catalog 12

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analog & digital interconnect technology

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CANARE

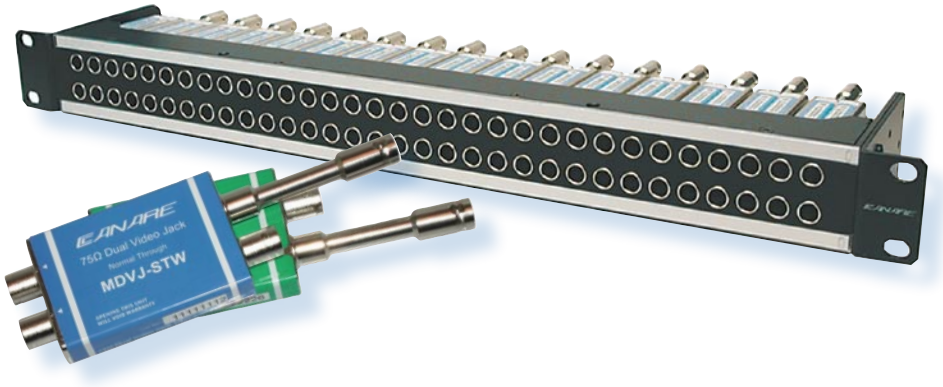
quality

Simple,

Smart, Compact

& Affordable

Solutions



that is unsurpassed

For more than 30 years, *Canare has proudly offered value-added products to meet your needs for today and tomorrow.*

Five-point Product Development Goal

1: **Responsive:** *Fulfilling the needs of the industry through custom solutions.*

2: **Unique:** *Incorporating valueable features not offered by competitors*

3: **Cutting-edge:** *Devoted to meeting requirements for emerging technologies.*

4: **Enduring:** *Concentrated on products with long-term value.*

5: **Global:** *Focused on niche markets as well as universal products.*

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HD-SDI Distribution : *Introduction*

HDTV-SDI Cabling Material Selection

Broadcast stations and postproduction studios in many countries around the world are currently being required to change their systems to handle high definition (HDTV) digital signals, in addition to SDTV digital signals. The SDTV-SDI transmission speed is 270Mbps, while the HDTV-SDI transmission speed is a much higher 1.485Gbps. The following explains the selection of cabling materials for such transition periods.

HDTV-SDI Transmission Distance **(Unit: m)**

Cabling Material		SDTV (270Mbps)	HDTV (1.485Gbps)
Coaxial cable	L-2.5CFB	195	55
	L-5CFB	370	100
	L-6CHD	540	150
	L-7CHD	620	170
	L-8CHD	710	200
Optical fiber (single mode)			2,000m or more

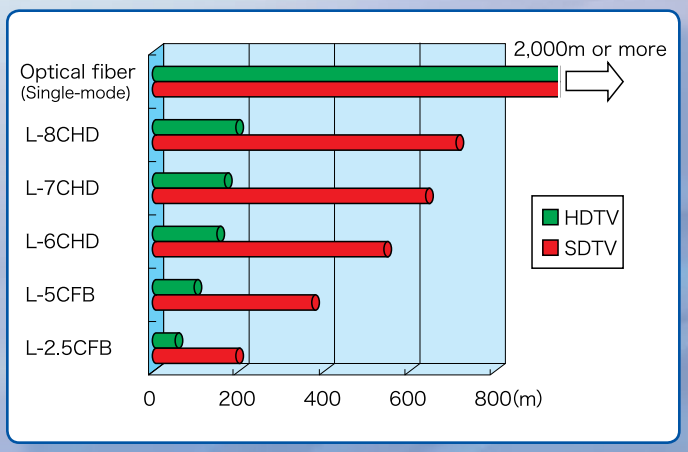
NOTE: *The values in this table are mere guidelines. Actual distance is approximately 70% of each value.*

Cabling Material Selection

Both coaxial cables and fiber-optic cables are used for HDTV-SDI cabling.

Coaxial cables are used for relatively short transmission distances, as shown in the table at right. For example, L-2.5CFB is better suited to cabling inside an equipment rack, and L-5CFB is a more appropriate choice for cabling between racks. Likewise, Canare's specially developed L-8CHD (high-foam coaxial cable) is ideal for cabling between rooms.

On the other hand, as can be seen from the fact that fiber-optic cables are now widely used in the communications field, they are better suited to long -distance transmission. Because the cost of fiber-optic transmission equipment can be expected to continue to fall, fiber optics is expected to make further inroads into the short-distance transmission field in the near future.



Technical Note

Characteristic Impedance

Imagine a coaxial cable that extends forever. The frequency impedance as registered on the sending-end of such a cable is referred to as characteristic impedance. Real cables are fixed in length, allowing the characteristic impedance to be measured and the cables terminated by applying resistance of equal value. The end result is the configuration of a cable that seems limitless in length. (See Fig. 2)

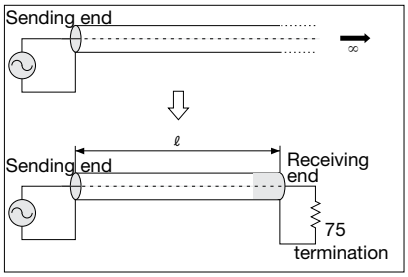


Fig. 2 Limited and Unlimited Length Coaxial Cables

Voltage Standing-wave Ratio (VSWR) and Return Loss

Terminating the receiving end of a limited length coaxial cable using a resistance value not equal to its characteristic impedance creates a reflected wave that returns back down the cable to the sending end. The result is interference developing between the travelling wave and the return wave which results in a standing wave that causes voltage levels to fluctuate. The degree to which terminating resistance matches the characteristic impedance is indicated using the VSWR or voltage standing-wave ratio standard shown in Fig. 3. Going hand in hand with the VSWR ratio is the return loss factor which measures the size of the reflected wave current in relation to the travelling wave current. (See Fig. 4)

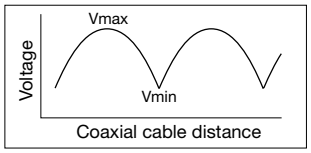


Fig. 3 Voltage Distribution Over Coaxial Cable

VSWR	Return Loss (dB)
2	9.5
1.5	14
1.2	20
1.1	26
1.05	32
1.02	40
1.01	46.1

Fig. 4 VSWR to Return Loss Conversion Table

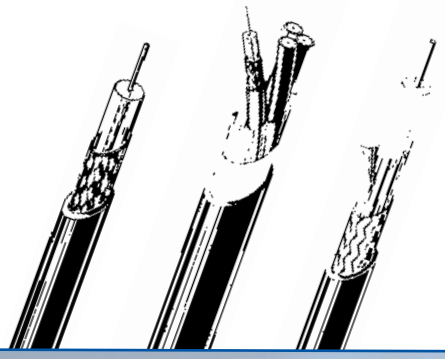
Coaxial Cable Wiring

As shown in the table below, HDTV-SDI coaxial cable interface is specified by SMPTE 292M. Because the 75Ω type generally provides better electrical characteristics than the 50Ω type, both connectors and cables must be rated for 75Ω. If the HDTV-SDI transmission system uses a mixture of 50Ω connectors and 75Ω cables or 75Ω connectors and 50Ω cables, the impedance mismatch will significantly increase return loss, which in turn generates jitter, causing bit errors. Note that impedance ratings are not clearly indicated on some commercially available BNC connectors and coaxial cables. When using such commercial products for HDTV-SDI signal transmission path, be sure to always check to ensure that their nominal impedance is 75Ω before use.

SMPTE 292M: Coaxial interface for HDTV

Connector	Type	75 Ω BNC
	Frequency	up to 2.4GHz
	Return Loss	Greater than 15dB at 1.5GHz
Cable	Type	Coax. (75 Ω)
	Frequency Response	Proportional to 1/√f from 1MHz to the clock frequency
	Return Loss	Greater than 15dB at 5MHz to the clock frequency

Canare 75Ω coaxial cables



Technical Note

Matched and Mismatched Connectors

The return loss is 26dB or less (VSWR=1.1) for frequencies up to 2GHz in 75Ω coaxial cables using 75Ω BNC connectors. If 50Ω BNC connectors are attached to both end of the same cable, the return loss takes on the characteristics shown in Fig. 5 below when frequencies exceed 100MHz. This makes it incapable of transmitting signals with any accuracy.

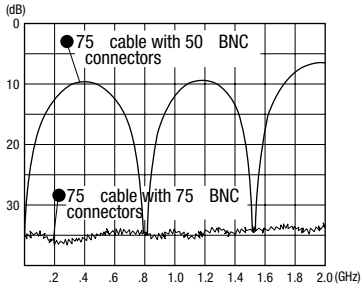


Fig. 5 Matched and Mismatched Impedances

Reasons For Wide Use of 75Ω Coaxial Cable

Calculation results for impedances and corresponding attenuation rates in coaxial cables are shown in Fig. 6 below. The levels of characteristic impedance requiring only minimal attenuation were 60Ω for lines with polyethylene insulation, 75Ω for foam PE (50%) insulation and 95Ω for air insulation. This is why the 75Ω cable is used for longer distance transmissions.

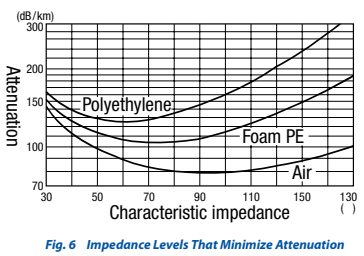
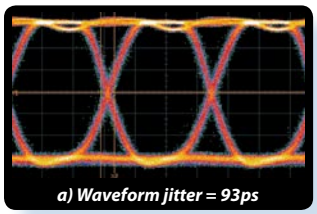
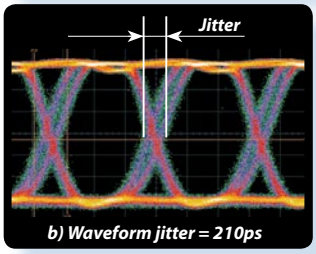


Fig. 6 Impedance Levels That Minimize Attenuation Conditions outer conductor: copper braid; insulation O.D. 5mm inner conductor: solid copper: frequency 200MHz

***Jitter measurement** (eye pattern)*



a) Waveform jitter = 93ps



b) Waveform jitter = 210ps

SDTV	HDTV
≤740ps	≤135ps

***Specified jitter values** (by the ARIB(SMPTE) Standard)*

Jitter

Digital signals are made up of stepped waveforms spaced at a fixed interval called the timing sequence. Receivers must detect and monitor this timing in order to accurately read the signal. Shifts in the waveform which must intrinsically maintain a fixed interval can be introduced by such factors as irregular equipment conditions or overly long transmission lines, causing signal distortion. Such shifts in the timing axes of transmitted and received signal waveforms are referred to as jitter. Increasing amounts of jitter distortion can lead to bit error, which may result in picture deterioration or horizontal noise interference.

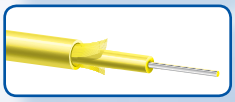
One tool regularly used to measure jitter is the oscilloscope. Owing to its distinctive shape, the measured waveform is called an eye pattern, with the jitter expressed by the width of the area where the rising and falling edges of the waveforms cross each other. This jitter value is specified by the ARIB (SMPTE)Standard shown in the accompanying table.

HD-SDI Distribution : *Fiber-Optic Wiring*

Fiber-Optic Wiring

As shown in the table below, High-definition serial digital interface is specified by SMPTE 292M. Although the fiber-optic cable may have excellent characteristics in terms of signal transmission, it may be liable to the influence of tension or bends that exceed its permissible range, as well as to humidity or dust. In particular, care must be exercised during installation, since tension is more apt to be applied to the interface. To ensure stable light signal transmission, be sure to handle the interface properly, and correctly clean the fiber-optic connectors.

Canare *fiber-optic cable with SC connector*



Canare *fiber-optic cord*

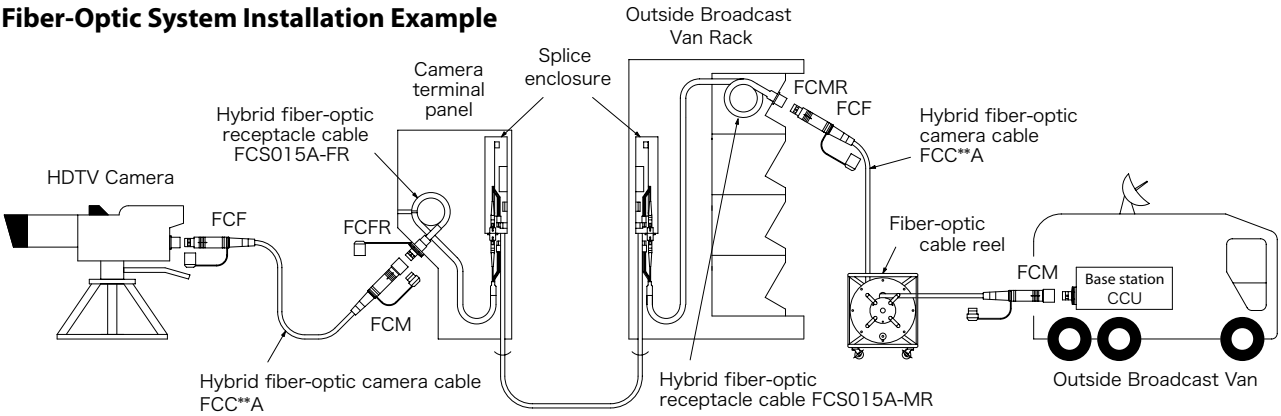
SMPTE 292M: Optic fiber interface for HDTV

Fiber type	Single mode
Connector	Type SC/PC
Optical wavelength	1310nm≤40nm
Maximum spectrial line width between half-power points	10nm
Jitter	0.2UI
Output power	-12 to -7.5dBm
Input power	-7.5 to -20dBm

SMPTE 304M & 311M: Hybrid Electrical and Fiber-Optic Camera Connector & Cable

Cable	Optical Fibers	Two units: Blue and Yellow, Single mode, 1310nm
	Auxiliary Conductors	Two units: Black and White,
		DC loop resistance ≤43 Ω/km
	Signal Conductors	Two units: Red and Gray,
		DC loop resistance ≤184 Ω/km
	Overall Braid Shield	DC resistance ≤20 Ω/km
Connector	Optical	Wavelength: 1100 to 1350nm
		Insertion loss: 0.5dB max.
		Return loss: Better than -45dB
	Auxiliary electrical contacts	AC 600V, 10A
	Low-voltage contacts	AC 42V or DC 60V, 1A

Fiber-Optic System Installation Example

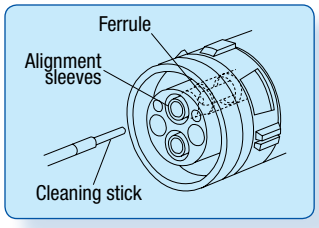


Technical Note

Maintaining Fiber-Optic Hybrid Connectors

The connector sections to be cleaned are the key parts, including the tips and sides of ferrules, the interior walls of alignment sleeves and the interior and exterior of connector shells. Note that scratches and particles of foreign matter on the tip of the ferrule can have a disabling effect on fiber-optic transmission. The following procedures should be used when cleaning fiber-optic connectors.

- *For Plugs, the interior surfaces of alignment sleeves and the tips of ferrules are to be cleaned with the non-alcohol treated cleaning stick using a gentle stroking action. Canare FCF and FCFR enhance easy cleaning procedure for its innovative alignment sleeve and indulator detachable design.*
- *For Jacks, it is important to clean both the tips and sides of the completely protruding ferrules with the cleaning stick.*
- *Both the male and female connector shells tend to attract dust and metal particles, so it is important to clean both the insides and outsides using cotton gauze or similar material.*
- *Contact Canare for information on the recommended cleaning stick.*
- *The alignment sleeve (split sleeve) keeps the ferrules in highly precise alignment with each other.*



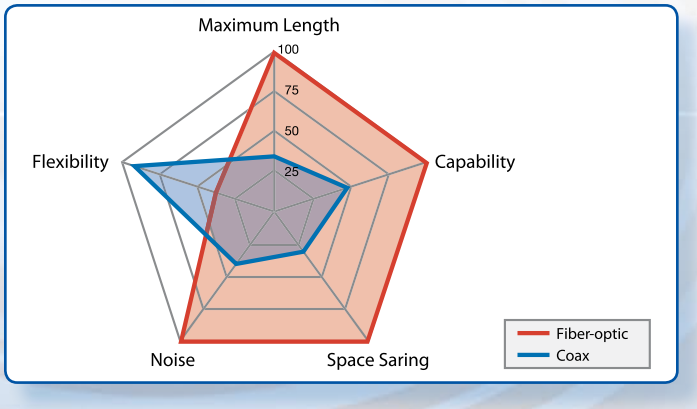
Before Cleaning

Cleaning stickCLETOP 2.5/2.0

After Cleaning

Canare EO/OE Series on Distributing Hi-Def signals

High definition (HD) digital signals are becoming mainstream in broadcast stations and postproduction studios, and such facilities are rapidly being required to employ systems capable of handling HD digital signals. While conventional fiber-optic transmission equipment have been expensive, the cost of peripheral equipment has greatly decreased in recent years thanks to the widespread use of optical fiber transmission, resulting in broadcasting equipment shifting quickly to fiber-optic systems. People generally consider fiber-optic transmission to be too difficult to employ, however it can minimize transmission loss and enable systems to be designed with no special measures required to eliminate noise, which must always be kept in mind when installing coaxial cables. Canare Electric-to-Optic/Optic-to-Electric (Canare EO/OE) series will bring you to next level of potential, flexibility, and expandability at an affordable cost.

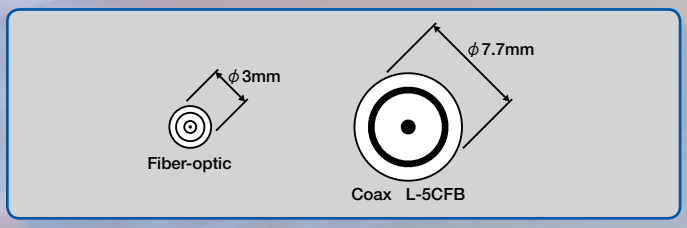


Advantage 1: *Flexible Layout*

The maximum transmission distance for L-5CFB coaxial cable is approximately 100 meters. Within this distance, however, ideal wiring routes may not be selected nor equipment installed in convenient locations during cable installation in rooms or between rooms. Since fiber-optic cable can transmit signal over distances of tens of kilometers, layouts can be more freely planned and centered on equipment without worrying about the wiring distance. This advantage cannot be overlooked.

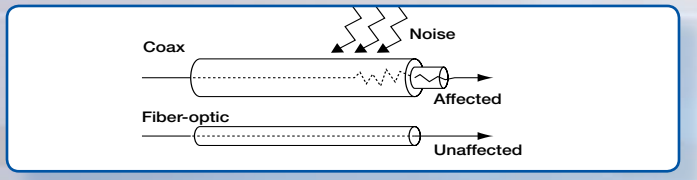
Advantage 2: *Space Saving*

Fiber-optic cables are generally 3mm of outer diameter, which is approximately 2/5 that of L-5CFB coaxial cable and approximately 1/6 the size in terms of cross-sectional ratio. Even when spaces under floors, in cable ladders, or component racks are full of coaxial cable and no more lines can be added, fiber-optic cables can cope with the situation.



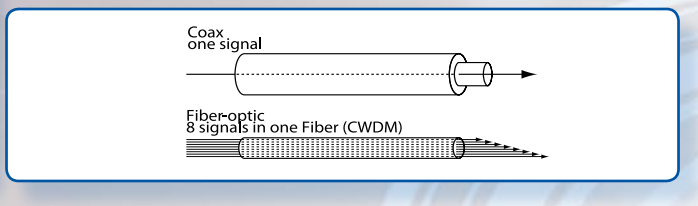
Advantage 3: *Eliminating Electromagnetic Noise*

As you know, unlike copper cable, fiber-optic cable is not susceptible to electromagnetic noise. Fiber-optic wiring will give you many options - No more worrying about isolating to power lines and so on.



Advantage 4: *Easy to Add Lines without Re-Wiring*

Coarse Wave Division Multiplexing (CWDM) technology enables multiple signals to be transmitted over "one" fiber-optic cable. Once the fiber-optic cable has been installed, additional cables are not necessary in your system upgrade. Canare CWDM can be transmitted up to 8 channels in "one" fiber. You will see Canare CWDM saving the total installation cost incredibly.



Technical Note

EO/OE System Design

In EO/OE system design, 1) cable attenuation loss, 2) connector insertion loss, 3) fusion splice connection loss, and 4) Mux/DeMux insertion loss have to be calculated so that they are less than the loss budget (LB) of the optic link. For HD/SD-SDI system, since the Mux/DeMux loss is greater than that of the fiber attenuation loss, it would be essential you to consider such loss elements when you configure the system.
Loss Budget (LB)

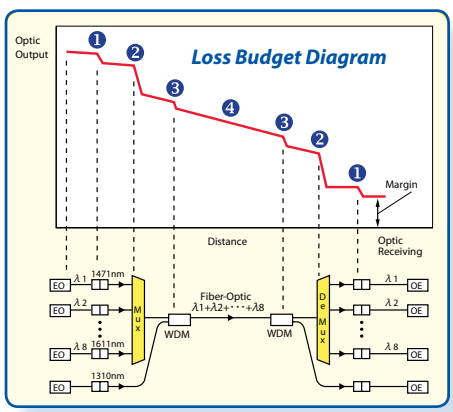
Loss Attenuation

Loss Factor	Value
❶ Connector Insertion Loss	0.5dB/Point
❷ Mux/De Mux	2~3dB/Point
❸ WDM coupler	0.5dB/Point
❹ Fiber Cable	0.3dB/km(*)
Splitter	0.5dB/Main 10dB/Branch
Divider	3dB/Point
Fusion Splice Loss	0.2dB/Point
System Margin	3~6dB

** 0.5~1.0dB/km for Dark fiber*

Loss Budget (LB)

Loss budget is the difference between the optical power output (P1) from the EO converter and the light reception sensitivity (P2) of the OE converter. LB = P1-P2

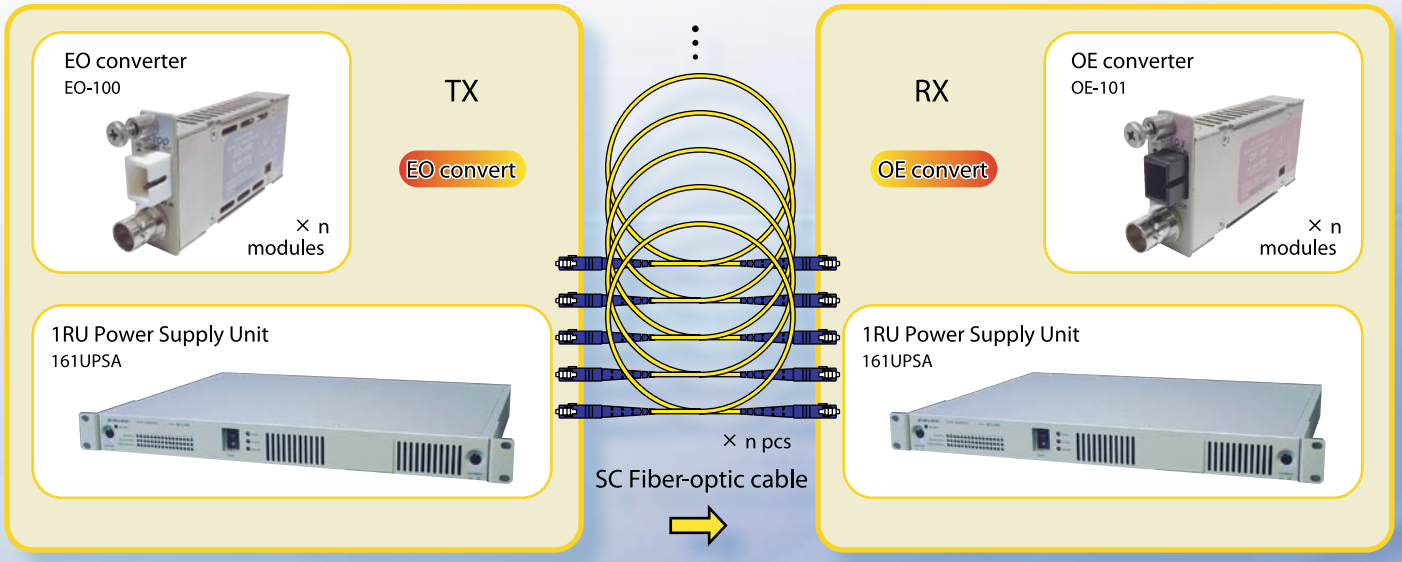


Example
If the optical power output P1 = -3dBm and the reception sensitivity P2 = -20dBm:
LB = -3dBm - (-20dBm) = 17dB

Fiber-Optic Systems

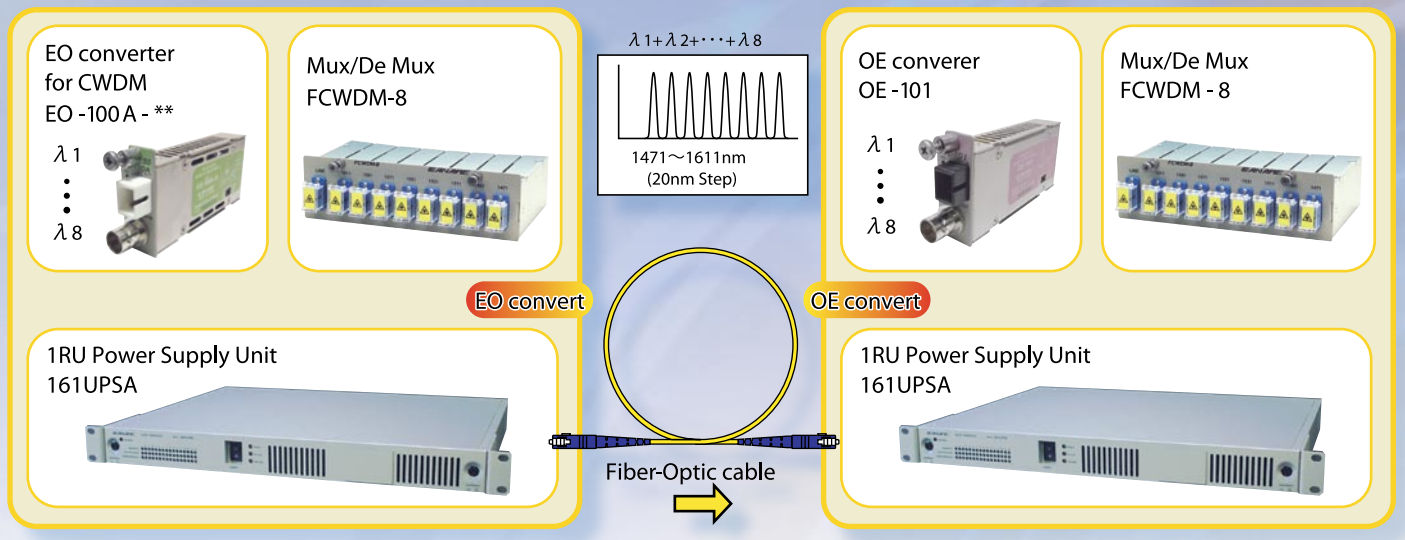
Canare EO/OE Series

HD-SDI signal converted one by one, using Canare EO-100 and OE-101 as one channel.
This configuration will fit for internal transmission within a broadcasting facility.



Canare EO/OE *with* FCWDM Series

This configuration will optimize the existing fiber lines within the building as well as metro area network (MAN) such as stadium to broadcasting headquarters through dark-fiber infrastructures.



Canare EO/OE Converter

Canare's answer for HD-SDI distribution. Canare EO/OE modules feature low jitter, low power consumption, and significantly reduced size and weight. Support multi format such as HD-SDI, SD-SDI and DVB-ASI.

Model	Description
EO-100	Electric to Optic Converter
EO-100A-**	Electric to Optic Converter for CWDM
OE-101	Optic to Electric Converter

EO-100 EO-100A OE-101

Key Features and Benefits

- SMPTE 259M and 292M
- Handles Pathological Test Pattern
- Multi Format - supports HD-SDI, SD-SDI and DVB-ASI
- EO-100A-** enables 8/16ch in one fiber
- Embedded Audio Capable
- Easy to use - just plug in BNC and Fiber connector
- Compact Design - Maximum 16 modules within 1RU
- Cost Effective

Specifications

Model	EO-100	EO-100A	OE-101
Convertibility	Electric to Optic		Optic to Electric
Transmission Rate	HD-SDI: 1.485GBPS, 1.485/1.001GBPS		
	SD-SDI: 143Mbps, 177Mbps, 270Mbps, 360Mbps, 540Mbps		
	DVB-ASI: 270Mbps (Disables for SD-SDI 177Mbps)		
LD/PD	FP-LD	DFB-LD	PIN-PD
Wavelength	1310nm	1271 to 1611nm	1261 to 1620nm
Emission/Sensitivity	-7.8±0.3dBm	-2.5±0.5dBm	-20dBm
Interface Connector	Electric: 1x 75 Ω BNC, Optic: 1x SC (Single Mode)		
Compliances	SMPTE 259M and 292M, DVB-ASI N 50083-9, ARIB BTA S-004B		
	CE, RoHS (Effective from July 2006)		
	FCC Part15Class A, FDA 21 CFR Part1040.10,11 Class I		
	IEC 60825-1 CLASS 1 LASER		
	EN55022:1998+A1:2000+A2:2003, EN55024:1998+A1:2001+A2:2003		
Power Req., Consump.	DC5V, 1.8W		
Operating Temperature	0 to 40ºC		
Dimensions	17x 43.4x 79.2mm		
Weight	58g		55g

Ordering Information

EO - 100A - 47

Convertibility Type

EO	Electric to Optic
OE	Optic to Electric

LD/PD Type

100	FP-LD
100A	DFP-LD
101	PIN-PD

Wavelength (EO-100A Only)

47	1471nm	27	1271nm
49	1491nm	29	1291nm
51	1511nm	31	1311nm
53	1531nm	33	1331nm
55	1551nm	35	1351nm
57	1571nm	37	1371nm
59	1591nm	43	1431nm
61	1611nm	45	1451nm

FCWDM-8

CWDM Mux/Demus

Canare CW series is bi-directional Mux/DeMux of up to 16 wavelengths. You can send/receive 16ch of HD-SDI signals in one fiber. Incredibly compact module FCWDM-8 enables 8 EO/OE modules and CWDM within 1RU frame.

