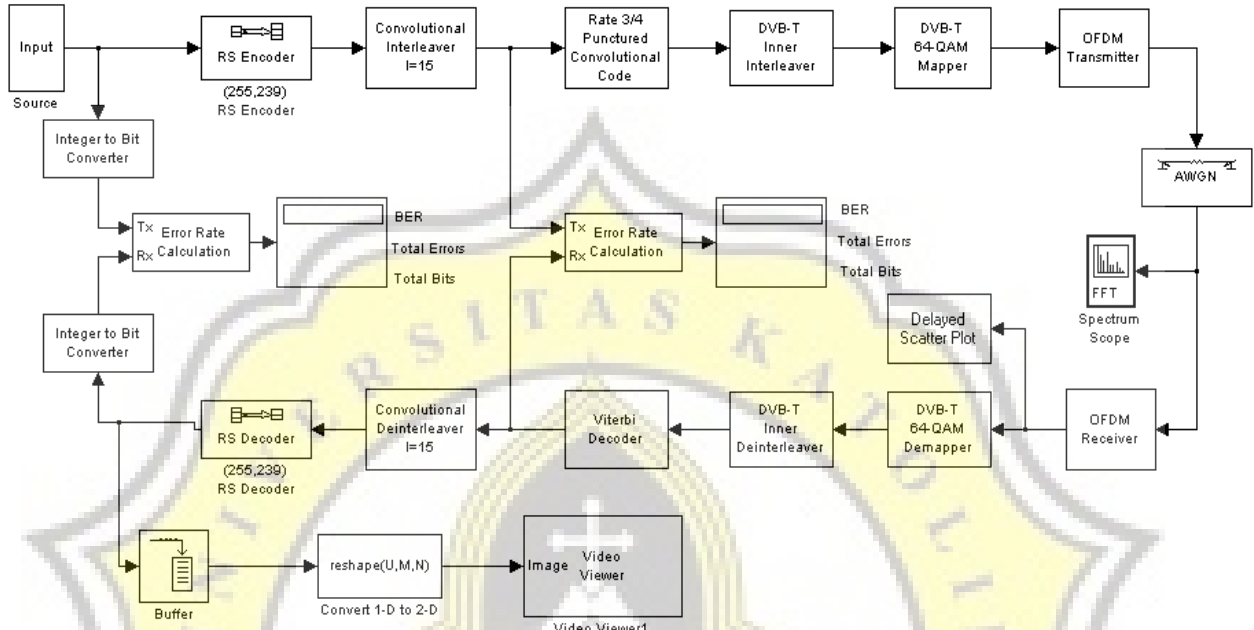


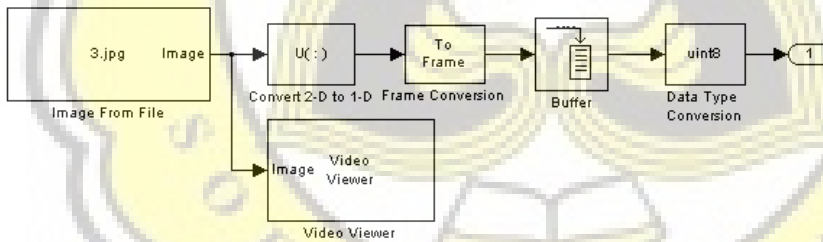
LAMPIRAN

1. Model simulasi DVB-T dengan input berupa gambar.

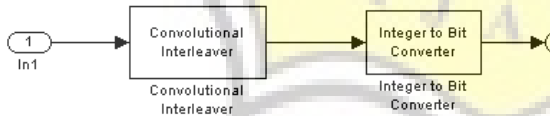
a. Gambar model secara keseluruhan



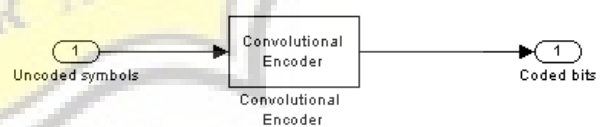
b. Blok Input



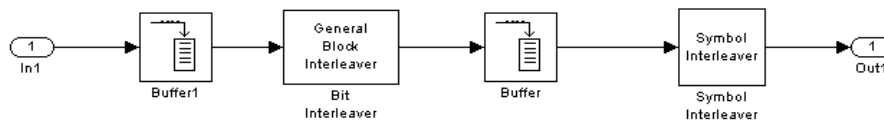
c. Blok outer interleaver



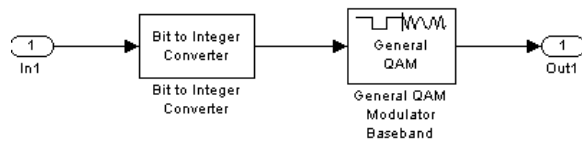
