

# Types of Electronic Communication Systems

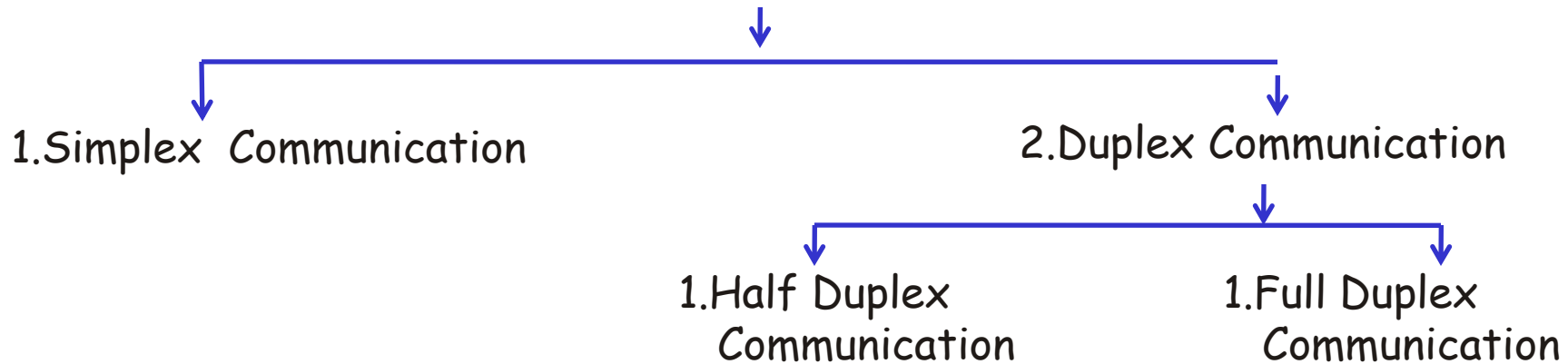
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# Types of Electronic Communication

- Electronic Communication systems can be classified depending upon transmission modes, types of information, distance of communication etc.
- **A] transmission modes of communication**
  1. One-way (simplex) or two-way (full duplex or half duplex) transmissions.
- **B] Analog or digital signals.**
- **C] Baseband or Broadband.**

# A] Transmission modes of communication

## Transmission modes



### 1. Simplex Communication (One-way)

- The simplex communication is Unidirectional;
- information can be send only on one direction
- This type of communication is one-way.

Examples are:

- Radio
- TV broadcasting

# 2. Duplex Communication

## Duplex (Two way)



1. Half Duplex Communication

2. Full Duplex Communication

### 1. half duplex

- The form of two-way communication in which only one party transmits at a time is known as **half duplex**. Examples are:

- Police, military, etc. radio transmissions
- ATM Machine
- Family radio
- Amateur radio

# 2. Duplex Communication

## 2. Full duplex

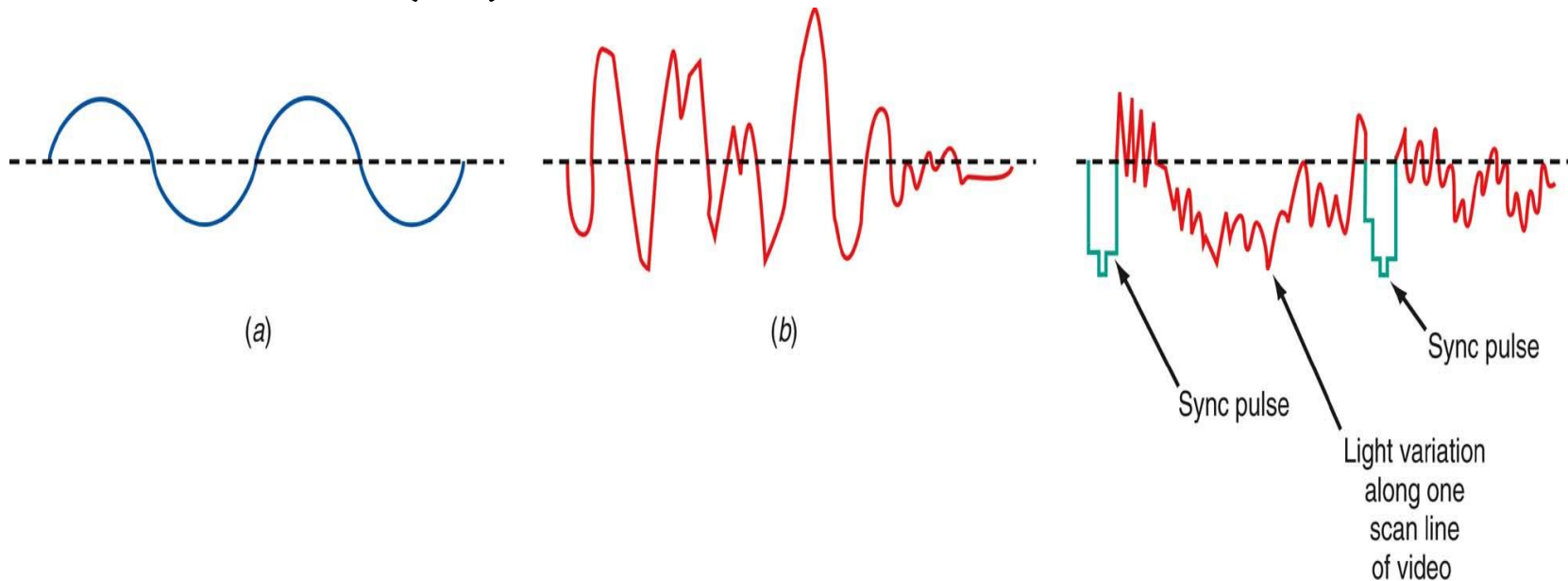
- Most electronic communication is two-way and is referred to as **duplex**.
- When people can talk and listen simultaneously, it is called **full duplex**. The telephone is an example of this type of communication.
- Internet Communication.

