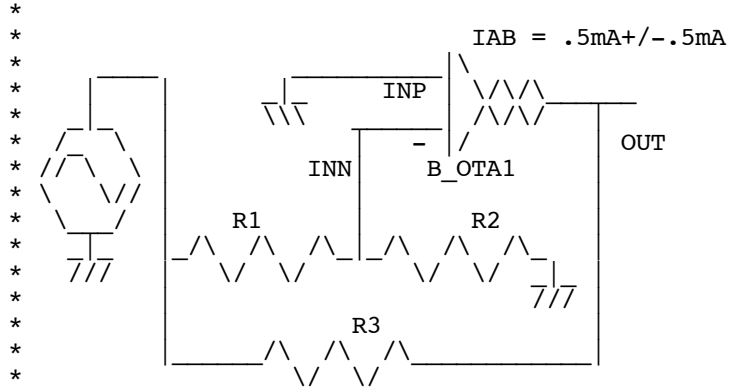


OTA_4Quad_Mixer

* dsauersanjose@aol.com 10/21/08
 * www.idea2ic.com



```
VIN      VIN      0      SIN( 0 100m 2000 )
R1       VIN      INN    10K
R2       INN      0      100
R3       VIN      OUT    10.4K
B_OTA1   OUT      0      I = -1*v(VIABC)*tanh(( -v(INN) )/.052)
V_Iabc   VIABC    0      PWL ( 0 0 5m 1m 10m 0 )
.tran    1u       10m    0      1u

.control
run
set      pensize = 2
plot    v(vin)   v(out)
.endc

.end
```

=====END_OF_SPICE=====

To Covert PDF to plain text click below
<http://www.fileformat.info/convert/doc/pdf2txt.htm>
 This code works with winspice.

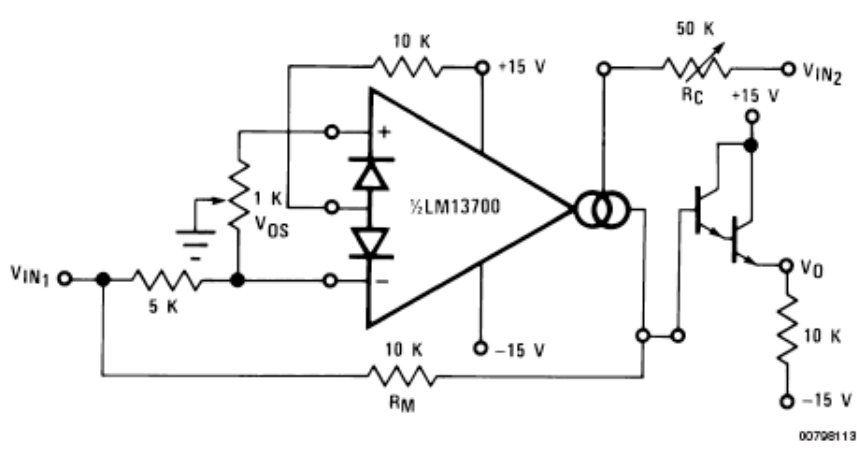
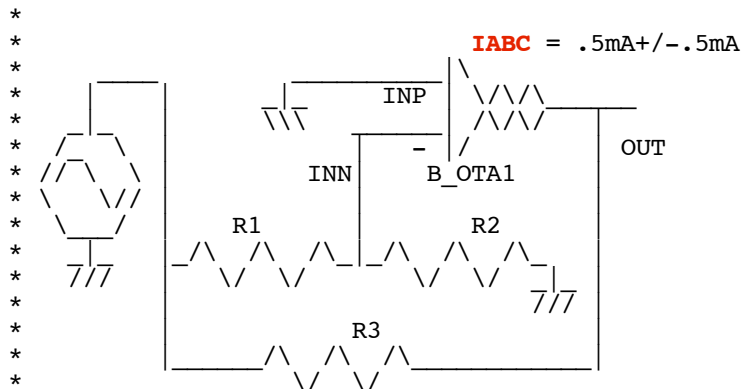


FIGURE 6. Four-Quadrant Multiplier

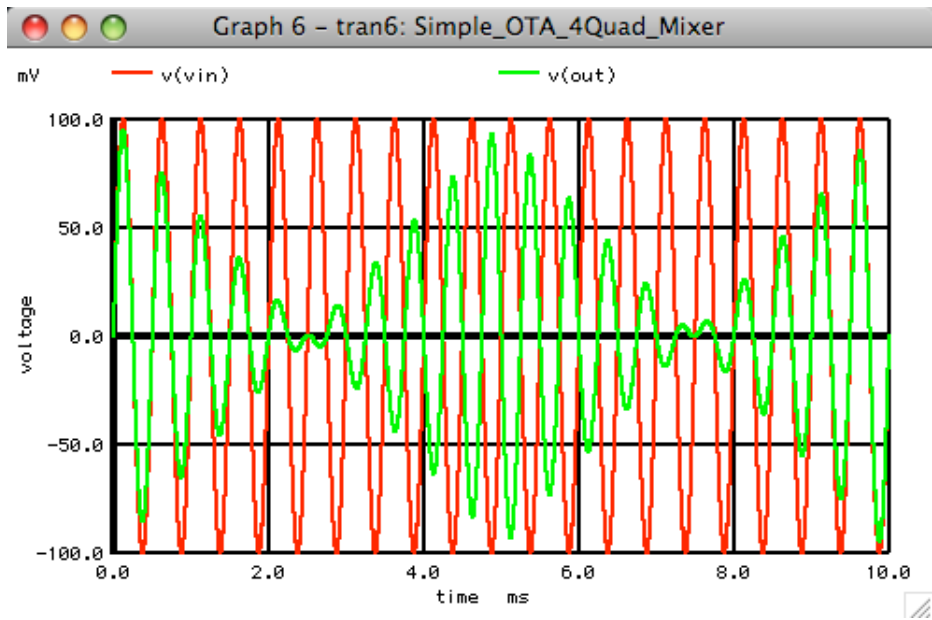
While the circuit is not the exact same as in the datasheet, this version might make it easier to how it works.



```

B_OTA1      OUT      0      I =  -1*v(VIABC)*tanh(( -v(INN) )/.052)
V_Iabc      VIABC    0      PWL( 0 0 5m 1m 10m 0 )

```



Negative current gain can be fed back to cancel an input signal at a given nominal **.5mA** level of **.5mA**. When this **IABC** level is modulated by **+-.5mA**, the output will be a product of the input signal times the modulation signal.