d. Blok convolutional code



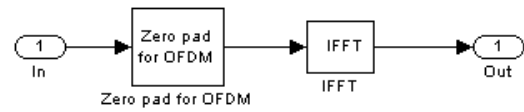
e. Blok dvb-t inner interleaver



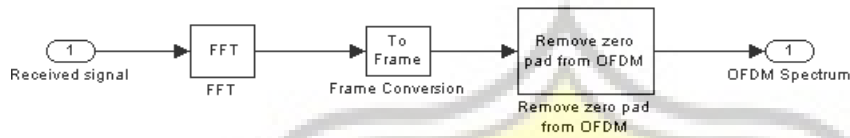
f. Blok mapper



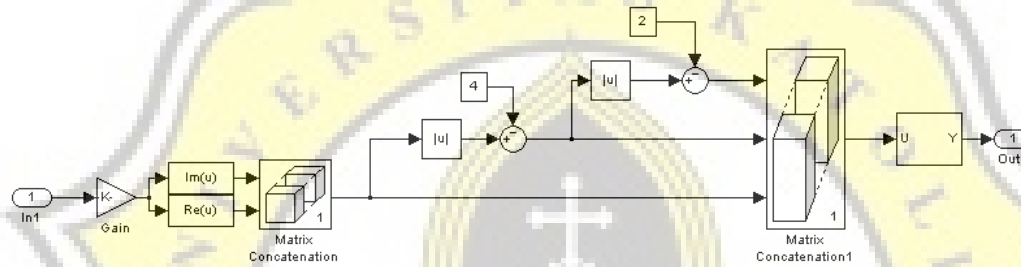
g. Blok OFDM transmitter



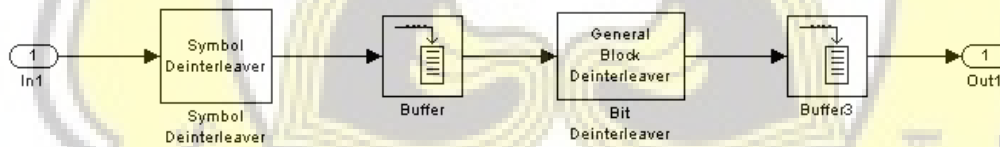
g. Blok OFDM receiver



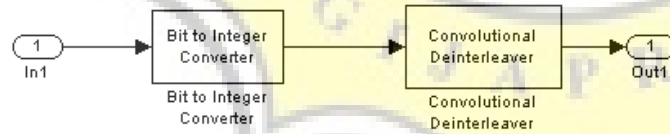
h. Blok demapper



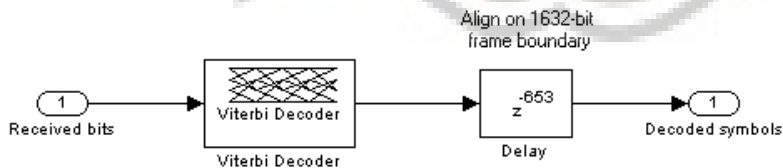
i. Blok dvb-t inner interleaver



