

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

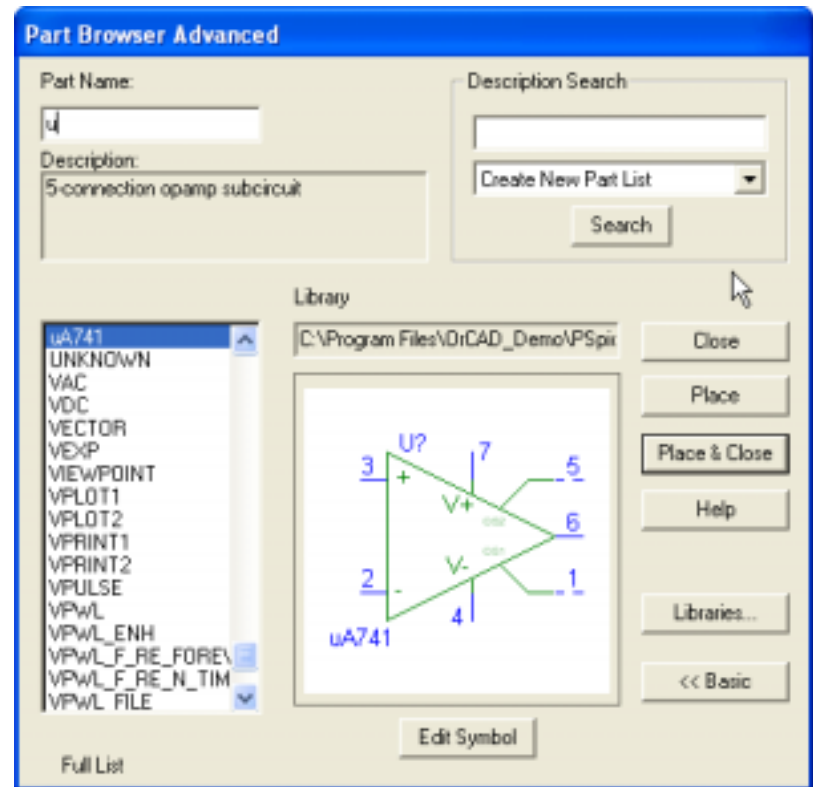
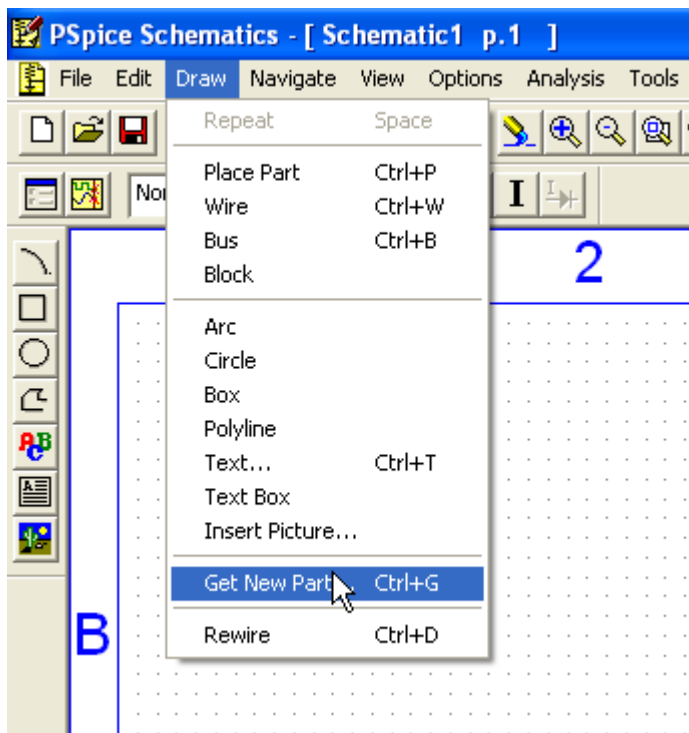
Dr. Charles J. Kim

Howard University

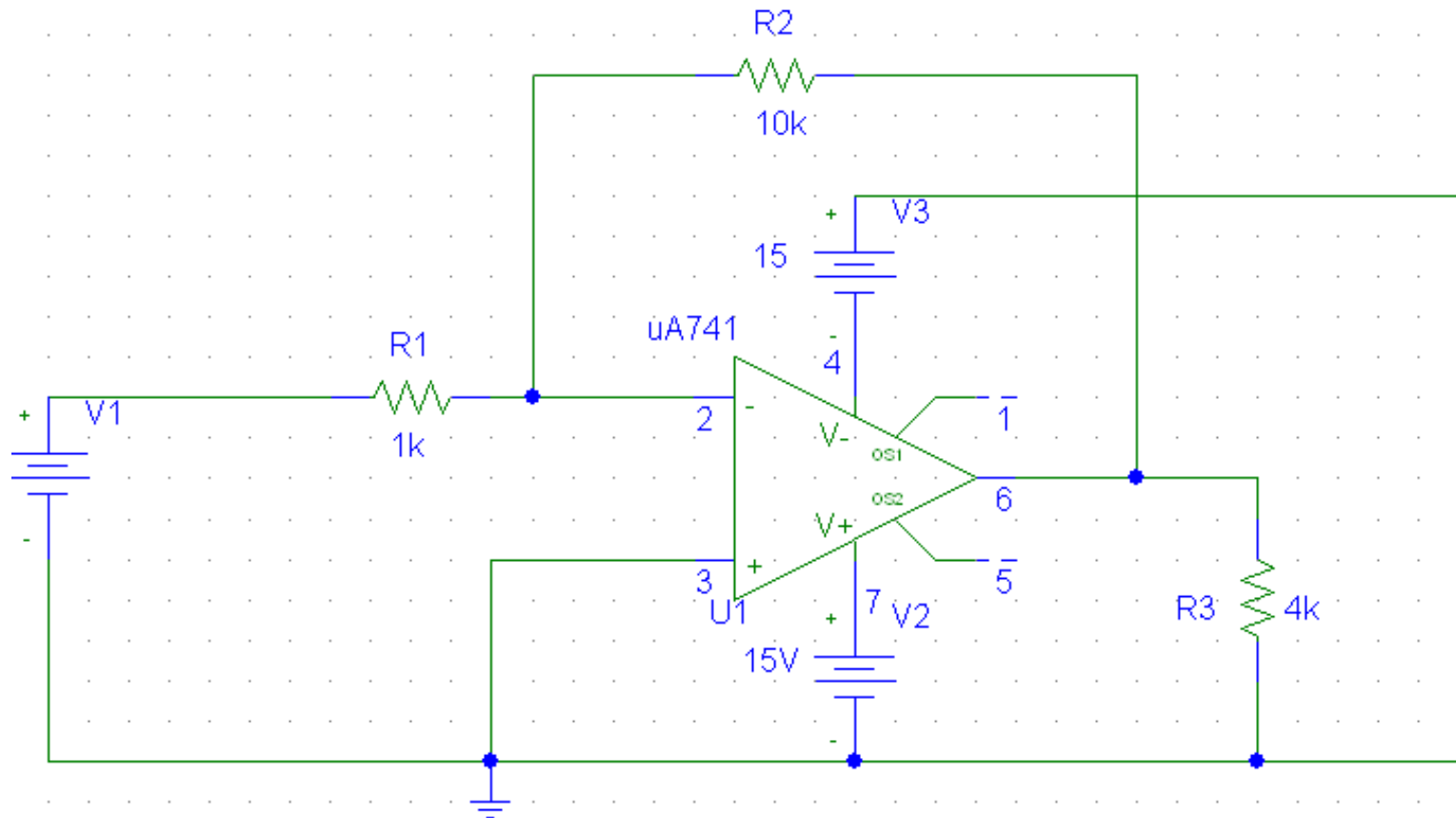
[WWW.MWFTR.COM](http://WWW.MWFTR.COM)

