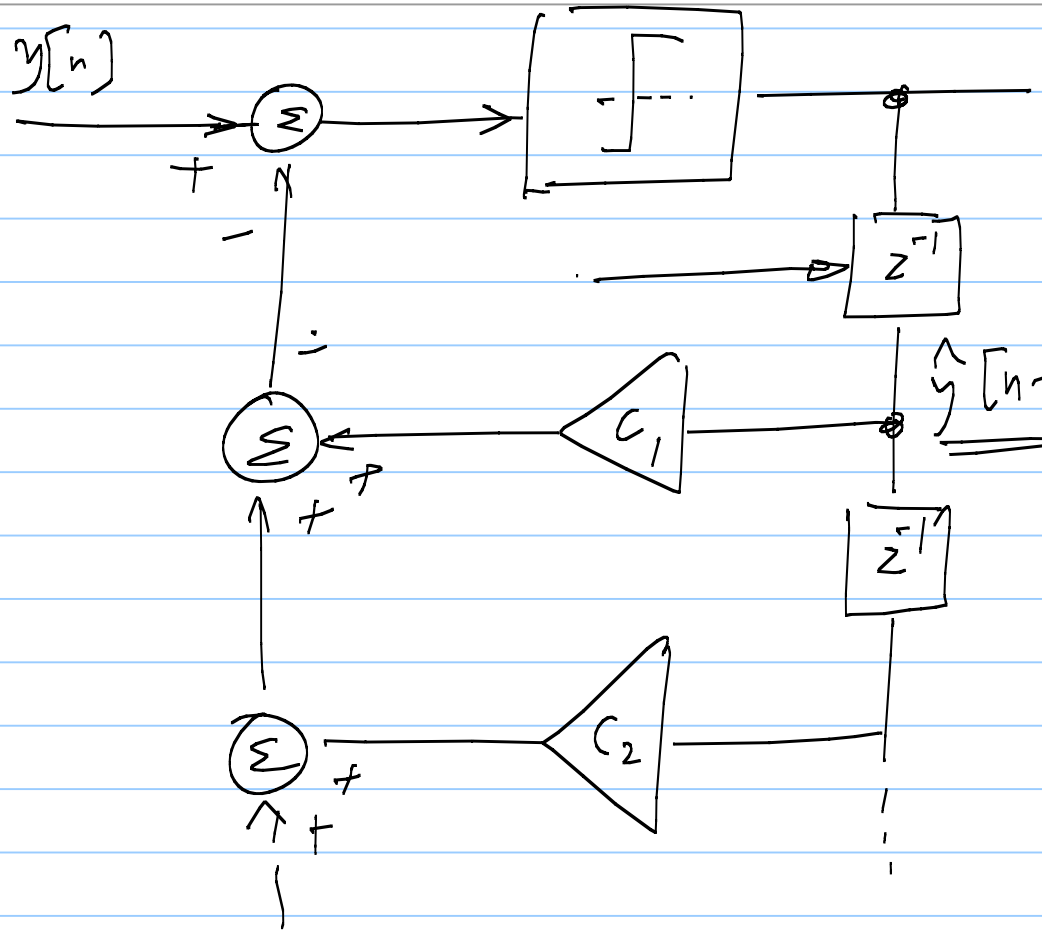
Decision feedback equalization:

Note Title 1/17/2007



Digital implementation:

Slicer: (binary).