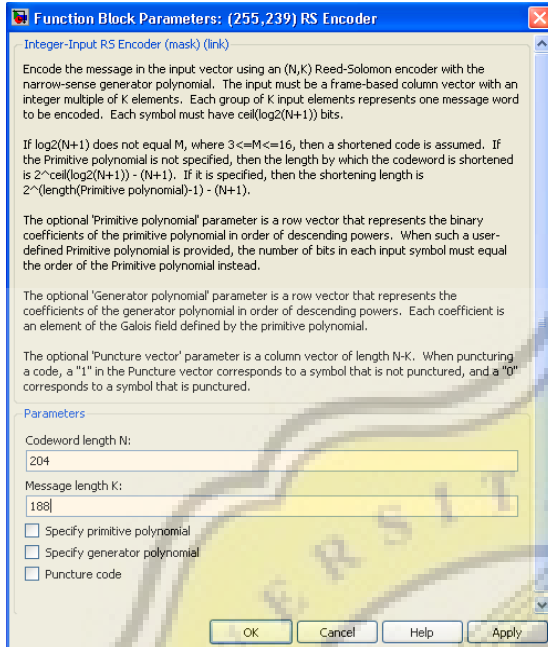
j. Blok outer deinterleaver



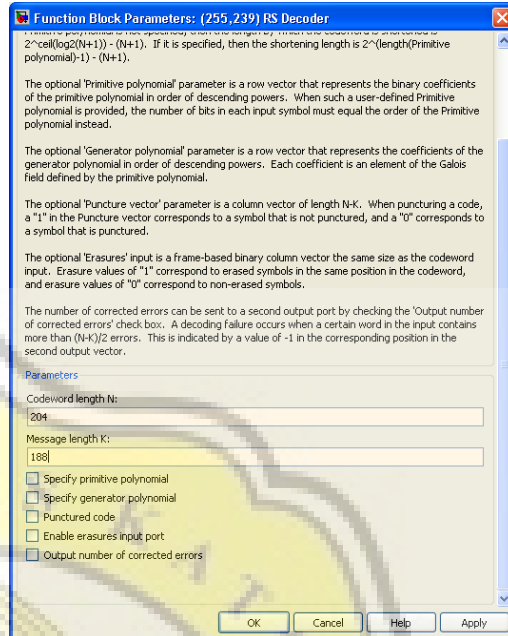
k. Blok inner coder



l. Blok RS encoder

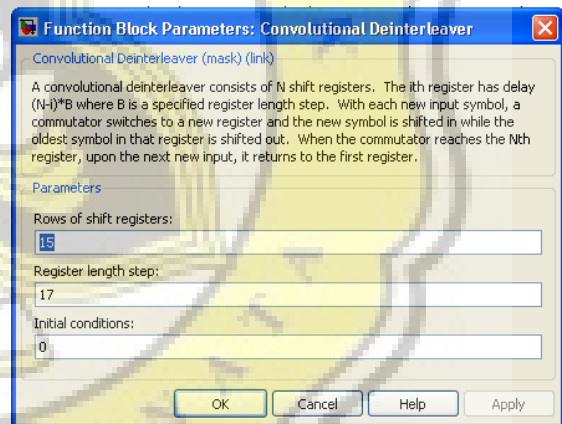
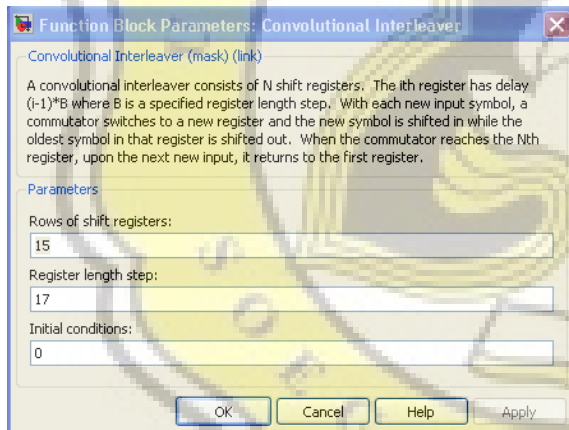


m. Blok RS decoder

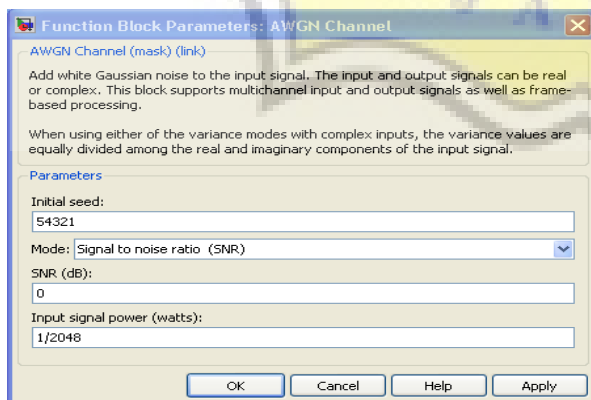


Agar RS yang digunakan adalah RS (255,239) maka nilai N diganti 255 dan nilai K diganti 239.

