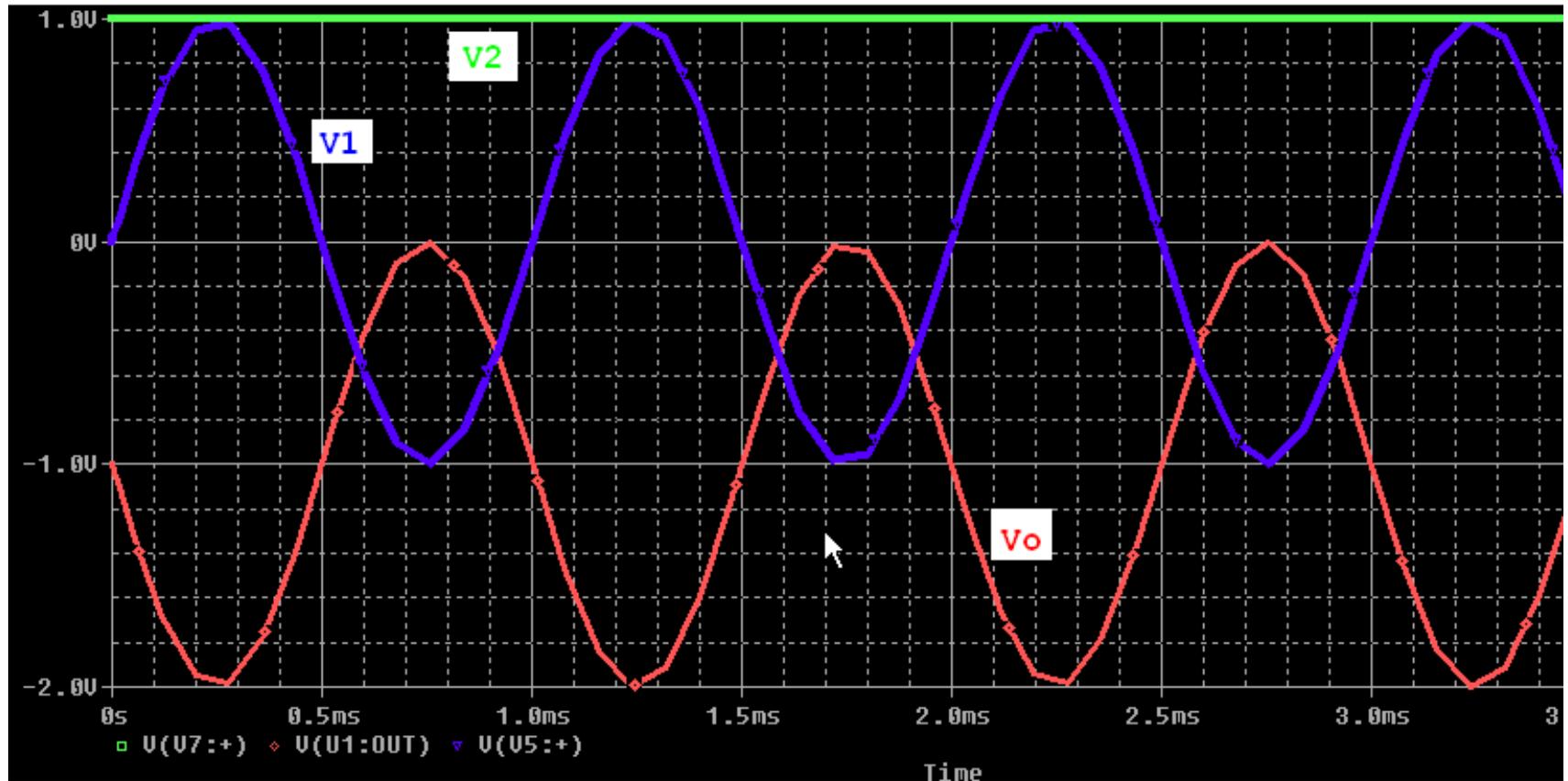
Last Example Circuit Creation



- V_1 : Sinusoid with 1V and 1000Hz
- $V_2 = 1V$ DC
- $R_a = R_b = R_f = 1K$
- $V_+ : 15V$
- $V_- : -15V$



And the simulation



Another Source: Triangular Waveform

Part Browser Advanced

Part Name: VPULSE

Description: Pulse voltage source

Search: Create New Part List Search

Library: C:\Program Files\DiCAD_Demo\VPSPk

Close Place Place & Close Help Libraries... << Basic

VPULSE VPWL VPWL_ENH VPWL_F_RE_FORE1 VPWL_F_RE_N_TIM VPWL_FILE VPWL_RE_FOREVER VPWL_RE_N_TIMES VSFFM VSIN VSRC VSTIM W WATCH1 Wbreak X XFRM LINEAR

