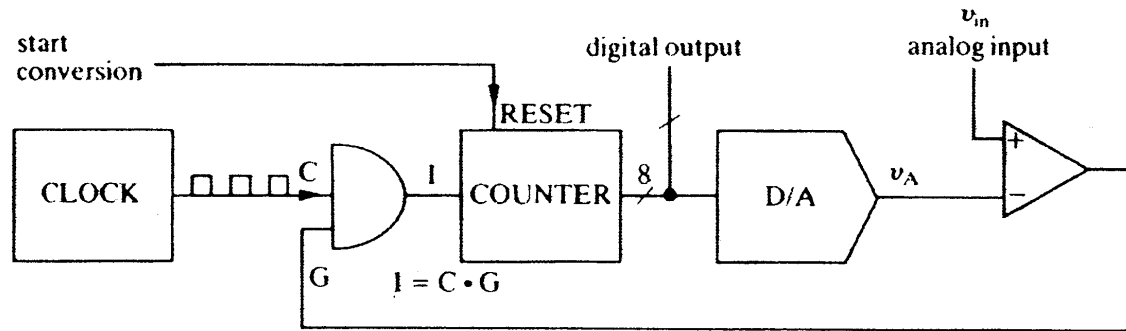
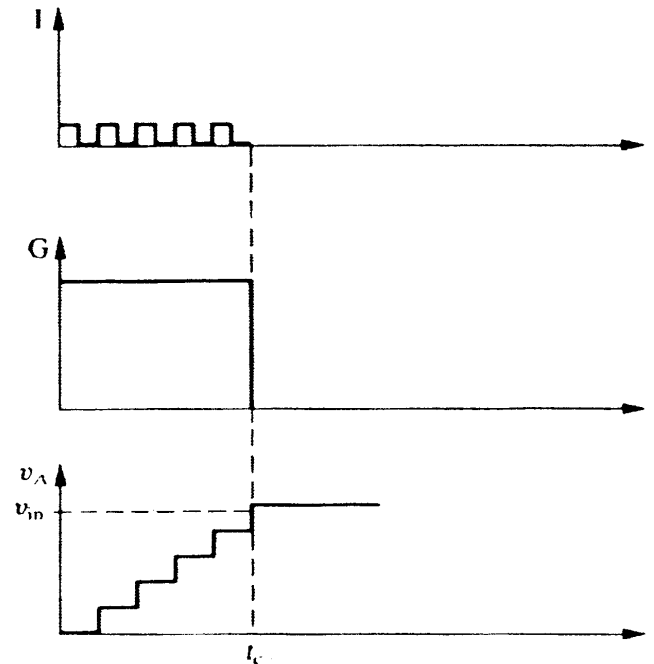