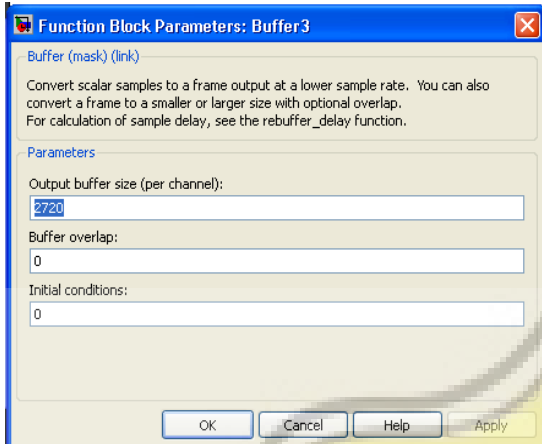
n. Blok convolutional interleaver dan convolutional deinterleaver



o. Blok AWGN



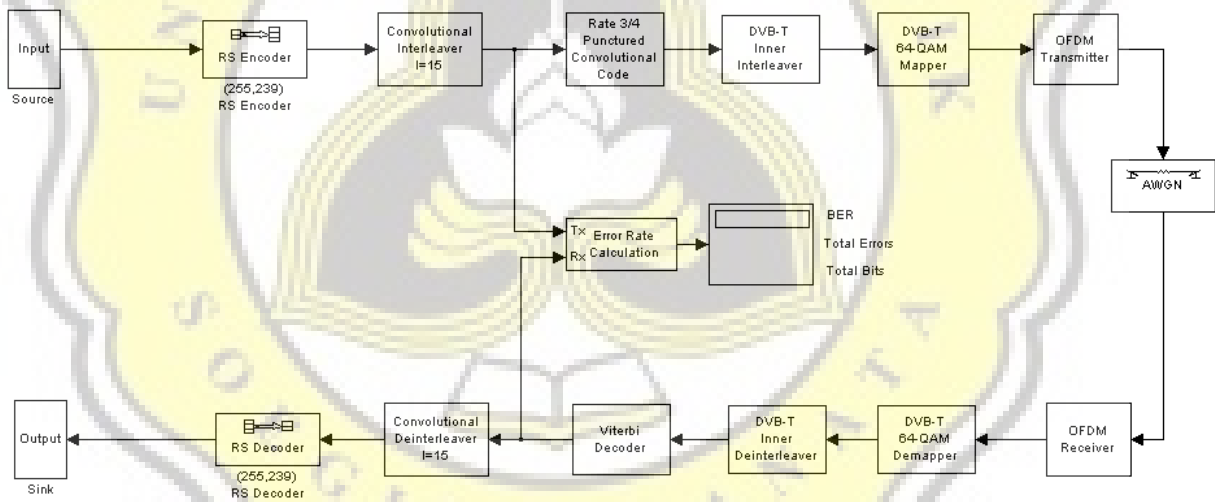
p. Blok buffer3



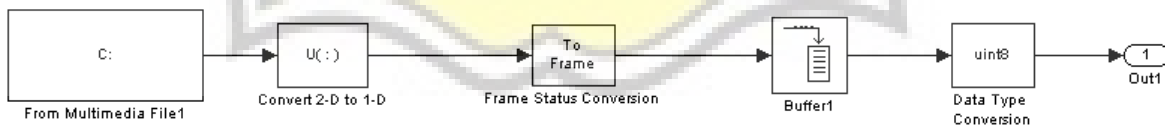
Nilai buffer3 diubah menjadi 2720 agar output sama dengan input.

