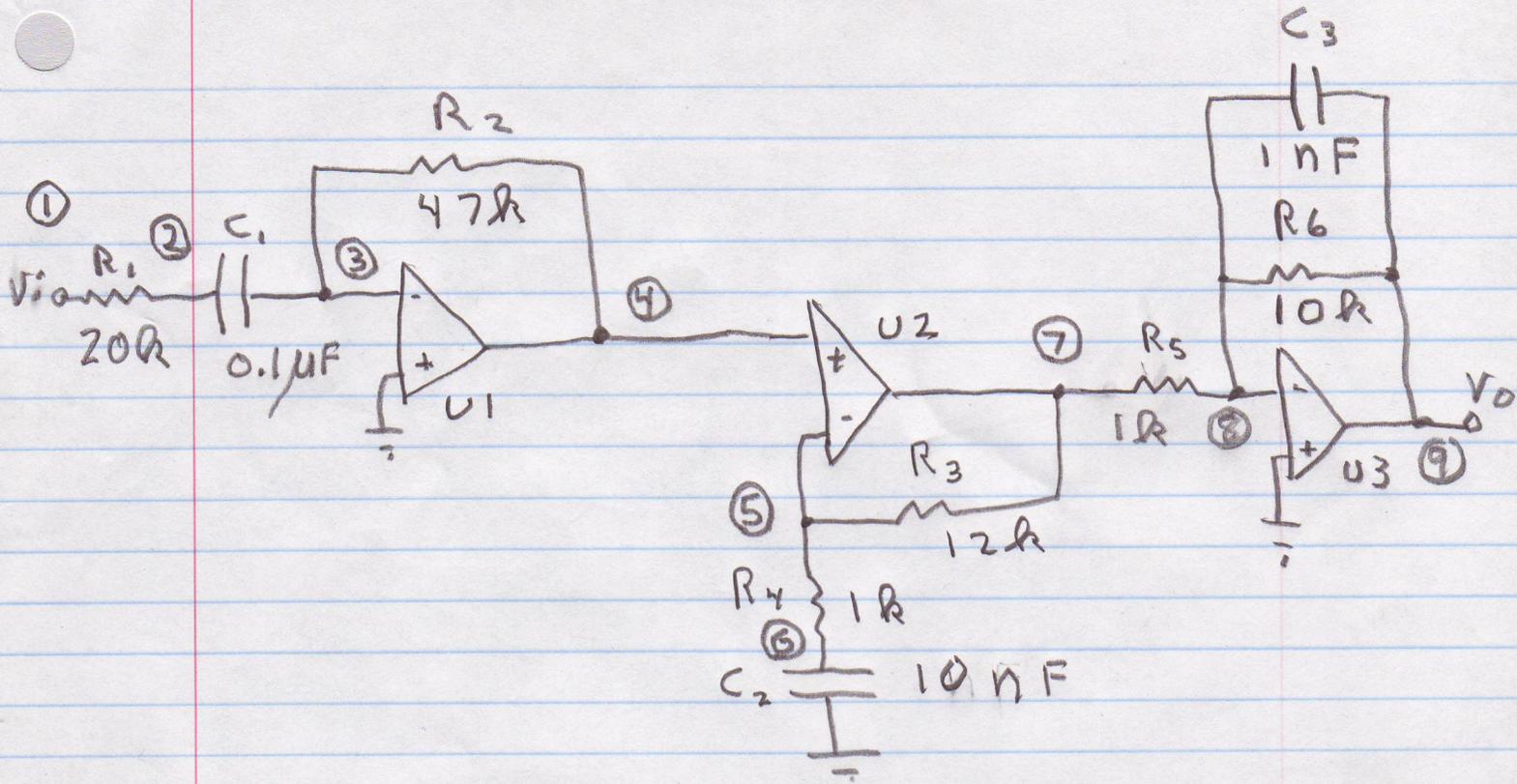


Thomas E. Brewer
Academic Factotum

For Op Amp go to the Analog Group, Analog Virtual, and get OPAMP_3T_VIRTUAL

To Make an Ideal Op Amp Highlight it, Right Click, Properties and set the Unit Gain Bandwidth to 1GHz.

LT SPICE with Ideal Op Amp



Voltage source from node ① to ground is not shown. The op amp are assumed to be ideal. The sub circuit for the ideal op amp for LT SPICE is given on page 105 in the lab manual.

```
TITLE LINE MY BREADBOARD IS MY FRIEND
*THERE ARE MANY LIKE IT BUT THIS ONE
*IS MINE
VI 1 0 AC 1
R1 1 2 20K
C1 2 3 0.1U
R2 3 4 47K
X1 0 3 4 OPAMP
X2 4 5 7 OPAMP
R3 7 5 12K
R4 5 6 1K
C2 6 0 10N
X3 0 8 9 OPAMP
R5 7 8 1K
R6 8 9 10K
C3 8 9 1N
*QUASI-IDEAL OP-AMP SUBCIRCUIT
.SUBCKT OPAMP 1 2 3
EOUT 3 0 1 2 200K
.ENDS OPAMP
.AC DEC 100 10 200K
.PROBE
.END
```

