



# Coaxial Cabling Tutorial

## How is Coaxial Cabling used?

Primarily, coaxial cables are used for the transmission of Radio Frequency energy. The system offers tight control over electrical impedance. This yields excellent performance at high frequencies and superior EMI control/shielding.

## Coaxial Cabling Terms

**Attenuation (Insertion Loss):** Loss of power. Attenuation is usually measured in dB loss per length of cable (ex. 31.0 dB/100ft.). Attenuation increases as frequency increases.

**Bend Radius:** The amount of radius a cable can bend without any adverse effects.

**Center Conductor:** The solid or stranded wire in the middle of the coaxial cable. The conductor diameter is measured by the American Wire Gauge (AWG).

**Coaxial Adapter:** A device used to change one connector type to another or one gender to another (ex. BNC to SMA Adapter).

**Coaxial Cable:** A two conductor cylindrical transmission line typically comprised of a center conductor, an insulating dielectric material and an outer conductor (shielding). Coaxial cable can be flexible (typical to the assemblies found in this catalog), semi-rigid or rigid in nature.

**Coaxial Connector:** The interconnection device found at each end of a coaxial cable assembly. There are many common types of coaxial connectors such as: BNC, SMA, SMB, Type F, etc.

**Dielectric:** The insulating material that separates the center conductor and shielding.

**Electromagnetic Interference (EMI):** Electrical or electromagnetic energy that disrupts electrical signals.

**Frequency:** Number of times a periodic action occurs in one second. Measured in Hertz.

**Impedance:** The opposition to the flow of alternating or varying current. Measured in Ohms. Two common impedance values are 50 Ohms used primarily for data and 75 Ohms used to transmit video signals.

**Insertion Loss:** A measurement of attenuation determined by the system output before and after the connection of a cable and/or device.

**Jack:** The female connector usually containing a center socket.

**Microwave Frequencies:** Microwave frequencies range from Ultra-High Frequency (UHF) .3-3 GHz, Super High Frequency (SHF) 3-30 GHz to Extremely High Frequency (EHF) 30-300 GHz.

**MIL-C-17:** MIL-C-17 is a specification document that has been used since the 1940s to standardize the physical and electrical characteristics of coaxial cables. There is no longer any control of RG specifications so cables may perform differently than the cables that adhere to MIL-C-17.

**Plug:** The male connector usually containing a center pin.

**RF (Radio Frequency):** A frequency band from 3 MHz to 300 GHz. Primarily used for transmission of radio and television signals.

**RG/U:** A designation that originated with a US Government specification. No longer in effect.

## Where is Coaxial Cabling used?

A broad range of applications exist for coaxial cabling. The two primary impedance values of 50 and 75 Ohms determine specific applications with 50 Ohms primarily used in data signal applications and 75 Ohms used in video signal applications.

Currently used as a general reference. (R=Radio Frequency, G=Guide, U=Universal Specification). Letters that appear before the /U characters (i.e. A, B or C) means a specification modification or revision. For instance, it is common in the CB industry to see the designation RG-58A/U. The original RG-58/U coaxial cable had a solid center conductor. The "A" modification replaced the solid center conductor with a more flexible stranded center conductor (that is highly recommended for use in mobile installations). Other designators often seen are: A = Modification to the Solid Core Material Specification, B = Modification to the Outer Jacket Specification, C = Modification of the Dielectric Insulator Specification. These designators are not precise and specifications may vary from one vendor to another.

**Shielding:** Conductive envelope made of wires or metal foil that covers the dielectric and the center conductor.

**Twinaxial:** An offshoot of coaxial cabling. Two center conductors with one dielectric and braided shielding.

**Velocity of Propagation (VP):** Usually expressed as a percentage, VP is the transmission speed of electrical energy in a determined length of cable compared to the speed of light.

**VSWR (Voltage Standing Wave Ratio):** The ratio of the maximum effective voltage to the minimum effective voltage measured along a RF transmission line. This value generally increases with frequency and higher values are not desirable.

## Common Applications for Coaxial Cable Assemblies



### Entertainment Systems

Coaxial cable assemblies are used extensively to connect a wide variety of home and commercial entertainment products. Entertainment equipment such as monitors, TVs, cameras, recording equipment and broadcast equipment are interconnected using coaxial cables.

**Common cable types:** 75Ω - RG6 or RG59

**Common connectors:** BNC, F and RCA



### GPS

Global Positioning Systems utilize coaxial cable for connections between receiving antennas and other related equipment.

**Common cable types:** 50Ω - RG58, RG174, RG188 or RG316

**Common connectors:** TNC, N, MCX, MMCX and SMA



### Video Systems

The transmission of a video signal from a video camera to a display monitor is typically through coaxial cable.

**Common cable types:** 75Ω - RG59, RG59A/U, RG59B/U or RG179

**Common connectors:** BNC, F and RCA



### Telecom

The infrastructure of most telecommunication systems relies heavily on coaxial cabling. Cell towers, communications equipment and base station facilities are typical examples of coaxial cable interconnection applications.

**Common cable types:** 50Ω - RG58, RG174, RG223 and RG213

**Common connectors:** BNC, TNC and Type N



### WAN/LAN

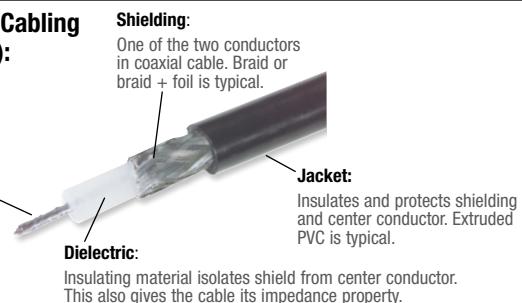
Wide Area Networks and Local Area Networks often utilize coaxial cable for equipment interconnections. Also, reverse polarized connectors are found on many wireless antenna connections.

**Common cable types:** 50Ω - RG174, RG58

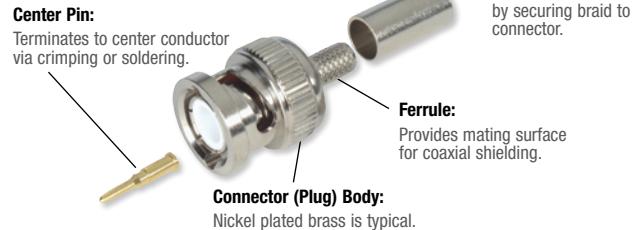
**Common connectors:** BNC

### Typical Coaxial Cabling (Exploded View):

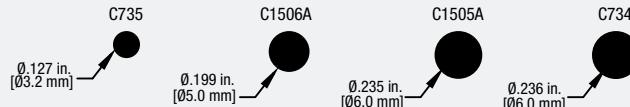
**Center Conductor:**  
The main signal path. Can be solid or stranded wire.



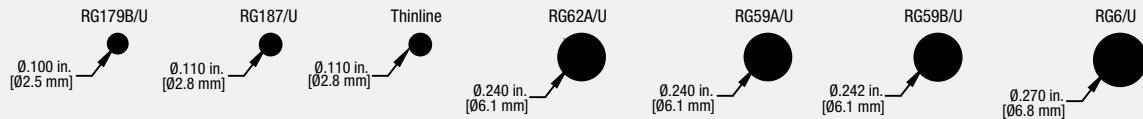
### Typical Coaxial Connector (BNC Exploded View):



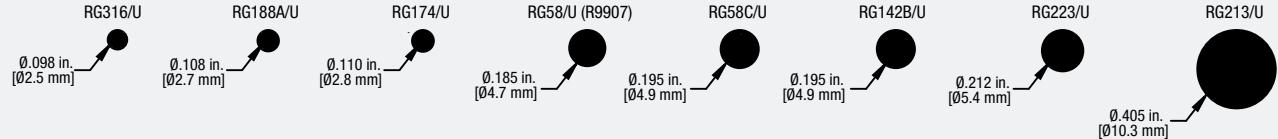
### 75 Ohm Digital Rated



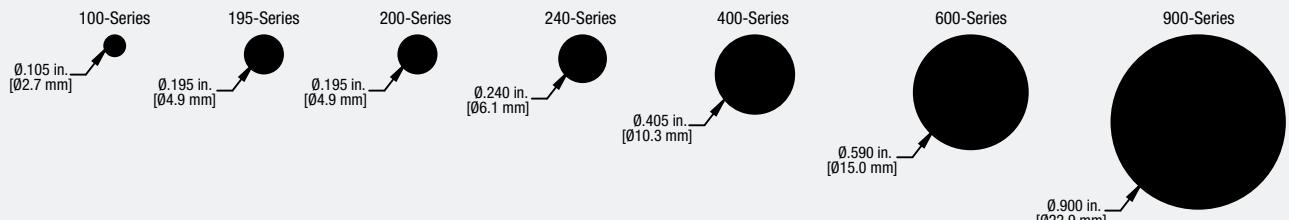
### 75/98 Ohm RG Coax



### 50 Ohm RG Coax



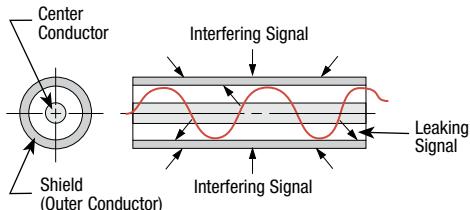
### 50 Ohm Low-Loss Coax



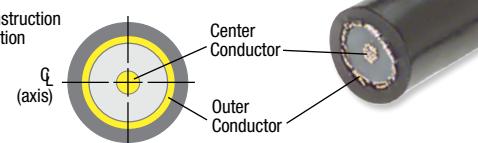
### Understanding Coaxial Cable

Coaxial is a term derived from the construction of the cable, as illustrated here. In a coaxial cable an electrical impulse signal is transmitted along the cable length between the center conductor and the outer conductor. The center conductor and the outer conductor share the same center line or axis hence the term coaxial.

Shielding Effectiveness is the relative ability of a shield to screen out undesirable interference. In coaxial cable, the outer conductor provides a shield to keep interfering signals from getting in and to keep signals from leaking out to become undesirable interference for nearby devices. Shielding Effectiveness is measured in dB with higher values indicating better shielding properties. The table below illustrates the relative shielding properties of various shielding types.



Cable Construction Cross Section

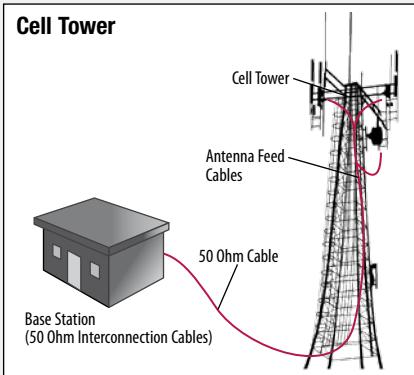
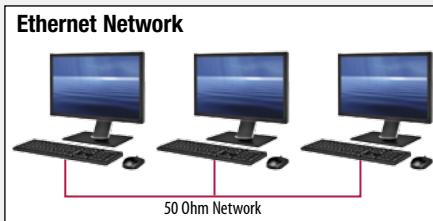
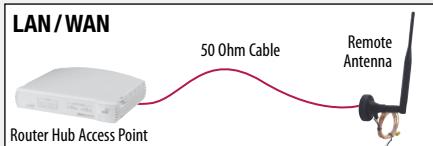


Notice as the shielding density increases there is a correlated increase in the shielding effectiveness value. The best shielding effectiveness value can be found in a rigid coaxial cable due to the solid tube construction of the outer jacket. In this type of cable the limiting factor for shielding effectiveness is the quality of the connector attachment.

Shielding Type			
Single Braid Shield (95% coverage)	Single Braid Shield (60% + Foil Wrap (100%)	(2) Braids (60% + (2) Foil Wraps (100%)	Conformable Cable
-55dB	-90dB	-110dB	-150dB
Approximate Shielding Effectiveness Value			

**Tip** When is 50 Ohm coaxial cable used?

The primary use of 50 Ohm coaxial cable is transmission of a data signal in a two-way communication system. Some of the common applications for 50 Ohm coaxial cable are computer Ethernet backbones, wireless antenna feed cables, GPS (Global Positioning Satellite) antenna feed cables and cell phone systems. The cable assemblies offered in this section cover the most common RG style cables and connector interfaces that are used in these applications.


**50 Ohm RG Series Coaxial Cables**
**Inline SMA Plug to Inline SMA Plug**

Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>RG174/U</b> Center Conductor: 26 AWG bare copper covered steel Min. Bend Radius: 0.47" (12mm) Jacket: Black PVC Operating Temperature: -40°C - +75°C	.110in. (2.8mm)	0.5ft (0.15m) 1.0ft (0.3m) 1.5ft (0.45m) 2.0ft (0.6m) 2.5ft (0.75m) 3.0ft (0.9m)	CC174S-05 CC174S-1 CC174S-1.5 CC174S-2 CC174S-2.5 CC174S-3	20.15 20.36 20.52 20.67 20.83 20.98	18.94 19.14 19.29 19.43 19.58 19.72	17.74 17.92 18.05 18.19 18.33 18.47	CALL CALL CALL CALL CALL CALL
<b>RG188A/U</b> Center Conductor: 26 AWG silver coated copper covered steel Min. Bend Radius: 0.50" (12.7mm) Jacket: White TFE taped Operating Temperature: -70°C - +200°C	.108in. (2.7mm)	1.0ft (0.3m) 1.5ft (0.45m) 2.0ft (0.6m) 2.5ft (0.75m) 3.0ft (0.9m) 4.0ft (1.2mm)	CCS188A-1 CCS188A-1.5 CCS188A-2 CCS188A-2.5 CCS188A-3 CCS188A-4	16.79 17.36 17.93 18.50 19.07 20.15	16.11 16.66 17.21 17.76 18.30 19.35	15.44 15.97 16.49 17.02 17.54 18.54	CALL CALL CALL CALL CALL CALL
<b>RG316/U</b> Center Conductor: 26 AWG silver coated copper covered steel Min. Bend Radius: 0.51" (13mm) Jacket: Brown FEP Operating Temperature: -70°C - +200°C	.098in. (2.5mm)	0.67ft (0.2m) 1.0ft (0.3m) 1.5ft (0.45m) 2.0ft (0.6m) 2.5ft (0.75m) 3.0ft (0.9m)	CCS316-08 CCS316-1 CCS316-1.5 CCS316-2 CCS316-2.5 CCS316-3	16.42 16.79 17.36 17.93 18.50 19.07	15.77 16.11 16.66 17.21 17.76 18.30	15.11 15.44 15.97 16.49 17.02 17.54	CALL CALL CALL CALL CALL CALL
<b>RG58C/U</b> Center Conductor: 20 AWG tinned copper Min. Bend Radius: 2.00" (50.8mm) Jacket: Black PVC Operating Temperature: -40°C - +85°C	.195in. (5.0mm)	0.5ft (0.15m) 1.0ft (0.3m) 1.5ft (0.45m) 2.0ft (0.6m) 2.5ft (0.75m) 3.0ft (0.9m)	CCS58A-05 CCS58A-1 CCS58A-1.5 CCS58A-2 CCS58A-2.5 CCS58A-3	16.32 16.48 16.63 16.79 16.99 17.15	15.34 15.49 15.63 15.78 15.97 16.12	14.36 14.50 14.64 14.77 14.95 15.09	CALL CALL CALL CALL CALL CALL