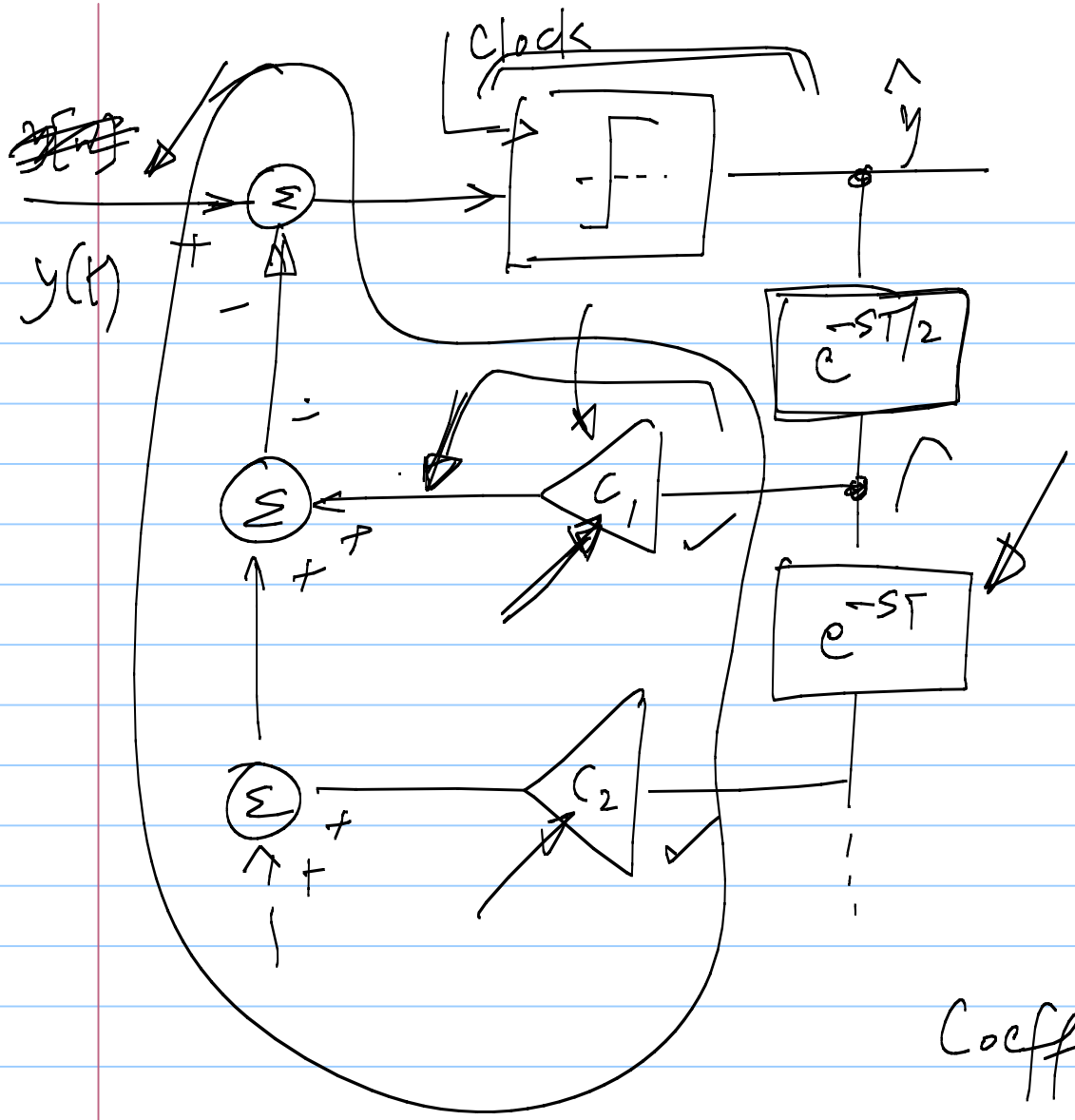
MSB

Delays: Flip flops

Coeff: Multiplier

[select $\pm c_1$]

Adders:



Analog implementation:

Slicer: Regenerative latch / FF

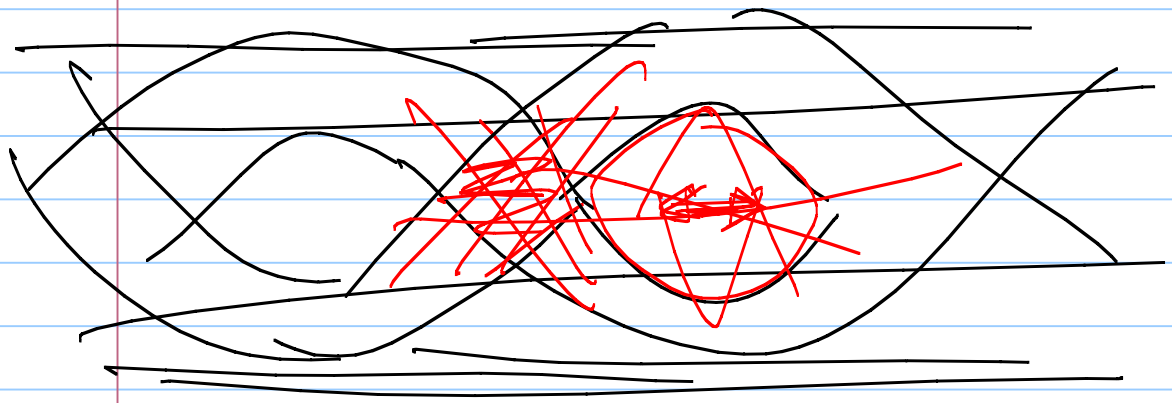
Delay: $e^{-sT/2}$ may not be explicitly implemented — absorbed into the delays of FF, coefficients.

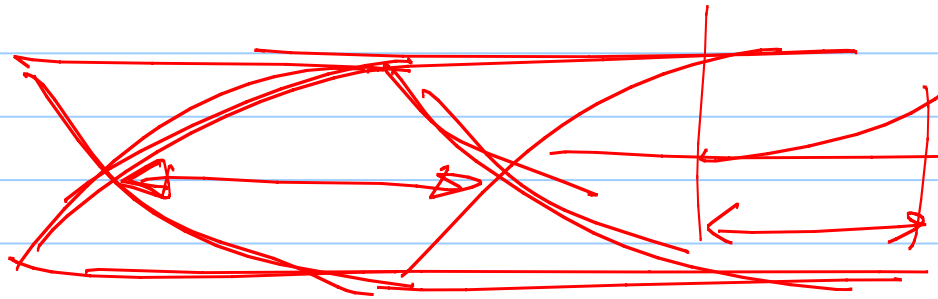
Coefficients: differential pairs.

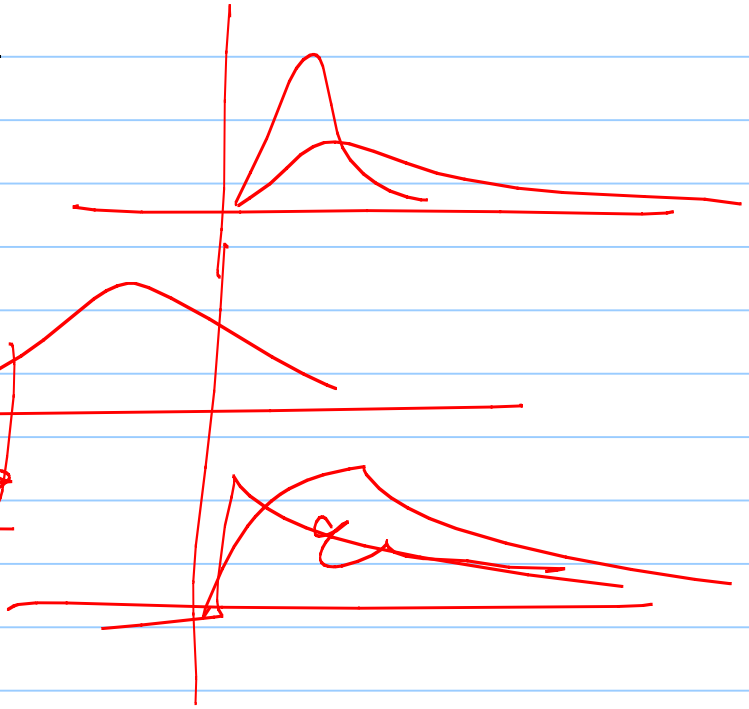
$H(z)$ $\left[\frac{1}{H(z)}\right]$

$(A^T A)^{-1} A^T \cdot y$ $\begin{bmatrix} 0 \\ 0 \\ 1 \\ \vdots \\ 0 \end{bmatrix}$