2. Model simulasi DVB-T dengan input berupa audio.

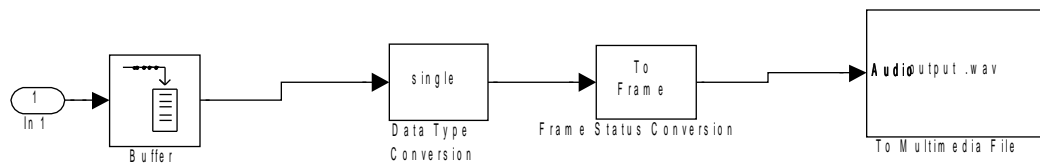
a. Model secara keseluruhan



b. Blok Input

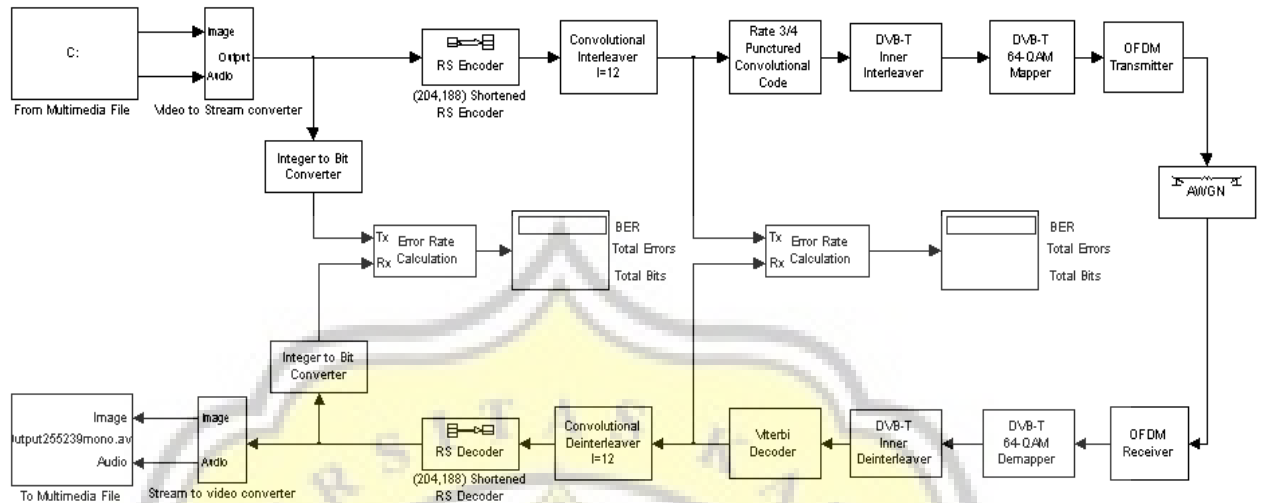


c. Blok Output

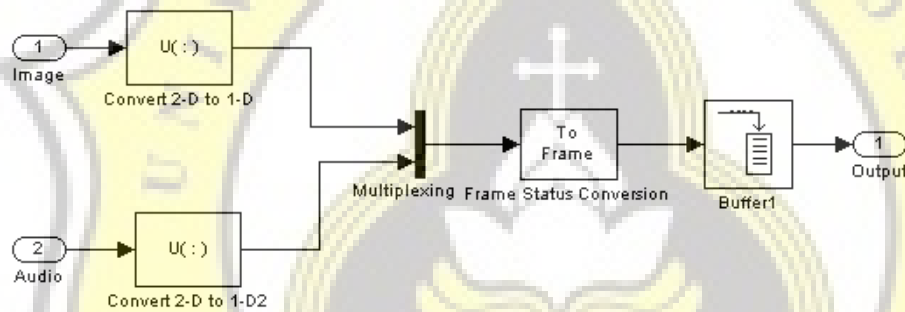


3. Model simulasi DVB-T dengan input berupa video.

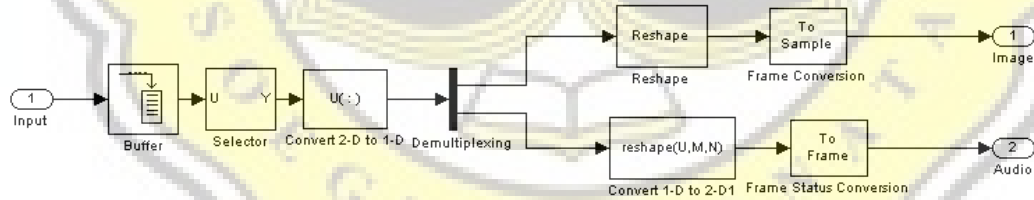
a. Model secara keseluruhan



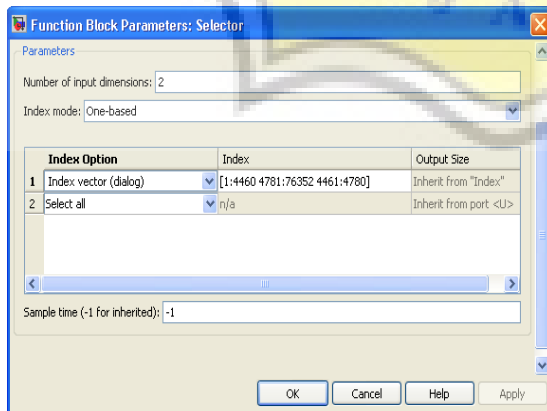
b. Blok video to stream




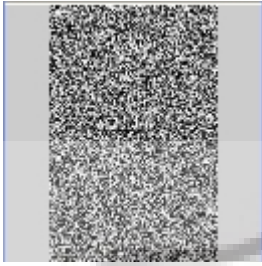



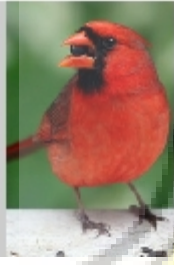
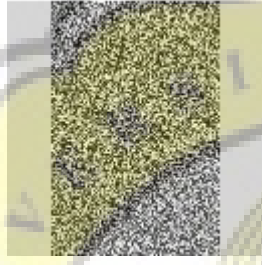