**Inline SMA Plug to Inline SMA Jack**

Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>RG58C/U</b> Center Conductor: 20 AWG tinned copper Min. Bend Radius: 2.00" (50.8mm) Jacket: Black PVC Operating Temperature: -40°C - +85°C	.195in. (5.0mm)	1.0ft (0.3m) 2.5ft (0.75m) 5.0ft (1.5m)	CCS58AX-1 CCS58AX-2.5 CCS58AX-5	18.55 19.07 19.89	17.44 17.92 18.70	16.32 16.78 17.51	CALL CALL CALL

**Inline SMA Plug to Right Angle SMA Plug**

Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>RG174/U</b> Center Conductor: 26 AWG bare copper covered steel Min. Bend Radius: 0.47" (12mm) Jacket: Black PVC Operating Temperature: -40°C - +75°C	.110in. (2.8mm)	0.5ft (0.15m) 1.0ft (0.3m) 1.5ft (0.45m) 2.5ft (0.75m) 5.0ft (1.5m)	CC174S-05HR CC174S-1HR CC174S-1.5HR CC174S-2.5HR CC174S-5HR	24.09 24.25 24.40 24.77 25.59	22.65 22.79 22.94 23.28 24.06	21.20 21.34 21.47 21.79 22.52	CALL CALL CALL CALL CALL
<b>RG188A/U</b> Center Conductor: 26 AWG silver coated copper covered steel Min. Bend Radius: 0.50" (12.7mm) Jacket: White TFE taped Operating Temperature: -70°C - +200°C	.108in. (2.7mm)	1.0ft (0.3m) 1.5ft (0.45m) 2.5ft (0.75m) 4.0ft (1.2mm) 5.0ft (1.5m) 7.5ft (2.3m)	CCS188A-1 CCS188A-1.5 CCS188A-2.5 CCS188A-4 CCS188A-5 CCS188A-7.5	19.07 19.58 20.72 22.38 23.52 26.32	18.30 18.80 19.90 21.49 22.58 25.27	17.54 18.02 19.07 20.59 21.64 24.21	CALL CALL CALL CALL CALL CALL
<b>RG316/U</b> Center Conductor: 26 AWG silver coated copper covered steel Min. Bend Radius: 0.51" (13mm) Jacket: Brown FEP Operating Temperature: -70°C - +200°C	.098in. (2.5mm)	1.0ft (0.3m) 1.5ft (0.45m) 2.0ft (0.6m) 2.5ft (0.75m) 3.0ft (0.9m) 4.0ft (1.2m)	CCS316-1 CCS316-1.5 CCS316-2 CCS316-2.5 CCS316-3 CCS316-4	19.07 19.58 20.15 20.72 21.29 22.38	18.30 18.80 19.35 19.90 20.44 21.49	17.54 18.02 18.54 19.07 19.59 20.59	CALL CALL CALL CALL CALL CALL
<b>RG58C/U</b> Center Conductor: 20 AWG tinned copper Min. Bend Radius: 2.00" (50.8mm) Jacket: Black PVC Operating Temperature: -40°C - +85°C	.195in. (5.0mm)	0.5ft (0.15m) 1.0ft (0.3m) 1.5ft (0.45m) 2.0ft (0.6m) 2.5ft (0.75m) 3.0ft (0.9m)	CCS58A-05HR CCS58A-1HR CCS58A-1.5HR CCS58A-2HR CCS58A-2.5HR CCS58A-3HR	16.37 16.53 16.68 16.89 17.05 17.20	15.39 15.54 15.68 15.88 16.02 16.17	14.41 14.54 14.68 14.86 15.00 15.14	CALL CALL CALL CALL CALL CALL

Don't see what you are looking for? Be sure to visit [L-com.com](http://L-com.com) for a complete listing of all available cable assemblies, as well as our online Custom Cable Configurator and Product Wizards.

















CA-RTPNME



CA-6RTPNM



CA-RTPNFT



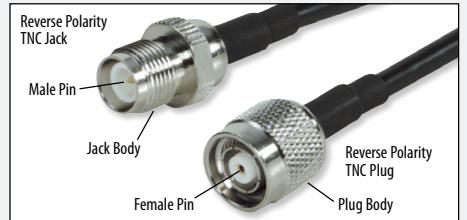
CA-RTPNFBA



CA-RTMRTF

**Tip** *Identifying a reverse polarized connector*

A reverse polarity coaxial connector alters a standard polarized connector interface by utilizing a male center pin in a jack body or a female center pin in a plug body. Reverse polarity connectors are sometimes used in an attempt to "key" connections so that incorrect connections are not possible. This also prevents mating with a standard non-polarized connector. Common reverse polarized interfaces are RP-SMA and RP-TNC.



**Reverse Polarity TNC Plug/Type N Male**

Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>195-Series</b> Center Conductor: Solid bare copper Min. Bend Radius: 0.50" (12.7mm) Jacket: Polyvinyl Chloride (CMP Grade for Plenum Rated) Operating Temperature: -20°C - +60°C	.195 in. (5.0mm)	2.0ft (0.6m) 4.0ft (1.2m) 10.0ft (3.0m) 20.0ft (6.1m)	CA-RTPNMA002 CA-RTPNMA004 CA-RTPNMA010 CA-RTPNMA020	11.40 12.43 15.54 20.72	10.26 11.19 13.99 18.65	9.12 9.95 12.43 16.58	CALL CALL CALL CALL
<b>200-Series</b> Center Conductor: Solid copper Min. Bend Radius: 0.50" (12.7mm) Jacket: Polyethylene Operating Temperature: -40°C - +80°C	.195 in. (5.0mm)	2.0ft (0.6m) 4.0ft (1.2m) 10.0ft (3.0m) 20.0ft (6.1m)	CA-RTPNME002 CA-RTPNME004 CA-RTPNME010 CA-RTPNME020	18.76 19.89 23.31 29.01	16.88 17.91 20.98 26.11	15.00 15.92 18.65 23.21	CALL CALL CALL CALL
<b>240-Series</b> Center Conductor: Solid copper Min. Bend Radius: 0.75" (19.1mm) Jacket: Polyethylene Operating Temperature: -40°C - +80°C	.240 in. (6.1mm)	2.0ft (0.6m) 4.0ft (1.2m) 10.0ft (3.0m) 20.0ft (6.1m)	CA-RTPNMT002 CA-RTPNMT004 CA-RTPNMT010 CA-RTPNMT020	18.91 20.26 24.30 31.03	17.02 18.23 21.87 27.93	15.13 16.21 19.44 24.83	CALL CALL CALL CALL
<b>400-Series</b> Center Conductor: Copper clad aluminum Min. Bend Radius: 1.0" (25.4mm) Jacket: Polyethylene Operating Temperature: -40°C - +80°C	.405 in. (10.3mm)	2.0ft (0.6m) 10.0ft (3.0m) 20.0ft (6.1m) 25.0ft (7.6m) 50.0ft (15.2m) 100.0ft (30.5)	CA4NMRFT002 CA4NMRFT010 CA4NMRFT020 CA4NMRFT025 CA4NMRFT050 CA4NMRFT100	24.87 31.09 38.86 42.74 62.17 113.98	22.38 27.98 34.97 38.47 55.95 102.58	19.90 24.87 31.09 34.19 49.74 91.19	CALL CALL CALL CALL CALL CALL
<b>400UF-Series Ultra Flex</b> Center Conductor: Stranded bare copper Min. Bend Radius: 1.0" (25.4mm) Jacket: Black Thermoplastic Elastomer Operating Temperature: -40°C - +85°C	.405 in. (10.3mm)	5.0ft (1.5m) 10.0ft (3.0m) 15.0ft (4.6m) 25.0ft (7.6m) 50.0ft (15.2m) 75.0ft (22.9m)	CA-NMRTPH005 CA-NMRTPH010 CA-NMRTPH015 CA-NMRTPH025 CA-NMRTPH050 CA-NMRTPH075	25.08 31.29 37.51 49.94 81.03 112.12	23.57 29.42 35.26 46.95 76.17 105.39	22.07 27.54 33.01 43.95 71.31 98.66	CALL CALL CALL CALL CALL CALL
<b>600-Series</b> Center Conductor: Solid copper Min. Bend Radius: 1.50" (38.1mm) Jacket: Polyethylene Operating Temperature: -40°C - +80°C	.590 in. (15.0mm)	10.0ft (3.0m) 25.0ft (7.6m) 50.0ft (15.2m) 75.0ft (22.9m) 100.0ft (30.5)	CA-6RTPNM010 CA-6RTPNM025 CA-6RTPNM050 CA-6RTPNM075 CA-6RTPNM100	41.97 69.17 114.50 159.83 215.53	38.61 63.63 105.34 147.05 198.29	35.25 58.10 96.18 134.26 181.04	CALL CALL CALL CALL CALL

**Reverse Polarity TNC Plug/Type N Female**

Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>195-Series</b> Center Conductor: Solid bare copper Min. Bend Radius: 0.50" (12.7mm) Jacket: Polyvinyl Chloride (CMP Grade for Plenum Rated) Operating Temperature: -20°C - +60°C	.195 in. (5.0mm)	2.0ft (0.6m) 4.0ft (1.2m) 10.0ft (3.0m) 20.0ft (6.1m)	CA-RTPNFA002 CA-RTPNFA004 CA-RTPNFA010 CA-RTPNFA020	18.65 19.69 22.80 27.98	16.79 17.72 20.52 25.18	14.92 15.75 18.24 22.38	CALL CALL CALL CALL
<b>240-Series</b> Center Conductor: Solid copper Min. Bend Radius: 0.75" (19.1mm) Jacket: Polyethylene Operating Temperature: -40°C - +80°C	.240 in. (6.1mm)	2.0ft (0.6m) 4.0ft (1.2m) 10.0ft (3.0m) 20.0ft (6.1m)	CA-RTPNFT002 CA-RTPNFT004 CA-RTPNFT010 CA-RTPNFT020	18.91 20.26 24.30 31.03	17.02 18.23 21.87 27.93	15.13 16.21 19.44 24.83	CALL CALL CALL CALL

**Reverse Polarity TNC Plug/Type N Female Bulkhead**

Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>195-Series</b> Center Conductor: Solid bare copper Min. Bend Radius: 0.50" (12.7mm) Jacket: Polyvinyl Chloride (CMP Grade for Plenum Rated) Operating Temperature: -20°C - +60°C	.195 in. (5.0mm)	2.0ft (0.6m) 4.0ft (1.2m) 10.0ft (3.0m) 20.0ft (6.1m)	CA-RTPNFA002 CA-RTPNFA004 CA-RTPNFA010 CA-RTPNFA020	18.65 19.69 22.80 27.98	16.79 17.72 20.52 25.18	14.92 15.75 18.24 22.38	CALL CALL CALL CALL

**Reverse Polarity TNC Plug / Reverse Polarity TNC Jack**

Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>195-Series</b> Center Conductor: Solid bare copper Min. Bend Radius: 0.50" (12.7mm) Jacket: Polyvinyl Chloride (CMP Grade for Plenum Rated) Operating Temperature: -20°C - +60°C	.195 in. (5.0mm)	2.0ft (0.6m) 4.0ft (1.2m) 10.0ft (3.0m) 20.0ft (6.1m)	CA-RTPRTJA002 CA-RTPRTJA004 CA-RTPRTJA010 CA-RTPRTJA020	17.62 18.65 21.76 26.94	15.85 16.79 19.58 24.25	14.09 14.92 17.41 21.55	CALL CALL CALL CALL
<b>400-Series</b> Center Conductor: Copper clad aluminum Min. Bend Radius: 1.0" (25.4mm) Jacket: Polyethylene Operating Temperature: -40°C - +80°C	.405 in. (10.3mm)	2.0ft (0.6m) 10.0ft (3.0m) 20.0ft (6.1m) 25.0ft (7.6m) 50.0ft (15.2m)	CA4RTMRTF002 CA4RTMRTF010 CA4RTMRTF020 CA4RTMRTF025 CA4RTMRTF050	24.87 31.09 38.86 42.74 62.17	22.38 27.98 34.97 38.47 55.95	19.90 24.87 31.09 34.19 49.74	CALL CALL CALL CALL CALL





## Semi-Rigid and Formable 50 Ohm Coaxial Assemblies

L-com offers quality crafted Semi-Rigid and Formable coax cable assemblies for use in a wide array of applications. These cable assemblies are designed, manufactured and tested using state of the art equipment to ensure the highest quality to our customers.

Have custom cable requirements? We can custom build your Semi-Rigid and Formable cable assemblies using the very best in forming and stripping equipment. In addition to our standard cable types, we can build cable assemblies using Semi-Rigid Low Loss Aluminum or Copper cable from sizes of .047 (1.2mm) to .250 (6.4mm) with a wide array of available connector types. Contact us today with your custom cable requirements.

### **Tip** What is the difference between Semi-Rigid and Formable cable?

**Semi-rigid** cable is a coaxial form using a solid copper outer sheath. This type of coax offers superior screening compared to cables with a braided outer conductor, especially at higher frequencies. The major disadvantage is that the cable, as its name implies, is not very flexible, and is not intended to be flexed after initial forming. This type of cable is also called "hard line" cable.



**Formable** cable is a flexible reformable alternative to semi-rigid coaxial cable used where flexibility is required. Formable cable can be stripped and formed by hand without the need for special tools, similar to standard coaxial cable. Also this cable type is ideal for laying out and designing pre-bent semi-rigid assemblies.