Model	Description
FCWDM-8	Module Type for 161UPSA, 1x 8CWDM
081U-CW	1RU Rack Mount Type, 1x 8CWDM
081U-CW2	1RU Rack Mount Type, 2x 8CWDM
161U-CW	1RU Rack Mount Type, 1x 16CWDM

<Loading example (rear view of 161UPSA)>

Mux/DeMux FCWDM-8 | EO Converter for CWDM EO-100A-47～61

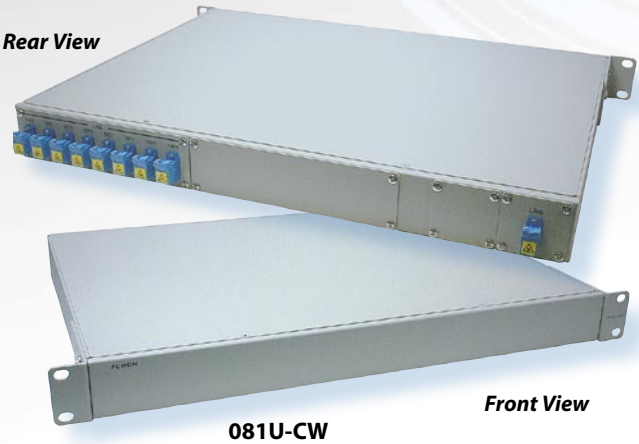
Key Features and Benefits

- Bi-directional 8 or 16 wavelengths
- 8EO/OE and 8CWDM within 1RU
- Easy to use
- Cost Effective

Specifications

Model	FCWDM-8	081U-CW(2)	161U-CW
Wavelength	1471 to 1611nm		1271nm to 1611nm
Channel Spacing	20nm		except for 1372 to 1431nm
Insertion Loss	<2.5dB		
Isolation	>30dB		
Refection Attenuation	≥45dB		
Operating Temperature	0 to 70ºC		
Dimensions	146x 43.4x 82mm	482.6x 44x 350mm	
Weight	255g	2410g	2550g

Rear View



Front View

081U-CW

Power Supply Units

Canare PS series is power supply unit/frame for Canare EO, OE, EE and FCWDM modules. 1RU rack mountable and portable units are available.

Front View

Model	Description
161UPSA	1RU Rack Mount Type, 16 Modules
6PS	Portable Type, 6 Modules
2PS	Palm Size, 2 Modules

6PS

Key Features and Benefits

- Rack mount and stand alone
- Hot Swappable
- Redundant power supply for 161UPSA with secondary PSM
- Compact design - Maximum 16 modules with in 1RU

2PS

Specifications

Model	161UPSA	6PS	2PS
No. of Max. Modules	16 (2: FCWDM)	6	2
Module Type	EO, OE, EE, FCWDM	EO, OE, EE	EO, OE, EE
Power Requirement	AC100 to 240V	AC100 to 200V, DC 12V	DC 5V
Power Consumption	Max. 150VA (AC100V) Max. 180VA (AC200V)	Max. 60VA (AC100V) Max. 80VA(AC200V) Max. 18W(DC12V)	Max. 4W
Power Connector	AC3P Jack	XLR2 Male(AC) XLR4 Male(DC)	XLR4 Male(DC)
Power Supply to Modules	DC5V, Max. 10A	DC5V, Max. 3A	DC5V, Max. 0.8A
Compliance	FCC Part15 Subpart B Class A		
Operating Temperature	0 to 40ºC		
Dimensions	434x 44x 340mm	210x 44x 165mm	90x 44x 110mm
Weight	4000g	780g	200g

Digital Repeater/Coaxial Extender

Applications

- Studios
- Stadiums
- Mobile broadcasts

Features

1. Use up to two repeaters in an HD-SDI line to increase run
2. Fits in 1RU power supply units, like Canare 161UPSA
3. Not more than 135psec jitter

Specifications

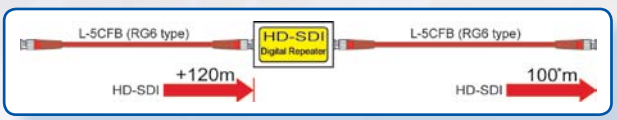
Model	EE-100
Conversion	Electric to Electric
Transmission Rate	HD-SDI: 1.485Gbps, 1.485/1.001Gbps SD-SDI: 143Mbps, 177Mbps, 270Mbps, 360Mbps, 540Mbps DVB-ASI: 270Mbps (Disables for SD-SDI 177Mbps)
Interface Connector	2 x 75Ω BNC
Compliances	SMPTE 259M & 292M, DVB-ASI N 50083-9, ARIB BTA S-004B CE, RoHS (Effective from July 2006), FCC Part15Class A
Power Req., Consump.	DC5V, 1.8W
Operating Temp.	0 to 40ºC
Dimensions	17x 43.4x 79.2mm
Weight	60g

EE-100

Benefits

1. Increase coaxial cable distances for up to 340 meters, while still maintaining SMPTE compatibility
2. Small and light-weight, it is perfect for weight-conscious trucks and space-conscious studios
3. Low signal degradation

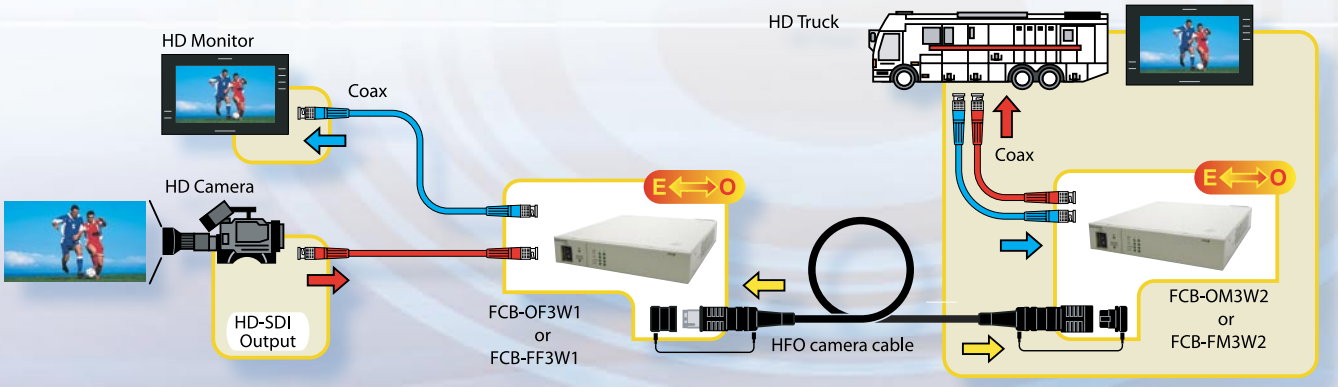
EE-100 handles multi-rate SDI (SMPTE 292/DVB-ASI) and is equipped with a cable equalizer, reclocker and cable driver in one small, easy to use unit.



**As defined by SMPTE*

Canare FCB Series

This unique device maximizes your existing hybrid camera assemblies, HD or SD cameras and HD monitors. You can extend the cable length as well as add an extra HD line could be used for monitor that you are shooting right now. This configuration is ideal for outside broadcasting use.



HFO Transmission Device with EO/OE Modules

Canare FCB series feature Hybrid Fiber Optic (HFO) camera connector interface with EO/OE modules inside. You can optimize HD/SDI equipment, which doesn't have optic connector interface. Canare FCB series is ideal for outside broadcasting.

Model	Description
FCB-FF3W1	EO/OE Box with SMPTE HFO Connector (Female)
FCB-FM3W2	EO/OE Box with SMPTE HFO Connector (Male)
FCB-OF3W1	EO/OE Box with Japanese HFO Connector (Female)
FCB-OM3W2	EO/OE Box with Japanese HFO Connector (Male)

Key Features and Benefits

- All-in-one solution EO/OE modules and power unit
- Ideal for Outside Broadcasting
- Maximizing existing HFO camera assemblies
- Flexible configuration for EO/OE modules
- AC and DC input redundancy

Specifications

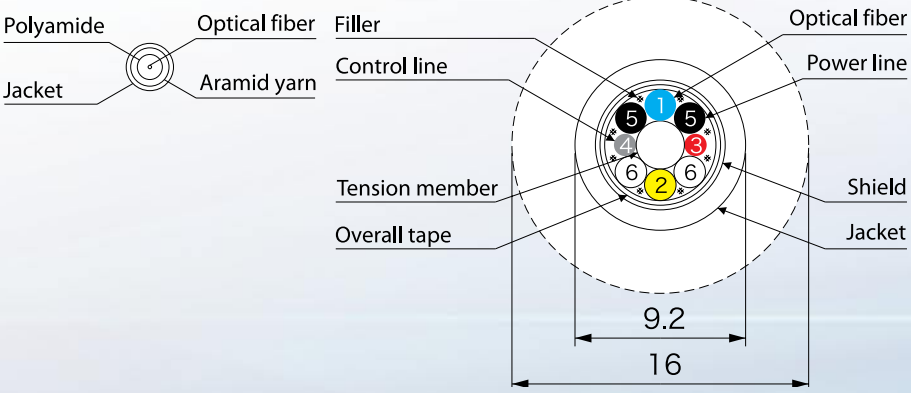
Model	FCB-FF3W1	FCB-FM3W2	FCB-OF3W1	FCB-OM3W2
EO/OE Config. SD|1	EO-100	OE-101	EO-100	OE-101
SD|2	OE-101	EO-100	OE-101	EO-100
HFO Connector	Canare FCFR	Canare FMFR	Canare OCFR	Canare OMFR
	(SMPTE, Female)	(SMPTE, Male)	(Japanese, Female)	(Japanese, Female)
SDI/O Connector	2x75ohm BNC			
EXT Connector	2x XLR3 Female	2x XLR3 Male	2x XLR3 Female	2x XLR3 Male
Power Requirement	AC100 to 240V, DC 12V			
Power Consumption	Max. 10W			
Power Connector	AC3P Jack XLR4 Male(DC)			
Operating Temperature	0 to 40°C			
Dimensions	210x 44x 240mm			
Weight	1300g			

Hybrid Fiber-Optic Camera Cable

Designed for use with HDTV signals, the camera cable is compliant with ARIB and SMPTE standards.

Cross-Sectional View

Fiber-optic Cable



Unit Number	1	2	3	4	5	6
Jacket Color	BL	YL	RD	GRY	BLK	WHT

Configuration

Fiber-optic cable

2 single-mode fibers (blue, yellow) Core outer diameter 0.9mm, jacket outer diameter 1.7mm
Transmission loss 0.5dB/km or less (λ= 1.3mm) 0.2dB or less when length is less than 0.2km

Power line

4 x 0.52mm² (20 AWG, black, white) 21/0.18TA, conductor resistance 37.5Ω/km or less
Insulation resistance 10000Ωor more - km. Withstand voltage 1750V AC • 1min.

Control line

2 x 0.18mm² (25 AWG, red, gray) 7/0.18TA, conductor resistance 113Ω/km or less
Insulation resistance 10000Ω or more - km. Withstand voltage 1750V AC • 1 min.

Type	Model	Nom. O.D. mm	Weight kg/100m	Overall Shield Coverage %	Tension Tolerance N	Bend Radius Tolerance	Temperature Range
LF-2SM9R *Jacket color for LF-2SM9R, LF-2SM9, LF-2SM16: black*	LF-2SM9R	9.2	11.0	91.8	700 *(71kgf)*	Over 6 times Outer Diameter	-40°C- +70°C
	LF-2SM9						
	LF-2SM16	16.0	28.0				

Other colors are also available on a custom-made basis. Please contact your Canare salesperson.

LF-2SM9R

- Cable designed for studio and broadcast applications.
- The polyurethane jacket provides tear resistant characteristics.
- Elastomer used in the sheath construction ensures superb mechanical strength.

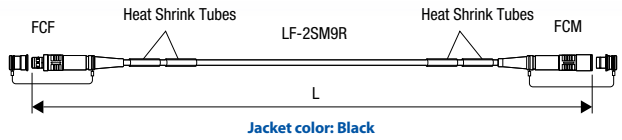
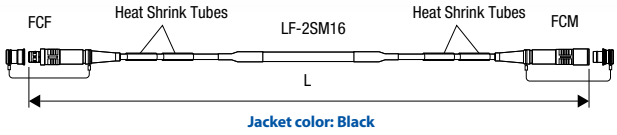
LF-2SM9

- Cable designed for fixed installations.
- Material (PVC) with good slipping performance used for the jacket.

LF-2SM16

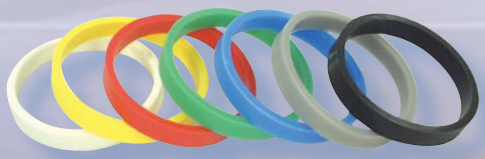
- Cable designed for studio applications.
- Polyvinyl chloride and polyurethane composite material used for the jacket.
- The 16mm outer diameter double jacket configuration on the cable is designed to prevent cable from catching on skirt of camera pedestal.

Hybrid Fiber-Optic Camera Cable Assemblies (SMPTE/ARIB)

Type	Model	Length (m)
 Jacket color: Black	FCC10A	10
	FCC20A	20
	FCC50A	50
	FCC100A	100
 Jacket color: Black	FCC50A-WJ	50
	FCC100A-WJ	100

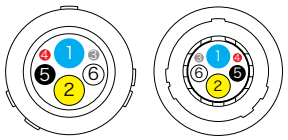
Produced after orders are received.

- Connector body material is stainless steel.
- Color rings (included 2pcs each of black, red, yellow, green, blue, gray, and white) are convenient to identify the type of signal.
- Compliant with the ARIB BTA S-1005B and SMPTE 304M and 311M.
- With AdPC polish (RL>45dB) and insertion loss of 0.5dB or less.
- A 16mm outer diameter cable is used for the FCC**AWJ series to prevent cable from catching on skirt of camera pedestal.



Color Rings

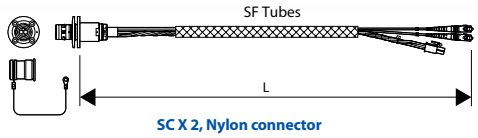
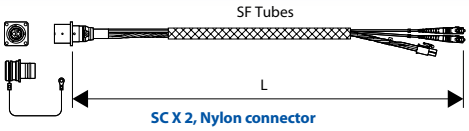
Wiring Diagram



FCF FCM

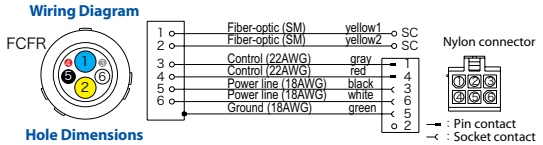
	FCF		FCM
1	BLU Fiber-optic (SM17)	BLU	1
2	YEL Fiber-optic (SM17)	YEL	2
3	GRY Control (C02E)	GRY	3
4	RED Control (C02E)	RED	4
5	BLK Power line (P05E)	BLK	5
5	BLK Power line (P05E)	BLK	5
	WHT Power line (P05E)	WHT	
6	WHT Power line (P05E)	WHT	6

Hybrid Fiber-Optic Receptacle Cables (SMPTE/ARIB)

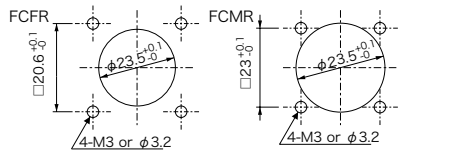
Type	Model	Length (m)
FCFR  SC X 2, Nylon connector	FCS015A-FR	1.5
FCMR  SC X 2, Nylon connector	FCS015A-MR	1.5

Produced after orders are received.

Wiring Diagram



Hole Dimensions



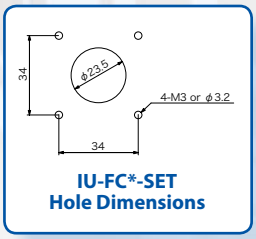
- These cables are used for connecting wall terminal panels to splice enclosures, etc.
- All cable lines are protected by a spiral tube.
- All SC connectors come with BellCore boots and all ferrule tips feature AdPC polish (RL≥45dB).
- Electrical lines come with nylon connectors, which are easily connected to the Canare splice enclosures.
- Fiber-optic cables are single-mode (λ=1.3.m) with transmission loss of 0.5dB/km.
- Connector body material is stainless steel.

FCF

FCM

FCFR

FCMR



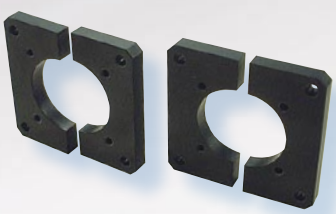
IU-FC*-SET Hole Dimensions

Isolation Plate

Ideal for perfect isolation between individual connector and panel.

- *These plates are used for isolating connector from panel*

IU-FCM-SET *includes applicable connectors FCMR, FCMRC*
IU-FCF-SET *includes applicable connectors FCFR, FCFRC*
(Mounting screws included)



IU-FCM-SET IU-FCF-SET

Extraction Tool

Extraction tool helps easy to clean Canare HFO connectors.

- *Driver to be used for removing the sleeve when cleaning FCF and FCFR connectors.*

ASPT-1 *includes applica*

ASPT-1

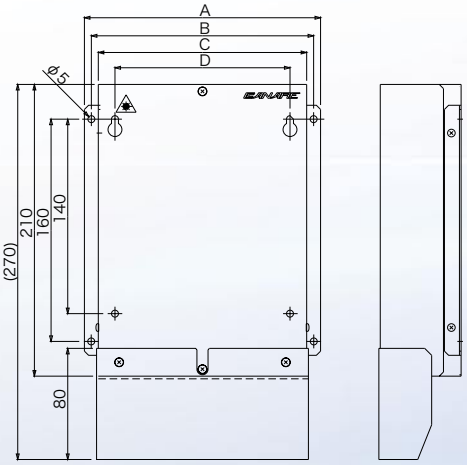
**Use the CLETOP 2.5/2.0 (100) Cleaning Stick to clean fiber-optic camera connectors.*

Hybrid Fiber-Optic Splice Enclosures

The fiber-optic splice enclosure was designed specifically for use with hybrid fiber-optic camera cables. The enclosure is used to protect fusion splice connection parts after installation.

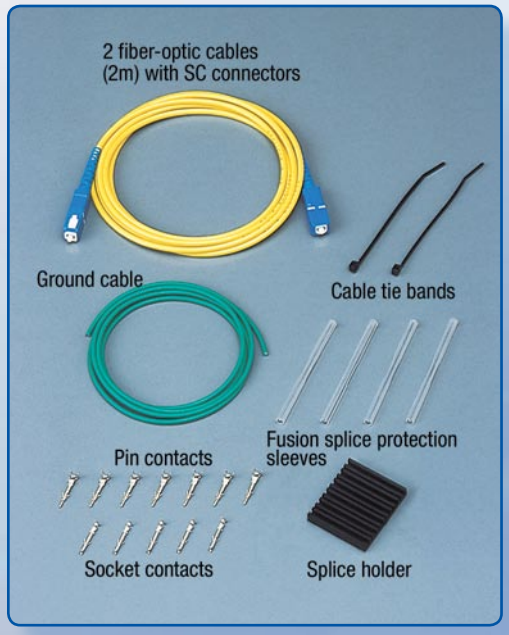
Mode	No. of cables	Fusion splice tray	Adapter	
			SC	Nylon Connector
FCE-2	2	1	4	2
FCE-4	4	2	8	4
FCE-6	6	3	12	6

*Special Order



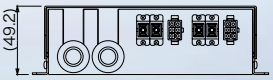
- Designed specifically for the hybrid fiber-optic camera cable (LF-2SM9)
- The enclosure can be installed on walls or placed flat.
- The tension member is insulated from the chassis.

Note: *The following special tools are required for installing the nylon connectors.*
Models: AMP90758-1 (26 to 22 AWG) and AMP90760-1 (18 to 20 AWG)

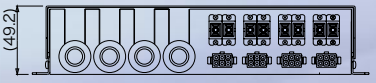


Above parts are for FCE-2

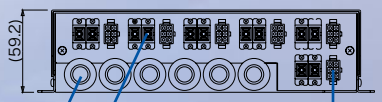
FCE-2



FCE-4



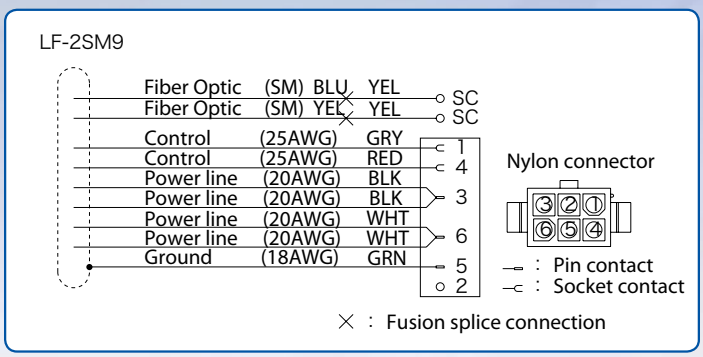
FCE-6



Type	FCE-2	FCE-4/FCE-6
A	170	240
B	160	230
C	150	220
D	126	196

(mm)

Wiring Diagram (Canare standard)



Hybrid Fiber-Optic Cable Checker

Applications
- Mobile Facilities
- Studios
- Stadiums

Features
1. SMPTE 304m compliant
2. Backlit display
3. Checks All conductors and fibers
4. 2 AA Alkaline Batteries power
5. Compact design

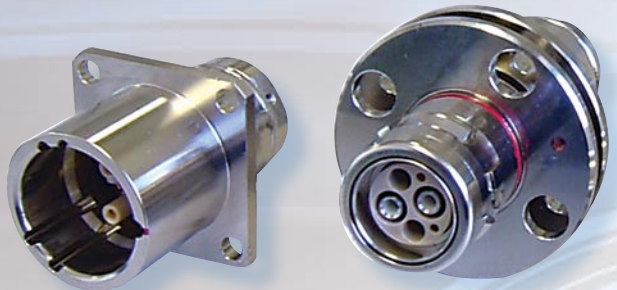
Benefits
1. Compatible with other manufacturers
2. Easy to see even at night
3. Only tester needed for hybrid camera cables
4. Easy to replace- 20 hours battery life (2 x AA)
5. Hand held

Three award-winning Cable Checker allows fast, easy confirmation of HFO cables in the field. No heavy, bulky equipment to drag around. The compact design features a backlit digital display to measure optic loss and electrical continuity. Small and light, Canare's Cable Checker helps make mobile installs smooth, secure and constant.

- FCT-FC: Test unit
- FCT-FCLB: Loop Back unit
- FCT-FCKIT: both units, soft cases, carrying case, batteries, cleaner sticks

Hybrid Fiber Optic Camera Connectors

FCM FCF



FCMR FCFR

Applications
- HD-SDI/SD-SDI
- HD Trucks
- Sports/Events Broadcasting
- Fixed Facilities

Features
1. Removable alignment sleeve and insulator
2. Stainless steal tip
3. Push-pull locking engagement
4. Superior anchoring system for strength member
5. AdPC Polish RL greater than 45dB
6. Insertion loss less than 0.5dB
7. SMPTE 304M compliant

Benefits
1. Easy cleaning of fiber contacts

2. Durable construction
3. Reliable connection under stress

4. Dependable internal connection
5. Excellent signal transmission
6. Extremely low bit error rate
7. Industry standard

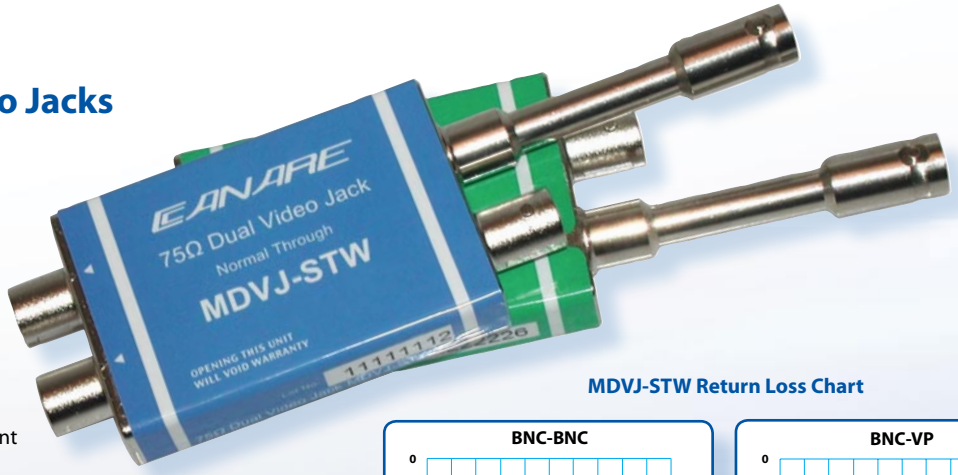
Hybrid Fiber Optic Camera Connector for use with HD-SDI/SD-SDI, SMPTE304M and HD trucks, offers easy maintenance with a detachable alignments sleeve and insulator. The quality construction includes a stainless steel body shell and solder contacts fixed in the insulation housing. Designed for long life and hassle-free cleaning.

FCF HFO Plug connector *(cable mount)*
FCM HFO Jack connector *(cable mount)*
FCFR HFO Plug Receptacle *(cable mount)*
FCMR HFO Jack Receptacle *(cable mount)*
FCFRC HFO Plug connector *(cable mount-panel)*
FCMRC HFO Jack connector *(cable mount-panel)*

FCC Series Assemblies
FCC10A, FCC20A, FCC50A & FCC100A.
Custom length available.

FCFRC FCMRC

75Ω Mid-Size Video Jacks



Applications
- Studio or mobile Broadcast
- HD-SDI/SD-SDI
- HDTV upgrades

Features
1. 75 Ohm impedance
2. Light-weight aluminum alloy
3. Rotary switch technology
4. SMPTE 292M and 424M compliant
5. Staggered BNC connectors

Benefits
1. Low return loss
2. Space and weight saving for HD trucks
3. Longer-lasting, more reliable connections
4. Industry standard compatible
3. Use Canare Slim BNC or standard size BNC connections

MDVJ-STW *Normal through*
MDVJ-STS *Straight through*

MVP-C4

BCJ-MVP

Mid-size Video Patch Plugs

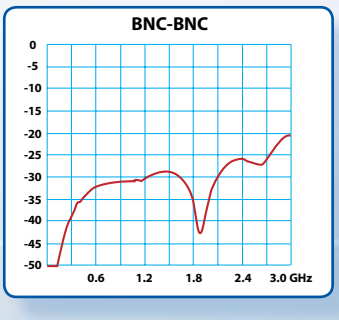
Features
- WE mid-size compatible
- 75 Ohm
- Durable Canare quality
- For use with MDVJ jacks and panels

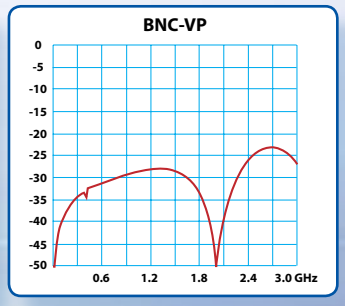
MVP-C4
Video patch plug to crimp connection
Return loss of 20dB or greater at DC-2.4GHz
Gold-plated center contact pin
Fits Canare LV-61S cable or RG-59B/U cable
Matching boot - CB25
Crimp die - TCD-4C or TCD-451CA

BCJ-MVP
Adaptor - Video patch plug to BNC receptacle
Return loss of 26dB or greater at DC-3GHz

MVJ-DC
Dust cap for MDVJ port, available in black or yellow

MDVJ-STW Return Loss Chart

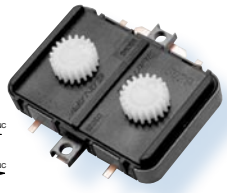




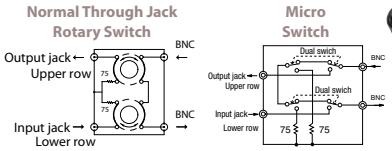
Model	Return Loss	Isolation
MDVJ-STW	26dB or less to 750MHz 20dB or less to 2.4 GHz 10dB or less to 3.0 GHz	35dB or less to 1.5GHz 20dB or less to 3.0 GHz
MDVJ-STS	26dB or less to 750MHz 20dB or less to 2.4 GHz BNC-Self Termination 10dB or less 10dB or less to 3.0 GHz	35dB or less to 1.5GHz 20dB or less to 3.0 GHz

Revised Rotary Switch

At the heart of every Canare video jack is a rotary switch which has been specially designed for use with high frequency signals. It features dual-contact construction for excellent contact stability.



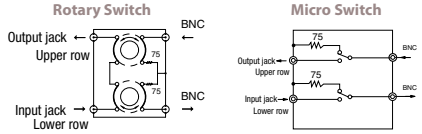
Video Patchbay Switching Systems



Shown prior to plug insertion

The circuit linking the upper (output) and lower (input) sections remains connected until a plug is inserted. Signal is obtained by inserting plug in upper jack, which connects lower section to internal terminating resistor.