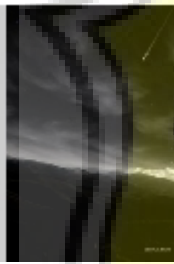
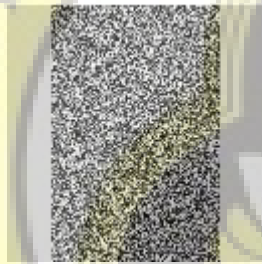


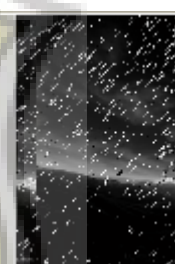
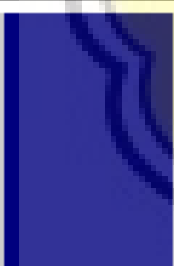
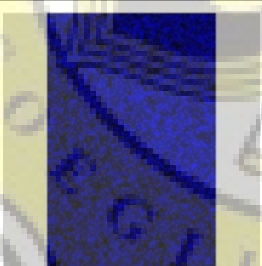
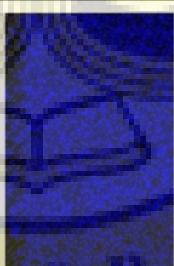

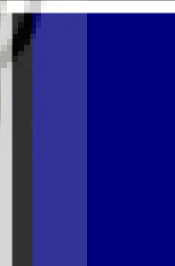
c. Blok stream to video




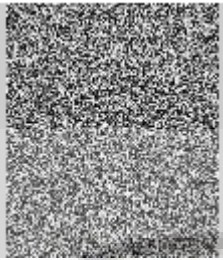



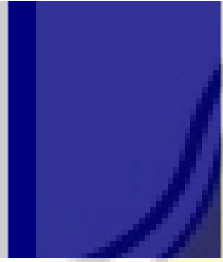
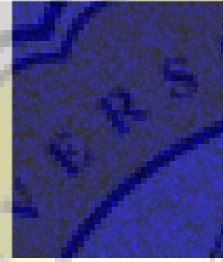
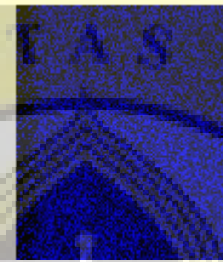

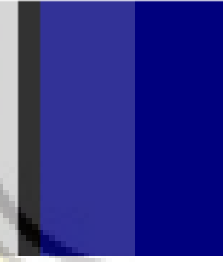
d. Blok selector







4. Hasil simulasi DVB-T dengan input berupa gambar menggunakan RS (255,239)

Input	Output			
	SNR (dB)			
	0	10	15	20
				
				
				
				

5. Hasil simulasi DVB-T dengan input berupa gambar menggunakan RS (204,188)

Input	Output			
	SNR (dB)			
	0	10	15	20
				
				