# Simulating a circuit containing Op Amp:

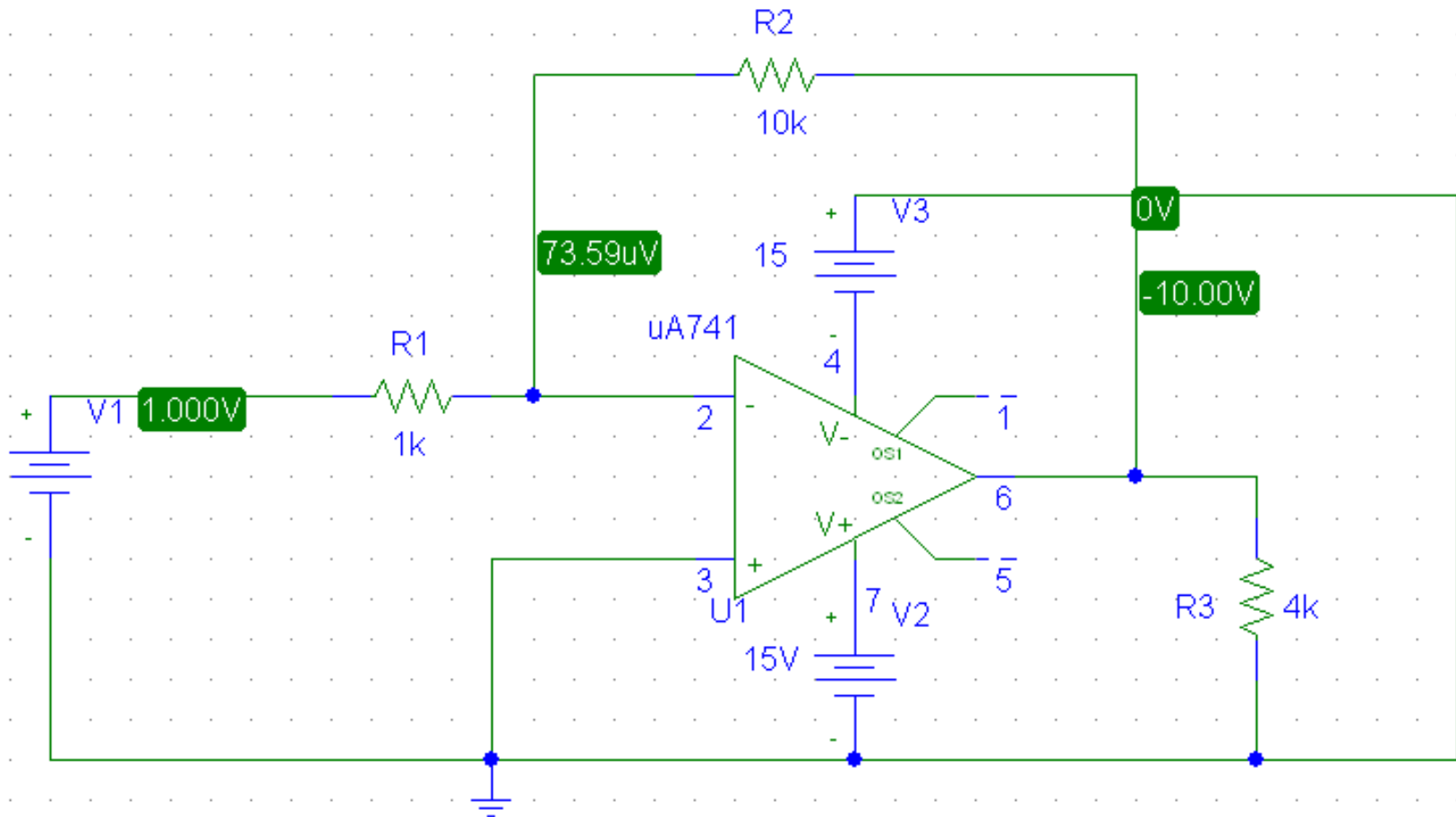
- Placing uA741 Op Amp
- Ignore Pins 1 and 5 of uA741