CA-085SCNMNM



CA-085SCNMSM



CA-141SCNMNF



CA-141SCSMSM



CA-085FNMNF



CA-141FNMSM

### .085 Semi-Rigid Cables

Type	Cable Dia.	Length	Connectors	Item #	1-9	10-24	25-99	100+
<b>.085 Semi-Rigid</b> Inner Conductor: Silver plated copper covered steel Outer Conductor: Tin plated copper	.085 in. (2.2mm)	6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm)	N Male/N Male N Male/N Male N Male/N Male N Male/N Female N Male/N Female N Male/N Female N Male/SMA Male N Male/SMA Male N Male/SMA Male N Male/N Female N Male/N Female N Male/N Female N Male/SMA Male N Male/SMA Male N Male/SMA Male SMA Male/SMA Male SMA Male/SMA Male SMA Male/SMA Male	CA-085SCNMNM006 CA-085SCNMNM012 CA-085SCNMNM018 CA-085SCNMNF006 CA-085SCNMNF012 CA-085SCNMNF018 CA-085SCNMSM006 CA-085SCNMSM012 CA-085SCNMSM018 CA-085SCSMSM006 CA-085SCSMSM012 CA-085SCSMSM018	49.22 52.85 56.47 48.96 52.59 56.21 47.92 51.55 55.18 46.89 50.51 54.14	46.27 49.68 53.08 46.02 49.43 52.84 45.05 48.46 51.87 44.07 47.48 50.89	43.31 46.50 49.70 43.09 46.28 49.47 42.17 45.36 48.56 41.26 44.45 47.64	CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL

### .141 Semi-Rigid Cables

Type	Cable Dia.	Length	Connectors	Item #	1-9	10-24	25-99	100+
<b>.141 Semi-Rigid</b> Inner Conductor: Silver plated copper covered steel Outer Conductor: Tin plated copper	.141 in. (3.6mm)	6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm)	N Male/N Male N Male/N Male N Male/N Male N Male/N Female N Male/N Female N Male/N Female N Male/SMA Male N Male/SMA Male N Male/SMA Male N Male/N Female N Male/N Female N Male/N Female N Male/SMA Male N Male/SMA Male N Male/SMA Male SMA Male/SMA Male SMA Male/SMA Male SMA Male/SMA Male	CA-141SCNMNM006 CA-141SCNMNM012 CA-141SCNMNM018 CA-141SCNMNF006 CA-141SCNMNF012 CA-141SCNMNF018 CA-141SCNMSM006 CA-141SCNMSM012 CA-141SCNMSM018 CA-141SCSMSM006 CA-141SCSMSM012 CA-141SCSMSM018	52.85 56.99 61.14 52.59 56.73 60.88 51.55 55.70 59.84 50.51 54.66 58.00	49.68 53.57 57.47 49.43 53.33 57.22 48.46 52.35 56.25 47.48 51.38 55.28	46.50 50.15 53.80 46.28 49.92 53.57 45.36 49.01 52.66 44.45 48.10 51.75	CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL

### .085 Formable Cables

Type	Cable Dia.	Length	Connectors	Item #	1-9	10-24	25-99	100+
<b>.085 Formable</b> Inner Conductor: Silver plated copper covered steel Outer Conductor: Tin overcoat-tinned annealed copper wire braiding	.085 in. (2.2mm)	6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm)	N Male/N Male N Male/N Male N Male/N Male N Male/N Female N Male/N Female N Male/N Female N Male/SMA Male N Male/SMA Male N Male/SMA Male N Male/N Female N Male/N Female N Male/N Female N Male/SMA Male N Male/SMA Male N Male/SMA Male SMA Male/SMA Male SMA Male/SMA Male SMA Male/SMA Male	CA-085FNMNM006 CA-085FNMNM012 CA-085FNMNM018 CA-085FNMNF006 CA-085FNMNF012 CA-085FNMNF018 CA-085FNSMSM006 CA-085FNSMSM012 CA-085FNSMSM018 CA-085FSMSM006 CA-085FSMSM012 CA-085FSMSM018	49.22 52.85 56.47 48.96 52.59 56.21 47.92 51.55 55.18 46.89 50.51 54.14	46.27 49.68 53.08 46.02 49.43 52.84 45.05 48.46 51.87 44.07 47.48 47.64	43.31 46.50 49.70 43.09 46.28 49.47 42.17 45.36 48.56 41.26 44.45 47.64	CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL

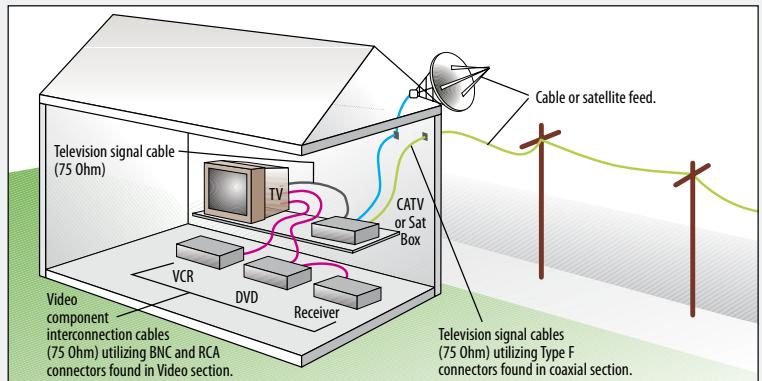
### .141 Formable Cables

Type	Cable Dia.	Length	Connectors	Item #	1-9	10-24	25-99	100+
<b>.141 Formable</b> Inner Conductor: Silver plated copper covered steel Outer Conductor: Tin overcoat-tinned annealed copper wire braiding	.141 in. (3.6mm)	6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm) 6.0in (152.4mm) 12.0in (304.8mm) 18.0in (457.2mm)	N Male/N Male N Male/N Male N Male/N Male N Male/N Female N Male/N Female N Male/N Female N Male/SMA Male N Male/SMA Male N Male/SMA Male N Male/N Female N Male/N Female N Male/N Female N Male/SMA Male N Male/SMA Male N Male/SMA Male SMA Male/SMA Male SMA Male/SMA Male SMA Male/SMA Male	CA-141FNMNM006 CA-141FNMNM012 CA-141FNMNM018 CA-141FNMNF006 CA-141FNMNF012 CA-141FNMNF018 CA-141FNSMSM006 CA-141FNSMSM012 CA-141FNSMSM018 CA-141FSMSM006 CA-141FSMSM012 CA-141FSMSM018	52.85 56.99 61.14 52.59 56.73 60.88 51.55 55.70 59.84 50.51 54.66 58.00	49.68 53.57 57.47 49.43 53.33 57.22 48.46 52.35 56.25 47.48 51.38 55.28	46.50 50.15 53.80 46.28 49.92 53.57 45.36 49.01 52.66 44.45 48.10 51.75	CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL CALL



## Tip When is a 75 Ohm coaxial cable used?

The primary use of a 75 Ohm cable is to transmit a video signal. One of the typical applications is television signals over cable, sometimes called signal feed cables. The most common connector used in this application is a Type F. Another application is video signals between components such as DVD players, VCRs or Receivers commonly known as audio/video (A/V) cables. In this case BNC and RCA connectors are most often found. In both of these applications RG59 with both solid center conductor (RG59B/U) and stranded center conductor (RG59A/U) as well as RG6 are often found. The cable assemblies offered in the following section cover the most common connection situations found in both applications.



## Tip Distinguishing between 50 and 75 Ohm BNC connectors

BNC connectors are one of the few coaxial connectors that are available in two impedance values of 50 and 75 Ohms. You can distinguish the two types by the absence of dielectric material at the interface of the 75 Ohm version as shown.



### 75 Ohm Coaxial Cables

L-com offers a wide variety of 75 ohm coaxial video cable assemblies. Cable types include RG59, RG6, RG179, RG187, and our small OD Thinline cable. Connector types include BNC male & female, RCA, F, and SMB. Please see our website for our complete offering.

Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>RG59A/U</b> Center Conductor: 22 AWG bare compacted copper Jacket: Black PVC Operating Temperature: -40°C - +80°C	.240in. (6.1mm)	0.5ft (0.15m) 3.0ft (0.9m) 5.0ft (1.5m) 10.0ft (3.0m) 15.0ft (4.6m) 50.0ft (15.2m) 100.0ft (30.5m) 200.0ft (60.1m)	CC59A-05 CC59A-3 CC59A-5 CC59A-10 CC59A-15 CC59A-50 CC59A-100 CC59A-200	9.38 10.67 11.76 14.45 17.10 35.80 62.48 115.85	9.00 10.25 11.29 13.88 16.41 34.37 59.98 111.21	8.63 9.82 10.82 13.30 15.73 32.94 57.48 106.58	CALL CALL CALL CALL CALL CALL CALL CALL
<b>RG59B/U</b> Center Conductor: 22 AWG solid bare copper covered steel Jacket: Black PVC Operating Temperature: -40°C - +80°C	.242in. (6.1mm)	0.5ft (0.15m) 3.0ft (0.9m) 5.0ft (1.5m) 10.0ft (3.0m) 15.0ft (4.6m) 25.5ft (7.6m) 50.0ft (15.2m)	CC59B-05 CC59B-3 CC59B-5 CC59B-10 CC59B-15 CC59B-25 CC59B-50	9.38 10.67 11.76 14.45 17.10 22.43 35.80	9.00 10.25 11.29 13.88 16.41 21.54 34.37	8.63 9.82 10.82 13.30 15.73 20.64 32.94	CALL CALL CALL CALL CALL CALL CALL
<b>Thinline</b> Center Conductor: 28 AWG stranded tinned copper wire Jacket: Black PVC Operating Temperature: -40°C - +80°C	.110in. (2.8mm)	1.0ft (0.3m) 2.5ft (0.75m) 5.0ft (1.5m) 7.5ft (2.3m) 10.0ft (3.0m) 15.0ft (4.6m)	CTL1B-1 CTL1B-2.5 CTL1B-5 CTL1B-7.5 CTL1B-10 CTL1B-15	7.51 8.29 9.64 10.98 12.28 14.97	7.21 7.96 9.25 10.54 11.79 14.37	6.91 7.63 8.87 10.11 11.30 13.78	CALL CALL CALL CALL CALL CALL
<b>RG179B/U</b> Center Conductor: 30 AWG stranded silver plated copper covered steel Jacket: Brown FEP Operating Temperature: -70°C - +200°C	.100in. (2.5mm)	1.0ft (0.3m) 2.5ft (0.75m) 5.0ft (1.5m) 7.5ft (2.3m) 10.0ft (3.0m) 15.0ft (4.6m)	CC179B-1 CC179B-2.5 CC179B-5 CC179B-7.5 CC179B-10 CC179B-15	23.11 25.56 29.72 33.83 37.94 46.21	22.18 24.54 28.53 32.48 36.42 44.36	21.26 23.52 27.35 31.13 34.91 42.52	CALL CALL CALL CALL CALL CALL
<b>RG6/U</b> Center Conductor: 18 AWG solid bare copper covered steel Jacket: White Plenum Operating Temperature: -20°C - +75°C	.222in. (5.6mm)	1.0ft (0.3m) 1.5ft (0.45m) 2.5ft (0.75m) 5.0ft (1.5m) 10.0ft (3.0m) 15.0ft (4.6m)	CG6PB-1 CG6PB-1.5 CG6PB-2.5 CG6PB-5 CG6PB-10 CG6PB-15	34.74 35.86 39.22 44.83 56.03 67.24	33.35 34.43 37.65 43.03 53.79 64.55	31.96 32.99 36.08 41.24 51.55 61.86	CALL CALL CALL CALL CALL CALL
<b>RG187/U</b> Center Conductor: 30 AWG stranded silver plated copper covered steel Jacket: TFE Teflon tape wrap Operating Temperature: -70°C - +200°C	.110in. (2.8mm)	1.0ft (0.3m) 2.5ft (0.75m) 5.0ft (1.5m) 7.5ft (2.3m) 10.0ft (3.0m) 15.0ft (4.6m)	CC187B-1 CC187B-2.5 CC187B-5 CC187B-7.5 CC187B-10 CC187B-15	30.09 34.14 40.87 47.59 54.31 67.76	27.68 31.41 37.60 43.78 49.97 62.34	25.27 28.68 34.33 39.98 45.62 56.92	CALL CALL CALL CALL CALL CALL

## Tip What is the difference between a plug and a jack?

People often have difficulty choosing the correct gender termination on cable assemblies. Plugs are considered male gendered connectors which utilize a center pin. Jacks are considered female gendered connectors utilizing a center socket.





**75 Ohm Coaxial Cables**

Inline RCA Plug to Inline RCA Plug							
Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>RG59A/U</b> Center Conductor: 22 AWG bare compacted copper Jacket: Black PVC Operating Temperature: -40°C - +80°C	.240in. (6.1mm)	1.0ft (0.3m)	CC59A-RR-1	5.28	5.07	4.86	CALL
		3.0ft (0.9m)	CC59A-RR-3	6.46	6.20	5.94	CALL
		6.0ft (1.8m)	CC59A-RR-6	8.22	7.89	7.56	CALL
		9.0ft (2.7m)	CC59A-RR-9	9.98	9.58	9.18	CALL
		12.0ft (3.7m)	CC59A-RR-12	11.74	11.27	10.80	CALL
<b>Thinline</b> Center Conductor: 28 AWG stranded tinned copper wire Jacket: Black PVC Operating Temperature: -40°C - +80°C	.110in. (2.8mm)	1.0ft (0.3m)	CTL1R-1	6.08	5.84	5.60	CALL
		5.0ft (1.5m)	CTL1R-5	8.27	7.94	7.61	CALL
		10.0ft (3.0m)	CTL1R-10	10.99	10.55	10.11	CALL
		15.0ft (4.6m)	CTL1R-15	13.77	13.22	12.67	CALL
		25.0ft (7.6m)	CTL1R-25	19.26	18.49	17.72	CALL



Inline Type F Plug to Inline BNC Plug							
Type	Cable Dia.	Length	Item #	1-9	10-24	25-99	100+
<b>RG59A/U</b> Center Conductor: 22 AWG bare compacted copper Jacket: Black PVC Operating Temperature: -40°C - +80°C	.240in. (6.1mm)	1.0ft (0.3m)	CC59A-BF-1	7.04	6.76	6.48	CALL
		3.0ft (0.9m)	CC59A-BF-3	8.22	7.89	7.56	CALL
		6.0ft (1.8m)	CC59A-BF-6	9.98	9.58	9.18	CALL
		9.0ft (2.7m)	CC59A-BF-9	11.74	11.27	10.80	CALL
		12.0ft (3.7m)	CC59A-BF-12	13.50	12.96	12.42	CALL
<b>Thinline</b> Center Conductor: 28 AWG stranded tinned copper wire Jacket: Black PVC Operating Temperature: -40°C - +80°C	.110in. (2.8mm)	1.0ft (0.3m)	CTL1FB-1	7.31	7.02	6.73	CALL
		5.0ft (1.5m)	CTL1FB-5	9.55	9.17	8.79	CALL
		10.0ft (3.0m)	CTL1FB-10	12.33	11.83	11.34	CALL
		15.0ft (4.6m)	CTL1FB-15	15.16	14.55	13.94	CALL
		25.0ft (7.6m)	CTL1FB-25	20.76	19.93	19.10	CALL

**Tip Why is a molded strain relief superior to a heat shrink strain relief?**

As shown in Figure 1, a heat shrink strain relief does offer some strain relief at the egress point where the cable exits the strain relief, reducing stress at this critical junction.

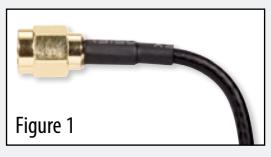


Figure 1

As seen in Figure 2, however, a molded strain relief provides far superior stress reduction through a more robust design. The improved adhesion between the strain relief and the cable/connector interface is achieved during the molding process. In addition, the molded strain relief design provides a more finished appearance than the heat shrink version.



Figure 2



## How do you select the right coaxial cable interface for your application?

There are numerous coaxial interfaces in use today. These interfaces cover a broad range of applications including both 50 Ohm data signal transmission and 75 Ohm audio / video signal transmission. The following chart is a general guide to help you select the best interface for your specific application.

