Bangladesh Army University of Engineering & Technology

CSE-3215
Data Communication

Lecture-24

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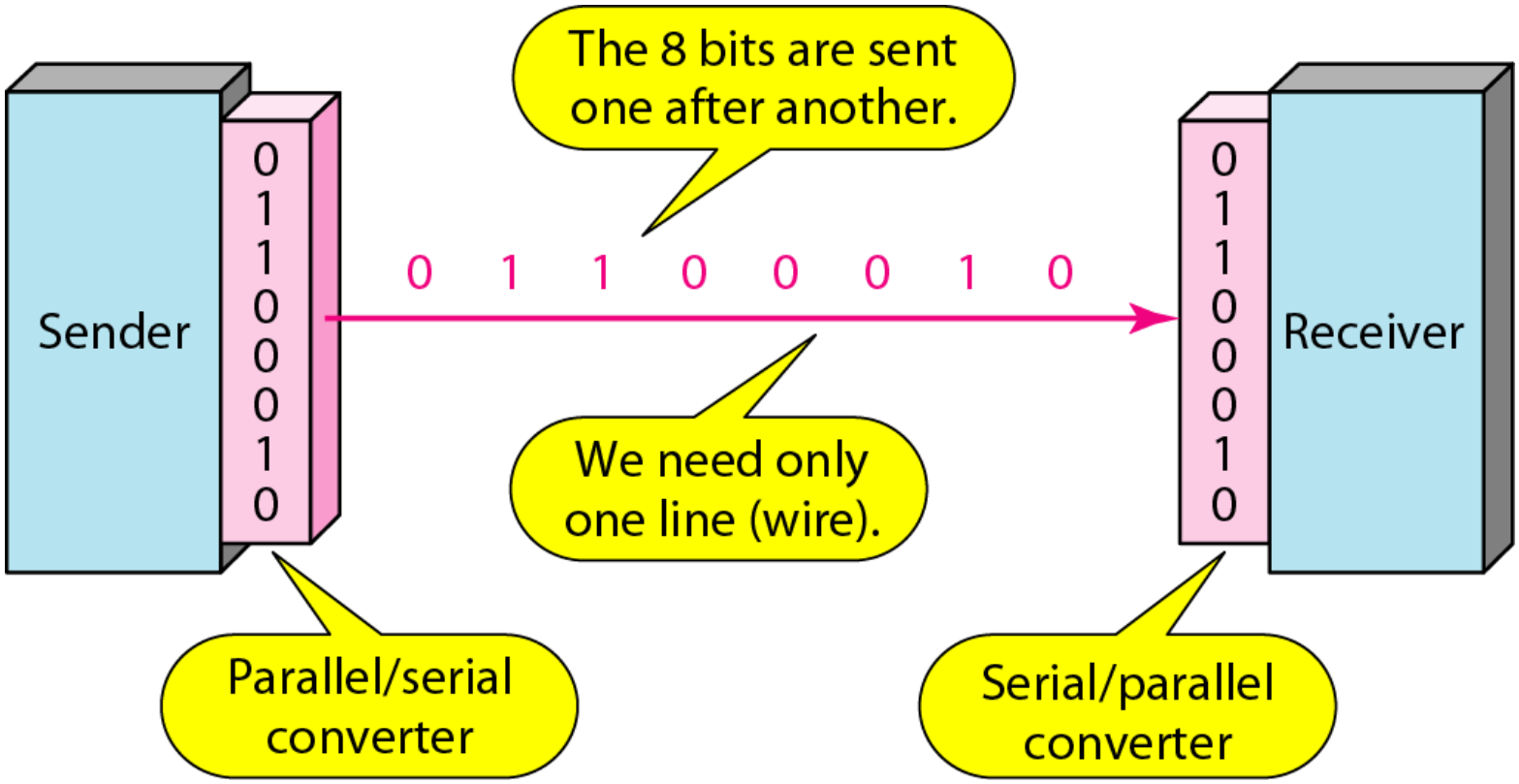

Figure 1 ***Serial transmission***

Note

In asynchronous transmission, we send 1 start bit (0) at the beginning and 1 or more stop bits (1s) at the end of each byte. There may be a gap between each byte.