6. Hasil gambar simulasi DVB-T dengan input berupa video dengan audio stereo

SNR (dB)	Hasil Gambar	
	RS (255,239)	RS (204,188)
0		
10		

Lanjutan tabel halaman sebelumnya



7. Code Matlab M-File yang digunakan untuk inialisasi simulasi DVB-T adalah `commdvbt_tablege.m`. Berikut codenya

```
% COMMDVBT_TABLEGEN Generate interleaver and modulator lookup tables for
% COMMDVBT demo
```

```
% Copyright 1996-2007 The MathWorks, Inc.
% $Revision: 1.1.6.4 $ $Date: 2007/11/28 17:47:16 $
```

```
%
% Set the sample time
%
Ts = 0.000224*2176/9072/188;
```

```
%
% Section numbers refer to the ETSI DVB-T Standard,
% EN 300 744 V1.1.2 (1997-08)
%
```

```
%
% Compute lookup table for inner bit-wise interleaver
% as per section 4.3.4.1
%
```

```
% Initial table setup
dvb_bit_int_table = 1:756;
dvb_bit_int_table = reshape(dvb_bit_int_table, 6, 126);
```



```

% 64-QAM non-hierarchical demultiplexing
dvb_bit_int_table = dvb_bit_int_table([1 4 2 5 3 6],:);

% Six individual interleavers
dvb_bit_int_table(1,:) = dvb_bit_int_table(1,mod([0:125] + 0,126) + 1);
dvb_bit_int_table(2,:) = dvb_bit_int_table(2,mod([0:125] + 63,126) + 1);
dvb_bit_int_table(3,:) = dvb_bit_int_table(3,mod([0:125] +105,126) + 1);
dvb_bit_int_table(4,:) = dvb_bit_int_table(4,mod([0:125] + 42,126) + 1);
dvb_bit_int_table(5,:) = dvb_bit_int_table(5,mod([0:125] + 21,126) + 1);
dvb_bit_int_table(6,:) = dvb_bit_int_table(6,mod([0:125] + 84,126) + 1);

% Flatten matrix into lookup table
dvb_bit_int_table = dvb_bit_int_table(:);

%
% Compute lookup table for inner symbol interleaver
% as per section 4.3.4.2
%

% Following Figure 8a and accompanying equations
q = 0;
h = zeros(1,2048);
R = zeros(1,10);
for indx = 0:2047,
    if indx == 2,
        R(1) = 1;
    end
    Rsum = R(3)*2^9+R(6)*2^8+R(9)*2^7+R(4)*2^6+...
        R(8)*2^5+R(1)*2^4+R(2)*2^3+R(5)*2^2+R(7)*2^1+R(10)*2^0;
    h(q+1) = rem(indx,2)*2^10+Rsum;
    if h(q+1)<1512,
        q = q + 1;
    end
    R = [R(2:10) xor(R(1),R(4))];
end
dvb_sym_int_table = h(1:1512)+1;

% Clear unnecessary variables from workspace
clear R Rsum h indx q

% Expand table to accomodate 6-bit words
dvb_sym_int_table = [dvb_sym_int_table*6-5;
                    dvb_sym_int_table*6-4;
                    dvb_sym_int_table*6-3;
                    dvb_sym_int_table*6-2;
                    dvb_sym_int_table*6-1;

```

```
dvb_sym_int_table*6];
```

```
% Flatten matrix into lookup table  
dvb_sym_int_table = dvb_sym_int_table(:);
```

```
%  
% Compute lookup table for 64-QAM non-hierarchical modulator  
% as per section 4.3.5  
%
```

```
% Reading the values from Figure 9a
```

```
dvbt_gam = [ 7 + 7i
```

```
  -7 + 7i
```

```
   7 - 7i
```

```
  -7 - 7i
```

```
   1 + 7i
```

```
  -1 + 7i
```

```
   1 - 7i
```

```
  -1 - 7i
```

```
   7 + 1i
```

```
  -7 + 1i
```

```
   7 - 1i
```

```
  -7 - 1i
```

```
   1 + 1i
```

```
  -1 + 1i
```

```
   1 - 1i
```

```
  -1 - 1i
```

```
   5 + 7i
```

```
  -5 + 7i
```

```
   5 - 7i
```

```
  -5 - 7i
```

```
   3 + 7i
```

```
  -3 + 7i
```

```
   3 - 7i
```

```
  -3 - 7i
```

```
   5 + 1i
```

```
  -5 + 1i
```

```
   5 - 1i
```

```
  -5 - 1i
```

```
   3 + 1i
```

```
  -3 + 1i
```

```
   3 - 1i
```