Interface Type	Impedance	Application	Coupling Mechanism	Typical Cable Types	Typical Frequency Range
BNC 	Available in both 50 and 75 Ohm	50 Ohm version is utilized in data signal transmission for such applications as WAN/LAN, Ethernet or Test & Measurement. 75 Ohm version is utilized in audio/video signal transmission for such applications as security and CATV	Two stud bayonet twist and lock	Wide variety of RG style coaxial cables including 50 Ohm RG174, RG58, RG142 etc. And 75 Ohm RG179, RG59, RG6	0-4 GHz
TNC (Threaded version of a BNC) 	50 Ohm	Data signal transmission for such applications as GPS, wireless base stations antennas and instrumentation	Threaded coupling	Wide variety of RG style coaxial cables including RG174, RG58, RG142, etc	0-11 GHz
SMA 	50 Ohm	Data signal transmission for such applications as GPS and instrumentation	Threaded coupling	Generally used on small diameter cable such as RG174, RG188 and RG316	0-18 GHz
Type N 	50 Ohm	Data signal transmission for such applications as GPS antennas and instrumentation	Threaded coupling	Generally used on larger diameter cable such as RG58, RG213 and RG223	0-11 GHz
Type F 	75 Ohm	Video signal transmission in applications such as CATV and entertainment video	Threaded coupling	Primarily RG59 and RG6	0-1 GHz
MCX 	50 Ohm	Data signal transmission for such applications as GPS antennas and instrumentation	Snap on coupling	Generally used on small diameter cable such as RG174, RG188 and RG316	0-6 GHz
MMCX 	50 Ohm	Data signal transmission for such applications as GPS antennas and PCMCIA cards	Snap on coupling	Generally used on small diameter cable such as RG174, RG188 and RG316	0-6 GHz
SMB 	Available in both 50 and 75 Ohm	Data signal transmission for such applications as digital cellular, GPS and wireless LAN	Snap on coupling	Generally used on small diameter cable such as 50 Ohm RG174, RG188 and RG316 and 75 Ohm RG179 and RG187	0-4 GHz
SMC 	Available in both 50 and 75 Ohm	Signal transmission for such applications as automotive GPS and telecom with high vibration requirements	Threaded coupling	Generally used on small diameter cable such as 50 Ohm RG174, RG188 and RG316 and 75 Ohm RG179 and RG187	0-10 GHz
Reverse Polarity TNC and SMA 	50 Ohm	Signal transmission in wireless spread spectrum devices that must comply with FCC non standard interface rule	Threaded coupling and RG58	Primarily used with RG174	TNC 0-11 GHz SMA 0-18 GHz

**Note:** Images on this page are for reference only and may not be to scale



Item #	Description	1-9	10-24	25-99	100+
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**FME to BNC Interseries Coaxial Adapters - 50 and 75 Ohm - Useful in Cellular Applications**

Many cellular communication devices utilize the FME connector on coaxial antenna lines. L-com offers a selection of highest quality components utilizing machined brass with nickel plated surfaces and gold plated pins.

BA8016	Coaxial Adapter, FME Male/BNC Female, 50 Ohm	6.15	5.78	5.41	CALL
BA8005	Coaxial Adapter, FME Male/BNC Male, 75 Ohm	4.51	4.24	3.97	CALL

**1.6/5.6 to BNC Interseries Coaxial Adapters - 50 Ohm - For Conversion to the European Standard**

These machined adapters are great for converting standard BNC terminations to 1.6/5.6 terminations which are common in other areas of the world.

BA9201	Coaxial Adapter, BNC Female/1.6/5.6 Male Adapter	9.79	9.20	8.62	CALL
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**Type F Interseries Coaxial Adapters - 50 Ohm**

BA120	Coaxial Adapter, Type F Male/BNC Female	2.50	2.35	2.20	CALL
BA121	Coaxial Adapter, Type F Male/TNC Male	2.50	2.35	2.20	CALL
BA125	Coaxial Adapter, Type F Female/BNC Male	2.50	2.35	2.20	CALL
BA127	Coaxial Adapter, Type F Female/TNC Female	2.50	2.35	2.20	CALL
BA220	Coaxial Adapter, Type F Female/BNC Female	2.50	2.35	2.20	CALL

**RCA Interseries Coaxial Adapters - 50 and 75 Ohm**

BA90	Coaxial Adapter, RCA Male/BNC Female, 50 Ohm	3.75	3.53	3.30	CALL
BA94	Coaxial Adapter, RCA Female/BNC Female, 50 Ohm	3.75	3.53	3.30	CALL
BA95	Coaxial Adapter, RCA Female/BNC Male, 50 Ohm	3.75	3.53	3.30	CALL
BA887	Coaxial Adapter, RCA Female/Type F Female, 50 Ohm	2.50	2.35	2.20	CALL
BA907	Coaxial Adapter, RCA Male/Type F Female, 75 Ohm	2.23	2.09	1.96	CALL

**Type N Interseries Coaxial Adapters - 50 Ohm**

BN107	Coaxial Adapter, Type N Male/BNC Male	7.13	6.70	6.27	CALL
AXA-NMBF	Coaxial Adapter, Type N Male/BNC Female	4.35	4.00	3.66	CALL
AXA-NMSM	Coaxial Adapter, Type N Male/SMA Male	5.00	4.60	4.20	CALL
AXA-NMTF	Coaxial Adapter, Type N Male/TNC Female	5.00	4.60	4.20	CALL
AXA-NMFF	Coaxial Adapter, Type N Male/Type F Female	4.35	4.00	3.66	CALL
AXA-NMRSJ	Coaxial Adapter, Type N Male/RP-SMA Jack	6.20	5.71	5.21	CALL
AXA-NMRSP	Coaxial Adapter, Type N Male/RP-SMA Plug	6.20	5.71	5.21	CALL
AXA-NMRTJ	Coaxial Adapter, Type N Male/RP-TNC Jack	6.20	5.71	5.21	CALL
AXA-NMRTP	Coaxial Adapter, Type N Male/RP-TNC Plug	6.20	5.71	5.21	CALL
AXA-NFBF	Coaxial Adapter, Type N Female/BNC Female	3.75	3.45	3.15	CALL
AXA-NFBM	Coaxial Adapter, Type N Female/BNC Male	4.35	4.00	3.66	CALL
AXA-AMNFB	Coaxial Adapter, Type N Female Bulkhead/NMO	15.94	14.66	13.39	CALL
AXA-NFMUM	Coaxial Adapter, Type N Female/Mini-UHF Male	4.35	4.00	3.66	CALL
AXA-NFTM	Coaxial Adapter, Type N Female/TNC Male	4.35	4.00	3.66	CALL
AXA-NFRBP	Coaxial Adapter, Type N Female/RP BNC Plug	4.35	4.00	3.66	CALL
AXA-NFRSJ	Coaxial Adapter, Type N Female/RP-SMA Jack	6.20	5.71	5.21	CALL
AXA-RSJNFB	Coaxial Adapter, Type N Female Bulkhead/RP-SMA Jack	7.13	6.56	5.99	CALL
AXA-NFRSP	Coaxial Adapter, Type N Female/RP-SMA Plug	5.00	4.60	4.20	CALL
AXA-NFRTP	Coaxial Adapter, Type N Female/RP-TNC Plug	6.20	5.71	5.21	CALL
AXA-NFRTP2	Coaxial Adapter, Type N Female/RP-TNC Plug 1 Piece Design	6.20	5.71	5.21	CALL

**Mini-UHF Interseries Coaxial Adapters - 50 Ohm**

BA881	Coaxial Adapter, Mini-UHF Female/TNC Male	7.13	6.70	6.27	CALL
BA882	Coaxial Adapter, Mini-UHF Female/BNC Male	7.13	6.70	6.27	CALL
BA883	Coaxial Adapter, Mini-UHF Male/BNC Female	7.13	6.70	6.27	CALL
BA886	Coaxial Adapter, Mini-UHF Male/TNC Female	7.13	6.70	6.27	CALL

**UHF Interseries Coaxial Adapters - 50 Ohm**

BA40	Coaxial Adapter, UHF Male/RCA Female	3.75	3.53	3.30	CALL
BA130	Coaxial Adapter, UHF Female/Type F Male	3.75	3.53	3.30	CALL
BA140	Coaxial Adapter, UHF Female/RCA Male	3.75	3.53	3.30	CALL
BA160	Coaxial Adapter, UHF Male/Type F Female	3.75	3.53	3.30	CALL
BA230	Coaxial Adapter, UHF Female/BNC Female	4.90	4.60	4.31	CALL
BA270	Coaxial Adapter, UHF Male/BNC Male	3.75	3.53	3.30	CALL
BA301	Coaxial Adapter, UHF Female/Type F Female	3.75	3.53	3.30	CALL

**TNC Interseries Coaxial Adapters - 50 Ohm**

AXA-RTJRSP	Coaxial Adapter, RP-TNC Jack/RP-SMA Plug	5.00	4.60	4.20	CALL
AXA-RTPRSJ	Coaxial Adapter, RP-TNC Plug/RP-SMA Jack	5.00	4.60	4.20	CALL

**7/16 DIN Interseries Coaxial Adapters - 50 Ohm**

AXA-NFDM	Coaxial Adapter, 7/16 DIN Male/Type N Female	67.46	62.06	56.66	CALL
AXA-NMDF	Coaxial Adapter, 7/16 DIN Female/Type N Male	75.07	69.07	63.06	CALL



**Coaxial Within Series Adapter Selection Matrix**

Use this handy chart to locate the desired within series or T type adapter. Simply locate the connector type and configuration in the top row. Then find the connector type and gender in the left hand column. Intersect the row and column to determine availability. If a specific

adapter type is not listed, please visit our website at [L-com.com](http://L-com.com) for the latest information or call our technical support group at 800-343-1455 for assistance. Adapters listed are generally intended for use in the RF band.

INTERFACE SERIES	SAME GENDER IN SERIES				GENDER CHANGE IN SERIES			
	Straight	Bulkhead	3 Port Tee (F, F, F)	Right Angle	Straight	Right Angle	3 Port Tee (F, M, F)	3 Port F or Y
BNC FEMALE	BA80, BA80E, BIF-CB	BA1087, BA1089, BA1087E	BA832, BA832E		BA240	BA250, BA250E, BIF-TB1, BIF-TB2	BA840 (F), BA845 (Y)	
BNC FEMALE (75 Ohms)	BA016	BA036, BA039	BA019		BA038	BA035		
BNC MALE	BA100							
F FEMALE		BA30A	BA132		BA124	BA126, BA123		
F MALE	BA122							
FME PLUG	AXA-FMEEP FMEP							
FME JACK	AXA-FMEEF JM							
MINI UHF FEMALE	BA476				BA470			
MINI UHF MALE	BA478							
N FEMALE	AXA-NFN F	AXA-NFNFB, AXA-NFNFB2	BN133		BN121	BN126		
N MALE	AXA-NMM M			AXA-NMNM 90	AXA-NMNF 90			
RCA FEMALE		BA400 (R, B, Y), BA400A						
SMA FEMALE	BA23	BA21	BA18		BA20	BA19		
SMA MALE	BA22, AXA-SMSM							
RP-SMA PLUG	AXA-RSPRSP							
RP-SMA JACK		AXA-RSJRSJB						
TNC FEMALE		BA2301, BA1090			BA4000			
RP-TNC PLUG	AXA-RTPRT P							
RP-TNC JACK	AXA-RTJRT J							
UHF FEMALE	BA170	BA406Z	BA303		BA404Z			
UHF MALE	BA280							
7/16 DIN FEMALE	AXA-DFDF							
7/16 DIN MALE	AXA-DMDM							

Item #	Description	1-9	10-24	25-99	100+
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**BNC Within Series Adapters - 50 Ohm**

Coaxial Adapter, BNC Female/Female

2.50 2.35 2.20 CALL

Coaxial Adapter, BNC Male/Male

3.75 3.53 3.30 CALL

Coaxial Adapter, BNC Female/90° Male

4.90 4.60 4.31 CALL

Coaxial T Adapter, BNC Female/Male/Female

4.90 4.60 4.31 CALL

Coaxial T Adapter, BNC Female/Female/Female

5.06 4.76 4.45 CALL

Coaxial Adapter, BNC Male/Female/Female

9.79 9.20 8.62 CALL

Coaxial Adapter, BNC Female/Male/Female

9.79 9.20 8.62 CALL

Coaxial Adapter, BNC Bulkhead, Female/Female, Grounded

4.90 4.60 4.31 CALL

Coaxial Adapter, BNC Bulkhead, Female/Female, Insulated Ground

6.15 5.78 5.41 CALL

**True 75 Ohm BNC Within Series Adapters - To Precisely Match All 75 Ohm Coaxial Cables**

Coaxial Adapter, BNC Female/Female (Splice)

3.32 3.12 2.92 CALL

Coaxial T Adapter, BNC Female/Female/Female

5.54 5.21 4.88 CALL

Coaxial T Adapter, BNC Female/Male/Female

5.54 5.21 4.88 CALL

Coaxial Adapter, BNC Female/Female Bulkhead

5.54 5.21 4.88 CALL

Coaxial Adapter, BNC Male/90° Female

5.54 5.21 4.88 CALL

Coaxial Adapter, BNC Female/Female Bulkhead, Insulated

6.32 5.94 5.56 CALL

**Economy BNC Adapters - 50 Ohm - Cast Metal Components Save on Production Costs**

Economy Coaxial Adapter, BNC Female/Female

1.63 1.53 1.44 CALL

Economy Coaxial T Adapter, BNC Female/Male/Female

2.50 2.35 2.20 CALL

Economy Coaxial T Adapter, BNC Female/Female/Female

3.75 3.53 3.30 CALL

Economy Coaxial Adapter, BNC Bulkhead Adapter, Grounded

3.75 3.53 3.30 CALL

**FME Within Series Adapters - 50 Ohm**

Coaxial Adapter, FME Jack/FME Jack

3.75 3.45 3.15 CALL

Coaxial Adapter, FME Plug/FME Plug

3.75 3.45 3.15 CALL

**SMA Within Series Adapters - 50 Ohm**

L-com offers the interseries coaxial adapters to help you match any SMA terminated cable to any other. Adapters are machined nickel plated brass, contacts are gold plated.

BA18	Coaxial Adapter, SMA Female/Female/Female	7.13	6.70	6.27	CALL
BA19	Coaxial Adapter, SMA Female/Male/Female	7.13	6.70	6.27	CALL
BA20	Coaxial Adapter, SMA Female/Male, 90°	7.13	6.70	6.27	CALL
BA21	Coaxial Adapter, SMA Female/Female/Bulkhead	7.13	6.70	6.27	CALL
BA22	Coaxial Adapter, SMA Male/Male	7.13	6.70	6.27	CALL
BA23	Coaxial Adapter, SMA Female/Female	7.13	6.70	6.27	CALL
AXA-SSMS	Coaxial Adapter, SMA Male/SMA Male Barrel Adapter	4.35	4.00	3.66	CALL
AXA-RSJRSJB	Coaxial Adapter, RP-SMA Jack/RP-SMA Jack Bulkhead Adapter	5.00	4.60	4.20	CALL
AXA-RSPRSP	Coaxial Adapter, RP-SMA Plug/RP-SMA Plug	5.00	4.60	4.20	CALL

**Type F Within Series Adapters - 75 Ohm**

Coaxial Adapter, Type F Male/Male

2.23 2.09 1.96 CALL

Coaxial Adapter, Type F Female/Male, Right Angle

2.23 2.09 1.96 CALL

Coaxial Adapter, Type F Male Push-on/Female

1.40 1.31 1.23 CALL

Coaxial Adapter, Type F Female/Male Push On, 90°

2.23 2.09 1.96 CALL

Coaxial T Adapter, Type F Female/Female/Female

3.32 3.12 2.92 CALL

Coaxial Bulkhead Adapter, Type F Female/Female, (.5/1.3cm D-Hole), Insulated

2.23 2.09 1.96 CALL

Some Connectors are sold in 10-Packs. See website for details. Adapters are sold individually.

