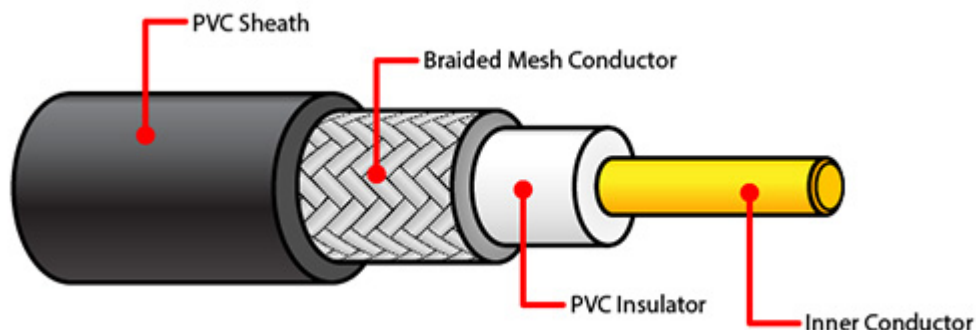


6.3.2 Cable Facts

Coaxial cable is primarily used to carry broadband internet signals.

Coaxial cable is built with the following components:



- The inner conductor carries data signals and is made of solid copper or tin.
- The *insulator* surrounds the inner conductor and keeps the signal separated from the mesh conductor. It is made of PVC plastic.
- The *braided mesh* conductor is a second physical channel and also functions as a ground. It is made of aluminum or copper-coated tin.
- The *sheath* is made of PVC plastic and encases the cable, protecting it from external elements.

Coaxial cable has the following advantages and disadvantages:

Advantages	Disadvantages
<ul style="list-style-type: none">▪ Less susceptible to electromagnetic Interference (EMI)▪ Resistant to physical damage▪ Large existing infrastructure	<ul style="list-style-type: none">▪ Expensive▪ Not very flexible (difficult to bend around corners)▪ Using splitters degrades signal quality



The table below describes the different coaxial cable grades:

Type	Uses	Resistance Rating
RG-59	CCTV video systems; short cable lengths (less than 3 meters) are sometimes used for cable TV	75 ohms
RG-6	Cable TV, satellite TV, and broadband cable internet	75 ohms



Because RG-6 is able to carry a higher-quality signal with much lower signal loss than RG-59, RG-6 cabling should always be used for any coaxial cable implementation.

The following table describes the most common type of connector used with coaxial cable:

Connector	Description
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<p>Bayonet Neill-Concelman (BNC)</p> 	<ul style="list-style-type: none"> ■ Molded onto the cable ■ Used in legacy 10Base2 Ethernet networks ■ Used in specialized industries ■ Used to connect composite video displays on commercial video devices.
<p>F-Type</p> 	<ul style="list-style-type: none"> ■ Crimped onto the cable using a special tool ■ Used to create cable and satellite TV connections ■ Used to connect a cable modem to a broadband cable connection <p>Some F-Type connectors can be twisted onto a cable without needing a special tool. However, these types of connectors can cause signal leakage.</p>

The following table describes DB-25 and DB-9 cables:

Connector	Description
<p>DB-25</p> 	<p>An older connector is the DB-25 connector. A DB-25 connector has 25 pins arranged in two rows. The top row has 13 pins and the lower row has 12 pins. DB-25 connectors are most often used for parallel, RS-232 serial, or SCSI applications.</p>
<p>DB-9</p> 	<p>Another older connector is the DB-9 connector. The DB-9 connector is a 9 pin connector for a serial cable. RS-232 devices originally used the DB-25, but for many applications the less common signals were omitted, allowing a DB9 to be used.</p>

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