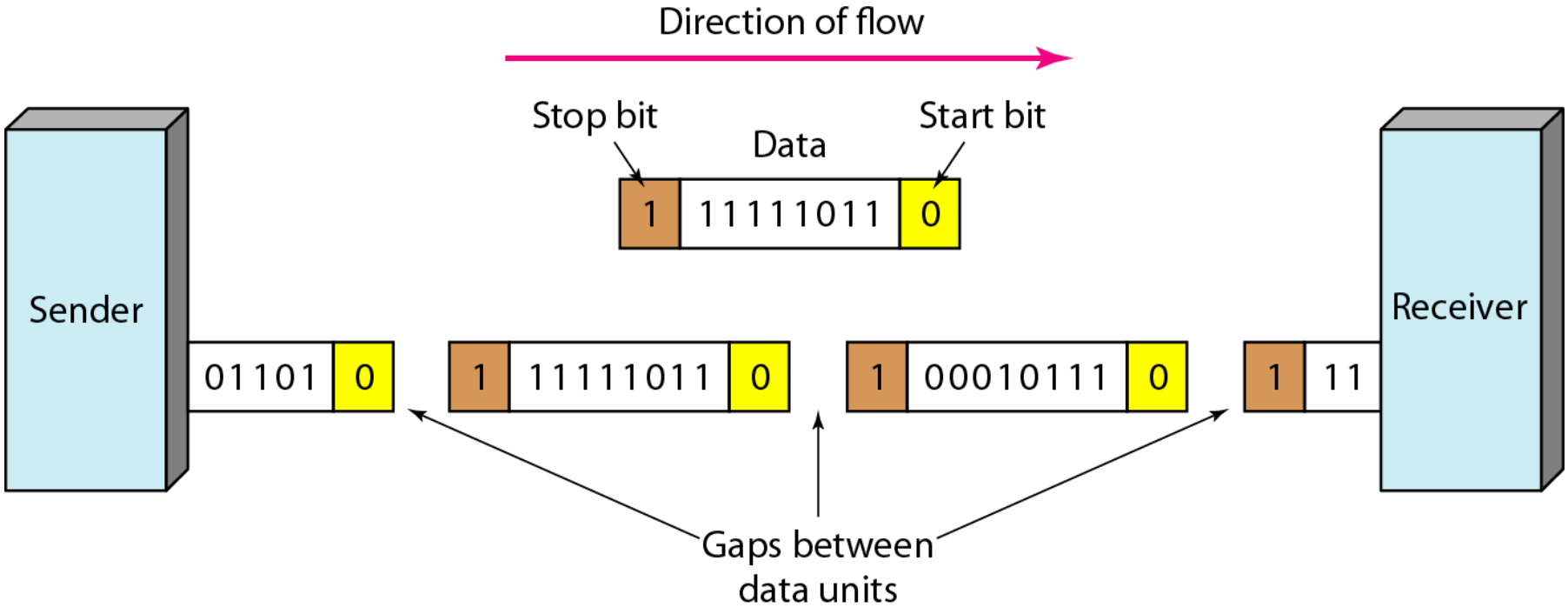

Figure 2 ***Asynchronous transmission***

Note

In synchronous transmission, we send bits one after another without start or stop bits or gaps. It is the responsibility of the receiver to group the bits. Common clock signal is maintained here on both sides.

