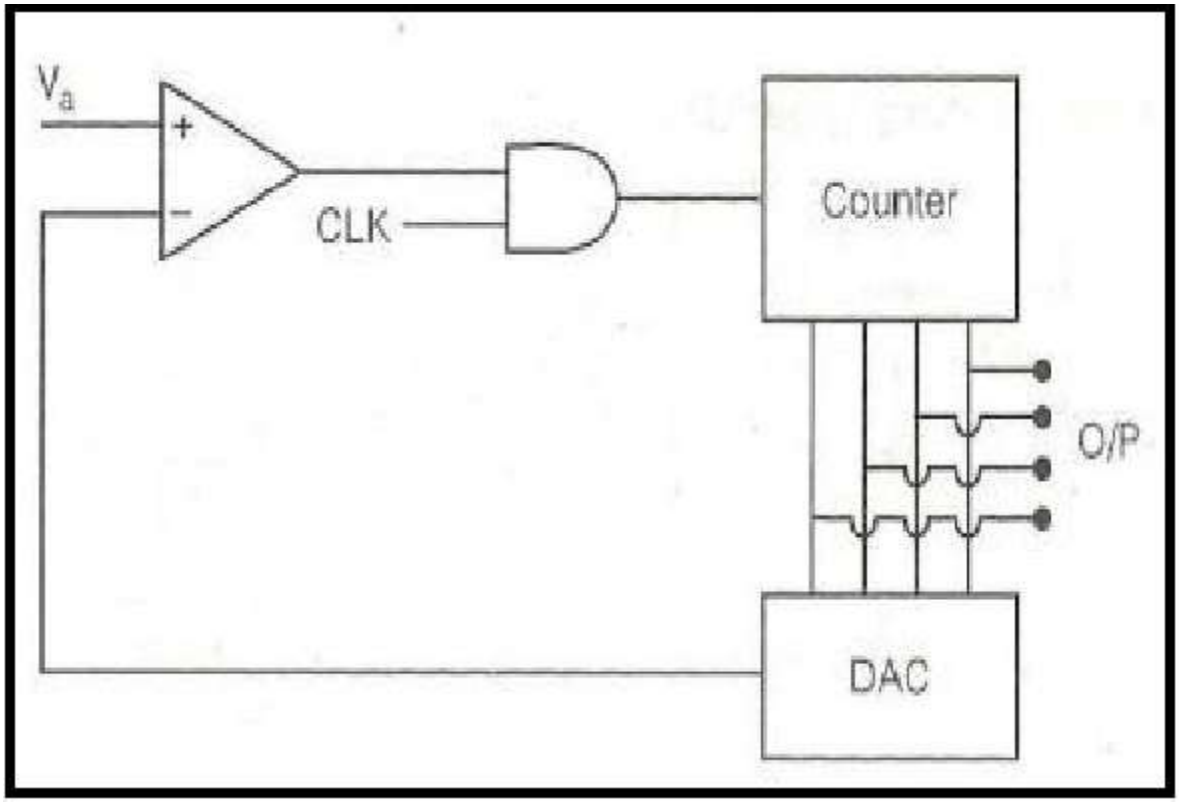
V_a
+
−
CLK
Counter
O/P
DAC

Working

- The N-bit counter produces an n-bit digital o/p which is given as an i/p to the digital to analog circuit (DAC). The analog output equivalent to the digital i/p from DAC is contrasted with the i/p analog voltage with the help of an op-amp comparator. This Integrated Circuit evaluates the two voltages and if the produced DAC voltage is low, it gives a high pulse to the N-bit counter as a CLK pulse to raise the counter.

Continue…….

- For each sampling interval, the output of DAC tracks a rampway so that it is named as a Digital ramp kind ADC. And this ramp seems like staircases for each sampling moment, so that it is also named as a staircase approximation kind ADC.

Counter type ADC Advantages and Disadvantages

- Counter type ADC is very simple to understand and also to operate.
- Counter type ADC design is less complex, so the cost is also less
- **Counter type ADC Disadvantages**
- Speed is less, since each time the counter has to begin from ZERO.
- There may be conflicts if the next i/p is sampled before completion of one process.