# Create this circuit and Save the schematic

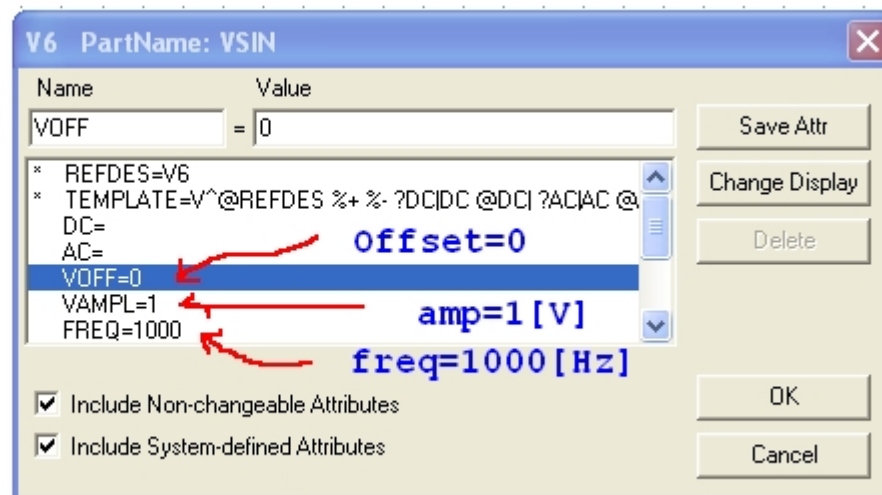
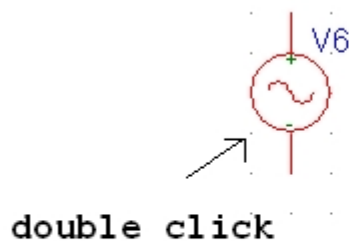
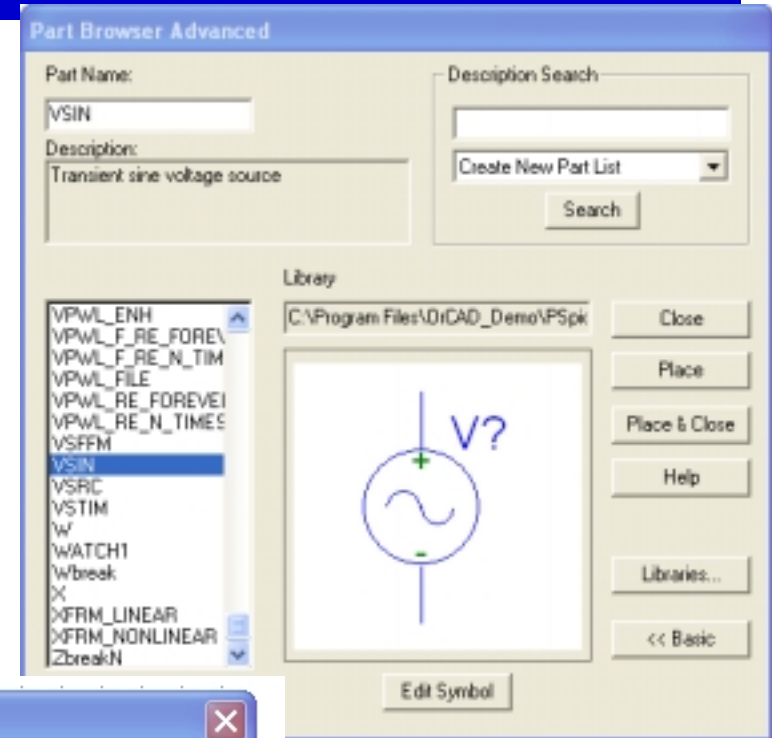


