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CN

Lab Assignment - 2

Aim: To analyze and test pulse code modulation Demonstration Technique.

Objectives:

1. To demonstrate in Pulse Code Modulation technique.
2. To analyze PCM performance with respect to sampling.

Theory:

Pulse code modulation is a method that is used to convert in analog signal into digital signal so that modified analog signal can transmit through digital communication network.

Sampling is a process of measuring amplitude of a continous-time signal of discrete instants, converts the continous digital signal into discrete signal.

Quantization: Hex an analog simple with amplitude that converted into digital sample with an amplitude that takes one of specified defined set of quantization values.

Pulse code demodulation will be doing same modulation.

PCM advantages.

→ Analog signal can be transmitted over high speed digital comm^ system.

- PCM signal is more resistant to interfere than normal signal.

FAQ's.

Ans 1] In PCM analog signal is sampled and converted to fixed length binary no. for transmission. The binary no. varies according to amplitude of analog signal.

Ans 2] Nyquest sampling rate states that, min sampling rate is to twice audio input frequency.

Ans 3] 1) Pulse with modulation
2) Pulse position modulation
3) Pulse amp. modulation
4) Pulse duration.

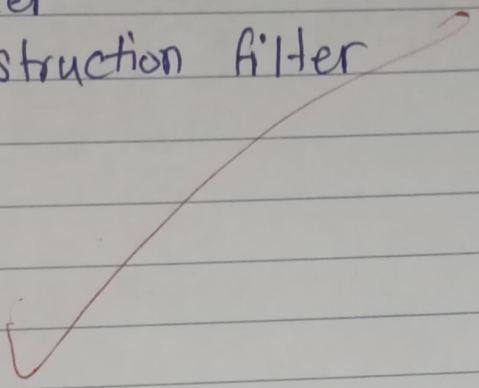
Ans 4) Low pass filter

Ans 5) A transmitter section of PCM circuit has sampling quantizing and encoding which are performed in analog to digital conversion.

In reciever section, in paired signals are requestion decoded and reconstructed.

- Low pass filter
- Sampler
- Quantizer

- encoder
- Regenerative repeater
- decoder
- reconstruction filter



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