Item #	Description	Color	1-9	10-24	25-99	100+
<b>RCA Female Feed-Thru Adapter - 75 Ohm - with Blue, Red, Yellow or White Insulators</b>						
BA400B	Coaxial Adapter, RCA Bulkhead Female/Female, Blue Insulator	4.09	3.85	3.60	CALL	
BA400R	Coaxial Adapter, RCA Bulkhead Female/Female, Red Insulator	4.09	3.85	3.60	CALL	
BA400Y	Coaxial Adapter, RCA Bulkhead Female/Female, Yellow Insulator	4.09	3.85	3.60	CALL	
BA400	Coaxial Adapter, RCA Bulkhead Female/Female, White Insulator	4.09	3.85	3.60	CALL	
BA400A	Coaxial Adapter, RCA Bulkhead Female/Female, 0.5" (1.3cm) Circular Hole	4.09	3.85	3.60	CALL	



### Type N Within Series Adapters - 50 Ohm

AXA-NMM	Coaxial Adapter, Type N Male/Male Barrel Adapter	5.00	4.60	4.20	CALL	
AXA-NNF	Coaxial Adapter, Type N Female/Female Bullet Adapter	5.00	4.60	4.20	CALL	
AXA-NMM90	Coaxial Adapter, Type N Male/Male Right Angle Adapter	7.40	6.81	6.21	CALL	
AXA-NMNF90	Coaxial Adapter, Type N Male/Female Right Angle Adapter	7.40	6.81	6.21	CALL	
AXA-NFNFB2	Coaxial Adapter, Type N Female/Female 1/4" (0.6cm) (Bulkhead)	4.35	4.00	3.66	CALL	
AXA-NFNFB	Coaxial Adapter, Type N Female/Female 1/8" (0.3cm) (Bulkhead)	4.35	4.00	3.66	CALL	
BN121	Coaxial Adapter, Type N Male/Female Right Angle Adapter	7.13	6.70	6.27	CALL	
BN126	Coaxial T Adapter, Type N Female/Female/Male	7.13	6.70	6.27	CALL	
BN133	Coaxial T Adapter, Type N Female/Female/Female	7.13	6.70	6.27	CALL	



### Mini-UHF Within Series Adapters - 50 Ohm

BA470	Coaxial Adapter, Mini-UHF Female/90° Male	11.10	10.43	9.77	CALL	
BA476	Coaxial Adapter, Mini-UHF Female/Female	4.90	4.60	4.31	CALL	
BA478	Coaxial Adapter, Mini-UHF Male/Male	4.90	4.60	4.31	CALL	



### UHF Within Series Adapters - 50 Ohm

BA170	Coaxial Adapter, UHF Female/Female	3.75	3.53	3.30	CALL	
BA280	Coaxial Adapter, UHF Male/Male	4.90	4.60	4.31	CALL	
BA303	Coaxial T Adapter, UHF Female/Female/Female	7.40	6.95	6.51	CALL	
BA404Z	Coaxial Adapter, UHF Male/90° Female	7.40	6.95	6.51	CALL	
BA406Z	Coaxial Adapter, UHF Feed-Thru Female/Female	7.40	6.95	6.51	CALL	



BA170

BA280

BA303

BA404Z

BA406Z



### 7/16 DIN Within Series Adapters - 50 Ohm

AXA-DMDM	Coaxial Adapter, 7/16 DIN Male/Male	51.14	47.05	42.95	CALL	
AXA-DFDF	Coaxial Adapter, 7/16 DIN Female/Female	50.05	46.04	42.04	CALL	



### Insulated Coaxial Connections - 50 Ohm - Needed to Prevent Ground Loops and Noise

Data signals are particularly susceptible to both ground loop and common mode interference. Reducing the number of ground points of a coaxial wiring system reduces the number of potential ground loops and multiple noise currents.

BIF-CB	Coaxial Coupler, BNC Female/Female	3.75	3.45	3.15	CALL	
BIF-TB2	Coaxial T Adapter, BNC Female/Male/Female	7.34	6.90	6.46	CALL	



### BNC Connector Identifiers / Insulators - Take on New Look with Color-Coded Insulated Covers

The conventional BNC crimp connector may now be modified to be fully insulated, helping eliminate ground loop problems. Our colorful slip-on insulated covers are quick to assemble and provide color coding. The hood cover is installed over the BNC movable collar; the plastic bend strain protector is slipped on over ferrule after the crimping operation. An important feature is the added support offered by the bend-protector; it helps prevent cable breakage.

BIF-H0	Coaxial Connector Cover for BNC, Pkg/10	Black	2.39	2.20	2.01	CALL
BIF-H2	Coaxial Connector Cover for BNC, Pkg/10	Red	2.39	2.20	2.01	CALL
BIF-H5	Coaxial Connector Cover for BNC, Pkg/10	Green	2.39	2.20	2.01	CALL
BIF-H6	Coaxial Connector Cover for BNC, Pkg/10	Blue	2.39	2.20	2.01	CALL
BIF-H9	Coaxial Connector Cover for BNC, Pkg/10	White	2.39	2.20	2.01	CALL
BIF-P0-58	Coaxial Plastic Bend Protector for RG58, Pkg/10	Black	3.05	2.80	2.56	CALL
BIF-P2-58	Coaxial Plastic Bend Protector for RG58, Pkg/10	Red	3.05	2.80	2.56	CALL
BIF-P5-58	Coaxial Plastic Bend Protector for RG58, Pkg/10	Green	3.05	2.80	2.56	CALL
BIF-P6-58	Coaxial Plastic Bend Protector for RG58, Pkg/10	Blue	3.05	2.80	2.56	CALL
BIF-P0-59/62	Coaxial Plastic Bend Protector for RG59/RG62, Pkg/10	Black	2.12	1.95	1.78	CALL
BIF-P2-59/62	Coaxial Plastic Bend Protector for RG59/RG62, Pkg/10	Red	2.12	1.95	1.78	CALL
BIF-P5-59/62	Coaxial Plastic Bend Protector for RG59/RG62, Pkg/10	Green	2.12	1.95	1.78	CALL
BIF-P6-59/62	Coaxial Plastic Bend Protector for RG59/RG62, Pkg/10	Blue	2.12	1.95	1.78	CALL
BIF-P9-59/62	Coaxial Plastic Bend Protector for RG59/RG62, Pkg/10	White	2.12	1.95	1.78	CALL

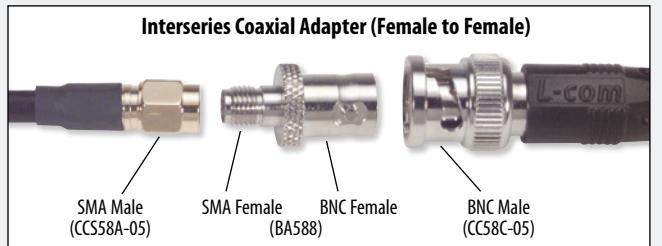
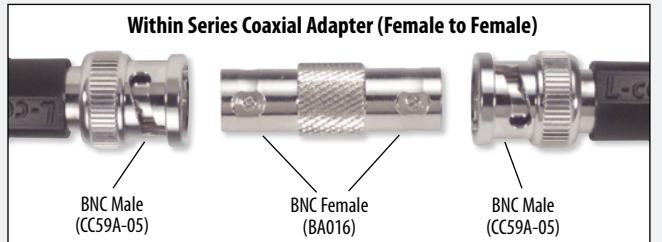


Some Connectors are sold in 10-Packs. See website for details. Adapters are sold individually.

**Tip** *What is the difference between a WITHIN SERIES coaxial adapter and an INTERSERIES coaxial adapter?*

A **WITHIN SERIES** coaxial adapter connects between two interfaces of the same series (i.e. SMA to SMA) in female to female, male to female or male to male configurations.

An **INTERSERIES** coaxial adapter connects between two interfaces of different series (i.e. SMA to BNC) in female to female, male to female or male to male configurations.



Item #	Description	1-9	10-24	25-99	100+
<b>Deluxe Coaxial Adapter Kit - Immediate Assembly of 108 Adapters</b>					
BAK300	Deluxe Coaxial Adapter Kit	150.24	144.23	138.22	CALL

Item #	Description	1-9	10-24	25-99	100+
<b>Premium Coaxial Adapter Kit - Assemble up to 192 Different Adapters</b>					
BAK400	Premium Coaxial Adapter Kit	180.29	173.08	165.87	CALL

Item #	Description	1-9	10-24	25-99	100+
<b>SMA Interseries Adapter Kit - 10 of the Most Commonly Used Adapters</b>					
BA1200K	SMA Interseries Adapter Kit	61.13	57.46	53.79	CALL

Item #	Description	1-9	10-24	25-99	100+
<b>BNC Within Series Adapter Kit</b>					
BA1700K	BNC Adapter Kit	48.69	45.77	42.85	CALL

Item #	Description	1-9	10-24	25-99	100+
<b>BNC Interseries Assortment - Adapters to Mate SMA, UHF, RCA and Type F</b>					
BA1800K	BNC Interseries Adapter Assortment	48.69	45.77	42.85	CALL

**Tip** *What makes up the different types of connectors?*

The two main components of a connector that determine the mating type (sex) are the **BODY** and the **PIN**.



Here is a **Standard Polarity Plug connector**:

It is made up of a **PLUG BODY** and a **MALE PIN**. Standard polarity plug connectors can also be known as Male Connectors.



Here is a **Standard Polarity Jack connector**:

It is made up of a **JACK BODY** and a **FEMALE PIN**. Standard polarity jack connectors can also be known as Female Connectors.

This is a **MALE pin**.

This is a **FEMALE pin**.



Here is a **Reverse Polarity Plug connector**:

It is made up of a **PLUG BODY** and a **FEMALE PIN**. The polarity of the pin is reversed, thus making it a Reverse Polarity Plug Connector.



Here is a **Reverse Polarity Jack connector**:

It is made up of a **JACK BODY** and a **MALE PIN**. Again the polarity of the pin is reversed, thus making it a Reverse Polarity Jack Connector.

**Coaxial Connector Selection Matrix**

Use this handy chart to locate the desired coaxial connector. Simply locate the connector type and gender in the top row. Then find the coaxial cable type in the left hand column. Intersect the row and column to determine availability. Connectors shown in this matrix are listed on pages 192 thru 195. If a specific

connector type is not listed, please visit our website at [L-com.com](http://L-com.com) for the latest information or call our technical support group at 800-343-1455 for assistance. Connectors listed are generally intended for use in the RF band. Assembly tools can be found on pages 200 and 201.

PLUG TYPES													
CABLE TYPE	BNC	TNC	RP-TNC	SMA	RP-SMA	SMB	QMA	TYPE N	RP-TYPE N	MCX	MMCX	TYPE F	RCA
RG6 (75 Ohm)	BAC026, BAC029 BAC032											BAC529 BAC-EX6	
RG6Q (75 Ohm)	BAC042												
RG58 (50 Ohm)	BAC036A-58, BAC10A BIF-83, BAC838-58	BAC898-58 BAC500 BAC525		BAC03, BAC03-G BAC02, BAC02-G				BAC519					
RG58 (50 Ohm) Plenum	BAC836A-58P												
RG59 (75 Ohm) Plenum	BAC028, BAC031, BAC541												
RG59/6 (75 Ohm)	BAC027, BAC027A BAC030, BAC836A-59 BAC033, BAC024 BAC706, BAC985 BAC543	BAC933-59 BAC893-59										BAC-CF559U BAC530 BAC-EX59	BAC700-59
RG142								ANM-1J00					
RG174/188/316 (50 Ohm)	BAC836B-74 BAC546	BAC531 BAC537	BAC541	BAC03A, BAC03A-G BAC02A, BAC02A-G BAC502				BAC523 ANM-1114	ARTP-1100	BAC507 BAC508	BAC509 BAC510 ARMMP-1100		
RG179/187/CTL (75 Ohm)	BAC836B-87, BAC551												
RG213 (50 Ohm)		BAC504						BAN111, BAC506					
RG223 (50 Ohm)	BAC547	BAC534, BAC545						ANM-1J00, BAC536					
734 (75 Ohm)	BAC-UPL220-025												
735 (75 Ohm)	BAC-UPL220-026												
1505A (75 Ohm)	BAC-UPL2000-D2B												
1506A (75 Ohm)	BAC-UPL2000-D8B												
BELDEN 9913	HPC992	HPC993						HPC994					
BELDEN 7807	HPC782	HPC783		HPC781									
PANEL MOUNT	BAC1501												
Low Loss 100 Series				ASM-1102	ARSP-1100	ASMBP-1100, ASMBP-1102		ANM-1114		AMM-1102	AMMM-1106 AMMM-1104		
Low Loss 195 Series	ABM-1700, ABM-1702	ATM-1700	ARTP-1708 ARTP-1714	ASM-1714 ASM-1710 ASM-1708	ARSP-1700 ARSP-1702 ARSP-1726 ARSP-1728	AQP-1700, AQP-1702	ANM-1700 ANM-1716	ARNP-1700			AFM-1700		
Low Loss 200 Series		ATM-1204	ARTP-1200	HPC201, HPC202	ARSP-1202		ANM-1202						
Low Loss 240 Series		ATM-1506	ARTP-1502	ASM-1504	ARSP-1504		ANM-1508, ANM-1516						
Low Loss 300 Series			ARTP-1312				ANM-1304						
Low Loss 400 Series		ATM-1402 ATM-1416 ATML-1400	ARTP-1404	HPC401, ASM-1406	ARSP-1404		HPC404, ANM-2400, ANM-1406, ANM-1416 ANM-1420, ANM-2402	ARNP-1404					
Low Loss 600 Series			ARTP-1606				ANM-2602, ANM-1610, ANM-1616						
Low Loss 900 Series							ANM-2904						

JACK TYPES												
CABLE TYPE	BNC	TNC	RP-TNC	SMA	RP-SMA	SMB	TYPE N	RP-TYPE N	QMA	FME	TYPE F	
RG6 (75 Ohm)	BAC516											
RG58 (50 Ohm)	BAC515, BAC522	BAC513, BAC501 BAC518		BAC05, BAC04			BAC524					
RG58 (50 Ohm) Plenum							BAC527					
RG59/6 (75 Ohm)	BAC908-59 BAC552											BAC520
RG142	BAC548	BAC553, BAC554					BAC544					
RG174/188/316 (50 Ohm)	BAC517, BAC540	BAC514, BAC528		BAC05A, BAC06A BAC503, BAC512				BAC544, BAC542 ANF-4000				
RG179/187/CTL (75 Ohm)	BAC550											
RG223 (50 Ohm)												
Panel Mount	BAC260, BAC1503 BAC70A			BAC16								
Low Loss 100 Series												
Low Loss 195 Series		ATF-3700, ATF-1700	ARTJ-1100 ARTJ-1708, ARTJ-3702	ASF-3700, ASF-1708	ARSI-3700, ARSI-1700	ASMBJ-1100	ANF-3700, ANF-1700 ANF-5700	ARNJ-1700	AQJ-3700	AFMEI-1700		
Low Loss 200 Series												
Low Loss 240 Series		ATF-1506										
Low Loss 300 Series												
Low Loss 400 Series		ATF-1402	ARTJ-3400, ARTJ-1404		ARSJ-1404							
Low Loss 600 Series			ARTJ-1606									
Low Loss 900 Series												







