Chapter-3

Prepared by
Afifa Hoque

Analog Camera

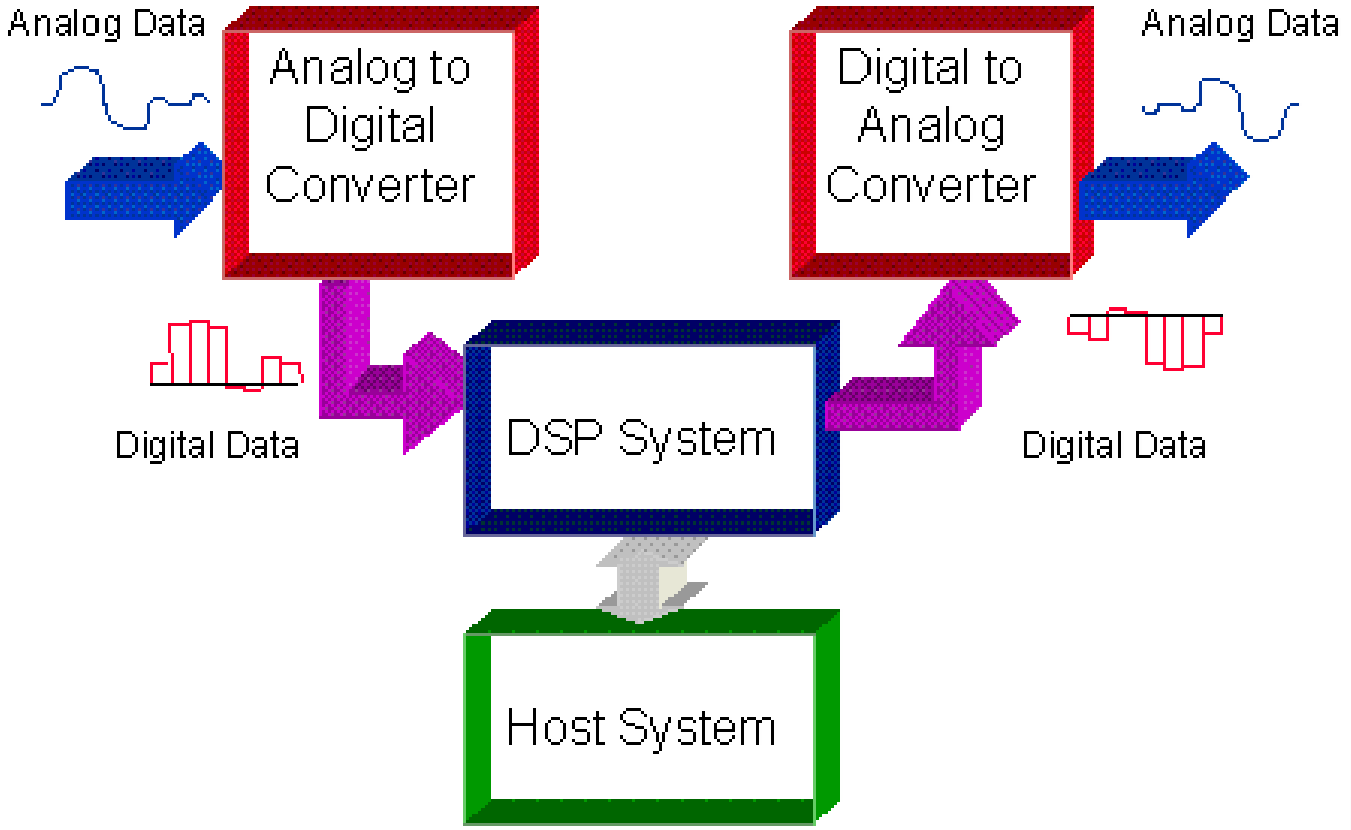
- An analogue camera is **a traditional camera used in CCTV systems**. It sends video over cable to VCRs or DVRs. IP cameras are all digital cameras that can send signals over cable to be stored in the network. Many security camera systems today are hybrid systems incorporating both analogue and digital components.

Monochrome : A monochrome camera can serve as the underlying physical camera of a logical multi-camera device to achieve better low-light noise characteristics.

Comparison of Analog and Digital Picture Quality Camera

- The image quality from digital security **cameras is significantly higher than analog**, with many cameras capable of recording and transmitting high-definition video. Plus, digital cameras are more likely to have digital zoom features, which can have zoom distances over 100ft.
- The analog image processing is applied on analog signals and it processes only two-dimensional signals. The digital image processing is applied to digital signals that work on analyzing and manipulating the images. ... Digital image processing is a **cheaper** and fast image storage and retrieval process.

(cont.)


Analog Data
Analog to Digital Converter
Digital to Analog Converter
Analog Data
Digital Data
DSP System
Digital Data
Host System

(cont.)

Sr No	Analog Filter	Digital Filter
1	Analog filters are used for filtering analog signals.	Digital filters are used for filtering digital sequences.
2	Analog filters are designed with various components like resistor, inductor and capacitor	Digital Filters are designed with digital hardware like FF, counters shift registers, ALU and software□s like C or assembly language.
3	Analog filters less accurate & because of component tolerance of active components & more sensitive to environmental changes.	Digital filters are less sensitive to the environmental changes, noise and disturbances. Thus periodic calibration can be avoided. Also they are extremely stable.
4	Less flexible	These are most flexible as software programs & control programs can be easily modified. Several input signals can be filtered by one digital filter.
5	Filter representation is in terms of system components.	Digital filters are represented by the difference equation.
6	An analog filter can only be changed by redesigning the filter circuit.	A digital filter is programmable, i.e. its operation is determined by a program stored in the processor's memory. This means the digital filter can easily be changed without affecting the circuitry (hardware).