



CONNECTORS, BALUNS, MONITORS, CAMERAS FOR CATV,
CCTV, HDTV, HOME ENTERTAINMENT, SECURITY SYSTEMS,
AND MORE...

GEM

Electronics



Table Of Contents

How To Choose A Coax Connector.....	1-6
General Series Specifications.....	7
BNC - TNC Twist-On Connectors.....	8
BNC - TNC Crimp-On Connectors.....	9
BNC 50 Ohm Crimp-Crimp Connectors.....	10
BNC - TNC Receptacles, Adapters & Terminations.....	11
TNC 50 Ohm Crimp-Crimp Connectors.....	12
BNC - TNC 75 Ohm 0-1 GHz Crimp-Crimp Connectors.....	13
BNC 75 Ohm 0-4 GHz Crimp-Crimp Connectors.....	14
N - UHF Straight Plugs & Adapters	15
F - Mini UHF Straight Plugs & Adapters/Terminations.....	16
Uni-Crimp BNC - Compression Seal Connectors BNC, RCA & F.....	17
Universal RGB Compression Seal Connectors.....	18
Compression Seal BNC, RCA, F.....	19-20
Between Series Adapters.....	21
SMA Connectors.....	22-23
SMB Connectors.....	24-25
SSMB Connectors.....	26
MCX.....	27-28
MMCX Connectors.....	28-29
Cable Cross Reference Charts:	
Belden Incorporated.....	30-31
Coleman Cable.....	32-33
Commscope Wire & Cable.....	34-36
General Cable.....	37
Genesis Cable Systems.....	38-39
Reemee Products.....	40
Southwest Wire & Cable.....	41-42
West Penn Wire.....	43-45
Cable Assembly Instructions.....	46-55
EZ-RJ45® Connectors.....	56-57



November 2013

Table Of Contents

Save Time and Money with CCTV Over UTP.....	58-68
Products and Specifications.....	69
Passive CCTV Video Balun Products.....	70
Passive CCTV Wall Mount Tranceiver Hubs.....	71
CCTV Wall Mount Splitters.....	72
Passive CCTV Video Splitter with Power Pass Through Pigtails.....	73
Passive CCTV Wall Mount Video/Power Hub.....	74-75
Passive CCTV Space Saving Tranceiver Hubs & Baluns.....	76-77
Passive CCTV 1U Rack Mount Video/Power Data Hub.....	78-79
Passive CCTV 1U Rack Mount Video/Power Distribution Point	80-81
CCTV Video/Power Baluns.....	82
UTP Active Receiver Hubs.....	83
Active Video Balun	84
Passive Tranceiver Hub with Replaceable Power Supply.....	85-88
Passive CCTV Splitter with Built-in Power Supply - 24 Volt.....	89-90
CATV Video Balun.....	91
RCA Audio Balun.....	92
Component Video Balun.....	93
PS/2 Converter.....	94
Ground Loop Isolator and VGA Baluns.....	95
BNC to VGA Converter	96
Surge Protector and S-Video Baluns.....	97
Balun Competitive Cross Reference.....	98
Coax to IP Coverter with POE Capability.....	99-100
Coax to IP without POE Capability.....	101
Quad 4x4 Color Processor.....	102
Coax Diplexer.....	103
HD cctv DVR & Cameras.....	104-113
Transmit/Receive Wireless CCTV Kit.....	114-115
Coax Cable Assemblies.....	116

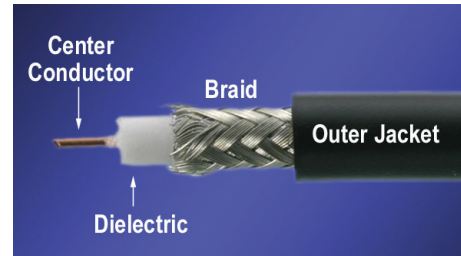


November 2013

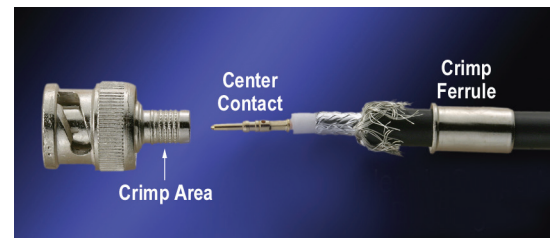
How to Choose a Coax Connector

It is first very important to understand fundamentally what a coax connector is and how it works.

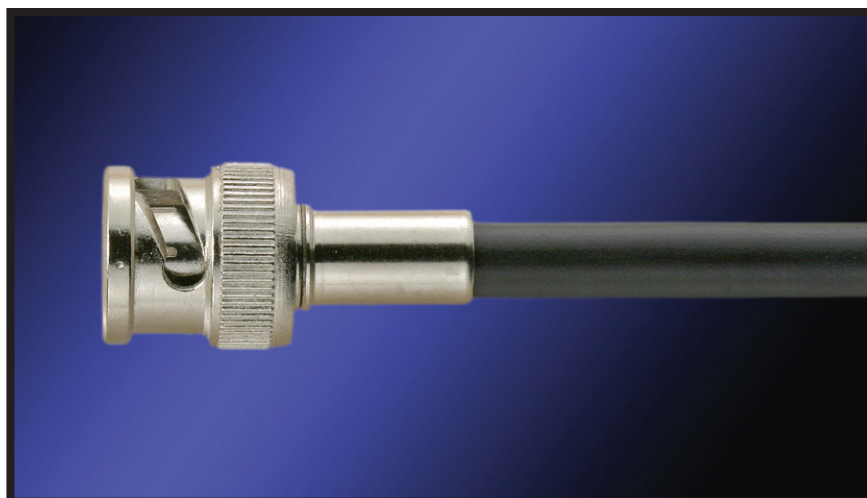
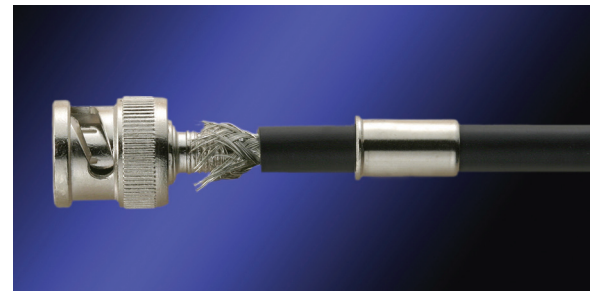
A coax connector is functionally an extension of the coax cable and provides a means to connect the cable to an electronic device, at the cable termination side:
The center contact of the connector connects to the center conductor of the cable and extends it through the connector body.
This is the signal carrier.



The white dielectric of the cable butts against the connector insulator inside the connector. This is the insulator.



The braid folds up over the crimp area of the connector and the crimp ferrule slides down over the area and using a hex crimp the ferrule is crimped around the braid to hold the connector onto the cable. This is the ground.



How to Choose a Coax Connector

Gem has over 30 years of experience in the design and manufacturing of coax connectors. This vast experience has allowed us to develop solutions for the various problems that pop up from time to time. Today, we have the single broadest product offering of connectors and video baluns in the marketplace. This allows us to offer a specific product for a specific application. The result is, a cost effective system install operating at peak performance.

In today's market it is critical that you take into consideration several electrical/mechanical/cost and quality performance factors in order to select the most appropriate coaxial connector for your application.

- The First, is to review your systems frequency requirement and cable run lengths.
- Generally RG 59 cable is used up to 700 feet and RG 6 is used for longer distances up to 1,000 feet.
- Most CCTV systems operate below 1 GHz, but you should know the VSWR/Insertion Loss characteristics of the different types of connector designs to have the actual facts clearly stated.

The following are charts of actual tests.

- Test results represent a 100 foot length of RG 59 cable with test connectors on each end
- The lower the VSWR value the better the connector

Electrical purity is guaranteed

This is important to achieve optimum system performance.

Note: Testing was done by independent test lab the lower the VSWR number the better the connector. Example 1.00 is perfect.

Electrical Results

Twist-On

Crimp-On

Uni-Crimp

Crimp-Crimp

Compression Seal

Competition*

VSWR

1.716 @ 1.71 GHz

1.448 @ 1.17 GHz

1.505 @ 1.71 GHz

1.598 @ 1.71 GHz

1.350 @ 1.71 GHz

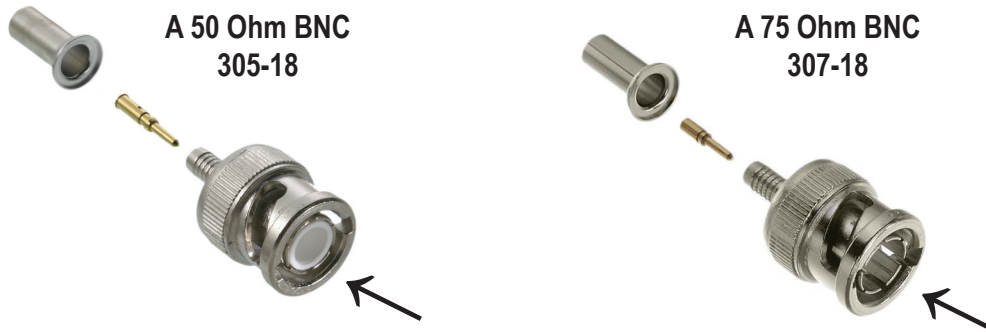
1.529 @ 1.71 GHz

*Leading Compression Competitor

How to Choose a Coax Connector

Impedance

You will hear 50 Ohm versus 75 Ohm. First, this is the IMPEDANCE of a connector, cable or system. In the connector world it relates to the mechanical dimensional ratio of the center contact and the insulator.



Note the insulator, which is the white material on the 50 Ohm connector and is all the way out to the front of the connector, while the 75 Ohm connector's insulator is nowhere to be found. It is much further back inside the front, or mating face, of the connector.

In the CCTV market a 50 Ohm connector is perfectly compatible with the 75 Ohm cable being used. This tiny area of mismatch will not cause any degradation to the signal.

However, in the Audio/Video and Broadcast market it is highly recommended to use a 75 Ohm connector. In fact, if the system is operating at a frequency above 1.2 GHz it is absolutely mandatory.

- The Second, is the mechanical integrity of the connector/cable termination. This is a very important characteristic, and one that is highly misrepresented due to incorrect assembly procedures used. This parameter is important as it is the single most significant factor that can seriously degrade a system. That is a bad ground, connectors falling off and/or loose causing intermittencies.

The following are actual connector-cable retention values. Proper assembly procedure were used with proper assembly tooling.

Mechanical Results

Twist-On

Crimp-On

Uni-Crimp

Crimp-Crimp

Compression Seal

Competition *

Cable Retention

22.05 pounds

24.25 pounds

33.51 pounds

31.31 pounds

52.91 pounds

41.89 pounds

*Leading Compression Competitor

How to Choose a Coax Connector

- The Third, is to understand the basic differences between the various types of connectors and their individual benefits. The following summarizes those distinctions.

Twist-On – Completely Reusable

This connector was originally designed with a specific thread ID, pitch and sharpness to guarantee a proper cable affixment process and cable retention. The connector was designed for RG59 cable with an O.D. of .245 inch. However, today, cable O.D.'s range from .195 to 245, which calls into question the long-term viability of the connector. Because the thread is designed for a .245 cable and if the cable is .195, the connector will not tighten down properly! However, if the cable has the proper .245 Inch OD, the Twist-On connector can be a very cost effective solution if terminated to the cable properly and is completely reusable. The following is the proper procedure.

Tools Recommended: Coaxial Wire Strippers



GST-1



GST-2



GST-3

Universal Crimp-On

This connector solves the potential cable/connector dimensional discrepancy problems in that it is not vulnerable to fluctuating cable O.D.'s. It will maintain proper cable retention regardless of cable O.D. However, it is vulnerable to braid coverage, thickness and material. These issues occur infrequently, and, thus, there is little concern with the long-term reliability of the termination. This product is perfect for the service call environment, as it is one connector that will terminate RG59 PVC & Plenum, RG6 PVC & Plenum and RG58, thereby eliminating not having the proper connector on the job. There is one tool that will terminate all cables as well.



GET-301-UT Universal Crimp Tool

How to Choose a Coax Connector

Crimp-Crimp

This connector is generally used for higher frequency applications, above 2 GHz, as the center contact is more closely dimensionally matched to the center conductor of the cable. This combined with a crimped and/or soldered center contact provides a lower V.S.W.R. even at frequencies up to 4 GHz. This connector is also used for a cable with a more flexible stranded center conductor. Here a 75 Ohm connector should be used if system operating frequency is above 1GHz.

**Tools Recommended:
Coaxial Wire Strippers**



GST-4



GST-5



GST-6



GST-174

Crimp Tools



GET-305-12



GET-305-3



GET-400-8



GET-305-58596

Uni-Crimp

The Uni-Crimp connector was developed to be a more cost effective compression seal type connector. The Uni-Crimp design employs the same internal construction as the compression seal but in lieu of a special compression crimp tool a standard hex crimp tool with a .320 hex will work. Most importantly, this internal design provides for the connector hex to crimp down on 2 braids and the outer jacket of the cable. This is accomplished by folding the braid back after stripping the cable properly and inserting the cable dielectric into the inner cone structure of the connector. As the connector is properly seated, the internal construction now has the cone, the inner braid, the cable jacket and the braid that was folded back. This is what the hex crimps down on and provides a very substantial structure to crimp down on. The assembly procedure for the Uni-Crimp also has fewer steps than the Crimp-On type product and can save time in the termination process.

**Tools Recommended:
Coaxial Wire Stripper**



GST-1



GET-301-UT Universal Crimp Tool

How to Choose a Coax Connector

Compression Seal

This is a high end product. It is specifically designed to accept RG59 cables with a range of .195 to .245. It has basically the same internal cone design as the Uni-Crimp. Except instead of a external hex crimp this employs a 360 degree plastic insert completely capturing the cable components to the inside walls of the connector. The plastic compression sleeve is tapered such that it will fill ALL available space (and then some) to produce a cable retention that is far superior to any and all connector designs. Once this connector is properly installed it **CAN NOT BE PULLED OFF---EVER!!!** The connector also has internal "O" rings to seal the mating surface from water wicking up the cable. A properly mated pair of "F connectors are completely WATERPROOF. They have been tested in a 3 foot head of water. The concept was to develop a line of products that would be used by the installer of CATV, CCTV and Home Theater systems, using one assembly procedure and one crimp tool for F, RCA and BNC connectors. This connector will cost more than the previously discussed items but there will never be a service call as a result of this connector. A specific crimp tool is required.

Tools Kits

CS-TKNC



CS-TK



Tools Recommended:



GET-CS-11



GET-CS

General Series Specifications

BNC / TNC / RCA Series

FEATURES

- Field installable.
- Completely reusable (Twist-On type).
- No solder or crimping tools required.
- One-piece connector construction - no loose contacts or other parts to handle.
- Utilizes captive, self-energizing center contact.
- Gold plated center contact.
- Bright nickel finish solid brass or zinc body.

ELECTRICAL CHARACTERISTICS

Impedance:	50 Ohms nominal, 75 Ohms as noted
Frequency Range:	BNC: 0-4 GHz, TNC: 0-11 GHz, RCA: 0-1 GHz
V.S.W.R.:	1*3:1 maximum
Voltage Rating:	500 VRMS @ sea level
Contact Resistance:	Outer Contact 0.2 Milliohms, Center Contact 1.5 Milliohms
Insulating Resistance:	5000 Megohms minimum
Dielectric Withstanding Voltage:	1500 VRMS @ sea level

MATERIALS

Brass QQ-B-626, Alloy 360, ½ Hard, QQ-B-613, Alloy CA260, ½ Hard, Beryllium Copper Alloy #25, Zamak QQ-2-363 Comp A MIL-P-22748, NORYL SE100 UL Approved

N Series

FEATURES

- Compatible connector interface for all 10mm trunk Ethernet and local area network systems.
- Cable attachment by dual crimp system.
- Cable retention: 60-80 lbs, minimum.

ELECTRICAL CHARACTERISTICS

Impedance:	50 Ohms nominal
Frequency Range:	0-11 GHz
Voltage Rating:	1500 VRMS @ sea level
Insulation Resistance:	5000 Megohms
Dielectric Withstanding Voltage:	2500 VRMS @ sea level

MATERIALS

Contact:	Phos-bronze with gold plating
Body:	Brass CDA 360 with bright nickel plating
Insulator:	NORYL SE100 UL Approved
Ferrule:	Brass with bright nickel plating

F Series

FEATURES

- Compatible connector interface for CATV, MATV and Satellite TV installations.
- Field installable.
- Completely reusable.
- Crimping tools required.
- Bright nickel finish solid brass body.

ELECTRICAL CHARACTERISTICS

Impedance:	75 Ohms nominal
Frequency Range:	0-1 GHz
Voltage Rating:	250 VRMS

MATERIALS

Body and fittings:	Brass with bright nickel finish
--------------------	---------------------------------

UHF & MINI UHF Series

FEATURES

- Field installable.
- Crimping tools required.
- One piece connector construction - no loose contact or other parts to handle when using twist-on style.

ELECTRICAL CHARACTERISTICS

Impedance:	Non-constant
Frequency Range:	0-300 MHz
Voltage Rating:	500 VRMS @ sea level
Insulation Resistance:	5000 Megohms minimum
Dielectric Withstanding Voltage:	1500 VRMS @ sea level

MATERIALS

Body:	Brass QQ-B-626, Alloy 360, ½ Hard QQ-B-613, Alloy 260, ½ Hard
Insulator:	MIL-P-22748, NORYL SE100 UL Approved

BNC - TNC

Twist-On



PLUG (302)



JACK (351)



BULKHEAD JACK (355)

BNC Twist-On Connectors

Plug	Jack	Bulkhead Jack	RG Cable Type	Wire Gauge	Jacket O.D.	Strip Tool
302-1TP	351-1TP	355-1TP	RG58 PVC, RG59 Plenum	20-22 AWG	.185 - .205	GST-1
302-3TP	351-3TP	355-3TP	BELDEN 8281	20 AWG	.272 - .307	GST-3
302-4TP	351-4TP	355-4TP	RG59 PVC, RG6 Plenum	18-22 AWG	.220 - .250	GST-1
302-5TP	351-5TP	355-5TP	RG6 PVC	18 AWG	.270 - .280	GST-1
302-11TP	351-11TP	355-11TP	RG58 Plenum	20 AWG	.165 - .178	GST-2



PLUG (311)



JACK (361)

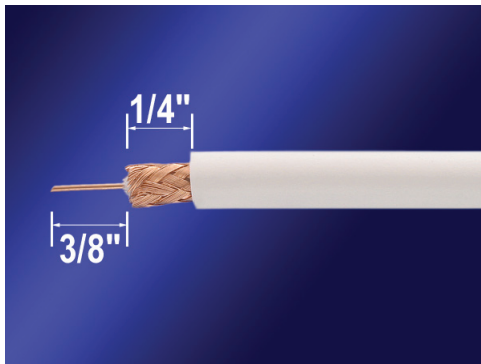


BULKHEAD JACK (365)

TNC Twist-On Connectors

Plug	Jack	Bulkhead Jack	RG Cable Type	Wire Gauge	Jacket O.D.	Strip Tool
311-1TP	361-1TP	365-1TP	RG58 PVC, RG59 Plenum	20-22 AWG	.185 - .205	GST-1
311-3TP	361-3TP	365-3TP	BELDEN 8281	20 AWG	.272 - .307	GST-3
311-4TP	361-4TP	365-4TP	RG59 PVC, RG6 Plenum	18-22 AWG	.220 - .250	GST-1
311-5TP	361-5TP	365-5TP	RG6 PVC	18 AWG	.270 - .280	GST-1
311-11TP	361-11TP	365-11TP	RG58 Plenum	20 AWG	.165 - .178	GST-2

Strip Dimensions



For complete cable assembly instructions turn to page 46 or visit our Website at: www.gemelec.com

Solid Center Conductor Only

Coaxial Wire Strippers/Tools Recommended

GST-1



GST-2

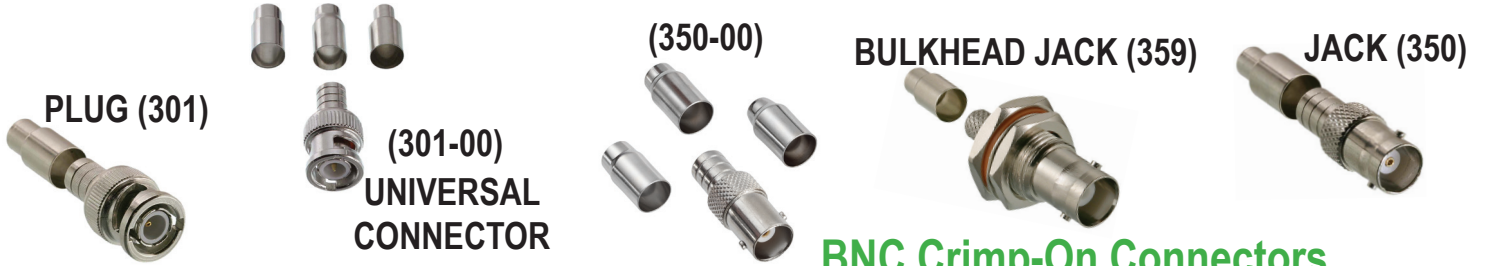


GST-3



BNC - TNC

Crimp-On



BNC Crimp-On Connectors

Plug	Jack	Bulkhead Jack	RG Cable Type	Wire Gauge	Jacket O.D.	Strip Tool	Crimp Tool
301-1TP	350-1TP	359-1TP	RG58 PVC, RG59 Plenum	20-22 AWG	.185 - .205	GST-1	GET-301-UT
301-3TP	350-3TP	359-3TP	BELDEN 8281	20 AWG	.272 - .307	GST-3	GET-301-3
301-4TP	350-4TP	359-4TP	RG59 PVC, RG6 Plenum	18-22 AWG	.220 - .250	GST-1	GET-301-UT
301-5TP	350-5TP	359-5TP	RG6 PVC	18 AWG	.270 - .280	GST-1	GET-301-UT
301-11TP	350-11TP	359-11TP	RG58 Plenum	20 AWG	.165 - .178	GST-2	GET-301-1
301-00TP	350-00TP	359-00TP	RG59 PVC & Plenum, RG6 PVC & Plenum, RG58 PVC	18-22 AWG	.185 - .280	GST-1 GST-2	GET-301-UT



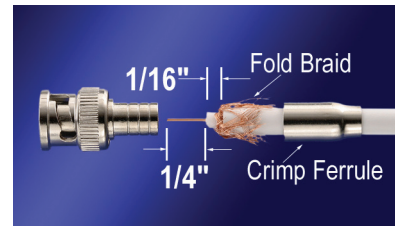
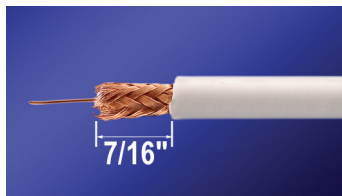
TNC Crimp-On Connectors

Plug	Jack	Bulkhead Jack	RG Cable Type	Wire Gauge	Jacket O.D.	Strip Tool	Crimp Tool
310-1TP	360-1TP	369-1TP	RG58 PVC, RG59 Plenum	20-22 AWG	.185 - .205	GST-1	GET-301-UT
310-3TP	360-3TP	369-3TP	BELDEN 8281	20 AWG	.272 - .307	GST-3	GET-301-3
310-4TP	360-4TP	369-4TP	RG59 PVC, RG6 Plenum	18-22 AWG	.220 - .250	GST-1	GET-301-UT
310-5TP	360-5TP	369-5TP	RG6 PVC	18 AWG	.270 - .280	GST-1	GET-301-UT
310-11TP	360-11TP	369-11TP	RG58 Plenum	20 AWG	.165 - .178	GST-2	GET-301-1

For complete cable assembly instructions turn to page 46 or visit our Website at: www.gemelec.com

Solid Center Conductor Only

Strip Dimensions



Coaxial Wire Strippers/Tools Recommended

Universal Crimp Tool
GET-301-UT



GST-1



GST-2



GST-3



BNC 50 Ohm

Crimp-Crimp

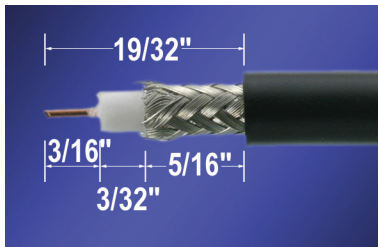
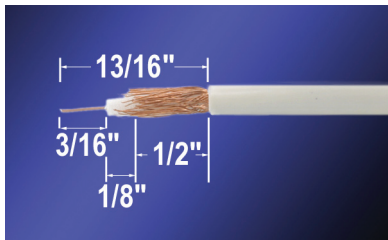


Crimp-Crimp Connectors

Plug	Jack	Bulkhead Jack	RG Cable Type	Wire Gauge	Jacket O.D.	Strip Tool	Crimp Tool
305-1TP	353-1TP	358-1TP	RG58, 141	20 AWG	.195 - .210	GST-4	GET-305-58596
305-10TP	353-10TP	358-10TP	RG59 Plenum	22 AWG	.185 - .205	GST-4	GET-305-58596
305-11TP	353-11TP	358-11TP	RG58 Plenum, 303	20 AWG	.165 - .178	GST-4	GET-305-58596
305-12TP	353-12TP	358-12TP	RG122	27 AWG	.160 Nom.	GST-174	GET-305-12
305-13TP	353-13TP	358-13TP	RG142, 223, 400, 55	37 AWG	.195 Nom.	GST-4	GET-305-58596
305-14TP	353-14TP	358-14TP	RG180, 195, 34M	27 AWG	.141 Nom.	GST-174	GET-305-12
305-16TP	353-16TP	358-16TP	RG450 Proflex	16 AWG	.220 - .250	GST-4	GET-305-58596
305-17TP	353-17TP	358-17TP	RG8X	14 AWG	.220 - .250	GST-4	GET-305-58596
305-18TP	353-18TP	358-18TP	RG8218	27 AWG	.150 Nom.	GST-174	GET-305-12
305-18-4TP	-	-	RG8218	27 AWG	.150 Nom.	GST-174	GET-305-12
305-19TP	353-19TP	358-19TP	RG174, 188, 316	24 AWG	.109 - .117	GST-174	GET-305-12
305-2TP	353-2TP	358-2TP	RG59, 62, 140, 210	20-22 AWG	.220 - .250	GST-4	GET-305-58596
305-20TP	353-20TP	358-20TP	RG179, 187	27 AWG	.109 - .117	GST-174	GET-305-12
305-21TP	353-21TP	358-21TP	RG58, 59 RG59 Plenum	20-22 AWG	.185 - .205 .220 - .250	GST-4	GET-305-58596
305-22TP	353-22TP	358-22TP	RG58 RG59	20-22 AWG	.185 - .205 .220 - .250	GST-4	GET-305-58596
305-23TP	353-23TP	358-23TP	RG58 Plenum, 303 RG59 Plenum & 58	20-22 AWG	.165 - .178 .185 - .205	GST-4	GET-305-58596
305-25TP	353-25TP	358-25TP	RG58 Thinnet	18 AWG	.150 Nom.	GST-174	GET-305-12
305-26TP	353-26TP	358-26TP	RG11	11 AWG	.400 - .410	GST-6	GET-400-8
305-3TP	353-3TP	358-3TP	Belden 8281	20 AWG	.272 - .307	GST-5	GET-305-3
305-4TP	353-4TP	358-4TP	RG59 MATV RG6 Plenum	18 AWG	.220 - .250	GST-4 GST-5	GET-305-58596
305-5TP	353-5TP	358-5TP	RG6	18 AWG	.270 - .280	GST-5	GET-305-58596

Note: 'TP' at the end of our part number indicates that there are 10 pieces in each bag (Ten Pack).

Mini-Cable: RG 174, RG 179



Strip Dimensions

For complete cable assembly instructions turn to page 47 or visit our Website at: www.gemelec.com

Coaxial Wire Strippers/Tools Recommended



GET-305-12



GET-305-3



GET-400-8



GET-305-58596



BNC - TNC

Receptacles, Adapters & Terminations

BNC Bulkhead Receptacles



325-100

$\frac{3}{8}$ " D Diameter Mounting Hole

Model Number	A*	Impedance
325-100	1 $\frac{1}{16}$ "	50 Ohm
325-10075	1 $\frac{1}{16}$ "	75 Ohm



325-10075

Add "G" to model number when a grounding lug is required.
A* = Total overall length.

BNC Jack to Jack Adapters



327-111TP
Impedance: 50 Ω



327-1175TP
75 Ohm



301-301TP
50 Ohm
301-301-75TP
75 Ohm

BNC Jack to Jack Bulkhead Mount Adapters

$\frac{1}{2}$ " D Diameter Hole

$\frac{1}{2}$ & $\frac{5}{8}$ D Diameter



329-0TP
Impedance: 50 Ohm



329-075TP
75 Ohm



329-0WTP
50 Ohm w/ washer



329-0ISDTP
50 Ohm Isolated From Ground

BNC Angle & Goal Post Adapters

Angle



301-RA-350TP
Impedance: 50 Ohm

Goal Post



301-327750TP
50 Ohm

BNC Resistor Terminations



301-T50TP



301-T75TP



301-T93TP

Model Number	Resistor
301-T50TP	50 Ω 1%
301-T75TP	75 Ω 1%
301-T93TP	93 Ω 1%

BNC "T" Adapters



301-32750TP
Impedance: 50 Ohm



327-3TP
50 Ohm
327-75-3TP
75 Ohm

Note: 'TP' at the end of our part number indicates that there are 10 pieces in each bag (Ten Pack).

BNC Plug to Jack Adapter



50 Ohm
301-350TP

TNC Jack to Jack Adapters



337-111TP



337-1175TP

Model Number	Impedance
337-111TP	50 Ohm
337-1175TP	75 Ohm

TNC Bulkhead Receptacles



329-12



329-1275

$\frac{3}{8}$ " D Diameter Mounting Hole

Model Number	Impedance
329-12	50 Ohm
329-1275	75 Ohm

TNC Jack to Jack Bulkhead Adapters



339-0TP



339-075TP

$\frac{1}{2}$ " D Diameter Mounting Hole

Model Number	Impedance
339-0TP	50 Ohm
339-075TP	75 Ohm

TNC Resistor Terminations



310-T50TP

Model Number	Resistor
310-T50TP	50 Ω 1%
310-T75TP	75 Ω 1%
310-T93TP	93 Ω 1%



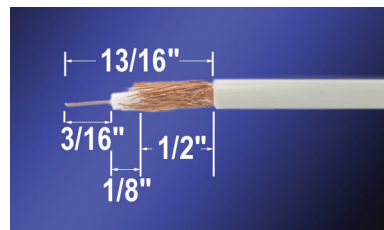
Crimp-Crimp Connectors

Plug	Jack	Bulkhead Jack	RG Cable Type	Wire Gauge	Jacket O.D.	Strip Tool	Crimp Tool
314-1TP	367-1TP	368-1TP	RG58, 141	20 AWG	.195 - .210	GST-4	GET-305-58596
314-10TP	367-10TP	368-10TP	RG59 Plenum	22 AWG	.185 - .205	GST-4	GET-305-58596
314-11TP	367-11TP	368-11TP	RG58 Plenum, 303	20 AWG	.165 - .178	GST-4	GET-305-58596
314-12TP	367-12TP	368-12TP	RG122	27 AWG	.160 Nom.	GST-174	GET-305-12
314-13TP	367-13TP	368-13TP	RG142, 223, 400, 55	37 AWG	.195 Nom.	GST-4	GET-305-58596
314-14TP	367-14TP	368-14TP	RG180, 195, 34M	27 AWG	.141 Nom.	GST-174	GET-305-12
314-16TP	367-16TP	368-16TP	RG450 Proflex	16 AWG	.220 - .250	GST-4	GET-305-58596
314-17TP	367-17TP	368-17TP	RG8X	14 AWG	.220 - .250	GST-4	GET-305-58596
314-18TP	367-18TP	368-18TP	RG8218	27 AWG	.150 Nom.	GST-174	GET-305-12
314-19TP	367-19TP	368-19TP	RG174, 188, 316	24 AWG	.109 - .117	GST-174	GET-305-12
314-2TP	367-2TP	368-2TP	RG59, 62, 140, 210	20-22 AWG	.220 - .250	GST-4	GET-305-58596
314-20TP	367-20TP	368-20TP	RG179, 187	27 AWG	.109 - .117	GST-174	GET-305-12
314-21TP	367-21TP	368-21TP	RG58, 59 RG59 Plenum	20-22 AWG	.185 - .205 .220 - .250	GST-4	GET-305-58596
314-22TP	367-22TP	368-22TP	RG58 RG59	20-22 AWG	.185 - .205 .220 - .250	GST-4	GET-305-58596
314-23TP	367-23TP	368-23TP	RG58 Plenum, 303 RG59 Plenum & 58	20-22 AWG	.165 - .178 .185 - .205	GST-4	GET-305-58596
314-25TP	367-25TP	368-25TP	RG58 Thinnet	18 AWG	.150 Nom.	GST-174	GET-305-12
314-26TP	367-26TP	368-26TP	RG11	11 AWG	.400 - .410	GST-6	GET-400-8
314-3TP	367-3TP	368-3TP	Belden 8281	20 AWG	.272 - .307	GST-5	GET-305-3
314-4TP	367-4TP	368-4TP	RG59 MATV RG6 Plenum	20 AWG 18 AWG	.220 - .250	GST-4 GST-5	GET-305-58596
314-5TP	367-5TP	368-5TP	RG6	18 AWG	.270 - .280	GST-5	GET-305-58596

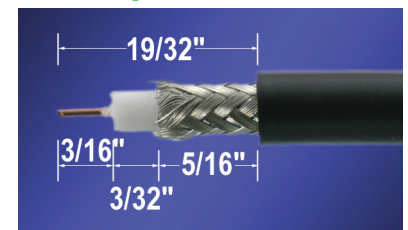
Note: 'TP' at the end of our part number indicates that there are 10 pieces in each bag (Ten Pack).

