

Network Connections

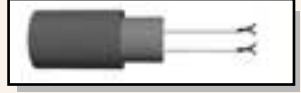
Unshielded Twisted-Pair Cable

Although the twisting of these individual pairs of these two uninsulated, braided copper cables minimizes electromagnetic interference, the lack of insulation makes the transmissions more susceptible to interference than shielded cable. Because this cabling is ordinary telephone wire, it's the least expensive transmission medium and is the easiest to install and work with. Unshielded twisted-pair cabling is the most common type of cabling used for LANs (local-area networks) and generally used for 10Base-T networks.



Shielded Twisted-Pair Cable

Also made of two braided copper cables, this version is insulated with a metallic braid or sheath to make it less susceptible to electromagnetic interference than unshielded twisted-pair cabling. This transmission medium provides better performance, but it is very expensive and is more difficult to work with than unshielded twisted-pair cabling.



Coaxial Cable

A wire conductor surrounded by a cylindrical conductor and either insulating rings or dielectric material, the entire cable is covered with a shield that blocks interference. Extremely durable, coaxial cabling lets users simultaneously transfer voice, data, and video signals. Available in thin (for 10Base-2 networks) and thick (for 10Base-5 networks) versions, thin coaxial is the most commonly used cabling. Providing more capacity than twisted-pair cabling, coaxial cable is also more expensive.



Fiber-Optic Cable

Three sections comprise fiber-optic cable: the core (innermost layer consisting of at least one glass or plastic fiber), the cladding (glass or plastic coating with a different composition than that of the core), and the jacket (outer layer made of plastic and other materials to protect the cable from damage). It uses light to transfer voice, data, and video at high speeds. Commonly used for WANs (wide-area networks) because it can send data across longer distances, it isn't affected by "cross-talk," or disturbances caused by radio waves. Still fairly new, fiber-optic cable is still too expensive to be a feasible solution for home and small-office networking needs.



RJ-45 Connector

Used in data transmissions across telephone wire, this 8-pin connector is used on 10Base-T networks using twisted-pair cabling. The wider end of the connector fits into the external end of a network card through the back of a computer's case.



BNC T-connector

This item is a metal connector in the shape of the letter "T." One end plugs into the external end of a network card on the back of a computer's case. The other ends form the top of the "T" and connect with network cables. This connector is used with coaxial cable on 10Base-2 networks.