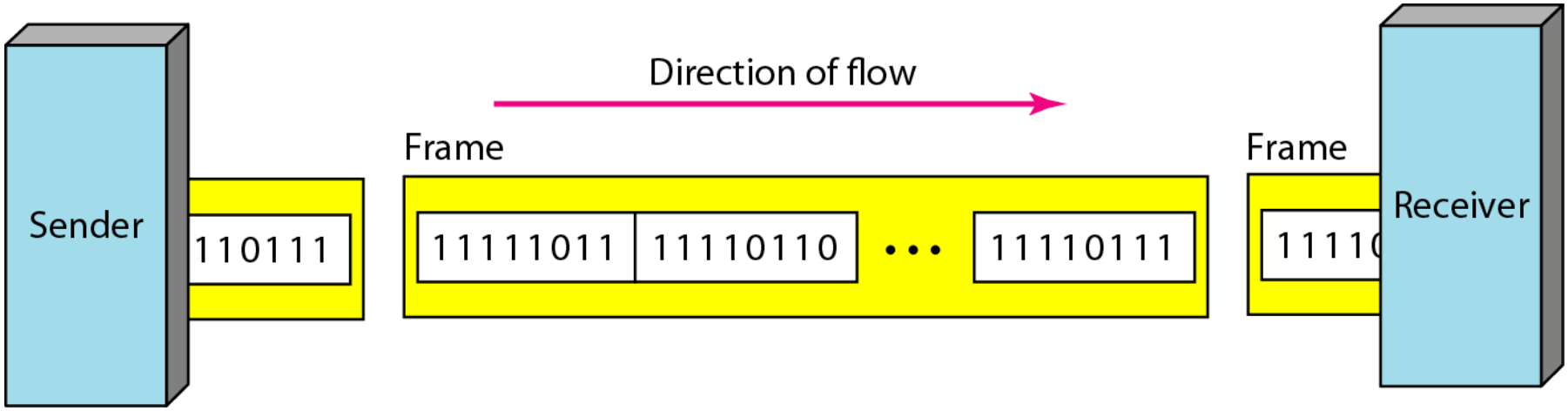

Figure 3 ***Synchronous transmission***

SYNCHRONOUS TRANSMISSION	ASYNCHRONOUS TRANSMISSION
A transmission method that uses synchronized clocks to ensure both the sender and receiver are synchronized to transmit data.	A transmission method that sends data using flow control rather than using a synchronous clock to transmit data between the source and the destination.
Sends blocks or frames of data.	Sends one byte or character.

Isochronous Transmission is designed to provide steady bit flow for multimedia applications. Isochronous transmission is a combination of asynchronous and synchronous transmission. No clock source is used, no start / stop bits, but bits are sent continuously with regular gaps between data blocks. Uneven gap between blocks/frames is not allowed.

- Asynchronous
  - irregular gaps between bytes
- Synchronous
  - no gaps between bytes
  - gaps between blocks
- Isochronous
  - REGULAR gaps between blocks

Chapter 5

Analog Transmission

DIGITAL-TO-ANALOG CONVERSION

Digital-to-analog conversion is the process of changing one of the characteristics of an analog signal based on the information in digital data.

Topics to be discussed in this section

Aspects of Digital-to-Analog Conversion
Amplitude Shift Keying
Frequency Shift Keying
Phase Shift Keying
Quadrature Amplitude Modulation