For complete cable assembly instructions turn to page 47 or visit our Website at: www.gemelec.com

Mini-Cable: RG 174, RG 179

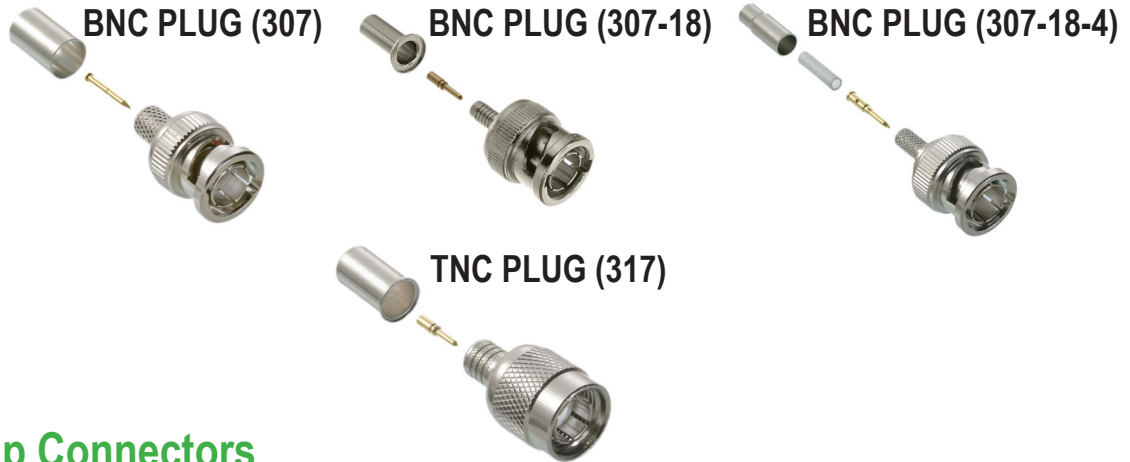


Strip Dimensions



Coaxial Wire Strippers/Tools Recommended





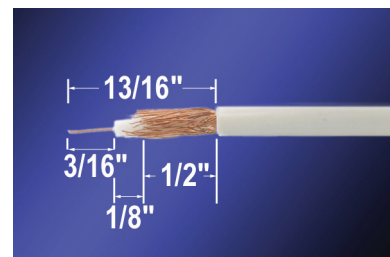
Crimp-Crimp Connectors

BNC Plug	TNC Plug	RG Cable Type	Belden Cable	Coleman Cable	Commscope Cable	Genesis Cable	Southwest Cable	WestPenn Cable
307-1TP	317-1TP	-	639948, 82241	-	-	-	-	-
307-10TP	317-10TP	-	89259	-	-	-	-	-
307-18TP & 307-18-4TP	317-18TP	-	8218, 735A1 1164A, HC2648 HC2650, 1418B 1167B, 673948	993205	735 7522	5019 5020 5022 5029, 5099	212075 SO11183 - -	812, 25825 WP54424, WP54425 WP54426, WP8253 WP8254, WP8255
307-2TP	317-2TP	RG59, 62 140, 210	8212, 1426A 1505A	993201	734 5565	5009 5013	SO11168 SO11170	819, 25819 834
307-3TP	317-3TP	-	8281, 9231 9141, 9290	-	-	-	-	P806 P806F
307-31TP	317-31TP	-	8251	-	-	-	-	-
307-4TP	317-4TP	-	633948	-	-	-	-	256350
307-40TP	317-40TP	-	82241	-	-	-	-	-
307-45TP	317-45TP	-	1694A, 9428 89248, 5433845	-	-	-	-	6350, WP6354 6373, WP6355, 806
307-47TP	317-47TP	-	8541, 8263, 8279 8279A, 9209, 9209A	-	-	-	-	-
304-48TP	317-48TP	-	8221, 9244, 8241A	-	-	-	-	-
307-50TP	317-50TP	-	643948, 82259 89259	-	-	-	-	-
307-55TP	317-55TP	-	88281, 539945	-	-	-	-	-
307-60TP	317-60TP	-	82108, 89108	-	-	-	-	-

Note: 'TP' at the end of our part number indicates that there are 10 pieces in each bag (Ten Pack).

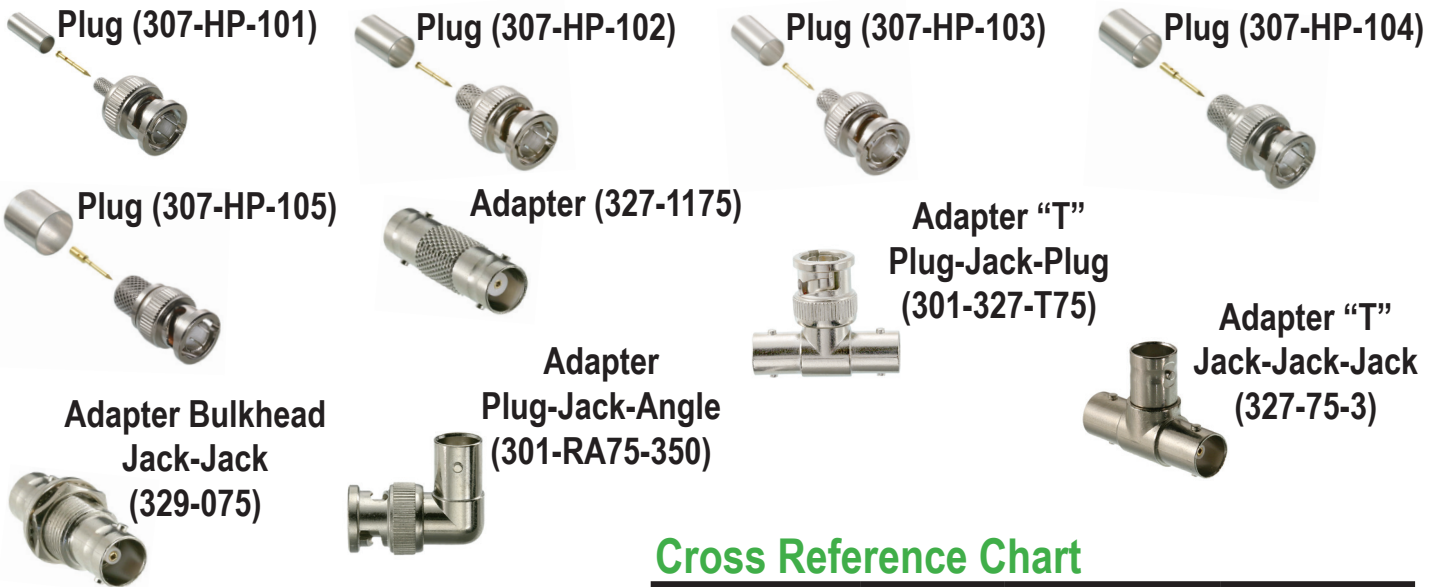
Strip Dimensions

For complete cable assembly instructions turn to page 48 or visit our Website at: www.gemelec.com



BNC 75 Ohm 0-4 GHz

Crimp-Crimp



Cross Reference Chart

GEM Part Number	Kings Part Number	ADC Part Number	Amphenol Part Number
307-HP-101	2065-11-9	BNC-7	
307-HP-102	2065-10-9	BNC-8, BNC-10	31-71064
307-HP-103	2065-2-9	BNC-1, BNC-6	31-71008-1RFX
307-HP-104	2065-12-9	BNC-27	
307-HP-105	2065-8-9	BNC-25	
327-1175	2029-15-9	BNC-STRT-ADPT	31-70019
329-075	2029-8-9	BHFTI	31-70020
301-327-T75	2029-16-9		31-70036
327-753			
301-RAHP75-350	2029-20-9	BNC-RA-ADPT	31-9-75

Return Loss

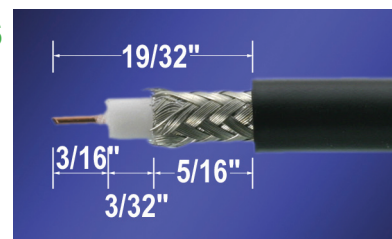
Frequency Range:	0-4 GHz
Impedance:	75 Ohms
Return Loss:	Better than 40 RdB to 1 GHz Better than 37 RdB to 2 GHz Better than 32 RdB to 3 GHz Better than 28 RdB to 4 GHz

The Best Performance In The Industry!!!!

Crimp-Crimp Connectors

Plug	Belden Cable	Commscope Cable	WestPenn Cable	Strip Tool	Ferrule Hex Size	Contact Crimp Size	Crimp Tool
307-HP-101	1855A 1865A	7538	HD825	GST-307-HP-101	.178	.042 Sq.	GET-307-HP-101
307-HP-102	1694A 1695A	5765	6350 256350	GST-307-HP-102	.278	.042 Sq.	GET-307-HP-102
307-HP-103	1505A 1506A	5565	819 25819	GST-307-HP-103	.258	.039 Sq.	GET-307-HP-103
307-HP-104	7855A	7530	7210	GST-307-HP-104	.323	.069 Sq.	GET-307-HP-104
307-HP-105	7731A 8231	5906	1135	Not Available	.429	.068 Hex	GET-307-HP-105A GET-307-HP-105B

Strip Dimensions



N

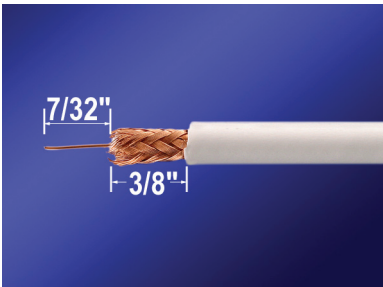
Straight Plugs & Adapters



Straight Plug & Adapters

Male Plug	RG Cable Type	Wire Gauge	Jacket O.D.	Hex Crimp Ferrule Size	Strip Tool	Crimp Tool
400-1	RG58	18 AWG	.185 - .205	.213	GST-4	GET-400-1
400-16	Proflex RG450	18 AWG	.220 - .250	.255	GST-4	GET-400-1
400-17	RG8	16 AWG	.220 - .250	.255	GST-6	GET-400-1
400-142	RG142	18 AWG	.220 - .250	.255	GST-4	GET-400-1
400-142T	RG142 TFE	20 AWG	.200 - .220	.213	GST-4	GET-400-1
400-2	RG59	22 AWG	.220 - .250	.255	GST-4	GET-400-1
400-9912	RG8, LMR 400, Belden 9912	13 AWG	.400 - .410	.404	GST-6	GET-400-8
400-9913	RG213, Belden 9913	10 AWG	.400 - .410	.404	GST-6	GET-400-8

Strip Dimensions



1. Taking care not to nick or cut the center conductor or braid, trim the cable as shown. Note: if there is a foil beneath the braid, leave this undisturbed.
2. Crimp contact to center conductor, making sure that contact is snug against the inner dielectric.
3. Slip crimp sleeve over cable.
4. Butt cable sub-assembly firmly into the connector housing.
5. Push crimp sleeve over braid, butting it firmly against the back of the connector housing, and crimp in the area indicated.

Coaxial Wire Strippers/Tools Recommended



GST-4



GST-6



GET-400-1, GET-400-8

UHF

Straight Plugs & Adapters



Crimp Plug (259-1)



Jack To Jack (249-249TP)



Plug To Plug (259-259TP)



Plug To Jack Angle (259-RA-249TP)

UHF Connectors

Plug	RG Cable Type	Strip Tool	Crimp Tool
259-1	RG58	GST-1	GET-259-1
259-17	RG58X	GST-2	GET-259-1 Combo
259-2	RG59	GST-1	GET-259-1 Combo

F

Straight Plugs & Adapters/Terminations



Hex Crimp Plug



Twist-On Plug



Radial Crimp Plug

**Jack To Jack
(0401-11TP)**



**Plug To Plug
(0405-0405TP)**



**Plug To Jack Angle
(0485-0401TP)**



**75 Ohm Termination
(0401-T75TP)**

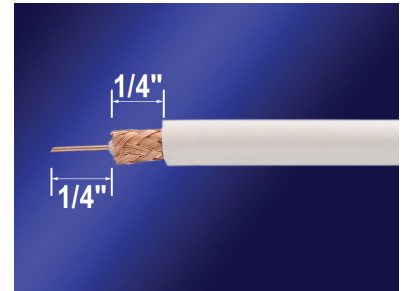


F Connectors

Plug	Termination Style	RG Cable Type	Strip Tool	Crimp Tool
0459-2MTP	Hex Crimp	RG59	GST-1	GET-301-UT
0459-3TP	Hex Crimp	RG59 Tri-shield	GST-1	GET-0406-5
0459-10TP	Hex Crimp	RG59 Plenum	GST-2	GET-301-UT
0406-1TP	Hex Crimp	RG6	GST-1	GET-301-UT
0406-10TP	Hex Crimp	RG6 Plenum	GST-3	GET-301-UT
0406-3TP	Hex Crimp	RG6 Tri-shield	GST-1	GET-0406-5
0406-4TP	Hex Crimp	RG6 Quad shield	GST-1	GET-0406-5
0406-6GTP	Hex Crimp w/ Gasket	RG6	GST-1	GET-301-UT
0406-6WPTP	Hex Crimp - Waterproof	RG6	GST-1	GET-301-UT
0459-2DTOTP	Twist-On	RG59	GST-1	No Need
0406-6TOTP	Twist-On	RG6	GST-1	No Need
0459-2RCTP	Radial Crimp	RG59	GST-1	Not Available
0406-1RCGTP	Radial Crimp	RG6	GST-1	Not Available
0406-6TRCGTP	Radial Crimp	RG6 Tri-shield	GST-1	Not Available

Note: 'TP' at the end of our part number indicates that there are 10 pieces in each bag (Ten Pack).

Strip Dimensions



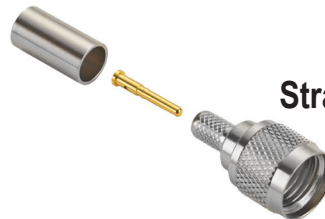
**Solid Center
Conductor Only**

Mini - UHF

Straight Plugs, Jacks & Adapters



**Straight Plug Twist-On
RG 58 Type Cable
(281-1)**



**Straight Plug Crimp-Crimp
RG 58 Type Cable
(280-1)**



**Straight Jack Crimp-Crimp
RG 58 Type Cable
(286-1)**

**Straight Plug Crimp-Crimp
RG 174, 188, 316 Type Cable
(280-19)**

**Straight Jack Crimp-Crimp
RG 174, 188, 316 Type Cable
(286-19)**



**Plug To Plug
(280-280TP)**

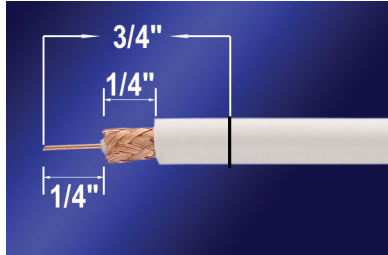
Uni-Crimp BNC



GEM Part Numbers

301-75-2TP for RG59 cable
 301-75-5TP for RG6 cable
 301-75-510TP for RG6 Plenum cable
 GET-301-UT Universal crimp tool
 GST-1 Strip tool

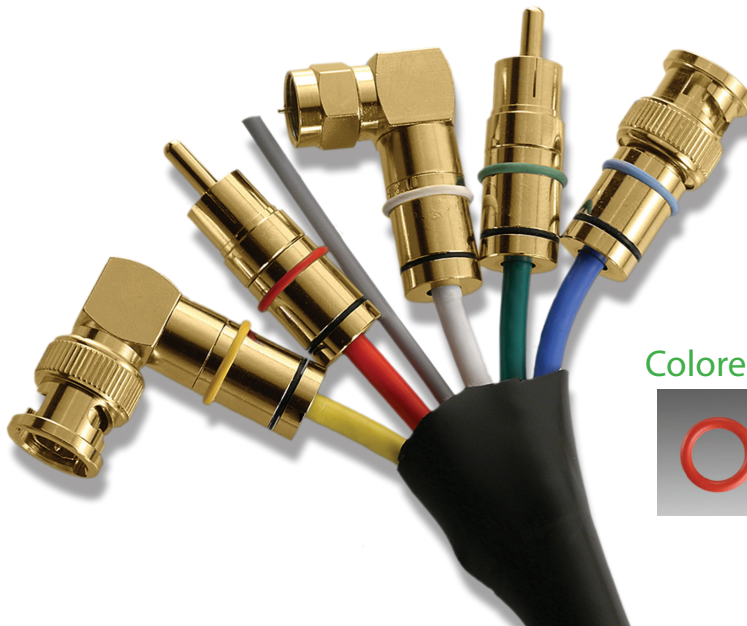
Strip Dimensions



For complete cable assembly instructions turn to page 47 or visit our Website at: www.gemelec.com

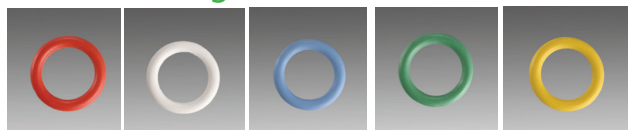
Compression Seal BNC, RCA & F

Compression Seal Products									
Cable	RCA Straight Plug - Gold	RCA Right Angle Plug - Gold	F Straight Plug - Gold	F Right Angle Plug - Gold	BNC Straight Plug - Gold	BNC Right Angle Plug - Gold	Crimp Tool	Strip Tool	Color Code
Genesis - 5019, 5029, 5098, 5099	100-18CSGTP	101-18CSGTP	0459-18CSGTP	0460-18CSGTP	302-18CSGTP	303-18CSGTP	GET-RGB	GST-RGB	Black
West Penn - WP8255	100-18CSGTP	101-18CSGTP	0459-18CSGTP	0460-18CSGTP	302-18CSGTP	303-18CSGTP	GET-RGB	GST-RGB	Black
Belden - HC2648, HC2650	100-19CSGTP	N/A	N/A	N/A	302-19CSGTP	N/A	GET-RGB	GST-RGB	Orange/Red



For complete cable assembly instructions turn to page 49-51 or visit our Website at: www.gemelec.com

Colored O Rings



Colored O Rings For All Compression Connectors

CS-ROR - RED
 CS-WOR - WHITE
 CS-BOR - BLUE
 CS-GOR - GREEN
 CS-YOR - YELLOW

All currently available

Universal RGB Compression Seal Connectors

Gem Part Number	Description	Crimp Tool
100-20CSTP*	Universal RGB Compression Seal, RCA Plug For All RGB Cables including Remece, Belden & Honeywell - Bag of 10	GET-CS or GET-CS20
302-20CSTP*	Universal RGB Compression Seal, BNC Plug For All RGB Cables including Remece, Belden & Honeywell - Bag of 10	GET-CS20
0406-20CSTP*	Universal RGB Compression Seal, F Plug For All RGB Cables including Remece, Belden & Honeywell - Bag of 10	GET-CS20
RGB-20CSTP	Adapter for RGB Cable, to be used with RG 6 Type cable connectors - Bag of 10	
RGB-TK	RGB Compression Seal Tool Kit, includes 4 each RGB-20CSTP, PCT-RCA-6TP and 1 each GET-CS20 Crimp Tool & GST-1 strip tool	

* Includes 10 connectors and mini adapters in bag.



100-20CSTP



302-20CSTP



0406-20CSTP

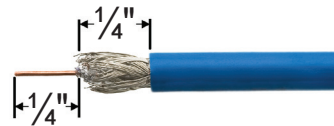


RGB-20CSTP



RGB-TK

Strip Dimensions



For complete cable assembly instructions turn to page 55 or visit our Website at: www.gemelec.com

Compression Seal BNC, RCA & F

Straight & Angle Plugs & Straight Jacks For RG59 & RG6 Type Cable

F Male	Part Number	Cable	Color Code	Cable O.D.
	0459-2CS	RG59 PVC	Brown	.195 - .245
	0406-6CS	RG6 Type	Black	
	0406-610CS	RG6 Plenum Type	Gray	
	0406-6CS	RG6 Quad Plenum Type	Black	
	0406-6CSQS	RG6 Dual/Tri/Quad Type	Blue	
	0406-6CSQSG-Gold	RG6 Dual/Tri/Quad Type	Blue	
	0406-10CSTP	RG59 Plenum	Beige	
0411-11CS	RG11 Type	Black		
F Right Angle Male	Part Number	Cable	Color Code	Cable O.D.
	0407-2CSTP	RG59 PVC	Brown	.195 - .245
	0407-6CSTP	RG6 Type	Black	
	0407-610CSTP	RG6 Plenum Type	Gray	
	0407-6CSTP	RG6 Quad Plenum Type	Black	
	0407-6CSQSTP	RG6 Dual/Tri/Quad Type	Blue	
	0407-10CSTP	RG59 Plenum	Beige	
F Female	Part Number	Cable	Color Code	Cable O.D.
	0401-2CSTP	RG59 PVC	Brown	.195 - .245
	0401-6CSTP	RG6 Type	Black	
	0401-610CSTP	RG6 Plenum Type	Gray	
	0401-6CSTP	RG6 Quad Plenum Type	Black	
	0401-6CSQSTP	RG6 Dual/Tri/Quad Type	Blue	
	0401-10CSTP	RG59 Plenum	Beige	
BNC Male	Part Number	Cable	Color Code	Cable O.D.
	302-N2CSTP	RG59 PVC	Brown	.195 - .245
	302-5CSTP	RG6 Type	Black	
	302-510CSTP	RG6 Plenum Type	Gray	
	302-5CSTP	RG6 Quad Plenum Type	Black	
	302-5CSQSTP	RG6 Dual/Tri/Quad Type	Blue	
	302-5CSQSGTP-Gold	RG6 Dual/Tri/Quad Type	Blue	
	302-8240CSTP	RG58 Type, Belden 8240	Orange	
	302-8241CSTP	RG59 Type, 23 AWG, Belden 8241	Purple	
	302-10CSTP	RG59 Plenum	Beige	
BNC Right Angle Male	Part Number	Cable	Color Code	Cable O.D.
	303-2CSTP	RG59 PVC	Brown	.195 - .245
	303-5CSTP	RG6 Type	Black	
	303-510CSTP	RG6 Plenum Type	Gray	
	303-5CSTP	RG6 Quad Plenum Type	Black	
	303-5CSQSTP	RG6 Dual/Tri/Quad Type	Blue	
	303-10CSTP	RG59 Plenum	Beige	
BNC Female	Part Number	Cable	Color Code	Cable O.D.
	351-2CSTP	RG59 PVC	Brown	.195 - .245
	351-5CSTP	RG6 Type	Black	
	351-510CSTP	RG6 Plenum Type	Gray	
	351-5CSTP	RG6 Quad Plenum Type	Black	
	351-5CSQSTP	RG6 Type	Blue	
	351-10CSTP	RG59 Plenum	Beige	
RCA Male	Part Number	Cable	Color Code	Cable O.D.
	100-2CSTP	RG59 PVC	Brown	.195 - .245
	100-6CSTP	RG6 Type	Black	
	100-610CSTP	RG6 Plenum Type	Gray	
	100-6CSTP	RG6 Quad Plenum Type	Black	
	100-6CSQSTP	RG6 Dual/Tri/Quad Type	Blue	
	100-6CSQSGTP-Gold	RG6 Dual/Tri/Quad Type	Blue	
	100-10CSTP	RG59 Plenum	Beige	
RCA Right Angle Male	Part Number	Cable	Color Code	Cable O.D.
	101-2CSTP	RG59 PVC	Brown	.195 - .245
	101-6CSTP	RG6 Type	Black	
	101-610CSTP	RG6 Plenum Type	Gray	
	101-6CSTP	RG6 Quad Plenum Type	Black	
	101-6CSQSTP	RG6 Dual/Tri/Quad Type	Blue	
	101-10CSTP	RG59 Plenum	Beige	

Hand Tool GET-CS



Compression crimp tool.
NOTE: Includes cable cutter and separate adapter for F, BNC, and RCA connectors.

For RG 11 (F) only use.



Connector: 0411-11-CS

Hand Tool GET-CS-11




Tool Kit CS-TKNC no connectors



Includes:
1 Crimp Tool Part Number:
GET-CS

1 Strip Tool Part Number:
GST-1

For complete cable assembly instructions turn to page 49-51 or visit our Website at: www.gemelec.com

RCA Female	Part Number	Cable	Color Code	Cable O.D.
	125-2CSTP	RG59 PVC	Brown	.195 - .245
	125-6CSTP	RG6 Type	Black	
	125-610CSTP	RG6 Plenum Type	Gray	
	125-6CSTP	RG6 Quad Plenum Type	Black	
	125-6CSQSTP	RG6 Dual/Tri/Quad Type	Blue	
	125-10CSTP	RG59 Plenum	Beige	

Includes:

1 Crimp Tool Part Number: GET-CS

1 Strip Tool Part Number: GST-1

10 Each:

0459-2CS

0406-6CS

0406-6CSQS

302-N2CS

302-5CS

100-2CS

100-6CS

1 Empty Cavity

Tool Kit CS-TK

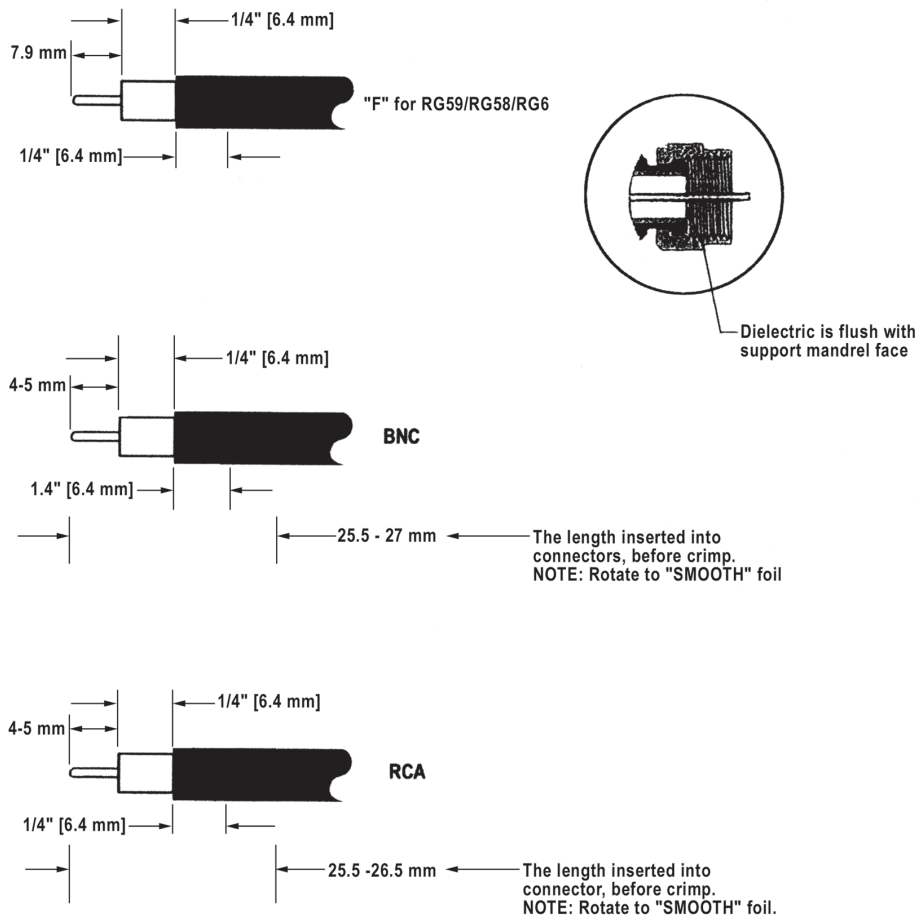
- F-RG59 BROWN INSERT
- F-RG6 BLACK INSERT
- F-RG6 QUAD BLUE INSERT
- BNC-RG59 BROWN INSERT
- BNC-RG6 BLACK INSERT
- RCA-RG59 BROWN INSERT
- RCA-RG6 BLACK INSERT



Part Number: TESTER
Tester for UTP, USB, and Coax
Cable/Connectors.

For complete cable assembly
instructions turn to page 49-51
or visit our Website at:
www.gemelec.com






Cable Preparation








Note: Fold exposed braid back over jacket. Leave foil attached to dielectric.
 For Quad Shield Cable: Fold outer braid back over jacket, remove outer foil, fold inner braid back over jacket.

Between Series Adapters

RCA Plug to Jack Angle	RCA Plug to BNC Jack	RCA Plug to F Jack	RCA Jack to F Jack	RCA Jack to RCA Jack
				
100-RA-125TP	100-350TP	100-0401TP	125-0401TP	125-125TP






UHF Plug to BNC Plug	UHF Plug to BNC Jack	UHF Plug to N Jack	UHF Plug to F Jack	Mini-UHF Jack to N Plug
				
259-301TP	259-350TP	259-427TP	259-0401TP	260-400TP

Mini UHF Plug to BNC Jack	Mini UHF Plug to TNC Jack	Mini UHF Plug to N Jack	BNC Plug to RCA Plug	BNC Plug to RCA Jack
				
280-350TP	280-360TP	280-427TP	301-100TP	301-125TP

BNC Plug to UHF Jack	BNC Plug to Mini UHF Jack	BNC Plug to TNC Jack	BNC Plug to N Jack	BNC Plug to F Jack
				
301-249TP	301-260TP	301-360TP	301-427TP	301-0401TP


BNC Plug to F Plug	TNC Plug to BNC Jack	TNC Plug to N Jack	BNC Jack to N Jack	BNC Jack to F Jack
				
301-0405TP	310-350TP	310-427TP	350-427TP	350-0401TP

N Plug to UHF Plug	N Plug to BNC Jack	N Plug to TNC Jack	N Plug to F Jack	SMA Plug to Mini UHF Jack
				
400-259TP	400-350TP	400-360TP	400-0401TP	800-260TP

SMA Plug to BNC Jack	SMA Plug to N Jack	SMA Jack to BNC Plug	SMA Jack to N Plug	F Plug to RCA Jack
				
800-350TP	800-427TP	801-301TP	801-400TP	0405-125TP

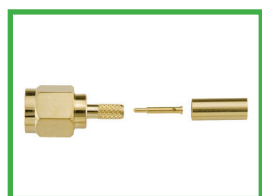
F Plug to BNC Jack

0405-350TP

F Plug to N Jack

0405-427TP

Note: 'TP' at the end of our part number indicates that there are 10 pieces in each bag (Ten Pack).

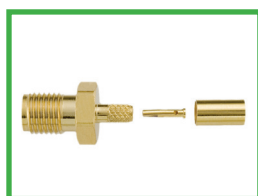
SMA Connectors



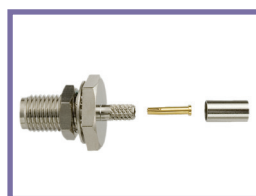
SMA-P316



SMA-AP316N



SMA-J316



SMA-BKJ316N



SMA-4HR



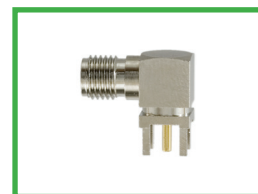
SMA-2HRN



SMA-FMBKRN



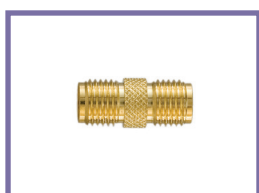
SMA-PCBJN



SMA-PCBAJN



SMA-PCBPN



SMA-J/J



SMA-P/P



SMA-P/J



SMA-AP/J

GEM Part Numbers

PLUG	ANGLE PLUG	JACK	BULKHEAD JACK	CABLE
SMA-P178N	SMA-AP178N	SMA-J178N	SMA-BKJ178N	RG178
SMA-P178DBN	SMA-AP178DBN	SMA-J178DBN	SMA-BKJ178DBN	RD178
SMA-P316N	SMA-AP316N	SMA-J316N	SMA-BKJ316N	RG316, 174, 188
SMA-P316DBN	SMA-AP316DBN	SMA-J316DBN	SMA-BKJ316DBN	RD316, 174, 188
SMA-P58N	SMA-AP58N	SMA-J58N	SMA-BKJ58N	RG58, 141, 142

Product is provided as standard nickel plated body and gold plated contacts. For gold plated bodies delete the "N" at the end of the part number.

GEM Part Number Descriptions

GEM Part Number	Description
SMA-4HRN	4 Hole Flange Receptacle
SMA-2HRN	2 Hole Flange Receptacle
SMA-FMBKRN	Front Mount Bulkhead Receptacle
SMA-PCBJN	Printed Circuit Board Mount Receptacle
SMA-PCBAJN	Right Angle Printed Circuit Mount Receptacle
SMA-PCBPN	Printed Circuit Board Mount Plug
SMA-J/JN	Adapter Jack/Jack
SMA-P/PN	Adapter Plug/Plug
SMA-AP/JN	Adapter Right Angle Plug/Jack

Electrical

Impedance	50 Ω
Frequency Range	.141" & .085" semi-rigid cable: 0-18 GHz Flexible cables: 0-12.4 GHz
Voltage Rating	RG-58, 141, 142: 500 volts peak RG-316, 174, 188: 375 volts peak
Dielectric Withstanding Voltage	.141" & RG-58, 141, 142 Cables: 1,000 VRMS .085" & RG-316, 174, 188 Cables: 750 VRMS
VSWR	Straight connector, .141": 1.05 + .005 f (GHz) Straight connector, .RG-316, 174, 188: 1.15 + .02 f (GHz) Straight connector, RG-58, 141, 142: 1.15 + .01 f (GHz) Straight connector, RG-178: 1.20 + .025 f (GHz)
Contact Resistance	Center contact: 2.0 m Ω Body: 2.0 m Ω Braid to body: 0.5 m Ω
Insulation Resistance	5,000 M Ω
Insertion Loss	dB maximum = .06v[f(GHz)] Test frequency @ 6.0 GHZ
RF Leakage	-90 dB minimum @ 2.3 GHz

Mechanical

Mating	.250-36 threaded coupling
Mating Torque	Minimum: 2 inch pounds (12 N.cm) Recommended: 7-10 inch pounds (80-110 N.cm) Maximum: 15 inch pounds (170 N.cm)
Connector Durability	100 matings

Material

Bodies, Coupling Nuts, Other Metal Parts (except as noted)	Brass per QQ-B-626
Contacts	Male: Brass Female: Beryllium copper, heat treated
Center Contact Plating	.000030" minimum gold
Plating (Other Metal Parts)	Standard .000010" gold or nickel plated
Insulator	TFE fluorocarbon
Gaskets	Silicone rubber
Crimp Ferrule	Seamless copper tubing alloy

Environmental

Temperature Range	- 65°C to +165°C
Thermal Shock	MIL-STD-202 method 107 (test condition B) except high temperatures @ + 200°C
Vibration	MIL-STD-202 method 204 (test condition D)
Shock	MIL-STD-202 method 213 (test condition I). No discontinuity permitted.
Corrosion	MIL-STD-202 method 101 (test condition B) 5% salt solution
Moisture Resistance	MIL-STD-202 method 106, except step 7b (vibration) omitted, and high humidity measurements do not apply
Weatherproofing	Crimp type: heat shrink tubing Solder type: silicone rubber gaskets
Altitude	MIL-STD-202 method 105 (test condition C), no corona at 70,000 feet. .141" & RG-55: 250 VRMS .085" & RG-122: 190 VRMS

Military Specifications

MIL-C-39012 & MIL-C-83517 SMA Specification Sheets	As applicable
--	---------------

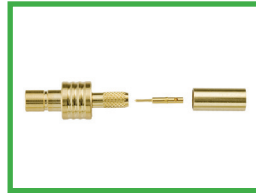
SMB Connectors



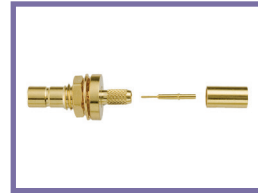
SMB-P196



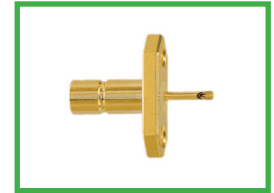
SMB-AP196



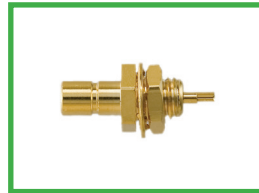
SMB-J196



SMB-BKJ196



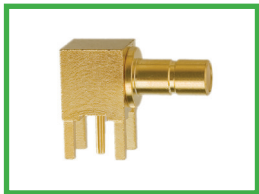
SMB-2HR



SMB-FMBKR



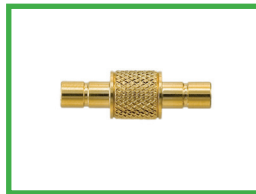
SMB-PCBJ



SMB-PCBAJ



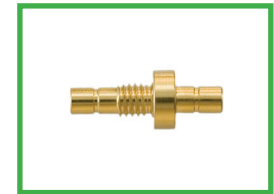
SMB-PCBP



SMB-J/J



SMB-P/P



SMB-BKJ/J

GEM Part Numbers

PLUG	ANGLE PLUG	JACK	BULKHEAD JACK	CABLE
SMB-P196N	SMB-AP196N	SMB-J196N	SMB-BKJ196N	RG196
SMB-P196DBN	SMB-AP196DBN	SMB-J196DBN	SMB-BKJ196DBN	RD196 double braid
SMB-P188N	SMB-AP188N	SMB-J188N	SMB-BKJ188N	RG188, 174, 316
SMB-P188DBN	SMB-AP188DBN	SMB-J188DBN	SMB-BKJ188DBN	RD188, 174, 316 double braid
SMB-P58N	SMB-AP58N	SMB-J58N	SMB-BKJ58N	RG58, 141, 142

Product is provided as standard nickel plated body and gold plated contacts. For gold plated bodies delete the "N" at the end of the part number.