(3.7)

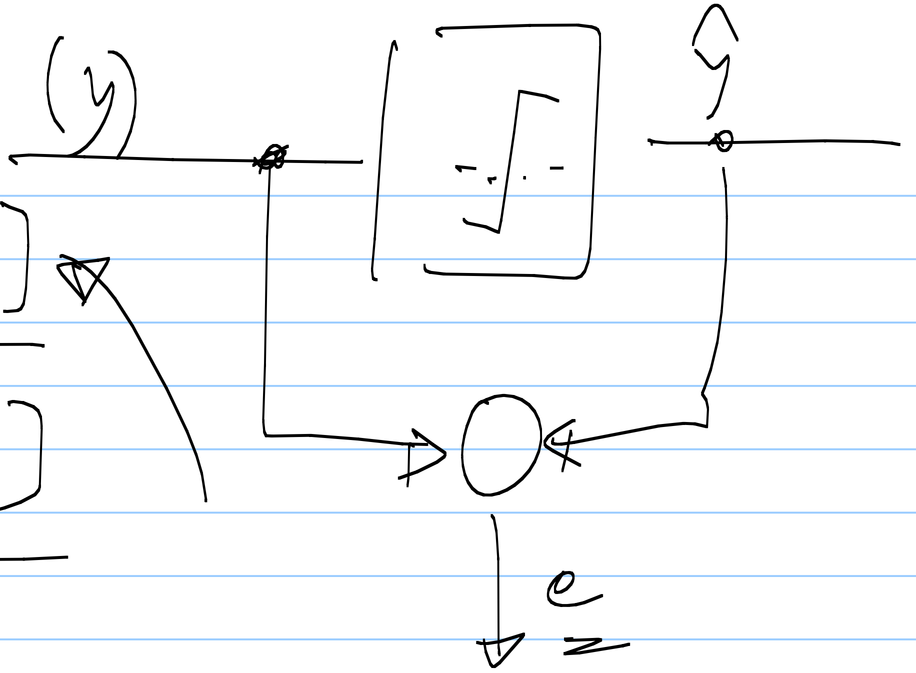






[0 1 0 0 0]

[1 0 0 0 0]