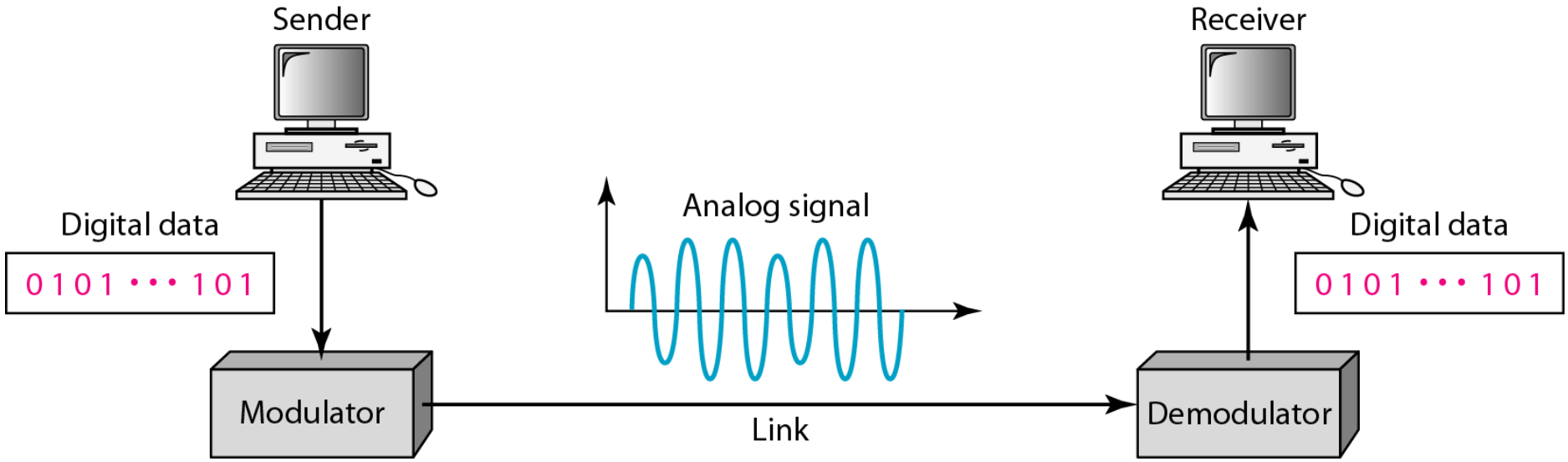

Figure 4 *Digital-to-analog conversion*

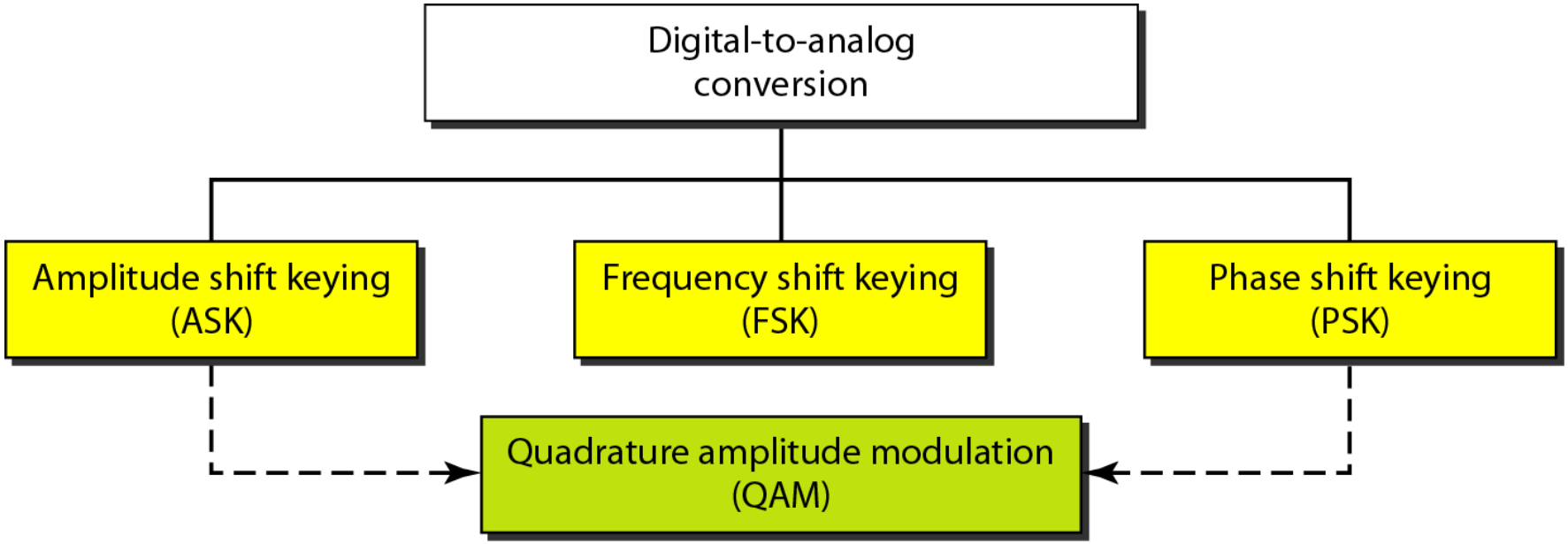

Figure 5 *Types of digital-to-analog conversion*

That's all for today

Thank You