GEM Part Number Descriptions

GEM Part Number	Description
SMB-2HRN	2 Hole Flange Mount Receptacle
SMB-FMBKRN	Front Mount Bulkhead Receptacle
SMB-PCBJN	Printed Circuit Board Mount Receptacle
SMB-PCBAJN	Right Angle Printed Circuit Board Mount Receptacle
SMB-PCBPN	Printed Circuit Board Mount Plug
SMB-J/JN	Adapter Jack/Jack
SMB-P/PN	Adapter Plug/Plug
SMB-BKJ/JN	Adapter Bulkhead Jack/Jack

SMB Connectors

50 Ω SMB Specifications

Electrical

Impedance	50 Ω
Frequency Range	0-4 GHz with low reflection; usable to 10.0 GHz
Voltage Rating for RG-188/U Cable	335 volts at sea level and 85 volts at 70,000 feet
Dielectric Withstanding Voltage	RG-196: 750 VRMS; RG-188: 1,000 VRMS
VSWR	Straight connector, RG-196/U: 1.30 + .04 f (GHz) Right angle connector, RG-196/U: 1.45 + .06 f (GHz) Straight connector, RG-188/U: 1.25 + .04 f (GHz) Right angle connector, RG-188/U: 1.35 + .04 f (GHz)
Contact Resistance	Center contact: 6.0 mΩ initial, 8.0 after environmental; Outer contact: 1.0 mΩ initial, 1.5 after environmental Braid to body: 1.0 mΩ initial, after environmental N/A
Insulation Resistance	1,000 MΩ minimum
Insertion Loss	Straight connector: 0.30 dB @ 1.5 GHz Right angle connector: 0.60 dB @ 1.5 GHz
RF Leakage	-55 dB minimum @ 2-3 GHz

Mechanical

Mating	Snap-on coupling per MIL-STD-348
Braid/Jacket Cable Affixment	Hex crimp
Center Conductor Cable Affixment	Solder
Contact Captivation	All types unless noted otherwise
Cable Retention	Equal to breaking strength of cable employed
Engagement Forces	Engagement: 14 lbs maximum Disengagement: 2 lbs minimum After 500 matings, 14 lbs maximum engagement and disengagement
Connector Durability	500 mating cycles minimum

Material

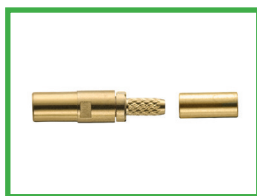
Center Contact	Female: beryllium copper, gold-plated Male: brass or beryllium copper, gold-plated
Outer Contact Plating	Nickel or gold plating as indicated
Body	Brass per QQB-626, or zinc per ASTM B86-71
Body Plating	Nickel or gold plating as indicated
Insulator	TFE
Crimp Ferrule	Annealed copper alloy

Environmental

Temperature Range	- 65°C to +165°C
Thermal Shock	MIL-STD-202 method 107, test condition B (except high temperatures @ 200°C
Shock	MIL-STD-202 method 202, method 13, snap-on, test condition B; 75 G's @ 6 milliseconds ½ sine
Vibration	MIL-STD-202 method 204, snap-on, test condition B; (15 G's)
Corrosion	MIL-STD-202 method 101, test condition B. 5% salt solution

Note: These characteristics are typical but may not apply to all connectors.

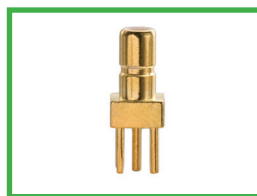
SSMB Connectors



SSMB-P316



SSMB-AP316



SSMB-PCBJ



SSMB-ELPCBJ

Plug	Angle Plug	Jack	Angle Jack	Cable
SSMB-P316N	SSMB-AP316N	SSMB-J316N	SSMB-AJ316N	RG 188, 174, 316
SSMB-P178N	SSMB-AP178N	SSMB-J178N	SSMB-AJ178N	RG 178, 196

Product is provided as standard nickel body O.D. gold contacts.

For Gold plated bodies delete the "N" at the end of the part number.

SSMB-PCBJ	Printed circuit board Jack
SSMB-ELPCBJ	End Launch Printed circuit board Jack

SSMB Specifications (MIL-PRF-39012 as applicable)

Electrical

Impedance	50 Ω. Frequency range: DC-12.4 GHz.		
Voltage rating	250VRMS @ sea level; 60 VRMS @ 70,000ft.		
Insulation resistance	1,000 megohms minimum.		
Contact resistance	Center contact: Initial: 4.0 milliohms maximum; after environmental test conditions: 6.0 milliohms maximum.		
Outer contact	Initial: 1.0 milliohms maximum; after environmental test conditions: 1.5 milliohms maximum.		
Cable braid to body	Initial: 1.0 milliohms maximum; after environmental test conditions: N/A.		
Corona level	125V @ 70,000 ft. RF highpot: 400 VRMS @ 5 MHz.		
RF leakage	-70 dB min @ 2-3 GHz. Insertion loss: 30 dB max @ 1.5 GHz.		
VSWR	Cable RG178 RG316 .085" semi-rigid	Straight connector 1.25 + (.020 x F[GHz]) 1.30 + (.020 x F[GHz]) 1.25 + (.015 x F[GHz])	Right angle connector 1.25 + (.030 x F[GHz]) 1.30 + (.030 x F[GHz]) 1.25 + (.025 x F[GHz])

Mechanical

Force to engage	Initial: 6 lbs. max engagement, 2 lbs. min disengagement.
Contact retention	(Method 204) Condition B (15G)
Mechanical shock	(Method 213) Condition B, 75G @ 6 ms @ ½ sine

Materials

Plug spring fingers, center contacts	Beryllium copper per ASTM-B-196, condition HT.
Crimp sleeves	Seamless copper tube per ASTM-B-75, type C12000, temper: light anneal 050.
Other metal parts	Brass per ASTM-B-16, alloy 360, ½ hard.
Insulators	Teflon (TFE) per ASTM-D-1710.

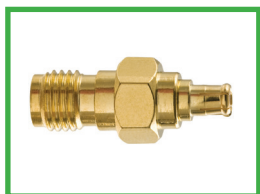
Environmental (MIL-STD-202)

Temperature range	-65°C to 165°C Corrosion: method 101, condition B, 5% salt solution.
Vibration	(Method 204) Condition B (15G)
Mechanical shock	(Method 213) Condition B, 75G @ 6 ms @ ½ sine

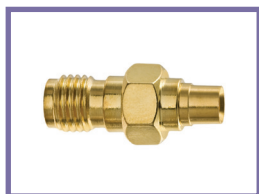
Finish

Center contact:	Gold plated per current revision of MIL-PRF-39012.
Other metal parts	Gold plated to meet current MIL-PRF-39012 corrosion requirements.

MCX Connectors



SMA-MCX J-P



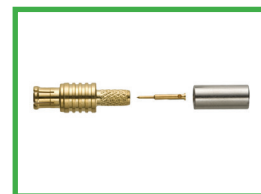
SMA-MCX J-J



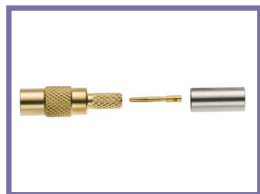
SMA-MCX P-J



SMA-MCX P-P



MCX-P316



MCX-J316



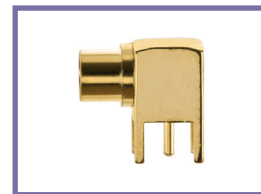
MCX-AP316



MCX-SMJ



MCX-ELPEBJ



MCX-PCBJ

Plug	Angle Plug	Jack	Angle Jack	Cable
MCX-P316N	MCX-AP316N	MCX-J316N	MCX-AJ316N	RG 188, 174, 316
MCX-P178N	MCX-AP178N	MCX-J178N	MCX-AJ178N	RG 178, 196

Product is provided as standard nickel body O.D. gold contacts.
For Gold plated bodies delete the "N" at the end of the part number.

MCX-PCBJ	Printed circuit board Jack
MCX-PCBAJ	Printed circuit board Angle Jack
MCX-ELPCBJ	End Launch Printed circuit board Jack
MCX-SMJ	Surface mounted Jack
SMA-MCX J/J	Adaptor SMA Jack to MCX Jack
SMA-MCX J/P	Adaptor SMA Jack to MCX Plug
SMA-MCX P/J	Adaptor SMA Plug to MCX Jack
SMA-MCX P/P	Adaptor SMA Plug to MCX Plug

Above items are provided as standard gold body and gold contact. For nickel bodies add "N" at the end of the part number.

MCX Specifications (MIL-PRF-39012 as applicable)

Electrical

Impedance	50 Ω.		
Frequency Range	DC - 6 GHz.		
Voltage rating	250VRMS (RG 178 cable), @ 335 VRMS (RG 316 cable).		
Insulation resistance	1,000 megohms minimum.		
Contact resistance	Center contact: Initial: 5.0 milliohms maximum Outer contact: 2.5 milliohms maximum.		
VSWR	Frequency 1 GHz 6 GHz	Straight connector 1.22:1 max. 1.35:1 max.	Right angle connector 1.35:1 max. 1.50:1 max.

Mechanical

Force to engage	6 lbs. max.
Force to disengage	1.8 pounds max.
Contact retention	2.3 pounds min axial force.
Durability	500 mating cycles.

MCX Connectors

MCX Specifications (MIL-PRF-39012 as applicable)

Materials

Plug spring fingers, female center contacts	Beryllium copper per ASTM-B-196, condition HT.
Crimp sleeves	Seamless copper tube per ASTM-B-75, type C12000, temper: light anneal 050.
Other metal parts	Brass per ASTM-B-16, alloy 360, ½ hard.
Insulators	Teflon (TFE) per ASTM-D-1710.

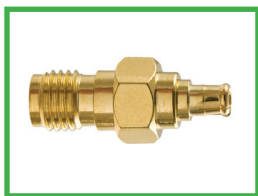
Environmental (MIL-STD-202)

Temperature range	-65°C to 165°C to 165°C.
Thermal shock	Method 107, condition C
Corrosion	Method 101, condition B, 5% salt solution.
Vibration	(Method 204) Condition D.
Moisture resistance	(Method 106).

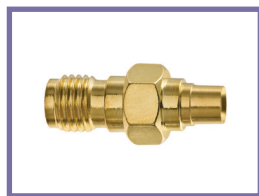
Finish

Center contact:	Gold plated per MIL-G-45204 Type II, Class 0, Grade C, over .00010 to .00020 sulfamate nickel per QQ-N-290.
Other metal parts	Gold or nickel plated to meet MIL-PRF-39012 corrosion requirements.

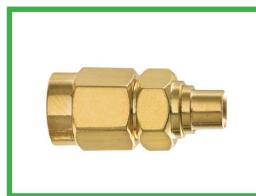
MMCX Connectors



SMA-MMCX J-P



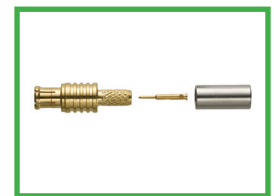
SMA-MMCX J-J



SMA-MMCX P-J



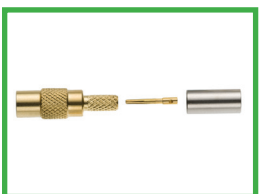
SMA-MMCX P-P



MMCX-P316



MMCX-AP316



MMCX-J316



MMCX-PCBAJ



MMCX-SMJ



MMCX-PCBJ



MMCX-ELPEBJ

Plug	Angle Plug	Jack	Angle Jack	Cable
MMCX-P316N	MMCX-AP316N	MMCX-J316N	MMCX-AJ316N	RG 188, 174, 316
MMCX-P178N	MMCX-AP178N	MMCX-J178N	MMCX-AJ178N	RG 178, 196

Product is provided as standard nickel body O.D. gold contacts.
For Gold plated bodies delete the "N" at the end of the part number.

MMCX-PCBJ	Printed circuit board Jack
MMCX-PCBAJ	Printed circuit board Angle Jack
MMCX-ELPCBJ	End Launch Printed circuit board Jack
MMCX-SMJ	Surface mounted Jack
SMA-MMCX J/J	Adaptor SMA Jack to MCX Jack
SMA-MMCX J/P	Adaptor SMA Jack to MCX Plug
SMA-MMCX P/J	Adaptor SMA Plug to MCX Jack
SMA-MMCX P/P	Adaptor SMA Plug to MCX Plug

Above items are provided as standard gold body and gold contact. For nickel bodies add "N" at the end of the part number.

MMCX Connectors

MMCX Specifications (MIL-PRF-39012 as applicable)

Electrical

Impedance	50 Ω .
Frequency range	DC - 6 GHz.
Insulation resistance	1,000 megohms minimum.
Dielectric withstanding voltage	500 VRMS @ sea level.
Contact resistance	Initial: 5 milliohms maximum, after environmental test conditions: 15 milliohms max.
Corona level	190V @ 70,000 ft.
RF highpot	400 VRMS @ 4 MHz.

* These specifications change periodically with updates to MIL-PRF-39012 requirements. Contact factory for latest specifications.

Mechanical

Force to engage	8 lbs. max.
Force to disengage	1.4 pounds min.
Contact retention	2 pounds min axial force.
Durability	500 mating cycles.

Materials

Body	Brass per ASTM B16, alloy C36000, temper H02.
Center contact	Beryllium copper per ASTM B196, alloy C173000, temper TD04.
Insulator	Virgin white Teflon (TFE) per ASTM-D-1710. Grade 1, Type I, Class A

Environmental (MIL-STD-202)

Temperature range	-65°C to 165°C to 165°C.
Thermal shock	Method 107, condition C, except temperature range -55°C to 125°C.
Corrosion	Method 101, condition B.
Vibration	Method 204, condition D.

Finish

Body	Gold plated per MIL-G-45204 Type II, Class 0, Grade C, over .00010 to .00020 copper strike per MIL-C-14550.
Center contacts	Gold plated per MIL-G-45204, Type II, Class 1, Grade C over .00010 to .00020 stress-free sulfamate nickel per QQ-N-290..

Cable Cross Reference Chart

Manufacturer:

Belden Incorporated 50 Ohm Connectors

Belden Cable Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
735A1			305-18
1151A	302-4	301-00	305-2
1152A	302-5	301-00	305-5
1164B			305-18
1167B			305-18
1186A	302-4	301-00	305-2
1189A	302-3	301-3	305-3
1223A	302-5	301-00	305-5
1418B			305-18
1426A	302-4	301-00	305-2
1505A	302-4	301-00	305-2
1506A	302-1	301-00	305-10
1530A	302-5	301-00	305-5
1530AP	302-4	301-00	305-2
1532A	302-5	301-00	305-5
1613A	302-5	301-00	305-5
1672A			
1694A	302-5	301-00	305-5
1695A	302-5	301-00	305-5
1808A			
1809A	302-4	301-00	305-2
1828A	302-5	301-00	305-5
1829A	302-5	301-00	305-5
1855A			
1865A			
7731A			
7808A			305-17
7855A			
8212	302-4	301-00	305-2
8215			305-3
8216			305-19
8218			305-18
8219			305-1
8221			305-2
8231			
8240	302-1	301-00	305-1
8241	302-4	301-00	305-2
8241A	302-4	301-00	305-2
8241B	302-4	301-00	305-2
8241F			305-2
8244	302-4	301-00	305-2
8259			305-1
8262			305-1
8263	302-4	301-00	305-2
8273			305-25
8279			
8279A			
8281	302-3	301-3	305-3
8281B	302-3	301-3	305-3
8281F	302-3	301-3	305-3
9052	302-4	301-00	305-2
9054	302-4	301-00	305-2
9058	302-5	301-00	305-5
9060	302-5	301-00	305-5
9062	302-5	301-00	305-5
9066	302-5	301-00	305-5
9100	302-4	301-00	305-2
9104	302-4	301-00	305-2
9104P	302-4	301-00	305-2
9104R	302-4	301-00	305-2
9108	302-4	301-00	305-2
9108P	302-4	301-00	305-2
9110	302-4	301-00	305-2
9114	302-5	301-00	305-5
9116	302-5	301-00	305-5
9116P	302-4	301-00	305-4
9116R	302-5	301-00	305-5

Belden Cable Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
9117	302-5	301-00	305-5
9118	302-5	301-00	305-5
9141	302-3	301-3	305-3
9201	302-1	301-00	305-1
9203			305-1
9204	302-4	301-00	305-2
9209			
9209A			
9221			305-20
9231	302-3	301-3	305-3
9240	302-4	301-00	305-2
9244			
9428	302-5	301-00	305-5
9252			305-12
9258			305-17
9259			305-2
9274	302-4	301-00	305-2
9275	302-4	301-00	305-2
9290			305-3
9310	302-1	301-00	305-1
9311			305-1
9659			305-2
9907			305-1
9913F			
82108	302-4	301-00	305-2
82120	302-4	301-00	305-2
82241	302-1	301-00	305-1
82248	302-4	301-00	305-4
82259			305-10
82907			305-26
83241	302-1	301-00	305-1
83242	302-1	301-00	305-1
83264			305-20
84141	302-1	301-00	305-1
84142			305-1
87120	302-4	301-00	305-4
87269	302-1	301-00	305-10
88232	302-4	301-00	305-2
88241	302-10	301-00	305-10
88281	302-5	301-00	305-5
89108	302-4	301-00	305-4
89120	302-4	301-00	305-2
89248	302-5	301-00	305-5
89259			305-10
89269	302-10	301-00	
89555			305-25
89907			305-26
539945	302-5	301-00	305-5
543945	302-4	301-00	307-2
573945			305-18
633948	302-4	301-00	305-4
639948	302-1	301-00	305-1
643948	302-4	301-00	305-4
673948			305-18

Cable Cross Reference Chart

Belden Incorporated 75 Ohm Connectors

Part #	GEM Electronics Part Number											Crimp	Uni-Crimp	
	Crimp/ Crimp	Compression Seal									F Plug			BNC Plug
		BNC Plug	BNC Jack	BNC Angle Plug	RCA Plug	RCA Jack	RCA Angle Plug	F Plug	F Jack	F Angle Plug				
735A1	307-18													
1151A														
1152A		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
1164B	307-18													
1167B	307-18													
1186A											0406-1	301-75-5TP		
1189A											0459-2M	301-75-2TP		
1223A	307-45										0459-2M	301-75-2TP		
1418B	307-18										0459-2M	301-75-2TP		
1426A	307-2													
1505A	307-HP-103										0459-2M	301-75-2TP		
1506A	307-HP-103													
1530A														
1530AP											0406-1	301-75-5TP		
1532A		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
1613A		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
1672A											0406-1	301-75-5TP		
1694A	307-HP-102													
1695A	307-HP-102										0406-1	301-75-5TP		
1808A											0406-1	301-75-5TP		
1809A	307-2													
1828A														
1829A											0406-1	301-75-5TP		
1855A	307-HP-101										0406-1	301-75-5TP		
1865A	307-HP-101													
7731A	307-HP-105													
7808A														
7855A	307-HP-104													
8212	307-2										04592M	301-75-2TP		
8215	307-31													
8216														
8218	307-18										0459-2M	301-75-2TP		
8219														
8221	307-2													
8231	307-HP-105													
8240														
8241	307-2										0459-2M	301-75-2TP		
8241A	307-2	302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
8241B	307-2	302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
8241F	307-2													
8244		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
8259														
8262														
8263	307-2	302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
8273														
8279	307-47													
8279A	307-47													
8281	307-3													
8281B	307-3										0459-2M	301-75-2TP		
8281F	307-3										0459-2M	301-75-2TP		
9052		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9054		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9058		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
9060		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
9062		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
9066		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
9100		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9104		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9104P		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9104R		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9108		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9108P		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9110		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP		
9114		302-5CSTP	351-5CSTP	303-5NSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
9116		302-5CSTP	351-5CSTP	303-5NSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP		
9116P		302-510CSTP	351-510CSTP	303-510CSTP	100-610CSTP	125-610CSTP	101-610CSTP	0406-610CS	0401-610CSTP	0407-610CSTP	0406-10	301-75-510TP		
9116R		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP				

Cable Cross Reference Chart

Manufacturer:

Coleman Cable 50 Ohm Connectors

Coleman Cable Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
1591			305-1
1591F			305-1
1596			305-19
1596F			305-19
8299			305-2
8405			305-2
8418			305-3
8422			305-13
82011	302-5	301-00	
82049	302-5	301-00	
92001	302-5	301-00	
92002			305-10
92003	302-5	301-00	
92004	302-4	301-00	
92005	302-4	301-00	
92006	302-4	301-00	305-2
92009	302-4	301-00	
92011	302-5	301-00	305-5
92032	302-5	301-00	305-5
92041	302-3	301-3	
92043	302-5	301-00	
92045	302-5	301-00	
92061	302-5	301-00	
92074	302-4	301-00	
92094			305-2
99911	302-5	301-00	305-5
99962			305-2
99969	302-1	301-00	305-1
920036	302-5	301-00	305-5
920039	302-5	301-00	305-5
920069	302-4	301-00	
920413	302-3	301-3	
920741	302-4	301-00	
921003	302-4	301-00	305-2
921005	302-4	301-00	305-2
921007	302-4	301-00	305-2
921009	302-4	301-00	305-2
921015	302-4	301-00	305-2
921019	302-5	301-00	
921021			305-11
921024	302-1	301-00	305-1
921025			305-11
921027			305-11
922132	302-5	301-00	305-5
991020			305-17
991039	302-1	301-00	305-1
991041	302-1	301-00	305-1
991045	302-1	301-00	305-1
991047	302-1	301-00	305-1
991049			305-1
991053	302-1	301-00	305-1
991055			305-2
991057	302-4	301-00	
991061	302-4	301-00	
991069			305-19
991079			305-13
991401			305-13
992101	302-4	301-00	305-2
992109	302-4	301-00	305-2
992113	302-4	301-00	
992115	302-4	301-00	
992117	302-4	301-00	
992127	302-5	301-00	
992132	302-5	301-00	
992141	302-5	301-00	
992144	302-5	301-00	

Coleman Cable Part number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
992151	302-3	301-3	
992433	302-5	301-00	
992479	302-5	301-00	305-5
993201			
993205			
993251			305-2
993253			305-2
993256			305-10
993317			305-1

Cable Cross Reference Chart

Manufacturer:

Commscope Wire & Cable 50 Ohm Connectors

Commscope Wire & Cable Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
734			
735			
2022K	302-4	301-00	305-2
2022V	302-4	301-00	305-2
2037K			305-10
2037V			305-10
2065K			305-10
2065V			305-10
2100K	302-11	301-11	305-11
2104K			305-11
2104V			305-11
2100V	302-11	301-11	305-11
2120K	302-11	301-11	305-11
2120V	302-11	301-11	305-11
2125	302-1	301-00	305-1
2125K	302-1	301-00	305-1
2135K			305-11
2227K	302-5	301-00	305-5
2227V	302-5	301-00	305-5
2228K	302-5	301-00	305-5
2229K	302-5	301-00	305-5
2249K	302-1	301-00	
2249V	302-1	301-00	
2250K	302-1	301-00	
2250V	302-1	301-00	
2275K	302-4	301-00	305-2
2275V	302-4	301-00	305-2
2276V	302-4	301-00	305-2
2277K	302-4	301-00	305-2
2277V	302-4	301-00	305-2
2278K	302-4	301-00	305-2
2278V	302-4	301-00	305-2
2279K	302-4	301-00	305-2
2279V	302-4	301-00	305-2
3104			305-1
3111			305-1
3123	302-1	301-00	305-10
3130	302-1	301-00	305-10
3135			305-1
3136			305-1
3139			305-1
5540	302-5	301-00	305-5
5550			305-2
5552	302-4	301-00	305-2
5553	302-4	301-00	305-2
5555	302-4	301-00	305-2
5557	302-4	301-00	305-2
5560	302-4	301-00	305-2
5563	302-4	301-00	305-2
5565	302-4	301-00	305-2
5569	302-4	301-00	305-2
5571	302-4	301-00	305-2
5572	302-4	301-00	305-2
5573	302-4	301-00	305-2
5575	302-4	301-00	305-2
5586	302-4	301-00	305-2
5700	302-5	301-00	305-5
5701	302-5	301-00	305-5
5702	302-5	301-00	305-5
5713	302-3		305-3
5715	302-5	301-00	305-5
5725	302-5	301-00	305-5
5726	302-5	301-00	305-5
5727	302-5	301-00	305-5
5728	302-5	301-00	305-5

Commscope Wire & Cable Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
5730	302-5	301-00	305-5
5731	302-5	301-00	305-5
5737	302-5	301-00	305-5
5740	302-3	301-3	
5750	302-3	301-3	
5765	302-5	301-00	305-5
5906			
6200	302-4	301-00	305-2
6608	302-4	301-00	305-2
6609	302-4	301-00	305-2
6615	302-4	301-00	305-2
7500	302-3	301-3	305-3
7501	302-3	301-3	305-3
7503	302-3	301-3	305-3
7505	302-3	301-3	305-3
7522			
7530			
7538			
7725	302-1	301-00	
7726	302-1	301-00	
2000896			

Cable Cross Reference Chart

Commscope Wire & Cable 75 Ohm Connectors

Part #	GEM Electronics Part Number											
	Crimp/ Crimp BNC Plug	Compression Seal									Crimp	Uni-Crimp
		BNC Plug	BNC Jack	BNC Angle Plug	RCA Plug	RCA Jack	RCA Angle Plug	F Plug	F Jack	F Angle Plug	F Plug	BNC Plug
5740												
5750												
5765	307-HP-102	302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP
5906	307-HP-105											
6200		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
6608		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
6609		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
6615		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
7500												
7501												
7503												
7505												
7522												
7530	307-HP-104											
7538	307-HP-101											
7725												
7726												
2000896		302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-4	

Cable Cross Reference Chart

General Cable Systems 50 & 75 Ohm Connectors

General Cable Part Number	GEM Electronics Part Number		
	50 Ohm Connectors		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
C1103	302-4	301-00	305-4
C1142	302-4	301-00	305-4
C3500	302-1	301-00	305-10
C3523	302-4	301-00	305-4
C3524	302-4	301-00	305-4
C5761	302-5	301-00	305-5
C5770	302-4	301-00	305-4
C5775	302-5	301-00	305-5
C5785			
C5814	302-5	301-00	305-5
C5822	302-5	301-00	305-5
C5824	302-5	301-00	305-5
C5826	302-5	301-00	305-5
C5889			
C5900	302-5	301-00	305-5
C5910	302-5	301-00	305-5
C5920			
C8025	302-1	301-00	305-4
C8027	302-1	301-00	305-4
C8029	302-5	301-00	305-5

Part #	GEM Electronics Part Number											
	75 Ohm Connectors											
	Crimp/ Crimp BNC Plug	Compression Seal									Crimp F Plug	Uni-Crimp BNC Plug
		BNC Plug	BNC Jack	BNC Angle Plug	RCA Plug	RCA Jack	RCA Angle Plug	F Plug	F Jack	F Angle Plug		
C1103	302-N2CSTP	351-2CSTP	303-3CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP	
C1142	302-N2CSTP	351-2CSTP	303-3CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP	
C3500	302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-10	301-75-10TP	
C3523	302-510CSTP	351-510CSTP	303-510CSTP	100-610CSTP	125-610CSTP	101-610CSTP	0406-610CS	0401-610CSTP	0407-610CSTP	0406-10	301-75-510TP	
C3524	302-510CSTP	351-510CSTP	303-510CSTP	100-610CSTP	125-610CSTP	101-610CSTP	0406-610CS	0401-610CSTP	0407-610CSTP	0406-10	301-75-510TP	
C5761	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP	
C5770	302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP	
C5775	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP	
C5785	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-4		
C5814	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP	
C5822	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP	
C5824	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP	
C5826	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP	
C5889	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-4		
C5900	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP	
C5910	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP	
C5920	302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-4		
C8025	302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP	
C8027	302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP	
C8029	302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP	

Cable Cross Reference Chart

Manufacturer:

Genesis Cable Systems 50 Ohm Connectors

Genesis Cable Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
5001	302-4	301-00	305-2
5002	302-5	301-00	305-5
5003	302-5	301-00	305-5
5004	302-4	301-00	305-2
5006	302-4	301-00	305-2
5007			
5008			
5009	302-4	301-00	305-2
5010	302-5	301-00	305-5
5011	302-5	301-00	305-5
5012	302-5	301-00	305-5
5013	302-4	301-00	305-2
5018			
5019			
5020			
5021	302-5	301-00	305-5
5022			
5025			305-3
5026			305-3
5027	302-5	301-00	305-5
5029			
5038	302-5	301-00	305-5
5050			
5051			
5055			
5057			
5059			
5060			
5061			
5062			
5066			
5067			
5099			
5301	302-4	301-00	305-2
5302	302-5	301-00	305-5
5303	302-5	301-00	305-5
5351	302-1	301-00	305-24
5352	302-4	301-00	305-4
5353	302-4	301-00	305-4
5354	302-1	301-00	305-10
5355	302-4	301-00	305-2
5356	302-5	301-00	305-5

Cable Cross Reference Chart

Manufacturer:

Reeme Products Corporation 50 Ohm Connectors

Reeme Products Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
1510/95	302-4	301-00	305-2
1525	302-4	301-00	305-2
1526	302-4	301-00	305-2
1531	302-5	301-00	305-5
1535	302-4	4011-00	305-2
1561	302-5	301-00	305-5
1562			
1563	302-5	301-00	305-5
1564			
1586			
725102	302-1	301-00	305-10
725105	302-4	301-00	305-4
725113	302-4	301-00	305-4
725526	302-1	301-00	305-10

Reeme Products Corporation 75 Ohm Connectors

Part #	GEM Electronics Part Number											Uni-Crimp
	Crimp /Crimp	Compression Seal									Crimp /Crimp	
	BNC Plug	BNC Plug	BNC Jack	BNC Angle Plug	RCA Plug	RCA Jack	RCA Angle Plug	F Plug	F Jack	F Angle Plug	F Plug	
1510/95		302-N2CSTP	351-N2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
1525		302-N2CSTP	351-N2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
1526		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
1531		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP
1535		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
1561		302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP
1562		302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-4	
1563		302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-1	301-75-5TP
1564		302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-4	
1586								0411-11CS				
725102		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-10	
725105		302-510CSTP	351-510CSTP	303-510CSTP	100-610CSTP	125-610CSTP	101-610CSTP	0406-610CS	0401-610CSTP	0407-610CSTP	0406-10	301-75-510TP
725113		302-510CSTP	351-510CSTP	303-510CSTP	100-610CSTP	125-610CSTP	101-610CSTP	0406-610CS	0401-610CSTP	0407-610CSTP	0406-10	301-75-510TP
725526		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-10	301-75-10TP

Cable Cross Reference Chart

Manufacturer:

Southwest Wire & Cable 50 Ohm Connectors

Southwest Wire & Cable Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
200100	302-4	301-00	305-2
200160	302-5	301-00	
200201	302-5	301-00	
200205	302-5	301-00	305-5
211010	302-5	301-00	305-5
211011	302-5	301-00	305-5
211301	302-4	301-00	305-2
211514	302-1	301-00	305-1
211515			305-1
212000	302-4	301-00	
212053	302-4	301-00	305-2
212060			305-2
212065	302-3	301-3	
212075			305-18
213000	302-4	301-00	
216100			305-19
216400			305-13
220400	302-4	301-00	305-2
220402	302-4	301-00	305-2
220404	302-5	301-00	305-5
221000			305-1
221105			305-10
SO03200	302-4	301-00	305-2
SO03300	305-5	301-00	305-5
SO03301			
SO03305	302-1	301-00	305-10
SO11150	302-4	301-00	305-2
SO11152	302-4	301-00	305-2
SO11153	302-4	301-00	305-2
SO11154	302-1	301-00	
SO11155	302-1	301-00	
SO11156	302-1	301-00	
SO11160			305-10
SO11162	302-1	301-00	305-10
SO11168			305-2
SO11170			305-2
SO11172	302-4	301-00	305-2
SO11173	302-4	301-00	
SO11175			305-1
SO11176	302-1	301-00	305-10
SO11177	302-1	301-00	305-1
SO11178			305-4
SO11179			305-1
SO11180	302-4	301-00	305-2
SO11183			305-18
SO11188			305-26
SO11195		303-2	
SO11196	304-4		305-2
SO11200	302-4	301-00	305-2
SO11204	302-4	301-00	305-2
SO11205	302-4	301-00	305-2
SO11206	302-1	301-00	305-1
SO11207	302-1	301-00	305-10
SO11210	302-1	301-00	305-10
SO11211	302-1	301-00	
SO11212	302-4	301-00	305-2
SO11213	302-4	301-00	305-2
SO11214	302-1	301-00	305-10
SO11220	302-5	301-00	305-5
SO11225	302-5	301-00	305-5