Item #	Description	Cable Type	Attachment	1-9	10-24	25-99	100+		
<b>MMCX Coaxial Connectors, 50 Ohm</b>									
BAC509	MMCX Plug	RG174/RG188/RG316	Crimp	6.42	6.03	5.65	CALL		
BAC510	MMCX Plug, Right Angle	RG174/RG188/RG316	Crimp	6.69	6.29	5.89	CALL		
AMMM-1104	MMCX Plug, Right Angle	Low Loss 100-Series	Crimp	3.86	3.55	3.24	CALL		
AMMM-1106	MMCX Plug, Straight	Low Loss 100-Series	Crimp	3.86	3.55	3.24	CALL		
ARMMP-1100	MMCX Plug, Rt. Angle, Rev. Pol	Low Loss 100-Series	Crimp	4.35	4.00	3.66	CALL		
<b>MC Card Connector, 50 Ohm</b>									
AMCM-1102	MC Card Male	Low Loss 100-Series	Crimp	3.86	3.55	3.24	CALL		
<b>NMO Connector, 50 Ohm</b>									
AAM1-1700	NMO 3/4" (1.9cm) Hole	Low Loss 195-Series, RG58	Crimp	4.35	4.00	3.66	CALL		
<b>QMA Connector, 50 Ohm</b>									
AQJ-3700	QMA Jack Bulkhead	Low Loss 195-Series, RG58	Crimp	9.47	8.71	7.95	CALL		
AQP-1700	QMA Plug Right Angle	Low Loss 195-Series, RG58	Crimp	7.72	7.11	6.49	CALL		
AQP-1702	QMA Plug	Low Loss 195-Series, RG58	Crimp	7.45	6.86	6.26	CALL		
<b>SMB Connectors, 50 Ohm</b>									
ASMBP-1100	SMB Plug	Low Loss 100-Series	Crimp	4.79	4.40	4.02	CALL		
ASMBP-1102	SMB Plug, Right Angle	Low Loss 100-Series	Crimp	5.77	5.31	4.84	CALL		
ASMBJ-1100	SMB Jack	Low Loss 100-Series	Crimp	4.24	3.90	3.56	CALL		
<b>FME Connectors, 50 Ohm</b>									
BAC8015	FME Plug	Low Loss 195-Series, RG58	Crimp	3.64	3.43	3.21	CALL		
AFMEJ-1700	FME Jack	Low Loss 195-Series, RG58	Crimp	3.64	3.35	3.06	CALL		
<b>ORiNOCO Compatible Connector, 50 Ohm*</b>									
AAPM-1100	AIProx Male Right Angle	Low Loss 100-Series	Crimp	5.00	4.60	4.20	CALL		
<b>Waverider Compatible Connector, 50 Ohm*</b>									
AWM-1700	Waverider Compatible Male	Low Loss 195-Series, RG58	Crimp	5.22	4.80	4.39	CALL		
<b>Shrouded SMA Connector, 50 Ohm</b>									
ASM-1714	Shrouded SMA Male Rt Angle	Low Loss 195-Series, RG58	Crimp	4.24	3.90	3.56	CALL		
<b>Sierra Wireless Aircard Compatible Connector, 50 Ohm*</b>									
ASN-1100	SMA Nano-Plug	Low Loss 100-Series	Crimp	5.11	4.70	4.30	CALL		

\*Note: See website for additional compatibility information.

Some Connectors are sold in 10-Packs. See website for details. Adapters are sold individually.

### Tip *The anatomy of a coaxial connector*

The two main components of a connector that determine the mating type (sex) are the **BODY** and the **PIN**.

Here are two examples of **PLUG bodies** (aka Male).



This is a **PLUG** body of a typical threaded type connector. Note that the threads are on the inside of the body.



This is a **PLUG** body of a typical bayonet type connector such as a BNC. Note the coupling mechanism on the body.

And these are two examples of **JACK bodies** (aka Female).



This is a **JACK** body of a typical threaded type connector. Note that the threads are on the outside of the body.



This is a **JACK** body of a typical bayonet type connector such as a BNC. Note the bayonets on the body.

This is a **MALE** pin.



This is a **FEMALE** pin.

### So what makes up the different types of connectors?

Here is a Standard Polarity Plug connector:



It is made up of a **PLUG BODY** and a **MALE PIN**. Standard polarity plug connectors can also be known as Male Connectors.

Here is a Standard Polarity Jack connector:



It is made up of a **JACK BODY** and a **FEMALE PIN**. Standard polarity jack connectors can also be known as Female Connectors.

Here is a Reverse Polarity Plug connector:



It is made up of a **PLUG BODY** and a **MALE PIN**. The polarity of the pin is reversed, thus making it a Reverse Polarity Plug Connector.

Here is a Reverse Polarity Jack connector:



It is made up of a **JACK BODY** and a **MALE PIN**. Again the polarity of the pin is reversed, thus making it a Reverse Polarity Jack Connector.

## How do you select the right coaxial cable for your application?

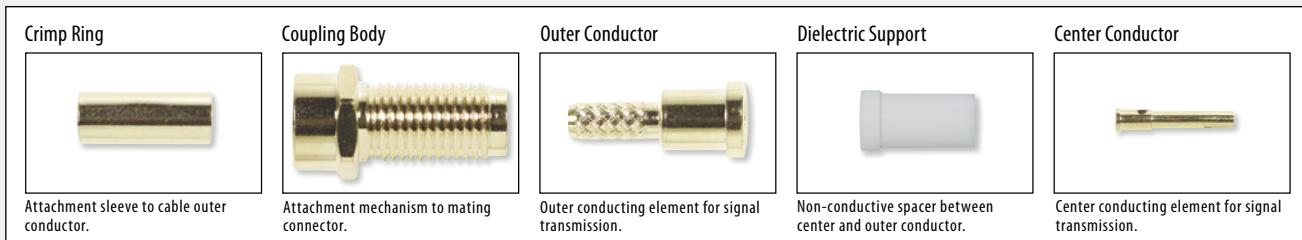
There are a number of coaxial cable styles available today. "RG" style cables were originally designed for military applications but now are extensively used in commercial applications. Low Loss coaxial cables are designed to meet the demands of the wireless communications market. High performance with low signal loss makes them ideal for a wide array of wireless applications. The following coaxial cable selection guide is intended as a general guide to assist you in selecting the right cable for your application.

Cable Type	Impedance	Typical Application	Cable Type	Impedance	Typical Application
RG174/U 	50 Ohm	Transmission of data signals in applications such as LAN/WAN or GPS.	RG179B/U 	75 Ohm	Transmission of a video signal in applications such as security systems where high temperature performance is needed.
RG188A/U 	50 Ohm	Transmission of data signals in applications such as LAN/WAN or GPS in situations where high temperature performance is needed.	RG187/U 	75 Ohm	Transmission of a video signal in applications such as security systems where high temperature performance is needed.
RG316/U 	50 Ohm	Transmission of data signals in applications such as LAN/WAN or GPS in situations where high temperature performance is needed.	100 Series Low Loss 	50 Ohm	Drop-in Low Loss equivalent for RG316/174. Very short radio pigtails/jumper cables.
RG58C/U 	50 Ohm	Transmission of data signals in applications such as antenna feed cables or Ethernet backbones.	195 Series Low Loss 	50 Ohm	Drop-in Low Loss equivalent for RG58/142. Short antenna and jumper cables.
RG142B/U 	50 Ohm	Transmission of data signals in applications such as antenna feed cables or Ethernet backbones in situations where high temperature performance is needed.	200 Series Low Loss 	50 Ohm	Short antenna cable feeds. Applications requiring easily routed low loss cable.
RG59A/U 	75 Ohm	Transmission of a video or audio signal in applications such as security systems or CATV.	240 Series Low Loss 	50 Ohm	Medium length antenna/jumper cables.
RG59B/U 	75 Ohm	Transmission of a video or audio signal in applications such as security systems or CATV.	400 Series Low Loss 	50 Ohm	Drop-in Low Loss equivalent for RG8/9913. Medium distance antenna feed cables.
RG6/U 	75 Ohm	Transmission of a video or audio signal in applications such as security systems or CATV.	400 Ultra Flex Series Low Loss 	50 Ohm	Applications requiring maximum flexibility and repeated bending/flexing. Drop-in Low Loss equivalent for RG-8/9913.
RG223/U 	50 Ohm	Transmission of data signals in applications such as LAN/WAN or GPS in situations where low signal loss and high shielding performance is needed.	600 Series Low Loss 	50 Ohm	Medium distance base station and cell tower applications.
RG213/U 	50 Ohm	Transmission of data signals in applications such as antenna feed cables in situations where low signal loss and high operating voltage performance is needed.	900DB Series Low Loss 	50 Ohm	Outdoor /direct burial applications, jumper cable assemblies for 1-5/8" & 2-1/4" feeders, medium antenna cable feeds with no jumpers required and long distance base station and cell tower applications.

**Note:** Images on this page are for reference only and may not be to scale

## Anatomy of a Coaxial Connector

There are a wide variety of coaxial connectors available today. These connectors are offered in numerous interface types and attachment methods. Illustrated below are some common elements and functions shared by most of these coaxial connectors.



## Building Your Own Coaxial Cable Assembly

In order to successfully build your own coaxial cable assembly, you must make the following decisions:

### 1. Select a cable type

Many parameters come into play in making this decision from electrical performance properties such as impedance, shielding and attenuation to mechanical properties such as diameter, center conductor construction (solid vs stranded) and jacket material. A selection of the most commonly used cable is listed on pages 198 and 199.

### 2. Select a connector type

Numerous connector interfaces exist such as BNC, TNC, SMA, F or RCA to name just a few. Each has a different application and come in both male and female versions. A selection of the most popular types is listed on pages 191-195.

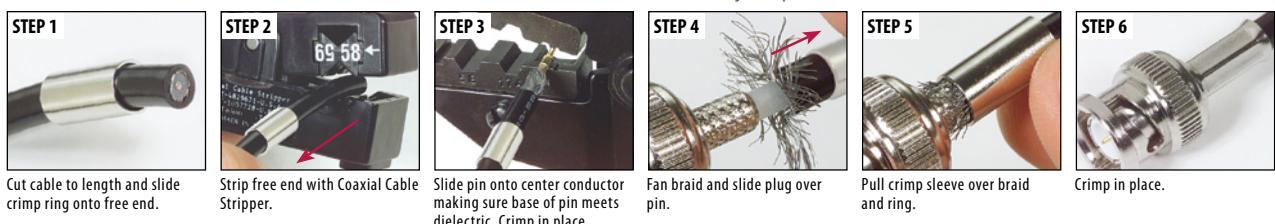
### 3. Select an attachment method

In general, there are three basic methods to attach a coaxial connector to a coaxial cable. They are crimp, clamp and twist-on. Each of these methods is illustrated below.

### 4. Select a tool

If a crimp attachment method was selected then a crimp tool will be needed. The crimp cross reference chart on page 200 will assist you in selecting the correct tool.

**Crimp Method:** This is the most common connector attachment method. In this case the cable shield is crimped to the connector using the crimp ring. The connector center conductor is attached to the cable center conductor by crimp or solder.



**Clamp Method:** The clamp method is often used for weather exposure applications or when crimp tools are not available. In this case the cable shield is clamped between the connector body and back nut. The connector center conductor is usually soldered to the cable center conductor.



**Twist-On Method:** This method is most often used in field applications because it's simplicity and not needing special tools.



### Crimp Tool:

When using a crimp connector, the HT330K tool kit can be a valuable item (page 200). This kit contains dies for all the commonly used crimp sizes. In addition, this kit comes complete with a cable cutter and a rotary cable stripper - helpful tools for building a cable assembly.



### Plug or Jack:



A **PLUG** utilizes a center pin = **MALE GENDER**

A **JACK** utilizes a center socket = **FEMALE GENDER**

### Solid or Stranded:



**SOLID** center conductor: best attenuation but somewhat stiff.

**STRANDED** center conductor: more flexible but slightly higher attenuation.

#### Online Video

L-com.com/Videos/A19





**Crimp Tool Cross Reference Chart**

Use this chart to find the correct ferrule and center conductor crimp size as well as the recommended economy, deluxe and deluxe kit crimp tool for each of the connector model numbers listed.

CONNECTOR P/N	CRIMP SIZE		CRIMP TOOL		
	FERRULE	CENTER COND.	ECONOMY	DELUXE	DELUXE KIT
ATF-3700	0.213	0.068	HT106D	HT301A	HT330K
BAC519	0.213	0.068	HT106D	HT301A	HT330K
BAC522	0.213	0.068	HT106D	HT301A	HT330K
ANF-1700	0.213	0.068	HT106D	HT301A	HT330K
BAC836A-58	0.213	0.068	HT106D	HT301A	HT330K
BAC836A-58P	0.213	0.068	HT106D	HT301A	HT330K
BIF-83	0.231	0.068	HT106D	HT301A	HT330K
BAC523	0.178	0.068	N/A	HT301J	HT330K
BAC526	0.178	0.068	N/A	HT301J	HT330K
BAC527	0.178	0.068	N/A	HT301J	HT330K
BAC528	0.178	0.068	N/A	HT301J	HT330K
BAC836B-74	0.178	0.068	N/A	HT301J	HT330K
BAC893-58	0.213	0.068	HT106D	HT301A	HT330K
BAC893-59	0.255	0.068	HT106D	HT301A	HT330K
BAC908-59	0.255	0.068	HT106D	HT301A	HT330K
BAC706	0.255	0.068	HT106D	HT301A	HT330K
BAC012	0.324	N/A	HT106H	HT-CRIMP04	HT330K
BAC027	0.255	0.068	HT106D	HT301A	HT330K
BAC027A	0.255	0.068	HT106D	HT301A	HT330K
BAC028	0.255	0.068	HT106D	HT301A	HT330K
BAC029	0.324	0.068	N/A	HT-CRIMP04	HT330K
BAC030	0.324	0.255	N/A	HT-CRIMP04	HT330K
BAC031	0.324	0.255	N/A	HT-CRIMP04	HT330K
BAC032	0.319	N/A	HT106H	HT301C	HT330K
BAC520	0.255	0.068	HT106D	HT301A	HT330K
BAC836A-59	0.255	0.068	HT106D	HT301A	HT330K

CONNECTOR P/N	FERRULE	CRIMP TOOL	CENTER COND.	CRIMP TOOL
BAC-UPL2000-D2B	0.255	HTS-CD3-21	0.042	HT010-0055
BAC-UPL2000-D8B	0.255	HTS-CD3-21	0.042	HT010-0055

CONNECTOR P/N	FERRULE	CRIMP TOOL	CENTER COND.	CRIMP TOOL
BAC-UPL220-025	0.255	HTS-CD3-11	0.042	HT010-0055
BAC-UPL220-026	0.178	HTS-CD3-11	0.042	HT010-0055



HT106D



HT301A



HT-CRIMP04



HT330K



HT-KIT-01

**Item #****Description**

1-9

10-24

25-99

100+

**Economy Crimping Tools - Common Crimp Sizes for Connectors and Center Pins**

These heavy-duty crimping tools are economically priced and easy to use. Leverage action produces an enormous force to properly crimp a perfect hex every time. An adjustable cam is added to keep the tool in full conformance with the required tolerance. Tools accept the most popular crimp connector types. HT106D hex sizes are .068", .213" and .255". HT106H hex sizes are .322" and .359".

HT106D	9" Lever Type Coaxial Crimp Tool (.068", .213", .255")	35.18	33.77	32.36	CALL
HT106H	9" Lever Type Coaxial Crimp Tool (.322", .359")	35.18	33.77	32.36	CALL

**Deluxe Full Cycle Ratchet with Hex Crimping Tools**

Your choice of seven similar crimp tools equipped with specific die sets to perform a wide variety of crimping functions to fit your needs.

