

# Sound/Security Cable

## What Really Matters in Selecting the RIGHT Coax Cable

The application determines what's important in selecting the right cable; however there are some overall conditions to watch out for in all coax cables to make sure your installers do not incur costly call-backs.

### Overall

**DIELECTRIC:** Too loosely extruded on the center conductor... the cable won't hold a signal. Too tightly extruded...the residue left on the center conductor when the ends are stripped can result in a poor connectorization and cause signal problems.

**JACKET: PVC...most commonly used compound** because it provides sufficient protection, flexibility and offers a temperature rating of -40°C to 80°C. Some companies "cheapen" the product by manufacturing the bare minimum jacket thickness, using compounds that are very hard, or extruding the jacket very tightly to the dielectric. Too small diameter...connectors won't stay on the cable, too hard jacket...installer can't get the connector on the end, too tight jacket...installer has difficulty stripping the end

### CATV, HDTV & MATV Applications

(Cable, High Definition, Master Antenna, Digital & Satellite)

**CENTER CONDUCTOR:** Most applications use copper clad steel (CCS). Yet, the latest technology in satellite dishes recommend a bare copper center conductor to carry power to the dish to operate the LNBS. You may recommend that installers use BC center conductors in case the owner eventually wants to add a satellite dish, he won't have to run new coax cable.

**SHIELDING:** Foil and Braid shielding are important to insure coverage for both the high and low frequencies (see chart). Local codes often dictate the amount of shielding required. Some markets only allow RG6 Quad 60/40%, while in others, RG6 60% or 40% are acceptable. The use of a **Quad shield will cover all applications** and eliminate the risk of interference for the user. The RG6 40% is the lower cost product. The risk of using RG6 40% is problems with signal interference once the cable is installed. Installers do not want to waste time on call-backs because the user can't get the higher channels or they're having radio interference. **Opt for Quad shield.**... most cable TV systems today use up to 2.2 GHz of bandwidth. With digital TV, you need 1 gig; but many installers use 2.2 GHz to future-proof. Most CCI coax for CATV & Satellite TV is swept to 3.0 GHz.

### CCTV Applications

(Security Cameras)

**CENTER CONDUCTOR:** Solid bare copper (BC) is used because it has the best signal strength at low frequencies and will reduce the chance of distortion and line loss. The size of the center conductor is typically specified by the manufacturer of the camera. For longer runs...recommend a RG6 or RG11. For shorter runs or space constraints... recommend a RG59 or mini-coax. For example: in a casino where there can be as many as 25 cameras in a 25sq-ft area, the mini-coax may connect the cameras to a center console and a RG6 may be used as a main run back to the central station.

**SHIELDING:** Most applications use a bare copper braid (BC) typically 95%. No need for foil shielding...because CCTV operates at low frequencies.

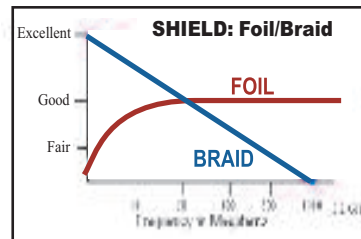
### Identify the Application

- CATV (Community Antenna Television)
- CCTV (Closed Circuit Television)
- MATV (Master Antenna Television)
- HDTV (High Definition Television)
- Satellite
- Broadcast Video
- LAN (Local Area Network)

#### Frequency:

- High Frequency Application (such as: satellite or digital)
- Low Frequency Application (such as: security cameras)

### Foil/Braid Shielding



#### In CATV and Satellite Applications:

Both braid and foil shielding are important to insure coverage for both high and low frequency applications.

### More on Coax

**Attenuation:** Lower is better. Attenuation refers to the loss of signal strength in the cable from initial point of the signal to destination. The more attenuation you have, the less signal is present at the receiver. Attenuation is influenced by the dielectric quality more than the braid coverage.

**"Swept to 2.2 gig":** The results of the sweep-test are more important than just being "swept". Some companies readily print "swept to 2.2gig" on their cables, packaging or spec sheets. It's important to insure that the results of the test are sufficient to provide protection (against EMI and RFI) and ample signal strength for the application. For CATV, HDTV satellite and digital cable, it is especially important to use a quality cable to insure that the owner has ample signal strength in the higher channels of the spectrum. Also note that CCI tests our products to 3.0 GHz (see website for details).