# And Simulate!

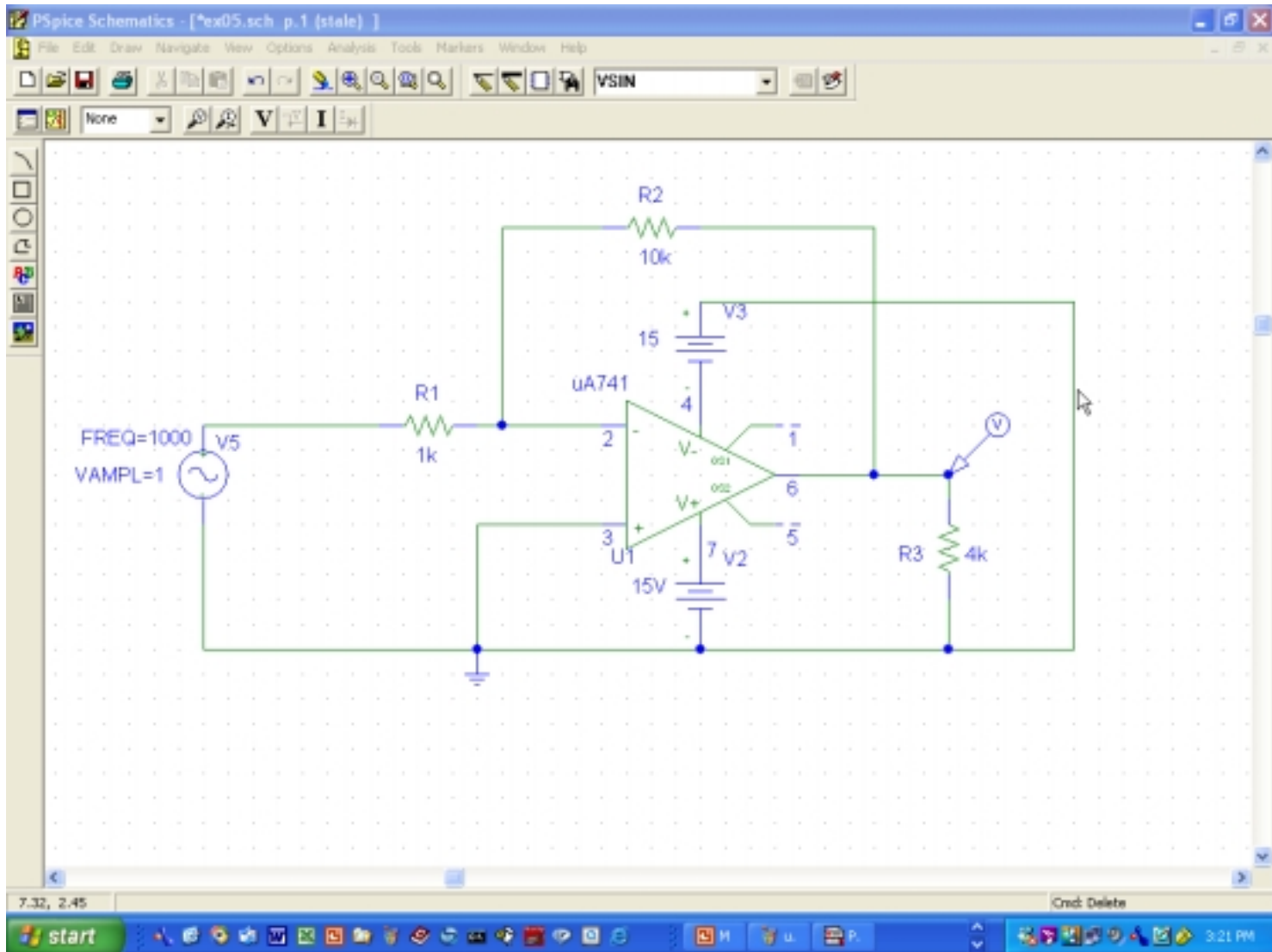


# Sample Circuit Creation with Sinusoidal Source

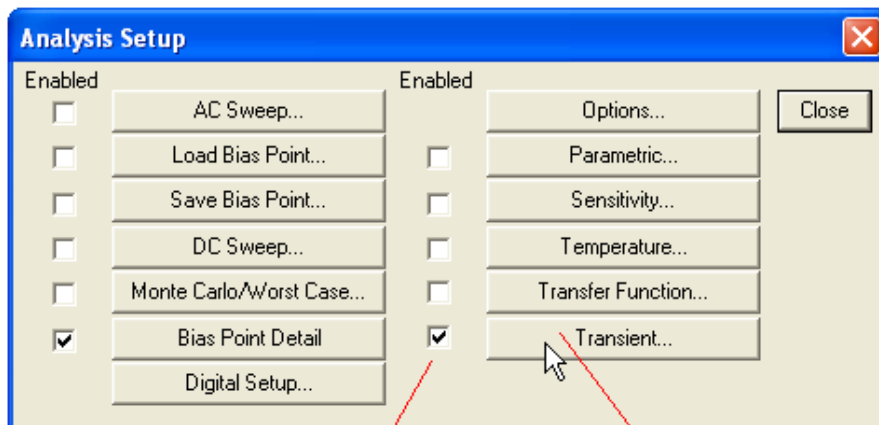
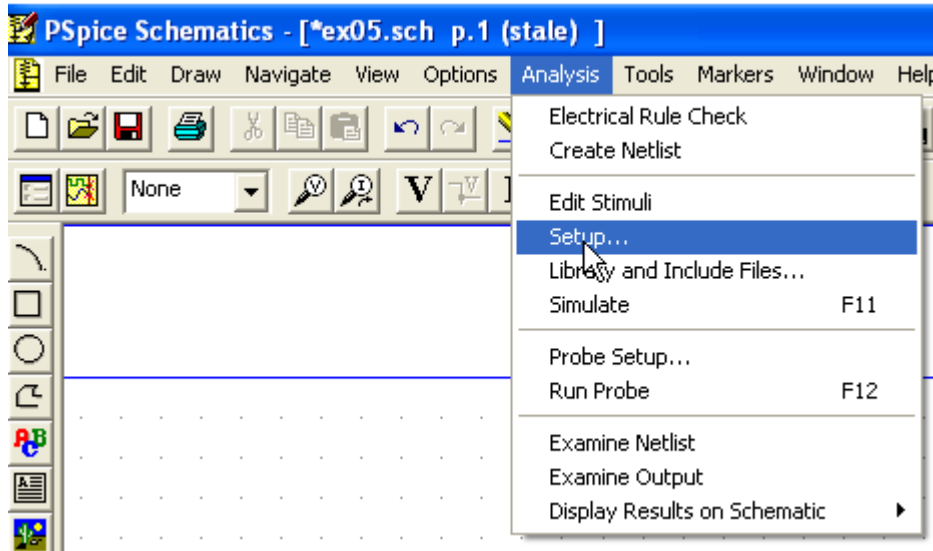
- Sinusoidal source placement
- Amplitude and Frequency Setting
- Don't forget to set  $VOFF=0$