HT301A	Deluxe Crimp Tool with .256", .213" and .068" Hex Die	37.25	35.76	34.27	CALL
HT301C	Deluxe Crimp Tool with .319", .256", .213" and .068" Hex Die	46.58	44.71	42.85	CALL
HT301G	Deluxe Crimp Tool with .255", .213", .137", .100", .069", .043" Hex Die	43.47	41.73	39.99	CALL
HT301J	Deluxe Crimp Tool with .178", .151", .128", .078", .068" .042" Hex Die	43.47	41.73	39.99	CALL
HT230A	Deluxe Crimp Tool with .255", .213", .187" and .068" Hex Die	41.40	39.74	38.08	CALL
HT-CRIMP02	Deluxe Crimp Tool with .028", .039", .047", .100", .128" and .151" Hex Die	28.96	27.80	26.64	CALL
HT-CRIMP03	Deluxe Crimp Tool with .100", .128" and .429" Hex Die	41.40	39.74	38.08	CALL
HT-CRIMP04	Deluxe Crimp Tool with .068", .213", .256" and .324" Hex Die	28.96	27.80	26.64	CALL
HT-CRIMP600	Deluxe Crimp Tool with .610" Hex Die	35.18	33.77	32.36	CALL

**Deluxe Full Cycle Ratchet Crimp Tool Kit**

Housed in rugged, high impact cases these handy deluxe ratchet crimp and strip tool kits can satisfy most coaxial crimping needs. These kits include ratchet tool, interchangeable dies, cable cutter and rotary cable stripper. See [L-com.com](#) for complete kit contents.

HT330K	Deluxe Crimp Tool Kit, for use with RG Type Cable	165.74	159.11	152.48	CALL
HT-KIT-01	Deluxe Crimp Tool Kit, for use with Low Loss and RG Type Cable	105.68	101.45	97.23	CALL

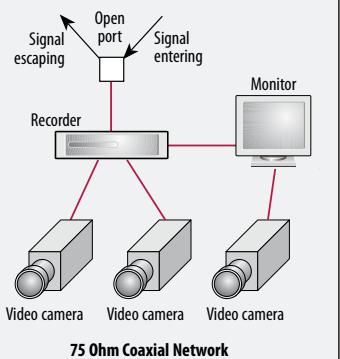
Item #	Description	1-9	10-24	25-99	100+				
<b>Professional Grade Crimp and Compression Tools - for Professional Grade Type F Plugs</b>									
Two new ratchet action crimp tools are now offered. Sturdily constructed from high carbon steel ensures long life expectancy. Fully machined crimp cavities ensure accurate crimps every time.									
HTS3162CT	Hex Crimp Tool .360" and .470" Sizes	77.95	74.83	71.71	CALL				
HTS-EX	Compression Connector Crimp Tool	93.95	90.19	86.43	CALL				
<b>Easy Strip RG59/6 Coaxial Cable Stripper</b>									
A must for anyone working with coaxial cabling. This tool provides a precise industry standard 1/4" (0.6cm) cable prep for RG59 and 6 in seconds. Simply compress the jaw, place the cable into the strip insert, release then spin the tool 360° and you're ready to crimp.									
HTS8700ES	CATV Stripper Tool for RG59/RG6	20.95	20.11	19.27	CALL				
HTS8700RB	10 Replacement Cartridges for RG59/RG6	64.95	62.35	59.75	CALL				
<b>Type F Installation Kit-Toner, Crimper, Stripper and 40 Plugs for RG59 or RG6 Coaxial Cabling</b>									
We've assembled a kit for installers and technicians who want to terminate popular Type F coaxial cabling. Each kit includes 40 professional grade Type F plugs, a cable stripping tool, a connector crimping tool and a pocket toner. There are two kits to choose from, one for RG59 and one for RG6.									
TCK59F	Type F Connector Installation Kit for RG59	115.01	110.41	105.81	CALL				
TCK60F	Type F Connector Installation Kit for RG6	115.01	110.41	105.81	CALL				
<b>Rotary Coaxial Cable Strippers - Adjusted to Accurately Prepare Popular Coaxials</b>									
Time saving tools to quickly and accurately cut and trim the coaxial jacket, shield and inner insulation in one easy step. Compartment holds hex key to align sensitive socket and adjust blade cut for optimum results. Available in two or three blade configurations.									
AT-STRIP-01	Coax Cable Stripper, 2-Blade for 100/174/200/240/316 Series	17.56	16.16	14.75	CALL				
AT-STRIP-02	Coax Cable Stripper, 2-Blade for 100 Series, RG8/RG11/RG213/RG214	17.56	16.16	14.75	CALL				
HT302B	Coax Cable Stripper, 2-Blade for RG58/RG59/RG62	17.56	16.86	16.16	CALL				
HT3021	Set of 4 Replacement Blades for HT302	6.17	5.92	5.67	CALL				
HT312A	Coax Cable Stripper, 3-Blade for RG59/RG62/RG6	23.78	22.83	21.88	CALL				
HT312B	Coax Cable Stripper, 3-Blade for RG58/RG59/RG62	23.78	22.83	21.88	CALL				
HT312S	Coax Cable Stripper, 3-Blade for RG213/RG11/RG8	23.78	22.83	21.88	CALL				
HT312X	Coax Cable Stripper, 3-Blade for 3.5 to 5mm dia.	23.78	22.83	21.88	CALL				
HT312I	Set of 4 Replacement Blades for HT312	6.17	5.92	5.67	CALL				
<b>Rotary Coaxial Cable Strippers for 400/600 Series</b>									
Quickly and accurately cut and trim the coaxial jacket, shield and inner insulation in two easy steps. Just insert the un-striped end of the coax cable into the tool, spin clockwise 4 or 5 times, then insert into other end of tool, spin clockwise 4 or 5 times again and pull off the unwanted portion.									
HT-STRIP400-1	Coax Cable Stripper for 400-Series Cable	64.19	61.62	59.06	CALL				
HT-STRIP600-1	Coax Cable Stripper for 600-Series Cable	70.41	67.59	64.78	CALL				
HT-STRIP-B1	Replacement Blades for HT-STRIP400-1/HT-STRIP600-1	9.27	8.90	8.53	CALL				
<b>USA Made Crimping Tool Accepts Dies for Coaxial or Modular Type Terminations</b>									
The HTS2100 crimp tool accepts a variety of dies that allow it to crimp modular or coaxial terminations. This top of the line tool is more compact than competitors' models allowing easier crimping ability for people with smaller hands. Molded grips and carbon steel frame is conservatively rated at 50,000+ crimps.									
HTS2100	Crimp Tool Body, accepts any HTS2100 Die Set	70.95	68.11	65.27	CALL				
HTS2100-51	RG58/RG59 Die Set, use for BNCs and TNCs, .068, .213 and .255 hex	41.95	40.27	38.59	CALL				
HTS2100-53	RG58/RG59 Die Set, use for SMAs, .042 square, .213 and .255 hex	41.95	40.27	38.59	CALL				
HTS2100-54	RG58/RG59 Plenum Die Set, use for Plenum BNCs, .042 square, .068, .190 & .213 hex	41.95	40.27	38.59	CALL				
HTS2100-60	RG174 Die Set, use for BNCs and SMAs, .068 and .178 hex	41.95	40.27	38.59	CALL				
<b>Weatherproofing Tape</b>									
HT-TAPE01	3M® Self-Healing Weatherproofing Tape, 2" x 10' roll	25.85	24.82	23.78	CALL				
HT-TAPE104	COAX-SEAL #104 Hand Moldable Plastic Weatherproofing Tape, 1/2" x 5' roll	4.09	3.93	3.77	CALL				
HT-TAPE105	COAX-SEAL #105 Hand Moldable Plastic Weatherproofing Tape, (4) 1/2" x 12' rolls/box	38.29	36.76	35.22	CALL				
HT-TAPE106	COAX-SEAL #106 Hand Moldable Plastic Weatherproofing Tape, (4) 1" x 12' rolls/box	50.72	48.69	46.66	CALL				
Item #	Description	List Price							
PTNX1	Fluke Pocket Toner NX1	34.19							
<b>Fluke Pocket Toner® NX2</b>									
Test for continuity and short circuits on coax cables in one easy step. Basic professional coaxial testing does not get any more compact and simple as PTNX1. The PTNX1 features lightweight aluminum construction, a standard AAA battery, and new dual buzzers that audibly indicate continuity at both ends of the test cable. Like all Pocket Toner® NX test tools, the PTNX1 is 100% low voltage protected so connecting it to live low voltage systems will not damage the tool. <b>As an authorized Fluke reseller, we can bid on RFQs for any Fluke part numbers. Contact us to request a non-obligatory quote.</b>									
PTNX2	Fluke Pocket Toner NX2	44.56							
<b>Professional Grade 8 Point Center Pin Crimp Tool</b>									
This professional grade tool makes pin crimping a breeze. Featuring a multipoint design which has proven to be one of the most reliable attachment methods. Designed for use with the BAC-UPL Series plugs.									
HT010-0055	8 Point Center Pin Crimp Tool	208.00							
HTS-CD3-11	734/735 Hex Crimp Die (.255", .178")	109.00							
HTS-CD3-21	1505/1506 Hex Crimp Die (.255", .290")	155.00							





## Tip Why use an auto terminating adapter?

In today's complex audio, video, data world coaxial cables are used to interconnect various devices. Many times a coaxial cable will not be connected to anything causing an open port which allows signals to escape. This can possibly interfere with an adjacent device and allow signals to enter the network as interference. The use of an auto terminating adapter eliminates this problem by automatically terminating the open port any time a connecting device is disconnected. This eliminates the need to attach a separate terminator which is often lost or forgotten.



Item #	Description	Color	1-9	10-24	25-99	100+
<b>SMA Coaxial Line Terminators - Match Impedances of the Unused Port or Cable End</b>						
BTS5F	SMA Terminator, Female, 50 Ohm	Green	8.49	8.15	7.81	CALL
BTS5M	SMA Terminator, Male, 50 Ohm	Green	8.49	8.15	7.81	CALL
ARSP-TERM	SMA Reverse Polarity Terminator, Male, 0-6 GHz (50 Ohm)		6.53	6.01	5.48	CALL

## BNC Line Terminators - Fully Insulated, Select Impedance to Match Coaxial Cables

Terminators are generally used at the far end of the line. Resistance should match characteristic impedance of the coaxial line, so no reflections or standing waves are present when the signal enters. All terminators listed are rated at 0.5 watt. Fully insulated male versions include Black hood cover as shown. Color coded body to match resistance.

BIF5M	BNC Terminator, Male, use with RG58 (50 Ohm)	Green	6.04	5.56	5.07	CALL
BIF7M	BNC Terminator, Male, use with RG59 (75 Ohm)	Violet	5.54	5.10	4.66	CALL
BIF9M	BNC Terminator, Male, use with RG62 (93 Ohm)	White	6.04	5.56	5.07	CALL
BIF5F	BNC Terminator, Female, use with RG58 (50 Ohm)	Green	4.79	4.40	4.02	CALL
BIF7F	BNC Terminator, Female, use with RG59 (75 Ohm)	Violet	4.51	4.15	3.79	CALL

## Deluxe BNC and Type N Terminators - Machined Metal Construction with Full Shielding

These deluxe terminators offer a machined body versus a plastic one. One model also available with grounding cable.

BTB5MD	BNC Terminator, Male, use with RG58 (50 Ohm)	6.04	5.80	5.56	CALL
BTB5FD	BNC Terminator, Female, use with RG58 (50 Ohm)	6.04	5.80	5.56	CALL
BTB7MD	BNC Terminator, Male, use with RG59 (75 Ohm)	5.65	5.20	4.74	CALL
BTB7FD	BNC Terminator, Female, use with RG59 (75 Ohm)	5.65	5.20	4.74	CALL
BTB9MD	BNC Terminator, Male, use with RG62 (93 Ohm)	6.04	5.80	5.56	CALL
BM50G-1W	BNC Terminator, Male with Ground Cable (50 Ohm)	7.24	6.66	6.08	CALL
ANF-TERM	Type N Terminator, Female, 0-6 GHz (50 Ohm)	9.96	9.16	8.36	CALL
ANM-TERM1	Type N Terminator, Male, 0-6 GHz (50 Ohm)	9.96	9.16	8.36	CALL

## Type F 75 Ohm Terminators - Simple Design Minimizes RF Reflections

Also known as dummy loads, terminators are an essential component in the proper termination of unused outputs of line splitters and amplifiers. Sold in packages of 10.

BTF75M	Type F 75 Ohm Terminator, Pkg/10	5.39	4.96	4.53	CALL
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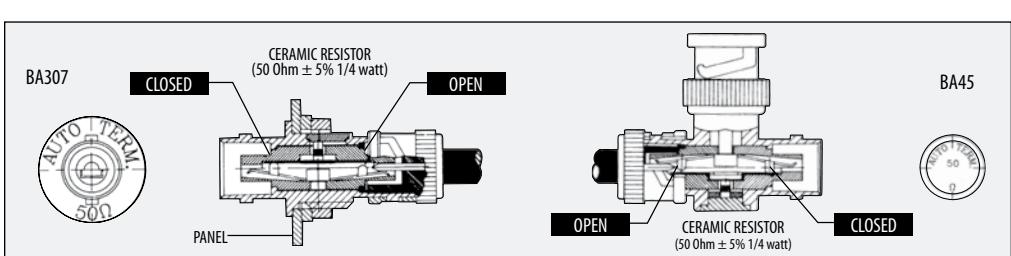
## Deluxe Chained Protective Caps

ADM-CAP01	Protective Cap for 7/16 DIN Female, with Chain	10.83	9.96	9.09	CALL
ANM-CAP01	Protective Cap for Type N/UHF Female, with Chain	6.20	5.71	5.21	CALL
ANF-CAP01	Protective Cap for Type N/UHF Male, with Chain	6.31	5.81	5.30	CALL
ASF-CAP01	Protective Cap for SMA Male, with Chain	6.20	5.71	5.21	CALL
BA09	Protective Cap for SMA Female, with Chain	6.31	5.81	5.30	CALL
USP-PCB	Protective Cap for BNC Female, with Chain	3.70	3.55	3.40	CALL
USP-PCT	Protective Cap for TNC Female, with Chain	3.70	3.55	3.40	CALL

## Auto-Terminating Bulkhead or T Adapter - Does Not Need Terminator on Open End

Any rack panel with half inch diameter D-holes will accept either the BA307 or BA307-75 BNC auto-terminating bulkhead adapters. They save the cost and nuisance of using separate terminators. Also available are the BA45 and BA45-75 (F-M-F) T adapters, equipped with internal 50 or 75 Ohm auto-terminators.

