Audio fundamentals

LP—Audio and Video system

basic of microphone, its characteristics

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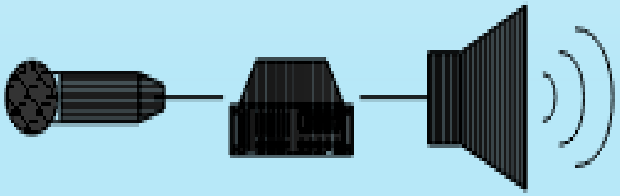
What is audio

- Audio system – system consists of 1) Micro phone , 2) Amplifier , 3) speaker

  system reproduce the audio signal similar to original signal .



Function and Use

- Function of audio system is to generate sound signal
- So key points is the use of an audio system sound will be possible to provide audio instructions , message, addressing , controlling to the students, people in Hostel, class room, bank, office, airport, railway station.

Video system- system consists of 1) Camera , 2) Amplifier , 3) display unit

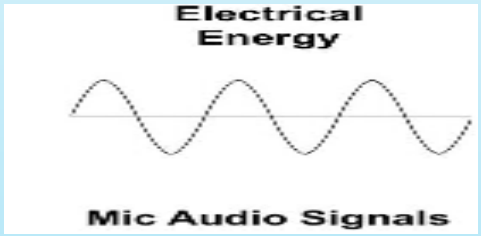
system reproduce the video signal on display

Function and use

- Function is to display video information.
- Use may in Homes, office, Bank, Hostel for the video information display purpose , Home security purposes or to know that fine detail information present in video

Microphone

- Definition – it is transducer , which is used to convert sound wave in to electrical signal.



Mic may be wired or wireless is called converter

- Electrical signal (V/I)– it having ,Amplitude , frequency , phase.
- This characteristics can determine specification of MIC
- Mic o/p connection wire can be connected to CRO
- So audio frequency rang was 20 Hz to 20KHz
- Use in – Recording and transmitting sound

characteristics of microphone

- sensitivity
- frequency response
- signal to noise ratio
- Distortions
- Directivity
- Output impedance
- Polar diagram
- Dimension and weight
- Current consumption

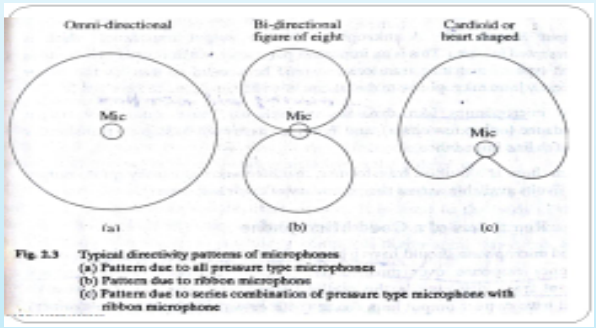
- *Sensitivity* – it is called output voltage of microphone. Range was max 20mv.

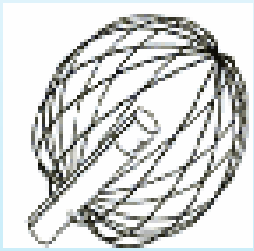
- *Frequency response* – band width or frequency range over sound voltage gain made constant with different freq.

- *Output impedance* – which represent in ohms. microphone and recorder impedance must match. To remove the amplitude and frequency effect imp match is required high quality microphone has impedances low

- *directivity* – tell that, how the forces of sound wave was applied to microphone, like

omnidirectional , bidirectional , cardiod





omnidirectional

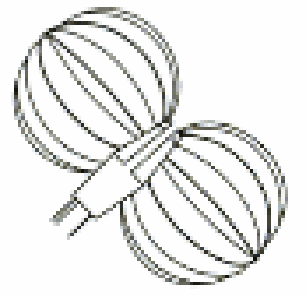


Figure of 8

Requisites of good microphone

- high sensitivity
- high signal to noise ratio
- flat frequency response
- low distortions
- Correct o/p imp

Static microphone – crystal , capacitor

Dynamic microphone – Ribbon , moving coil

Wire microphone

Wireless microphone

Question -----

Thank u ----