


```

BTH0      D0      0      V =    u( V(VIN)  -1/2)
BOFF0     VIN     OFF0    V =    V(D0)/2
BTH1      D1      0      V =    u( V(OFF0) -1/4)
BOFF1     OFF0   OFF1    V =    V(D1)/4
BTH2      D2      0      V =    u( V(OFF1) -1/8)
BOFF2     OFF1   OFF2    V =    V(D2)/8
BTH3      D3      0      V =    u( V(OFF2) -1/16)
BOFF3     OFF2   OFF3    V =    V(D3)/16
BTH4      D4      0      V =    u( V(OFF3) -1/32)
BOFF4     OFF3   OFF4    V =    V(D4)/32
BTH5      D5      0      V =    u( V(OFF4) -1/64)
BOFF5     OFF4   OFF5    V =    V(D5)/64
BTH6      D6      0      V =    u( V(OFF5) -1/128)
BOFF6     OFF5   OFF6    V =    V(D6)/128
BTH7      D7      0      V =    u( V(OFF6) -1/256)
BOFF7     OFF6   OFF7    V =    V(D7)/256
BDAC      VOUTA   0      V =    V(D0)/2+V(D1)/4+V(D2)/8+V(D3)/16+V(D4)/32+V(D5)/64+V(D6)/128+V(D7)/245

```

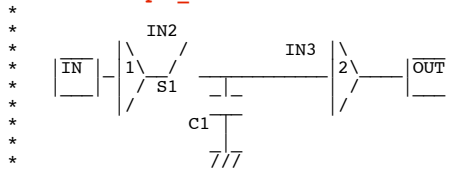
```

.control
*TRAN      TSTEP  TSTOP  TSTART  TMAX    ?UIC?
tran       .05m    1      0      .05m
set        pensize = 2
plot      vin vouta vout
plot      vin -vout xlimit 1m 1
echo       "=====FFT_and_Plot=====
linearize
let        FFT_BandWidth_Hz = 1k
let        FFT_resolution_Hz = 1
echo       "FFT_BandWidth_Hz= $&FFT_BandWidth_Hz"
echo       "FFT_resolution_Hz= $&FFT_resolution_Hz"
set        specwindow = "rectangular"
spec       $&FFT_resolution_Hz $&FFT_BandWidth_Hz $&FFT_resolution_Hz v(vout)
plot      mag (vout) loglog
echo       "=====Done=====

```

.endc

*=====Sample Hold=====

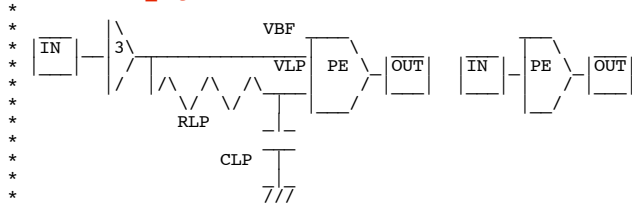


```

.SUBCKT SH IN CNTL OUT
B1 IN2 0 V = v(IN )
S1 IN2 IN3 CNTL 0 SW
C1 IN3 0 .1u
R1 IN3 0 100Meg
B2 OUT 0 V = v(IN3 )
.ENDS SH

```

*=====POS_Edge=====



```

.SUBCKT POS_E IN OUT
BBUF VBF 0 V = u( v(IN )-.5 )
RLP VBF VLP 10k
CLP VLP 0 1n IC=0
BAND OUT 0 V = u( u(v(VBF )-.5)*u(.5 -v(VLP) ) -.1)
.ENDS POS_E

```

```

.MODEL SW SW( VT=.5 VH=.1 RON=1 ROFF=100MEG)

```

.end

4.4.11_12.19PM
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Don Sauer