# Create this circuit

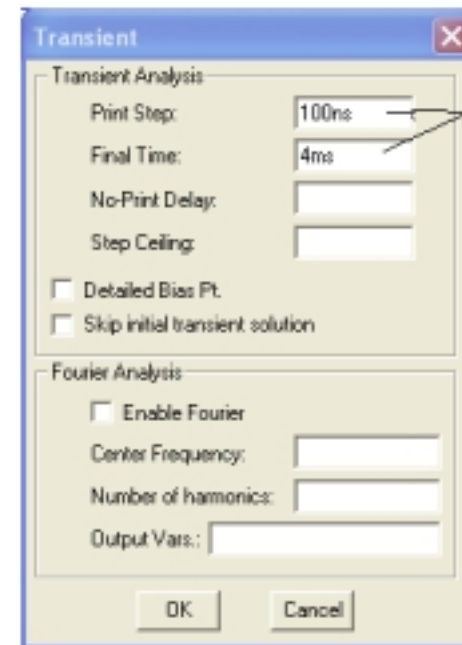


# Transient Analysis Setup



1. Set flag

2. Click the Bar

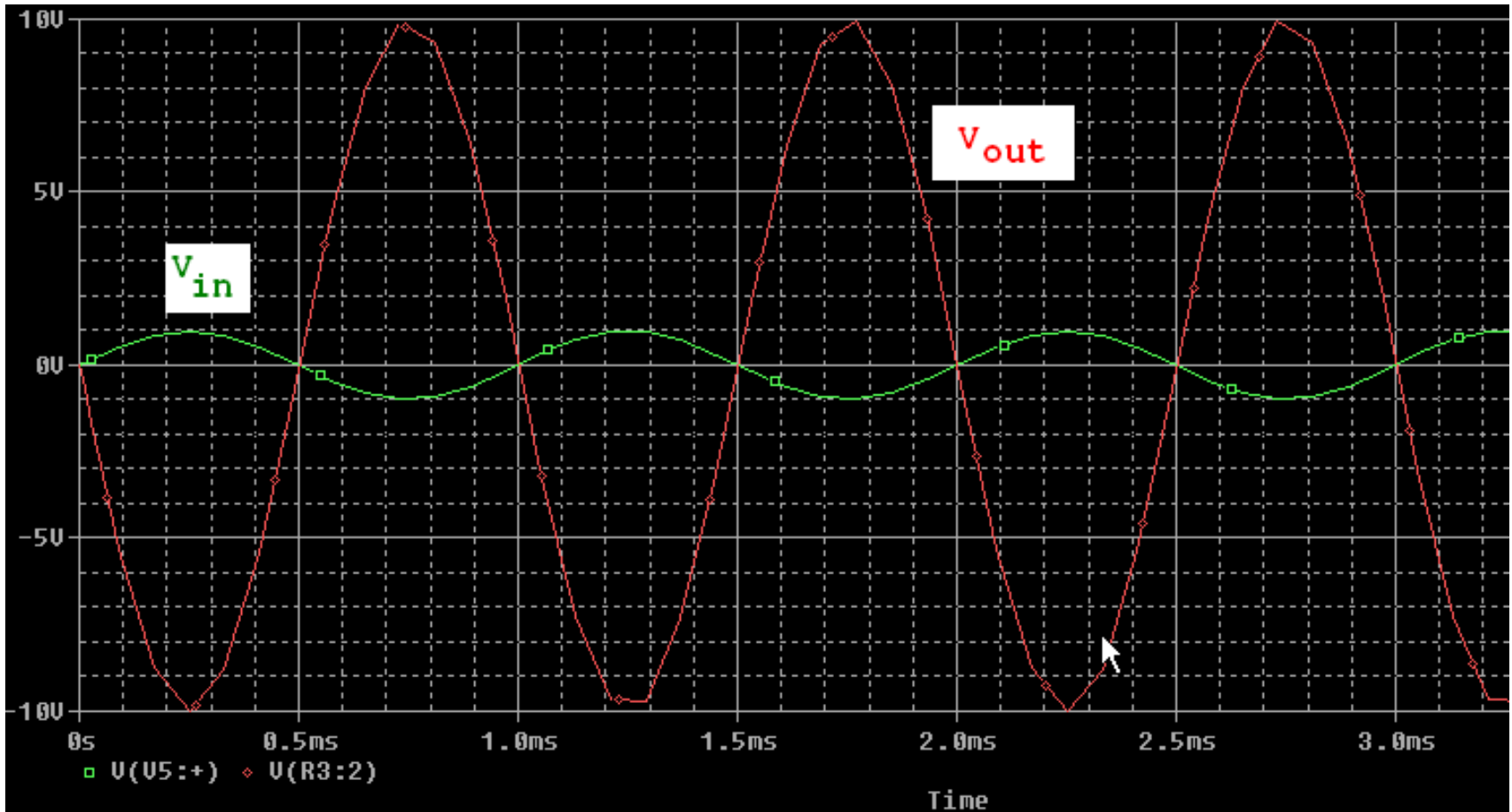


Type these numbers

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

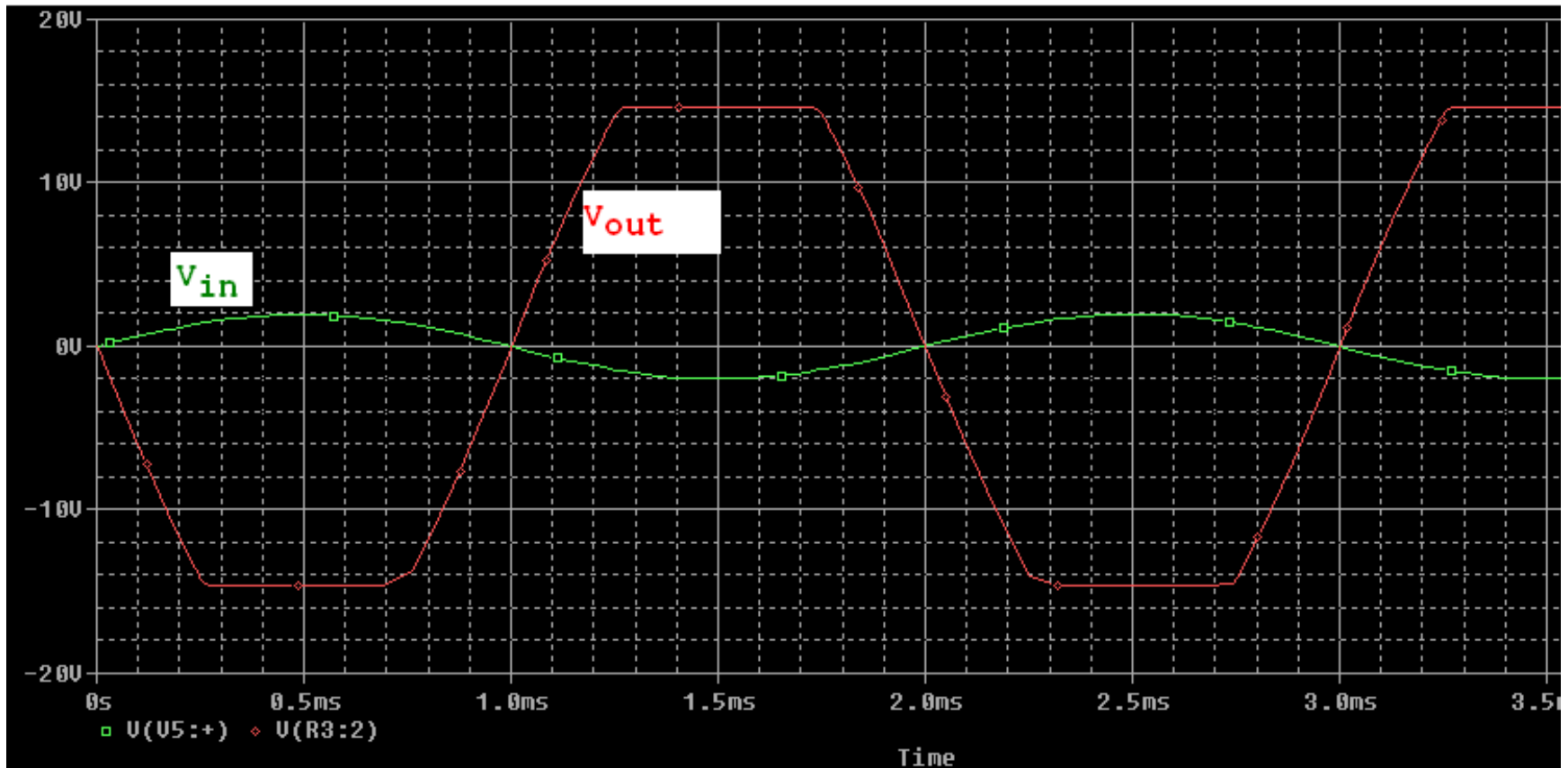
Then, click 'OK'