Staircase ADC

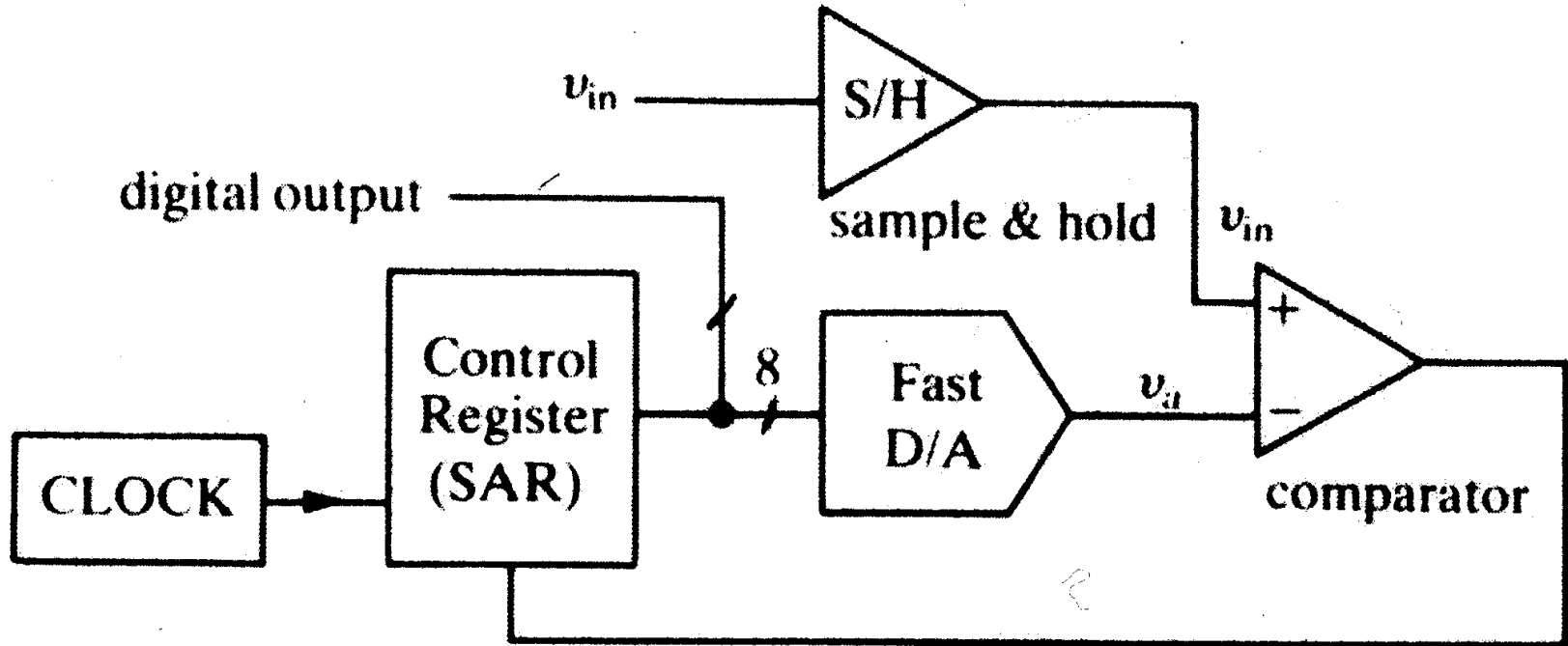


(a) basic circuit



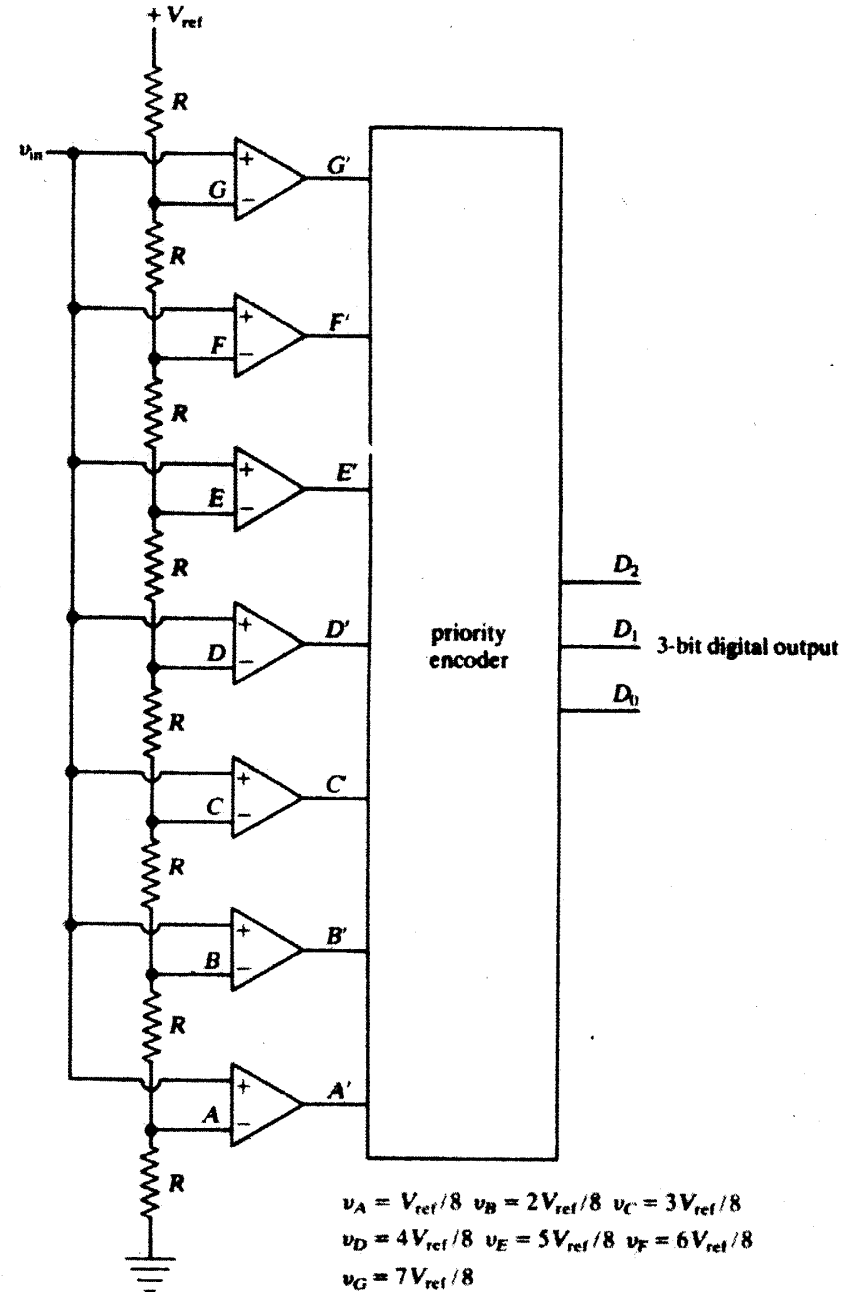
(b) waveforms

Successive Approximation ADC

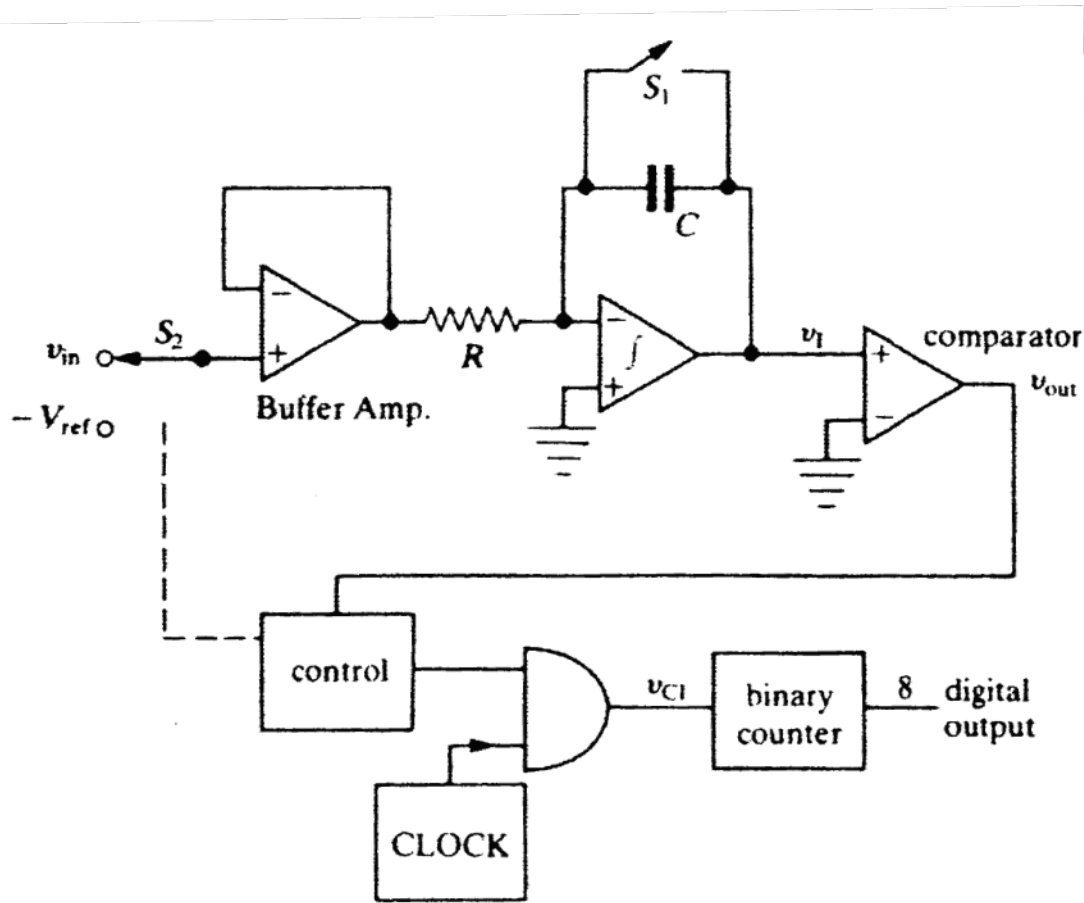


basic circuit