Signal is input by inserting plug in lower jack, which connects upper section to internal terminating resistor. Straight Through Jack

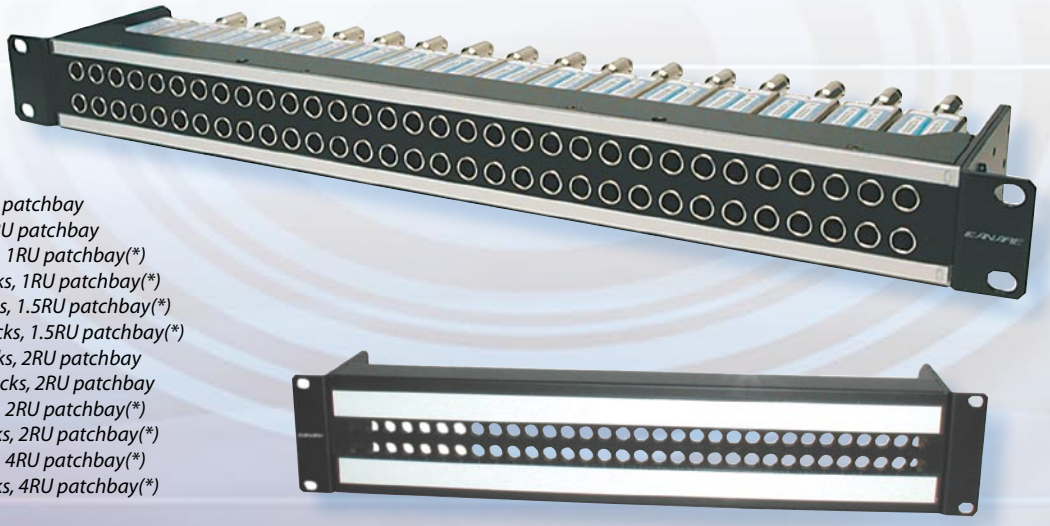


Shown prior to plug insertion

The upper (output) and lower(input) sections are terminated by resistors. Signal is obtained by inserting plug in upper jack, at which time the lower section is terminated.

Signal is input by inserting plug inlower jack, at which time the upper section is terminated.

32 Channel Mid-size Video Patchbays



Features

- *3GHz compatible*
- *75 Ohm*
- *High-density 32-channel patchbays*
- *MDVJ-STW or MDVJ-STS jacks*

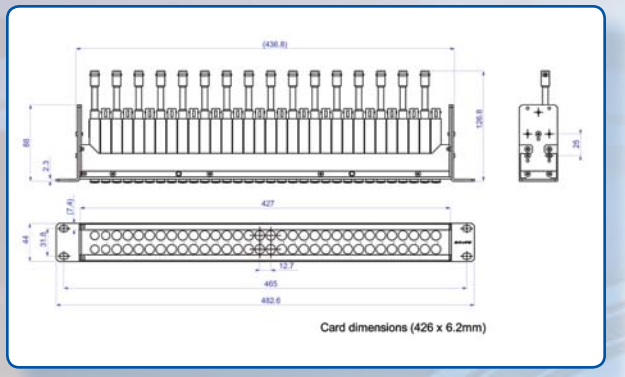
- *32MD-ST, Normal through jacks, 1RU patchbay*
- *32MD-STS, Straight through jacks, 1RU patchbay*
- *32MD-ST-1RU, Normal through jacks, 1RU patchbay(*)*
- *32MD-STS-1RU, Straight through jacks, 1RU patchbay(*)*
- *32MD-ST-15RU, Normal through jacks, 1.5RU patchbay(*)*
- *32MDS-ST-15RU, Straight through jacks, 1.5RU patchbay(*)*
- *32MD-ST-2U-SB, Normal through jacks, 2RU patchbay*
- *32MDS-ST-2U-SB, Straight through jacks, 2RU patchbay*
- *32MD-ST-2RU, Normal through jacks, 2RU patchbay(*)*
- *32MDS-ST-2RU, Straight through jacks, 2RU patchbay(*)*
- *32MD-ST-4RU, Normal through jacks, 4RU patchbay(*)*
- *32MDS-ST-4RU, Straight through jacks, 4RU patchbay(*)*

(*) Panel material: Phenolic

Unloaded MDVJ Patch Panels

- *MJ2-M32-1U-BLK: Holds 32jacks, 1RU, black, designation strip 0.29 in*
- *MJ2-M32-1U-***: Holds 32jacks, 1RU, colors, designation strip 0.29 in*
- *VJ2-M32-1RU: Holds 32jacks, 1RU, black phenolic, designation strip 0.29 in*
- *VJ2-M32-15U: Holds 32jacks, 1.5RU, black phenolic, designation strip 0.60 in*
- *MJ2-M32-2U-BLK: Holds 32jacks, 2RU, black, designation strip 0.79 in*
- *MJ2-M32-2U-***: Holds 32jacks, 2RU, colors, designation strip 0.79 in*
- *VJ2-M32-2RU: Holds 32jacks, 2RU, black phenolic, designation strip 0.89 in*
- *VJ2-M32-4U: Holds 96jacks, 4RU, black phenolic, designation strip 0.60 in*

****Nylon panels available in BLK, BLU, BRN, GRY, GRN, ORN, PPL, RED, WHT, YLW*



Mid-size Video Patch Cords

Features

- *WE mid-size compatible*
- *Super flexible*
- *Utilizing Canare LV-61S cable*
- *Available in BLK, BLU, BRN, GRY, GRN, ORN, PPL, RED, WHT, YLW*
- *Matching color boots - CB25*
- *Custom lengths available (please call)*
- *75 Ohm, impedance matched for optimal perfoirmance*

Mid-size Patch Cord	Length	Connectors
MVPC001F	1 Foot	MVP-C4/MVP-C4
MVPC002F	2 Feet	MVP-C4/MVP-C4
MVPC003F	3 Feet	MVP-C4/MVP-C4
MVPC006F-BP	6 Feet	MVP-C4/BCP-C4B
MVPC015F-BP	15 Feet	MVP-C4/BCP-C4B

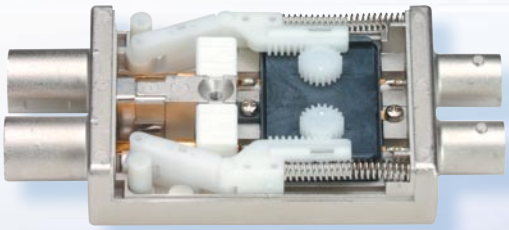
75Ω Standard Size Video Jacks

Applications
- HD-SDI
- Analog Baseband Video
- HDTV Upgrades (DTV)
- Satellite Headends
- CATV Broadband
- SMPTE 276M/AES3 Digital Audio

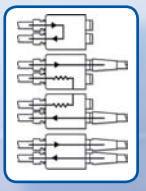
Features
1. 75 Ohm rating
2. Lifetime Warranty*
3. Rotary switch technology

Benefits
1. Low return loss (20dB or greater until 2.4GHz)
2. Guaranteed Canare quality
3. Longer-lasting, more reliable connections

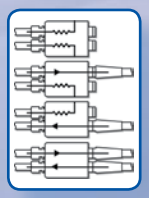
DVJA-W *Normal through, 2.4GHz*
DVJA-S *Straight through, 2.0GHz*



DVJA-W Normal Through
Signal routes between top and bottom BNC without the use of external looping plugs. Inserting a Canare VPC Video Patch Cord into either front WE port automatically terminates signal path into a 75Ω load.
Our most popular VJA model.



DVJA-S Straight Through
Two independent single jacks in a dual housing. Inserting a Canare VPC Video Patch Cord into either front WE port breaks the 75Ω termination for straight signal pass through. Very useful for bringing up auxiliary equipment to a designated central patchbay location.



Standard Video Patch Plugs

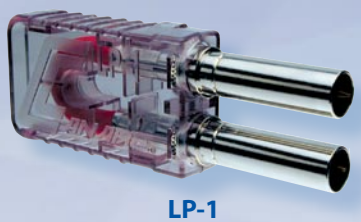
Features
- WE 0.9" compatible
- 75 Ohm
- Durable Canare quality
- For use with DVJA jacks

VWP-C4A

VWP-C4A
Video patch plug to crimp connection
Return loss of 15dB or greater at DC-2.0GHz
Gold-plated center contact pin
Fits Canare LV-61S cable
Matching boot - CB04
Crimp die - TCD-451CA

BCJ-VWP
Adaptor - Video patch plug to BNC receptacle Return loss 15dB or greater at DC-2.0GHz

BCJ-VWP



LP-1

LP-1
Looping plug for DVJA-S jacks. Return loss 20dB or great at 1.5GHz. Gold-plated center contacts. Available in BLK, BLU, BRN, GRY, GRN, ORN, PPL, RED, WHT, YLW

VJ-DC
Dust cap for DVJA port, available in yellow

LIMITED LIFETIME WARRANTY STATEMENT

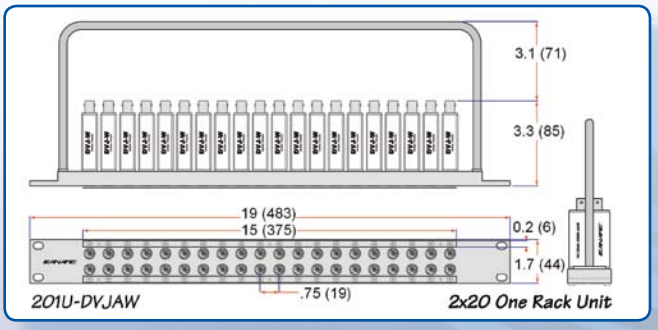
Canare warrants that the MDVJ-STW, MDVJ-STS, DVJA-W and DVJA-S will be free from defects in materials and workmanship for as long as these products remain in use. Canare will replace, or repair, at its option, products which are proven to be defective. This warranty does not apply to any products that have been subject to misuse, improper storage, or incorrect installation or servicing. At Canare's option, Canare may replace any defective product with the same or similar product. This warranty is void if the product Label has been tampered with or removed.

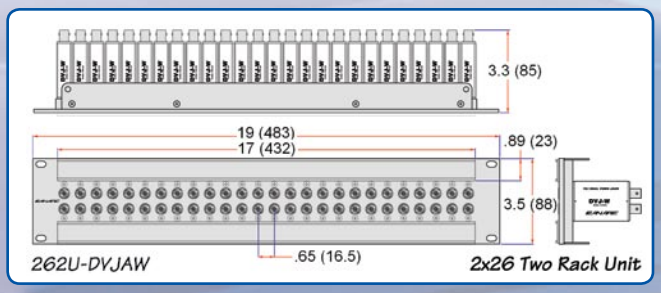
This warranty is in lieu of all other warranties, express or implied, including (but not limited to) any warranty of fitness for a particular purpose or warranty of merchantability. This warranty states the full extent of Canare's liability resulting from any breach, and in no event shall Canare be liable for indirect, consequential or special damages (including, but not limited to, lost profits) sustained by any party as a result of a breach of this warranty.

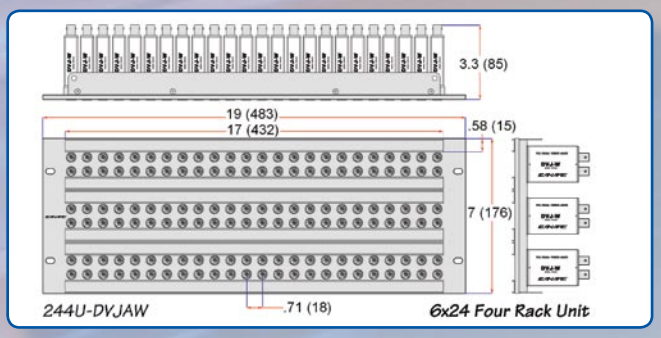
Standard Video Patch Cords

Features
- *WE .09" compatible*
- *75 Ohm, impedance matched for optimal performance*
- *Super flexible*
- *Utilizing Canare LV-61S cable*
- *Available in BLK, BLU, BRN, GRY, GRN, ORN, PPL, RED, WHT, YLW*
- *Matching color boots - CB04*
- *Custom lengths available (please call)*

Standard Video Patch Cord	Length	Connectors
VPC001F	1 Foot	VWP-C4/VWP-C4
VPC002F	2 Feet	VWP-C4/VWP-C4
VPC003F	3 Feet	VWP-C4/VWP-C4
VPC004F	4 Feet	VWP-C4/VWP-C4
VPC005F	5 Feet	VWP-C4/VWP-C4
VPC006F	6 Feet	VWP-C4/VWP-C4







VCP003F

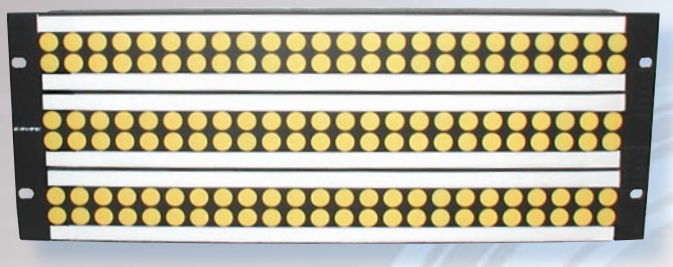
Standard Size Video Patch Panels

Unloaded DVJA Patch Panels

- *VJ2-E20: Holds 20 jacks, 1RU, black phenolic, designation strip 0.29 in*
- *VJ2-L24-1U: Holds 24 jacks, 1RU, black phenolic, designation strip 0.29 in*
- *VJ2-L26-1U: Holds 26 jacks, 1RU, black pheonic, designation strip 0.29 in*
- *VJ2-L24-2U: Holds 24 jacks, 2RU, black pheonic, designation strip 0.89 in*
- *VJ2-L26-2U: Holds 26 jacks, 2RU, black pheonic, designation strip 0.89 in*
- *VJ2-E24-4U: Holds 72 jacks, 4RU, black pheonic, designation strip 0.53 in*
- *VJ2-E26-4U: Holds 78 jacks, 4RU, black pheonic, designation strip 0.53 in*

- *VJ2-V20-1U-***: Holds 20 jacks, 1RU, nylon, designation strip 0.29 in*
- *VJ2-V20-2U-***: Holds 20 jacks, 2RU, nylon, designation strip 0.79 in*
- *VJ2-V24-1U-***: Holds 24 jacks, 1RU, nylon, designation strip 0.29 in*
- *VJ2-V24-2U-***: Holds 24 jacks, 2RU, nylon, designation strip 0.79 in*
- *VJ2-V26-1U-***: Holds 26 jacks, 1RU, nylon, designation strip 0.29 in*
- *VJ2-V26-2U-***: Holds 26 jacks, 2RU, nylon, designation strip 0.79 in*

******Nylon panels available in***
BLK, BLU, BRN, GRY, GRN, ORN, PPL, RED, WHT, YLW



20-26 Channel Standard Video Patchbays

Features

- *20, 24 or 26 across loading*
- *75 Ohm*
- *Easy front mount assembly*
- *DVJA-W or DVJA-S jacks*

- *201U-DVJAW: 20 Normal through jacks, 1RU patchbay*
- *201U-DVJAS: 20 Straight through jacks, 1RU patchbay*
- *241U-DVJAW: 24 Normal through jacks, 1RU patchbay*
- *241U-DVJAS: 24 Straight through jacks, 1RU patchbay*
- *261U-DVJAW: 26 Normal through jacks, 1RU patchbay*
- *261U-DVJAS: 26 Straight through jacks, 1RU patchbay*

- *242U-DVJAW: 24 Normal through jacks, 2RU patchbay*
- *242U-DVJAS: 24 Straight through jacks, 2RU patchbay*
- *262U-DVJAW: 26 Normal through jacks, 2RU patchbay*
- *262U-DVJAS: 26 Straight through jacks, 2RU patchbay*

- *244U-DVJAW: 72 Normal through jacks, 4RU patchbay*
- *244U-DVJAS: 72 Straight through jacks, 4RU patchbay*
- *264U-DVJAW: 78 Normal through jacks, 4RU patchbay*
- *264U-DVJAS: 78 Straight through jacks, 4RU patchbay*

Flush Mount Bulkhead Receptacles *(ITT Cannon Footprint)*

Features
1. 75 Ohm impedance
2. Recessed bulkhead design
3. Built-in panel isolation bushing
4. Common Canare punch hole

Benefits
1. Professional quality
2. Connector protected from physical impact
3. No electrical crosstalk or grounding problems
4. Easy to install and swap-out

BCJ-JRU
Less than 1.1 VSWR DC-2GHz
Connectors: BNC/BNC

BCJ-RU
Less than 1.1 VSWR DC-2GHz
Connectors: BNC/Solder

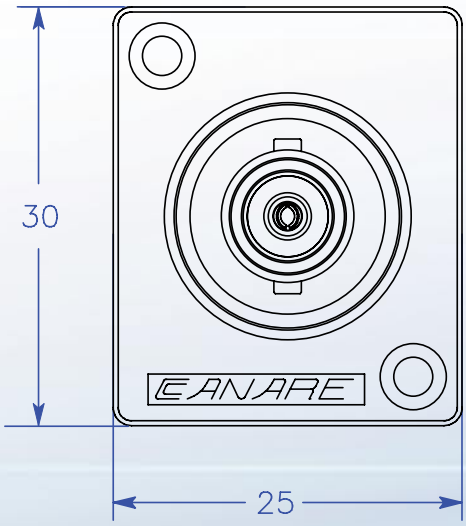
FJ-JRU
Less than 1.1 VSWR DC-2GHz
Connectors: F/F

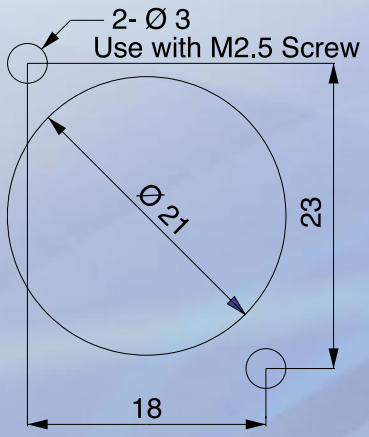
RJ-BCJRU
Less than 1.1 VSWR DC-100MHz
Connectors: RCA/BNC
Insulator Colors: BLU, GRN, RED, WHT, YLW

RJ-RU
Less than 1.1 VSWR DC-100MHz
Connectors: RCA/Solder
Insulator Colors: BLU, GRN, RED, WHT, YLW

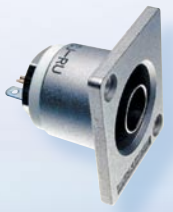
XLR-3-31F77
Connectors: XLR Female/Solder

XLR-3-32F77
Connectors: XLR Male/Solder






BCJ-JRU


BCJ-RU

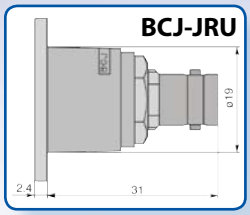

FJ-JRU

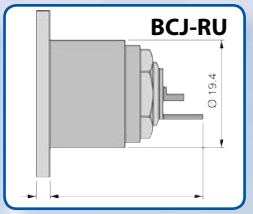

RJ-BCJRU

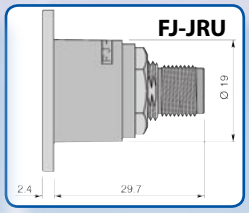

RJ-RU

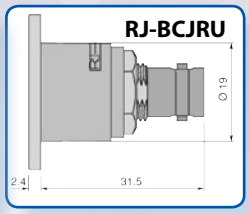

XLR-3-31F77

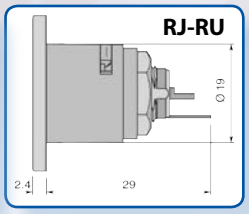
Jack Type	Center Contact Material	Body Material Plating	Dielectric	Flange Material Plating	Insulation Resistance at 500V DC	Voltage Rating for 1 Minute	Center Contact Resistance	Outer Contact Resistance
BNC	Beryllium Copper Gold	Brass Nickel	PTFE	DieCast AL Nickel	>1000 MegaOhms	1500V AC(rms)	<6 miliOhms	<3 miliOhms
F	Beryllium Copper Gold	Brass Nickel	PTFE	DieCast AL Nickel	>500 MegaOhms	500V AC(rms)	<5 miliOhms	<5 miliOhms
RCA	Beryllium Copper Gold	Brass Nickel	PTFE	DieCast AL Nickel	>1000 MegaOhms	1000V AC(rms)	<10 miliOhms	~





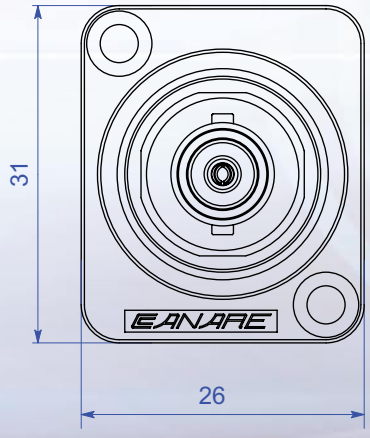






Flush Mount Bulkhead Receptacles

(Neutrik Footprint)

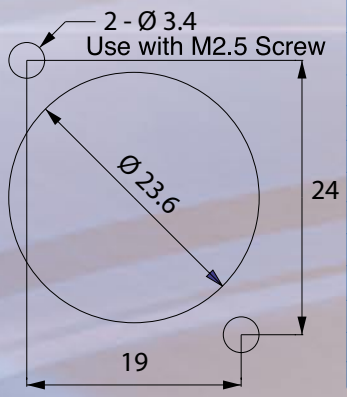


Features

1. 75 Ohm impedance
2. Neutrik Footprint
3. Choice of finish color
4. Front or rear mountable

Benefits

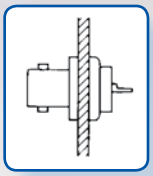
1. Professional quality
2. Compatiblewith most popular bulkhead panels
3. Match your equipment or easily identify connectors
4. Clean, professional looking panels



Model Number	Finish	Connectors
BCJ-JRUD	Nickel	BNC J-J
BCJ-JRUDB	Black Chrome	BNC J-J
BCJ-RUD	Nickel	BNC J-Solder
BCJ-RUDB	Black Chrome	BNC J-Solder
BCJ-RUDC1	Nickel	BNC J-Solder+Crimp
BCJ-RUDBC1	Black Chrome	BNC J-Solder+Crimp
FJ-JRUD	Nickel	F J-J
FJ-JRUDB	Black Chrome	F J-J
RJ-RUD	Nickel	RCA J-Solder
RJ-RUDB	Black Chrome	RCA J-Solder
RJ-BCJRUD	Nickel	RCA J-BNC J

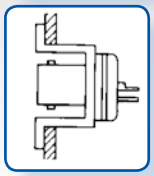
Jack Type	Bandwidth Return Loss	Center Contact Material Plating	Body Material Plating	Dielectric	Insulation Resistance at 500V DC	Voltage Rating for 1 Minute	Center Contact Resistance	Outer Contact Resistance
BNC	<1.1 VSWR >26dB DC-2GHz*	Beryllium Copper Gold	Brass, Nickel or Black Chrome	PTFE **	>1000 MegaOhms	1500V AC(rms)	<6 miliOhms	<3 miliOhms
F	<1.1 VSWR >26dB DC-2GHz	Beryllium Copper Gold	Brass, Nickel or Black Chrome	PTFE **	>500 MegaOhms	500V AC(rms)	<5 miliOhms	<5 miliOhms
RCA	<1.1 VSWR >26dB DC-100MHz	Beryllium Copper Gold	Brass, Nickel or Black Chrome	PTFE **	>1000 MegaOhms	500V AC(rms)	<10 miliOhms	<10 miliOhms

***BCJ-RUDC1, BCJ-RUDBC1 up to 1GHz **BCJ-JRUD, BCJ-JRUDB: Amorphous Polyolefin**



Because ordinary panel mount BNC bulkhead connectors are often precariously exposed on a wall plate located in high traffic areas, they offer little protection from physical damage.

To solve this problem, Canare developed a unique recessed flush mount panel jack design that effectively protects the housed connector.



Our BCJ-JRU and BCJ-RU BNC jacks have a built in panel isolation bushing, so they may safely reside on the panel alongside any audio, power, data or intercom lines without electrical crosstalk or grounding problems. Also available in recessed 75Ω F and RCA jack versions

A/V Flush Mount Bulkhead Panels
(Unloaded)

Applications
- Headends
- Multimedia edit suites
- Master control rooms
- Satellite
- Telcom
- Broadband

Features
1. Black powder-coated metal
2. Tapped screw holes

Benefits
1. Strong and scratch resistant
2. Each connector individually isolated from panel

BNC 16
16 jack holes, 1RU, 0.35 inch pre-printed designation strip

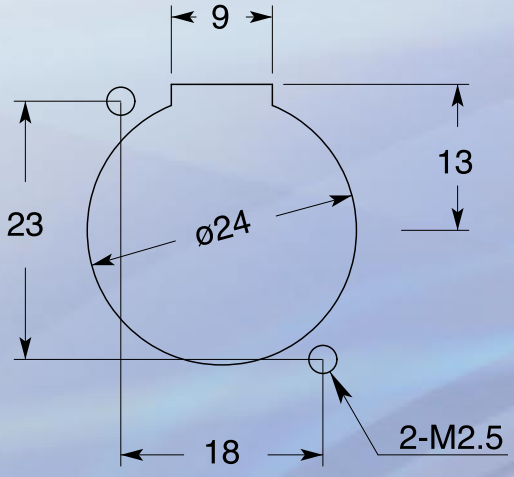
BNC 32
32 jack holes, 2RU, 0.35 inch pre-printed designation strip

Flush Mount Bulkhead Panels
(Loaded)

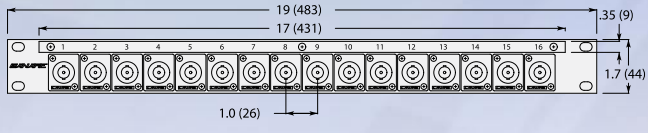
Applications
- Headends
- Multimedia edit suites
- Master control rooms
- Satellite
- Telcom
- Broadband

Features
1. Isolated BNC, RCA, F, XLR on same panel
2. 16 gauge cold rolled steel panel
3. Top & bottom panel reinforcement folds

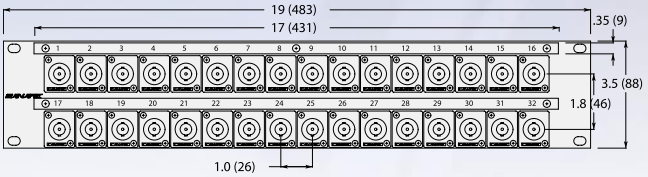
Benefits
1. Flexible, customizable layout
2. Strong; impact and torsion resistant
3. Extra support to prevent bending and sagging



Flush Mount Hole



1RU Dimensions



2RU Dimensions

Model Selection Guide

16	1U	-	BJRU

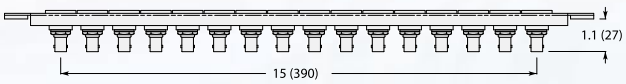
Connector Quantity
16, 32

Panel Height
1U = 1 Rack Unit
19" x 1.7"

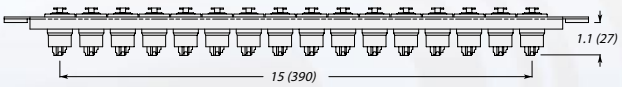
2U = 2 Rack Unit
19" x 3.5"

Connector
BJRU = BCJ-JRU
FJRU = FJ-JRU
RJSU = RJ-RU
RJRU = RJ- BCJRU
X1F = XLR3-31F77
X2F = XLR3-32F77
X12F = XLR3-31/32F77

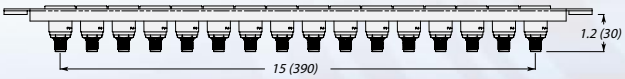
Type
BNC-BNC
F-F
RCA-Solder
RCA-BNC
Female XLR-Solder
Male XLR-Solder
M&F XLR-Solder



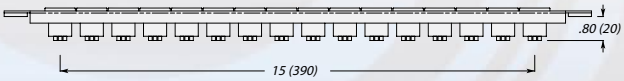
BJRU Rear Dimensions



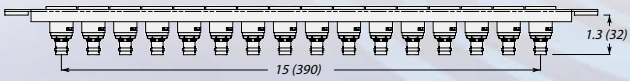
X1F Rear Dimensions



FJRU Rear Dimensions



X2F Rear Dimensions



RJRU Rear Dimensions

Jack Type	Bandwidth Return Loss	Center Contact Material Plating	Body Material Plating	Dielectric	Insulation Resistance at 500V DC	Voltage Rating for 1 Minute	Center Contact Resistance	Outer Contact Resistance
BNC	<1.1 VSWR >26dB DC-2GHz*	Beryllium Copper Gold	Brass Nickel	PTFE **	>1000 MegaOhms	1500V AC(rms)	<6 miliOhms	<3 miliOhms
F	<1.1 VSWR >26dB DC-2GHz	Beryllium Copper Gold	Brass Nickel	PTFE **	>500 MegaOhms	500V AC(rms)	<5 miliOhms	<5 miliOhms
RCA	<1.1 VSWR >26dB DC-100MHz	Beryllium Copper Gold	Brass Nickel	PTFE **	>1000 MegaOhms	500V AC(rms)	<10 miliOhms	<10 miliOhms

Stand-off Bulkhead Receptacles

Features
1. 75 Ohm impedance
2. Double D hole-punch fit

Benefits
1. Professional quality
2. Fit common industry panels

BCJ-JR
Less than 1.1 VSWR DC-2GHz
Connectors: BNC/BNC

BCJ-R/1
Less than 1.1 VSWR DC-2GHz
Connectors: BNC/Solder

BCJ-FJR
Greater than 26dB (less than 1.1 VSWR) DC-2GHz
Connectors: BNC/F

FJ-JR
Greater than 26dB (less than 1.1 VSWR) DC-2GHz
Connectors: F/F

RJ-BCJR
Less than 1.1 VSWR DC-100MHz
Connectors: RCA/BNC
Insulator Colors: RED, WHT, YLW