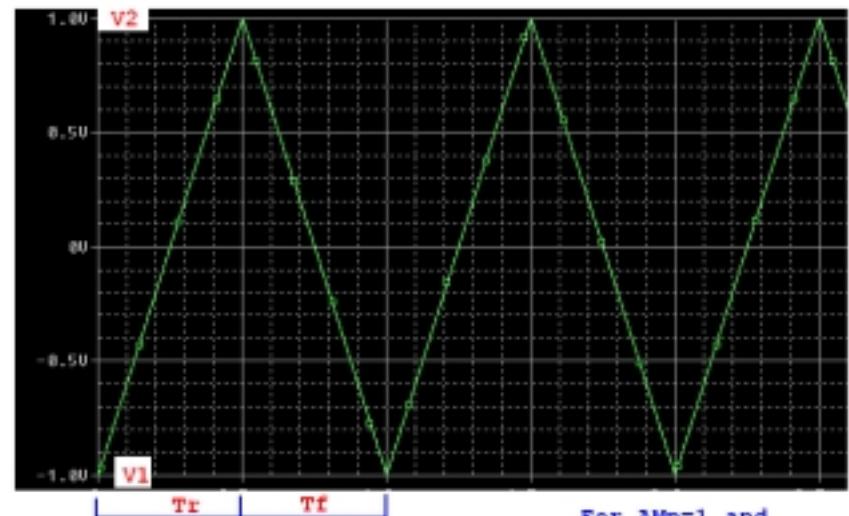
V3 PartName: VPULSE

Name	Value
PER	= 1ms
V1=-1	
V2=1	
TD=	
TR=0.5ms	
TF=0.5ms	
PW=1u	
PER=1ms	

Save Attr Change Display Delete OK Cancel

Include Non-changeable Attributes
 Include System-defined Attributes

Vpulse



For AMP=1 and
Freq=1000Hz case

V1 : lowest value
V2 : highest value
Tr : rising time
Tf : falling time
Pw : Pulse width
Per: Period

V1 = -1
V2 = 1
Tr = 0.5ms
Tf = 0.5ms
Pw = 1us (actually 0)
Per= 1ms

Another Source: Square Waveform

Vpulse

Part Browser Advanced

Part Name: VPULSE

Description: Pulse voltage source

Library: C:\Program Files\0\ICAD_Demo\PSpice

Symbol:

Full List

Edit Symbol

V3 PartName: VPULSE

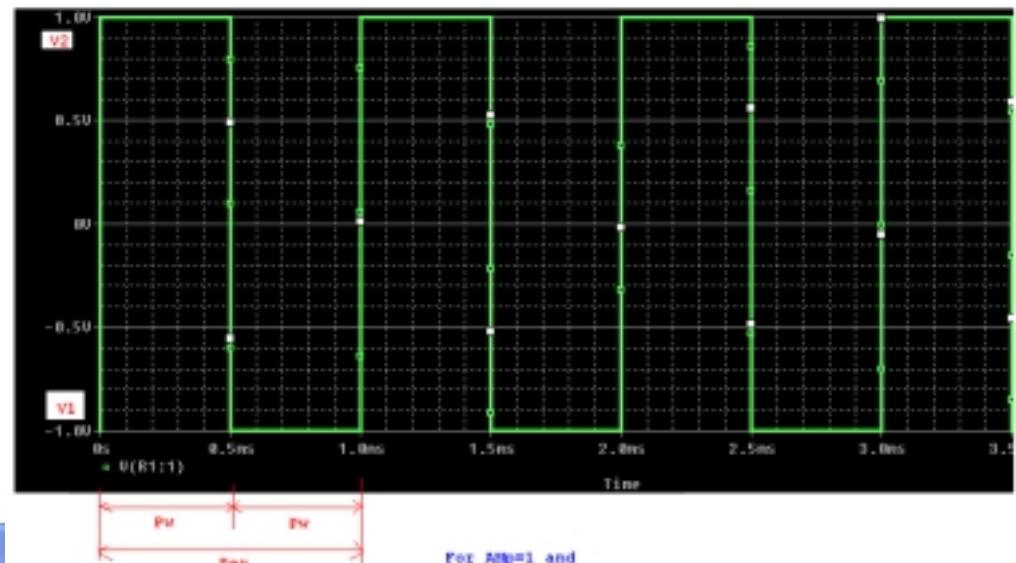
Name	Value
REFDES	= V3
V1=-1	
V2=1	
TD=	
TR=1u	
TF=1u	
PW=0.5ms	
PER=1ms	

Include Non-changeable Attributes

Include System-defined Attributes

OK

Cancel



For Amp1 and
Freq1000Hz case

V1 : lowest value
V2 : highest value
Tr : rising time
Tf : falling time
PW : Pulse Width
Per: Period

V1 = -1
V2 = 1
Tr = 1u (actually 0)
Tf = 1u (actually 0)
PW = 0.5 ms
Per = 1 ms