# And simulate!

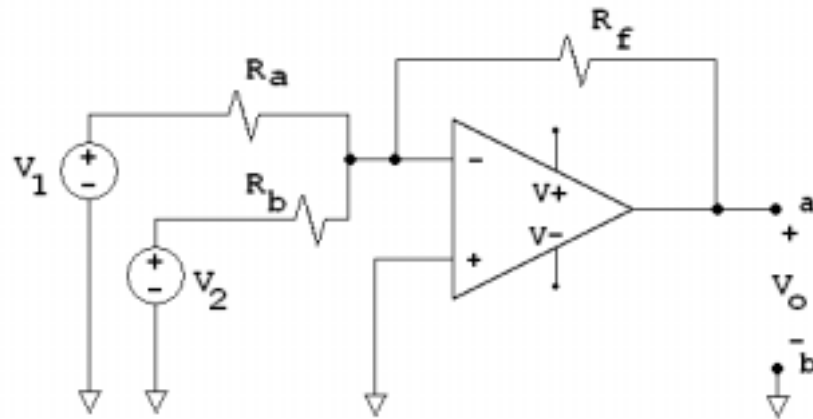




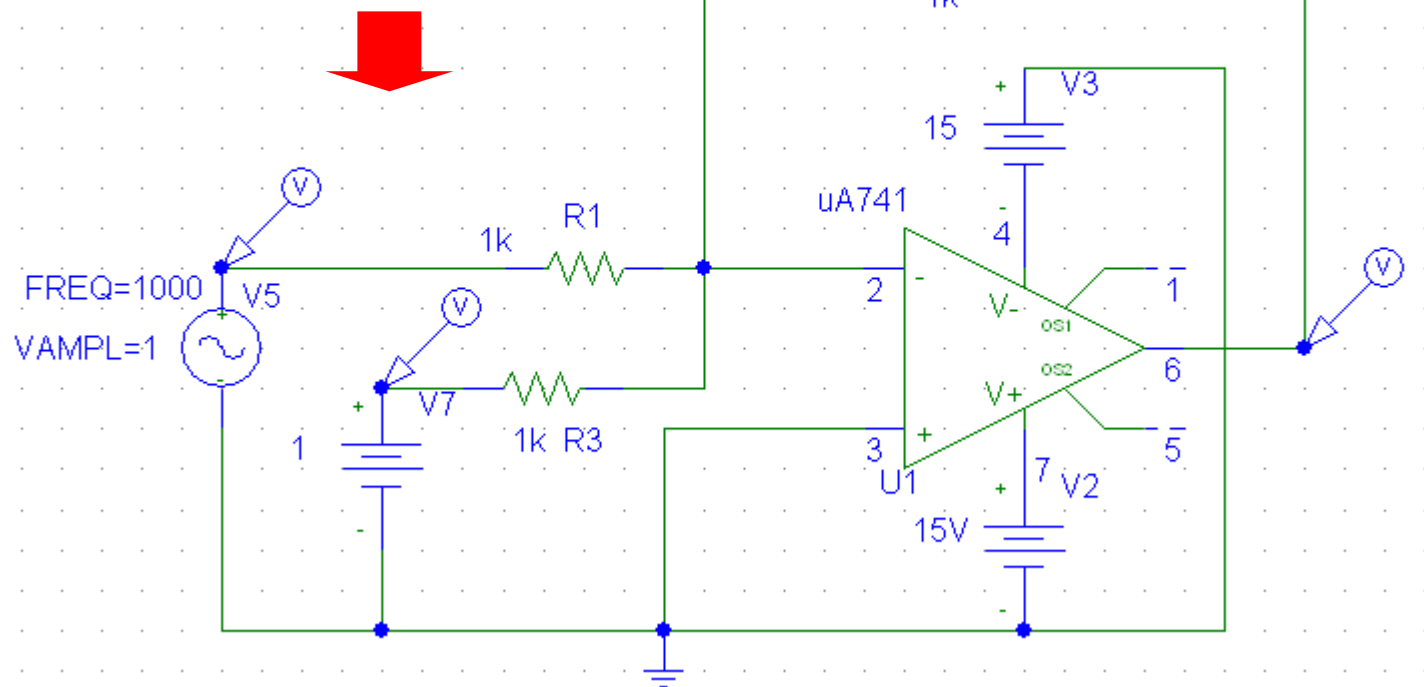
Simulate again with Amp=2 and Freq=500



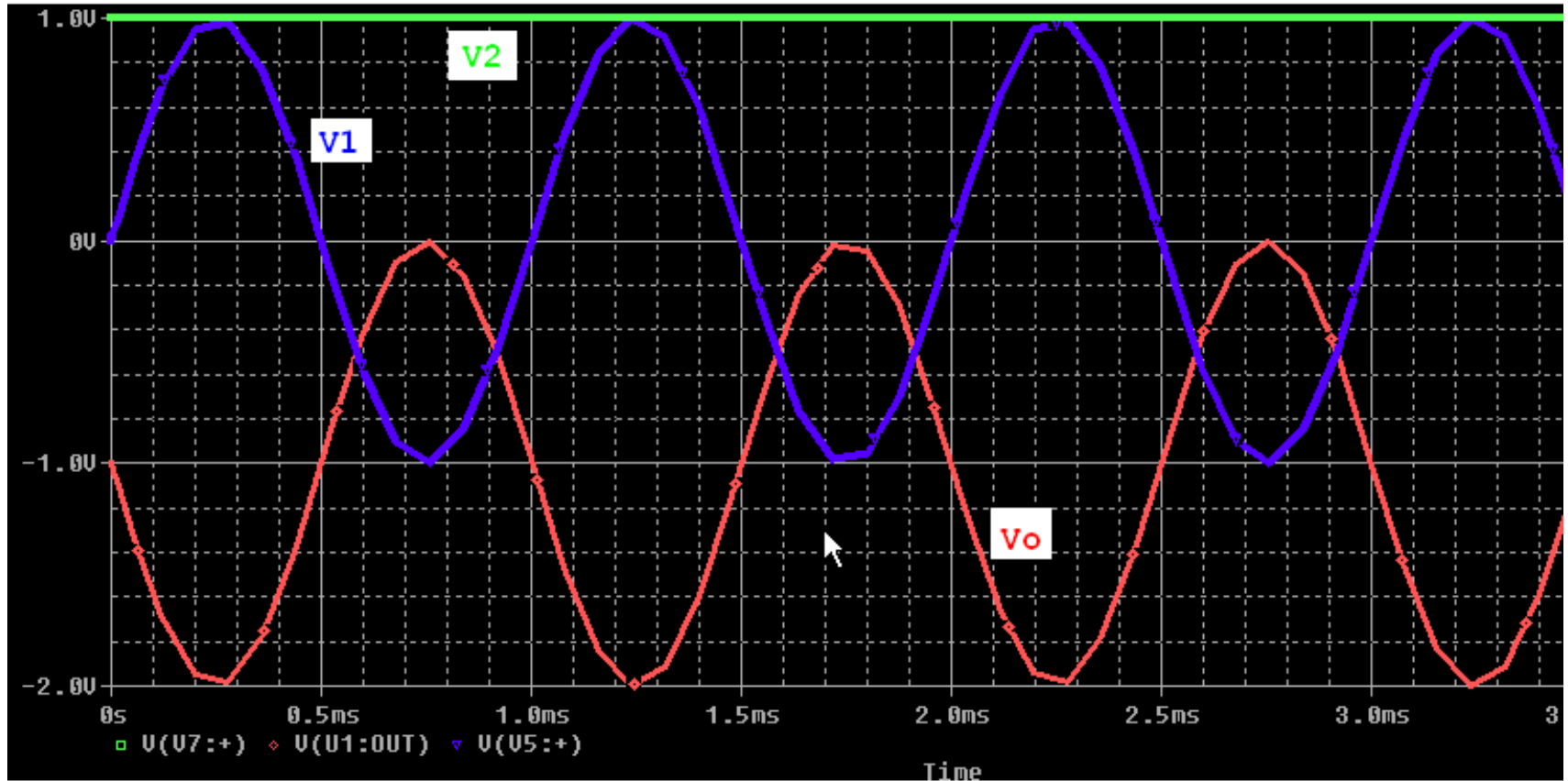