BCJ-JR
Less than 1.1 VSWR DC-100MHz
Connectors: RCA/Solder
Insulator Colors: RED, WHT, YLW

BCJ-JR

FJ-JR

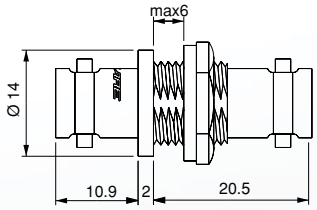
BCJ-R/1

RJ-BCJR

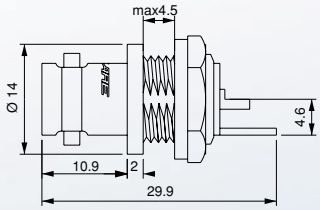
BCJ-FJR

RJ-R

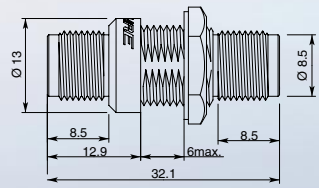
Stand-off Bulkhead Receptacles



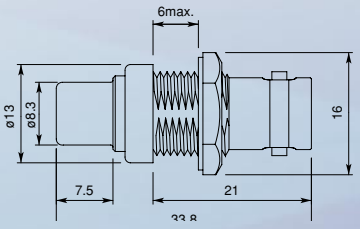
BCJ-JR



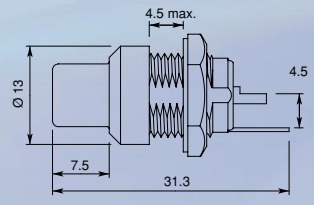
BCJ-R/1



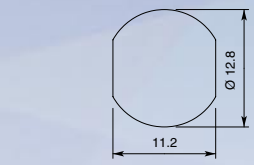
FJ-JR



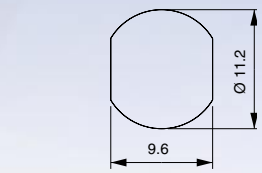
RJ-BCJR



RJ-R



Punch Hole Dimensions
(if NOT using IU-7/16 Iso Bushing)



Punch Hole Dimensions
(if USING IU-7/16 Iso Bushing)

Stand-off Bulkhead Receptacles *(Loaded)*

Applications
- Headends
- Multimedia edit suites
- Master control rooms
- Satellite
- Telcom
- Broadband

Features
1. Isolated BNC, RCA, F, XLR on same panel
2. 16 gauge cold rolled steel panel
3. Top & bottom panel reinforcement folds

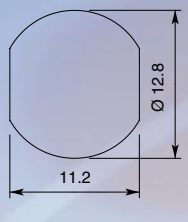
Benefits
1. Flexible, customizable layout
2. Strong; impact and torsion resistant
3. Extra support to prevent bending and sagging

Stand-off Bulkhead Panels *(Unloaded)*

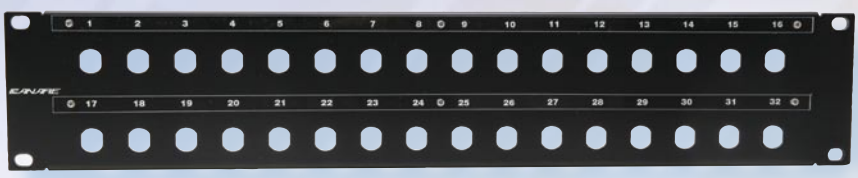
Applications
- Headends
- Multimedia edit suites
- Master control rooms
- Satellite
- Telcom
- Broadband

Features
1. Black powder-coated metal
2. Double D size for isolation bushings

Benefits
1. Strong and scratch resistant
2. Each connector individually isolated from panel



161U-DD
16 jack holes, 1RU, 0.35 inch pre-printed designation strip



322U-DD
32 jack holes, 2RU, 0.35 inch pre-printed designation strip

Model Selection Guide

16	1U	-	BJR

Connector Quantity
16, 32

Panel Height
1U = 1 Rack Unit
19" x 1.7"

2U = 2 Rack Unit
19" x 3.5"

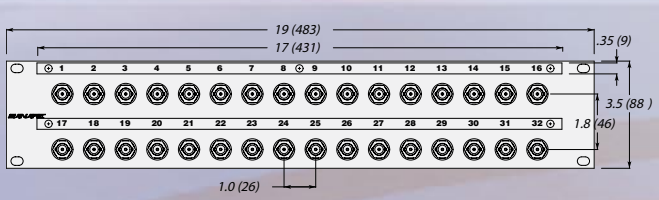
Connector
BJR = BCJ-JR
FJR = FJ-JR
RJS = RJ-R
RJBR = RJ-BCJR

Type
BNC-BNC
F-F
RCA-Solder
RCA-BNC

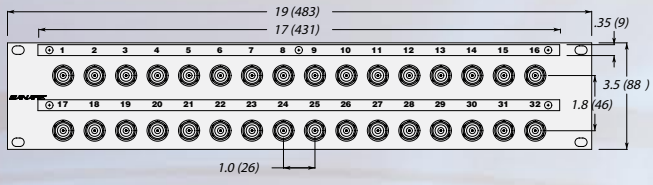
BJR Rear Dimensions

FJR Rear Dimensions

322U-BJR Dimensions



322U-FJR Dimensions



75Ω OEM PCB Mount Connectors

Applications
- OEM'S
- HDTV equipment
- TelCo broadband
- NTSC analog video
- Satellite headend

Features
1. 75 Ohm impedance, ≥26 dB Return Loss; DC to 1GHz (≤VSWR 1.1)
2. Variety of configurations
3. Securely mounts to PCB with Chassis Support
4. Gold Plated Beryllium Copper center contact

Benefits
1. Professional quality
2. The perfect connector for your application
3. Easy installation, durability assured
4. Excellent transmission quality

FJ-FPC

BCJ-RZCP

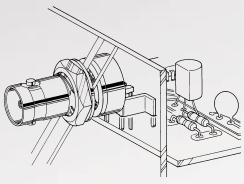
BCJ-BPC2P

BCJ-FPC02

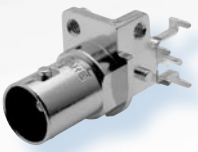
BCJ-FPLHA

BCJ-RPLH

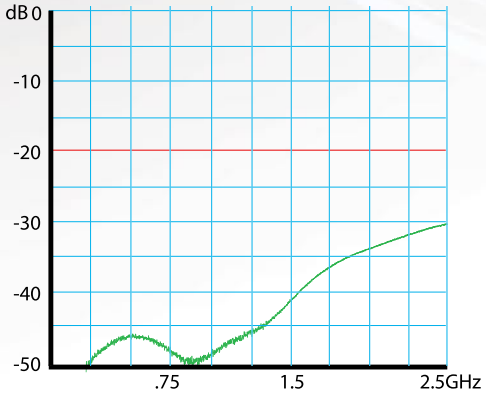
Model	Description
BCJ-BPC2P	BNC PC mount receptacle, dual type
BCJ-BPLH	BNC jack, Rt. angle(screw mounted) RoHS
BCJ-FC1	BNC Conn. frt chassis mount (1/2")
BCJ-FC1-7/16	BNC Conn. frt chassis mount (7/16")
BCJ-FPC	BNC Conn. frt chassis mount straight
BCJ-FPC02	BNC Conn. frt chassis straight, die cast
BCJ-FPLHA	BNC Conn. frt chassis mnt rt angle
BCJ-FPLV01	BNC Conn. frt chassis mnt rt angle
BCJ-RPC	BNC Conn. rear chassis mount straight
BCJ-RPC/1	BNC Conn. rear chassis mount straight
BCJ-RPLH	BNC Conn. rear chassis mnt rt angle
BCJ-RPLV	BNC Conn. rear chassis mnt rt angle
BCJ-RZCP	BNC Receptacle and Push-on Plug
FJ-FPC	F PC Mount Receptacle



BCJ-FPLV01
Mounted



BCJ-BPLH

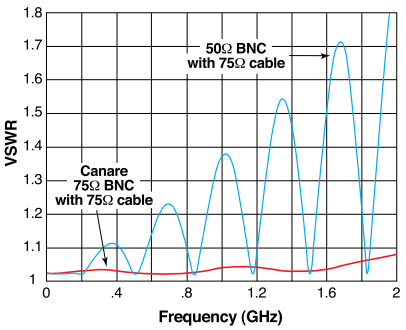


BCJ-BPLH Return Loss

75Ω BNC Connectors: C-Series

Canare offers a full line of high performance MIL-C-39012 true 75 Ohm BNC connectors with impedance matched performance characteristics & specifications that properly address the latest generations of high bandwidth digital video equipment.

Importantly, Canare 75 Ohm BNC connectors offer excellent mechanical pull strength & very low digital signal reflections; RL ≥26dB (VSWR ≤1.1) DC to 2GHz.

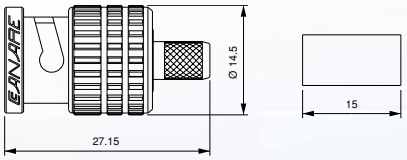


Influence of impedance matching/mismatching

Note:
Much of the 75 Ohm video coax cable in use today may still be terminated with 50 Ohm BNC connectors. Although this pairing is adequate for lower frequency bandwidths (such as standard NTSC broadcast transmissions), this mismatch will result in signal degradation & reduced picture quality at today's ultra high analog and digital video transmission rates.

Applications

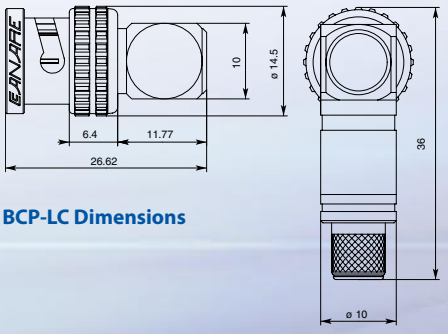
- SMPTE 259M & 292M compliant
- Serial Digital Video (SDI)
- HDTV upgrades
- NTSC analog
- Satellite headends
- Telcom



BCP-C Dimensions

Features

1. True 75 Ohm construction; Crimp Pin & Sleeve
2. DC to 2 GHz; ≥26 dB Return Loss (≤1.1 VSWR)
3. Mechanically mates with common 50 Ohm BNC
4. Elongated body
5. Longer crimp sleeve
6. Gold Plated Contact Pin 'Snap Locks' into place
7. Beryllium Copper Outer Contact



BCP-LC Dimensions

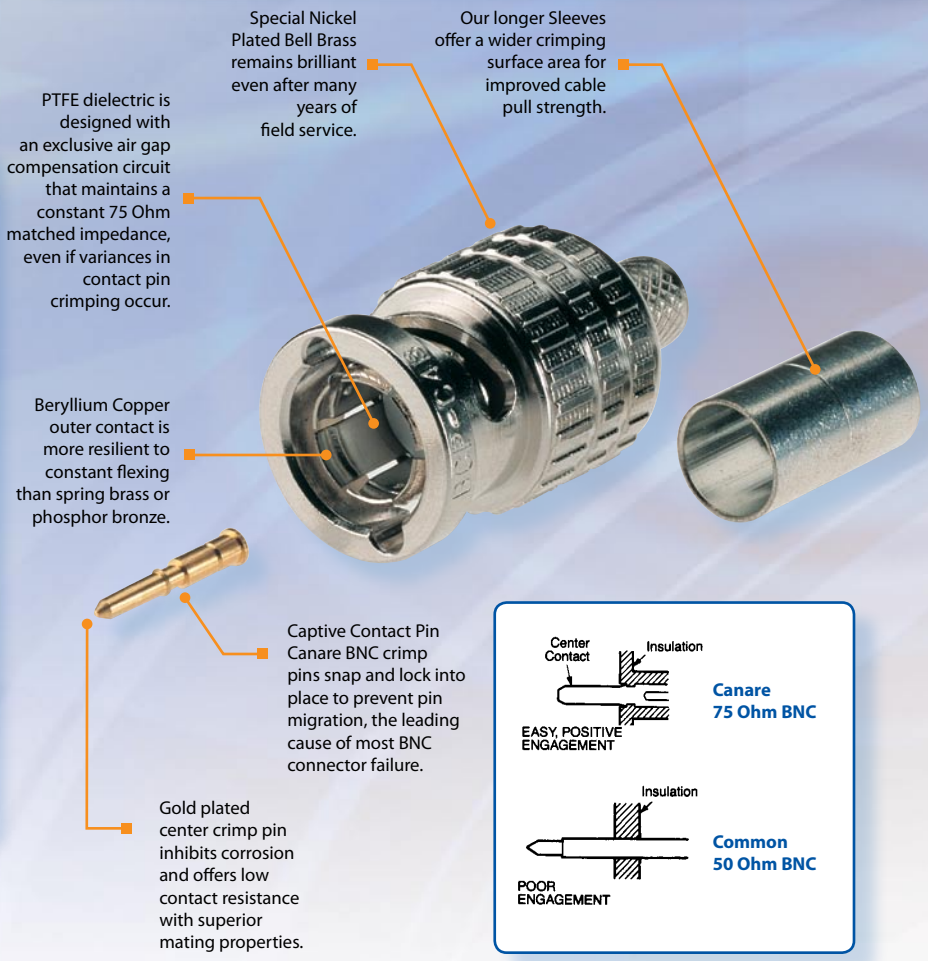
Benefits

1. Better transmission quality
2. Extremely low bit-rate error
3. "Universal" applications
4. Better finger grip
5. Superior cable pull strength
6. More reliable connection
7. Extremely resilient to constant flexing

Body Material Plating	Center Contact Material Plating	Dielectric	Crimp Sleeve Material Plating	Cable Retention lbs (kg)	Insulation Resistance (500V DC)	Voltage Rating (1 min)	Center Contact Resistance	Outer Contact Resistance
Brass Nickel	Brass Nickel	PTFE	Copper Tin	>55 >24.9	>1000 MegaOhms	1500V AC (rms)	<6 miliOhms	<3 miliOhms

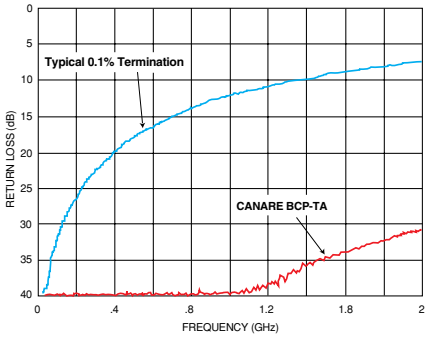
Model #	Pin	Sleeve
BCP-C1	Solder	BN7022
BCP-C25F	B11014E	BN7029C
BCP-C32	B11016E	BN7026A
BCP-C3B	B11014E	BN7003A
BCP-C3F	B11015E	BN7003A
BCP-C42	B11016E	BN7011
BCP-C4B	B11015E	BN7015A
BCP-C4F	B11016E	BN7015A
BCP-C51	B11016E	BN7002
BCP-C53A	B11020D	BN7046
BCP-C55A	B11020D	BN7045A
BCP-C5B	B11016E	BN7016
BCP-C5FA	B11020D	B75004A
BCP-C71A	BN1043	BN7021A
BCP-C77A	B11016E	B75004A
BCP-C7FA	BN1012B	BN7021A
BCP-LC3F	B11015E	BN7003A
BCP-LC5F	B11020D	B75004A
BCP-VC3	B11014E	BN7052A
BCP-VC5	B11016E	BN7045A

See cross-reference charts on page 54 for tooling and cable matches.



75 Ohm Termination

All 75 Ohm signals, once entered into a termination, must be fully converted into energy. If the impedance matching is not perfect, part of this energy will be reflected and poor Return Loss (VSWR) will result, especially at higher operating frequencies (i.e. computer graphics, digital video, etc.).



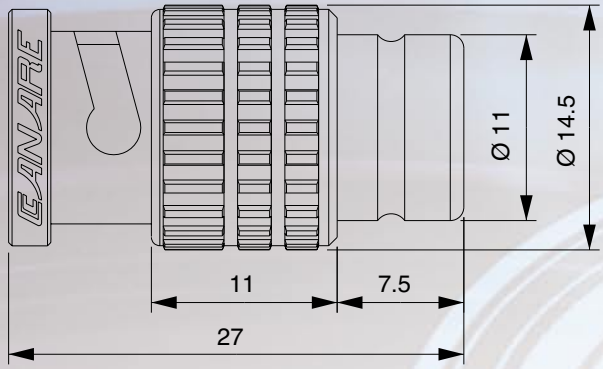
Common BNC terminators use a 50 Ohm type body with a generic 75 Ohm DC resistor tacked onto the back of the center contact pin.

Canare's precision 75 Ohm BCPTA, far exceeds (by 20 to 30 dB) other commercial terminations, even those rated at .1% tolerance.
Careful attention to impedance design detail makes this the first true 75 Ohm termination with the same VSWR performance found in test lab precision terminators which cost hundreds of dollars.

75Ω BNC Termination Plug

Applications
• Digital Video 75 Ohm termination

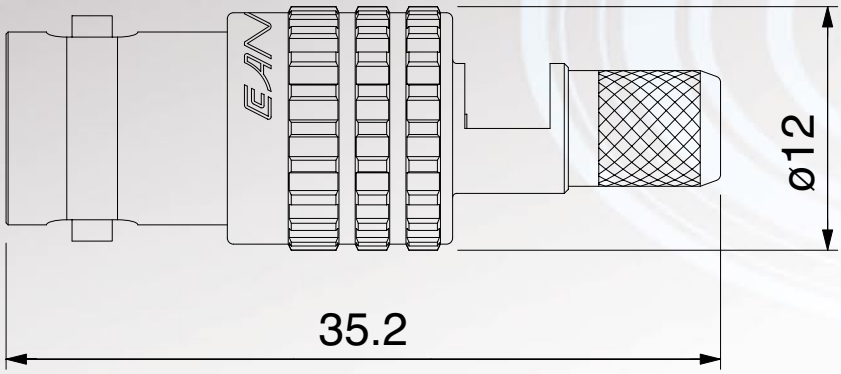
BCP-TA
DC to 2 GHz; ≥26 dB Return Loss (≤1.1 VSWR)
75 Ohm Metal Film Resistor (± 1%,1/4 Watt @°100ppm)
Gold Plated Center Pin; Beryllium Copper Outer Contact
Elongated Body Design

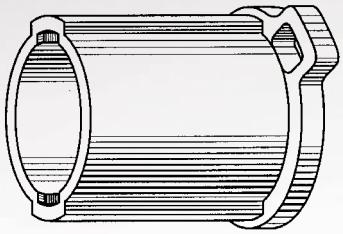


75Ω BNC Plug Female Connector

BCJ-C4
75 Ohm impedance
1.1 or less VSWR up to 1.5 GHz
Gold-plated beryllium copper soldered center pin
Crimp sleeve

Model #	Matching Cable	Boot	Die
BCJ-C4	RG-59 B/U LV-61S	CB25 Nickel	TCD-4C TCD-451CA





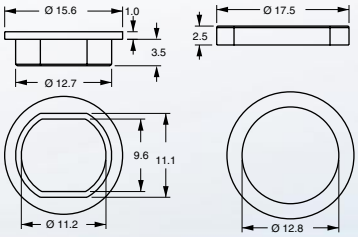
BNC Dust Cap

BCJ-DC
Protects all unused BNC Bulkhead Receptacles from dirt and dust

Double-D Isolation Bushingings

Applications
- 2 Piece Expandable Isolation Bushing
- Colors: Blk, Blu, Grn, Red, Wht, Yel
- High compression, ABS plastic
- Accommodates 1.2mm ~ 3mm thick panels

IU-7/16
Please indicate color if other than WHT



75Ω Slim BNC Connectors

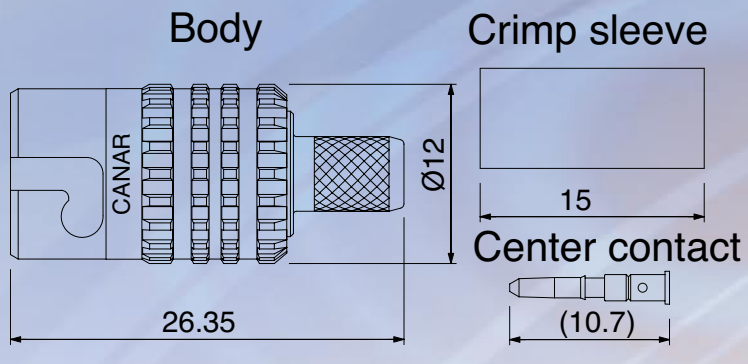
Applications
- High-density video patch panels
- Fit standard BNC jacks
- Serial Digital Video
- HDTV upgrades
- NTSC Analog

Features
1. 75 Ohm impedance
2. ≥20 dB Return Loss; DC to 2.4GHz
3. 12 mm outside diameter
4. Gold Plated Beryllium Copper center contact

Benefits
1. Professional standard
2. Extremely low bit-rate error
3. Easier to connect/disconnect on dense panels
4. Excellent transmission quality

Model	Pin	Sleeve
MBCP-C25F	B11014E	BN7029C
MBCP-C3F	B11015E	BN7003A
MBCP-C4	B11015E	BN7015A
MBCP-C4F	B11016E	BN7015A
MBCP-C53	B11020D	BN7046
MBCP-C5F	B11020D	B75004A

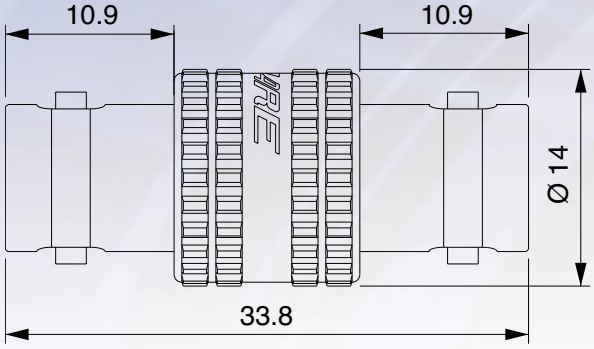
See cross-reference charts on page 54 for tooling and cable matches.



75Ω BNC In-Line Adaptor

Applications
- BNC Line Cord Extender

BCJ-J
75 Ohm impedance
BNC jack to BNC jack



Model	Pin	Sleeve
BCP-PC3	B11014E	BN7003A
BCP-PC3F	B11015E	BN7003A
BCP-PC4	B11015E	BN7015A
BCP-PC4F	B11016E	BN7015A
BCP-PC5	B11016E	BN7016
BCP-PC5F	B11020D	B75004A
BCP-PC53	B11020D	BN7016
BCP-PC55	B11020D	BN7045A

See cross-reference charts on page 54 for tooling and cable matches.

75Ω BNC Connectors: PC-Series

Applications
- Digital Broadcast
- CCTV
- SD/SDI

Features
1. 75 Ohm impedance
2. ≤ 1.1 VSWR DC to 1 GHz
3. Crimp pin & sleeve design
4. Elongated body
5. Longer crimp sleeve
6. Gold Plated Contact Pin 'Snap Locks' into place
7. Gold-plated Outer Contact

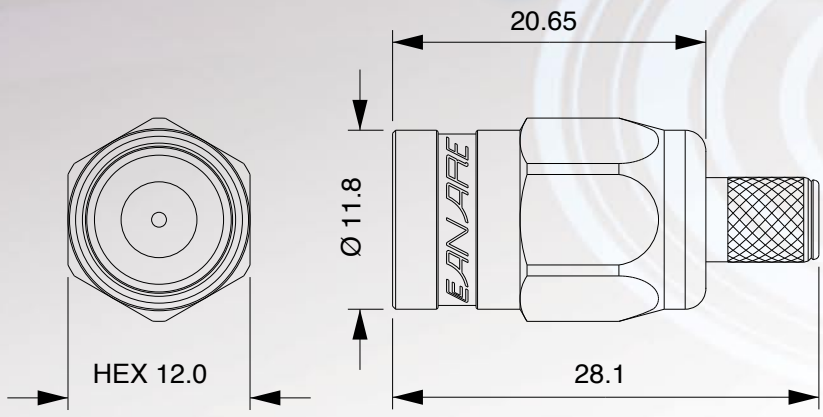
Benefits
1. Better transmission quality
2. Easy "field" assembly
3. Better finger grip
4. Superior cable pull strength
5. More reliable connection
6. Superior signal transmission

75Ω F Connectors

Applications
- Digital Broadband
- Satellite Systems
- Rf Equipment
- Cable Modems
- Headends

Features
1. True 75 Ohm construction
2. ≥26dB return loss DC–2GHz (≤1.1 VSWR)
3. Crimp pin & sleeve design
4. Use with solid or stranded center 75 Ohm coax
5. Center pin snap locks into connector
6. Longer crimp sleeve

Benefits
1. Better transmission quality
2. Extremely low bit-rate error
3. Easy "field" assembly
4. Multi-purpose connector
5. More reliable connection
6. Superior cable pull strength



Model	Pin	Sleeve
FP-C3	BN1002B	BN7003A
FP-C3F	BN1003B	BN7003A
FP-C4	BN1003B	BN7015A
FP-C4F	BN1004B	BN7015A
FP-C5	BN1004B	BN7016
FP-C51	BN1004B	BN7002
FP-C53A	BN1005B	BN7046
FP-C55A	BN1005B	BN7045A
FP-C5F	BN1005B	B75004A
FP-C71A	BN1041A	BN7021A
FP-C7FA	BN1030A	BN7021A

See cross-reference charts on page 54 for tooling and cable matches.

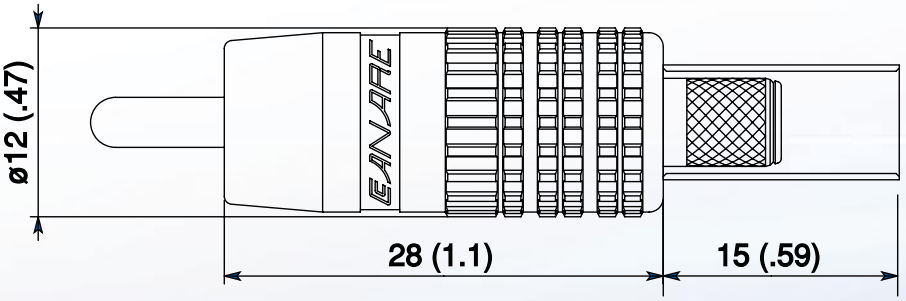
Body Material Plating	Center Contact Material Plating	Dielectric	Crimp Sleeve Material Plating	Cable Retention lbs (kg)	Insulation Resistance (500V DC)	Voltage Rating (1 min)	Center Contact Resistance	Outer Contact Resistance
Brass Nickel	Brass Nickel	PTFE	Copper Tin	>55 (>24.9)	>500 MegaOhms	500V AC (rms)	<5 miliOhms	<5 miliOhms

75Ω RCA Connectors

Applications
- Multimedia patchcords
- Hi-res video monitors
- SPDIF digital audio
- Duplication decks
- VCR & camcorders
- Audio interconnects

Features
1. True 75 Ohm construction
2. VSWR ≤1.1 DC to 200MHz
3. Absolutely No Soldering Required
4. Internal Pressure Contact Fingers
5. Gold Plated Center Shaft
6. Wide Selection of Cable Types

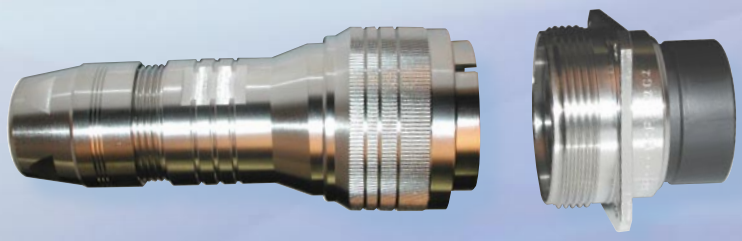
Benefits
1. Better transmission quality
2. Extremely low bit-rate error
3. Assembly Time Reduced by >80%
4. More reliable connection
5. Multi-purpose connector



Body Material Plating	Center Contact Material Plating	Outer Contact Material Plating	Dielectric	Crimp Pin Material Plating	Crimp Sleeve Material Plating	Cable Retention lbs (kg)	Insulation Resistance (500V DC)	Voltage Rating (1 min)	Contact Resistance
Brass Nickel	Phosphor Bronze Gold	Beryllium Copper Gold	PPO Noryl	Brass Gold	Copper Tin	>55 (>24.9)	>500 MegaOhms	500V AC (rms)	<10 miliOhms

Model	Pin	Sleeve
RCAP-C3A	B11014E	BN7003A
RCAP-C25F	B11014E	BN7029C
RCAP-C3F	B11015E	BN7003A
RCAP-C42	B11016E	BN7011
RCAP-C4A	B11015E	BN7015A
RCAP-C4F	B11016E	BN7015A
RCAP-C5A	B11016E	BN7016
RCAP-C5F	B11020D	B75004A
RCAP-C53	B11020D	BN7016
RCAP-C77	B11016E	B75004A

See cross-reference charts on page 54 for tooling and cable matches.

