

- Aditya Tatu
FB-1.

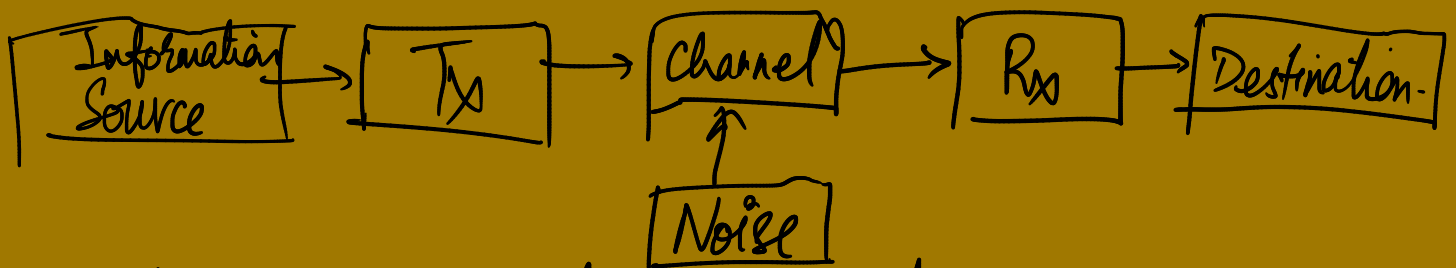
Image Processing, Signal Processing, Geometry Processing
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- Notes are important. All exams will be Open-notes!

- Analog Communication - Probability and Statistics

- Communication System

1. Transmitter
2. Receiver
3. Channel
4. Information Source.
5. Noise
6. Destination



Analog vs. Digital Communication

Continuous vs. Discrete information.

Message $\sim \infty$ (Analog) | # Message \sim finite

Rx: Reconstruct the message signal exactly! (Analog)

DCS: finite number of messages.

m_1, \dots, m_n
 \downarrow
 \mathcal{H}

Rx: Classification!



Advantage of DCS

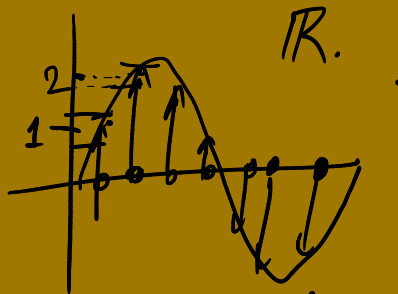
- ① More noise tolerant compared to ACS.
 - Repeater (Rx-Tx)



- ② Messages are digital signals.
 - encrypt (Secure Communication)
- ③ Digital ckts to process digital signals.
 - Cheaper, compact.
 - More reliable
 - Flexibility / Programmable.

Any disadvantages?
(DCS)

1. Synchronization



- Decide a bit rate \rightarrow 50 bps
- Clocks (Oscillators) \rightarrow Tx
- Synchronization of clocks \rightarrow Rx

2. Under more noise \rightarrow a lot of errors.