# Last Example Circuit Creation



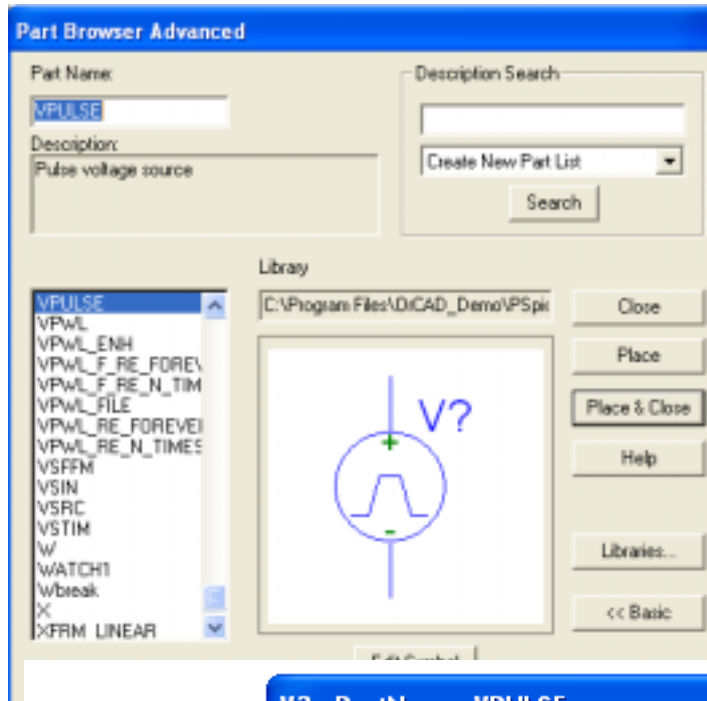
- $V_1$ : Sinusoid with 1V and 1000Hz
- $V_2=1V$  DC
- $R_a=R_b=R_f=1K$
- $V_+$ : 15V
- $V_-$ : -15V



