

Network Cables

There are three major types of network cables; all are used to transfer data from a source to a destination. The three major types are coaxial, fiber, and twisted-pair, with coaxial and twisted-pair cables using copper wires to transmit data.

A technician needs to know the characteristics of each network cable type, including speed and distance limitations. These limitations can be weighed against availability and cost to help a home or business decide which type of cables to use in their network environments.

Purpose

Upon completing this project, you will better understand network cable characteristics, standards, and limitations.

Steps for Completion

1. Indicate each category of twisted-pair cable being described:
 - a. Has a 250 MHz bandwidth: _____
 - b. A top speed of 100 Mbps: _____
 - c. Supports the 1000BASE-T standard: _____
 - d. A top speed of 10 Gbps: _____
2. What are two disadvantages of using STP cable over UTP cable?
 - a. _____

3. What are the current main uses of coaxial cables?
 - a. _____
4. Which type of cable has extra tape-based protection to make itself waterproof?
 - a. _____
5. Which type of cable is often required in the spaces between a drop ceiling and an actual ceiling?
 - a. _____
6. Which type of cable is often used on WAN backbones?
 - a. _____
7. Describe the main differences between the T568A standard and the T568B standard:
 - a. _____

Project Details

Project file

N/A

Estimated completion time

10 minutes

Video reference

Domain 3

Topic: Basic Cable Types

Subtopics: Copper; Plenum; Optical; T568 Standards

Objectives covered

3 Hardware

3.1 Explain basic cable types and their connectors, features, and purposes

3.1.1 Network cables

3.1.1.1 Copper

3.1.1.1.1 CAT5

3.1.1.1.2 CAT5e

3.1.1.1.3 CAT6

3.1.1.1.4 CAT6a

3.1.1.1.5 Coaxial

3.1.1.1.6 Shielded twisted pair

3.1.1.1.6.1 Direct burial

3.1.1.1.7 Unshielded twisted pair

3.1.1.2 Plenum

3.1.1.3 Optical

3.1.1.3.1 Fiber

3.1.1.4 T568A/T568B