Cable Cross Reference Chart

Manufacturer:

West Penn Wire 50 Ohm Connectors

West Penn Wire Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
804	302-4	301-00	305-2
806	302-5	301-00	305-5
811			305-26
812			305-18
813	302-1	301-00	305-13
814	302-4	301-00	305-2
815	302-4	301-00	305-2
816			305-2
818			305-2
819	302-4	301-00	305-2
820	302-4	301-00	305-2
821			305-26
825			305-18
834	302-4	301-00	305-2
840	302-1	301-00	305-10
841	302-5	301-00	305-5
841S	302-5	301-00	305-5
842	302-5	301-00	305-5
843	302-4	301-00	305-4
845	302-4	301-00	305-4
1135			
2814	302-4	301-00	305-2
2815	302-4	301-00	305-2
2816			305-2
4806	302-5	301-00	305-5
4811			305-26
4815	302-4	301-00	305-2
5900	302-4	301-00	305-2
5905	302-4	301-00	305-2
5915	302-4	301-00	305-2
5920	302-4	301-00	305-2
5930	302-4	301-00	305-2
5935	302-4	301-00	305-2
5940	302-4	301-00	305-2
5945	302-4	301-00	305-2
5950	302-4	301-00	305-2
5960	302-4	301-00	305-2
5965	302-4	301-00	305-2
5970	302-4	301-00	305-2
5975	302-4	301-00	305-4
5985	302-4	301-00	305-2
5990	302-4	301-00	305-2
6100	302-5	301-00	305-5
6110	302-5	301-00	305-5
6140	305-5	301-00	305-5
6150	302-5	301-00	305-5
6170	302-5	301-00	305-5
6190	302-5	301-00	305-5
6200	302-5	301-00	305-5
6210	302-5	301-00	305-5
6325	302-5	301-00	305-5
6350	302-5	301-00	305-5
6373	302-5	301-00	305-5
7210			
25806	302-4	301-00	305-4
25811			305-26
25812			305-25
25814	302-1	301-00	305-10
25815	302-1	301-00	305-30WP
25819	302-1	301-00	305-30WP
25820	302-1	301-00	305-10
25821			305-26
25825			305-18
25841	302-4	301-00	305-4

West Penn Wire Part Number	GEM Electronics Part Number		
	Twist-On	Crimp-On	Crimp/Crimp
	BNC Plug	BNC Plug	BNC Plug
25843	302-1	301-00	305-30WP
25862			305-25
252815	302-1	301-00	305-30WP
256350	302-4	301-00	305-4
25Q841	302-5	301-00	305-5
25Q8415	302-5	301-00	305-5
25Q843	302-4	301-00	305-2
25T841	302-4	301-00	305-4
25T843	302-1	301-00	305-30WP
AQC819	302-4	301-00	305-2
AQC841	302-5	301-00	305-5
HD825			
P804	302-4	301-00	305-2
P806	301-3	301-3	305-3
Q841	302-5	301-00	305-5
Q843	302-4	301-00	305-4
WP54424			305-18
WP44425			305-18
WP54426			305-18
WP6353	302-5	301-00	305-5
WP6354	302-5	301-00	305-5
WP6355	302-5	301-00	305-5
WP8253			305-18
WP8254			305-18
WP8255			305-18
WP9654			305-19
WP9655			305-19

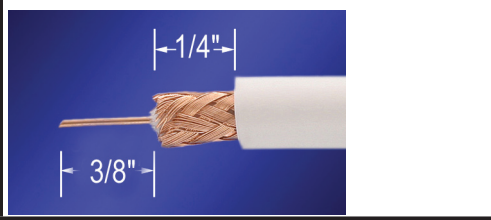
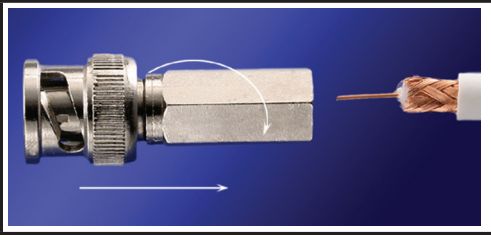
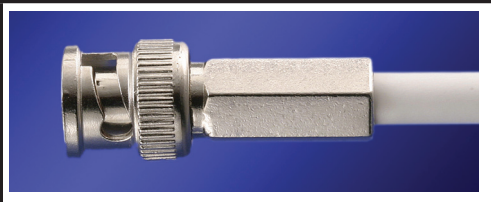
Cable Cross Reference Chart

West Penn Wire 75 Ohm Connectors

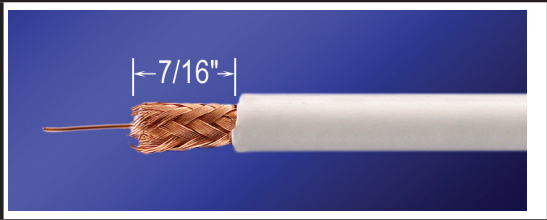
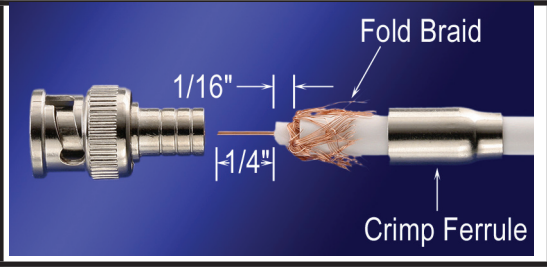
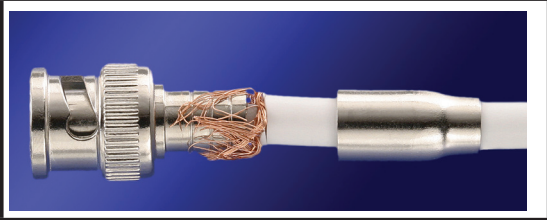
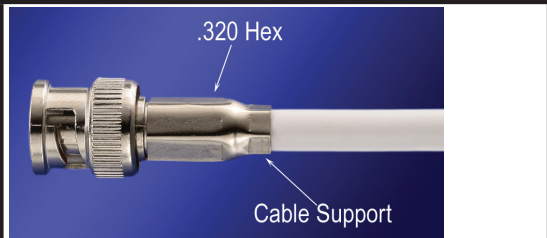
Part #	75 Ohm Connectors											Uni-Crimp BNC Plug
	Crimp/ Crimp BNC Plug	Compression Seal									Crimp	
		BNC Plug	BNC Jack	BNC Angle Plug	RCA Plug	RCA Jack	RCA Angle Plug	F Plug	F Jack	F Angle Plug	F Plug	
25Q841		302-5CSQSTP	351-5CSQSTP	303-5CSQSTP	100-6CSQSTP	125-6CSQSTP	101-6CSQSTP	0406-6CSQS	0401-6CSQSTP	0407-6CSQSTP	0406-3	
25Q8415		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP
25Q843		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
25T841		302-510CSTP	351-510CSTP	303-510CSTP	100-610CSTP	125-610CSTP	101-610CSTP	0406-610CS	0401-610CSTP	0407-610CSTP	0406-10	301-75-510TP
25T843											0459-10	301-75-510TP
AQC819		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
AQC841												
HD825	307-HP-101											
P804		302-N2CSTP	351-2CSTP	303-2CSTP	100-2CSTP	125-2CSTP	101-2CSTP	0459-2CS	0401-2CSTP	0407-2CSTP	0459-2M	301-75-2TP
P806												
Q841												
Q843												
WP54424												
WP44425												
WP54426												
WP6353		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP
WP6354		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP
WP6355		302-5CSTP	351-5CSTP	303-5CSTP	100-6CSTP	125-6CSTP	101-6CSTP	0406-6CS	0401-6CSTP	0407-6CSTP	0406-1	301-75-5TP
WP8253												
WP8254												
WP8255		302-18CSGTP		303-18CSGTP	100-18CSGTP		101-18CSGTP	0459-18CSG		0460-18CSGTP		
WP9654												
WP9655												

Cable Assembly Instructions

Twist-On Procedure For BNC, TNC And F Connectors

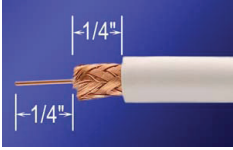
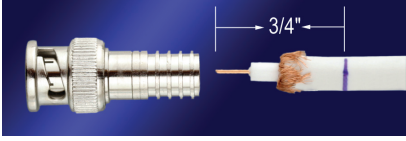

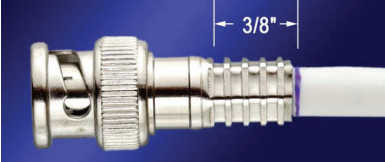
	<p>1) Trim cable as shown using strip tool P/N GST-1. Trim center conductor end at a 45° angle. *Note: Do not fold back braid.</p>
	<p>2) Push connector onto cable while twisting in a clockwise direction. Continue until connector will go no further.</p>
	<p>3) Using open ended wrench on hex body, twist connector an additional 3 turns.</p>

Crimp-On Procedure For BNC & TNC Connectors


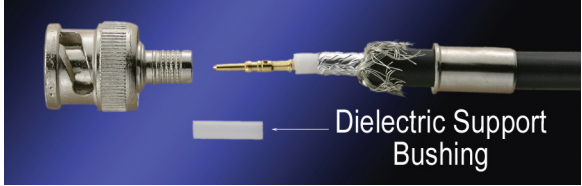



	<p>1) Trim Cable as shown.</p>
	<p>2) Slide crimp ferrule onto cable. 3) Fold braid back and complete trimming the cable as shown. Trim center conductor end at a 45° angle.</p>
	<p>4) Push connector onto cable. 5) Fold braid back over crimp body. 6) Push crimp ferrule up over braid and crimp body.</p>
	<p>7) Using universal crimp tool P/N GET-301-UT, crimp ferrule to connector using .320 hex. 8) Crimp cable support with appropriate hex: .264 RG6 PVC - .250 RG59 PVC, RG6 TFE - .212 RG59 TFE, RG58 PVC</p>

Cable Assembly Instructions

Uni-Crimp

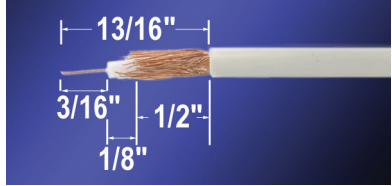
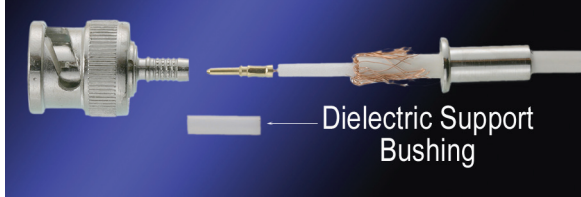

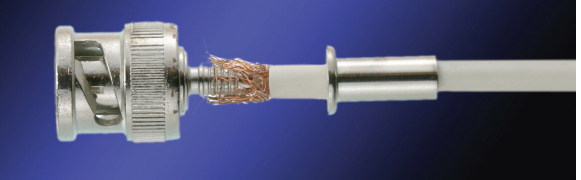
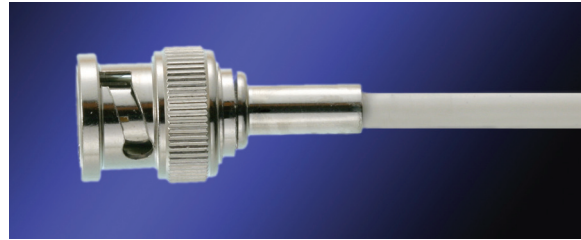
	<p>1) Trim cable as shown using strip tool p/n GST-1. Trim center conductor end at 45° angle.</p>
	<p>2) Fold braid back. 3) Mark cable as shown.</p>
	<p>4) Push connector onto cable twisting connector clockwise and counter clockwise until connector end meets or passes mark on cable.</p>
	<p>5) Using crimp tool part number GET-301-UT and .320 hex, crimp connector body as sh</p>

BNC & TNC Crimp-Crimp 50 Ohm

	<p>1) Strip cable as shown with strip tool. Cut center conductor at a 45° angle.</p>
 <p>Dielectric Support Bushing</p>	<p>2a) Crimp center contact onto center conductor using crimp tool. 2b) Slide crimp ferrule onto cable. 2c) Fold back braid. Note: When using 305-18-4 connector, slide dielectric support bushing onto cable.</p>
	<p>3) Hold cable tightly at braid area, push cable into connector until contact snaps into place.</p>
	<p>4) Fold braid back over crimp body area of connector.</p>
	<p>5) Slide ferrule up over braid and crimp ferrule using crimp tool.</p>


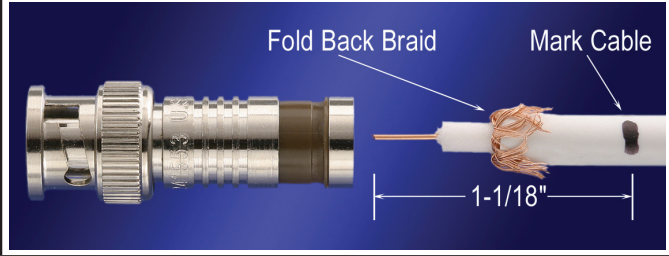


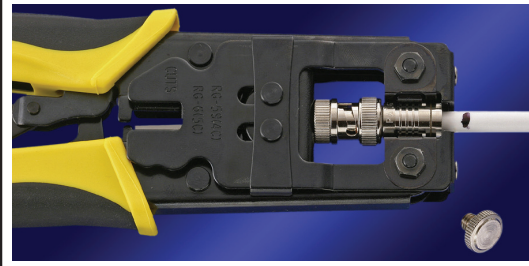

Cable Assembly Instructions

BNC & TNC Crimp-Crimp 75 Ohm

	<p>1) Strip cable as shown. Cut center conductor at a 45° angle.</p>
 <p>Dielectric Support Bushing</p>	<p>2a) Crimp center contact onto center conductor. 2b) Slide crimp ferrule onto cable. 2c) Fold back braid. Note: When using 307-18-4 connector, slide dielectric support bushing onto cable.</p>
	<p>3) Hold cable tightly at braid area, push cable into back of connector until contact snaps into place.</p>
	<p>4) Fold braid back over crimp body area of connector.</p>
	<p>5) Push crimp ferrule up over braid and crimp.</p>


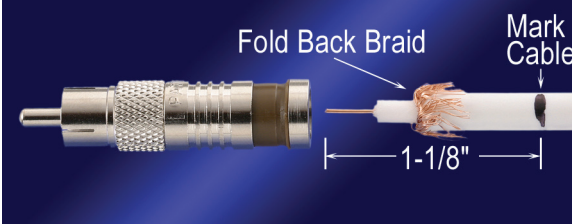



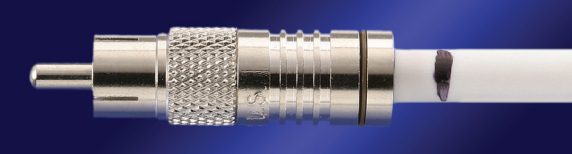
Cable Assembly Instructions

BNC Connector Compression Seal Procedure For RG59 and 6 Type Cables

 <p>A close-up photograph of a white cable being trimmed. Two dimension lines indicate a length of 1/4 inch for the outer jacket and another 1/4 inch for the inner insulation, leaving the braided shield exposed.</p>	<p>1) Trim cable as shown using strip tool P/N GST-1. Trim center conductor end at a 45° angle.</p>
 <p>A photograph showing a BNC connector on the left and a cable on the right. The braided shield is folded back. A small black marker is placed on the cable jacket. A dimension line indicates a length of 1-1/18 inch from the center conductor tip to the marker.</p>	<p>2) Fold braid back. *Note: For quad shield cable cut off first foil and fold back second braid. 3) Mark cable as shown.</p>
 <p>A photograph showing the BNC connector being pushed onto the cable. A blue arrow points to the black marker on the cable jacket, labeled "Cable Mark".</p>	<p>4) Push connector onto cable twisting connector clockwise and counter clockwise until connector end meets or passes mark on cable.</p>
 <p>A photograph of a crimping tool with yellow handles. The BNC die head is visible. A small BNC die head is shown separately below the tool.</p>	<p>5) Make sure "BNC" die head is in crimp tool P/N GET-CS. 6) Nest cable and connector into crimp tool. *Note: For right angle and female connectors use no die head.</p>
 <p>A photograph showing the crimping tool being squeezed. The BNC die head is now positioned over the cable and connector.</p>	<p>7) Squeeze handle. Crimp tool is ratcheted and will release when compression is complete.</p>
 <p>A photograph of the completed BNC connector assembly, showing the connector fully attached to the cable.</p>	<p>8) Remove connector and cable from tool and give a pull (30 lbs.) to assure proper termination.</p>


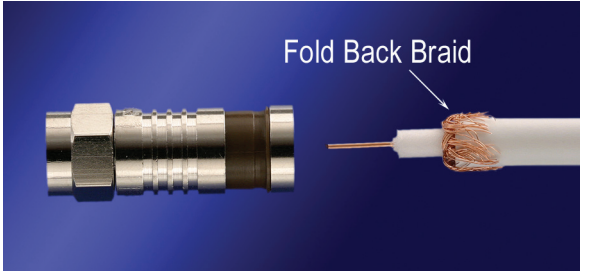
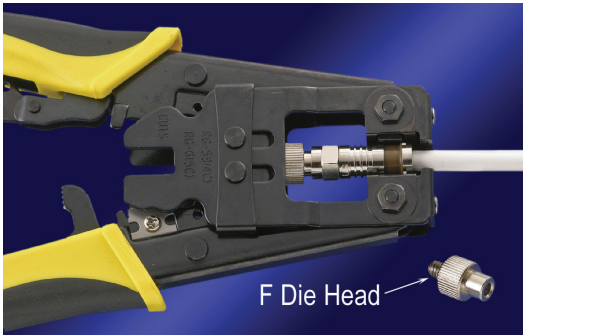

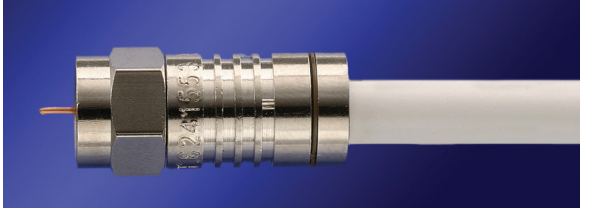
Cable Assembly Instructions

RCA Connector Compression Seal Procedure For RG59 & 6 Type Cables

 <p>A close-up photograph of a white RG59 or RG6 cable being trimmed. Two dimension lines indicate that the center conductor is cut at a 45-degree angle and that the outer jacket is also cut at a 45-degree angle, with both dimensions labeled as 1/4 inch.</p>	<p>1) Trim cable as shown using strip tool P/N GST-1. Trim center conductor end at a 45° angle.</p>
 <p>A photograph showing an RCA connector being slid onto the cable. The braided shield is folded back. A dimension line indicates a 1-1/8 inch length from the end of the cable to the point where the braid is folded back. A small mark is made on the cable jacket, labeled 'Mark Cable'.</p>	<p>2) Fold braid back. *Note: For quad shield cable cut-off first foil and fold back second braid. 3) Mark cable as shown.</p>
 <p>A photograph showing the RCA connector being pushed onto the cable. A small mark on the cable jacket is labeled 'Cable Mark', and the connector is being aligned with it.</p>	<p>4) Push connector onto cable twisting connector clockwise and counter clockwise until connector end meets or passes mark on cable.</p>
 <p>A photograph of a crimping tool with yellow handles. The RCA connector is inserted into the tool's die head. A small metal die head is shown separately, labeled 'RCA Die Head'.</p>	<p>5) Make sure "RCA" die head is in crimp tool P/N GET-CS. 6) Nest cable and connector into crimp tool. *Note: For right angle and female connectors use no die head.</p>
 <p>A photograph showing the crimping tool being squeezed. The handles are being pushed together, compressing the cable and connector.</p>	<p>7) Squeeze handle. Crimp tool is ratcheted and will release when compression is completed.</p>
 <p>A photograph of the final assembly, showing the RCA connector fully attached to the cable.</p>	<p>8) Remove connector and cable from tool and give a pull (30 lbs.) to assure proper termination.</p>


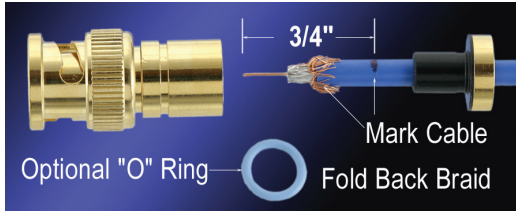



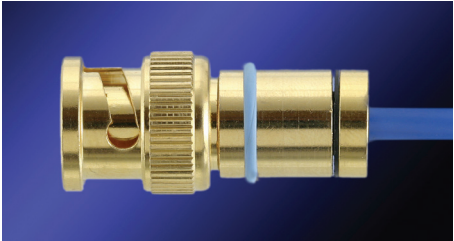
Cable Assembly Instructions

F Connector Compression Seal Procedure For RG59 & 6 Type Cables

 A close-up photograph of a white RG59 or RG6 cable being trimmed with a strip tool. Two dimension lines indicate that the outer jacket is being removed by 1/4 inch and the center conductor is being trimmed by 1/4 inch.	<p>1) Trim cable as shown using strip tool P/N GST-1. Trim center conductor end at a 45° angle.</p>
 A photograph showing an F connector on the left and a cable on the right. The braid of the cable is being folded back towards the center conductor. A label 'Fold Back Braid' with an arrow points to the braid.	<p>2) Fold braid back. *Note: For quad shield cable cut-off first foil and fold back second braid.</p> <p>3) Push connector onto cable twisting in a clockwise and counter clockwise direction until cable dielectric is flush with connector mandrel face.</p>
 A photograph of a crimping tool with yellow handles. The 'F' die head is visible. A cable is being inserted into the tool. A label 'F Die Head' with an arrow points to the die head.	<p>4) Make sure "F" die head is in crimp tool P/N GET-CS.</p> <p>5) Nest cable and connector into crimp tool. *Note: For right angle and female connector use no die head.</p>
 A photograph showing the crimping tool being squeezed. The cable is held in place, and the die head is compressing the connector onto the cable.	<p>6) Squeeze handle. Crimp tool is ratcheted and will release when compression is complete.</p>
 A photograph of the completed F connector assembly. The connector is fully seated on the cable, and the dielectric is flush with the connector's mandrel face.	<p>7) Remove connector and cable from tool and give a pull (30 lbs.) to assure proper termination.</p>

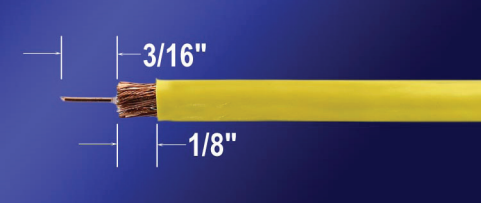
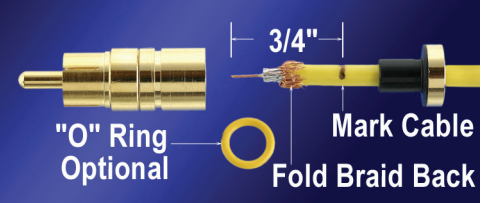
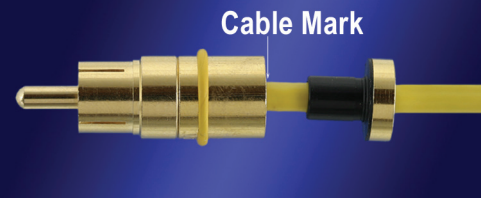

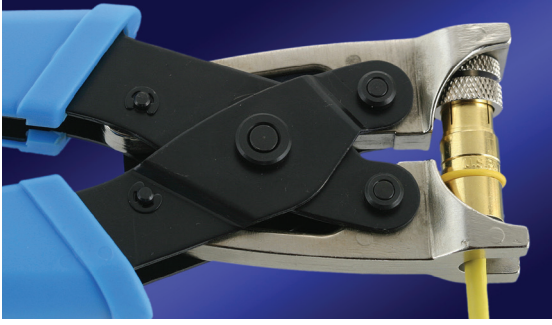
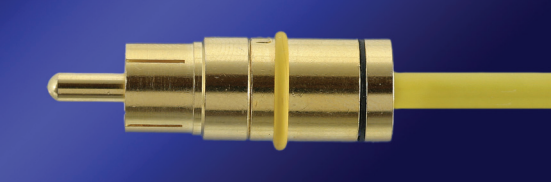
Cable Assembly Instructions

BNC Connector Compression Seal Procedure For RGB Cable

 <p>A blue cable is shown with a section of the outer jacket removed. Dimension lines indicate a length of 3/16" for the exposed conductors and 1/8" for the remaining jacket length.</p>	<p>1) Trim cable as shown using strip tool P/N GST-RGB. 2) Trim center conductor end at a 45° angle.</p>
 <p>A blue cable is shown with a 3/4" mark on the outer jacket. The center conductor is folded back. Labels include "Mark Cable", "Optional 'O' Ring", and "Fold Back Braid".</p>	<p>3) Mark cable as shown. 4) Slide compression sleeve onto cable.</p>
 <p>A blue cable is shown with a blue O-ring being slid onto the connector. The label "Cable Mark" points to the mark on the cable.</p>	<p>5) Slide optional color-coded "O" ring onto connector - will fit precisely in curve in body. 6) Push connector onto cable twisting connector clockwise and counter clockwise until connector meets or passes mark on cable.</p>
 <p>A crimp tool is shown crimping the cable. A spacer washer is shown as an optional component. Labels include "Spacer Washer" and "Optional".</p>	<p>7) Make sure "BNC" die head is in crimp tool P/N GET-RGB. Option: Spacer washer may be installed on die head if preferred. 8) Nest cable and connector into crimp tool. *Note: For right angle connectors, use BNC die head without spacer.</p>
 <p>The crimp tool handle is being squeezed to compress the sleeve onto the connector.</p>	<p>9) Squeeze handle until compression sleeve is pushed into connector body. Die head may need some adjustment to push compression sleeve completely into connector body.</p>
 <p>The final assembly is shown, consisting of the BNC connector, the O-ring, the compression sleeve, and the cable.</p>	<p>10) Remove connector and cable from tool and give a pull (30 lbs.) to assure proper termination.</p>

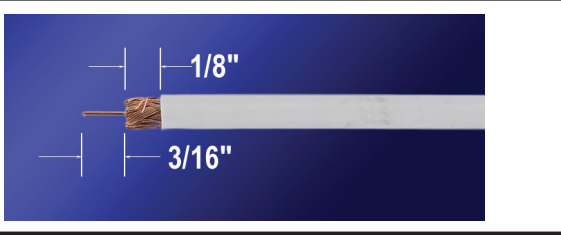
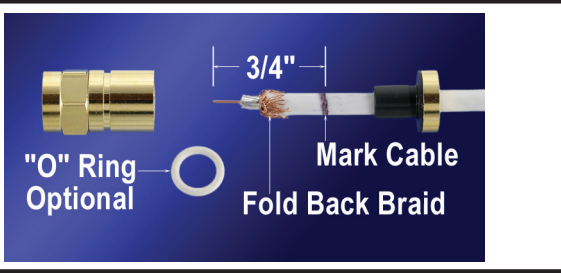
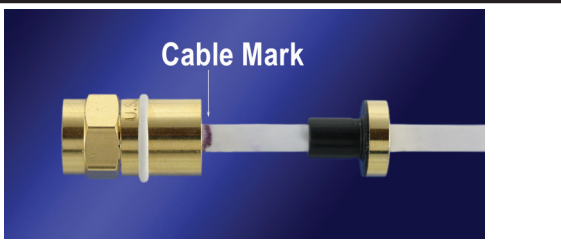


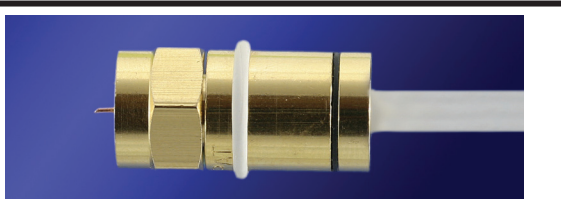
Cable Assembly Instructions

RCA Connector Compression Seal Procedure For RGB Cable

 <p>A yellow cable is shown with a blue background. The outer jacket is stripped back by 1/8 inch, and the inner conductors are stripped back by 3/16 inch.</p>	<ol style="list-style-type: none">1) Trim cable as shown using strip tool P/N GST-RGB.2) Trim center conductor end at a 45° angle.
 <p>A yellow cable is shown with a blue background. A black marker is used to mark the cable 3/4 inch from the end. A yellow "O" ring is shown next to the cable. Labels include "O" Ring Optional, Mark Cable, and Fold Braid Back.</p>	<ol style="list-style-type: none">3) Mark cable as shown.4) Slide compression sleeve onto cable.
 <p>A yellow cable is shown with a blue background. A black compression sleeve is being slid onto the cable. A yellow "O" ring is shown next to the cable. Label: Cable Mark.</p>	<ol style="list-style-type: none">5) Slide optional color-coded "O" ring onto connector -will fit precisely in curve in body.6) Push connector onto cable twisting connector clockwise and counter clockwise until connector end meets or passes mark on cable.
 <p>A crimping tool is shown with a blue background. The tool is being used to crimp the cable. A yellow "O" ring is shown next to the cable. Labels include Spacer Washer and Optional.</p>	<ol style="list-style-type: none">7) Make sure "RCA" die head is in crimp tool P/N GET-RGB. Option: Spacer washer may be installed on die head if preferred.8) Nest cable and connector into crimp tool. *Note: For right angle connectors use RCA die head without spacer.
 <p>A crimping tool is shown with a blue background. The tool is being used to crimp the cable. A yellow "O" ring is shown next to the cable.</p>	<ol style="list-style-type: none">9) Squeeze handle until compression sleeve is pushed into connector body. Die head may need some adjustment to push compression sleeve completely into connector body.
 <p>A yellow cable is shown with a blue background. The cable is fully assembled with the connector and the "O" ring.</p>	<ol style="list-style-type: none">10) Remove connector and cable from tool and give a pull (30 lbs.) to assure proper termination.






Cable Assembly Instructions

F Connector Compression Seal Procedure For RGB Cable

 <p>A close-up photograph of a white cable being trimmed. A pair of wire cutters is shown cutting the outer jacket. Dimension lines indicate a 1/8" length for the outer jacket and a 3/16" length for the inner conductors.</p>	<ol style="list-style-type: none">1) Trim cable as shown using strip tool P/N GST-RGB.2) Trim center conductor end at a 45° angle.
 <p>A photograph showing a brass connector and a white cable. A red mark is made on the cable. Labels include "O Ring Optional" with a small ring icon, "Mark Cable" with a red line, and "Fold Back Braid" with a black sleeve icon. A dimension line shows 3/4" from the end of the cable to the mark.</p>	<ol style="list-style-type: none">3) Mark cable as shown.4) Slide compression sleeve onto cable.
 <p>A photograph of the cable with the brass connector and black sleeve. A red mark is visible on the cable. The label "Cable Mark" points to the red mark.</p>	<ol style="list-style-type: none">5) Slide optional color-coded "O" ring onto connector - will fit precisely in curve in body.6) Push connector onto cable twisting connector clockwise and counter clockwise until connector end meets or passes mark on cable.
 <p>A photograph of a crimping tool with blue handles. The cable and connector are inserted into the tool. Labels include "Spacer Washer" and "Optional" with a small washer icon.</p>	<ol style="list-style-type: none">7) Make sure "F" die head is in crimp tool P/N GET-RGB.8) Nest cable and connector into crimp tool. *Note: For right angle connectors, use F die head without spacer.
 <p>A photograph showing the crimping tool with the handle being squeezed to compress the sleeve onto the connector.</p>	<ol style="list-style-type: none">9) Squeeze handle until compression sleeve is pushed into connector body. Die head may need some adjustment to push compression sleeve completely into connector body.
 <p>A photograph of the final assembly, showing the completed cable with the connector and sleeve.</p>	<ol style="list-style-type: none">10) Remove connector and cable from tool and give a pull (30 lbs.) to assure proper termination.

Cable Assembly Instructions

Universal RGB Compression Connectors

	Step 1: Strip cable as shown. Cut center conductor at 45 ° angle.
	Step 2: Fold back braid and insert contact assembly. Watch cable through observation portal to be sure center conductor is fully seated into contact.
	Step 3: Push Connector (RCA, BNC or F) onto contact assembly as shown. Be sure sleeve is tight against back of connector.
	Step 4: Crimp RCA with GE-CS or GE-CS20, and BNC and F with GE-CS20 only!
	Step 5: Remove connector and give it a pull.

Save Time and Money with CCTV over UTP And Future Proof for IP Upgrade Later

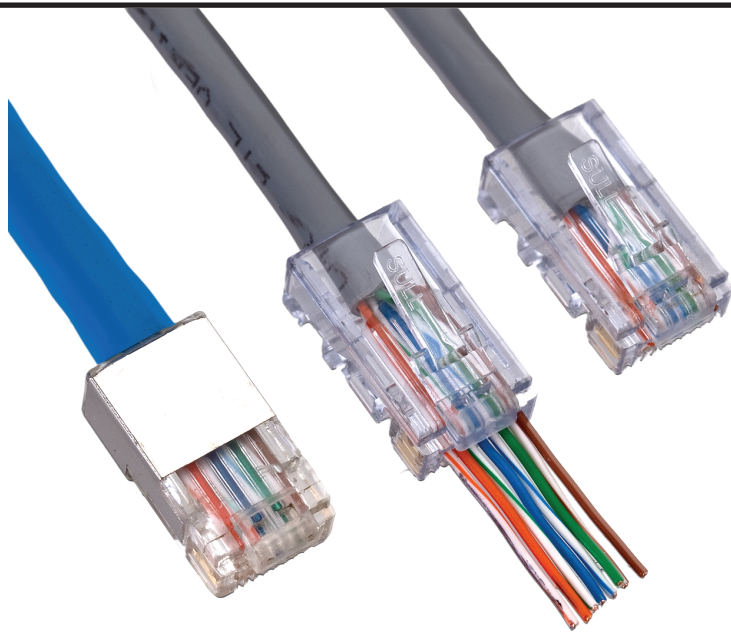
CCTV systems are transitioning towards wireless, fiber optics and/or IP. It is therefore imperative that the planned installation be scrutinized for future system upgrades. Today analog Video Balun products are available at such a low cost, while maintaining excellent electrical performance, that it makes good business sense to seriously consider using “CCTV over UTP Technology” now for ease of future IP system’s upgrade at a later date. Current Video Balun products are now available that will actually save time and money over a coax system install. In fact, depending upon the specific system layout, an analog CAT 5 cabling system with Video Baluns will be less expensive than a coax cabling layout even at cable runs of 100 feet! Refer to “Basic Schematic – Product Cost” page later in this presentation.