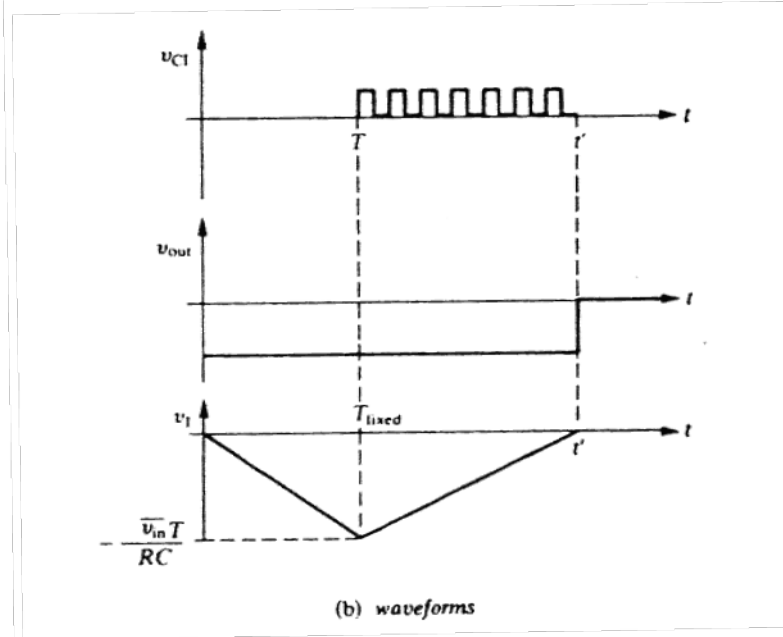
3-bit Flash ADC



Dual Slope ADC

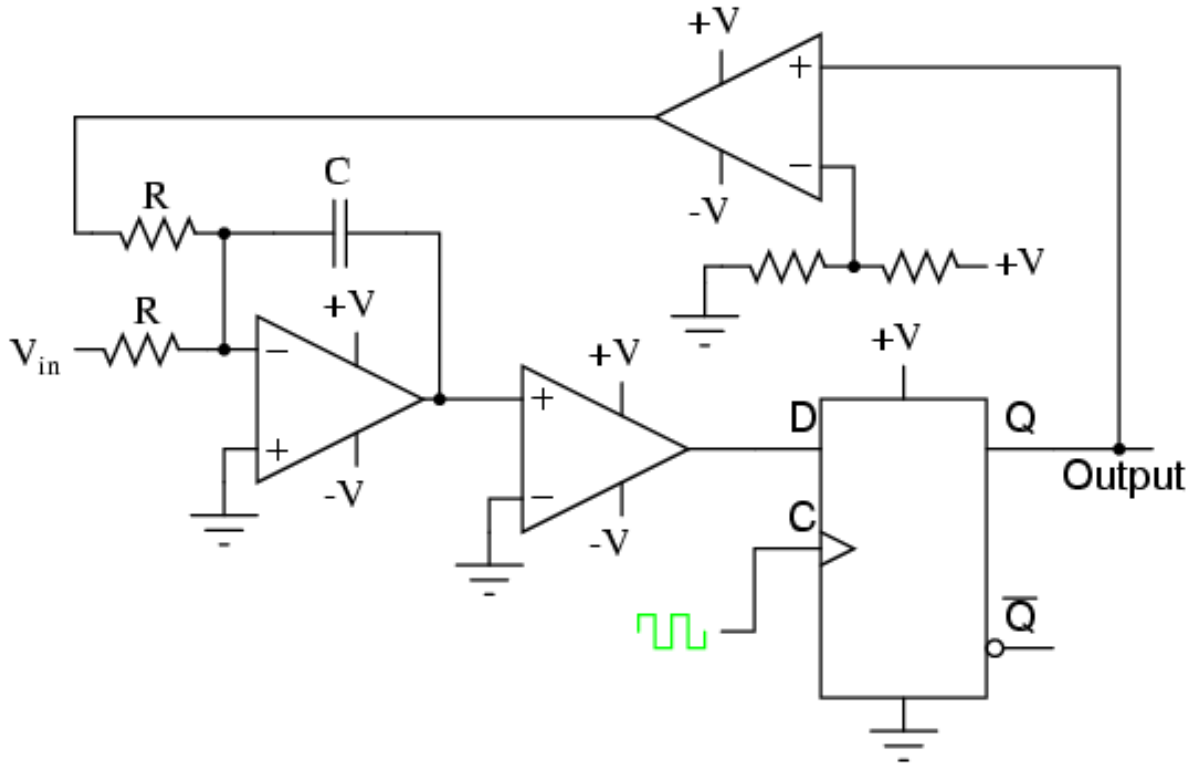


(a) basic circuit



(b) waveforms

Sigma-Delta ADC

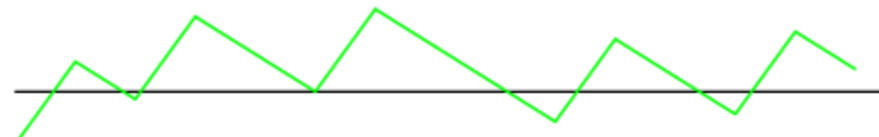