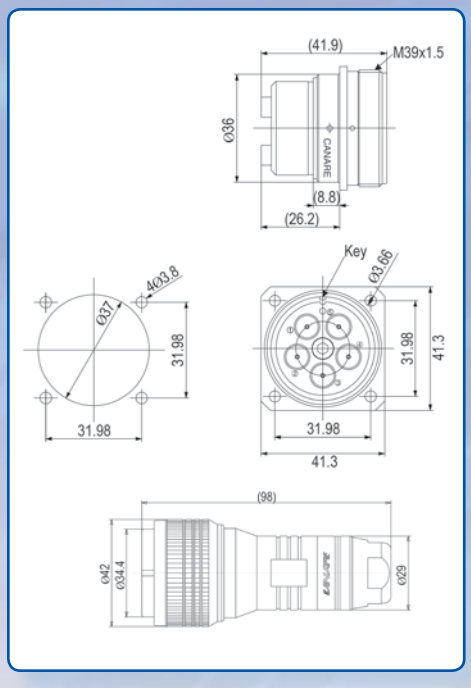


75Ω Multi-Pin Coax Connectors

Applications
- RGB-HV snake systems
- Digital video projectors
- SDI tie lines
- OB vans

Features
1. 75 Ohm impedance
2. Modular snap-lock pins & sockets (5 ea)
3. No soldering required
4. Color-coded channel ID's

Benefits
1. Professional standard
2. Secure connections
3. Easy assembly and repair
4. Makes assembly and connection easier



MCM-V5C3
Plug
V5-3C matching cable
DCM01 dust cap

MCF-V5C3
Receptacle
V5-3C, L-3C2V, 3C-2V matching cable
DCF01 dust cap

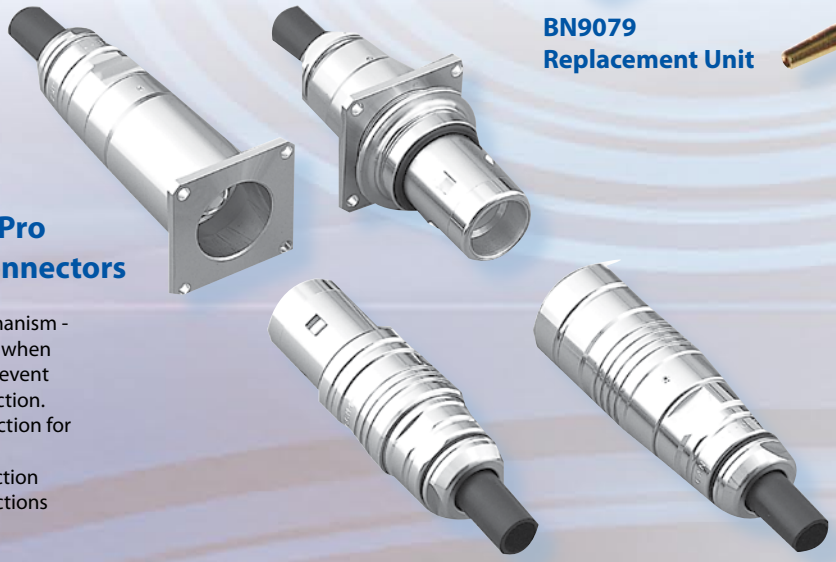
Multi-Pin Coax Connector Accessories

Protect or repair your multi-pin connector with dust caps and replacement units for years of extended service.

BN9078 Replacement connector unit for MCM-V5C3
BN9079 Replacement connector unit for MCF-V5C3
DCF01 Dust cap for MCF-V5C3 connector
DCM01 Dust cap for MCM-V5C3 connector

BN9079
Replacement Unit

75 Ω Tri-K Pro Triaxial Connectors

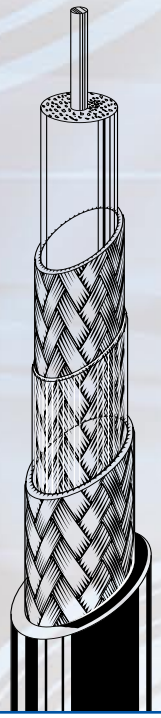


- Push-lock mechanism - no cable stress when detaching to prevent cable disconnection.
- Simple construction for easy assembly
- Sturdy construction
- Detailed instructions included

Model #	Boot or Dust Cap	Description	Applicable Cable	Tools	Retro Fit Kit
CCF4-JK	CB23	Female Cable Mount	L-4CFTX 9267, 1856A, 1857A, VT61859, LVT61859	TC-1 TCD-316C	BN9127
CCM4-PK	CB22	Male Cable Mount			BN9128
CCF4-JKR	DCM02	Female Cable Mount			BN9127
CCM4-PKR	DCM03	Male Cable Mount			BN9128

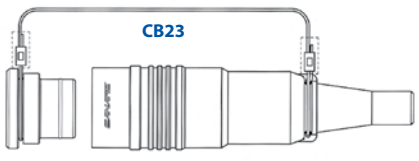
L-4CFTX
Jacket colors:
black, red, green

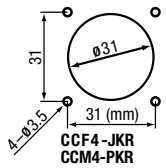
Cable compatibility meets American interconnecting requirements.



75Ω Triax Connectors Nominal Specifications

Model	Nom. Imped. Ohms	Bandwidth VSWR Return Loss	Center Contact / Material Plating	Inner Body Material Plating	Body / Material Plating	Dielectric	Center Contact	Cable Retention lbs. (kgs.)	Insulation resistance at 500V DC	Withstand Voltage	Center Contact resistance	Operating Temp. °F(C)/ Humidity %	Life Cycles
Tri-KPro series 4	75Ω	DC-1.5 GHz ≤1.1 ≥26dB	male=Brass female = Beryllium Copper / Gold	Brass & Phospher Bronze/ Gold	Brass/ Nickel	PTFE & POM	Crimp	>100 (>45)	≥ 5000 MΩ	1500V AC 1 min.	≤10mΩ	-40° to + 185°F -40°C to +85°C 85%	1000 Times





Mounting hole dimension

Model	Stand Length	Weight Stand Length Lbs (Kgs)	Nom. O.D. Inch (mm)	Elastomer Jacket Thickness mil (mm)	Brittle Point °F (°C)	Center Conductor Material AWG	Center Cond. O.D. mil (mm)	Dielectric Insulation 1 Type *	Insul. 1 O.D. Inch (mm)	Shield 1 Materials and Coverage	Dielectric Insulation 2 Type *	Insul. 2 O.D. Inch (mm)	Shield 2 Materials and Coverage	Center Cond. D.C.R. Ω/1000ft (Ω/100m)	Nom. Cap. pF/ft (pF/mt)	Nom. Imped. Ohms	Attenuation at 10MHz dB/100m **
L-4CFTX	200m	141.2 (21.0)	0.36 (9.1)	59.06 (1.5)	-58 (-50)	Annealed Copper 20	3.5 (0.80)	FPE	3.7 (0.146)	AC ≥95%	PE	5.5 (0.217)	AC ≥95%	10.9 (3.6)	16.8 (55.0)	75Ω	2.9

*** Dielectric Strength = 1000 AC / 1min.**
**** For Reference Only.**

75Ω Digital Video Coaxial Cable

L-CFB precision digital video cable, offers the professional Broadcaster a high performance, 100% Sweep Tested, low cost, low loss coax that meets the demands of today's facility migration trends toward Serial Digital Video and HDTV standards.

Applications
- SD-SDI/HD-SDI
- Satellite headends
- Broadband facilities

Features
1. 75 Ohm impedance
2. ≥20dB return loss to 2GHz
3. Solid annealed copper center conductor
4. Tinned copper braid shield, aluminum foil, foam polyethylene dielectric

Benefits
1. Professional standard
2. Superior performance
3. Specifically designed for digital and HDTV facilities
4. Extremely low signal loss

L-2.5CFB
25 AWG
Micro coax type

L-3CFB
22 AWG
Mini coax type

L-4CFB
20 AWG
RG59 type

L-5CFB
18 AWG
RG6 type

L-7CFB
15 AWG
RG11 type

Serial Digital Cable

Serial Digital video signals are transmitted at very high data bit rates and should be handled quite differently than traditional baseband analog video lines. Typical digital frequency platform bandwidths range from 143 MHz for Composite digital video, 270 MHz for Component digital video and 360 MHz for the proposed HDTV rate.

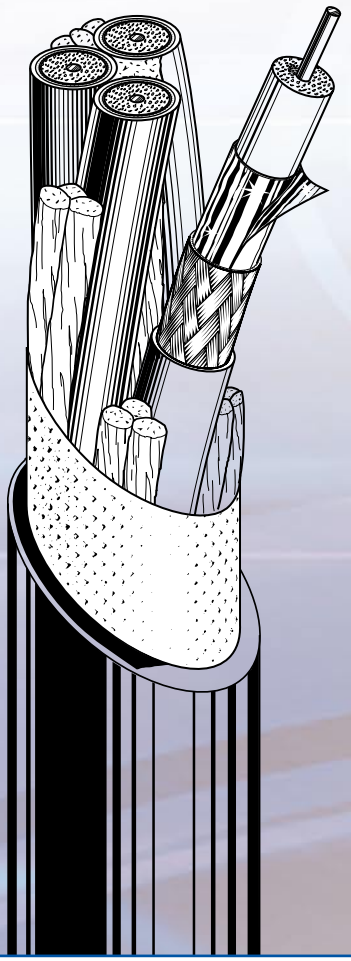
Commonly used 75Ω coaxial cables like RG59 and 8281 are generally acceptable for analog baseband video and may even be used for short runs of digital video transmission. But, in a modern facility system design, where new **SERIAL DIGITAL** equipment installations require long tie lines and multiple I/O's, it is important to consider the 75Ω Coaxial Cable selection along with **"Impedance Matching" BNC Connectors and Patchbays** to maximize the overall electrical length and achieve optimum results.

Mechanical Specifications										Electrical Performance				
Model	**Std. Lng.**	**Wt/Std. Lng. lbs (kgs)**	**Nom O.D. Inch (mm)**	**PVC Jkt Thick Inch (mm)**	**Brittle Point °F °C**	**Cond Mat AWG**	**Insul O.D. Inch (mm)**	**Cond. O.D. Inch (mm)**	**Shield Coverage**	**Cond. D.C.R. Ω/1000ft Ω/100m**	**Shield D.C.R. Ω/1000ft Ω/100m**	**Nom Cap (1KHz) pF/ft pF/m**	**Velocity of Prop.**	**SD Trans Lng@270 Mb/s***
L-2.5CFB	984ft 300m	17 7	0.157 4.0	0.020 0.5	-22 -30	Bare Copper 25	0.094 2.4	0.094 2.4	TAC >92% AL Foil 100%	<28.35 <9.3	<7.3 <2.4	17 55	79%	470 ft min 614 ft max
L-3CFB		29 13	0.217 5.5	0.035 0.9		Bare Copper 22	0.122 3.1	0.122 3.1	TAC >91% AL Foil 100%	<16.8 <5.5	<4.3 <1.4			650 ft min 830 ft max
L-4CFB		33 15	0.240 6.1	0.035 0.9		Bare Copper 20	0.146 3.7	0.146 3.7	TAC >93% AL Foil 100%	<11.0 >3.6	<3.0 <1.0			710 ft min 920 ft max
L-5CFB		49 22	0.303 7.7	0.043 1.1		Bare Copper 18	0.192 4.9	0.192 4.9	TAC >93% AL Foil 100%	<7.0 <2.3	<2.1 <0.7			940 ft min 1210 ft max
L-7CFB		86 39	0.402 10.2	0.039 1.0		Bare Copper 15	0.287 7.3	0.287 7.3	TAC >96% AL Foil 100%	<3.1 <1.0	<1.4 <0.5			1280 ft min 1660 ft max

Foam Polyethylene dielectric insulation. Dielectric strength = 1000V AC / 1min.
Insulation resistance/3Mft = >1000MegaOhms. *For reference only.

Nominal Attenuation Value											
		10 MHz	**67.5 MHz**	**135 MHz**	**270 MHz**	**360 MHz**	**750 MHz**	**1.0 GHz**	**1.5 GHz**	**2 GHz**	**2.4 GHz**
L-2.5CFB	dB/100 ft	1.3	3.5	4.9	7.0	8.1	11.1	12.8	15.7	18.1	19.9
	dB/100 m	4.4	11.4	16.2	22.9	26.4	36.4	42.0	51.5	59.4	65.1
L-3CFB	dB/100 ft	1.0	2.7	3.8	5.4	6.2	8.5	9.8	12.0	13.8	15.2
	dB/100 m	3.4	8.8	12.5	17.7	20.4	27.7	32.0	39.2	45.2	49.6
L-4CFB	dB/100 ft	0.9	2.3	3.3	4.6	5.3	7.7	8.9	10.8	12.5	13.7
	dB/100 m	2.9	7.5	10.7	15.1	17.4	25.1	29.0	35.5	41.0	44.9
L-5CFB	dB/100 ft	0.7	1.7	2.5	3.5	4.0	5.8	7.2	8.9	10.6	11.6
	dB/100 m	2.2	5.7	8.1	11.4	13.2	19.1	23.7	29.0	34.8	38.1
L-7CFB	dB/100 ft	0.5	1.3	1.9	2.7	3.1	4.5	5.2	6.3	7.3	8.0
	dB/100 m	1.7	4.4	6.2	8.8	10.2	14.6	16.9	20.6	23.8	26.1

V4-*CFB
special order



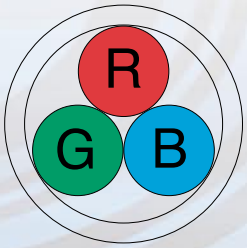
75Ω Multichannel Digital Video Coaxial Cable

V-CFB series cables are specifically designed for DIGITAL and next generation HDTV facilities. Each coaxial channel includes a foam core PE dielectric, solid bare copper center conductor and double foil/braid shield. < 2.2 nano second channel-to-channel differential delay time reduces phase errors in component video setup alignments. Bundled cable helps keep work site neat and clean.

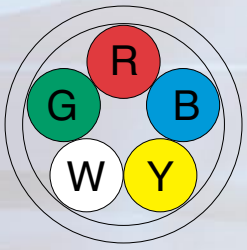
Applications
- SD-SDI/HD-SDI
- Component analog video
- Video walls
- Hi-res video projection
- Super Hi-Res CG / CAD workstations

Features
1. 75 Ohm impedance
2. ≥20dB return loss to 2GHz
3. Solid annealed copper center conductor
4. Tinned copper braid shield, aluminum foil, foam polyethylene dielectric

Benefits
1. Professional standard
2. Superior performance
3. Specifically designed for digital and HDTV facilities
4. Extremely low signal loss



V3-*CFB
Cross Section



V5-*CFB
Cross Section

V*-3CFB
22 AWG
Mini coax type
0.173 inch outside diameter each channel

V*-4CFB
20 AWG
RG59 type
0.197 inch outside diameter each channel

V*-5CFB
18 AWG
RG6 type
0.256 inch outside diameter each channel

Mechanical Specifications												Electrical Performance					
Model	Std. Lng.	# of CH Colors	Wt/Std Lng lbs (kgs)	Nom O.D. Inch (mm)	PVC Jkt Thick Inch (mm)	Brittle Point °F °C	Indv CH O.D. Inch (mm)	Insul O.D. Inch (mm)	Cond-AWG (Qty/mil) X-Sec Area mil²	Cond. O.D. Inch (mm)	Shield Coverage	Cond. D.C.R. Ω/1000ft Ω/100m	Shield D.C.R. Ω/1000ft Ω/100m	Nom. Cap. (1KHz) pF/ft pF/m	Nom. Imp.	CH Diff Delay 100ft (ns)	Velocity of Prop.
V3-3CFB	984ft 300m	3 red, grn, blu	93 42	.453 11.5	.035 .90	-22 -30	.173 4.4	.122 3.1	AC-#22 1/25.6 512	.026 .65	TAC >91% AL Foil 100%	<17.1 <5.6	<4.3 <1.4	17 55	75 Ohms	<2.2	79%
V5-3CFB		5 red, grn, blu, wht, ylw	153 69	.559 14.2	.043 1.10												
V3-4CFB		3 red, grn, blu	120 54	.508 12.9	.039 1.0		.197 5.0	.146 3.7	AC-#20 1/31.5 775	.031 .80	TAC >93% AL Foil 100%	<11.3 >3.7	<3.0 <1.0				
V5-4CFB		5 red, grn, blu, wht, ylw	192 87	.634 16.1	.047 1.2												
V3-5CFB		3 red, grn, blu	192 87	.673 17.1	.051 1.3		.256 6.5	.192 4.9	AC-#18 1/41.3 1341	.041 1.05		<7.1 <2.4	<2.1 <0.7				
V5-5CFB		5 red, grn, blu, wht, ylw	306 139	.831 21.1	.059 1.5												

Foam Polyethylene dielectric insulation. Dielectric strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MegaOhms.

Nominal Attenuation Value											
		10 MHz	67.5 MHz	135 MHz	270 MHz	360 MHz	750 MHz	1.0 GHz	1.3 GHz	1.5 GHz	2 GHz
V-3CFB	dB/100 ft	1.0	2.7	3.8	5.4	6.2	8.5	9.8	11.2	12.0	13.8
	dB/100 m	3.4	8.8	12.5	17.7	20.4	27.7	32.0	36.5	39.2	45.2
V-4CFB	dB/100 ft	0.9	2.3	3.3	4.6	5.3	7.7	8.9	11.2	12.0	13.8
	dB/100 m	2.9	7.5	10.7	15.1	17.4	25.1	29.0	36.5	39.2	45.2
V-5CFB	dB/100 ft	0.7	1.7	2.5	3.5	4.0	5.8	7.2	8.2	8.9	10.6
	dB/100 m	2.2	5.7	8.1	11.4	13.2	19.1	23.7	27.0	29.0	34.8

75Ω Video Coaxial Cable

LV-61S

Applications
- Broadcast transmission
- Digital and analog
- ENG/EFP
- Inter-rack wiring

Features
1. 75 Ohm impedance
2. ≥20dB return loss to 2GHz
3. Highly flexible
4. Copper braid shield, solid polyethylene dielectric

Benefits
1. Professional standard
2. Superior performance
3. Long-lasting reliability
4. Excellent signal protection

L-3C2VS
25 AWG
0.217 inch outside diameter
Ideal for short run inter-rack wiring
Available in BLK, BLU, GRN, RED

LV-61S
Top selling coax cable
24 AWG
RG59 type
0.240 inch outside diameter
Available in
BLK, BLU, BRN, GRY, GRN,
ORN, PPL, RED, WHT, YLW

LV-77S
22 AWG
8281F type
0.303 inch outside diameter
Double shielded for longer runs
Available in BLK, BLU, BRN, GRY, GRN,
ORN, PPL, RED, WHT, YLW

Mechanical Specifications										Electrical Performance				
Model	Std. Lng.	Wt/Std. Lng. lbs (kgs)	Nom O.D. Inch (mm)	PVC Jkt Thick Inch (mm)	Brittle Point °F °C	Cond Mat AWG (Qty/mil)	Cond. O.D. Inch (mm)	Insul O.D. Inch (mm)	Shield Material Coverage	Cond. D.C.R. Ω/1000ft Ω/100m	Shield D.C.R. Ω/1000ft Ω/100m	Nom Cap (1KHz) pF/ft pF/m	Velocity of Prop.	SD Trans Lng@270 Mb/s*
L-3C2VS	656ft 200m	20 9.1	0.217 5.5	0.039 1.0	-22 -30	AC-#25 7/7.09	0.021 0.54	0.122 3.10	AC >94%	<32.1 <10.5	<5.8 <1.9	21 67	75 Ohms	66%
LV-61S	500ft 153m	19 8.6	0.240 6.1	0.039 1.0	-22 -30	AC-#24 7/7.88	0.024 0.60	0.142 3.60	AC >95%	<25.9 <8.5	<4.0 <1.3	21 67	75 Ohms	66%
LV-77S	500ft 153m	32 14.5	0.303 7.7	0.035 0.9	-22 -30	AC-#22 7/10.24	0.031 0.78	0.189 4.80	AC >92% (inner) >95% (outer)	<15.3 <5.0	<1.8 <0.6	21 67	75 Ohms	66%

Polyethylene dielectric insulation. Dielectric strength = 100V AC / 1min. Insulation resistance/3Mft = >1000MegaOhms.

Nominal Attenuation Value											
		10 MHz	67.5 MHz	100 MHz	143 MHz	220 MHz	360 MHz	440 MHz	750 MHz	900 MHz	1.0 GHz
L-3C2VS	dB/100 ft	1.5	3.8	4.6	5.6	6.9	8.8	9.7	12.7	13.9	14.7
	dB/100 m	4.8	12.5	15.2	18.2	22.5	28.8	31.8	41.6	45.5	48.0
LV-61S	dB/100 ft	1.3	3.3	4.1	4.9	6.0	7.7	8.5	11.1	12.2	12.8
	dB/100 m	4.2	10.9	13.3	15.9	19.7	25.2	27.9	36.4	39.8	42.0
LV-77S	dB/100 ft	1.0	2.7	3.3	3.9	4.9	6.2	6.9	9.0	9.9	10.4
	dB/100 m	3.4	8.8	10.8	12.9	15.9	20.4	22.6	29.4	32.3	34.0

75Ω Multichannel Video Coaxial Cable

Applications
- Component analog video
- Video walls
- Video projectors
- Studio tie lines
- CG workstations

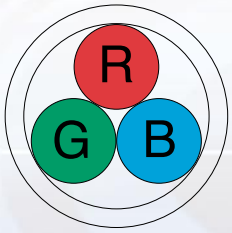
Features
1. 75 Ohm impedance
2. ≥20dB return loss to 2GHz
3. Stranded bare copper center conductor
4. Copper braid shield, polyethylene dielectric

Benefits
1. Professional standard
2. Superior performance
3. Excellent flexibility
4. Low signal loss

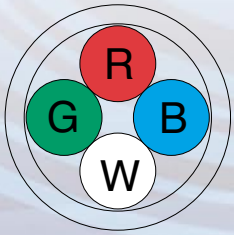
V*-1.5C
31 AWG
Micro coax type
0.102 inch outside diameter each channel

V*-3C
25 AWG
RG59 type
0.173 inch outside diameter each channel

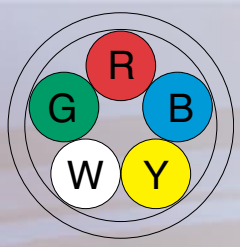
V*-5C
22 AWG
8281F type
0.237 inch outside diameter each channel



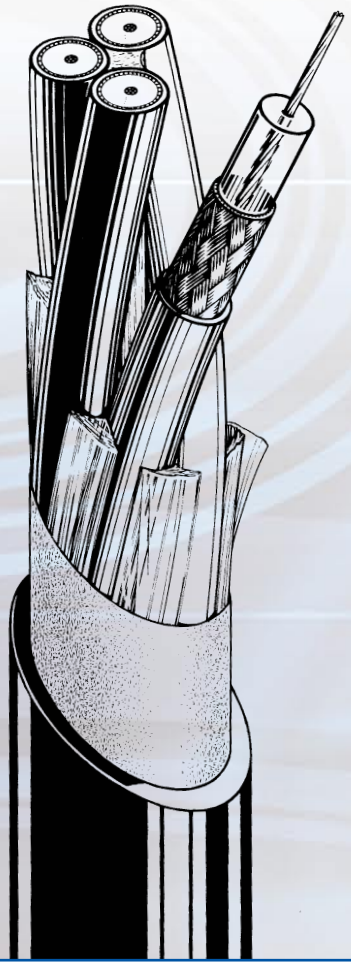
V3-*C Cross Section



V4-*C Cross Section



V5-*C Cross Section



MECHANICAL SPECIFICATIONS													ELECTRICAL PERFORMANCE						
Model	Std. Lng.	Number of Channels / colors	Wgt. Stand. Lng. lbs/ (kgs)	Nom. O.D. inch (mm)	PVC Jacket Thick. inch (mm)	Brittle Point °F (°C)	Indv. Chan. O.D. inch (mm)	Insul. Type *	Insul. O.D. inch (mm)	Cond.- AWG (Qty./mil.) Cross Sec. Area	Cond. O.D. inch (mm)	Shield Coverage	Cond. D.C.R. Ω/1000ft (Ω/100m)	Shield D.C.R. Ω/1000ft (Ω/100m)	Nom. Cap. pF/ft (pF/m)	Nom. Imp.	Nom. Attn. 10MHz dB/1000ft (dB/100m)	Chan. Diff. Delay 100ft (nS)	Velocity of Prop.
V3-1.5C	328ft 100m	3 RED, GRN BLUE	16/7	.291 7.4	.032 0.8	-22 -30	.102 2.6	PE	.061 1.55	AC–#31 7/3.5	.011 .27	>94%	<129.2 <42.4	<10.1 <3.3	21 67	75Ω	29.3 9.6	<2.2	66%
V4-1.5C		4 RED, GRN BLUE, WHT	21/10	.331 8.4	.039 1.0														
V5-1.5C		5 RED, GRN BLUE, WHT YEL	24/11	.362 9.2	.039 1.0														
V3-3C	328ft 100m 656ft 200M	3 RED, GRN BLUE	33/15 66/30	.453 11.5	.036 0.9	-22 -30	.173 4.4	PE	.122 3.1	AC–#25 7/7.09	.021 0.54	>97%	<32.1 <10.5	<3.7 <1.1	21 67	75Ω	15.0 4.9	<2.2	66%
V4-3C		4 RED, GRN BLUE, WHT	44/20 88/40	.512 13.0	.043 1.1														
V5-3C		5 RED, GRN BLUE, WHT YEL	53/24 106/48	.559 14.2	.043 1.1														
V3-5C	328ft 100m 656ft 200m	3 RED, GRN BLUE	51/23 102/46	.611 15.5	.047 1.2	-22 -30	.237 6.0	PE	.189 4.8	AC–#22 7/10.24	.031 0.78	>94%	<15.5 <5.1	<3.7 <1.2	21 67	75Ω	10.0 3.4	<2.2	66%
V4-5C		4 RED, GRN BLUE, WHT	66/30 132/60	.674 17.1	.047 1.2														
V5-5C		5 RED, GRN BLUE, WHT YEL	84/38 168/76	.756 19.2	.055 1.4														

*** Dielectric Strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MΩ.**

Nominal Attenuation Value

		10 MHz	67.5 MHz	100 MHz	143 MHz	220 MHz	360 MHz	440 MHz	750 MHz	900 MHz	1.0 GHz
V-1.5C	dB/100 ft	2.9	7.6	9.3	11.1	13.7	17.6	19.5	25.4	27.8	29.3
	dB/100 m	9.6	24.9	30.4	36.3	45.0	57.6	63.7	83.1	91.1	96.0
V-3C	dB/100 ft	1.5	3.8	4.6	5.6	6.9	8.8	9.7	12.7	13.9	14.7
	dB/100 m	4.8	12.5	15.2	18.2	22.5	28.8	31.8	41.6	45.5	48.0
V-5C	dB/100 ft	1.0	2.7	3.3	3.9	4.9	6.2	6.9	9.0	9.9	10.4
	dB/100 m	3.4	8.8	10.8	12.9	15.9	20.4	22.6	29.4	32.3	34.0

The Star Quad Story

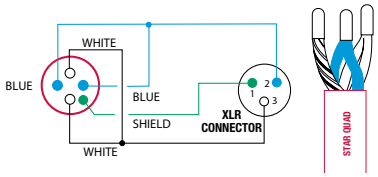
Canare Star Quad obtains its name from the 4-conductor style construction that minimizes the "loop area" between twists of the conductors. This "double balanced" pairing, reduces susceptibility to electromagnetically induced noise. The improvement in noise rejection is so noticeable that even SCR dimmer noise (stage lighting consoles) is reduced to less than 1/10 the level found in other 2-conductor microphone cables.

Canare Star Quad is designed for use with microphones but is also excellent for all line-level signals (e.g. mixer to power amps). The 4-conductor Star Quad arrangement cancels electromagnetically induced noise from

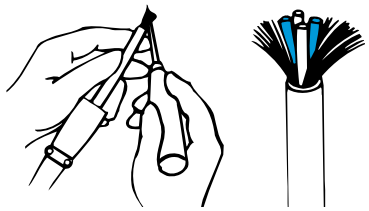
SCR dimmer packs, fluorescent lighting ballasts and AC power transformers. Handling noise is prevented by use of cotton filler material. Excellent frequency response is maintained due to special irradiated polyethylene insulation which provides a low capacitance dielectric.

Canare Star Quad cable is super flexible. We use large numbers of thin wire strands in the copper conductors and overall braided shield. We extrude a special compound PVC outer jacket that remains pliant at extremely low temperatures with no wait between cold shipping and installation.

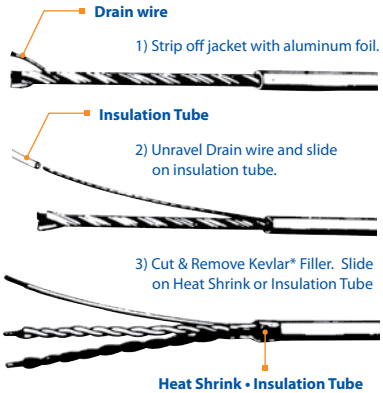
In order to maximize noise rejection, Star Quad must be properly wired to the XLR-3 connector (or terminal block).



Because the shield density on Canare Cable is very high, it is somewhat difficult to push back the braid and pull the inner conductors through. Instead, we strongly recommend unbraiding the shield by "combing" it out with a pointed tool, beginning at the end of the cable.



Terminating L-4E6S and L-435C (Braid Shield)

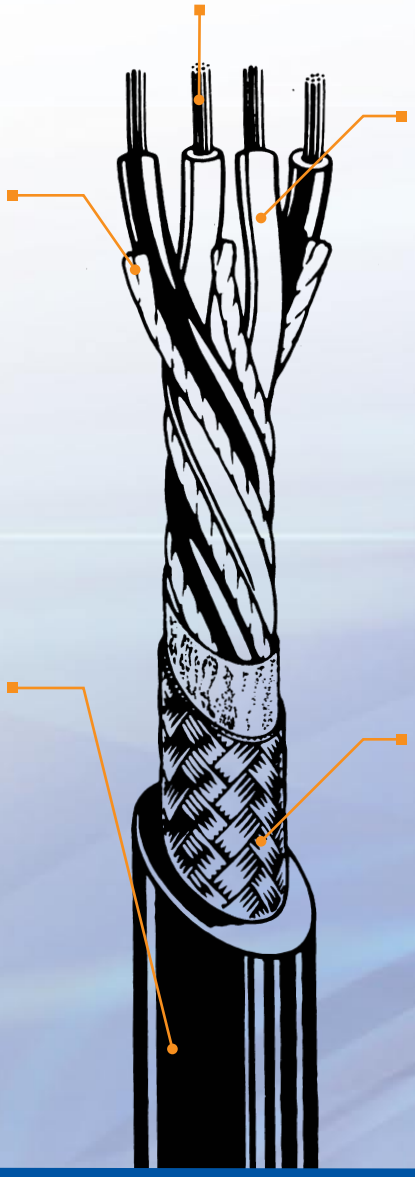


* To remove Kevlar, grasp it together with the other filler, then cut with a sharp scissors in one clean motion.