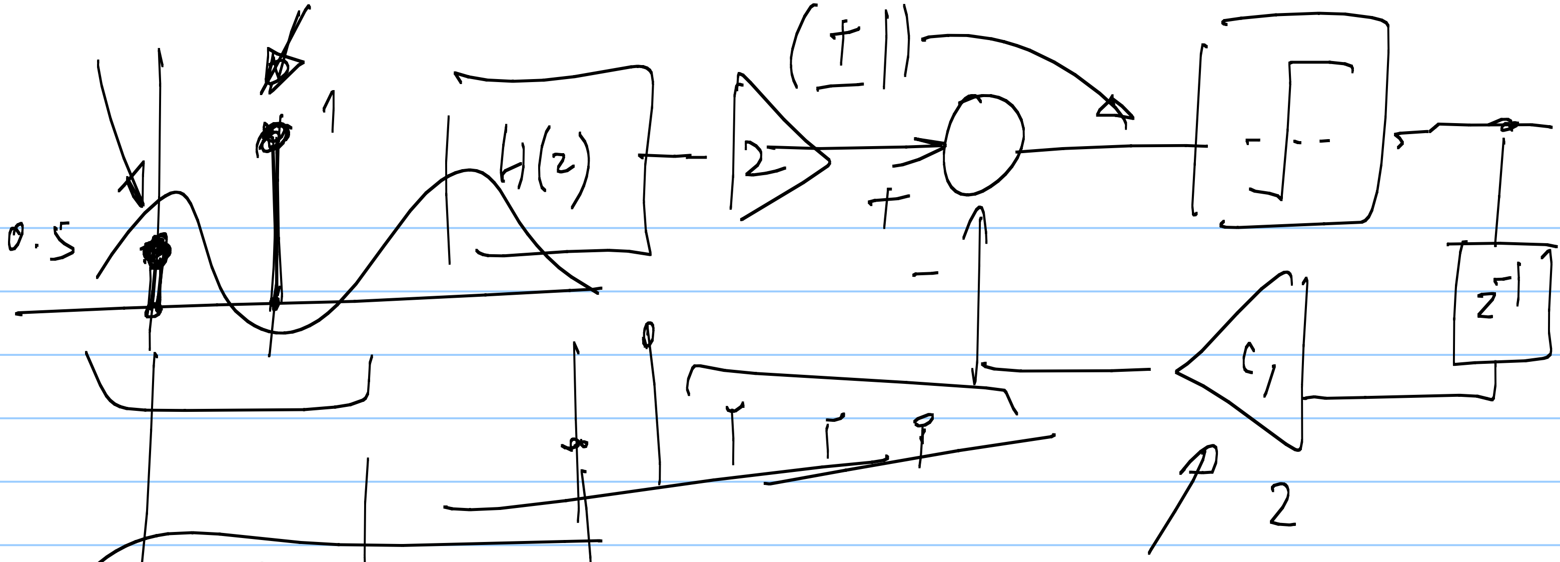


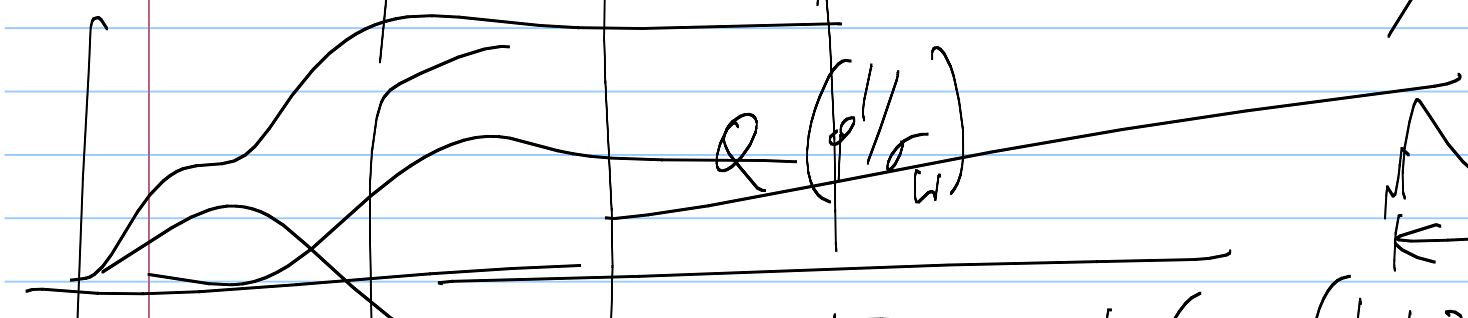
(0.67)

sgn(e) sgn(x)

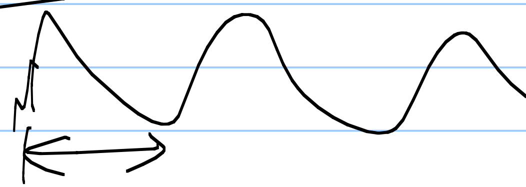
[−0.25 1 −0.5 1.25]