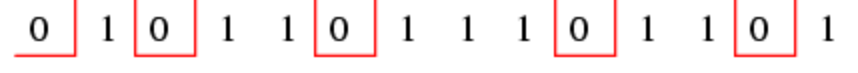


$\Delta\Sigma$ converter operation with 0 volt analog input

$\Delta\Sigma$ converter operation with large negative analog input

Flip-flop output

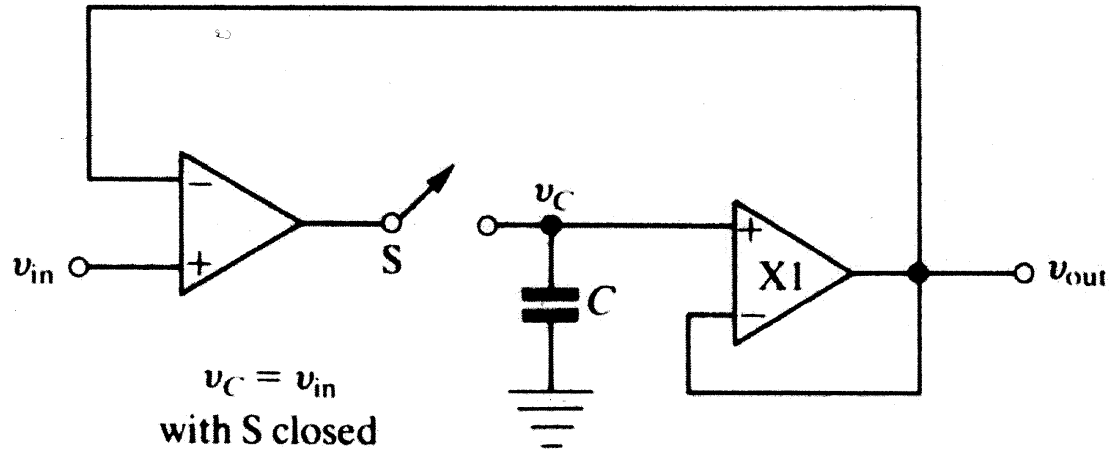
