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***Code***

**% MATLAB code for binary FSK modulation and de-modulation %**

Clc;

Clear all;

Close all;

X=[ 1 0 0 1 1 0 1]; % Binary Information

Bp=.000001; % bit period

Disp(‘ Binary information at Trans mitter :’);

Disp(x);

%XX representation of transmitting binary information as digital signal XXX

Bit=[];

For n=1:1:length(x)

If x(n)==1;

Se=ones(1,100);

Else x(n)==0;

Se=zeros(1,100);

End

Bit=[bit se];

End

T1=bp/100:bp/100:100\*length(x)\*(bp/100);

Subplot(3,1,1);

Plot(t1,bit,’lineWidth’,2.5);grid on;

Axis([ 0 bp\*length(x) -.5 1.5]);

Ylabel(‘amplitude(volt)’);

Xlabel(‘ time(sec)’);

Title(‘transmitting information as digital signal’);

%XXXXXXXXXXXXXXXXXXXXXXX Binary-FSK modulation XXXXXXXXXXXXXXXXXXXXXXXXXXX%

A=5; % Amplitude of carrier signal

Br=1/bp; % bit rate

F1=br\*8; % carrier frequency for information as 1

F2=br\*2; % carrier frequency for information as 0

T2=bp/99:bp/99:bp;

Ss=length(t2);

M=[];

For (i=1:1:length(x))

If (x(i)==1)

Y=A\*cos(2\*pi\*f1\*t2);

Else

Y=A\*cos(2\*pi\*f2\*t2);

End

M=[m y];

End

T3=bp/99:bp/99:bp\*length(x);

Subplot(3,1,2);

Plot(t3,m);

Xlabel(‘time(sec)’);

Ylabel(‘amplitude(volt)’);

Title(‘waveform for binary FSK modulation coresponding binary information’);

%XXXXXXXXXXXXXXXXXXXX Binary FSK demodulation XXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Mn=[];

For n=ss:ss:length(m)

T=bp/99:bp/99:bp;

Y1=cos(2\*pi\*f1\*t); % carrier siignal for information 1

Y2=cos(2\*pi\*f2\*t); % carrier siignal for information 0

Mm=y1.\*m((n-(ss-1)):n);

Mmm=y2.\*m((n-(ss-1)):n);

T4=bp/99:bp/99:bp;

Z1=trapz(t4,mm) % intregation

Z2=trapz(t4,mmm) % intregation

Zz1=round(2\*z1/bp)

Zz2= round(2\*z2/bp)

If(zz1>A/2) % logic lavel= (0+A)/2 or (A+0)/2 or 2.5 ( in this case)

A=1;

Else(zz2>A/2)

A=0;

End

Mn=[mn a];

End

Disp(‘ Binary information at Reciver :’);

Disp(mn);

%XXXXX Representation of binary information as digital signal which achived

%after demodulation XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Bit=[];

For n=1:length(mn);

If mn(n)==1;

Se=ones(1,100);

Else mn(n)==0;

Se=zeros(1,100);

End

Bit=[bit se];

End

T4=bp/100:bp/100:100\*length(mn)\*(bp/100);

Subplot(3,1,3)

Plot(t4,bit,’LineWidth’,2.5);grid on;

Axis([ 0 bp\*length(mn) -.5 1.5]);

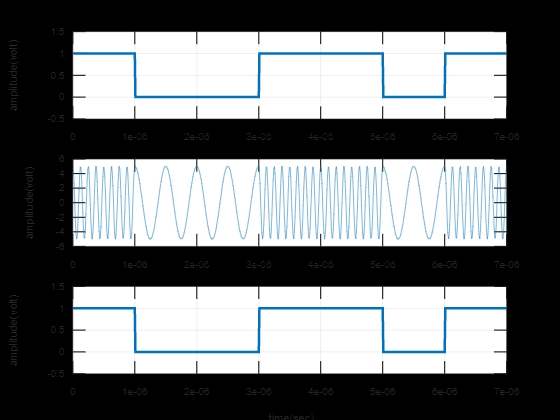
Ylabel(‘amplitude(volt)’);

Xlabel(‘ time(sec)’);

Title(‘recived information as digital signal after binary FSK demodulation’);

%>>>>>>>>>>>>>>>>>>>>>>>>>> end of program >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>%

***Output***

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