

3.24 Since it requires multiplications before additions, it uses decimation-in-time FFT. From the algorithm description in Box 3.3, we can identify the twiddle factor in the complete figure 3.23 shown below.

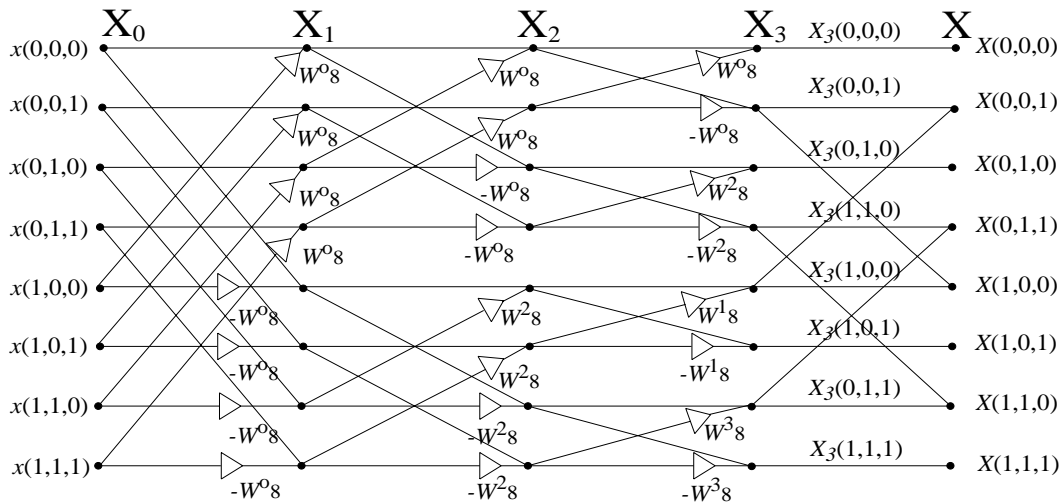


Fig 3.23

The minus signs in the SFG mean the subtraction in butterfly operations

The constants in the Box 3.3 should be

$$N = 8, M = 3, N_{\text{minus}} = 1 = 7$$

At stage 1:  $N_s = 4$ ,

Table 1:

q	k	block_index	$\rho$	complex constant
1	0	0	0	$W_8^0$
2	1	0	0	$W_8^0$
3	2	0	0	$W_8^0$
4	3	0	0	$W_8^0$

At stage 2:  $N_s = 2$ ,

q	k	block_index	$\rho$	complex constant
1	0	0	0	$W_8^0$
2	1	0	0	$W_8^0$
1	4	1	2	$W_8^2$
2	5	1	2	$W_8^2$

At stage 3:  $N_s = 1$ ,

q	k	block_index	$\rho$	complex constant
1	0	0	0	$W_8^0$
1	2	1	2	$W_8^2$
1	4	2	1	$W_8^1$
1	6	3	3	$W_8^3$