BA307	BNC Auto-Terminating (F-F) Bulkhead Adapter, 50 Ohm	8.60	8.08	7.56	CALL
BA307-75	BNC Auto-Terminating (F-F) Bulkhead Adapter, 75 Ohm	7.93	7.29	6.66	CALL
BA45	BNC Auto-Terminating (F-M-F) T Adapter, 50 Ohm	10.55	9.92	9.29	CALL
BA45-75	BNC Auto-Terminating (F-M-F) T Adapter, 75 Ohm	9.79	9.01	8.23	CALL



Item #	Description	1-9	10-24	25-99	100+
<b>BNC Test Leads and Adapters - Your Most Useful Laboratory Accessory Items</b>					
BC25	Test Cable, BNC Male / 6" (15.2cm) Leads with Tinned Ends	3.73	3.43	3.13	CALL
BC30	Test Cable, BNC Male / 6" (15.2cm) Leads with Banana Plugs	5.88	5.41	4.94	CALL
BC40	Test Cable, BNC Male / 6" (15.2cm) Leads with Test Clips	6.15	5.66	5.16	CALL
BC50	Test Cable, BNC Male / 6" (15.2cm) Leads with Alligator Clips	5.44	5.00	4.57	CALL
BC55	Test Cable, BNC Female / 6" (15.2cm) Leads with Tinned Ends	4.03	3.70	3.38	CALL
BC60	Test Cable, BNC Female / 6" (15.2cm) Leads with Banana Plugs	5.93	5.46	4.98	CALL
BC70	Test Cable, BNC Female / 6" (15.2cm) Leads with Test Clips	6.15	5.66	5.16	CALL
BC80	Test Cable, BNC Female / 6" (15.2cm) Leads with Alligator Clips	6.15	5.66	5.16	CALL
BC2710	Test Adapter, BNC Female / Dual Banana Plugs	6.31	5.81	5.30	CALL
BC2720	Test Adapter, BNC Male / Dual Binding Posts	6.96	6.41	5.85	CALL
BC2730	Test Adapter, BNC Female / Dual Binding Posts	6.96	6.41	5.85	CALL

### Solder Cup Banana Plugs - Black or Red, Accepts up to 16 AWG Wires

BC030B	Solder Type Banana Plug, Black	1.64	1.51	1.38	CALL
BC030R	Solder Type Banana Plug, Red	1.63	1.50	1.37	CALL

### Coaxial Test Cables - With BNC and Dual Banana Plugs, Choice of Lengths

These test cables use the most popular 50 Ohm RG58C coaxial cable. Choice of two series as shown.

BCC58C-1	Test Cable, BNC Male / Dual Banana, 1.0ft (0.3m)	16.84	16.16	15.49	CALL
BCC58C-2	Test Cable, BNC Male / Dual Banana, 2.0ft (0.6m)	17.72	17.01	16.30	CALL
BCC58C-3	Test Cable, BNC Male / Dual Banana, 3.0ft (0.9m)	18.60	17.86	17.11	CALL
BCC58C-4	Test Cable, BNC Male / Dual Banana, 4.0ft (1.2m)	19.48	18.70	17.92	CALL
BCC58C-5	Test Cable, BNC Male / Dual Banana, 5.0ft (1.5m)	20.31	19.50	18.68	CALL
BCB58C-1	Test Cable, Dual Banana / Dual Banana, 1.0ft (0.3m)	16.84	16.16	15.49	CALL
BCB58C-2	Test Cable, Dual Banana / Dual Banana, 2.0ft (0.6m)	17.72	17.01	16.30	CALL
BCB58C-3	Test Cable, Dual Banana / Dual Banana, 3.0ft (0.9m)	18.60	17.86	17.11	CALL
BCB58C-4	Test Cable, Dual Banana / Dual Banana, 4.0ft (1.2m)	19.48	18.70	17.92	CALL
BCB58C-5	Test Cable, Dual Banana / Dual Banana, 5.0ft (1.5m)	20.31	19.50	18.68	CALL

### Dual Banana Plug - Easy Connection to Coaxial Cable or Discrete Wires

This dual banana plug allows easy connection to coaxial cable with an outer diameter of .220 in. (0.6cm) or less. Screw terminals allow termination without soldering. Gold plated.

BP125209	Dual Banana Plug for Coax or Wires	3.64	3.43	3.21	CALL
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### BNC/Banana/Binding Post Adapter Kit - What You Need to Mate Any Test Cable

This kit contains 1 each BNC female and BNC male to dual binding posts, BNC female to dual banana plugs and a pair of BNC gender changers M-M and F-F. Provided in a 7 compartment plastic box (2 spares). Assortment price represents a cost savings over the purchase of individual units. Save even more when purchased in multiple lots.

BC2700K	5 Piece BNC/Dual Banana Adapter Kit	24.86	22.87	20.88	CALL
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### Tip *What are the differences between various laboratory test leads?*

The common feature of test leads used in a laboratory environment is ease of connection and disconnection since most attachments are temporary in nature and are often being changed. Below is a list of some of the most common test leads found in a lab.



#### Banana Plugs

A high-quality plug and socket for speaker cable. The banana plug is pushed into the socket, the spring-like protrusions on the prong make a snug fit.



#### Alligator Clips

A spring-loaded clip with serrated jaws, often used to make temporary electrical connections.



#### Test Clips

Used in many probing applications, test clips can be quickly attached to bare wires or other conducting features.



#### Binding Posts

Typically used in an audio application, it features a threaded collar for gripping bare wires.



#### BNC Connector

A commonly used coaxial interface for audio, video and networking applications that provides a secure connection. Coupling is achieved utilizing mating post on the jack and a spring loaded coupling nut on the plug. A simple quarter turn of the coupling nut completes the mating process.



CA4NMLPNF



CA4NMLPNM



CA4NFLPNF



CA4NFLPNM

Item #	Description	1-9	10-24	25-99	100+
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**Lightning Protected 400-Series 50 Ohm Coax Cable Assemblies**

L-com's lightning protected 400-series cable assemblies feature an in-line gas discharge tube lightning protector attached directly to the cable. This not only reduces the cost since a connector is eliminated, but helps reduce return loss and insertion loss. These cable assemblies feature L-com's CA-400 high performance low loss coaxial cable. Attached directly to the cable is L-com's AL6-NF-14-9 or AL6-NM-14-9 5.8 GHz gas discharge coaxial lightning protector. Along with the standard lengths and connectors, custom lengths and connectors are also available. Contact L-com sales for more information.

**400-Series 50 Ohm Type N Male to Type N Female Bulkhead Lightning Protector Cable Assemblies**

CA4NMLPNF002	400-Series Cable, Type N Male/Type N Female Bulkhead Lightning Protector, 2.0ft (0.6m)	49.56	44.60	39.65	CALL
CA4NMLPNF004	400-Series Cable, Type N Male/Type N Female Bulkhead Lightning Protector, 4.0ft (1.2m)	50.65	45.58	40.52	CALL
CA4NMLPNF010	400-Series Cable, Type N Male/Type N Female Bulkhead Lightning Protector, 10.0ft (3.0m)	55.50	49.95	44.40	CALL
CA4NMLPNF020	400-Series Cable, Type N Male/Type N Female Bulkhead Lightning Protector, 20.0ft (6.1m)	63.58	57.22	50.86	CALL

**400-Series 50 Ohm Type N Male to Type N Male Lightning Protector Cable Assemblies**

CA4NMLPNM002	400-Series Cable, Type N Male/Type N Male Lightning Protector, 2.0ft (0.6m)	49.03	44.13	39.23	CALL
CA4NMLPNM004	400-Series Cable, Type N Male/Type N Male Lightning Protector, 4.0ft (1.2m)	50.65	45.58	40.52	CALL
CA4NMLPNM010	400-Series Cable, Type N Male/Type N Male Lightning Protector, 10.0ft (3.0m)	55.50	49.95	44.40	CALL
CA4NMLPNM020	400-Series Cable, Type N Male/Type N Male Lightning Protector, 20.0ft (6.1m)	63.58	57.22	50.86	CALL

**400-Series 50 Ohm Type N Female to Type N Female Bulkhead Lightning Protector Cable Assemblies**

CA4NFLPNF002	400-Series Cable, Type N Female/Type N Female Bulkhead Lightning Protector, 2.0ft (0.6m)	49.03	44.13	39.23	CALL
CA4NFLPNF004	400-Series Cable, Type N Female/Type N Female Bulkhead Lightning Protector, 4.0ft (1.2m)	50.65	45.58	40.52	CALL
CA4NFLPNF010	400-Series Cable, Type N Female/Type N Female Bulkhead Lightning Protector, 10.0ft (3.0m)	55.50	49.95	44.40	CALL
CA4NFLPNF020	400-Series Cable, Type N Female/Type N Female Bulkhead Lightning Protector, 20.0ft (6.1m)	63.58	57.22	50.86	CALL

**400-Series 50 Ohm Type N Female to Type N Male Lightning Protector Cable Assemblies**

CA4NFLPNM002	400-Series Cable, Type N Female/Type N Male Lightning Protector, 2.0ft (0.6m)	49.03	44.13	39.23	CALL
CA4NFLPNM004	400-Series Cable, Type N Female/Type N Male Lightning Protector, 4.0ft (1.2m)	50.65	45.58	40.52	CALL
CA4NFLPNM010	400-Series Cable, Type N Female/Type N Male Lightning Protector, 10.0ft (3.0m)	55.50	49.95	44.40	CALL
CA4NFLPNM020	400-Series Cable, Type N Female/Type N Male Lightning Protector, 20.0ft (6.1m)	63.58	57.22	50.86	CALL

**0-6 GHz In-line Crimp Type Coaxial Protectors**

L-com's crimp type coaxial protectors are designed to be attached directly onto a 400-series Low Loss coax cable via the solderless crimp end of the protector. This helps improve insertion loss since a cable connector is eliminated. They feature a replaceable gas tube element, multi-strike capability and fast response time.

AL6-NF-14-9	Type N Female Bulkhead to Crimp End, 90V	36.59	33.66	30.73	CALL
AL6-NM-14-9	Type N Male to Crimp End, 90V	36.59	33.66	30.73	CALL

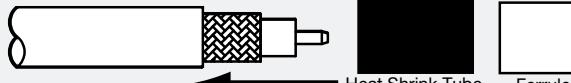
**How to Install L-com's Crimp Type Coax Lightning Protector**

1. Strip unterminated end of 400-Series cable  
(see drawing on web site for dimensions)



400-Series Coax Cable

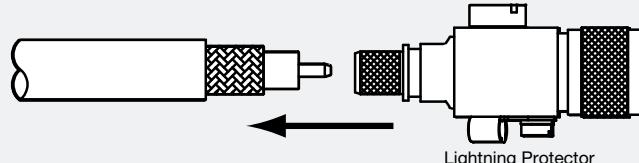
2. Slide supplied heat shrink tube followed by the Ferrule onto the cable



Heat Shrink Tube

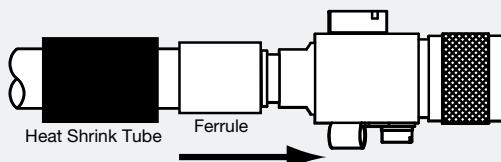
Ferrule

3. Insert the stripped cable fully into the Lightning Protector



Lightning Protector

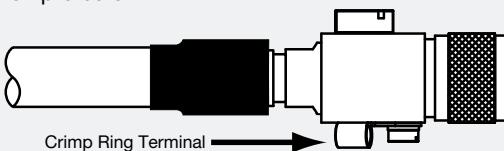
4. Slide Ferrule into place and crimp  
(see drawing on web site for dimensions),  
then slide heat shrink into place and apply heat



Heat Shrink Tube

Ferrule

5. Attach ground wire to Crimp Ring Terminal  
on protector



Crimp Ring Terminal

Item #	Description	1-9	10-24	25-99	100+
<b>Stainless Steel Wall Plates - Unbreakable and Offer An Enhanced Appearance</b>					
WPC1	Stainless Wall Plate, One 0.5" (1.3cm) dia. D-hole	2.23	2.09	1.96	CALL
WPC10	Stainless Wall Plate, One 0.75" (1.9cm) dia. D-hole	3.06	2.81	2.57	CALL
WPD3	Stainless Wall Plate, One DB25 Opening and One 0.5" (1.3cm) dia. D-hole	3.51	3.30	3.09	CALL

### Panel Mount Receptacle Connectors

These series of connectors are intended for panel mounting with discrete receptacle terminations. Offered in BNC, RCA, SMA and Type N interfaces with various mounting configurations.

BAC1501	BNC Male Bulkhead	3.64	3.43	3.21	CALL
BAC1503	BNC Female Bulkhead	3.64	3.43	3.21	CALL
BAC930	BNC Female Bulkhead	7.24	6.80	6.37	CALL
BAC440	RCA Female Insulated Bulkhead	4.79	4.50	4.21	CALL
BAC260	BNC Female, 4 Hole Flange	3.64	3.43	3.21	CALL
ANF-4000	Type N Female, 4 Hole Flange	4.52	4.15	3.79	CALL
BAC70A	BNC Female Bulkhead	3.64	3.43	3.21	CALL
BAC16	SMA Female Bulkhead	6.04	5.68	5.31	CALL



### T1 Communication Systems - A Brief Primer

The T1 line is the most widely used switched digital communication circuit used in America today. T1s are used for connecting phone and computer networks to public switched network infrastructures. Each T1 is equivalent to 24 64Kbps communication channels. Each channel utilizes two 100 Ohm shielded twisted pairs; one for transmit (TX) and one for receive (RX). Some T1 equipment uses two 75 Ohm coaxial connections for the TX and RX channels. Baluns are used to bridge the gap between 75 Ohm coaxial and 100 Ohm twisted pair.

Note: An E1 circuit is the European equivalent of the American T1. The infrastructure uses 120 Ohm shielded twisted pairs so 75/120 baluns would be used in European applications.

### T1 - E1 Differences

	NAME	#64Kbps CHANNELS	TWISTED PAIR TYPE	COAXIAL TYPE
USA Standard	T1	24	2 100 Ohms Shielded Twisted Pair (RJ45s Typical)	75 Ohms (BNC Typical)
European Standard	E1	32	2 120 Ohms Shielded Twisted Pair (RJ45s Typical)	75 Ohms (BNC, 1.6/5.6 Typical)

### ACK SERIES KRONE IDC TYPE



Terminate wires with punch down tool

Item #	Description	List Price
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### 75 to 120 Ohm Transmission Baluns for Telecommunication Applications

75/120 Ohm impedance matching baluns allow users to use inexpensive shielded twisted pair cabling in place of expensive coaxial cabling. They are especially useful in telecommunication applications for patching at the distribution frame. Units meet CCITT Recommendation G703 and are great for American or European applications. Choose from multiple coaxial connector types as well as Krone IDC or compression IDC termination styles.

ACK2010	75 to 120 Ohm Balun, 1.6/5.6 Plug (Screw Type)/Krone IDC	22.30
ACK3010	75 to 120 Ohm Balun, 1.6/5.6 Jack/Krone IDC	33.18
ACK8010	75 to 120 Ohm Balun, BNC Plug/Krone IDC	31.82
ACK9010	75 to 120 Ohm Balun, BNC Bulkhead Jack/Krone IDC	31.82
ACC8060	75 to 120 Ohm Balun, BNC Plug/Compression IDC	37.61

Item #	Description	1-9	10-24	25-99	100+
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### Tool-less CCTV Video Balun

The TL-VB-BNC is perfect for on the spot field installations or repairs. The tool-less design makes termination easy and fast. Supports full color video up to 2,200 feet over Cat5 cabling.

TL-VB-BNC	Tool-less CCTV Video Balun, BNC Male	14.77	14.47	14.18	CALL
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### Tip What is a balun?

The term balun (pronounced "bal-un") is derived from the function of the passive device that converts between a BALanced and UNbalanced electrical signal. Common types of baluns convert 100 Ohm twisted pair (balanced) to 75 Ohm coaxial (unbalanced).