Video Baluns are available with several UTP termination styles:

- Punch Down Block
- Screw Terminal
- RJ45 Jack

There may be some hesitancy to use a system with RJ45 connections due to the potential difficulties guaranteeing a proper connector termination. To resolve that concern, the EZ-ON© product line eliminates all concerns and completely guarantees a 100% perfect termination.

EZ-RJ45® Connectors



The **EZ-RJ45® Connectors**, (see cable connector selector chart below) simplify twisted pair terminations by allowing the wire to be inserted through the connector and out the front. This allows the technician to easily verify the proper wiring order (the 568A and 568B wiring chart below). Electrical performance of the termination is optimized by pulling the connector down over the cable jacket and seating it tightly in the rear of the connector. It also guarantees that the wires will be properly flush to the front of the connector.

T568A / T568B Wiring Chart

Wire Number	1	2	3	4	5	6	7	8
T568A	W/G	G	WO	BL	W/BL	O	W/BR	BR
T568B	W/O	O	W/G	BL	W/BL	G	W/BR	BR

For use with solid and standard conductor

Gem Baluns use T568B Below



1. White / Orange
2. Orange
3. White / Green
4. Blue
5. White / Blue
6. Green
7. Brown / White
8. Brown



EZ-ON Tool Kit GEM Part Number: EZ-TK

Tool Kit Contains:
 1 Crimp Tool - P/N GET-EZCT
 50 EZ-ON RJ45 CAT5
 Connectors - P/N CAT5-EZP
 1 Wire Cutter - P/N GWC
 1 Cable/Connector test - P/N
 RJ45TESTER

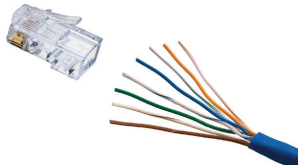




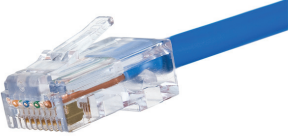
Cable - Connector - Selector Chart

Cable	Connector	Crimp Tool
3, 5, 5E	CAT5-EZP (50 pack)	GET-EZCT
5 Shielded	CAT5-EZSTP (10 pack)	GET-EZCT
6	CAT6-EZPTP (10 pack)	GET-EZCT
11, 12	CAT11-EZPTP (10 pack)	GET-EZCT

LAN Tester



EZ-RJ45® Cable Assembly Instructions

 <p>Connector</p> <p>Cable</p>	<ol style="list-style-type: none"> Strip off approximately two (2) inches of outer jacket. Straighten and align pair wires per T568B. Trim pair wires with the cutter built into the EZ-RJ45® hand tool
 <p>Connector</p> <p>Cable</p>	<ol style="list-style-type: none"> Insert wires into EZ-RJ45® connector. Pull tight to ensure jacket is about 1/4 to 5/16 of an inch into the connector. Verify wire locations and orientation.
 <p>Connector</p> <p>Cable</p> <p>Tool</p>	<ol style="list-style-type: none"> Insert EZ-RJ45® connector into hand tool. Verify connector is completely seated and cable is fully inserted.
 <p>Tool</p> <p>Connector</p> <p>Cable</p>	<ol style="list-style-type: none"> Squeeze handle.
 <p>Connector</p> <p>Cable</p>	<ol style="list-style-type: none"> Remove excess wires.
	<ol style="list-style-type: none"> Check jacket strain relief. Check that contacts are all engaged. Check that contact dividers are not damaged. Check to see if both ends of the cable have been terminated, perform continuity test.

Save Time and Money with CCTV Over UTP

Balun

A device that converts a balanced 75 Ohm coaxial cable to an unbalanced 120 Ohm UTP cable, hence the term Balun. Balanced/Unbalanced.

Benefits

By using a Balun at each end of a UTP cable, instead of using standard RG59 or RG6 cable, the installer/end customer can obtain the following enhancements:

- Lower Material Cost – CAT 5 versus coax cable
- Reduce Install Labor – Pull time or cable may already be there
- Longer Cable Runs – Passive: up to 2,000 feet – Active: up to 8,200 feet
- More Versatile – 4 Cameras on 1 CAT 5 cable – Can use on CATV, CCTV, HDTV & Sound Systems
- Future Proofs System – Can IP address the entire analog system – Cable in place for full IP digital system upgrade at later date.

Save Time and Money with CCTV Over UTP

There are as many Baluns as there are system applications. The following are just the basics. Good to 2200 Feet.

Passive Video Only – Punch Down Block



The **BLN-TL Balun** is a device that needs no special tools to install. Thus “Toolless or the “TL” within the BLN (Balun) – TL (Toolless) part number. This video only Balun has a white punch down contact block. The wire pair needs to be pushed down into the front of this block vertically and then bent 90 degrees to a horizontal position laying over top of contact area. Then push the white top down onto the wires and bottom block until it snaps into position. Do not manually push wires into contact area with independent tool. The wires should only be long enough to extend past the punch down block and to allow the cable jacket to nest into the circular cutout in the back of the Balun outer block. This will provide strain relief thus reducing stress on the wire pair seated in the internal contact.



RJ45 Connection-2200 feet: The **BLN-RJ45** is a video only Balun that utilizes an RJ45 CAT5 connector to terminate the cable into the back of the Balun. GEM's EZ-ON® RJ45 connectors make that termination easier and more reliable than standard crimp connectors. Pins 7 & 8 are the video connections.



To this Transceiver Box **TRB-4BNC**, that takes the trunk line and connects it to 4 BNC Coax Jacks – where standard Coax Cable can be run to the cameras. Good to 2200 Feet.



As 1 camera only uses 1 pair of the CAT 5 cable, 4 cameras can be installed on 1 CAT 5 cable. The following video only Baluns can be used in this application. This Transceiver Box **TRB-4BNCPT** has 4 coax/BNC Plug Pigtailed to be installed at the DVR. The pigtailed make that installation much easier. The CAT 5 cable can then be run, as a trunk line, out to camera area. Good to 2200 feet.



Screw Terminal-1000 feet: The **BLN-STPT/2** and the **BLN-MTL2** are video only Balun pairs good to 1,000 feet utilizing screw terminals to terminate the CAT5 cable. They are an exceptionally low cost and provide perfect product to save time and money on current analog installs and are ideal for future IP upgrade. The pigtailed design can be used at the DVR/monitor for ease of BNC connection. Screw Terminal Hubs are available. They come in 4, 8, and 16 channel positions and the 4 and 8 have screw terminals with optional RJ45 connections. All good to 1,000 feet.



TRB-4BNCSTRJ45

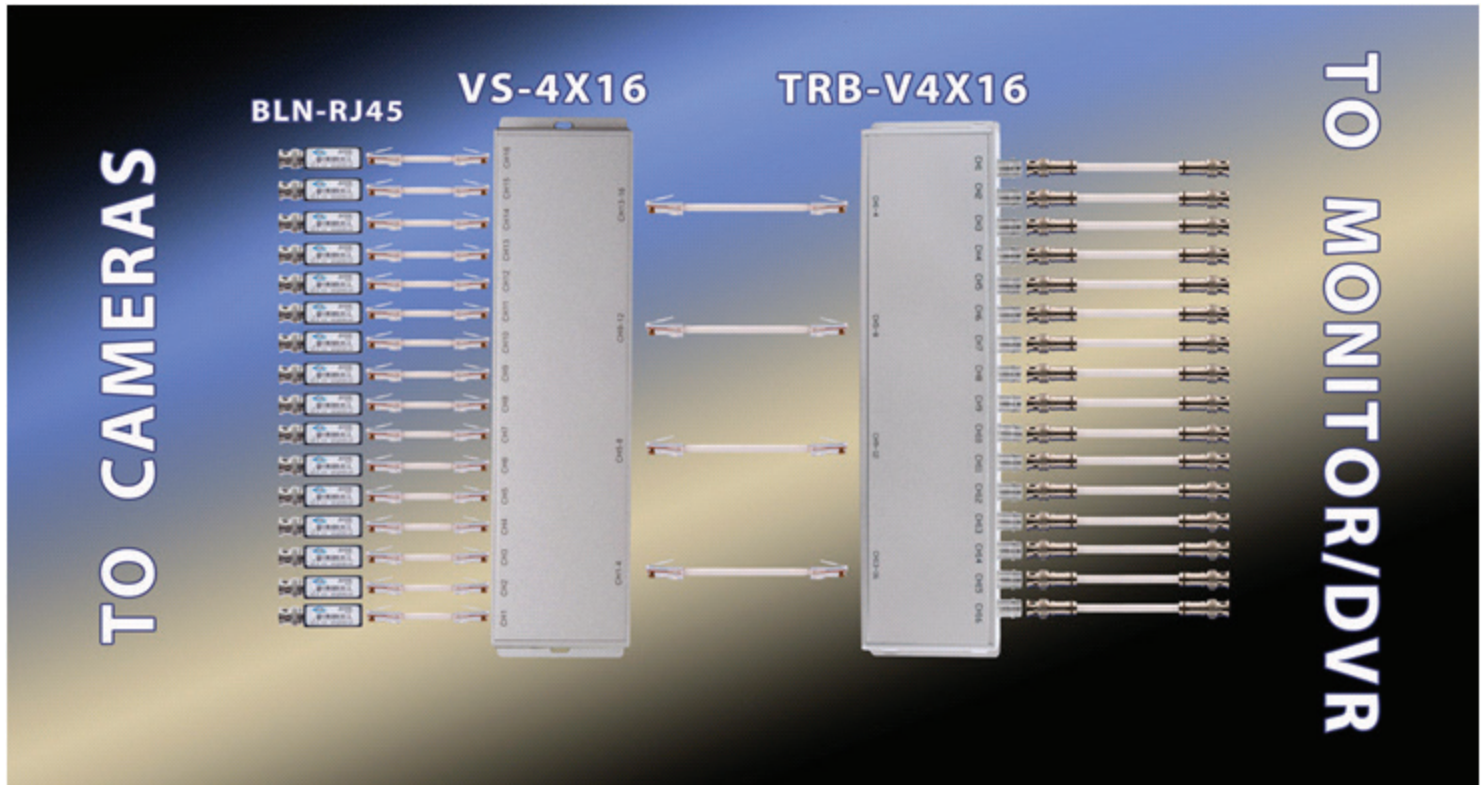


TRB-8BNCSTRJ45



TRB-16BNCST

Typical 500 Foot 16 Camera Video Only Install



UTP versus Coax Cost Comparison

Coax		
RG 59 Cable = .15 Foot		
RG 59-16 Runs @ 500 ft	1200	
32 Connectors @ \$1.00 each	32	
		1232
UTP		
CAT 5 Cable = .10 Foot		
TRB-V4X16	1	61.91
VS-4X16	1	54
BLN-MTL2	8	7.83
CAT5-EZP @ .40 each	16	6.4
CAT5-4 Runs @ 400 ft	1600	160
CAT5-16 Runs @ 100 ft	1600	160
		450.14

Alternate Product



BLN-MTL2



BLN-STPT2



BLN-RJ452



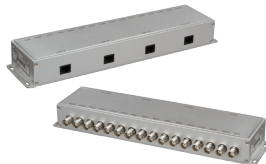
BLN-TL



VS-1X4



VS-2X8



VS-4X16



TRB-4BNCSTRJ45



TRB-8BNCSTRJ45



TRB-16BNCST



TRB-V1X4



TRB-V2X8



TRB-V4X16



H16P-STRJ45BNC

Save Time and Money with CCTV Over UTP

Passive - Video/Power/Data

In more and more applications the system calls for the power supply or data source to be run over the cable from a central location. In that case, Baluns have been developed to provide power and/or data over UTP.



The **BLN-PVRJ452** Balun passive Video/Power, ship as pair.



The **BLN-PCVRJ452** Balun passive Video/Power with power contact, ship as pair.



The **BLN-VPDRJ45** Balun provides video over pins 7 & 8, power over 1,3,2,& 6 and data over 4 & 5. Because this Balun has available only 2 pair for power the run distance would be approximately 500 feet for above camera current and voltage.

Wall Mount Video/Power Transceiver Hubs that will transmit video and power over UTP make a very clean install and are available in 4, 8, and 16 Channel configurations. These units all have a very convenient 3 foot wide power pigtail for ease of connections to the DVR and Power Supply. Video is good to 1,000 feet and Power is dependent upon voltage and current of camera. A distance calculator is available on the Gem website: www.gemelec.com on the left side of the menu bar, just under the balun button.



TRB-4BNCVPPT



TRB-8BNCVPPT



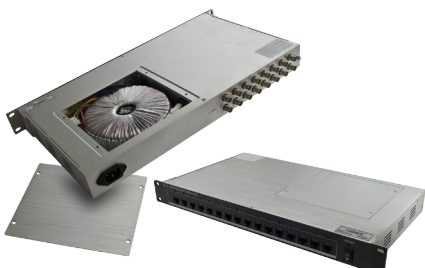
TRB-16BNCPT



The **H16P-RJ45BNC-2** is a 16 position hub that can be installed in a 1U rack near the DVR. The BNC Jack would be connected to the DVR via coax jumpers. The green connector receptacles will accept the mating connectors on the power cord. Data leads will need to be run and terminated. There is a switch between the BNC connectors that needs to be placed on the proper setting depending if power and/or data is being employed. The RJ45 connections on the other side accepts the CAT5 cable that is connected to the cameras. Up to 16 cameras. Either the BLN-PVRJ45-1 or BLN-VPDRJ45 would be installed at the camera. The power cord jumper is include with the unit for ease of terminating to the power supply.



In the event that the distance to the camera exceeds the distance determined by the voltage/current of the camera, the **H16P-STRJ45** can be used to move the power supply closer to the cameras. In this case TRB-4BNCPTs could be installed at the DVR.



This hub **PH16P-VP24** has the a replaceable power supply , thus eliminating the need to replace the entire hub should the power supply fail. This unit also fits into a 1U Rack. This hub comes in a16 position, Video/Power with 24 volt power supply.



UTP versus Coax Cost Comparison

Coax		
RG 59 Siamese = .20 Foot		
RG 59-16 Runs @ 500 ft		1600
32 Connectors @ \$1.00 each		32
		1632
UTP		
Video/Power-UTP at Monitor		
H16P-RJ45BNC-2	1	256
BLN-PVRJ452	8	80
CAT5-EZP @ .40 each	32	12.8
CAT5-16 Runs @ 500 ft	8000	800
		1148.80
TRB-16BNCPT	1	84.5
BLN-PVRJ452	8	80
CAT5-EZP @ .40 each	32	12.8
CAT5-16 Runs @ 500 ft.	8000	800
		977.30

Alternate Product



BLN-PVRJ452



BLN-PCVRJ452



BLN-VPDRJ45



PH16P-VP24



H16P-RJ45BNC-2



TRB-4BNCVPPT

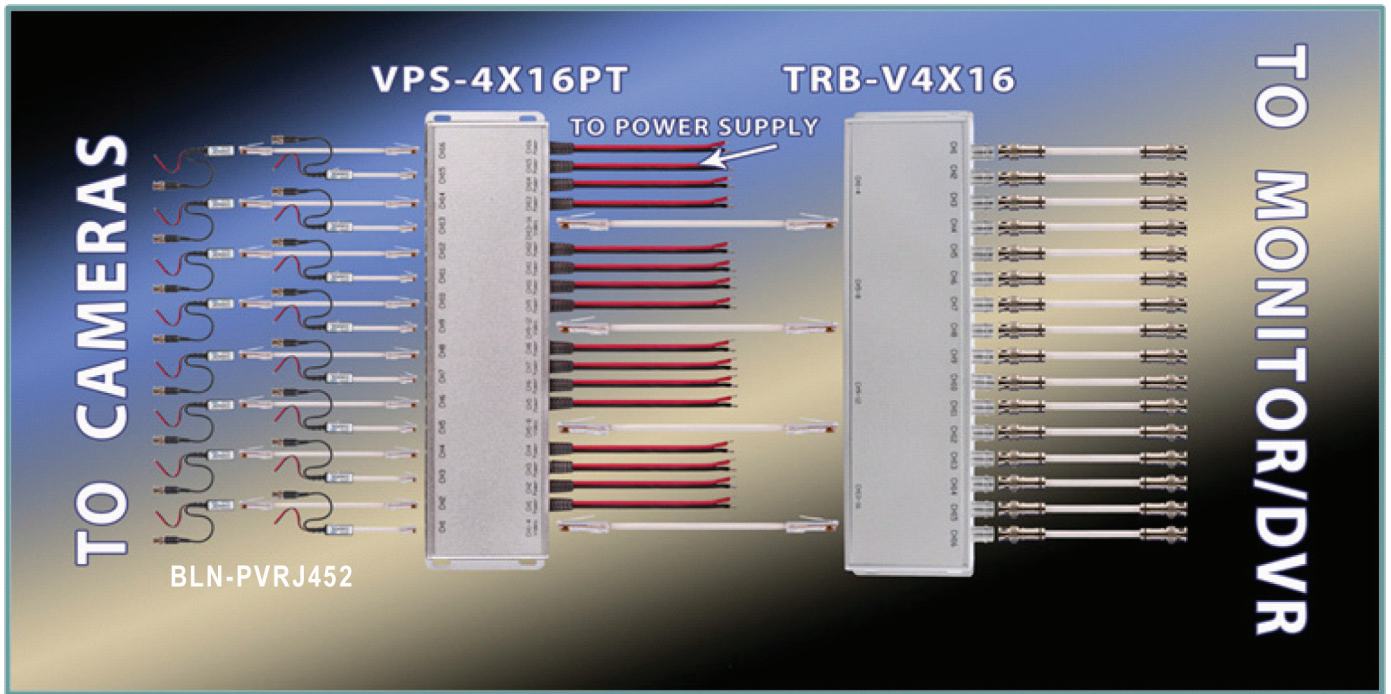


TRB-8BNCVPPT



TRB-16BNCPT

Typical 500 Foot 16 Camera Video/Power Install With Power Supply at Splitter Closer to Cameras to Shorten CAT 5 Cable Run



UTP versus Coax Cost Comparison

Coax		
RG 59 Siamese = .20 Foot		
RG 59-16 Runs @ 500 ft	1600	
32 Connectors @ \$1.00 each	32	
		1632
UTP		
Video/Power-UTP at Cameras with Separate Power Supply		
TRB-V4X16	1	61.91
VPS-4X16PT	1	108
BLN-PVRJ452	8	80
CAT5-EZP @ .40 each	40	16
CAT5-4 Runs @ 400 ft	1600	160
CAT5-16 Runs @ 100 ft	1600	160
		585.91

Alternate Product



BLN-PVRJ452



BLN-PCVRJ452



VPS-1X4PT



VPS-2X8PT



VPS-4X16PT



TRB-4BNCSTRJ45



TRB-8BNCSTRJ45



TRB-16BNCST



TRB-V1X4



TRB-V2X8



TRB-V4X16



H16P-STRJ45BNC



H16P-STBNC

Typical 500 Foot 16 Camera Video/Power Install With Built-In 24 Volt Power Supply at Splitter



UTP versus Coax Cost Comparison

Coax		
RG 59 Siamese = .20 Foot		
RG 59-16 Runs @ 500 ft	1600	
32 Connectors @ \$1.00 each	32	
1 24 Volt Power Supply	100	
		1732
UTP		
Video/Power-UTP at Cameras with Separate Power Supply		
TRB-V4X16	1	61.91
VPS-4X16V24	1	330
BLN-PVRJ452	8	80
CAT5-EZP @ .40 each	40	16
CAT5-4 Runs @ 400 ft	1600	160
CAT5-16 Runs @ 100 ft	1600	160
		807.91

Alternate Product



BLN-PVRJ452



BLN-PCVRJ452



VPS-1X4V24



VPS-2X8V24



VPS-4X16V24



TRB-4BNCSTRJ45



TRB-8BNCSTRJ45



TRB-16BNCST



TRB-V1X4



TRB-V2X8



TRB-V4X16



H16P-STRJ45BNC



H16P-STBNC

Save Time and Money with CCTV Over UTP

Active Baluns

An Active Balun amplifies the video signal, thus allowing the signal to extend up to 8,200 feet when using an active transmitter, BLN-AT, and an Active receiver, BLN-AR, below.

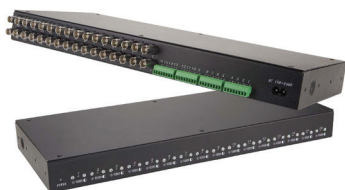
BLN-AT



BLN-AR



An Active/Passive combination can be used, but the distance will be reduced to approximately 3,500 feet. The active Balun should be installed at the DVR end, transmit BLN-AR first, then for more amplification add the BLN-AT transmit balun at the camera.



Active hubs are also available. They come in 16 and 32 Ports with RJ45 and terminal block CAT5 connections.

Other Baluns are available for other systems:



**CATV
BLN-CATVF**



**Audio
BLN-V2RCA**



**Component Video
TRB-RGBPTA**



**VGA
BLN-VGAPCS**



**VGA
BLN-VGAMS**



**Keyboard/Mouse
PS2-KBMS**



**Keyboard/Mouse
PS2-PCS**

Products and Specifications

The **CCTV Video Balun** allows base-band composite video signals to be transmitted via a single unshielded twisted pair cable (UTP) for more versatile cabling. The CCTV Balun is used in pairs to allow you to eliminate more expensive coaxial cable, including coupling signals from remote video cameras to display systems, video capture, security and surveillance monitoring applications.

Specifications

Cable-UTP ... 24 gauge or lower solid twisted pair wire impedance:
100 Ohm at 1MHz Maximum capacitance: 20pf / ft
Attenuation: 6.6 dB / 1000 ft at 1 MHz

Cable-BNC....Impedance: 75 Ohm at 1 MHz (RG59/U) Maximum 25ft.
of coax allowed per end to end link

Max. Distance.....Color: Cat. 3 - 1200ft., Cat. 5 - 2200 ft
Monochrome: Cat. 3 1500ft. , Cat. 5 - 2500ft.

Environment required:.....Operating temperature: 0 to 55° C
Storage temperature: -22 to 85° C
Humidity up to 95%

Electrical Characteristic & Performance

- **Bandwidth.....**Video DC to 8 MHz
- **Maximum input...1.1 Vp-p**
- **Impedance.....**75 ohm to 100 Ohm (or 75 Ohm to 120 Ohm on request)
- **Insertion loss.....**Max. 2dB per pair over the frequency range from DC to 8 MHz
- **Return loss.....**Greater than 15dB over the frequency range from DC to 8 MHz
- **Common mode rejection.....**Greater than 40dB at 8 MHz

Superior Picture Up To 2,000 Feet

ACTUAL PHOTOS



6 Foot RG59



**1000 Feet CAT5E with 2 (BLN-TL) Baluns
DVR Adjusted**



**2000 Feet CAT5E with 2 (BLN-TL) Baluns
DVR Adjusted**

Passive CCTV Video Baluns

Products



BLN-BNCJ
BNC Jack To RJ45 Jack



BLN-RCARJ45
RCA Jack To RJ45 Jack



BLN-RCATL
RCA Jack To Toolless



BLN-RJ452
BNC Plug To RJ45 Jack



BLN-BNCJKS
BNC Jack To RJ45 Jack
Keystone Type



BLN-TL
BNC Plug To Toolless



BLN-RJ45PT
BNC Plug To RJ45 Jack
6 Inch Pigtail



BLN-RCAJKS
RCA Jack To RJ45 Jack
Keystone Type



BLN-AV3R
3 RCA Jacks To RJ45 Jack



BLN-AV2R1B
2 RCA Jacks, 1 BNC Jack
To RJ45 Jack



TRB-4BNC
4 BNC Jacks To RJ45 Jack



TRB-4BNCPT
4 BNC Plugs with 24 inch Pigtail
To RJ45 Jack

Passive CCTV Wall Mount Tranceiver Hubs

8 Channel Passive CCTV Hub

Part Number: TRB-V2X8

TRB-V2X8 is an 8 channel tranceiver box. It converts 8 coax lines, BNC Jacks, to 2 RJ45 Jacks. This device can be used together with the same types of products such as BLN-RJ45, BLN-RJ45PT, etc.



Features

- Compact size with side panels installed rack design, space saving
- Supper-low-frequency noise filtering function, image better
- CCTV video at distances up to 300 meters when used with other passive CCTV Baluns
- Up to 1600 meters when used with an active video receiver
- No power required
- Built-in transient suppression protection

Technical Specifications

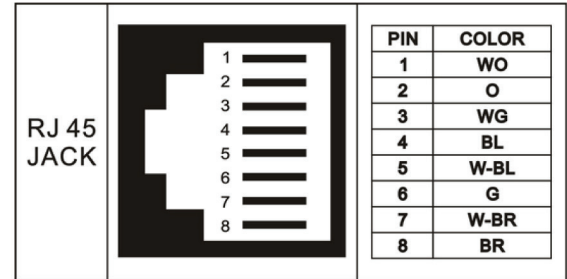
- Frequency response: DC-8MHz
- CMRR (Common Mode Rejection Ratio): 60Db
- Impedance: RJ45: 100Ω, BNC: 75Ω
- Working temperature: 10° - 70°
- Storage temperature: -30° - 70°
- Format: compatible with NTSC, PAL, SECAM, and CCIR System
- Dimensions: 155mm x 80mm x 32mm (excluding connector rack)

Type of required wire: Unshielded CAT5 or better

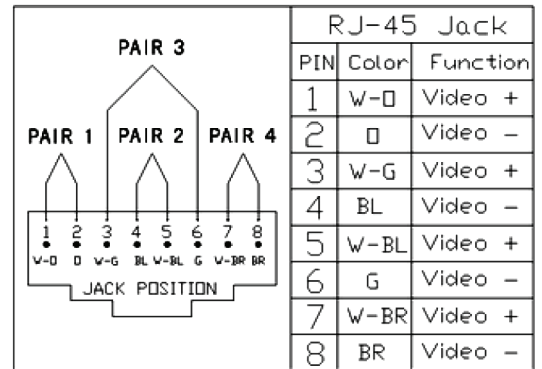
- Impedance: 100Ω ± 20Ω
- DC loop resistance: 18Ω/100m
- Differential capaccitance: 62pf / m (maximum)

Connection Method

- RJ45 pinout (shown) 568B configuration



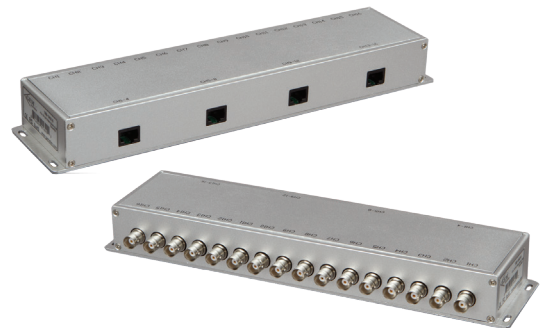
RJ45 Pin Out



16 Channel Passive CCTV Hub

Part Number: TRB-V4X16

TRB-V4X16 is a 16 channel tranceiver box. It converts 16 coax lines, BNC Jacks, to 4 RJ45 Jacks. This device can be used together with the same types of products such as BLN-RJ45, BLN-RJ45PT, etc.



4 Channel Passive CCTV Hub

Part Number: TRB-V1X4

TRB-V1X4 is a 4 channel tranceiver box. It converts 4 coax lines, BNC Jacks, to 1 RJ45 Jack. This device can be used together with the same types of products such as BLN-RJ45, BLN-RJ45PT, etc.



Passive CCTV Wall Mount Splitters

8 Channel Splitter Box (Without Balun)

Part Number: VS-2X8

VS-2X8 is an 8 channel twisted pair video box. It can make 8 video inputs (RJ45) integrate 2 video outputs (RJ45). Meanwhile, it can also make 2 video inputs (RJ45) distribute 8 video outputs (RJ45). This device can be used together with the same types of products such as BLN-RJ45, BLN-RJ45PT, TRB-V2X8, H8P-STBNC, etc.



Features

- Compact size with side panels installed rack design, spacesaving
- Effective saving routing process and project cost
- This device can be used together with other transceiver
- No power required

Technical Specifications

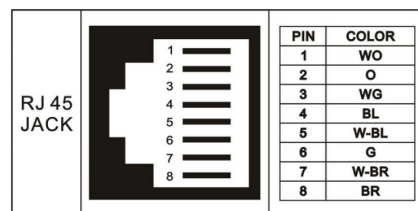
- Frequency response: DC-8MHz
- Terminal Type: RJ45 x 8 / RJ45 x 2
- Impedance: RJ45: 100Ω
- Working temperature: 10° - 70°
- Storage temperature: -30° - 70°
- Format: compatible with NTSC, PAL, SECAM, and CCIR System
- Dimensions: 155mm x 70mm x 32mm (excluding connector rack)

Type of required wire: Unshielded CAT5 or better

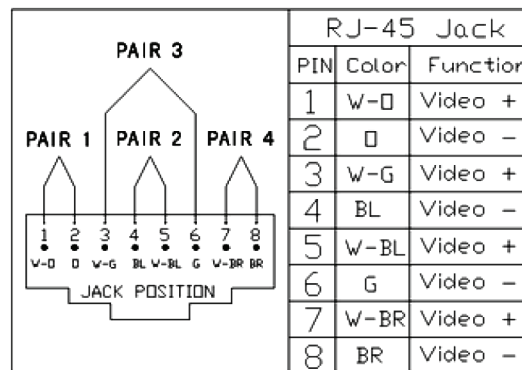
- Impedance: 100Ω ± 20Ω
- DC loop resistance: 18Ω/100m
- Differential capacitance: 62pf / m (maximum)

Connection Method

- RJ45 pinout (shown) 568B configuration



RJ45 Pin Out



16 Channel Splitter Box (Without Balun)

Part Number: VS-4X16

VS-4X16 is a 16 channel twisted pair video box. It can make 16 video inputs (RJ45) integrate 4 video outputs (RJ45). Meanwhile, it can also make 4 video inputs (RJ45) distribute 16 video outputs (RJ45). This device can be used together with the same types of products such as BLN-RJ45, BLN-RJ45PT, TRB-V2X8, H8P-STBNC, etc.



4 Channel Splitter Box (Without Balun)

Part Number: VS-1X4

VS-1X4 is a 4 channel twisted pair video box. It can make 4 video inputs (RJ45) integrate 1 video outputs (RJ45). Meanwhile, it also can make 1 video inputs (RJ45) distribute 4 video outputs (RJ45). This device can be used together with the same types of products such as BLN-RJ45, BLN-RJ45PT, TRB-V2X8, H8P-STBNC, etc.



Passive CCTV Video Splitters with Power Pass Through Pigtails

8 Channel Video & Power Splitter Box (Without Balun)

Part Number: VPS-2X8PT

VPS-2X8PT is an 8 channel twisted pair video & power box. It can make 8 video (RJ45) and low voltage power (18-2 power line) inputs integrate 8 video/power outputs (RJ45). Meanwhile, it also can make 8 video and power inputs distribute 8 video (RJ45) * power (18-2 power line) outputs. This device can be used together with the same types of products such as BLN-PVRJ45-1, etc.



Features

- Compact size with side panels installed rack design, space saving
- Offer video & power transmission solution
- External power supply pre low voltage
- Power signal indicator (LED)

Technical Specifications

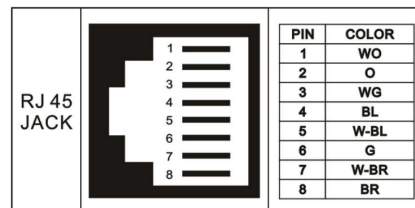
- Frequency response: DC-8MHz
- Terminal Type: RJ45 x 8 / RJ45 x 2
- Impedance: RJ45: 100Ω
- Working temperature: 10° - 70°
- Storage temperature: -30° - 70° single largest
- Power requirement: DC / AC 12V - 26V, 1A per channel (max)
- Format: compatible with NTSC, PAL, SECAM, and CCIR System
- Dimensions: 155mm x 70mm x 32mm (excluding connector rack)

Type of required wire: Unshielded CAT5 or better

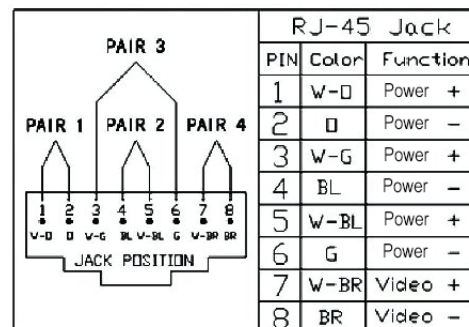
- Impedance: 100Ω ± 20Ω
- DC loop resistance: 18Ω/100m
- Differential capacitance: 62pf / m (maximum)

Connection Method

- RJ45 pinout (shown) 568B configuration



RJ45 Pin Out



16 Channel Video & Power Splitter Box (Without Balun)

Part Number: VPS-4X16PT

VPS-4X16PT is a 16 channel twisted pair video & power box. It can make 16 video (RJ45) and low voltage power (18-2 power line) inputs integrate 16 video/power outputs (RJ45). Meanwhile, it can also make 16 video and power inputs distribute 16 video (RJ45) & power (18-2 power line) outputs. This device can be used together with the same types of products such as BLN-PVRJ45-1, etc.



4 Channel Video & Power Splitter Box (Without Balun)

Part Number: VPS-1X4PT

VPS-1X4PT is a 4 channel twisted pair video & power box. It can make 4 video (RJ45) and low voltage power (18-2 power line) inputs integrate 4 video/power outputs (RJ45). Meanwhile, it also can make 4 video (RJ45) and power (18-2 power line) inputs distribute 4 video & power outputs. This device can be used together with the same types of products such as BLN-PVRJ45-1, etc.



Passive CCTV Wall Mount Video/Power Hubs

4,8,16 channel Passive Video Receiver Hub with Power Feed Through Capability. Transmits video and power over UTP cable.