**Shielding:** Determines the level of protection from interference that is allowed in the signal and that is leaked out of cable. Shielding provides protection from EMI & RFI.

**EMI:** Electromagnetic interference

(caused by electric motors, ballasts, & other high voltage currents)

**RFI:** Radio Frequency Interference

(such as: cell phones, radio towers or garage door openers)

#### Jacket Compounds:

- PVC is most commonly used because it provides sufficient protection and flexibility. Temperature rating: -40°C to 80°C.
- PE (polyethylene) for direct burial. Temperature rating: -55°C to 85°C.

#### Center Conductors:

- CCS (copper clad steel) provides best durability and strength. Often used in CATV, HDTV and MATV applications.
- BC (bare copper) offers the best signal strength at low frequencies & is used in most CCTV (low-frequency) applications.





992118

## RG6 Tri-Shield CATV Coax Cables

Part Number	Description	AWG	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
992118	RG6 18CCS 80%AL Tri-Shield - Tested 3.0 GHz	18CCS	CM CL3	31 lbs	0.288"	1,000' Reel (06) 1,000' Box (46)	Black (08)



92003

## RG6 Dual Shield CATV Coax Cables

Part Number	Description	AWG	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
92001	RG6 18CCS 40%AL - Tested 3.0 GHz	18CCS	CM CL3	26 lbs	0.269"	1,000' Box (46) 1,000' Reel (06)	Black (08)
92003	RG6 18CCS 60%AL - Tested 3.0 GHz	18CCS	CM CL3	26 lbs	0.269"	1,000' Box (46) 1,000' Reel (06)	White (01) Black (08)
992132	RG6 18CCS 60%AL - Tested 3.0 GHz 2x Dual (Siamese) construction	18CCS	CM CL3	58 lbs	0.269" x 0.503"	1,000' Reel (06)	White (01) Black (08)
92049	RG6 18CCS 60%AL - Tested 3.0 GHz Bare Copper Center Conductor	18BC	CM CL3	28 lbs	0.269"	1,000' Box (46) 1,000' Reel (06)	Black (08)
920036	RG6 18CCS 60%AL - Tested 3.0 GHz Riser Rated	18CCS	CMR CL3R	28 lbs	0.269"	1,000' Box (46) 1,000' Reel (06)	Black (08)
921015	RG6 18CCS 80%AL - Tested 3.0 GHz Plenum Rated	18CCS	CMP CL3P	26 lbs	0.228"	1,000' Reel (06)	White (01)
921009	RG6 18BC 80%AL - Tested 3.0 GHz Plenum Rated	18BC	CMP CL3P	26 lbs	0.228"	1,000' Reel (06)	White (01)
921007	RG6 18BC 90%AL - Tested 3.0 GHz Plenum Rated	18BC	CMP CL3P	27 lbs	0.233"	1,000' Reel (06)	White (01)
992479	RG6 18CCS 60%AL - Tested 3.0 GHz For Direct Burial use (flooded)	18CCS	n/a	27 lbs	0.269"	1,000' Reel (06)	Black (08)
992481	RG6 18CCS 60%AL - Tested 3.0 GHz w/17 AWG steel mess. for aerial applications	18CCS	n/a	67 lbs	0.271" x 0.735"	1,000' Reel (06)	Black (08)



92009

## RG59 Budget CATV Coax Cables

Part Number	Description	AWG	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
92006	RG59 22CCS 40%AL	22CCS	CM CL3	20 lbs	0.239"	1,000' Reel (06) 1,000' Box (46)	Black (08)
92009	RG59 22CCS 65%AL	22CCS	CM CL3	21 lbs	0.239"	1,000' Reel (06) 1,000' Box (46)	Black (08)

# Security

Signal® brand Sound and Security Cables provide solutions for virtually every security application. Coleman Cable's technical expertise and innovative engineering ensure delivery of high quality and top performing products demanded by the market today. A variety of user-friendly packaging options provide efficient and hassle-free product usage.

