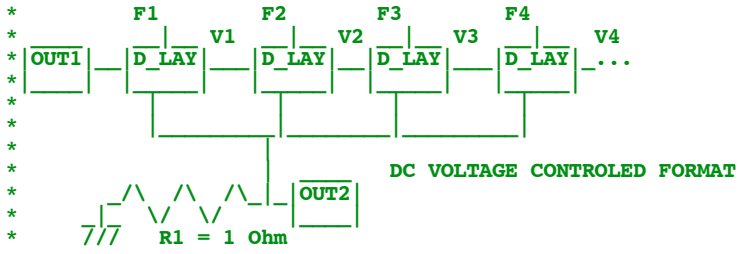
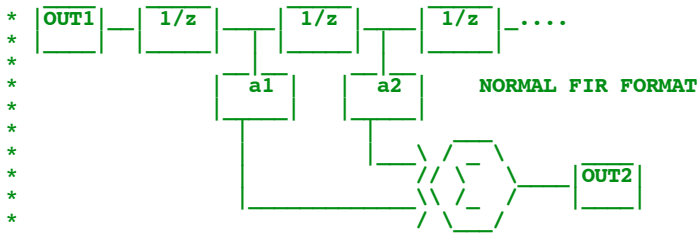
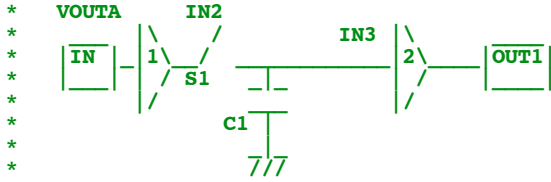
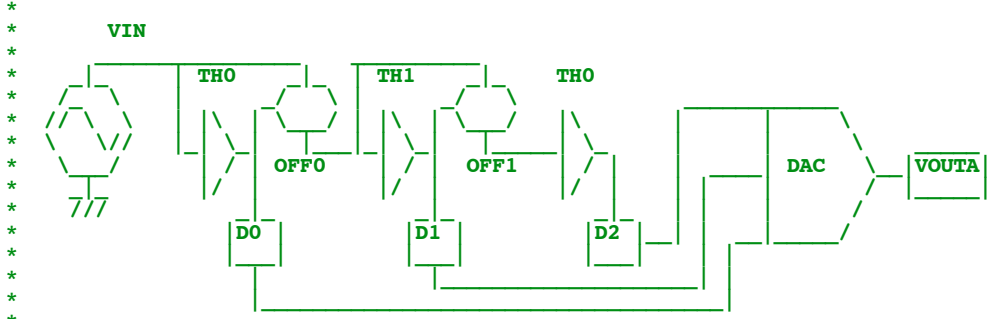




-----MacSpiceCode-----

Simple\_Unterpolation



```

=====Create_Signal=====
*V_SIN#   NODE_P NODE_N DC   VALUE SIN(  V_DC  AC_MAG FREQ   DELAY  FDamp)
VIN      VIN    0      DC   0      SIN(   .5   .5   3
*V_PULSE# NODE_P NODE_N DC   VALUE PULSE( VINIT VPULSE TDELAY TRISE  TFALL  PWIDTH PERIOD )
VCLKL   CLK    0      DC   0      PULSE( 0    1    1n   1n   1n   2m   4m   )
VCLKL2  CLK2   0      DC   0      PULSE( 0    1    1n   1n   1n   2m   4m   )
VCLKL3  CLK3   0      DC   0      PULSE( 0    1    .1m  1n   1n   1m   2m   )
BNCLK   NCLK   0      V =  1      -V(CLK2)
VDC     VDC    0      DC   .5
    
```

```

XPOSE1   CLK    CNTL   POS E
XS_H1    VOUTA  CNTL   OUT1  SH

S4       OUT1   OUT4   CLK2   0    SW
S5       VDC    OUT4   NCLK   0    SW
C5       OUT4   0      .01n
R5       OUT4   VDC    10Meg
B4       OUT5   0      V =    V(OUT4)

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)
    
```

BDAC      VOUTA 0      V =      (V(D0)/2+V(D1)/4+V(D2)/8)

VF1      F1      0      DC      0.1666

XS\_DLAY1 OUT5 V1      OUT2 CLK3 F1 S\_DLAY
XS\_DLAY2 V1    V2      OUT2 CLK3 F1 S\_DLAY
XS\_DLAY3 V2    V3      OUT2 CLK3 F1 S\_DLAY
XS\_DLAY4 V3    V4      OUT2 CLK3 F1 S\_DLAY
XS\_DLAY5 V4    V5      OUT2 CLK3 F1 S\_DLAY
XS\_DLAY6 V5    V6      OUT2 CLK3 F1 S\_DLAY

ROUT2      OUT2 0      1

.control

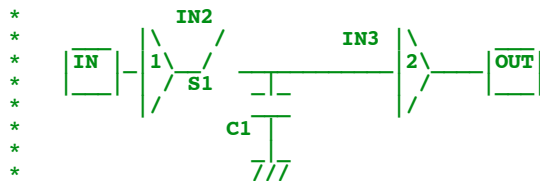
\*TRAN TSTEP TSTOP TSTART TMAX ?UIC?
tran .05m 1 0 .05m
set pensize = 2
plot vin vouta out2
plot vin out5 out2 xlimit .33 .66
plot v1

echo "=====FFT\_and\_Plot====="

linearize
let FFT\_BandWidth\_Hz = 10k
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(out2)
plot mag (out2) loglog
echo "=====Done====="

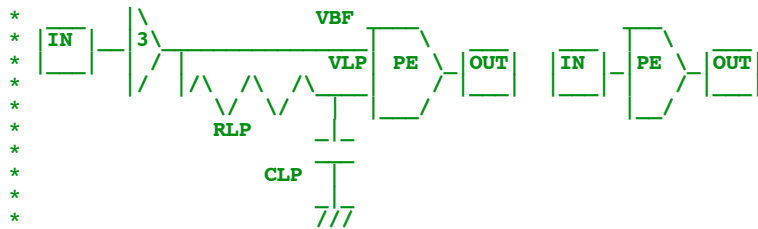
.MODEL SW SW( VT=.5 VH=.1 RON=1 ROFF=100MEG)

\*=====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

\*=====SCALED\_DELAY=====