Use with Gem Video/Power balun part number :

BLN-PVRJ452



BLN-PCVRJ452



TRB-4BNCVPPT

Technical Information

Part Numbers	TRB-4BNCVPPT - 4 Channel with 3 foot pigtails TRB-8BNCVPPT - 8 Channel with 3 foot pigtails TRB-16BNCPT - 16 Channel with 3 foot pigtails
Maximum Input	1.0 Vp-p
Video	Frequency response: DC-6Mhz Common-mode/Differential-mode Rejection: 15khz - 6Mhz 60dB type
Transmission Distance	Video: Color 300M / 1000Ft Power: Depends and Camera Current and Voltage
Pin Out	Video: 7+/8-, Power: 1,3,5+/2,4,6-
Impedance	Coax, male BNC:75Ω to RJ45 Data Connector:100Ω
Wire type	One Unshielded Twisted Pair 24-16AWG(0.5-1.31mm) Per video signal: DC Loop Resistance 52 ohms per 1,000 ft(18 ohms per 100m)
Surge suppression	6000V 1.2μ S*5μ S
Max Input Voltage Max. Current Rating	50Vdc/ac 4.5A
UTP Port	RJ45
Dimensions(mm)	204mm*103mm*49mm
Weight(g)	915g
Environment	Temperature:-10~+50°C Humidity:0~95%

Wall Mount Space Saving Receiver Hubs with Video and Power Pigtails

TRB-8BNCVPPT



TRB-16BNCPT



Passive CCTV Space Savings Transceiver Hubs & Baluns



8 Channel Passive CCTV Balun Gem Part Number TRB-8BNCSTRJ45

The TRB-8BNCSTRJ45 is an 8 Channel Transceiver Box. It converts 8 coax lines, BNC Jacks, to 2 Sets of Screw Terminal Blocks and/or 2 RJ45 Jacks. Video Only.
External dimension: 157mm*65mm*29mm (excluding connectors)

Features:

- Small compact unit where space is a concern.
- CCTV video at distances up to 330 meters when used with another passive CCTV Balun
- Up to 1500 meters when used with an active video receiver
- No power required
- Built-in transient suppression protection

Technical Specifications:

- Frequency response: DC-8MHZ
- CMRR (Common Mode Rejection Ratio): 60DB
- Impedance: BNC: 75Ω - RJ45: 100Ω
- Working temperature: -10° — 70°
- Storage temperature: -30° — 70°
- Applicable to NTSC, PAL, SECAM and CCIR systems

External dimension: 157mm*65mm*29mm (excluding connectors)

Type of the required wire: Unshielded Cat-5 or better

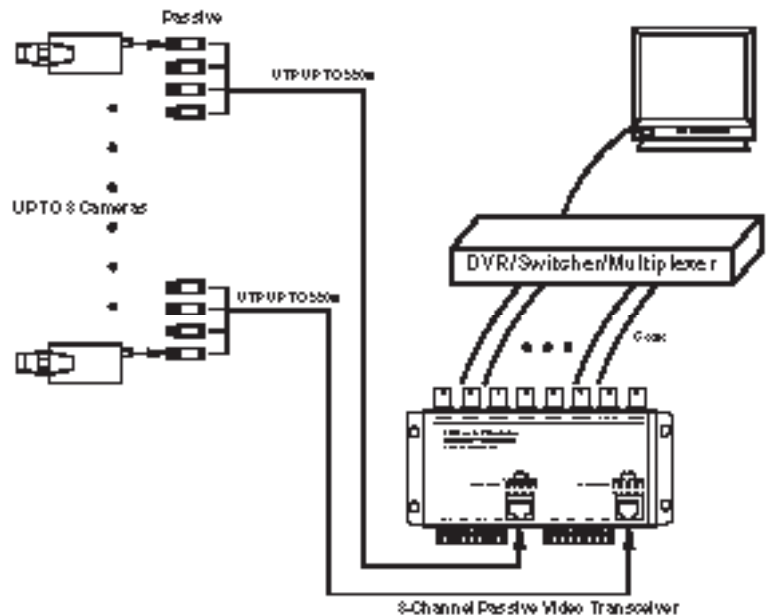
Characteristic impedance: 100Ω ± 20Ω
DC loop resistance: 18Ω/100m
Differential capacitance: 62pf/m (Maximum)

Connection method

RJ45 pinout (shown) 568B configuration

Pin	Color
1	W-O
2	W
3	W-G
4	BL
5	W-BL
6	G
7	W-BR
8	BR

Application Diagram



16 Channel Passive CCTV Balun Gem Part Number TRB-16BNCST

The TRB-16BNCST is a 16 Channel Transceiver Box. It converts 16 coax lines, BNC Jacks, to Screw Terminal Blocks. Video Only.
External dimension: 204mm(L) x 103mm(W) x 49mm(H) (excluding connectors)



Passive CCTV Space Savings Tranceiver Hubs & Baluns



4 Channel Passive CCTV Balun Gem Part Number TRB-4BNCSTRJ45

The TRB-4BNCSTRJ45 is a 4 Channel Tranceiver Box. It converts 4 coax lines, BNC Jacks, to a Screw Terminal Block and/or 1 RJ45 Jack.
105mm x 55mm x 29mm (excluding connectors)

Single Pair CCTV Balun Gem Part Number BLN-MTL2, ship as pair

Passive / Passive Balun Gem Part Number BLN-STPT2



BNC Plug to RJ45 Jack Gem Part Number BLN-RJ452

Passive CCTV 1U Rack Mount Video/Power/Data Hub



H16P-RJ45BNC-2

The **CCTV Patch Panel** allows the transmission of video signals, remote power and Data (control) via a single UTP (unshielded twisted pair) cable for more versatile cabling. It allows you to eliminate more expensive coaxial cable, including coupling signals from remote video cameras to display systems, video capture, security and surveillance monitoring applications.

The modular construction allows the conjunction with GEM's CCTV Baluns standard type, keystone type, toolless IDC with cover type, power thru and Data (control) thru. This modular provides cost effective solutions, as well advantages to installation.

2 foot power cords included with numbered ends and power connectors terminated at hub end for easy plug-in installation.

Specification

Environment	Close-Circuit TV (CCTV) equipment for security and surveillance.	
Devices	CCTV cameras, monitors, digital video recorders (DVR) and other CCTV equipment.	
Cable-UTP	Cat 5 or better: AWG# 24 Typically — Maximum Capacitance: 20pf/foot — Attenuation: 6.6dB/1000 ft at 1MHz	
Cable-Coax	Impedance: 75 ohms at 1MHz(RG59/U) — Max. 25ft. of coax allowed per end to end link	
Connectors: H16P-RJ45BNC-2	Video: BNC x 16 — Power and control: 4-pole screw terminals — RJ45 Jack(8P8C) x 16	
Switches	Switching pair 4/5 between power thru and data (control) thru mode x16	
RJ45 Pin Configuration	Switch at power	Switch at control
	Video: 7+/8- Power: 1,3,5+/2,4,6-	Video: 7+/8- Power: 1,3+/2,6- Data, PTZ Control: 4+/5-
Environment required	Operating temp. 0 to 55° C — Storage temp. -22 to 85°C — Humidity up to 95%	
Power Cord Pigtail	16 Pair of 18-2 Power Line With Power Connector - 2Feet	

Bandwidth	DC to 8 MHz
Maximum Input	1.0 Vp-p
Insertion Loss	Max. 2dB per pair over the frequency range from DC to 8MHz
Return Loss	Greater than 15dB over the frequency range from DC to 8MHz
Common Mode Rejection	Greater than 40dB at 8MHz
Max. distance	Color: Cat.5 2230ft (680 Meter) — Monochrome: Cat.5 2550ft (780 Meter)

Remote Power

Switch position	Switch at Power	Switch at control
Max. Distance @ 24Vac via an UTP Cat 5 cable (24 AWG): Based on 10% voltage drop at camera. Longer distance may be achieved @ 28Vac	5VA: 519ft (170m), 10VA: 258ft (85m) 20VA: 130ft (43m) 30VA: 86ft (28m)	5VA: 345ft (115m) 10VA: 171ft (57m) 20VA: 87ft (29m) 30VA: 54ft (18m)
Maximum input voltage:	50Vdc/ac	
Maximum current Rating:	4.5A	

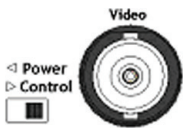
2-Wire PTZ Control (RS-422, RS485 etc.)

Wiring	Remote 2 wire PTZ control signal via one pair of UTP
Maximum Distance	Up to 4,000 ft (1.2 km) depending on the PTZ camera vendor
Maximum Power Rating	50 Vdc/ac, 3A

Passive CCTV 1U Rack Mount Video/Power/Data Hub

Switches Setting

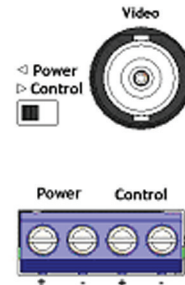
1. Turn off the power supply priors to switches setting.
2. User must make sure the wirings of PTZ control signals had been removed before setting the switch to POWER mode. Oppositely, you must set the switch to DATA mode before wiring the PTZ control signals. It's very dangerous to set the switches while power is ON.
3. Switches are not used when only transmitting video signal, then power/control screw terminals may not be required to regard for. Use GEM BLN-TL or BLN-RJ45 at camera side, H16P-RJ45BNC-2 at equipment side.
4. For transmitting video signal via one twisted pair, remote power via two twisted pairs and Data/ PTZ Control via one twisted pair, set the switches as figure 1 shown. Use GEM BLN-VDPRJ45 at the camera side, H16P-RJ45BNC-2.



H16P-RJ45BNC-2

Figure 1: Data (Control) thru Mode

5. For transmitting video signal via one twisted pair, and remote power via three twisted pairs, set the switches as figure 2 shown. Use GEM BLN-PVRJ45-1 at the camera side, H16P-RJ45BNC-2 at equipment side.



H16P-RJ45BNC-2

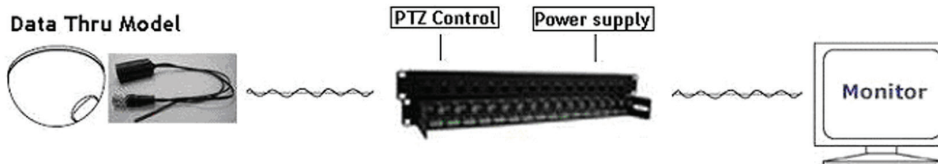
Figure 2: Power thru Mode

Application:

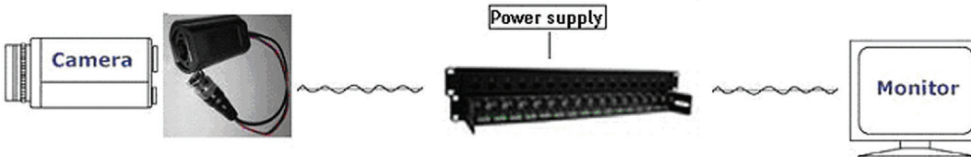
Regular Model



Data Thru Model



Power Thru Model



Passive CCTV 1U Rack Mount Video/Power Distribution Point



H16P-STRJ45

The **CCTV Patch Panel** allows the transmission of video signals, remote power and Data (control) via a single UTP (unshielded twisted pair) cable for more versatile cabling. It allows you to eliminate more expensive coaxial cable, including coupling signals from remote video cameras to display systems, video capture, security and surveillance monitoring applications.

The modular construction allows the conjunction with other CCTV Baluns - standard type, keystone type, toolless IDC with cover type, power thru and Data (control) thru. This modular provides cost effective solutions, as well advantages to installation.

Features:

1. Switches for convert the power thru mode or data (control) thru mode
2. Low profile design
3. Mounts in standard 19" Rack

Specification:

Environment	Close-Circuit TV (CCTV) equipment for security and surveillance.	
Devices	CCTV cameras, monitors, digital video recorders (DVR) and other CCTV equipment.	
Cable-UTP	Cat 5 or better: AWG# 24 Typical — Maximum Capacitance: 20pf/foot — Attenuation: 6.6dB/1000 ft at 1MHz	
Connectors: H16P-STRJ45	Video: 2-pole screw terminals x 16 — Power and control: 4-pole screw terminals x 16 — RJ45 Jack(8P8C) x 16	
Switches	Switching pair 4/5 between power thru and data (control) thru mode x16	
RJ45 Pin Configuration	Switch at power	Switch at control
	Video: 7+/8- Power: 1,3,5+/2,4,6-	Video: 7+/8- Power: 1,3+/2,6- Data, PTZ Control: 4+/5-
Environment required	Operating temp. 0 to 55° C Storage temp. -22 to 85°C — Humidity up to 95%	

Remote Power: (ie: 24Vac, 28Vac)

Switch position	Switch at Power	Switch at control
Max. Distance @ 24Vac via an UTP Cat 5 cable (24 AWG): Based on 10% voltage drop at camera. Longer distance may be achieved @ 28Vac	5VA: 519ft (170m), 10VA: 258ft (85m) 20VA: 130ft (43m) 30VA: 86ft (28m)	5VA: 345ft (115m) 10VA: 171ft (57m) 20VA: 87ft (29m), 30VA: 54ft (18m)
Maximum input voltage:	50Vdc/ac	
Maximum current Rating:	4.5A	

2-Wire PTZ Control (RS-422, RS485 etc.)

Wiring	Remote 2 wire PTZ control signal via one pair of UTP
Maximum Distance	Up to 4,000 ft (1.2 km) depending on the PTZ camera vendor
Maximum Power Rating	50 Vdc/ac, 3A

Passive CCTV 1U Rack Mount Video/Power Distribution Point

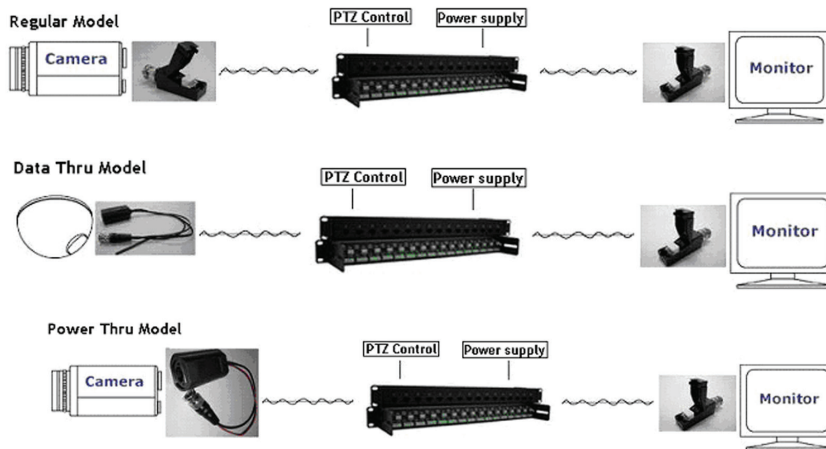
Switch Settings:

1. User must make sure that the wiring of the PTZ control signals has been removed before setting the switch to POWER mode. You must set the switch to DATA mode before wiring the PTZ control signals. Be sure to turn off the power supply prior to switching the settings, it is very dangerous to set the switches while the power is ON.
2. Switches are not used when transmitting video signal, power/control screw terminals may not be required. Use the GEM BLN-TL or BLN-RJ45 on the camera side and use GEM H16P-RJ45BNC-2 on the equipment side.
3. For transmitting video signal via one twisted pair, remote power via two twisted pairs and Data/PTZ Control via one twisted pair, set switches as shown in Figure 1. Use GEM BLN-VDPRJ45 at the camera side, H16P-RJ45BNC-2.




Figure 1: Data (Control) thru Mode



Application H16P-STRJ45:



Passive Video Hub With Transient Protection

GEM P/N	Description	Picture
H8P-STBNC	8 Channel Passive Receiver Hub Screw Terminal Video Inputs Female BNC Outputs	
H16P-STBNC	16 Channel Passive Receiver Hub Screw Terminal Video Inputs Female BNC Outputs	
H16P-STRJ45BNC	16 Channel Passive Receiver Hub Built-in Transient Protection - RJ45 or Screw Terminal Video Inputs LED for Indication	

CCTV Video / Power / Data Baluns

Contact GEM for a 'Power Distance Calculator'.

CCTV BALUN

Power-thru Type Video and Power (Lead Free)



Part Number: BLN-PVRJ452



Part Number: BLN-PCVRJ452

The **CCTV Power-thru Balun** provides the transmission of video signals and remote power via a single UTP (unshielded twisted pair) cable for more versatile cabling. The CCTV Power-thru Balun is used in pairs that allow you to eliminate more expensive coaxial cable, which include coupling signals from remote video cameras to display systems, video capture, security and surveillance monitoring applications.

The use of existing twisted pair infrastructure (such as telephone cable and cat. 5 computer networking cables) is also available. All of our Baluns are tested 100% for reliability and durability to guarantee your signal integrity.



BLN-VPDRJ45
Passive Video Balun With
Separate Data & Power Leads
To RJ45 Jack

Specification	
Bandwidth	Video DC to 8MHz
Maximum input	1.0Vp-p
Impedance	75 ohm to 100 ohm (or 75 Ohm to 120 Ohm on request)
Insertion loss	Max. 2dB per pair over the frequency range from DC to 8MHz
Return loss	Greater than 15dB over the frequency range from DC to 8MHz
Common mode rejection	Greater than 40dB at 8MHz
Environment	Close-Circuit TV (CCTV) equipment for security and surveillance.
Devices	CCTV cameras, monitors, switchers, sequencers, multiplexers, digital video, recorders (DVR) and other CCTV equipment.
Connectors	RJ45 Jack, BNC Male
Cable-UTP	Cat. 5 or better - 100 Ohms at 1MHz Max. capacitance :20pf/ft Attenuation: 6.6dB/1000ft at 1MHz
Cable-BNC	Impedance : 75 ohms at 1MHz(RG59/U) Max. 25ft. of coax allowed per end to end link
Max. distance	Color: Cat.5 2230ft (680 Meter) - Monochrome: Cat.5 2550ft (780 Meter)
Environment required	Operating temp. 0 to 55° C - Storage temp. -22 to 85°C - Humidity up to 95%
Dimension	33.0x21.0x24.2mm
Max. Distance @ 24VAC via three pairs of an UTP Cat 5 cable (24 AWG):	5VA: 519ft (170m), 10VA: 258ft (85m) - 20VA: 130ft (43m), 30VA: 86ft (28m) Based on 10% voltage drop at camera. Longer distance may be achieved @ 28VAC
Maximum input voltage:	50Volts (AC RMS/DC)
Maximum current Rating:	4.5A (AC RMS/DC)

UTP Active Receiver Hub

1500-1800M



GEM Part Number	AH16P-RJ45BNC-1
Spec	16 Channels Active
Video	Frequency response: DC - 6Mhz Common-mode/Differential-mode Rejection: 15Khz 60Mhz 60dB typical
Audio / data	NO
Power	12VDC
Impedance	Coax, Male BNC: 75Ω UTP RJ45 Data Connector: 100Ω
Wire Type	One Unshielded Twisted Pair 24 - 16AWG (0.5-1.31mm) Per Video Signal: DC Loop Resistance 52 Ohms per 1,000ft.(18 Ohms per 100mm)
Sugre Suppression	6000V 1.2μ S*5μ S
Control	Brightness and Sharpness
UTP Port	RJ45 (1610J Terminal Block)
Dimensions	432 x 185 x 44 mm
Weight	2200g
Environment	Temperature: -10 ~ 50° Humidity: 0 ~95%

Active Baluns with Transient Protection

Active Video Hub With Transient Protection

GEM P/N	Description	Picture
AH4P-STRJ45BNC	4 Channel Active Receiver Hub Screw Terminal or RJ45 Video Inputs Female BNC Outputs	
AH8P-STTBNC	8 Channel Active Receiver Hub, Screw Terminal Video Inputs, Built-in Transient Protection, Female BNC Outputs	
AH16P-STTBNC	16 Channel Active Receiver Hub, Built-in Transient Protection, LED for Indication, Drawbench Aluminum	
AH16P-STRJ45TBNC	16 Channel Active Receiver Hub, Built-in Transient Protection, RJ45 or Screw Terminal Video Inputs, LED for Indication	

Active Video Balun

Part Number: **BLN-AR Receiver**
BLN-AT Transmitter

Receiver Specifications



BLN-AR

Brightness and Sharpness Control :	Adjustable
Power Required	12-24 VAC/DC 250mA min
Power On	Blue Indicator Light
Video Signal	Green Indicator Light
Network Wiring	UTP AWG #16~24 (1.3-0.5 mm) Category Type : Cat 2 or better Impedance : 100 ohms
Transmissive Distance	5,500ft. (1.7Km) when used with BLN-AT active transmitter and Cat.2 or 3 8,200ft. (2.5Km) When used with BLN-AT active transmitter and Cat.5 or better
Temperature	0° to +50° C
Humidity (non-condensing)	0 to 95%
Dimensions excluding BNC	3.0 x 1.6 x 1.1 in (75.6 x 40.9 x 27.1 mm)
Weight	100 g
Material	Black ABS

Receiver Electrical Characteristic & Performance

Frequency Response	DC to 5 MHz
Common-mode/ Differential-mode Rejection	60 dB typ. at 15KHz to 5 MHz
Impedance	Coax, female BNC 75 ohms UTP, Terminal Block 100 ohms
DC Loop Resistance	52 ohms per 1,000 ft (18 ohms per 100 m) for Cat.5 AWG#24
Differential Capacitance	19 pF/ft max (62 pF/m max)

Transmitter Specifications



BLN-AT

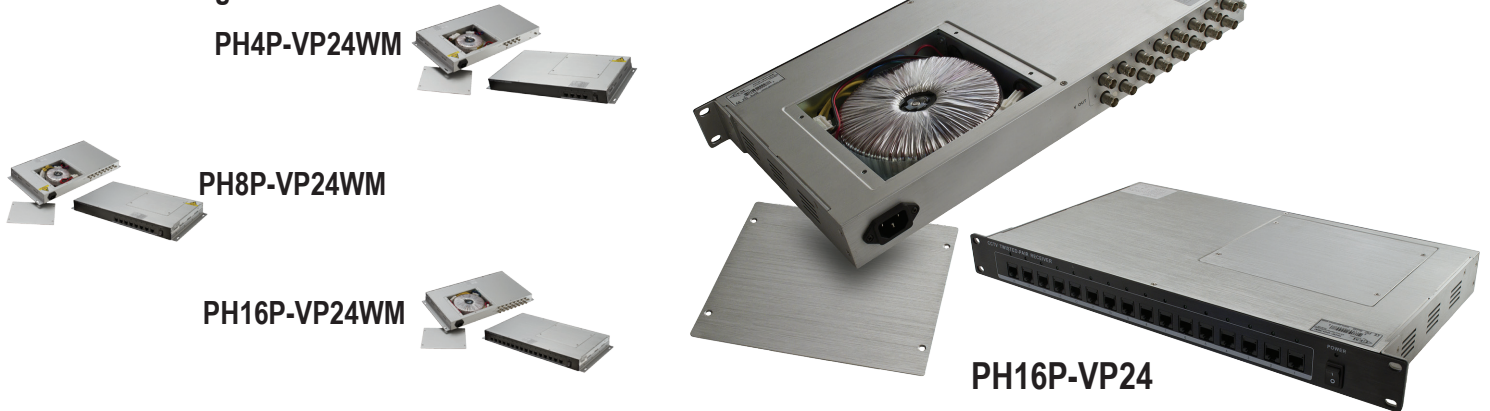
Distance Switch	3-Position, "L" for distance less or equal to 1,650ft. (500m) "M" for or distance between 1,650ft. to 3,300ft. (500~1000m) "H" for or distance longer than 3,300ft. (1000m)
Power Required	24 VAC/DC 250mA min May share 24 VAC power with camera.
Power On	Blue Indicator Light
Video Signal	Green Indicator Light
Network Wiring	Unshielded Twisted Pair, AWG #16~24 (1.3-0.5 mm) Category Type : Cat 2 or better Impedance : 100 ohms
Transmissive Distance	5,500ft. (1.7Km) When used with BLN-AT active transmitter and Cat.2 or 3 8,200ft. (2.5Km) When used with BLN-AT active transmitter and Cat.5 or better
Temperature	0° to +50° C
Humidity (non-condensing)	0 to 95%
Dimensions excluding BNC	3.0 x 1.6 x 1.1 in (75.6 x 40.9 x 27.1 mm)
Weight	100 g
Material	Black ABS

Transmitter Electrical Characteristic & Performance

Frequency Response	DC to 5 MHz
Common-mode/ Differential-mode Rejection	60 dB typ. at 15KHz to 5 MHz
Impedance	Coax, female BNC 75 ohms UTP, Terminal Block 100 ohms
DC Loop Resistance	52 ohms per 1,000 ft (18 ohms per 100 m) for Cat.5 AWG#24
Differential Capacitance	19 pF/ft max (62 pF/m max)

Passive Tranceiver Hub with Replaceable Power Supply

Wall mount designs:



This document contains the system requirements for a passive powered UTP hub, with a lid on the top of the Hub for ease of power supply replacement.

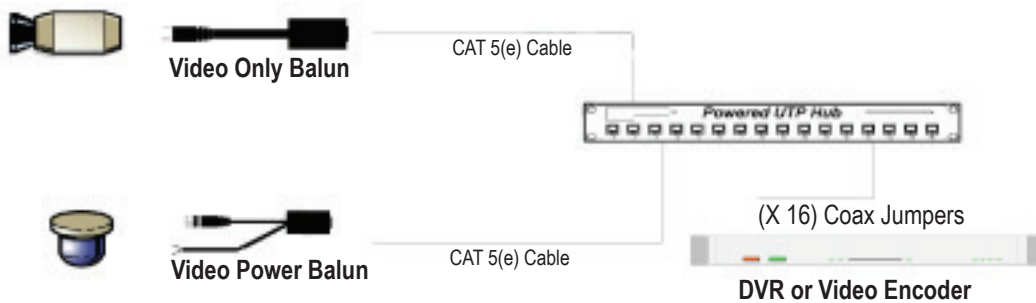
Summary of Key Features

This product is a central hub capable of transmitting video and power, over a single CAT5(e) cable. The unit will utilize a 120VAC power source to supply 24VAC power over CAT5(e) cable. The unit will also convert the video signal coming in on a standard **100 Ohm** RJ45 connection to a **75 Ohm** BNC connection.

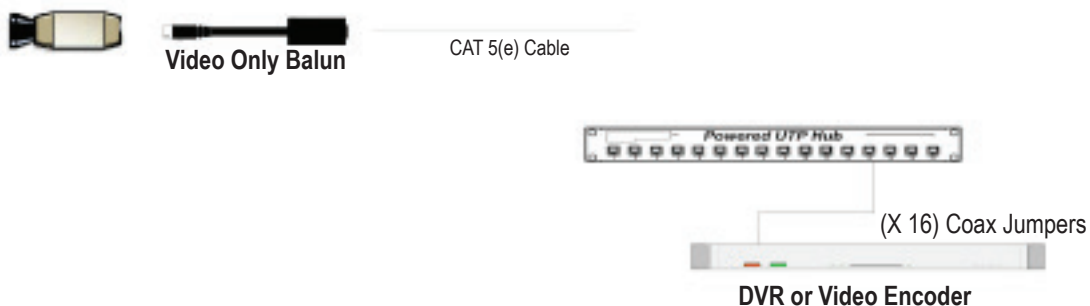
Application

This device is intended to make easier the installation process of a commercial grade CCTV system by combining a UTP hub and CCTV power supply. The video and power can be transmitted over a single CAT5(e). There are 2 versions. The PH16P-VP24-1 has 2 power supplies with a switch to redirect system to alternate power supply should to primary power supply fail. The standard unit has only 1 power supply, but has a lid on the top of the hub for easy access for replacement.

Hub, DVR/Encoder, Cable, Camera, Balun video only P/N BLN-RJ45
Camera, Balun video/power P/N BLN-RJ45-1



Hub, DVR/Encoder, Cable, Camera Balun (No Power)



Passive Tranceiver Hub with Replaceable Power Supply

PH16P-VP24

Components

This device has several accessory options including but not limited to a single channel video only balun and a single channel video/power balun.

Powered UTP Hub



Technical Features

Video Input

Video Input/output	Balanced 100 Ohm, RJ45 input; Unbalanced 75 Ohm, BNC output
Isolation	Individually isolated from ground and other video inputs
Format	NTSC,PAL
Frequency	20HZ to 10MHZ +0/-3dB
Insertion Loss	<0.2dB
Power Output Terminal	RJ45 output, Short circuit protection
Video Bandwidth	DC to 6 MHz
Common Mode Rejection Ratio	15KHz-5MHz: Typical 60dB
Differential Gain	< 2%
Differential Phase	< 2°
Weighted Signal-noise-ratio	≥60dB
Transient Immunity	Per ANSI 587 C62.41

Power

Input Voltage	120VAC, ±10%
Input Current	1.85A
Output Voltage	24VAC,Off
Output Current	On average:500mA Each channel max output≤1850mA
Power supplies Switch	10A/125VAC
Power Classification	Class 2 Powered Device
Fault Protection	1A Glass Fuse per Camera (Field Replaceable),2A Master Power Supply Glass fuse

Mechanical

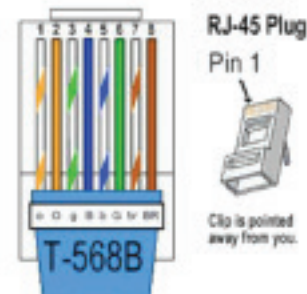
Dimensions	480mm(L) * 260mm (W) * 45mm(H)
Weight	6.65KG
Material	Steel Sheet Metal
Color	Matte Silver
Front Panel	(16)RJ45 Connections, Power selection switch (24VAC,Off)
Rear Panel	(16)BNC Connections, Configuration Switch (Video Only, Video/Power),Individual camera fuses
Visual Indicators	Each camera port showing power is active, Main power

RJ45 Pin Configuration

1	Power +	White/Orange
2	Power -	Solid Orange
3	Power +	White/Green
4	Power -	Solid Blue
5	Power +	White/Blue
6	Power -	Solid Green
7	Video+	White/Brown
8	Video-	Solid Brown

*T-568B Wiring standard

T-568B Straight-Through Ethernet Cable



Passive Tranceiver Hub with Replaceable Power Supply

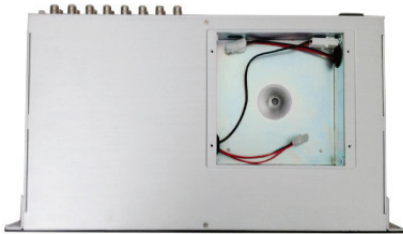
PH16P-VP24 Mounting

Mounting Options	Rack, Shelf
Rack Mounting Option	1U Rack mount in Standard EIA 19" Rack
Shelf Mounting Option	Rubber sticky nodes supplied to allow ventilation around bottom of unit

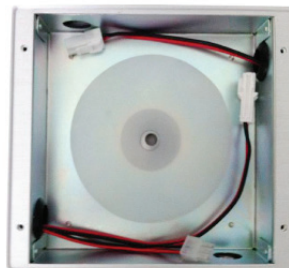
Environmental

Dimensions	520mm(L) * 320mm (W) * 100mm(H)
Humidity	0-95%, Non-condensing
Operating Temperature	-25° to 70° C
Minimum Airflow	5cft./ min
Heat	1300 BTU/hour

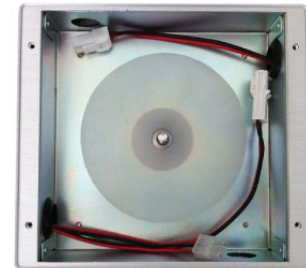
Installation



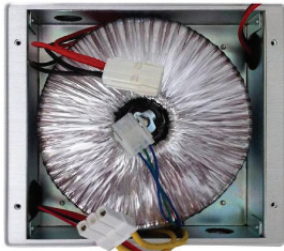
1. This photo shows what the hub looks like when the power transformer is not installed.



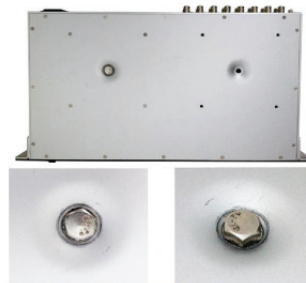
2. Put insulation cushion into the hub.



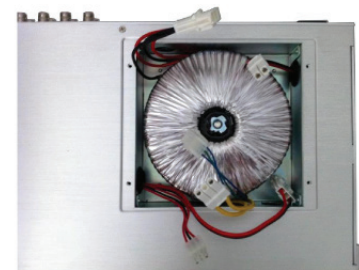
3. Penetrate fixed studs from the backplane carefully; Note the three different locations of the plug positions.



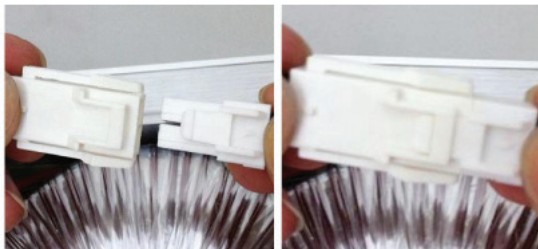
4. Place power transformer into hub. Attention: Place the three power cords of the transformer as shown, otherwise, they will not connect with the three power cords of hub.



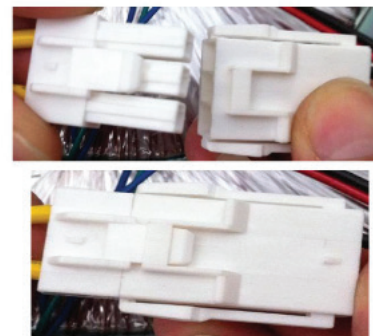
5. Turn the hub over gently, support power transformer with one hand while the other hand tightens the screws with tools.



6. After tightening the screws, turn to the front of the hub. Notice the three power cords of the power transformer and three cords of the hub placement. It is very clear.



7. Buckle the powercord as shown, by connecting the one pair of power cords and buckling well, pay attention to the front and back.



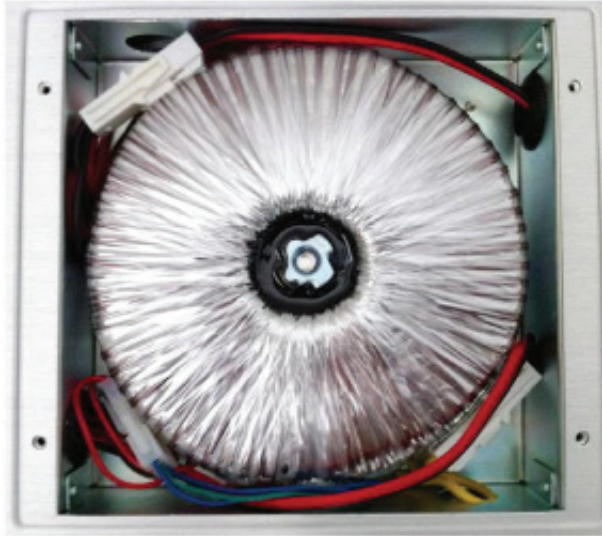
8. Connect the one pair of yellow power cords as shown, and buckle well. Pay attention to the front and back.