1	2	3	4	5	6	7	8	9	10
0	−0.25	1	−0.5	0.25	0	0	0	0	0
0	0	−0.25	1	−0.5	0.25	0	0	0	0

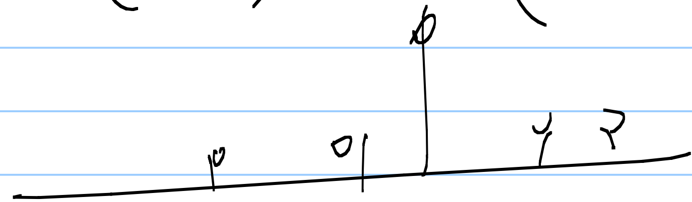


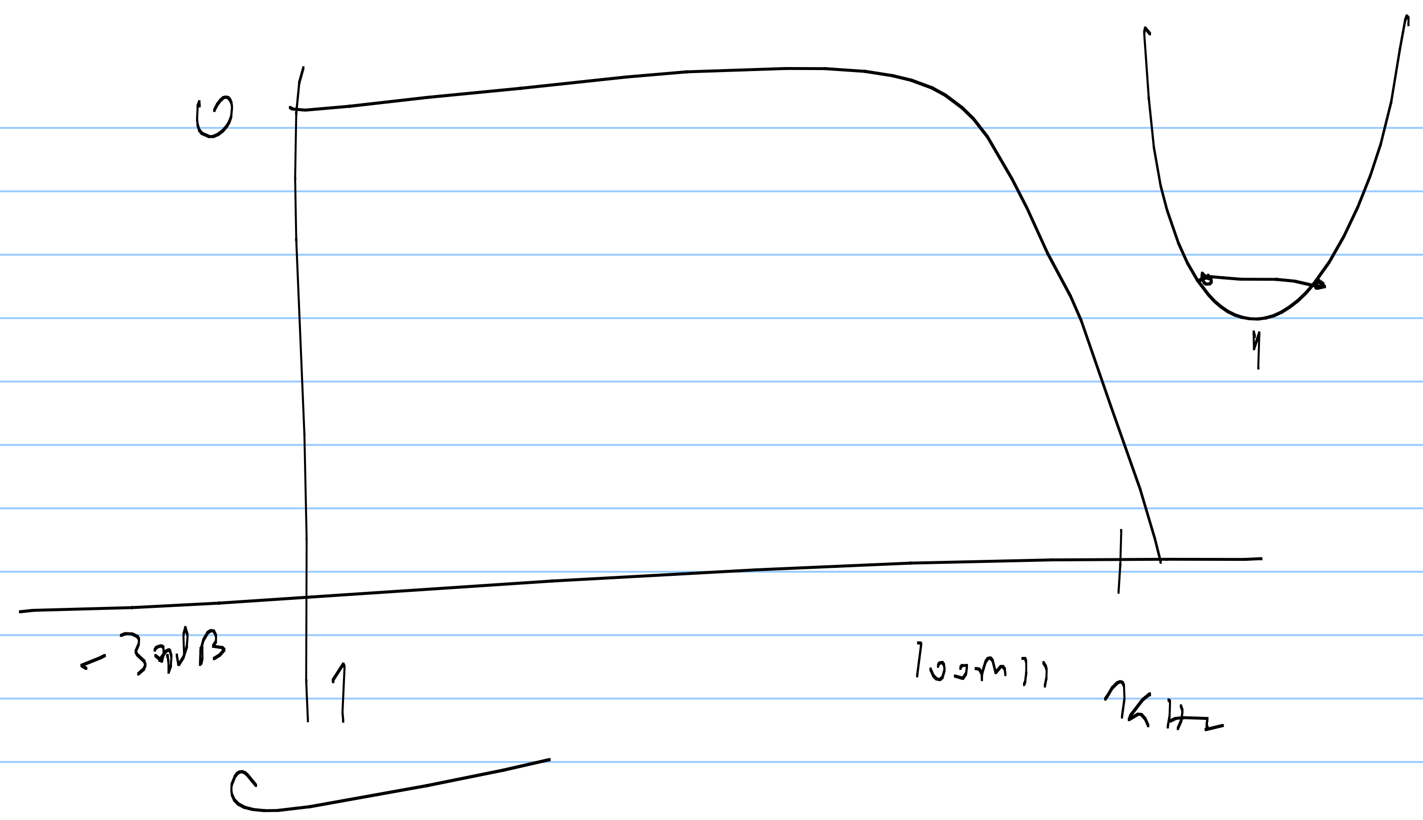


$$Q\left(\phi'/\sigma_w\right)$$



$$1 + Q\left(\frac{1}{\sigma_w}\right) - \frac{1}{2}\left(Q\left(\frac{1+2d}{\sigma_w}\right) + Q\left(\frac{1-2d}{\sigma_w}\right)\right)$$





0
-3dB
1
100m11
1kHz