Terminating L-4E5AT and L-4E6AT (Foil Shield)

Conductors

All Canare microphone cables utilize high-conductivity, annealed copper wires, stranded to form flexible conductors and shields.



Filler

Canare selects cotton, jute and/or exotic polyester fibers for packing. These fillers prevent stretching and twisting of the inner conductors which can cause noise. Additionally, paper, Mylar and/or cloth tape, bind conductors so cables hold their shape.

Jacket

Canare uses specially formulated PVC compounds that combine to make a tough, strong and durable outer jacket with excellent flexibility. These qualities are retained even at very low temperatures, so Canare Cables will not stiffen or crack. Available in 10 attractive colors.

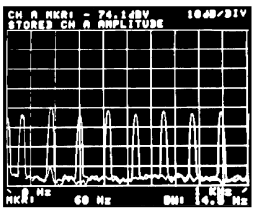
Insulation

Canare Cables utilize special polymer compounds that reduce capacitive "R-C" filter roll off within the cable and prevent high voltage breakdown. By irradiating the material, the polymer becomes extensively cross-linked, chemically inert, water resistant, and remains flexible at very low temperatures. Irradiated PE is superior to ordinary polyethylene because it is heat resistant. Canare insulation will not shrink back, flow or char when soldering, so you save initial and rework time, and achieve more reliable connections.

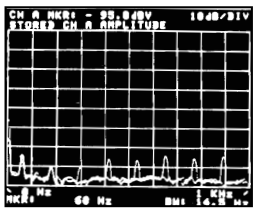
Shield

Canare does not use spiral (serve) shields because they can spread apart with use. Our shields are more difficult to manufacture because we use many thin copper strands in a densely woven braid. The shields are super flexible and offer outstanding noise rejection.

Technical Note



Typical 3 Conductor Mic Cable



Canare Star Quad Cable

The signal generated by a microphone during quiet periods can be very low in level, -70dB to -120dB (0.3 millivolts to 1 microvolt). The cable that must carry this signal to the mixer is very sensitive to Electromagnetic Interference (EMI), Radio Frequency Interference (RFI) and electrostatic coupling of hum and noise. Mechanical vibration, bending, flexing (handling noise) and ambient temperature fluctuations can cause detrimental capacitance changes within the microphone cable. Canare Cables are carefully designed and manufactured to very close tolerances using the highest quality materials available so that low level microphone circuits will not be affected by these outside disturbances. The difference is clearly measurable and audible.

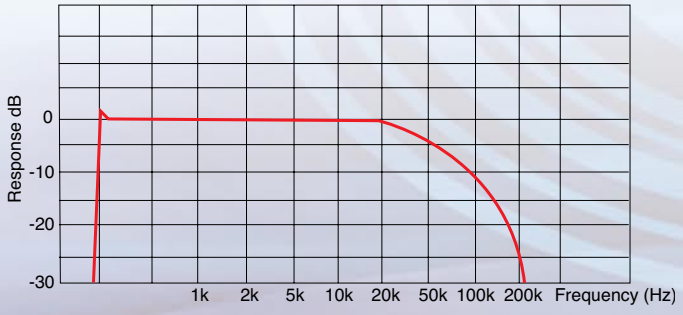
For a more detailed illustration, please request our Technical White Paper:

"Evaluating Microphone Cable Performance and Specifications."

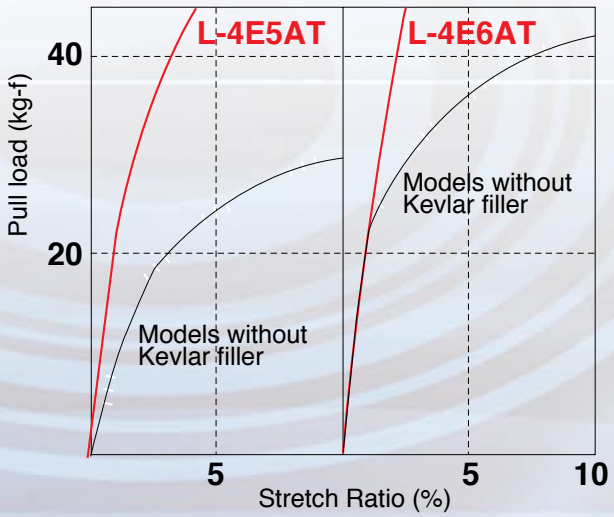
Star Quad Micro Phone & Audio Line Cable

Applications
- microphones
- audio rack wiring
- pa systems
- audio patch cords

Features
Copper Braid or Aluminum Foil Shields
Cross-Linked PE Insulation
Reduced Handling Noise
Rejects EMI and RFI
10 Matte Color Jacket Selections
Flexible in Extreme Cold Weather



Frequency Characteristics for L-4E6S (100m)



Cable Pull Strength

For Portable Applications Braided Copper Shield

L-4E6S
The premier Star Quad cable for all hand held microphone applications. Flexible, satin smooth to the touch and extra-strong, this standard diameter, 21 AWG cable fits perfectly in all XLR-type audio connectors. Forty separate strands in each conductor eliminate breakage due to flexing. Available in 10 beautiful matte finish color jackets.

L-4E5C
The premier Star Quad cable for all hand held microphone applications. Flexible, satin smooth to the touch and extra-strong, this standard diameter, 21 AWG cable fits perfectly in all XLR-type audio connectors. Forty separate strands in each conductor eliminate breakage due to flexing. Available in 10 beautiful matte finish color jackets.

L-4E6AT
A 20 AWG Star Quad cable specifically designed for point to point wiring in fixed installations. Aluminum Foil Shielding provides 100% coverage. Slick, easy to pull PVC Jacket. Cable internally reinforced with Dupont Kevlar 29 filler, stronger than steel, can resist stretching or kinking of wires when pulled through conduit bends. Foil shield & drain wire strips easily for quick assembly work (1/3 the assembly time of braided shields). Irradiated PE conductor insulation resists solder iron meltdown.

L-4E5AT
A 22 AWG narrow profile Star Quad audio cable with the same shield, drain wire and Kevlar construction style as L-4E6AT.

For Permanent Installations Foil Shield with Drain Wire

Colors Available

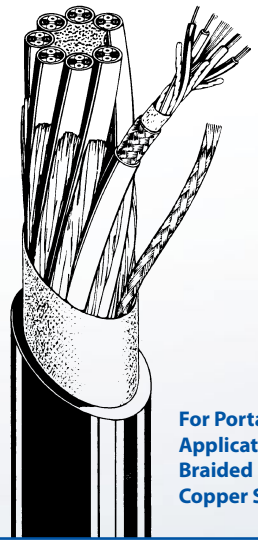
Model	BLK	BLU	BRN	GRY	GRN	ORN	PPL	RED	WHT	YEL
L-4E6S	■	■	■	■	■	■	■	■	□	■
L-4EC	■	●			●	●		●	○	●
L-4E6AT	●			■						
L-4E6AT	■			■						

□ = STANDARD STOCK | ○ = SPECIAL ORDER

	Mechanical Specifications										Electrical Performance / Quad						
Model	Standard Length	Wgt. Stand. Length lbs (kgs)	Nom. O.D. inch (mm)	Jacket Nom. Thick. inch (mm)	Brittle Point °F (°C)	No. of Cond.	Insul. Type * Thick. mil	Cond - AWG (Qty./mil) Cross Sec. Area mil.² **Quad AWG	Pitch Twist Quad inch (mm)	Shield Coverage	Cond. D.C.R. Ω/1000ft (Ω/100m)	Shield D.C.R. Ω/1000ft (Ω/100m)	Nom. Cap. *** pF/ft (pF/m)	Nom. Cap. † pF/ft (pF/m)	Nom. Imp. (Ω)	Nom. Atten. V/1000ft (V/100m)	Group Delay Time nS/ft (nS/m)
L-4E6S	656 ft 200m 1000 ft 305m	24 11 35 16	.236 6.00	PVC .044 1.12	-56 -49	4 2 Blue 2 Wht	IPE 15.7	AC - #24 40/3.15 310 #21	.79 20	>95% TAC Braid	<29.9 <9.8	<9.1 <3.0	46 150	57 185	44	0.9 0.3	1.80 5.9
L-4E5C	656ft 200m	18 8	.189 4.80	PVC .032 0.80	-56 -49	4 2 Blue 2 Wht	IPE 11.8	AC - #26 30/3.15 232.5 #23	.71 18	>96% TAC Braid	<39.7 <13.0	<7.6 <2.5	50 162	61 200	40	0.9 0.3	1.71 5.6
L-4E5AT	656ft 200m	16 7	.197 5.00	PVC .039 1.03	-22 -30	4 2 Blue 2 Wht	IPE 12.6	AC - #25 16/4.73 279 #22	.83 21	100% Alum. Tape ‡‡	<32.7 <10.7	—	50 164	68 222	37	0.9 0.3	1.71 5.6
L-4E6AT	656ft 200m	23 10	.244 6.20	PVC .047 1.20	-22 -30	4 2 Blue 2 Wht	IPE 15.7	AC - #23 12/7.09 481 #20	.99 25	100% Alum. Tape ‡	<19.4 <6.4	—	46 150	64 210	37	0.6 0.2	1.68 5.5

*Dielectric Strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MΩ. ** Effective AWG of combined twin conductors.
*** Capacitance between twin Blue and twin White Conductors. † Capacitance between conductors to shield. ‡ Drain Wire #23 AWG. ‡‡ Drain Wire #25 AWG.

Multi-Channel Star Quad Audio Snake Cable



For Portable Applications Braided Copper Shield

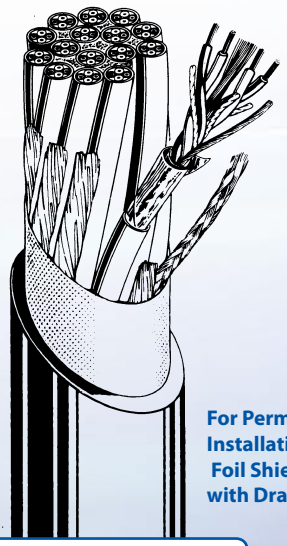
L-4E3-P

A Multichannel Star Quad Snake cable with braided shields. Each channel is completely isolated and consists of 4 conductors surrounded by an overall braided shield encased in a color coded striped PVC jacket. Fine conductor stranding for flexibility, facilitates roll up and easy payout. The four conductor design provides superior EMI and RFI noise rejection in problem areas on stage. Excellent crosstalk characteristics allow vastly different signals (-120dB mic, +4dB line, +10dB time code levels) to be used in adjacent channels.

Note: *All Canare DT12 Snake assemblies are built using our road-worthy and flexible L-4E3-12P cable.*

L-4E4-AT

A 100% shielded Canare Star Quad Multichannel Snake cable, designed for all fixed audio installations. Each four conductor channel is completely isolated and contains Kevlar 29 for tensile pulling strength. Individual foil shield, drain wire and color banded PVC channel jacket strips easily for quick on-site termination.



For Permanent Installations Foil Shield with Drain Wire

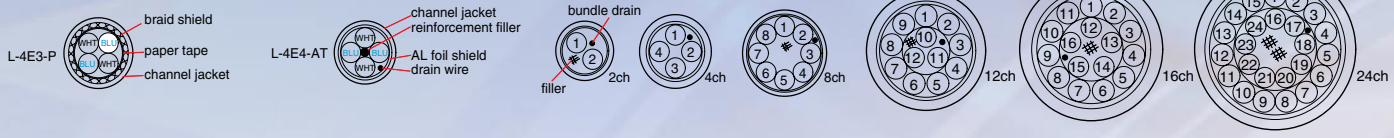
Mechanical Specifications

Model	Standard Length	No. of Quad Channels	Weight 328ft 100m lbs/ (kgs)	Nom. O.D. inch	PVC Jacket Nom. Thick. inch/ (mm)	Brittle Point °F (°C)	Number of Cond. (4 per Channel)	Channel O.D. Inch (mm)	Channel Jacket Nom. Thick. mil	Insul. Type * Thick mil	Cond - AWG (Qty./mil) Cross Sec. Area (mil.²) ** Quad AWG	Pitch Twist Quad Inch (mm)	Shield Coverage Channel Drain Wire (Bundle Drain Wire)
L-4E3-2P		2	18/8	.350	.032/0.8		8				AC-#28		
L-4E3-4P	328ft	4	31/14	.429	.043/1.1	-22 -30	16				7/4.72		AC Braid
L-4E3-8P	100m	8	57/26	.602	.051/1.3		32	.134	PVC	IPE	124	<0.63	>93%
L-4E3-12P	656ft	12	79/36	.685	.051/1.3		48	3.4	11.8	10.6	#25	<16	– (20AWG)
L-4E3-16P	200m	16	101/46	.744	.047/1.2	-22 -30	64						
L-4E3-24P		24	154/70	.945	.059/1.5		96						
L-4E4-2AT		2	18/8	.413	.051/1.3		8				AC-#25		
L-4E4-4AT	328ft	4	40/18	.484	.055/1.4		16				16/4.73		AL Foil
L-4E4-8AT	100m	8	73/33	.665	.059/1.5	-22 -30	32	.146	PVC	IPE	279	<0.83	100%
L-4E4-12AT	656ft	12	95/43	.748	.059/1.5		48	3.7	11.8	12.6	#22	<21	23AWG (16AWG)
L-4E4-16AT	200m	16	117/53	.827	.059/1.5		64						
L-4E4-24AT		24	152/69	1.031	.067/1.7		96						

*** Dielectric Strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MΩ.**

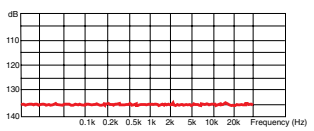
**** Effective AWG of combined twin conductors.**

Cross Section Individual Star Quad Channel

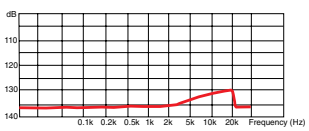


Electrical Performance / Quad

Model	Cond. D.C.R. (Ω/1000ft) (Ω/100m)	Shield D.C.R. (Ω/1000ft) (Ω/100m)	Nom. Cap. * (pF/ft) (pF/m)	Nom. Cap. ** (pF/ft) (pF/m)	Nom. Imp. (Ω)	Nom. Atten. (V/1000ft) (V/100m)	Group Delay Time (nS/ft) (nS/m)	X-Talk Input 3.31V (mV/1000ft) (mV/100m)
L-4E3 SERIES	<75.8 <24.9	<10.3 <3.4	44 145	52 170	43	1.8 0.6	1.8 5.8	<3 <1
L-4E4 SERIES	<32.9 <10.8	—	50 164	68 222	—	—	—	—



L-4E4-4AT Crosstalk Characteristics (100m)



L-4E3-P Crosstalk Characteristics (100m)

*** Capacitance between twin Blue and twin White Conductors.**
**** Capacitance between conductors to shield.**

CHANNEL COLOR CODE • SPIRAL MARKERS ON GRAY JACKET

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
RED	BLU	YEL	GRN	BRN	BARE	BLK BLU	BLK YEL	BLK GRN	BLK BRN	BLK	ORN BLU	ORN YEL	ORN GRN	ORN BRN	ORN	PNK BLU	PNK YEL	PNK GRN	PNK BRN	PNK	WHT BLU	WHT YEL	WHT GRN

Microphone & Audio Hook-Up Cable

L-2T2S

Our standard diameter 2-conductor microphone cable for general purpose audio applications. The high density braided copper shield and two inner conductors (composed of 60 thin strands of copper wire), allow for maximum flexibility and reduced handling noise. A special compound PVC outer jacket resists cracking and tears even in sub-zero environments.

Colors Available

Model	BLK	BLU	GRY	ORN	RED	YEL
L-2T2S	■	●	●	●	●	
L-2E5	■	●			●	
L-2B2AT	●		■			

☐ = STANDARD STOCK | ○ = SPECIAL ORDER

L-2E5

Miniature version of L-2T2S when small size and light weight is a consideration. Useful for patch cables, hidden lavaliere microphones or any balanced audio installation.

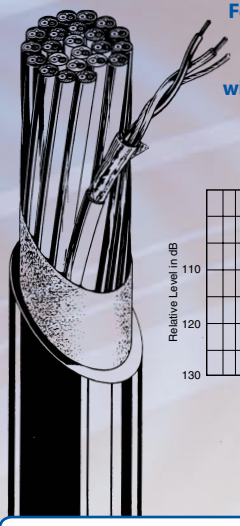
L-2B2AT

Canare's thinnest profile audio hookup wire. Amazingly flexible, with 100% foil shield, drain wire and PVC jacket that strips easily for rapid assembly. Suitable for large cable harness bundles, mixing consoles, tape machines and inter-rack wiring.

Mechanical Specifications											Electrical Performance						
Model	Standard Length	Wgt. Stand. Lngth. lbs (kgs)	Nom. O.D. inch (mm)	PVC Jacket Nom. Thick. inch (mm)	Brittle Point °F (°C)	No. of Cond.	Insul. Type * Thick mil	Cond - AWG (Qty./mil) Cross Sec. Area (mil.²)	Pitch Twist Quad inch (mm)	Shield Coverage	Cond. D.C.R. Ω/1000ft (Ω/100m)	Shield D.C.R. Ω/1000ft (Ω/100m)	Nom. Cap. ** pF/ft (pF/m)	Nom Cap *** pF/ft (pF/m)	Nom. Imp. Ω	Nom. Atten. V/1000ft (V/100m)	Group Delay Time mV/1000ft (mV/100m)
L-2T2S	656ft 200m	20 9	.236 6.00	.039 1.0	-56 -49	2	IPE 19.7	AC-#23 60/3.15 465	<0.79 <20	>94% TAC Braid	<19.8 <6.5	<9.4 <3.1	22 70	33 106	88	0.9 0.3	1.83 6.00
L-2E5	656ft 200m	20.2 9	.181 4.6	.035 0.9	-56 -49	2	IPE	AC-#26 30/3.15 322.5	<0.79	>96.7%	<38.7 <12.7	<6.7 <2.2	—	—	—	—	—
L-2B2AT	656ft 200m 1640ft 500m	6 3 15 7	.126 3.2	.012 0.3	-13 -25	2	IPE 12.6	AC-#25 16/4.73 279	<0.99 <25	100% Alum. Tape ****	<31.9 <10.5	— —	23 73	37 120	—	—	—

* Dielectric Strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MΩ. ** Capacitance between Conductors.
*** Capacitance between conductors to shield. **** Drain Wire #22 AWG.

Multi-Channel Audio Snake Cable

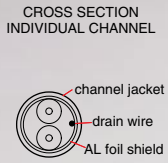


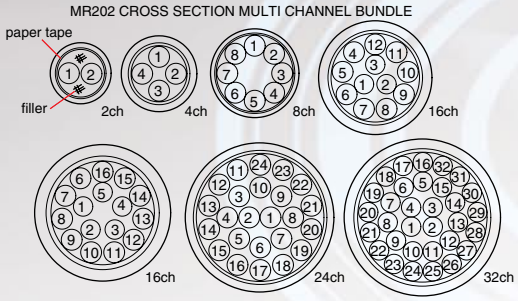
For Permanent Installations Foil Shield with Drain Wire

MR202-AT

A practical, 100% foil shielded multichannel audio snake cable for general purpose studio applications. Each individually isolated channel consists of 2 twisted conductors under an easy-to-strip PVC jacket extruded over a foil shield and drain wire. The color striped PVC channel jacket alleviates the need to use costly shrink tubing. Surprisingly flexible, this multichannel cable is perfect for control room layout and interfacing between equipment racks, audio patchbays, mixers and tape decks.

MR202-24AT Crosstalk





MECHANICAL SPECIFICATIONS														ELECTRICAL PERFORMANCE		
Model	Standard Length	No. of Chan. (Pairs)	Wgt. Stand. Length lbs/ (kgs)	Nom. O.D. inch	PVC Jacket Thickness inch/ (mm)	No. of Cond. (2 Per Chan)	Chan. O.D. Inch (mm)	Chan. Jack. Thick mil	Brittle. Point °F (°C)	Insulation Type * Thick mil	Cond - AWG (Qty./mil) Cross Sec. Area (mil.²)	Pitch of Pairs inch (mm.)	Shield Coverage	Cond. D.C.R. Ω/1000ft (Ω/100m)	Nom. Cap. ** pF/ft (pF/m)	Nom. Cap. *** pF/ft (pF/m)
MR202-2AT		2	12/5	.264	.032/0.8	4										
MR202-4AT		4	17/8	.299	.032/0.8	8							100%			
MR202-8AT	328ft	8	35/16	.433	.039/1.0	16	.106	11.8	-4	IPE	AC - #25	<.99	Alum.	<32.5	23.2	43.3
MR202-12AT	100m	12	46/21	.500	.047/1.2	24	2.7		-20		7/7.09	<25	Tape	<10.7	76	142
MR202-16AT		16	57/26	.551	.047/1.2	32				9.1	279		†			
MR202-24AT		24	86/39	.685	.051/1.3	48										
MR202-32AT		32	88/40	.752	.059/1.5	64										

* Dielectric Strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MΩ. ** Capacitance between Conductors. *** Capacitance between conductors to shield.
† Drain Wire #25 AWG.

mr202-at Channel color Code

Unit No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Insulator Color*	BRN	RED	ORN	YEL	GRN	BLU	PPL	GRY	WHT	BLK	BRN	RED	ORN	YEL	GRN	BLU	PPL	GRY	WHT	BLK	BRN	RED	ORN	YEL	GRN	BLU	PPL	GRY	WHT	BLK	BRN	RED
Spiral Marker	BRN	RED	ORN	YEL	GRN	BLU	PPL	GRY	WHT	BLK		RED	ORN	YEL	GRN	BLU	PPL	GRY	WHT	BLK	BRN			ORN	YEL	GRN	BLU	PPL	GRY	WHT	BLK	BRN	RED
Inner Jacket Color	BLK									BRN										RED											ORG		

NOTE: Identify the conductor by Spiral Marker and color of Inner Jacket. *Insulator in the unit: one is same color as Spiral Marker and the other is clear.

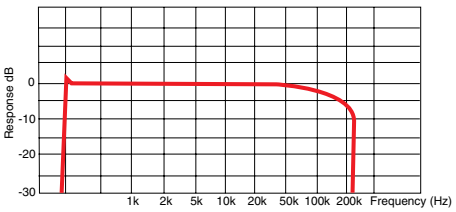
Guitar / Keyboard Instrument Cable

Applications
- Electronic instruments
- hi-fi interconnects
- test probes
- Audio Patch Cords
- amp to cabinet leads

Features
Stays Flexible even in Sub-Zero Weather
Oxygen Free Copper Conductor & Shield
Reduced Microphonic Handling Noise
Low Capacitance & Resistance

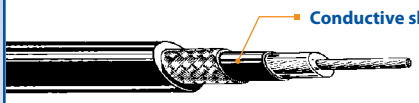
GS-6
A specially designed Oxygen Free Copper 18 AWG cable for connecting Guitar/Bass or Keyboards to amps, mixers, effects pedals and all outboard signal processing gear. Low capacitance and low series resistance provides improved frequency response (flat to 50kHz). A bright, ringing characteristic sound is preserved, even when using HI-Z guitar pickups with long cable runs. The proprietary double Carbon/Braid Copper shield construction eliminates microphonic handling noise, especially on stage where amps are often set at maximum volume levels. Also highly recommended for Amp Head to Speaker Cabinet leads.

GS-4
Miniature size 22 AWG version of GS-6. Good choice for short run unbalanced audio interconnects and general instrumentation cables.



GS-6 Frequency Characteristics (100m, 100Ω > 1MΩ load)

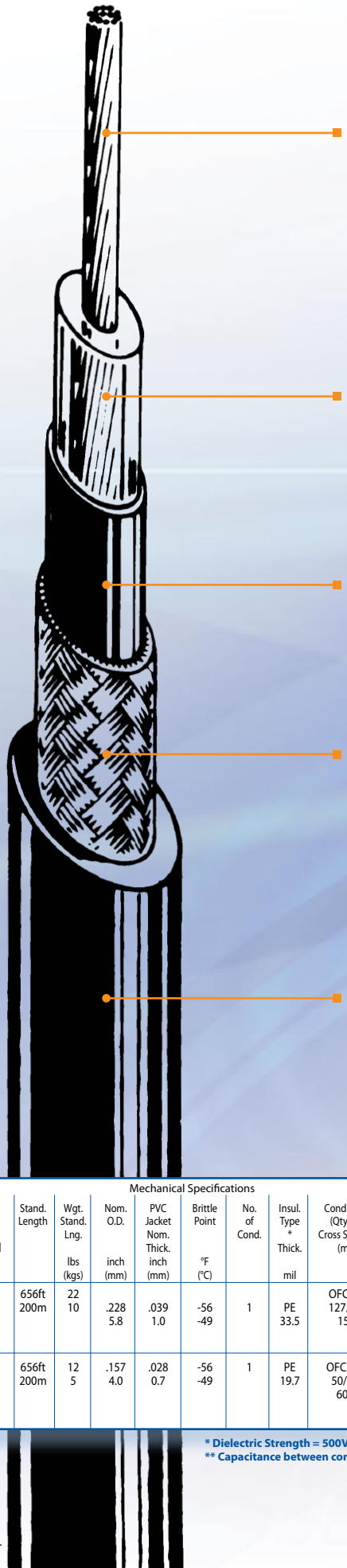
Important Wiring Note:
Canare GS-4 and GS-6 utilize a specially designed Conductive Carbon Plastic Shield to protect against undesirable microphonic handling noise. This inner sleeve can cause a short circuit if allowed to come in contact with the OFC center conductor. Please be very careful when stripping cable and remove this material from exposed insulation before soldering.



Colors Available

Model	BLK	BLU	ORN	RED	YEL
L-2T2S	■	■	●	■	●
L-2E5	■	●		●	●

□ = STANDARD STOCK | ○ = SPECIAL ORDER



Conductor
Extra thick 18 AWG Center Conductor composed of 127 strands of Oxygen Free Copper, resists nicking and corrosion at solder joint. This robust Conductor has been specially designed to cut power loss on Hi-Z guitar pick-ups and all hot musical instrument signals.

Insulation
Excellent frequency response results from using a special polyethylene dielectric that offers low capacitance and low series resistance.

Special Inner Shield
We use a proprietary conductive polyvinyl carbon sheath that helps dissipate microphonic handling noise from high gain stage amplification.

Outer Shield
Canare uses a special high density braid that is tightly woven with many thin strands of Oxygen Free Copper. Our GS-Series professional level instrument cable will withstand severe flexing, nightly stage workouts & heavy duty studio use.

Jacket
Tough but flexible PVC jacket resists tears and cracks. Stays pliant and will not stiffen, even at sub-zero temperatures. Available in a variety of smooth, satin matte finishes.

	Mechanical Specifications									Electrical Performance		
Model	Stand. Length	Wgt. Stand. Lng. lbs (kgs)	Nom. O.D. inch (mm)	PVC Jacket Nom. Thick. inch (mm)	Brittle Point °F (°C)	No. of Cond.	Insul. Type * Thick. mil	Cond - AWG (Qty./mil) Cross Sec. Area (mil.²)	Dual Shield Coverage	Chan. D.C.R. Ω/1000ft (Ω/100m)	Shield D.C.R. Ω/1000ft (Ω/100m)	Nom Cap ** pF/ft at 1KHz (pF/m at 1KHz)
GS-6	656ft 200m	22 10	.228 5.8	.039 1.0	-56 -49	1	PE 33.5	OFC-#18 127/3.94 1550	OFC>92% Braid + Carbon Sleeve	<5.6 <1.8	<7.6 <2.5	49.0 160
GS-4	656ft 200m	12 5	.157 4.0	.028 0.7	-56 -49	1	PE 19.7	OFC - #22 50/3.94 604.5	OFC >93% Braid Carbon Sleeve	<14.7 <4.8	<9.8 <3.2	47.0 154

*** Dielectric Strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MΩ.**
**** Capacitance between conductor to shield.**

Star Quad Speaker Cable

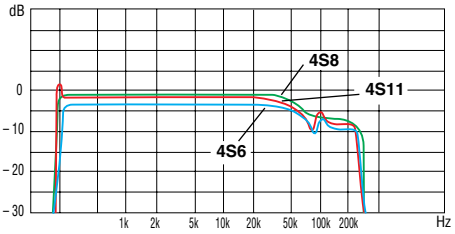
Applications
- pa systems
- hi-fi speakers
- dc power lines

Features
Super Flexibility, even in Sub-Zero Weather
Star Quad Design Reduces EMI Noise
Low Capacitance & Resistance

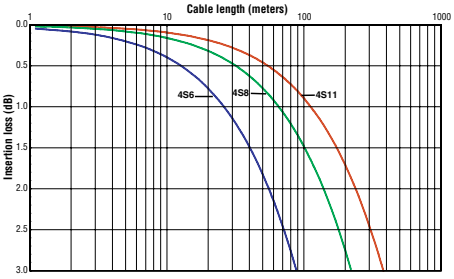
4S6 (17 Gauge / Star Quad)
A lighter gauge, very flexible speaker cable, using 4 x 20 AWG insulated conductors. Good choice for high frequency components, short line runs or DC power cords.