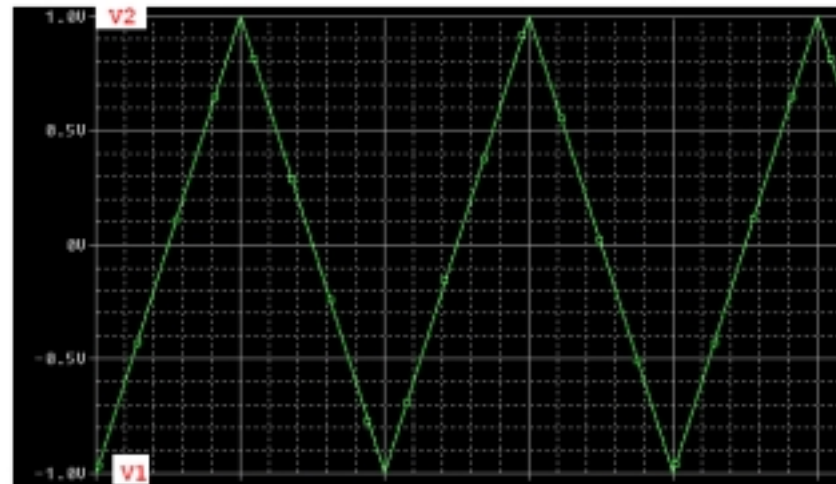
# And the simulation



# Another Source: Triangular Waveform

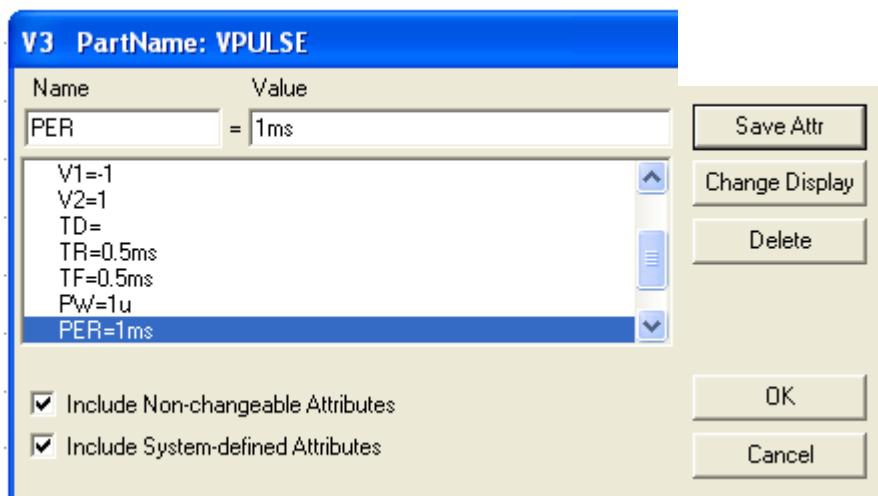
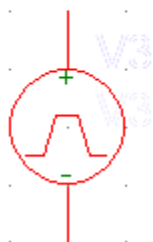


Vpulse



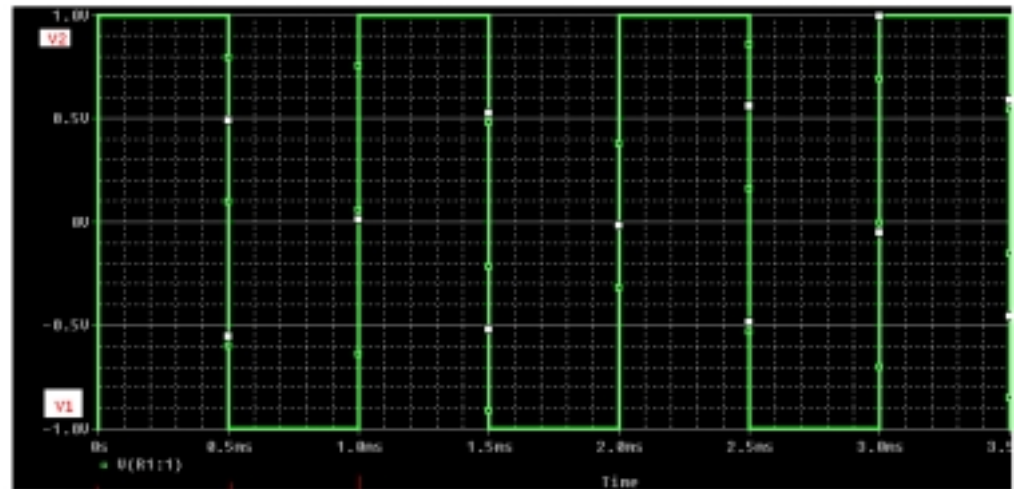
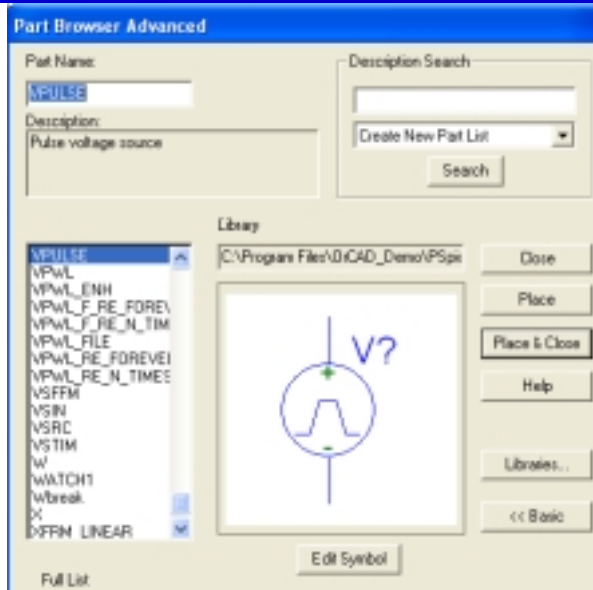
For Amp=1 and Freq=1000Hz case

V1 : lowest value V1 = -1  
 V2 : highest value V2 = 1  
 Tr : rising time Tr = 0.5ms  
 Tf : falling time Tf = 0.5ms  
 Pw : Pulse width Pw = 1us (actually 0)  
 Per: Period Per= 1ms



# Another Source: Square Waveform

Vpulse



For Amp=1 and  
Freq=1000Hz: case

V1 : lowest value V1 = -1  
V2 : highest value V2 = 1  
Tr : rising time Tr = 1u (actually 0)  
Tf : falling tsm Tf = 1u (actually 0)  
Pw : Pulse width Pw = 0.5 ms  
Per: Period Per= 1 ms