# 2. Analog and Digital Signals

## Analog Signals

- An **analog signal** is a smoothly and continuously varying voltage or current. Examples are:

- Sine wave
- Voice
- Video (TV)



# 2. Analog and Digital Signals

## Digital Signals

- Digital signals change in steps or in discrete increments.
- Most digital signals use binary or two-state codes. Examples are:
  - Telegraph (Morse code)
  - Continuous wave (CW) code
  - Serial binary code (used in computers)

# Digital Signals

Digital Signals :

Digital signals change in steps or in discrete increments.

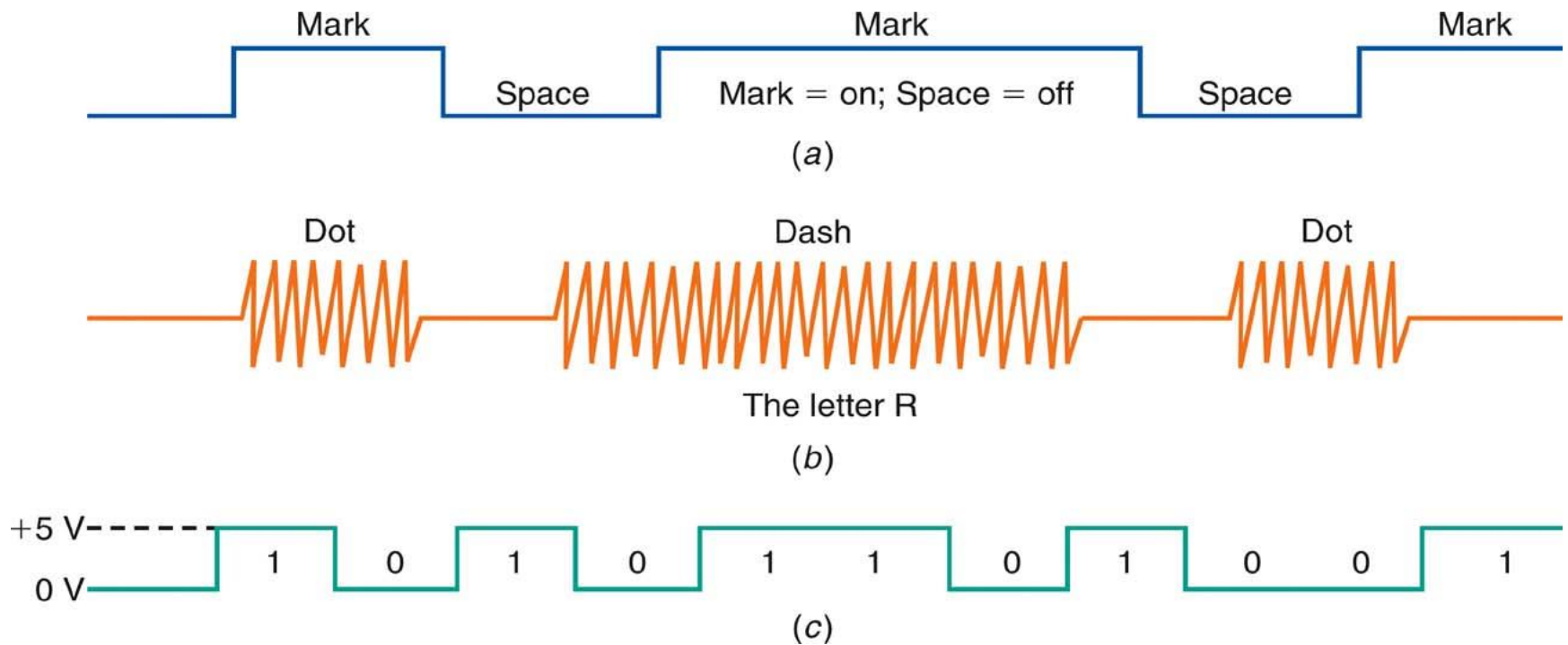


Figure 1-6: Digital signals (a) Telegraph (Morse code). (b) Continuous-wave (CW) code. (c) Serial binary code.



# 3. Baseband or Broadband Communication

## 1. Baseband Communication

All original signals are referred as Baseband signal whether they are Analog or Digital in nature.

## 2. Broadband Communication:

Baseband signal have certain limitation.

Long distance transmission, attenuation etc

This problem is overcome by modulation and resultant signal is called broadband signal.

**Thank You**