4S8 (13 Gauge / Star quad)
Our most popular 4 x 16 AWG flexible speaker cable. Perfect choice for all broad spectrum speaker systems and general purpose power amp setups. Good on Bi-Amp rigs.

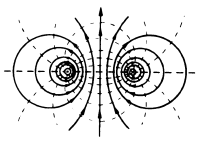
4S11 (11 Gauge / star quad)
Recommended for long runs and low end Power Amplifier sub-woofer systems. Heavy duty 4 x 14 AWG conductors.



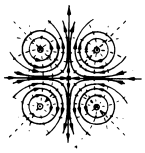
Frequency Response



Insertion loss of 4S series speaker cable



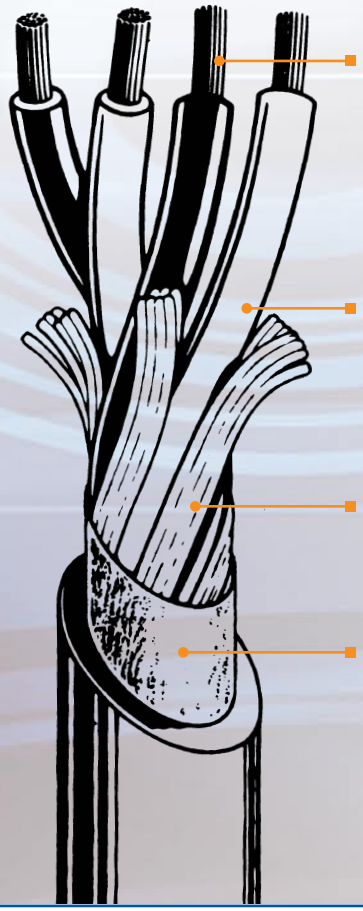
Size of magnetic field attenuates by 1/R². (R: distance from point of center line for 2 conductors.)



Size of magnetic field attenuates by 1/R³. (R: distance from point of intersection of 4 diagonal lines from 4 center conductors.)

Magnetic field of 2-conductor cable — Magnetic field of 4-conductor cable

Tech Note:
Speaker cable must accommodate relatively high signal levels, typically tens to hundreds of watts of RMS power. Electromagnetic interference (EMI) can radiate from these speaker lines directly into adjacent low voltage cables (i.e. microphone, video lines, etc.). Canare solves this problem by using a 4-conductor "Star Quad" configuration in all of our 4S-Series speaker cables. Because every conductor is located the same distance from the center, the opposing magnetic fields are cancelled out. Attenuation of magnetic field radiation is superior when compared to a standard 2-conductor speaker wire.;'



Conductor
Canare uses many thin strands of annealed copper for excellent flexibility and long life reliability.

Insulation
Special polyethylene dielectric offers low capacitance and low series resistance for improved frequency response over long distance cable runs. Star Quad configuration improves damping factor at the speaker. Individual conductor Color Coding (Red, Clear Red, White, Clear White) allows easy continuity checks.

Filler
4S-Series speaker cables use tightly packed cotton fibers to help maintain cable shape and keep conductors from shifting.

Jacket
Durable PVC outer jacket. Stays flexible, resists tears and cracks. Will not stiffen even at sub-zero temperatures.

Colors Available

Model	BLK	GRY
4S6	■	■
4S8	■	■
4S11		■

☐ = STANDARD STOCK

Model	Mechanical Specifications: Std. Lng.	Wt. Std. Lng. lbs (kgs)	Nom. O.D. inch (mm)	Jacket Thick. PVC inch (mm)	Brittle Point °F (°C)	Number of Conductors	Cond - AWG (Qty./mil) Cross Sec. Area (mil.²) * Quad AWG	Pitch of Quad in. (mm)	Insul. Type ** Thick mil	Electrical Performance/ Quad Wired: Cond. D.C.R. Ω/1000ft (Ω/100m)	Nom. Cap. *** pF/ft (pF/m)
4S6	656ft 200m	24 11	.252 6.4	.032 0.8			AC-#20 20/7.09 791 #17	<1.78 <45	PE 19.7	11.4 3.7	38 125
4S8	656ft 200m	42 19	.327 8.3	.043 1.1	-56 -49	4 RED, CLR RED WHT, CLR WHT	AC-#16 50/7.09 1969 #13	<2.76 <70	PE 19.7	4.5 1.5	44 145
4S11	656ft 200m	70 32	.421 10.7	.047 1.2			AC-#14 41/10.24 3379 #11	<4.73 <120	PE 27.6	2.6 0.9	45 146

* Effective AWG of combined twin conductors. *** Capacitance between twin Red and twin White Conductors.
** Dielectric Strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MΩ.

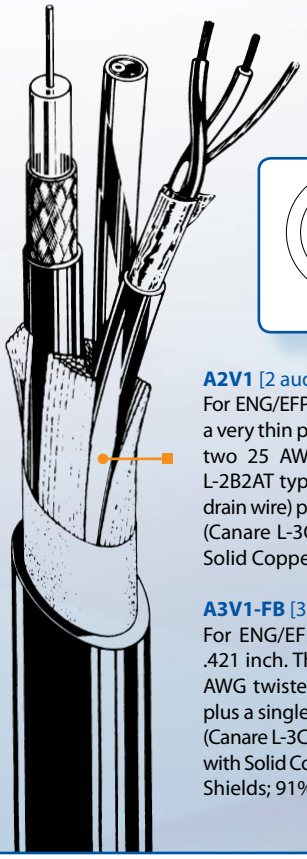
DAMPING FACTOR: Always try to keep speaker cables as short as possible and select cable models that offer a higher damping factor; 20-50 for music (i.e. concert sound) and 10-20 for speech (i.e. sport stadiums). The greater the damping factor (DF), the better the ability to control speaker excursion to create sharp, clear quality in the low end frequency range. As the formula to the left shows, a higher conductor resistance causes a lower damping factor, which prevents even top quality power amps from performing at peak optimum levels.

$$\text{Damping Factor} = \frac{\text{speaker impedance}}{\text{power amp. output impedance} + \text{speaker cable cond. resistance}}$$

Model	Pair cond. resist. (Ω/100m) & cross-sec (mm²)		Cond. resist. (Ω/100m) for return path	Cable length/damping factor DF=20	DF=50
4S6	1.87/1.0mm² AWG	17	3.7	9.5m	3.0m
4S8	0.75/2.5mm² AWG	14	1.5	23.3	7.3
4S11	0.43/4.3mm² AWG	11	0.87	40.2	12.6

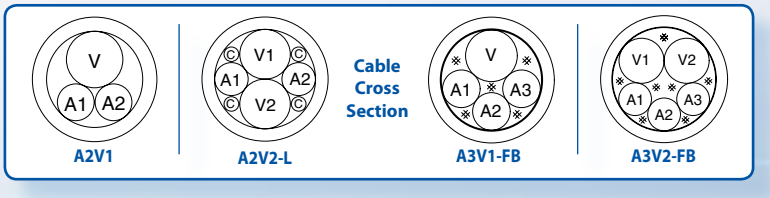
Values calculated assuming power amplifier output at 0.05Ω

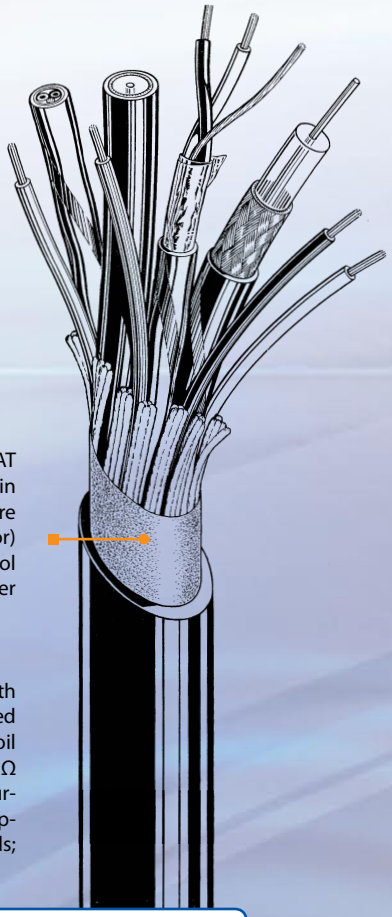
Audio + Video Composite Cable



Applications
- OB Vans
- ENG/EFP
- A/V Combo Snakes

Features
Audio + Video in Same Cable Bundle
Stays Flexible even in Sub-Zero Weather
Special Fillers prohibit Cable Component Twisting
Use with Canare 75Ω BNC, F or RCA Crimp Plugs





A2V1 [2 audio, 1 video]
For ENG/EFP/OB applications. Lightweight with a very thin profile OD of just .382 inch. Includes two 25 AWG balanced Audio lines (Canare L-2B2AT type twisted pair with foil shield and drain wire) plus a single 75Ω Video Coax channel (Canare L-3C2V, featuring a PE dielectric with Solid Copper Center Conductor).

A3V1-FB [3 audio, 1 video]
For ENG/EFP/OB applications. Narrow OD of .421 inch. Three balanced Audio channels (25 AWG twisted pair, foil shield with drain wire) plus a single 75Ω Low Loss Video Coax channel (Canare L-3CFB, featuring a FOAM core dielectric with Solid Copper Center Conductor and double Shields; 91% Braid over 100% Foil).

A2V2-L [2 audio, 2 video, 4 Comm]
Two balanced Audio lines (Canare L-2B2AT type twisted pair with foil shield and drain wire), two 75Ω Video coax channels (Canare L-3C2V, featuring a Solid Center Conductor) plus four insulated "intercom/remote control tally lines" to trigger camera, VCR or other switching functions. OD .433 inch.

A3V2-FB [3 audio, 2 video]
For ENG/EFP/OB applications. Lightweight with a reduced OD of only .488 inch. Three balanced Audio channels (25 AWG twisted pair, foil shield with drain wire) plus two Low Loss 75Ω Video Coax channels (Canare L-3CFB, featuring a FOAM core dielectric with a Solid Copper Center Conductor and Double Shields; 91% Braid over 100% Foil).

AUDIO + VIDEO COMBO CABLE

Model	Std. Lng.	Nom. O.D. Inch (mm)	Weight Standard Length lbs. (kgs)	Channel Unit Type x Qty	Cond. Strand Qty./mm AWG	Insulation Type * Color Code	Shield Coverage	Channel Jacket PVC Color Code	Channel Unit OD in (mm)	Nom. Imp.
A2V1	328ft 100m	.382	24 11	**V** Coax 3C-2V x 1	1/0.5 #24	PE CLEAR	>97% AC Braid	BLK	.173 (4.4)	75Ω
	656ft 200m	9.7	48 22	**A** Twisted Pair 2B2-AT x 2	16/0.12 #25	IPE ORN, WHT	100% AL FOIL + TC Drain Wire	GRY/RED, GRY/BLU	.126 (3.2)	–
A2V2-L	328ft 100m	.433	35 16	**V** Coax 3C-2V x 2	1/0.5 #24	PE CLEAR	>97% AC Braid	BLK/YEL, BLK	.173 (4.4)	75Ω
	656ft 200m	11.0	70 32	**A** Twisted Pair 2B2-AT x 2	16/0.12 #25	IPE ORN, WHT	100% AL FOIL + TC Drain Wire	GRY/RED, GRY/BLU	.126 (3.2)	–
				C Control Line 0.2mm² x 4	18/0.12 #24	PE RED, YEL, BLU, WHT	–	–	.051 (1.3)	–
A3V1-FB	656ft	.421	53	**V** Coax 3C-FB x 1	1/0.65 #22	FOAM PE WHT	>91% TAC Braid 100% AL FOIL	YEL	.173 (4.4)	75Ω
	200m	10.7	24	**A** Twisted Pair 2B2-AT x 3	16/0.12 #25	IPE ORN, WHT	100% AL FOIL + TC Drain Wire	GRY/YEL GRY/RED, GRY/BLU	.126 (3.2)	–
A3V2-FB	656ft	.488	75	**V** Coax 3C-FB x 2	1/0.65 #22	FOAM PE WHT	>91% TAC Braid 100% AL FOIL	YEL, WHT	.173 (4.4)	75Ω
	200m	12.4	34	**A** Twisted Pair 2B2-AT x 3	16/0.12 #25	IPE ORN, WHT	100% AL FOIL + TC Drain Wire	GRY/YEL GRY/RED, GRY/BLU	.126 (3.2)	–

*** Dielectric Strength: 500 VAC/min. Insulation resistance: > 1000MΩ**

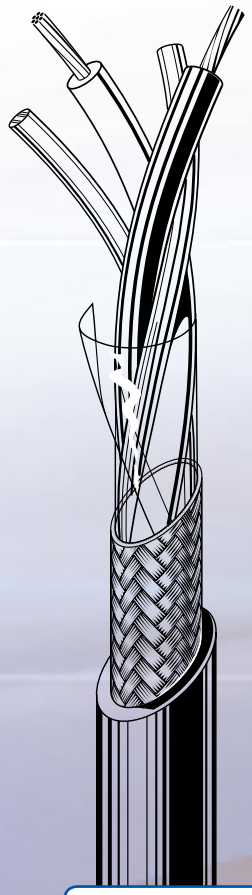
75Ω Video channel / CONNECTOR assembly items

Model	CANARE 75Ω Connectors			Cable Stripper	Crimp Tool	Die Set
	BNC	F	RCA			
3C-2V	BCP-C3B	FP-C3	RCAP-C3A	TS100E	TC-1	TCD-35CA
3C-FB	BCP-C3F	FP-C3F	RCAP-C3F	TS100E	TC-1	TCD-35CA

75Ω video channel / nominal attenuation

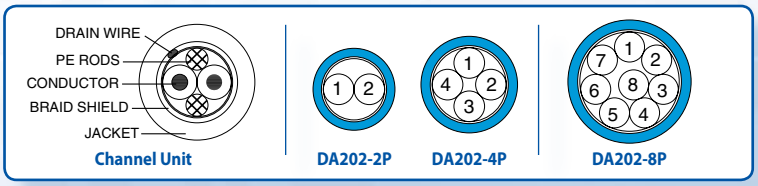
Model	Length	10 MHz	30 MHz	275 MHz	800 MHz
3C-2V	dB/100 ft dB/100m	1.3 4.2	2.2 7.3	6.7 22.0	11.5 37.6
3C-FB	dB/100 ft dB/100m	1.0 3.2	1.7 5.5	5.1 16.8	8.7 28.6

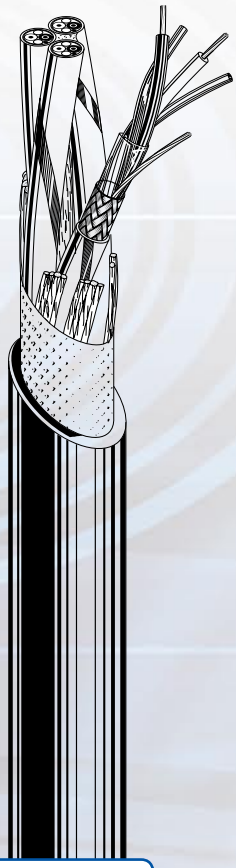
110Ω AES/EBU Digital Audio & Data Cable



Applications
- AES/EBU Digital Audio

Features
Twisted Pairs with Braid or Foil Shield
Special PE FILLER RODS maintain constant 110Ω impedance





DA206
Large OD for longest cable runs. Robust construction makes this cable a good choice for all Digital Pro Audio field recording. Maximum recommended AES/EBU Length: 1,180ft (360meters). Jacket color: **BLUE.**

DA202
Mini version of DA206. 25 AWG conductors allow use with common IDC Punch Down Block, Digital Audio "110Ω Type" Patchbays. Integral Drain Wire for easy ground wiring. Maximum recommended AES/EBU Length: 590ft (180meters). Jacket color: **BLUE.**

DA202-P Channel UNIT color Code

Channel No.1	2	3	4	5	6	7	8
	RED	BLU	YEL	GRN	BRN	–	BLU/ BLK	YEL/ BLK

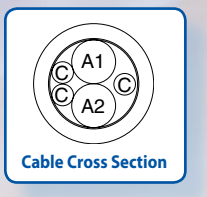
DA202AT
Good choice for short cable runs. 25 AWG conductors suitable for all Rack Wiring applications, especially IDC Punch Down Block Digital Audio "110Ω Type" Patchbays. Foil Shield with Drain Wire allows easy strip, prep and ground wire termination. Maximum recommended AES/EBU Length: 426ft (130meters). Jacket color: **BLUE.**

DA202-P
Multi Channel version of DA202. Available in 2, 4 and 8 channel pairs. 25 AWG conductors allow use with Punch Down Block Audio Patchbays. Integral Drain Wire for easy ground wiring. Maximum recommended Length: 180meters. Overall Jacket color: **BLUE.**

Model	Standard Length	Wgt. Stand. Length lbs. (kgs)	Nom. O.D. in. (mm)	Jacket Thickness PVC inch (mm)	Brittle Point °F (°C)	No. of Channels	Insul. Type * Thick. mil	Cond - AWG (Qty./mil) Cross Sec. Area	Shield Coverage	Cond. D.C.R. Ω/1000ft (Ω/100m)	Shield D.C.R. Ω/1000ft (Ω/100m)	Nom. Cap. ** pF/ft (pF/m)	Nom. Cap. † pF/ft (pF/m)	Nominal Impedance	Nominal Attenuation 3MHz dB/100m
	Mechanical Specifications									**Electrical Performance**					
DA206	328ft 100m 656ft 200m	17 8 35 16	.287 7.3	.035 0.9	-56 -49	1	IPE 30.3	AC–#20 7/12.60	>95% Braid	<10.1 <3.3	<4.3 <1.4	14.6 48	22.3 73	110Ω	2.2
DA202	328ft 100m	8 4	.197 5.0	.034 0.8	-56 -49	1	IPE 16.9	AC–#25 7/7.09	>95% Braid	<32.3 <10.6	<6.8 <2.2	–	–	110Ω	5.0
DA202AT	656ft 200m	9 4	.157 4.0	.012 0.3	-56 -49	1	IPE 20.9	AC–#25 7/7.09	100% AL Foil	<32.3 <10.6	–	–	–	110Ω	6.7
DA202-2P	328ft 100m	26 12	.421 10.7	.043 1.1	-56 -49	2	IPE 16.9	AC–#25 7/7.09	>95% Braid	<32.3 <10.6	<7.0 <2.3	–	–	110Ω	5.0
DA202-4P	328ft 100m	42 19	.496 12.6	.047 1.2	-56 -49	4									
DA202-8P	328ft 100m	77 35	.646 16.4	.051 1.3	-56 -49	8									

***Dielectric Strength = 500V AC / 1min. Insulation resistance/3Mft = >1000MΩ. ** Capacitance between Conductors.**
† Capacitance between conductors to shield.

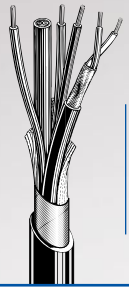
RS-422 Cable



Cable Cross Section

A2C3
Usable for RS-422 signals over short haul equipment interconnect distances. Data channel uses special Foam PE insulation for extra low signal loss.

A2C3-SS
Created by adding an overall spiral shield to A2C3 to increase shielding performance.



Data Cable

D403-AT
Star Quad style 64Ω data control cable; also usable for MIDI harness wiring. Four #22 Gauge Individually Color Coded Conductors. 100% Aluminum Foil shield with integral drain wire. Excellent pulling strength. Jacket color: SEPIA.

Model	Stand. Length	Nom. O.D. Inch (mm)	Weight Standard Length lbs. (kgs)	Unit Channel		Qty. of Unit (Cond.)	Cond. Strand (Qty./mm) Cross Sec. Area (mm²)	AWG Size	Insulation Color Code	Shield Strand (mm/Qty.)	Overall Shield Coverage	Insulation Type *	Channel Jacket	Jacket Nom. Thick. inch (mm)
	Nominal Specifications													
A2C3	656ft 200m	.260 6.5	24 11	A C	Digital Data Control	2 (4) 1 (3)	7/.127 TAC 0.09 11/0.16 TAC 0.22	#28 #24	A1-RED/WHT A2-BLU/WHT BLK, BRN RED	0.1/37-47 Spiral Not Available		Foam Polyethylene Vinyl Chloride	BLK, GRY	.032 0.8
A2C3-SS	656ft 200m	0.276 7.0	32 14.4	A C	Digital Data Control	2(4) 1(3)	7/.127 11.0.16 TAC 0.22	#28 #24	A1-RED/WHT A2-BLU/WHT BLK, BRN RED	.01/37-47 Spiral Not Available	92.70% Spiral Shield	Foam Polyethylene Vinyl Chloride	BLK, GRY	0.036 0.9
D403AT	656ft 200m	.205 5.2	36 16	–		1 (4)	TAC 7/7.09	#22	RED, GRN, WHT, YEL	AL Foil 100%		IPE	Sepia	205 5.2

*** Dielectric Strength: 500 VAC/min. Insulation resistance: > 1000MΩ**

Cable Stripper, Crimp Tool & Die Sets

A consistent and reliable crimp connection is the direct result of a Quality Controlled Termination Set consisting of: The Coaxial Cable, Connector, Stripper, Crimp Tool and precision Die Set. Canare offers a complete turnkey Assembly Package. There is no tooling guesswork... the only surprise is how quick and easy it is to terminate your own cables.

R5A Storage Road Case

Low cost, lightweight yet rugged, holds:

- (1-2) TC-1 hand tools
- (5) TCD crimp die sets
- (100) Canare BNC, F or RCA crimp plugs
- (1) TS100E or, (3) TS-C Stripping tools
- Misc. adapters, replacement blades, rulers, etc.

Buyer Beware:
There are other products available that may look similar to the Canare TC-1 Hand Crimp Tool & TCD Die Sets, but they may not meet the same high quality standard and will not perform to our strict specifications.

TC-1 Hand Crimp Tool

Low cost, lightweight yet rugged, holds:

- (1-2) TC-1 hand tools
- (5) TCD crimp die sets
- (100) Canare BNC, F or RCA crimp plugs
- (1) TS100E or, (3) TS-C Stripping tools
- Misc. adapters, replacement blades, rulers, etc.

TCD Die Sets

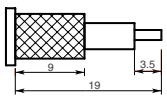
2 piece precision fit design
2 Hex Bolts for quick hand tool loading
Tight dimensional tolerances
1 and 2 Hex Sleeve versions
Engraved Model I.D.

TCD-1DB, TCD-3C, TCD-31C, TCD-35CA, TCD-316C, TCD-4C, TCD-451CA, TCD-5CF, TCD-7CA

TS100E Coaxial Cable Stripper

Stripping & prepping coaxial cable for Canare's true 75Ω BNC, F and RCA Crimp Connectors, is now simple, quick and easy. No more hassles working with awkward razor blades or difficult-to-use straight edge tools. Our TS-Series dramatically reduces assembly time when compared the most other commonly used methods. You simply "insert the cable, rotate and remove". Completes the job in just 15 seconds! All models have 3fully-adjustable circular steel blades, specially designed and hardened to precisely cut "around" the cable...not chop through it like utility knifes or ordinary wire strippers. Our innovative side-slit blade allows you to carefully peel off the jacket for consistant and productive cable prep.

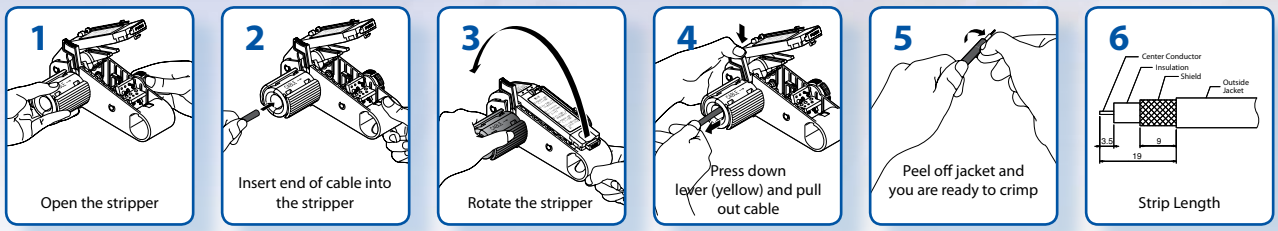
TS100E

Model Selection	
Model	Max. Cable O.D.
TS100E	.158in – .433in (4mm – 11mm)
Strip Lengths all Models (mm)	

TS100E "5 in 1" Coaxial Cable Stripper

Quick & Easy-to-use hand tool
Rotary Knob selects 5 different cable set-ups
3 Circular Steel Blades Cut cleanly & precisely
Blade height is fully adjustable, wrench included
Special extra "side-slit" jacket blade
Unique V-Guide aligns coax in center of chamber
5 Factory pre-sets...or, create your own settings

TSC Blade Cassette
Replaceable circular steel blade pack



Application note: TS100E is pre-set for use with Canare BNC, F and RCA Crimp Plug dimensions only.

BNC Tool & Cable Boots

BET-12

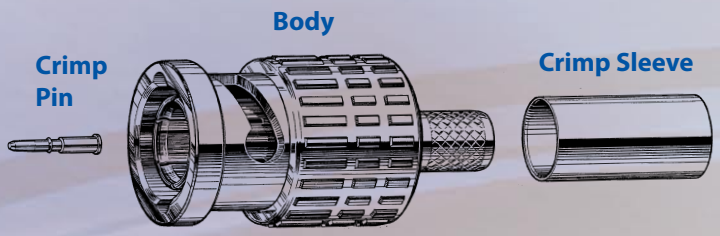
BNC Extraction Tool

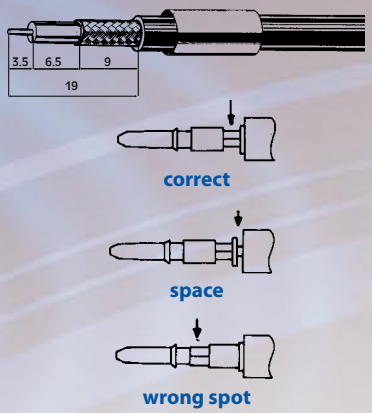
Our specially designed connector removal tool perfectly fits not only Canare 75Ω BCP-C BNC series, but all other standard MIL-SPEC BNC line plugs. The BET-12 allows easy access to those hard-to-reach BNC jacks located deep inside rear rack enclosures.

Tapered channel socket permits various cable O.D. sizes up to and including Canare L-7CFB, RG11 (.405in, 10.29mm). Long 12 inch heavy duty metal probe shaft will not bend or deform under normal use. Clear Blue plastic handle.

Assembly

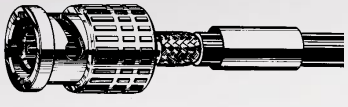
CANARE 75Ω BNC, F and RCA Crimp Plugs



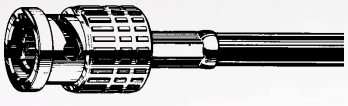


1. Slide crimp sleeve over cable.
2. Strip cable jacket using Canare TS-Series Coax Strippers (see mm dimensions)
3. Place contact pin on center conductor. Using the TC-1 hand tool and appropriate die set, crimp center pin as shown in diagram. (Do not leave a gap between rear of the pin and cable insulation end.)
4. Flair braided shield to aid insertion of connector body.
5. Push cable with crimped pin into body housing until you detect an audible "snap". (Jamming the pin may bend center conductor and damage connector dielectric.)

6. Lightly tug cable (@ 4.5 lbs/2.0 kgs) to verify that pin is properly seated in body housing.



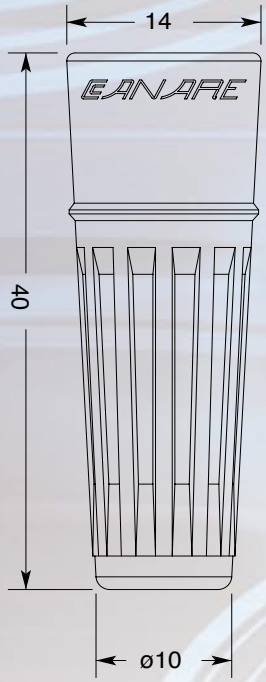
7. Slide crimp sleeve up against the body and place in tool die.



8. Complete assembly by crimping down on sleeve to form hex.

Note:

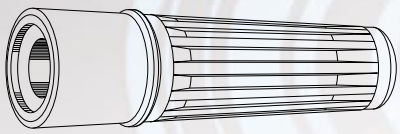
Flair gap at sleeve end is normal and allows cable jacket extra flexing room.



CB04

Our new push-on silicon rubber boot helps prevent cable damage at the connector sleeve stress point due to flexing, fatigue and environmental changes.

Available in 10 matte colors for matching cable jacket or channel ID call-outs.



Model Selection

MODEL	Fits on Cable	Connectors
CB01	L-1, 5C2VS	BCP-C series
CB02	L-2, 5CFB, V-3C	
CB03	L-3C2VS, L-3CFB, V-3C, V-3CFB	
CB04	LV-61S, L-4CFB, V-4CFB	
CB05A	LV-77S, L-5CFB, V-5C, V-5CFB	
CB24	L-3C2VS, L-3CFB, V-3C, V-3CFB	MBCP-C series FP-C series RCAP-C series
CB25	LV-61S, L-4CFB, V-4CFB	
CB26	L-5CFB, V-5C, V-5CFB	

Colors Available

Model	BLK	BLU	BRN	GRY	GRN	ORN	PPL	RED	WHT	YEL
CB01	■	■			■			■	□	■
CB02	■									
CB03	■	■	■	■	■	■	■	■	□	■
CB04	■	■	■	■	■	■	■	■	□	■
CB05A	■	■	■	■	■	■	■	■	□	■
CB24	■	■			■			■	□	■
CB25	■	■			■			■	□	■
CB26	■	■			■			■	□	■

□ = STANDARD STOCK | ○ = SPECIAL ORDER

Audio Line Plugs

Canare offers in-line cable mount audio plugs in a variety of configurations for the discriminating professional. Each model is carefully designed to accommodate small to large O.D. cables and all versions offer a generous soldering area for easy wiring assembly, good electromechanical characteristics, super performance and long life durability.