Passive Tranceiver Hub with Replaceable Power Supply

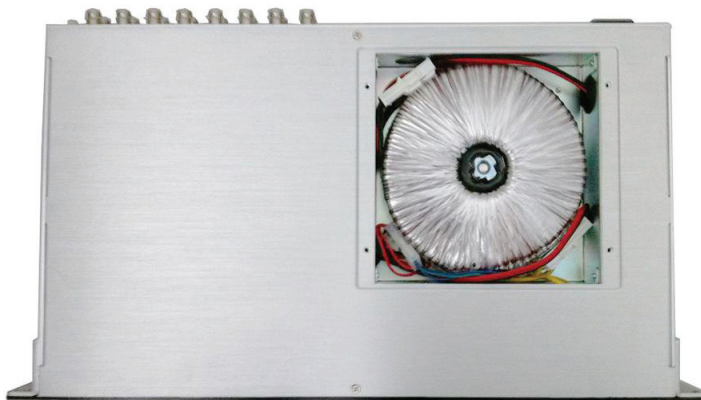
PH16P-VP24



9. Connect the one pair of transparent power cords and buckle well. Pay attention to the front and back.



10. Once all three pair of power cords are perfectly buckled, carefully place them as shown, so that they will install into the hub opening easily.



11. This photo shows the overall effect of the locations when the power transformer and three pair of power cords have been installed and correctly.



12. Close the hub opening and tighten the 4 small screws with tools.

Passive CCTV Splitter with Built-in Power Supply - 24 Volt

8 Channel Video & Power Splitter (Without Balun)

Part Number: VPS-2X8V24

VPS-2X8V24 is an 8 channel splitter having 2 RJ45 inputs for video only lines and 8 RJ45 outputs for video/power lines to the camera via a 24 volt built in power supply. It provides AC24V/1A power for each camera. This device can be used with the complimentary products such as BLN-PVRJ45-1.



Features

- Compact size with side panels installed rack design, space saving
- Offer video & power transmission solution
- Built-in removable AC110V switch AC24 power adapter, power supply stability, and ease to replace.
- Built-in overcurrent and overload protection (max: 1a)
- Power signal indicator (LED)

Technical Specifications

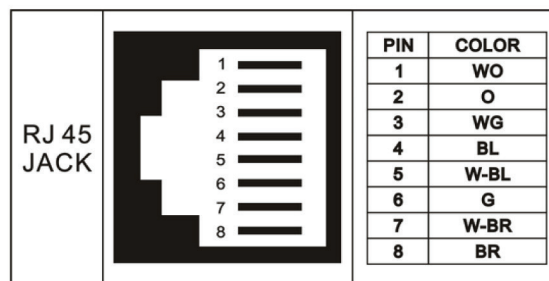
- Frequency response: DC-8MHz
- Terminal Type: RJ45 x 8 / RJ45 x 2
- Impedance: RJ45: 100Ω
- Working temperature: 10° - 70°
- Storage temperature: -30° - 70° single largest
- Power requirement: AC110V ± 10% input, AC24V/1A / output per port
- Format: compatible with NTSC, PAL, SECAM, and CCIR System
- Dimensions: 155mm x 200mm x 32mm (excluding connectors rack)

Type of required wire: Unshielded CAT5 or better

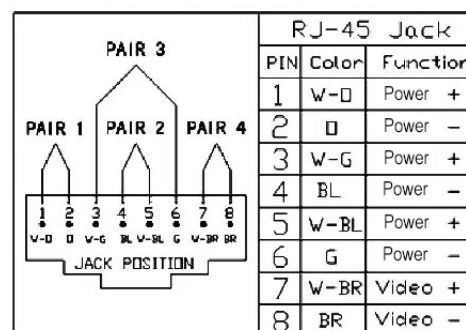
- Impedance: 100Ω ± 20Ω
- DC loop resistance: 18Ω/100m
- Differential capacitance: 62pf / m (maximum)

Connection Method

- RJ45 pinout (shown) 568B configuration

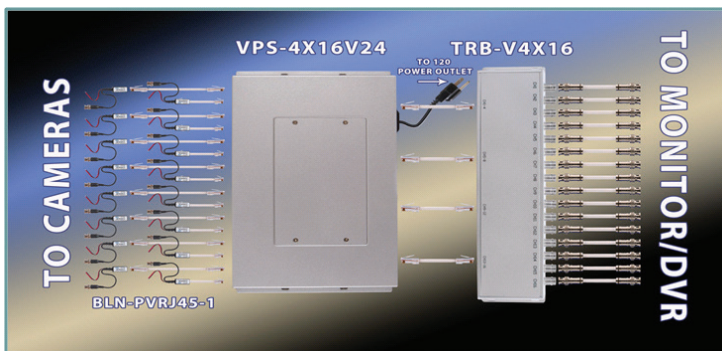


RJ45 Pin Out



Passive CCTV Splitter with Built-in Power Supply - 24 Volt

Application Diagram



16 Channel Splitter with Built In Power Supply

Part Number: VPS-4X16V24

VPS-4X16V24 is a 16 channel splitter having 4 RJ45 inputs for video only lines and 16 RJ45 outputs for video/power lines to the camera via 24 volt built in power supply. It provides AC24V/1A power for each camera. This device can be used with the complimentary products such as BLN-PVRJ45-1



4 Channel Splitter with Built In Power Supply

Part Number: VPS-1X4V24

V9S-1X4V24 is a 4 channel splitter having 1 RJ45 input for video only lines and 4 RJ45 outputs for video/power lines to the camera via 24 volt built in power supply. It provides AC24V/1A power for each camera. This device can be used with the complimentary products such as BLN-PVRJ45-1



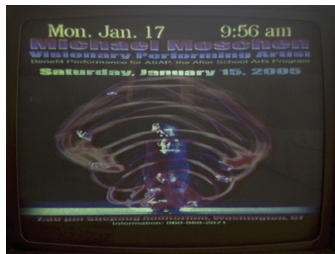
CATV Video Balun

The CATV Balun allows traditional 75 Ohm coaxial cable to be replaced by one-pair UTP in the CATV, VHF and FM video signal. The CATV Balun saves the extra cost of expensive and space-consuming coax cable and can connect RF Video equipment to TV, Monitors...etc. shortly.

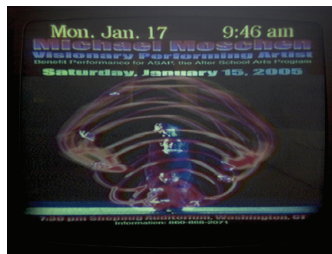
Specifications

- Bandwidth: 5 MHz to 862 MHz
- Common Rejection: -20dB or higher at 40 MHz - 862 MHz
- Distance (max): 100M via CAT 5 UTP
- Insertion Loss: CATV channels 2 - 61 \leq 3dB
- Return Loss: -18dB or higher at 10 - 862 MHz

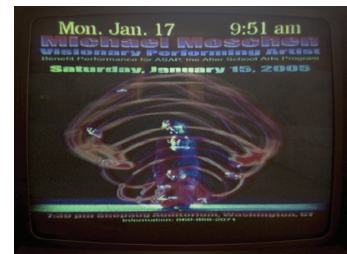
Superior Picture Up To 300 Feet ACTUAL PHOTOS



Direct RG59 Hook-up



300 Feet Cat. 6
With 2
BLN-CATVF

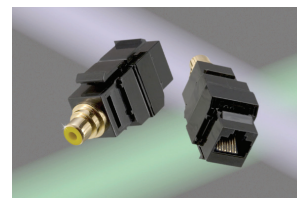


300 Feet Cat. 5E
With 2
BLN-CATVF

Products



BLN-CATVF
F Plug To RJ45 Jack



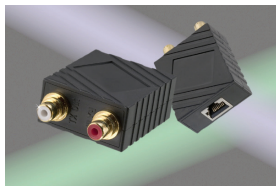
BLN-CATVRCAKS
RCA Jack To RJ45 Jack Keystone Type

RCA Audio Balun

This RCA Audio Balun is ideal for corporate A/V, schools, home theater and most of any other situation involving structured audio distribution and transmits dual mono or single stereo audio signals via CAT 5/6 UTP cable. This Balun provides a low cost and versatile cabling solution to any audio distribution.

Specifications

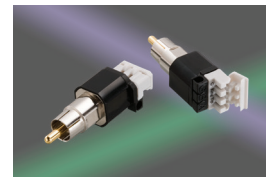
- **Bandwidth:** 10 Hz to 50 KHz + / -3 dB
- **Impedance:** 600 : 600 Ohms, unbalanced to balanced
- **Connectors:** Two RCA to one RJ45
- **Dimensions:** 49.2 x 43.0 x 21.5 mm
- **Distance (max.):** 2500 feet (Cat. 6)
- **Isolation:** 500 V
- **Nominal Level:** 1.0 volts
- **Insertion Loss:** ≤ 1 dB
- **Common Mode Rejection:** Greater than 40 dB
- **Cable:** UTP: 24 gauge or lower solid copper
UTP: Impedance: 100 Ohms at 1 MHz
Maximum capacitance: 2 p pf / ft
Attenuation: 6.6 dB / 100 ft at 11 MHz
- **Pin out:** Left: 3 & 6, pair 3 - Right: 1 & 2, pair 2
- **Temperature:** Operating: 0 to 55° C - Storage: -20 to 85° C
Humidity: up to 95%



BLN-AV2RCA
2 RCA Jacks
To RJ45 Jack



TRB-4RCAPT
4 RCA Plugs
With 24 Inch Pigtail
To RJ45 Jack



BLN-RCAMTL
RCA Plug
To Toolless Mini-Type



Component Video Balun

GEM Part Numbers	Description
TRB-RGB	3 RCA Jacks
TRB-RGBPT	3 RCA Plugs on Pigtail

Specifications

Environment	Component analog RGB/YPbPr video with synchronization signals on one of the color signals (i.e. synch-on-green).
Devices	RGB projectors, monitors, matrix switchers, media walls, splitters, mixers, scan converters, video scalars and other RGB/YPbPr equipment that supports sync-on-green via three (3) coaxial cable.
Transmission	Transparent to the user.
Bandwidth	Video: DC to 8 MHz (480i and 480p only).
Maximum Video Input	1.1 Vp-p.
Insertion Loss	Less than 2 dB per pair over the frequency range from DC to 8 MHz.
Return Loss	Greater than 15 dB over the frequency range from DC to 8 MHz.
Maximum Distance – Color Video	Category 5 UTP – 520 feet.
Cable – UTP	24 gauge or lower solid copper twisted pair wire. Impedance: 100 ohms at 1 MHz maximum. Capacitance: 20 pf/foot. Attenuation: 6.6 dB/1000 feet at 1 MHz.
Connectors – TRB-RGB, TRB-RGBPT	Three (3) RCA Female; One (1) RJ45 Jack; Three (3) RCA males with pigtail; One (1) RJ45 Jack.
Pin Configuration	Red (Pr): Pins 7 & 8 - Green (Y): Pins 3 & 6, - Blue (Pb): Pins 1 & 2.
Impedance	75 Ohms (RCA) unbalanced.
Temperature	Operating: 0 to 55° C. - Storage: -20 to 85°C. - Humidity: up to 95%.
Enclosure	Fire retardant plastic.
Dimensions	81x60x24mm.
Housing	Black ABS.
Weight	(70 grams).



Component Baluns with Audio & IR

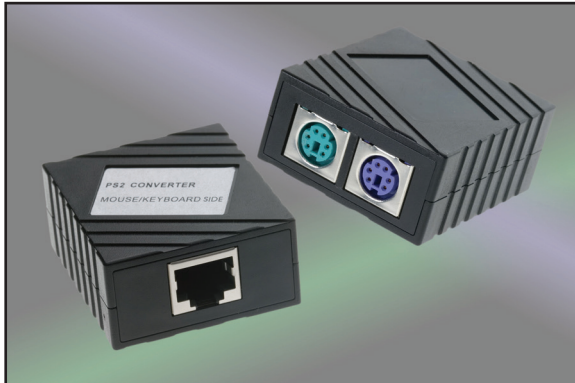
GEM Part Numbers	Description
TRB-RGBA	4 RCA Jacks, Analog Audio
TRB-RGBPTA	3 RCA Plugs on Pigtail, 1 RCA Jack Analog Audio
TRB-RGBPTDA	3 RCA Plugs on Pigtail, 1 RCA Jack Digital Audio
TRB-RGBIRG	3 RCA Jacks, with 1 Terminal Block for IR Pass Thru

Specifications

Bandwidth	Video: DC to 60 MHz(3dB roll off) - Digital Audio: 25 MHz(1dB roll off)
Insertion Loss	Video: -2.5 dB over the frequency range - Audio: -1 dB over the frequency range
Return loss	Video: -15 dB typical over the frequency range - Audio: -15 dB typical over the frequency range
Common Mode Rejection	Video: -55 dB - Audio: -55 dB
Impedance	75 ohms
Environment	Component analogue RGB/YPbPr video with synchronization signals on one of the color signals (i.e. synch-on-green)
Devices	DVD players, projectors, monitors, amplifiers, switches, plasma displays, home theatre and other equipment supporting HDTV component video and digital audio
Maximum Video Input	1.1Vp-p
Connectors	Three RCA Male with 6" cable (Red, Green, Blue) - One RCA Female (Black) for Digital Audio, One RJ45 Shielded Jack
Cable-UTP	Cat.5 or better - Wires impedance 100ohm at 1MHz - Maximum capacitance: 20 pf/foot. Attenuation: 6.6 dB/1000 ft at 1 MHz
Max. distance Cat 5 UTP or better	Video: 480i/p: 1000 ft.(305M) 720p and 1080i: 500 ft (152M) - Digital Audio: 600 ft (182M)
Pin Configuration	Red (Pr): Pins 7+ & 8- Green (Y): Pins 6+ & 3- Blue (Pb): Pins 2+ & 1- Digital Audio: Pins 5+ & 4-
Environment required	Operating: 0 to 55 C. Storage:-20 to 85 C. Humidity: up to 95%
Dimension	81x60x24 in mm

PS/2 Converter

For Keyboard And Mouse



Part Number:
Mini DIN Receptacle — PS2-KBMS



Part Number:
Mini DIN Plug — PS2-PCS

The **PS/2 Converter** for Keyboard and Mouse provides the connection of standard PS/2 Keyboard and Mouse to PC via one UTP (Unshielded twisted pair) cable for more versatile cabling. The PS/2 Converter is used in pairs for long distance cabling flexibility.

Typical applications include corporate projection systems, classroom video instruction and video information systems. All of our Baluns are tested 100% for reliability and durability to guarantee your signal integrity.

Specification	
Environment	PS/2 Keyboard and Mouse
Devices	PC, Laptops, PS/2 Keyboard and Mouse
Bandwidth	DC to 1 MHz
Connectors	RJ45 Jack PS2-PCS: Dual Mini Din Plug (Connects to PC End; Green for Mouse, purple for Keyboard) ,6" lead PS2-KBMS: Dual Mini Din Receptacle (Connects to PS/2 Keyboard and Mouse; Green for Mouse, purple for Keyboard)
Cable-UTP	Cat 5 or better. wires impedance 100ohm at 1MHz Maximum capacitance: 20 pf/foot. Attenuation: 6.6 dB/1000 ft at 1 MHz
Max. distance	Cat 5. 350 ft (110M)
Pin Configuration (Reverse Polarity Sensitive)	MINI DIN: Pin1-- Data, Pin3-- Gnd, Pin4-- +5V, Pin5-- Clock RJ45: Mouse: Pin1-- Gnd, Pin2-- Clock, Pin3-- +5V, Pin6—Data Key Board: Pin8-- Gnd, Pin7-- Clock, Pin5-- +5V, Pin4—Data
Environment required	Operating: 0 to 55 C. Storage:-20 to 85 C. Humidity: up to 95%
Dimension	PS2-PCS: 33.0x21.0x24.2mm - PS2-KBMS: 49.2x43.0x21.5mm

Ground Loop Isolator & VGA Baluns



Video Ground Loop Isolator
Part Number: GLI-BNCPJPT-1

**MUST USE SHIELDED
CAT5 AND CONNECTORS**

VGA Balun
Part Number: BLN-VGAPCS



VGA Balun
Part Number: BLN-VGAMS



The **Video Ground Loop Isolator GLI-BNCPJPT-1** is a necessary part of every CCTV set-up, providing improved security from troublesome ground loop distortion. Installation of the Video Ground Loop Isolator rescues you from the irritation of tearing apart your setup as you search for the source of irritating signal disturbances such as those caused by loops or wiring laid too near power lines. The product also provides for better surge protection, while convenience of installation means the Video Ground Loop Isolator is easily added to previously existing operation.

Specifications Video Ground Loop Isolator	
Connector – GEM Part Number: GLI-BNCPJPT-1	Male BNC to Female BNC
Insertion Loss	0.5dB
Frequency Response	0 — 3dB at 10MHz
Input Resistance	75 Ohm
Output Resistance	75 Ohm
Isolation Voltage	600VDC (Min)
Insulation Resistance	100m Ohm
Transient Voltage Suppressors	12 Vrms
Material	ABS Black
Dimension	3.09 x 1.15 x 0.96" (78.6 x 29.4 x 24.4mm)

Specifications VGA Balun	
Environment	VGA. VESA VP&D 1.0, VIP ver 2.0
Devices	CRT & flat-screen LCD monitors, plasma screens, laptops, PCs, multimedia projectors
Transmission	Transparent to the user
Bandwidth	DC to 60MHz
Input Signals	Video: 1.1Vp-p Horizontal sync: TTL standard — 300Hz max. bandwidth Vertical sync: TTL standard — 300kHz max. bandwidth
Insertion Loss	Less than 3dB per pair over the frequency range
Common Mode Rejection (CMMR)	15kHz – 60dB max. 100kHz to 10MHz – 40dB max. 100MHz – 20dB max.
Video Signal Return Loss	-15dB max. from DC to 60MHz
Video Differential Gain	± 2%
Video Differential Phase	± 2%
Connectors	RJ45 shielded BLN-VGAPCS: DB15 HD Plug (Connects to VGA output of PC), 6" lead BLN-VGAMS: DB15 HD Receptacle (Connects to VGA monitor input)
Max. Distance via Cat 5 Twisted Pair	VGA: 640 x 480 pixels (15MHz) 450 ft. (137m) SVGA: 800 x 600 pixels (30MHz) 350 ft. (107m) XGA: 1024 x 768 pixels (60MHz) 250 ft. (76m) SXGA: 1280 x 1024 pixels (100MHz) 200 ft. (61m)
RJ45 Pin Configuration Reverse Polarity Sensitive	R Video: (Red) Pin 1 (+) Pin 2 (-) Balanced G Video: (Green) Pin 4 (+) Pin 5 (-) Balanced B Video: (Blue) Pin 7 (+) Pin 8 (-) Balanced Horizontal Sync: Pin 3 — Vertical Sync: Pin 6 — Horizontal & Vertical Sync Return: STP cable: Shield — UTP cable: Not connected +5VDC Not connected - IDO Not connected - SDA Not connected - SCL Not connected
Cable	Cat 5 shielded twisted pair (STP) is recommended. Unshielded twisted pair (UTP) may be used when there is full signal ground continuity between the VGA source & the VGA display.
Impedance	Input: RGB 75 Ohms (DB15 HD) Unbalanced Output: RGB 100 Ohms (RJ45 shielded) Balanced Horizontal & vertical sync: TTL standard
Temperature	Operating: 0 to 55 C. Storage: -20 to 85 C. Humidity: up to 95% non-cond.
Enclosure	ABS fire retardant plastic
Dimensions	1.93" x 1.69" x 0.84" (49.2 x 43.0 x 21.5mm) plus 6" cable lead for video
Mounting	Free-standing. Separate Velcro mounting pad included
Order Information	BLN-VGAPCS BLN-VGAMS

BNC to VGA Converter

GEM Part Number: CON-VGABNC



Rear View



Brief Introduction:

The whole family shares one computer, watching movies and playing games on the internet.

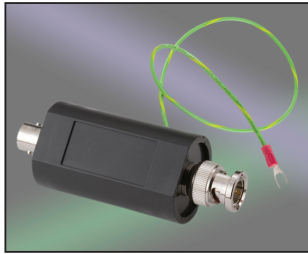
The popularization of computers brings great conveniences for people's work and life. Maybe at one certain occasion you need to change the Video signals into VGA signals. The movies you downloaded from the internet can be entirely combined to the family cinema, and you can easily experience cinema effect. You also can demonstrate the BRM need to be presented to the audience through the large-screen TV....

Video Converter can easily help you to realize the conversion of Video signals into VGA signals.

Performance Characteristics:

- One input of Video signals, output of VGA signals
- One ACPI of 5V
- Resolution of VGA signals: 640x480@60/72/75/85Hz, 800x600@60/75Hz, 1024x768@60/75Hz, 1280x1024@60 Hz
- At the same time, output the VGA/VIDEO/S-VIDEO signals
- Show simultaneously pictures on the monitor and TV
- Supports the systems below:
 - The TV systems of NTSC (Taiwan and USA), NTSC-EIAJ (Japan), PAL (EURO, china) PAL-M (Brazil), PAL-N (Uruguay Paraguay)
- Supports the OVERSCAN and UNDERSCAN display mode
- Convenient to carry because it is light, thin, short and small
- Volume: 110mm(length)x56mm(width)x36mm(height)

Surge Protector & S-Video Baluns



Surge Protector
Part Numbers:
 SP-BNCPJ
 SP-BNCJJ
 SP-FPJ
 SP-FJJ
 SP-RJ45JJ

This series of **Video Surge Protectors** help prevent damage to sensitive electronic equipment due to differences in ground potential, power surges and area lightning strikes. Easily installed between the coax video cable and equipment connection jack, our surge protectors intercept repeated surges and ground them along a twisted conductive wire without any loss of signal quality. These products offer a combined surge handling capacity of 3,000 watts.

Surge Protector Specifications	
DC Spark-Over Voltage	90V typical at 100V/sec.
Impulse Spark-Over Voltage	700V at 1KV/usec.
Surge Resistance	10 Ohms typical
Impulse Discharge Current	10KA at 8*20 μ sec. (Short Wave) 100A at 10*1000 μ sec. (Long Wave)
Insertion Loss	Less than 2dB
Return Loss	18 dB, 75 Ohms
Connector	SP-BNCPJ - BNC Connector Male to Female SP-BNCJJ - BNC Connector Female to Female SP-FPJ - F Connector Male to Female SP-FJJ - F Connector Female to Female SP-RJ45JJ - RJ45 Connector Female to Female
Dimensions W x D x H	78.6 x 29.4 x 24.4mm for F & BNC Connector 51.2 x 29.4 x 24.4mm for RJ45 Connector

S- Video LR-Audio
Part Number: BLN-SVLRA



S- Video
Part Number: BLN-SV



S- Video Balun Specifications

Environment	S-Video equipment
Devices	DVD players, VCR, satellite receivers, MPEG players, laptops, notebooks, monitors, LCD projectors, CCD cameras, video switchers, sequencers, digital video servers, video multiplexers, S-Video splitters, S-Video converters & other S-Video equipment
Bandwidth	Video: DC to 6MHz Audio: 600 Ohms: 73Hz to 156kHz @ 1,000 ft. 1.2k Ohms: 128Hz to 91kHz @ 1,000 ft.
Maximum Video Input	1.1 Vp-p
Insertion Loss	Video: Less than 2dB per pair over the frequency range from DC to 6MHz Audio: 600 Ohms: <3dB per pair: 1.2k Ohms: <1.9dB per pair
Return Loss	Greater than 13dB over the frequency range from DC to 8MHz
Common Mode Rejection	Greater than 40dB over the frequency range
Maximum Distance	Color Video: 1,000 ft. (305m) Audio: 5,000 ft. (1525m)
Cable - UTP	24 AWG or lower solid copper twisted pair wire Impedance: 100 Ohms at 1MHz — Max. Capacitance: 20 pf/foot. — Attenuation: 6.6dB/1000 ft. at 1MHz
Connectors	BLN-SVLRA: One (1) 4-Pin Mini DIN, two (2) RCA audio jacks & one (1) RJ45 — BLN-SV: One (1) 4-Pin Mini DIN, one (1) RJ45
Pin Configuration	S-Video Luma: Pins 8 (R) & 7 (T) S-Video Chroma: Pins 4 (R) & 5 (T) Audio White: Pins 3 (R) & 6 (T) Audio Red: Pins 1 (R) & 2 (T)
Impedance	Video: 75 Ohms (RCA) unbalanced Audio: 600 Ohms (RCA) unbalanced
Temperature	Operating: 0 to 55 C. Storage: -20 to 85 C Humidity: up to 95%
Dimensions	81 x 60 x 24.5 mm
Housing	Black ABS

Balun Competitive Cross References

Interactive Distance Calculator

NVT Part Number	Gem Part Number	Configuration
NV-208A-M	BLN-TL	CCTV Balun - BNC Plug to Toolless, Punchdown Contacts
NV-214A-M	BLN-RJ45PT	CCTV Balun - BNC Plug to RJ45 Jack with 6 inch pigtail
NV-216A-PV	BLN-PVRJ45-2	CCTV Balun - BNC Plug with Power Lead all pigtailed to RJ45 Jack with surge. Pinout: Video 1 +/-, Power: 5,7+/4,8-
NV-218A-PVD	BLN-PVDRJ45	CCTV Balun - BNC Plug with separate Power and Data Leads, all pigtailed to RJ45 Jack with surge. Pinout: Video 1 +/-, Power: 5,7+/4,8- Data: 3+/6-
NV-652R	BLN-AR	CCTV Balun - Active - Receiver
NV-653T	BLN-AT	CCTV Balun - Active - Transmitter
NV-862J	BLN-ARPRJ45BNC	CCTV Balun - Active Receiver Panel, one input to four outputs, 8 ports, 2 RJ45 Jacks for input, 32 BNC Jacks for output
NV862R	BLN-ARPSTBNC	CCTV Balun - Active Receiver Panel, one input to four output, 8 ports, 2X 8 pin terminal block for input, 32 BNC Jacks for output
NV-1613A	H16P-RJ45BNC	CCTV Balun Hub - 16 Position BNC to RJ45 Jack
NV-1662J	AH16P-RJ45BNC	Active Receiver Hub, 16 ports for 2 outputs, 4 RJ45 Jacks to 32 BNC Jacks
NV-1662R	AH16P-STBNC	Active Receiver Hub, 16 ports for 2 outputs, 4 terminal blocks to 32 BNC Jacks
NV-3262J	AH32P-RJ45BNC	Active Receiver Hub, 32 ports for one output, 8 RJ45 Jacks to 32 BNC Jacks
NV-3262R	AH32P-STBNC	Active Receiver Hub, 32 ports for one output, 8 terminal blocks to 32 BNC Jacks

MUX Part Number	Gem Part Number	Configuration
500000	BLN-RJ45	CCTV Balun - BNC Plug to RJ45 Jack
500001	BLN-AV2R1B	Audio/Video Balun - 2 RCA Jacks & 1 BNC Jack to RJ45 Jack
500002	TRB-RGB	Transceiver Box - 3 RCA (RGB) Jacks to 1 RJ45 - Component Video
	TRB-RGBPT	Transceiver Box - 3 RCA (RGB) Plugs with Pigtails to 1 RJ45 Jack - Comp. Video
500006	BLN-CATVF	CATV Balun - CATV Balun - F Plug to RJ45 Jack
500007	BLN-VPDRJ45	CCTV Balun - BNC Plug with Separate Power and Data Leads, all pigtailed to RJ45 Jack
500009	BLN-TL	CCTV Balun - BNC Plug to Toolless, Punchdown Contacts
500010	BLN-VGAPCS	VGA Balun - DB15M with 6-inch lead to RJ45 Jack - PC side
500011	BLN-VGAMS	VGA Balun - DB15F to RJ45 Jack - Monitor side
500015	BLN-AR	CCTV Balun - Active - Receiver
500016	BLN-SV	S Video Balun to RJ45 Jack
500017	BLN-SVLRA	S Video Balun with Left & Right RCA Audio Jacks to RJ45 Jack
500023	BLN-MTL	CCTV Balun - BNC Plug to Toolless Mini type
500024	BLN-PVRJ45-1	CCTV Balun - BNC Plug with Power Lead all pigtailed to RJ45 Jack
500037	TRB-4BNC	Transceiver Box - 4 BNC Jacks to 1 RJ45 Jack
500045	PS2-KBMS	Converter - PS2 to RJ45 Jack, Keyboard/Mouse Side
500046	PS2-PCS	Converter - PS2 to RJ45 Jack, PC Side
500050	TRB-RGBPTDA	Transceiver Box - 3 RCA (RGB) Plugs with Pigtails & 1 RCA Jack to 1 RJ45 Jack - Component Video with Digital Audio
500122	AH16P-RJ45BNC	Active Receiver Hub - 16 Ports for 2 outputs, 4 RJ45 Jacks to 32 BNC Jacks
500130	H16P-RJ45BNC	CCTV Balun Hub - 16 Position BNC to RJ45
500131	H16P-STRJ45	CCTV Hub - 16 Position Screw Terminal To RJ45

Coax to IP Converter With POE Capability

OT-EOC can transmit the HD IP video and power signal simultaneously via a single coaxial cable. The maximum distance can be up to 250 meters (RG11) and it supports full-duplex 100Mbps. OT-EOC-C consists of one transmitter side (Close to the remote IP camera) and one receiver side (Close to the local NVR).

This device can be widely used in railways, urban transport, security monitoring areas and analog system upgrading projects. It can achieve the seamless transition from analog CCTV to network IP surveillance.



Features

- Utilizes traditional coaxial cable
- Fully transparent 100BaseT full duplex and adaptive
- Supports full-duplex 100Mbps, maximum distance can be up to 250m
- Supports SD / HD IP camera and provides PoE power supply
- Built-in ESD protection circuitry, can effectively prevent electrostatic damage
- The power is input from the receiver side through the coaxial cable using POC (power on cable) technology to supply power for IP camera and transmitter. Power input and output supports POE power supply.

Technical Parameters

Coax Terminal	Terminal Type	BNC
	Cable Resistance	75Ω±3Ω
	Interface / Coax Return Loss	>25dB@1MHz-200MHz
	Data Throughput	200Mbps(100MHz full-duplex)
Network Terminal	Receiver Side (Close to the local NVR)	RJ-45(POE device standard)
	Transmitter Side (Close to the remote IP camera)	RJ-45(POE, PSE compatible)
	Cable Type	CAT5 above
	Transmission Rate	100BaseT/10Base adaptive
Power Input (Close to the local NVR)	RJ45/POE Input	Standard 48DCV ,meet IEEE802.3af requirements
	DC Terminal Input	12-24VDC
Power Output (Close to the remote IP camera)	RJ45/POE Output	Depending on cable type and length of the
	DC Terminal Output	
Product Physical Characteristic	Dimensions (L × W × H)	(Including Terminal Length)112mm×52mm×25mm
	Material	Aluminum
	Net weight	200g
Operating Environment	Working Temperature	-10°C ~ 60°C
	Humidity	<85%
	Storage Temperature	-20°C ~ 70°C

Coax Cable Performance Specifications

Coaxial Cable Type Performance	Coaxial Cable Length (Max)	IP Camera Power	
		48V POE Via RJ-45	24V DC adaptor
RG6(5.5dB/100m)	180m/580feet	18W	11W
5C-HFBT(4.7dB/100m)	210m/680 feet	18W	11W
RG59(8dB/100m)	125m/400 feet	19W	13W
3C-2V(8dB/100m)	125m/400 feet	19W	14W
RG11(3.3dB/100m)	250m/800 feet	18W	8.7W

Coax to IP Converter With POE Capability

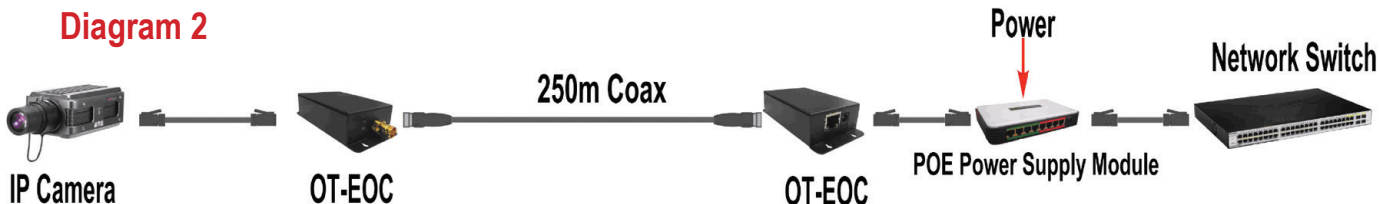
Product Connection Diagrams

Diagram 1



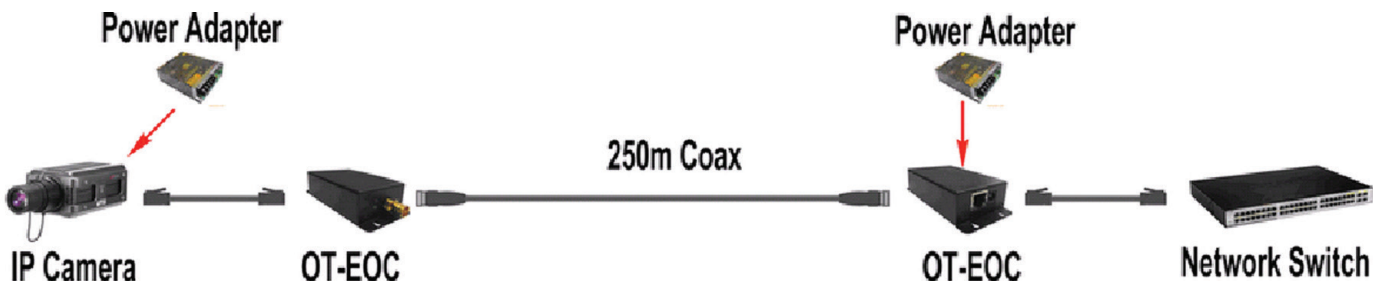
The receiver side (Close to the local NVR) is powered through the POE switch. The transmitter side (Close to the remote IP camera) does not need additional power. The remote IP camera can choose the OT-EOC POE terminal for power supply. The IP cameras without POE function must use the separate power supply.

Diagram 2



The receiver side (Close to the local NVR) is powered through the POE power. The transmitter side (Close to the remote IP camera) does not need additional power. The remote IP camera can choose the OT-EOC POE terminal for power supply. The IP cameras without POE function must use the separate power supply.