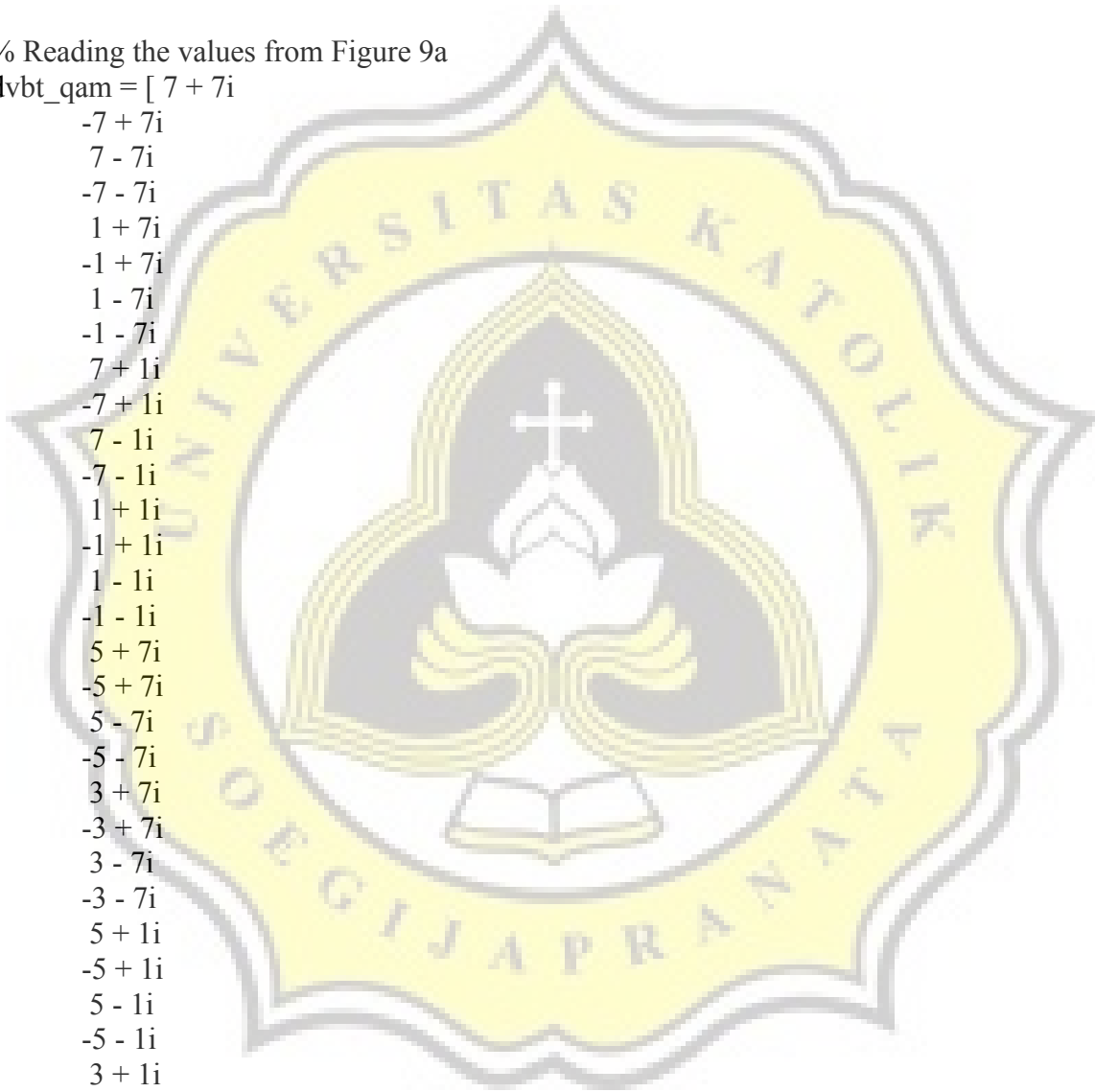
```
  -3 - 1i
```

```
   7 + 5i
```

```
  -7 + 5i
```

```
   7 - 5i
```

```
  -7 - 5i
```



```

1 + 5i
-1 + 5i
1 - 5i
-1 - 5i
7 + 3i
-7 + 3i
7 - 3i
-7 - 3i
1 + 3i
-1 + 3i
1 - 3i
-1 - 3i
5 + 5i
-5 + 5i
5 - 5i
-5 - 5i
3 + 5i
-3 + 5i
3 - 5i
-3 - 5i
5 + 3i
-5 + 3i
5 - 3i
-5 - 3i
3 + 3i
-3 + 3i
3 - 3i
-3 - 3i ];

```

% Normalization factor from Section 4.4

```
dvbt_qam = dvbt_qam/sqrt(42);
```

% 64-QAM Constellation mapping from Figure 9a. Note that the bit words are
% flipped. This mapping is used by alternative version of the demo.

```

dvbt_const_mapping = [ ...
1 17 21 5 4 20 16 0;...
33 49 53 37 36 52 48 32;...
41 57 61 45 44 60 56 40;...
9 25 29 13 12 28 24 8;...
11 27 31 15 14 30 26 10;...
43 59 63 47 46 62 58 42;...
35 51 55 39 38 54 50 34;...
3 19 23 7 6 22 18 2 ...
];

```

```
dvbt_mapping = dvbt_const_mapping(:);
```