Flip-flop output



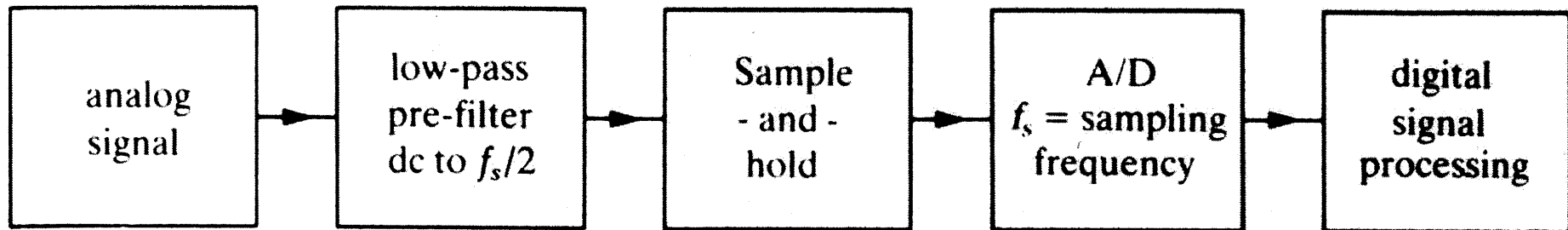
Integrator output

Integrator output

Sample and Hold



General ADC



$$f_s > 2f_{\max}$$

where f_{\max} = highest-frequency Fourier component of analog input