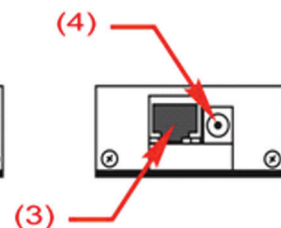
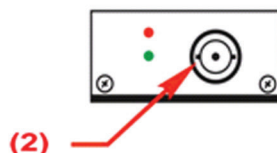
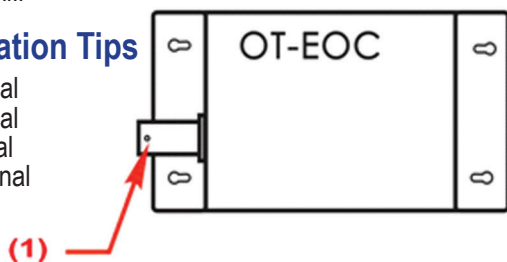
Diagram 3



The receiver side (Close to the local NVR) is powered through the separate power adaptor. The transmitter side (Close to the remote IP camera) does not need additional power. The remote IP camera can choose the OT-EOC DC terminal for power supply. Please make sure power adaptor voltage match the IP camera voltage. We suggest the IP cameras must use the separate power supply.

Product Installation Tips

- (1) Coax Terminal
- (2) Coax Terminal
- (3) POE Terminal
- (4) Power Terminal



(4)

(3)

Installation Instructions and Steps:

1. Connect the video output terminal of IP camera to the POE terminal (RJ-45) of adaptor
 2. If the IP camera does not support POE function, please use an external power adaptor
 3. Connect coaxial cable to the coax terminal (BNC) of transmitter.
 4. Connect coaxial cable from the transmitter to the coax terminal (BNC) of receiver.
 5. Connect POE terminal (RJ-45) of receiver to back-end network equipments
 6. If network equipments have no POE power supply function, please use an external power adaptor to connect the power terminal of receiver
- When two adaptors connect well, the RJ-45 terminal indicators of adaptors will be lit. Yellow light flashes show the data is exchange. When the transmission rate is 10Mbps of connecting one side device, the whole link rate will be 10Mbps and run. And RJ-45 terminal indicators are off.

Product Use Notes:

1. Please read the specification sheet carefully before use.
2. Signal transmission cable must be international standard coaxial cable. OT-EOC and coaxial cable impedance must match.
3. There is no waterproof function. Make sure the devices should be used in dry environment.
4. If the remote IP camera chooses the OT-EOC DC terminal for power supply, please make sure power adaptor voltage match the IP camera voltage. We usually suggest the IP camera use the separate power supply.
5. If the devices fail, you do not disassemble or repair. Please contact us timely

Coax to IP Converter Without POE

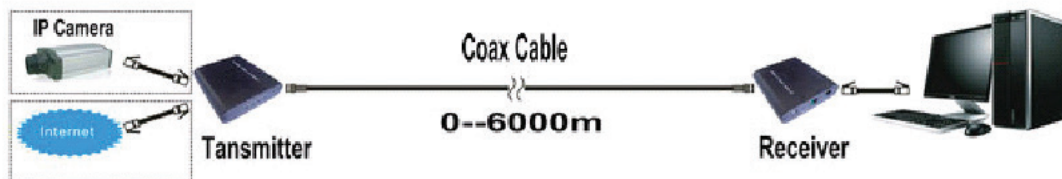
OT-EOC-1 consists of one transmitter and one receiver, which can transmit network signal as long as **6,000 meters** via **coaxial cable, twisted pair cable or telephone line for your choose**. And the maximum bandwidth can be up to **148Mbps**. It could transmit network signal and also simultaneously transmit telephone signal (**Need for connecting additional splitter**). So you can use the existing telephone lines for network signal transmission.

This device can be widely applied in network signal extending system, network security system, network information distribution system, network renovation and expansion systems, etc.



Model Number OT-EOC-1

Category		Description		
Power	Available Voltage Range	12VDC		
	Power Consumption	<4.5W		
Transmission Rate	Transmission Distance	Total Transmission Rate (Maximum)	Transmission Rate (Downlink Maximum)	Transmission Rate (Uplink Maximum)
	150m	148Mbps	74Mbps	74Mbps
	300m	90Mbps	54Mbps	36Mbps
	600m	43Mbps	23Mbps	20Mbps
	900m	30Mbps	15Mbps	15Mbps
	1200m	15Mbps	9Mbps	6Mbps
	3000m	2.4Mbps	1.3Mbps	1.1Mbps
	5000m	0.79Mbps	0.44Mbps	0.35Mbps
Protection	Transmission Channel Lightning	4KV 10/700us, common mode lightning: Level 4		
		1KV 10/700us, differential mode lightning: Level 1		
		Executive Standard: IEC61000-4-5		
	Product Electrostatic Protection	1a contact discharge Level 4		
1b air discharge Level 4				
Executive Standard: IEC61000-4-2				
Reliability	MTBF	>30000 hours		
Product Characteristics	Dimensions (L × W × H)	118mm×108mm×27mm(including the terminal length)		
	Material	Aluminum		
	Color	Black		
	Net weight	0.5KG/ Pair		
	Gross Weight	0.6KG/ Pair		
Operating Temperature	Working Temperature	-30° C ~ +60° C		
	Storage Temperature	0° C ~ +85° C		
	Humidity	0° C ~ +95° C		



GEM Quad 4x4 Color Processor

FRONT VIEW



BACK VIEW



Real-time color Quad Processor

Technical specification:

DESCRIPTION	SPECIFICATION
Part Number	GEM-QUAD4x4TM
Picture/Sec	PAL:25FRAMES/SEC;NTSC:30FRAMES/SEC
Resolution	PAL:860*625.NTSC:860*525
Video Input	4 COMPOSITE VIDEO INPUTS:1Vp-p,75
	1 VCR VIDEO INPUT:1Vp-p,75
Video Output	ONE MAIN OUTPUT:1Vp-p,75
	ONE SUB OUTPUT:1Vp-p,75
Alarm Output	NO
Looping	YES
Picture in Picture	YES
Language	ENGLISH
Image Setting	BRIGHTNESS,CONTRAST
Power Consumption	800mA
Operating Voltage	DC:12V/1A
Temperature	-10° 50°

Coax Diplexer

Includes Transmit and Receive units and 12 Volt Adapter

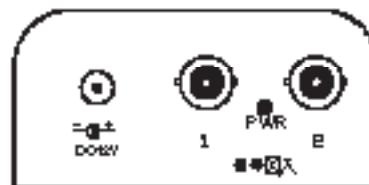
The **Gem Electronics Diplexer**---**Gem Part Number DXP-1BI2B0** is a product that is widely used on existing CCTV systems where an additional Camera is required. This device allows an additional Camera to be added to an existing coax line. Thus, 1 BNC Jack In and 2 BNC Jacks Out. It could also be used on a new install where 2 coax cables could not be installed.

Product Features

- Signal selection is flexible and convenient: 1 coaxial cable can support 2-channel video signal or 1-channel video signal and 1 channel RS485 control signal.
- Supports all the communication protocol transmission: RS485 control signal transmission is unrestricted by protocol or band width.
- Uses advanced technology and a high reliability IC, to ensure stable long life of equipment.
- Simple Plug and Play design affords efficient install



Specifications	
Standard input and output level	1Vp-p
Standard input and output resistance	75Ω
Operational Power	signal input : 3W, signal output : 3W
Operational Voltage	DC 12V±5%
Operational Temperature	-40°C to +50°C
Dimension	103mm(W) x 53mm(D) x 25mm(H)
PWR	Equipment operational indicator, red light is on when the device is in normal operation
V/W	the adjustment knob of 1 channel video signal input range, enlarge the range by clockwise adjustment



Installation Instructions

- 1) Place Transmit Diplexer at Camera end of coax transmission and Receive unit at DVR/Monitor end
- 2) When using control signal: RS485 control signal should connect with 2 channel input (output connector, the A(+) of RS485 signal connect the copper of BNC; the B(-) of RS485 signal connect the outer conductor.
- 3) When necessary adjust the video input knob for brightness

Note: The transmission distance of diplexer video signal line is approximately 300-400 meters.

HD cctv DVR and Cameras

P/N:DVRHD-4CH-PRO2TB/Full Frame Rate (30FPSx4channel@1080P)2HD
 P/N:DVRHD-4CH-PRO4TB/Full Frame Rate (30FPSx4channel@1080P)4HD
 P/N:DVRHD-4CH-PRO6TB/Full Frame Rate (30FPSx4channel@1080P)6HD
 P/N:DVRHD-8CH-PRO4TB/Full Frame Rate (30FPSx8channel@1080P)4HD
 P/N:DVRHD-8CH-PRO8TB/Full Frame Rate (30FPSx8channel@1080P)8HD
 P/N:DVRHD-8CH-MID4TB/Half Frame Rate (15FPSx8channel@1080P)4HD
 P/N:DVRHD-8CH-MID8TB/Half Frame Rate (15FPSx8channel@1080P)8HD
 P/N:DVRHD-8CH-ECO1/3 Frame Rate(7FPSx8channel@1080P)

P/N:DVRHD-16CH-PRO4TB/Full Frame Rate (30FPSx16channel@1080P)4HD
 P/N:DVRHD-16CH-PRO8TB/Full Frame Rate (30FPSx16channel@1080P)8HD
 P/N:DVRHD-16CH-MID4TB/Half Frame Rate (15FPSx16channel@1080P)4HD
 P/N:DVRHD-16CH-MID8TB/Half Frame Rate (15FPSx16channel@1080P)8HD
 P/N:DVRHD-16CH-ECO1/3 Frame Rate (7FPSx16channel@1080P)



Specifications:	
Main Processor	High performance Dual-core embedded microprocessor
Operating System	Embedded LINUX
System Resources	4 function: live, recording, playback, backup/ 8 & 16 same plus: remote access
Control Mode	4: Front panel, USB mouse, IR remote control, Keyboard/ 8 & 16 same plus: Network
Video Input	4 channel, HD-SDI video, BNC - 8, 16 channel, HD-SDI video, BNC
Video Standard	1080p(25/30)/1080i(50/60)/720p(25/30,50/60)
Video Loop Output	4 for 4 channel, 8 for 8 channel or 16 channel input, HD-SDI, BNC
Video Output	1 HDMI, 1 VGA, 1 TV(BNC, 1.0Vp-p, 75)
Audio Input	4 channel, (200-2800mV, 30KΩ)
Audio Output	1 channel, (200-3000mV, 5KΩ)
Live Display Split	4/4 channel, 8/8 channel, 16/16 channel
Display Resolution	1920×1080, 1280×1024, 1280×720, 1024×768
Privacy Masking 4CH	4 self-defined four-sided zones for privacy masking for each camera
OSD 4CH	Camera title, time, video loss, camera lock, motion detection, recording
Video/Audio Compression	H.264 / G.711
Image Resolution	4CH: 1080p(1920×1080), 1080i, 720p(1280×720), 720i)- 8CH, 16CH same plus: 1080p/4(960x540), 1080p/16(480x270), 720p/4(640x360),720p/16(320x180)
Encoding Speed	Main Stream: 1080p(15fps , 1080p/4, 720p, 720p/4 (1~25/30fps)) Extra Stream: 1080p/4, 1080p/16, 720p/4, 720p/16 (1~25/30fps)
Bit Rate 8CH, 16 CH	256-8096Kb/s per channel
Recording Quality	4CH: CBR, VBR(1~6 level, level 6 is the best) 8CH,16CH: CBR, VBR(Multilevel)
Recording Mode	Manual, Schedule(Regular(Continuous), MD(Video detection: Motion detection, Camera blank, Video loss), Alarm), Stop
Recording Priority	Manual >Alarm >Motion Detection >Regular
Recording Interval 8CH, 16CH	1-120 min. (default: 60 min.) Pre-record: 10-300 sec.
Trigger Events	Recording, PTZ movement, Tour, Alarm, Email, FTP, Buzzer & Screen tips
Motion Detection 8CH, 16 CH	Zones: 396 (22x18), Sensitivity: 1-6 (level 6 is highest)
Video Loss & Camera Blank	Support
Alarm Input	4CH: 4CH - 8CH, 16CH: 8CH
Mobile Client	Android, iPhone, iPad, Symbian , Windows Mobile, Blackberry
Playback Channel	1/2/4
Search Mode	Time/Date, Alarm, MD & Exact search (accurate to second), Smart search
Playback Functions	Play, Pause, Stop, Rewind, Fast play, Slow play, Next file, Previous file, Next camera, Previous camera, Full screen, Repeat, Shuffle, Backup selection, Digital zoom(any size)
Backup Mode	4CH: Flash drive/ USB HDD/ eSATA Device / External DVD / Network download - 8CH,16CH same plus: USB CD&DVD-RW / Built-in DVD burner optional
Ethernet	RJ-45 port (10/100M/1000M)
Network Functions	HTTP, TCP/IP, UPNP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPOE, DDNS, FTP, Alarm Server
Remote Operation	Monitor, PTZ control, Playback, System setting, File download, Log information
Hard Disk	4CH: 4 SATA ports, 4 HDDs - 8CH, 16CH: same plus:1 CD/DVD-RW, up to 12 TB
eSATA	4CH: 1 External SATA ports, up to 8 TB - 8CH, 16 CH same plus: 2 External SATA ports, up to 12 TB
Space Occupation	4CH: Max 2GB/Hr per channel - 8CH, 16CH: Max. 3.6GB/Hr per channel
HDD Management	4CH: HDD Group, HDD hibernation technology - 8CH, 16CH same plus: HDD faulty alarm & RAID
USB Interface	3 ports, For mouse control & backup
RS422	PTZ control
Power Supply	AC 100~240 V, 50/60 Hz
Power Consumption	40W(without HDD)
Working Environment	-10 ~+55°C / 10~90%RH / 86~106kpa
Dimension	2U, 440mm×460mm×89mm(W×D×H)
Weight	4 CH: 4.5KG - 8CH, 16 CH: 6.5KG (without HDD)

HD cctv DVR and Cameras Hard Drive Products



Specification

Spindle Speed (RPM)	7200
Cache (MB)	64
SATA Transfer Rates Supported (GB/s)	6.0/3.0/1.5
Seek Average, Read (ms)	<8.5
Seek Average, Write (ms)	<9.5
Average Data Rate, read/write (MB/s)	156
Max Sustainable Data Rate, OD read, (MB/s)	210

DVR Hard Drive Loading Capability - Alternative to Standard Listed Product

PART NUMBER	DESCRIPTION
DVRHD-4CH-PRO	Supports up to 4x 2TB hard drives, 1xeSATA port up to 2TB
DVRHD-8CH-PRO DVRHD-16CH-PRO	Supports up to 6x 3TB hard drives, 2xeSATA up to 2X3TB
DVRHD-8CH-MID DVRHD-16CH-MID	Supports up to 6x 3TB hard drives, 2xeSATA up to 2X3TB
DVRHD-8CH-ECO DVRHD-16CH-ECO	Supports up to 4x 3TH hard drives, 2xeSATA up to 2X3TB

HD cctv DVR and Cameras



Part Number: CAMHD-BX3Z / 2 Mega pixel 3X Optical Zoom Full HD-SDI Box Camera

Part Number: CAMHD-BX10Z / 2 Mega pixel 10X Optical Zoom Full HD-SDI Box Camera

Specifications	
Image Sensor	Omnivision 1/2.7" 2.0 Megapixel OV2715 CMOS Sensor
DSP	Ambarella A2i(Full HD)
Resolution	1080p
Video Output	1080i 0/50, 1080p 30/25, 720p 60/50, 1080i 60/50
Video Output Mode	HD-SDI
Lens	CS Mount, lens type selectable
Lens Control	Supports DC or manual lens
S/N ratio	<=50dB
Min. illumination BX3Z	12 Lux (F1.8) With 50 IRE - 1.0 Lux ICR ON(F1.8) With 50 IRE
Optical Zoom	3X Optical Zoom/F1.2(W)~F2.7(T)/f=2.8mm(W)~9mm(T) - 10X Optical Zoom/ F1.88(W)- F2.8(T)/f=6.44mm(W) - 61.35mm(T)
Horizontal View Angle	3X Optical 115°(Wide)~37°(Tele) - 10X Optical 49.108°(Wide) - 5.255°(Tele)
IRIS/IR CUT	Auto
Focus Mode	Auto / Manual focus
Focus Length	10cm~infinite(Wide),1m~infinite(Tele)
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight/Manual
Picture Effects	Freeze/B&W/Negative/Mirror/Flip/Mute
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/2500s(auto-mode) - 1/60 to 1/3000s(auto-mode)
Exposure Compensation	Support
BLC	Off/Less/Normal/More Optional
Day/Night mode	COLOR / B&W / AUTO/ EXT
OSD Menu	English / Traditional Chinese / Simplified Chinese
Zoom Control	RS485 Baud Rare: 2400 bps PelcoD/On Board Control
Operating Temperature	0°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	3X Optical 108mm(L) x 58mm(W) x 62mm(H) - 10X Optical 137.5mm(L) x 58mm(W) x 62mm(H)
Power Supply	12VDC(+0.5V)
Power Consumption	3.8W
Weight	0.4kg ; 0.9lbs

Part Number: CAMHD-DM3Z / 2 Mega pixel 3X Optical Zoom Full HD-SDI Vandal Proof Dome Camera

Part Number: CAMHD-DM / 2 Mega pixel HD-SDI Vandal Proof Dome Camera



Specifications:	
Image Sensor	Omnivision 1/2.7" 2.0 Megapixel OV2715 CMOS Sensor
DSP 3X Optical	Ambarella A2i(Full HD)
Resolution	1080p30
Video Output	1080i 0/50 1080p30/25 720p60/50
Video Output Mode	HD-SDI
Lens	CS Mount, lens type selectable (3.7mm Megapixel or 2.8 - 12mm Megapixel lens)
Lens Control	3X Optical: Supports DC or manual lens - DM: Supports DC Iris
S/N ratio	<=50dB
Min. illumination	12 Lux (F1.8) With 50 IRE - 1.0 Lux ICR ON(F1.8) With 50 IRE
Optical Zoom	3X Optical Zoom/F1.2(W)~F2.7(T)/f=2.8mm(W)~9mm(T)
Horizontal View Angle	115°(Wide)~37°(Tele)
IRIS/IR CUT	Auto
Doom Type	Vandal-Proof
Focus Mode	3X Optical Auto / Manual focus
Focus Length	3X Optical 10cm~infinite(Wide),1m~infinite(Tele)
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight/Manual
Picture Effects	Freeze/B&W/Negative/Mirror/Flip/Mute
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/2500s(auto-mode) - 1/60 to 1/3000s(auto-mode)
Exposure Compensation	Support
BLC	Off/Less/Normal/More Optional
Day/Night mode	COLOR / B&W / AUTO/ EXT
OSD Menu	English / Traditional Chinese / Simplified Chinese
Zoom Control	RS485 Baud Rare: 2400 bps PelcoD/On Board
Operating Temperature	0°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	3X Optical: Φ141mm x 105mm(H) -DM: 142mm(L) x 82(W) x 68mm(H)
Power Supply	12VDC(+0.5V) AC24V
Power Consumption	3X Optical: 3.8W - DM: 7W
Weight	3X Optical: 1.0kg ; 2.7lbs - DM: 0.7kg; 3.0lbs.

HD cctv DVR and Cameras

Part Number: CAMHD-WM3Z / 3X Optical Zoom / IR Waterproof Full HD-SDI Camera



Specifications:	
Image Sensor	Omnivision 1/2.7" 2.0 Megapixel OV2715 CMOS Sensor
DSP	Ambarella A2i(Full HD)
Resolution	1080p30
Video Output	1080i 0/50 1080p30/25 720p60/50
Video Output Mode	HD-SDI
Lens	CS Mount, lens type selectable
Lens Control	Supports DC or manual lens
Image Sensor	Omnivision 1/2.7" 2.0 Megapixel OV2715 CMOS Sensor
DSP	Ambarella A2i(Full HD)
Resolution	1080p30
Video Output	1080i 0/50 1080p30/25 720p60/50
Video Output Mode	HD-SDI
Lens	CS Mount, lens type selectable
Lens Control	Supports DC or manual lens
S/N ratio	<=50dB
Min. illumination	12 Lux (F1.8) With 50 IRE - 1.0 Lux ICR ON(F1.8) With 50 IRE
Optical Zoom	3X Optical Zoom/F1.2(W)~F2.7(T)/f=2.8mm(W)~9mm(T)
Horizontal View Angle	115°(Wide)~37°(Tele)
IRIS/IR CUT	Auto
Focus Mode	Auto / Manual focus
Focus Length	10cm~infinite(Wide), 1m~infinite(Tele)
IR	Auto Turn On At Night time
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight/Manual
Picture Effects	Freeze/B&W/Negative/Mirror/Flip/Mute
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/2500s(auto-mode) - 1/60 to 1/3000s(auto-mode)
Exposure Compensation	Support
BLC	Off/Less/Normal/More Optional
Day/Night mode	COLOR / B&W / AUTO/ EXT
OSD Menu	English / Traditional Chinese / Simplified Chinese
Zoom Control	RS485 Baud Rate: 2400 bps PelcoD/On Board
Operating Temperature	0°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	Φ92mm x 356mm(L) x 156mm(H)
Power Supply	12VDC(+/-0.5V)
Power Consumption	12W IR ON /5.76W IR OFF

HD cctv DVR and Cameras

Part Number: CAMHD-BX / 2 Mega pixel HD-SDI Box Camera



Specifications:	
Image Sensor	1/2.7" 2.0 Megapixel CMOS Sensor
Video Resolution	1080p
Video Output	1080p30/25 720p60/50
Video Output Format	HD-SDI
Lens	CS Mount, lens type selectable(4mm/6mm/8mm/12mm)
Lens Control	Supports DC Iris
S/N ratio	<=50dB
Min. illumination	0.1Lux
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight/Manual
Picture Effects	Freeze/B&W/Negative/Mirror/Flip/Mute
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/2500s(auto-mode) - 1/60 to 1/3000s(auto-mode)
Exposure Compensation	Support
BLC	Off/Less/Normal/More Optional
Day/Night mode	COLOR / B&W / AUTO/ EXT
OSD Menu	English / Traditional Chinese / Simplified Chinese
Operating Temperature	0°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	(L)142mmx(W)82mmx(H)68mm
Power Supply	12VDC(+/-0.5V) AC24V
Power Consumption	7W
Weight	1.0kg ; 2.7lbs

Part Number: CAMHD-BXD / 2 Mega pixel HD-SDI Box Camera (Daylight Only)



Specifications:	
Image Sensor	1/2.7" 2.0 Megapixel CMOS Sensor
Resolution	1080p
Video Output	1080p25 720p60/50
Video Output Format	HD-SDI HDMI
Lens	CS Mount, lens type selectable (3.7mm Megapixel or 2.8~12mm Megapixel lens)
S/N ratio	<=50dB
Min. illumination	0.1Lux
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/2500s(auto-mode) - 1/60 to 1/3000s(auto mode)
Exposure Compensation	Support
BLC	Off/Less/Normal/More Optional
Day/Night mode	COLOR / B&W / AUTO/ EXT
OSD Menu	English / Traditional Chinese / Simplified Chinese
Operating Temperature	0°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	(L)142mmx(W)82mmx(H)68mm
Power Supply	12VDC(+/-0.5V)
Power Consumption	4W
Weight	0.7kg ; 3.0lbs

HD cctv DVR and Cameras



Part Number: CAMHD-Bullet / 2 Mega pixel HD-SDI Bullet Camera

Specifications:	
Image Sensor	1/3" 2.0 Megapixel Panasonic CMOS Sensor
Resolution	1080p30
Video Output	1080p30/25 720p60/50
Video Output Format	HD-SDI, CVBS
Lens	4mm/Auto Iris
OSD Menu	English / Traditional Chinese / Simplified Chinese
S/N ratio	<=50dB
Min. illumination	0Lux (With IR LED On)
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight/Manual
Picture Effects	Freeze/B&W/Negative/Mirror/Flip/Mute
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/2500s(auto-mode) - 1/60 to 1/3000s(auto mode)
WDR	Support WDR(Wide Dynamic Range Exposure Control)
BLC	Off/Less/Normal/More Optional
Day/Night mode	COLOR / B&W / with automatic ICR module
IR Range	30m
Weather Proof	IP66
Operating Temperature	-10°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	(L)142mmx(W)82mmx(H)68mm
Power Supply	12VDC(+/-0.5V)
Power Consumption	12W
Weight	0.6kg ; 2lbs

HD cctv DVR and Cameras



Part Number: CAMHD-WM

Specifications:	
Image Sensor	1/3" 2.0 Megapixel Panasonic CMOS Sensor
Resolution	1080p30
Video Output	1080p30/25 720p60/50
Video Output Format	HD-SDI
Lens	4mm/Auto Iris.
OSD Menu	English / Traditional Chinese / Simplified Chinese
S/N ratio	<=50dB
Min. illumination	0Lux (With IR LED On)
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight/Manual
Picture Effects	Freeze/B&W/Negative/Mirror/Flip/Mute
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/2500s(auto-mode) 1/60 to 1/3000s(auto-mode)
WDR	Support WDR(Wide Dynamic Range Exposure Control)
BLC	Off/Less/Normal/More Optional
Day/Night mode	COLOR / B&W / with automatic ICR module
IR Range	15m
Weather Proof	IP66
Operating Temperature	-10°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	(L)142mmx(W)82mmx(H)68mm
Power Supply	12VDC(+/-0.5V)
Power Consumption	12W
Weight	0.6kg ; 2lbs

HD cctv DVR and Cameras

Part Number: CAMHD-BXI (WDR, DC Iris, ICR Cut



Specifications:	
Image Sensor	1/3" 2.0 Megapixel CMOS Sensor
Resolution	1080p
Video Output	1080p30/25 720p60/50
Video Output Format	HD-SDI
Lens	C/CS Mount, lens type selectable(4mm/6mm/8mm/12mm)
Lens Control	Supports DC Iris (0~255 adjustable)
S/N ratio	<=50dB with 3D Noise filer
Min. illumination	0.1Lux
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight/Manual
Picture Effects	Freeze/B&W/Negative/Mirror/Flip/Mute
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/2500s(auto-mode) 1/60 to 1/3000s(auto-mode)
Exposure Compensation	Support
BLC	Off/Less/Normal/More Optional
WDR	Support WDR(Wide Dynamic Range Exposure Control)
ICR	True day/night operation with automatic ICR module
Day/Night mode	COLOR / B&W / AUTO/ EXT
OSD Menu	English / Traditional Chinese / Simplified Chinese
Operating Temperature	-10°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	(L)142mmx(W)82mmx(H)68mm
Power Supply	12VDC(+/-0.5V)
Power Consumption	7W
Weight	1.0kg ; 2.7lbs

HD cctv DVR and Cameras



Part Number: CAMHD-DMIR1

Specifications:	
Image Sensor	1/3" 2.0 Megapixel Panasonic CMOS Sensor
Resolution	1080p30
Video Output	1080p30/25 720p60/50
Video Output Format	HD-SDI
Lens	4mm
Lens Control	Auto DC Iris
S/N ratio	<=50dB
Min. illumination	0.1Lux
White Balance	Auto/Cloudy/Tungsten/Fluorescent/Daylight/Manual
Picture Effects	Freeze/B&W/Negative/Mirror/Flip/Mute
Exposure Mode	Auto
Exposure Area	Full/Central/Spot
Electronic Shutter	1/50 to 1/6750s(auto-mode) 1/60 to 1/6750s(auto-mode)
WDR	Support WDR(Wide Dynamic Range Exposure Control)
BLC	Off/Less/Normal/More Optional
Day/Night mode	COLOR / B&W / with automatic ICR module
IR Range	15m
OSD Menu	English / Traditional Chinese / Simplified Chinese
Doom Type	Vandal-proof
Operating Temperature	-10°C~50°C
Storage Temperature	-20°C~60°C
Humidity Range	20%~90%
Size	(L)142mmx(W)82mmx(H)68mm
Power Supply	12VDC(+/-0.5V)
Power Consumption	10W
Weight	0.6kg ; 3.0lbs

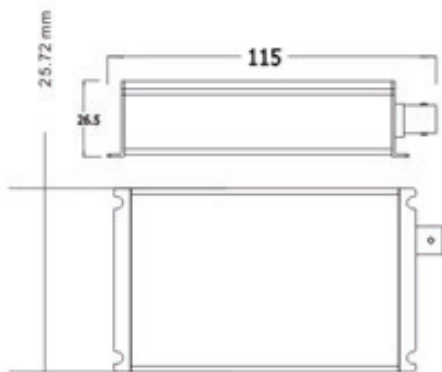
HD-SDI Repeater and Extender

Part Number: CON-FO/HD / 6 HD-SDI Repeater & Extender / HD-SDI to Fiber Optic Transceiver
 Support HD-SDI digital video at 720P50/60, 1080i50/60, and 1080P25/30 formats at all frame rates

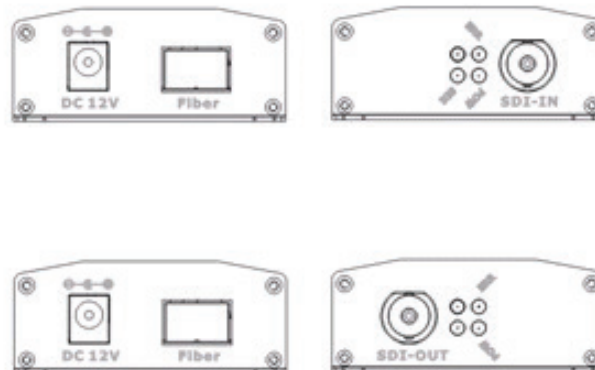


Specifications:	
HD SDI Input/Output	HD-SDI SMPTE 292M, 296M, at 1.48Gb/s data rate
Video Solution	720p 50/60, 1080i 50/60, 1080p 25/30
FTX Output	1 X Simplex LC SFP (hot pluggable)
FRX	1 X Simplex LC SFP (hot pluggable)
Fiber Distance	Single-Mode 20km
Time Reclock	Build time reclock in FTX model
Equalizer	Integrated cable equalizer in FTX model
FTX Input Capability	RG 59 cable up to 130m
Data Error	Auto detect
Cable Lost	Auto detect
Fiber Port	Auto detect
Power	12V 300mA
Body Construction	Aluminum
Protection	Indoor use
Operating Temperature	-4°F ~ 113°F / -20°C ~ 45°C
Dimensions	115mm x 64mm x 26.5mm
Weight	0.25lbs / 120g

Dimension:



Interface:



Part Number: CON-HDMI/HD / HD-SDI to HDMI Converter/Repeater

- High quality 20-bit
- Support high Resolution(HD)
- Format: 1080p @23.9/24.29.97/30Hz, 1080i @50/59.94/60Hz, 720 @50/59.94/60Hz
- Automatic HD-SDI detection
- Simple Installation
- Input: HD=SDI Output: HDMI
- With one HD-SDI repeater output for loop circuit



Transmit/Receive Wireless CCTV Kit

Smart Wireless Video

2400-DACWRS

2.4GHz Digital AV Senders

Great Picture 300 Feet



Enjoy Audio / Video programs without annoying interference

The digital video sender is designed at 2.4GHz covering more than 80 channels via hopping mode for CCTV utilization. It can transmit crisp clear video signal wirelessly through walls or ceilings at high quality D1 (VGA+) resolution.

Using video cables to connect the video transmitter with your video source (e.g. Cable TV, Satellite Receiver, Set-top Box, VCD, DVD, LD, VCR, Surveillance camera or Camcorder, etc.) and the video receiver unit with any AV playback devices (e.g. another TV, Monitor, PC, Notebook PC, etc.), make the ID code pairing and then just plug in the power in the power adapters for both transmitter and receiver units to enjoy the amazing video transmission convenience.

Features:

- High D1 resolution transmits crystal clear video without messy cables
- High photo frame rate brings smooth wireless video reception
- Security ID coded communication ensures privacy
- Digital wireless technology avoid interference
- Lenient CE/FCC regulation under wireless digital transmission secures practical range under legality
- Simple and quick installations enable DIY market

Transmit/Receive Wireless CCTV Kit

General Specifications:

Operation Frequency Range	2400 ~ 2478 MHz
Channel Switching	25 channels (FHSS mode)
Modulation/Demodulation	BPSK, QPSK, 16-QAM
RF Bandwidth	3Mbps
Transmission Range	Up to 300 meters in clear line of sight
LEDs	Pairing Key, Power, Link
Operating Temperature	-10 ~ +50°C

Transmitter:

Supply Voltage	DC +9V
Supply Current	Max. 500mA
Transmission Power	18 dBm, typ.
Video Input Level	1Vp-p, typ.
Video Input Impedance	75 ohm
Video Connector	BNC connector
Audio Connector	BNC connector
Antenna Gain	5 dBi
Antenna Port Impedance	50 ohm

Receiver:

Supply Voltage	DC +9V
Supply Current	Max. 500mA
Sensitivity	- 80 dBm
Output Image Resolution	720 * 480 (D1) 720 * 576
Output Frame Rate	30 fps 25 fps
Video Output Signal Level	1Vp-p, typ.
Video Output Impedance	75 ohm
Video Connector	BNC connector
Audio Connector	BNC connector
Antenna Gain	5 dBi
Antenna Port Impedance	50 ohm
Dimension (Unit)	approx. 163 * 97.1 * 48 (mm)

Channel Table:

	Frequency (MHz)	Channel	Frequency (MHz)
CH1	2403	CH14	2442
CH2	2406	CH15	2445
CH3	2409	CH16	2448
CH4	2412	CH17	2451
CH5	2415	CH18	2454
CH6	2418	CH19	2457
CH7	2421	CH20	2460
CH8	2424	CH21	2463
CH9	2427	CH22	2466
CH10	2430	CH23	2469
CH11	2433	CH24	2472
CH12	2436	CH25	2475
CH13	2439		

2.4GHz Digital AV Senders



Smart Wireless Video 2400-DACWRS

Great Picture 300 Feet

Enjoy Audio / Video
programs without
annoying interference

Coax Cable Assemblies

Gem Electronics also offers a complete line of cost effective high quality flexible coax cable assemblies. Cables range from RG174 to RG213 type and the corresponding coax connectors range from MMCX to 7/16 type.

Simply forward answers to the following questions and we will provide you with a prompt response.



BNC Plugs RG59



Mini-UHF Plugs

1. Quantity (has to be minimum 250 units per year)?
2. Coax cable type?
3. Coax connector type?
4. Length of assemblies measured from front end of connectors?
5. Any specific electrical / mechanical requirements?
6. Is test data needed to be shipped with each shipment?



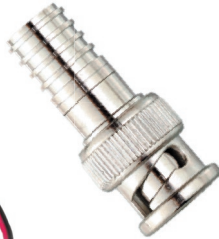
SMA Plugs RG174



SMA Plugs RG58



TNC Plugs RG58



**CONNECTORS, BALUNS, MONITORS, CAMERAS
FOR CATV, CCTV, HDTV, HOME ENTERTAINMENT,
SECURITY SYSTEMS, AND MORE...**

GEM

Electronics