Applications
- Guitar / keyboards
- sound mixers
- pa systems
- Test Probes
- Hi-Fi interconnects

Features
Robust Dependable Construction
Brass with Nickel/Gold Plating
360˚ Crimpable Cable Strain Relief
Easy to Solder
Beautiful Long Lasting Finish

Canare F-Series audio plugs feature a proprietary 360° cable clamp design that ensures long life reliability.

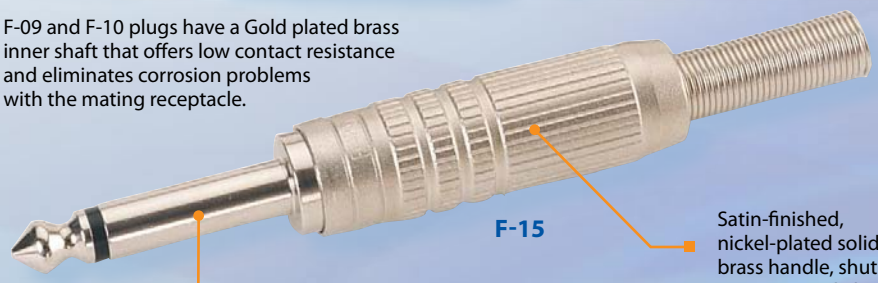
All F-Series audio plugs have a beautiful nickel plated, bell brass handle with a specially designed knurled surface to prevent finger slippage. The F-09 RCA plug features an extra narrow profile body (for high density panels). The handle extends over the outer contact sleeve for improved RF shielding.

Spring type strain relief prevents cable damage due to repeated bending at the connector entry point; cable lasts three times longer than plugs without strain relief.

F-10

F-09 and F-10 plugs have a Gold plated brass inner shaft that offers low contact resistance and eliminates corrosion problems with the mating receptacle.

Canare F-15 and F-16 1/4" phone plugs use a patented "V-Lock" system that ensures good electrical contact by keeping the plugs tight where others pull out.



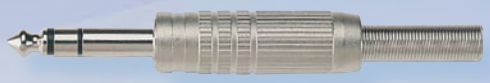
F-15

Satin-finished, nickel-plated solid brass handle, shuts out static and electromagnetic noise.

Reinforced one-piece body and sleeve includes a pure brass bar that runs the length of the handle; 50% stronger than ordinary plugs and 20% stronger than other high-grade plugs.

F-09

F-11



F-16

F-12

Connector Specifications

Model	Type	Notes	Cable Entry I.D. in (mm)	* Max Cable O.D. in (mm)	Shaft material plating	Dielectric	Body material plating	Insulation tube	Cable spring plating
F-09	RCA	Narrow profile. Body extends over contact	.248 (6.3)	.236 6.0	Brass	Polyacetal	Brass Nickel	–	Nickel
F-10	RCA	Deluxe clamp and body design			Gold	PTFE		Black PVC	
F-11	Mini Phone TS	Tip, Sleeve	.244 (6.2)		Brass	–		–	
F-12	Mini Phone TRS	Tip, Ring, Sleeve	.248 (6.3)					Black PVC	
F-15	1/4"TS phone	Tip, Sleeve	.244 (6.2)		Nickel				
F-16	1/4"TRS phone	Tip, Ring, Sleeve							

*** With Spring Removed, Max. Cable O.D. is .295in (7.5mm)**

110Ω-75Ω Digital Audio Impedance Transformers

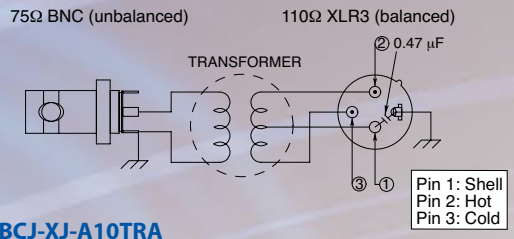
Canare Impedance Transformers allow 75Ω coaxial transmission of all 2 channel AES/EBU Digital Audio signals. Low cost and easy to use, our I/O adapters are designed to passively convert all standard AES/EBU digital audio signals from 110Ω/XLR3 Output (@ 4.5 Volts) to a 75Ω BNC coaxial cable and then back again to a 110Ω/XLR3 Input (200mV min). Also provides excellent rejection against hum and noise.

Applications
- Post production suites
- DAT routing
- recording studios
- digital audio tie lines

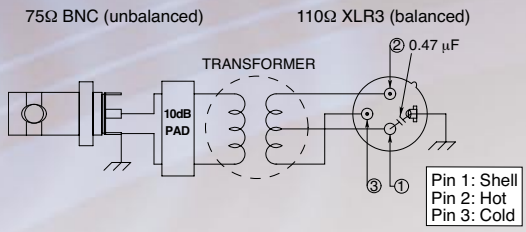
Features
SMPTE 276M & AES3 Transmission Standards
Coaxial Routing of 2 Channel AES/EBU Digital Audio
Permits longer cable runs vs 110Ω Twisted Pair
Signal Distribution: Canare Video Patchbays, Routers & VDA's

General Specifications
Bandwidth: 0.1 ~ 6MHz
Maximum Voltage: 5V p-p
VSWR: Less than 1.1
Insertion Loss: Less than 0.3 dB

BCJ-XJ-TRB / BCJ-XP-TRB



BCJ-XJ-A10TRA



110Ω - 75Ω Impedance Transformer: Input/Output Level Performance

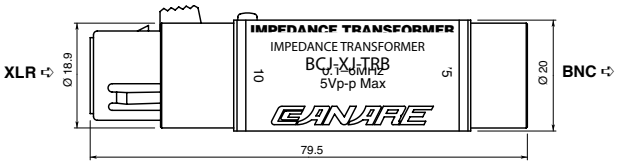
AES/EBU Transmitter (V)	Transformer Out (V)
2.0	1.60
3.0	2.39
4.0	3.18
4.5	3.60
5.0	3.98
6.0	4.78
7.0	5.58
8.0	6.38
9.0	7.18
10.0	7.98

BCJ-XJ-TRB / BCJ-XP-TRB

AES/EBU Transmitter (V)	Transformer Out -10dB Pad (V)
2.0	0.50
3.0	0.75
4.0	1.01
4.5	1.13
5.0	1.26
6.0	1.51
7.0	1.76
8.0	2.02
9.0	2.27
10.0	2.52

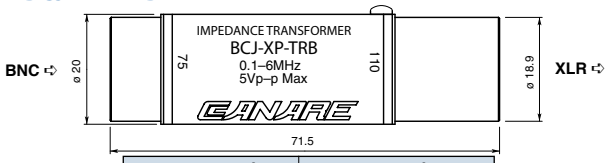
BCJ-XJ-A10TRA

BCJ-XJ-TRB



XLR3 - Female	BNC Receptacle
110Ω Input	75Ω Output

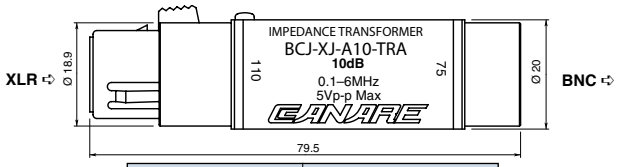
BCJ-XP-TRB



BNC Receptacle	XLR3 - Male
75Ω Output	110Ω Input

BCJ-XJ-A10TRA

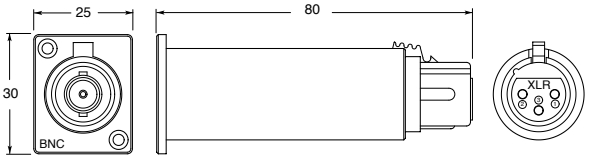
"1 Volt peak to peak" Output version for integrating base band Video DA's and Routing Switchers.



XLR3 - Female	BNC Receptacle
110Ω Input	75Ω Output (at 1V p-p)
10dB Attenuation Pad	

PANEL MOUNT VERSIONS

Fits in all standard Canare Bulkhead Panels



Model	Description (Front ~ Back)
XJ3F-TRB-BCJ	XLR(F) ~ BNC
XJ3M-TRB-BCJ	XLR(M) ~ BNC
BCJ-TRB-XP3F	BNC ~ XLR(F)
BCJ-TRB-XP3M	BNC ~ XLR(M)
XJ3F-A10TRA-BCJ	XLR(F) ~ BNC 10dB Pad
BCJ-A10TRA-XP3F	BNC ~ XLR(F) 10dB Pad

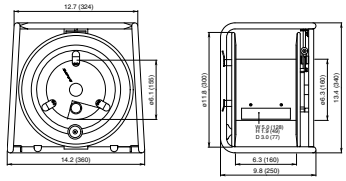
3 Position Brake Lock System

All R-Series models include a 3-position brake lever:

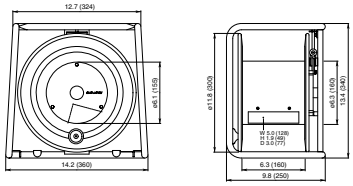
FREE SPOOL: (Position 1)
cable will pull from reel with ease, this position is ideal for rewinding,

SOFT BRAKE: (Position 2)
cable can be pulled from the reel, but friction prevents excess spillage when cable is pulled quickly,

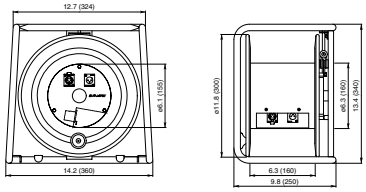
FULL LOCK: (Position 3)
used during transportation, the reel will not rotate, so cable will not spill.



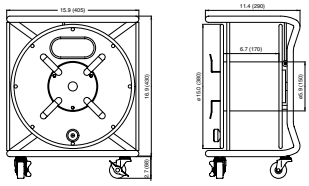
R300S



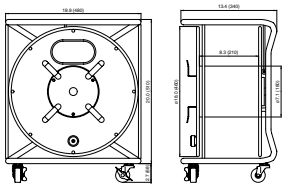
R300L



R300CN / R300BN



R380S



R460S

Cable Reels

R460S

Special Features
Durable long lasting black finish
Rugged winding handle
Roll-around removable casters
Snake cable hanger tabs
Exit flange port for snake ends

R300S

Canare has developed a dependable and road worthy Cable Reel in three useful sizes that keeps cable stored neatly when not in use, yet allows quick deployment without tangles and twisting. A perfect way to facilitate transporting and laying cable. Protect your valuable cable investment with Canare Cable Reels.

Stackability

All R300 series models have built in stacking tabs, so Cable Reels can be placed one on top of the other for secure transporting and storage.

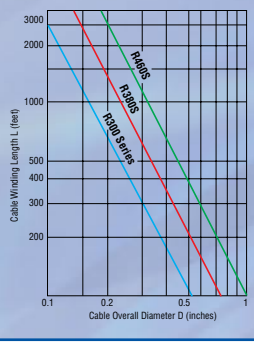
Special Connector Mounting Plates

The R300L features a special User removable recessed Flange Door and Hub Plate for mounting BNC, F, RCA, or XLR Panel receptacles.

Tubular Steel Construction

Canare Cable Reels are constructed using tubular steel, with an "E" shaped brace design which makes them all extremely durable. All R-Series Reels use heavy duty permanently lubricated bearings which will perform as new even after years of hard road use.

Please use the capacity chart and/or formula to determine length of a given cable that will fit on a specific reel. Formulas are based on loose wrap winding.



Calculation Formula

R300 (S,L,CN,BN)	$L = \frac{43}{D^2} \times 0.6$ (ft)
R380S	$L = \frac{93}{D^2} \times 0.6$ (ft)
R380D	$L = \frac{82}{D^2} \times 0.6$ (ft)
R460S	$L = \frac{172}{D^2} \times 0.6$ (ft)
R460C	$L = \frac{148}{D^2} \times 0.6$ (ft)

Formula Example:
L-4E3-8P Cable O.D. is .603"
93 ÷ (.603 x .603) x .6 = 155
An R380S Cable Reel will hold approx. 155 feet of CanareL-4E3-8P Star Quad multichannel cable.

CR100-CN
(with 100m cable) L-4E6S (EC100) bundled with R300-CN. (Set with XLR3-11C at the cable outer end when sold.)

CR90-BN
(with 90m cable) L-5C2VS (DH5C90-S) bundled with R300-BN.

CR100-S
(with 100m cable) L-4E6S (EC100) bundled with R300-S. (Set with XLR3-11C at the cable outer end when sold.)

Reel with Cable Assembly

Detachable Cable		Cable Assemblies	
Model	**Cable Reel**	Set at inner end | Set at outer end	**Weight** (kg)
CR100-CN	R300-CN	XLR3-12C — L-4E6S (100m) — XLR3-11C	9.6
CR100-S	R300-S	XLR3-12C — L-4E6S (100m) — XLR3-11C	9.6
CR90-BN	R300-BN	BCP-H5B — L-5C2VS (90m) — BCP-H5B	10.5

Cable Reel Specifications

Model	Size	Weight lbs.	Stackable	Casters	Connector Mounting	Cable Cut-Out	Hanger
R300S	SMALL	9.5	YES	NO	NO	YES	YES
R300L	SMALL	9.5	YES	NO	Hub & Flange	NO	NO
R300CN	SMALL	9.5	YES	NO	Parallel wired M & F XLR on Hub & Flange	NO	NO
R300BN	SMALL	9.5	YES	NO	75Ω BNC Jack 1ea.Hub & Flange	NO	NO
R380S	MED.	17.5	NO	YES	NO	YES	YES
R380D	MED.	17.5	NO	YES	Hub	NO	NO
R460S	LARGE	22.0	NO	YES	NO	YES	YES
R460C	LARGE	22.0	NO	YES	Hub	NO	NO

Audio Snake System Components

Snake Trunk

Assembled with super flexible Canare L-4E3-P Star Quad multichannel audio cable, terminated at both ends with a MIL Spec JAE Cannon multipin connector.
Dust caps with chain are included.

12	-	C30	-	E3

Number of Channels
8, 12, 16, 24
(32 Chan by special order)

Cable Length
C10 = 10 meters (33ft)
C30 = 30 meters (98ft)
C50 = 50 meters (164ft)

Cable Type
E3 = Canare
L-4E3-P Star Quad

- 8 & 12 Chnl NK27 Male to Female
- DT12 & 16 Chnl FK37 Male to Female
- 24Chnl MS32 Female to Female

Fantail

All versions are pre-assembled using Canare Star Quad L-4E microphone cable wired to JAE Cannon XLR-3 and multipin bayonet lock connectors. The overall fantail length is 5 feet and each channel is fitted with a large, sliding number collar ring for quick identification. Dust cap with chain included on multipin connector.

12	-	S2	-	N	-	1

Number of Channels
8, 12, 16, 24
(32 Chan by special order)

XLR Configuration
S1 = Female (entry)
S2 = Male (exit)

Multipin Type
1 = Female (entry)
2 = Male (exit)

- N = NK27 Pin (8, 12 Chnl)
- F = FK37 Pin (DT12, 16 Chnl)
- MS = MS32 54 Pin (24 Chnl)

Cable Reel Snake

A unique and economical approach to multichannel cable storage and system component integrating. Assembled with a durable R-Series Canare Cable Reel, built-in flange-mounted junction box, hardwired Star Quad L-4E3-P Multichannel audio cable and multipin female Cannon connector. This modular design approach allows simple and secure mating with standard Canare Snakes, Junction Boxes, Pigtails or other Cable Reel Snakes.

16	-	R30	-	E3

Number of Channels
8, 12, 16, 24

Cable Length
R30 = 30 meters (98ft)
R50 = 50 meters (164ft)

Cable Type
E3 = Canare
L-4E3-P Star Quad

- XLR Male & Female parallel wired
- 8 & 12 Chnl NK27 Female Multipin
- 16 Chnl FK37 Female Multipin
- 24 Chnl MS32 Female Multipin

Junction Box

Typically used at one or both ends of an audio snake. A Canare Junction Box will accept single microphone or line level XLR-3 type cables. The black anodized chassis is constructed from thick gage aluminum (0.16") which is light weight but exceptionally strong. All panel mount receptacles are secured to the chassis with screws (not pop rivets), should service ever be necessary. Skid pads and multipin dust caps with chain are included.

12	-	J2	-	N	-	12

Number of Channels
8, 12, 16, 24
(32 Chan by special order)

XLR Configuration
B1 = Female Only (inputs)
B2 = Male Only (returns)
J12 = Parallel Wired Male & Female

Multipin Type
1 = Female Only (Entry)
2 = Male Only (exit)
12 = Male & Female (feed through)

- N = NK27 Pin (8, 12 Chnl)
- F = FK37 Pin (DT12, 16 Chnl)
- MS = MS32 54 Pin (24 Chnl)

Connectors

High quality ITT CANNON, JAE or DDK Multipin bayonet lock and XLR3 connectors are meticulously hand assembled and soldered with a minimum of unshielded wire leads.

Canare 8, 12, 16, 24, 32 channel Snakes are common shield wired via an integral shared return buss. This system is cost effective, saves space, and helps reduce noise and ground loops when used as a discreet audio snake arrangement. DT12 Snakes are wired with individually isolated channel shields.

(ITT CANNON) XLR3 Connectors Typical for All Channels


XLR-3-11C


XLR-3-32


XLR-3-12C


XLR-3-31

(JAE) For 8 & 12 Channels


NK27-21C


NK27-32S


NK27-22C


NK27-31S

(JAE) For 16 Channels & DT12


FK37-21C


FK37-32S


FK37-22C


FK37-31S

(DDK) For 24 Channels


MS3106B-32A-10S +MS3057-20A
MS3102A-32A-10P

(DDK) For 32 Channels


MS3106B-36-73S +MS3057-24A
MS3102A-36-73P

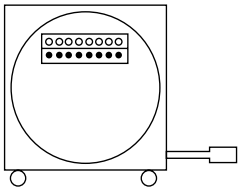
Snake System Configuration Chart

□ ○ Female ■ ● Male

8 Channel

Cable Reel Snake

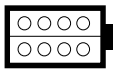
L-4E3 Type Cable
D indicates R380 cable reel C indicates R460 cable reel



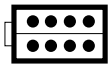
Length	Model	Cable reel	
30 m	**8R30E3**	D	XLR3-32 x 8,
50 m	**8R50E3**	D	XLR3-31 x 8, NK27-21C

Junction Boxes

Single XLR per channel

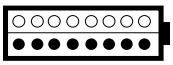


8B1N2
XLR3-31 x 8, NK27-32S

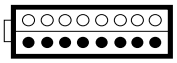


8B2N1
XLR3-32 x 8, NK27-31S

Parallel XLR per channel

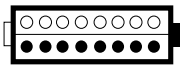


8J12N2
XLR3-31 x 8, XLR3-32 x 8, NK27-32S



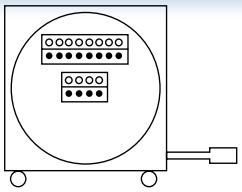
8J12N1
XLR3-31 x 8, XLR3-32 x 8, NK27-31S

Parallel XLR per channel MultiPin Feed Through



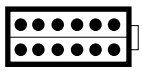
8J12N12
XLR3-31 x 8, XLR3-32 x 8, NK27-31S, NK27-32S

12* Channel

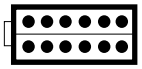


Length	Model	Cable reel	
30 m	**12R30E3**	D	XLR3-32 x 12,
50 m	**12R50E3**	C	XLR3-31 x 12, NK27-21C

Single XLR per channel

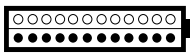


12B1N2
XLR3-31 x 12, NK27-32S

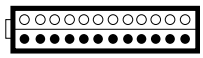


12B2N1
XLR3-32 x 12, NK27-31S

Parallel XLR per channel

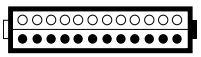


12J12N2
XLR3-31 x 12, XLR3-32 x 12, NK27-32S



12J12N1
XLR3-31 x 12, XLR3-32 x 12, NK27-31S

Parallel XLR per channel MultiPin Feed Through



12J12N12
XLR3-31 x 12, XLR3-32 x 12 NK27-31S, NK27-32S

**DT12*
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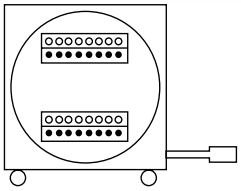
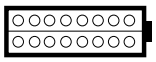
16 Channel

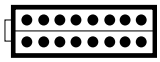


Length	Model	Cable reel	
30 m	**16R30E3**	D	XLR3-32 x 16,
50 m	**16R50E3**	C	XLR3-31 x 16, FK37-21C

Single XLR per channel

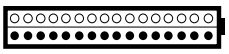


16B1F2
XLR3-31 x 16, FK37-32S

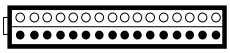


16B2F1
XLR3-32 x 16, FK37-31S

Parallel XLR per channel

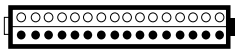


16J12F2
XLR3-31 x 16, XLR3-32 x 16, FK37-32S



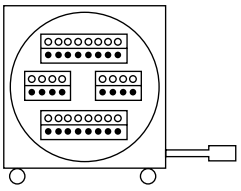
16J12F1
XLR3-31 x 16, XLR3-32 x 16, FK37-31S

Parallel XLR per channel MultiPin Feed Through



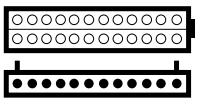
16J12F12
XLR3-31 x 16, XLR3-32 x 16, FK37-31S, FK37-32S

24 Channel



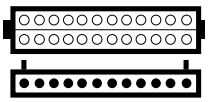
Length	Model	Cable reel	
30 m	**24R30E3**	C	XLR3-32 x 24, XLR3-31 x 24, MS3106B-32A-10S

Parallel XLR per channel



24B12MS
XLR3-31 x 24 (on top), XLR3-32 x 24 (12 on each side), MS3102A-32A10P

Parallel XLR per channel MultiPin Feed Through

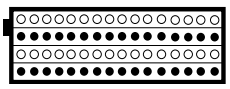


24B12MSW
XLR3-31 x 24 (on top), XLR3-32 x 24 (12 on each side), MS3102A-32A10P x 2

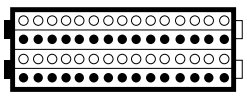
32 Channel

ALL 32 CHANNEL SNAKE COMPONENTS ARE SPECIAL ORDER ITEMS

Parallel XLR per channel

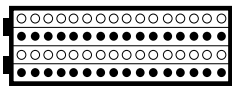


32B12MS
XLR3-31 x 32, XLR3-32 x 32, MS3102A36-73P

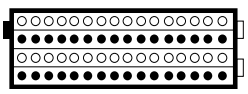


32B12MWF11
XLR3-31 x 32, XLR3-32 x 32, MS3102A36-73P x 2, FK37-31S x 2

Parallel XLR per channel MultiPin Feed Through



32B12MSW
XLR3-31 x 32, XLR3-32 x 32, MS3102A36-73P x 2



32B12MF11
XLR3-31 x 32, XLR3-32 x 32, MS3102A36-73P x 1, FK37-31S x 2

Snake System Configuration Chart

□ ○ Female ■ ● Male

Snake Trunks

Length	Model	Connectors
L-4E3 Type Cable		
10 m	8C10E3	NK27-21C,
30 m	8C30E3	NK27-22C
50 m	8C50E3	

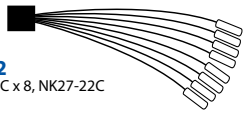
Length	Model	Connectors
L-4E3 Type Cable		
10 m	12C10E3	NK27-21C,
30 m	12C30E3	NK27-22C
50 m	12C50E3	

Length	Model	Connectors
L-4E3 Type Cable		
10 m	16C10E3	FK37-21C,
30 m	16C30E3	FK37-22C
50 m	16C50E3	

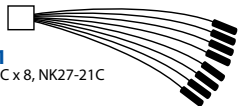
Length	Model	Connectors
L-4E3 Type Cable		
1 m	24C001E3M22 Connecting cable	MS3101A-32A-10P (both ends)
10 m	24C10E3	MS3106B-32A-10S (both ends)
30 m	24C30E3	
50 m	24C50E3	

Length	Model	Connectors
MR202-AT Type Cable		
1 m	32C001MR2M22 Connecting cable	MS3101A-36-73P (both ends)
10 m	32C10MR2	MS3106B-36-73S (both ends)
30 m	32C30MR2	
50 m	32C50MR2	

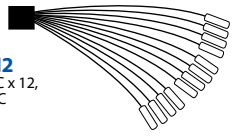
Fantails



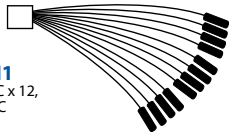
8S1N2
XLR3-11C x 8, NK27-22C



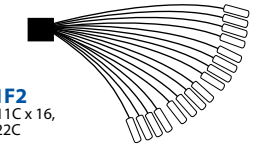
8S2N1
XLR3-12C x 8, NK27-21C



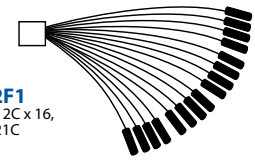
12S1N2
XLR3-11C x 12,
NK27-22C



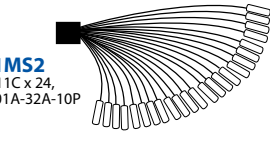
12S2N1
XLR3-12C x 12,
NK27-21C



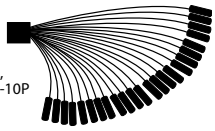
16S1F2
XLR3-11C x 16,
FK37-22C



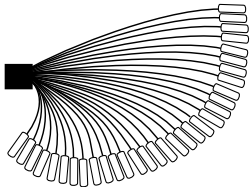
16S2F1
XLR3-12C x 16,
FK37-21C



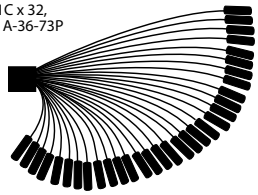
24S1MS2
XLR3-11C x 24,
MS3101A-32A-10P



24S2MS2
XLR3-12C x 24,
MS3101A-32A-10P



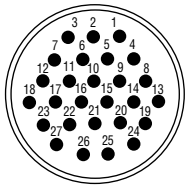
32S1MS2
XLR3-11C x 32,
MS3101A-36-73P



32S2MS2
XLR3-12C x 32,
MS3101A-36-73P

Connectors

For 8 & 12 Channels



NK-27

CHAN NO.	L-4E3-P CHANNEL COLOR	XLR3 CONNECTORS PIN 2		PIN 3		PIN 1
1	RED	1	BLU	3	WHT	
2	BLU	4	BLU	5	WHT	
3	YEL	6	BLU	7	WHT	
4	GRN	8	BLU	9	WHT	
5	BRN	11	BLU	12	WHT	10
6	–	13	BLU	14	WHT	COMMON
7	BLK/BLU	15	BLU	16	WHT	SHIELD
8	BLK/YEL	17	BLU	18	WHT	
9	BLK/GRN	19	BLU	20	WHT	
10	BLK/BRN	22	BLU	23	WHT	
11	BLK	24	BLU	25	WHT	
12	ORN/BLU	26	BLU	27	WHT	

MULTI CONNECTOR PIN NO

**DT12*
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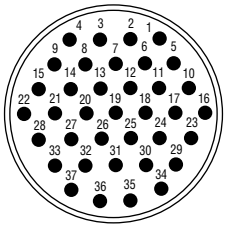
For 16 Channels

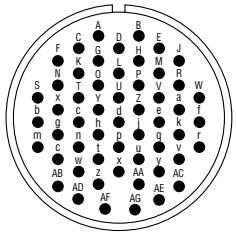


FK-37

CHAN NO.	L-4E3-P CHANNEL COLOR	XLR3 CONNECTORS PIN 2		PIN 3		PIN 1
1	RED	1	BLU	2	WHT	
2	BLU	3	BLU	4	WHT	
3	YEL	5	BLU	6	WHT	
4	GRN	8	BLU	9	WHT	
5	BRN	10	BLU	11	WHT	
6	–	12	BLU	13	WHT	
7	BLK/BLU	14	BLU	15	WHT	19
8	BLK/YEL	16	BLU	17	WHT	COMMON
9	BLK/GRN	21	BLU	22	WHT	SHIELD
10	BLK/BRN	23	BLU	24	WHT	
11	BLK	25	BLU	26	WHT	
12	ORN/BLU	27	BLU	28	WHT	
13	ORN/YEL	29	BLU	30	WHT	
14	ORN/GRN	32	BLU	33	WHT	
15	ORN/BRN	34	BLU	35	WHT	
16	ORN	36	BLU	37	WHT	

MULTI CONNECTOR PIN NO

For 24 Channels



32A10

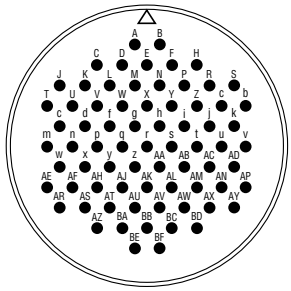
CHAN NO.	L-4E3-P CHANNEL COLOR	XLR3 CONNECTORS PIN 2		PIN 3		PIN 1
1	RED	A	BLU	B	WHT	
2	BLU	C	BLU	D	WHT	
3	YEL	F	BLU	G	WHT	
4	GRN	H	BLU	J	WHT	
5	BRN	K	BLU	L	WHT	
6	–	N	BLU	O	WHT	
7	BLK/BLU	P	BLU	R	WHT	
8	BLK/YEL	S	BLU	T	WHT	
9	BLK/GRN	U	BLU	V	WHT	
10	BLK/BRN	X	BLU	Y	WHT	
11	BLK	Z	BLU	a	WHT	E
12	ORN/BLU	b	BLU	c	WHT	COMMON
13	ORN/YEL	d	BLU	e	WHT	SHIELD
14	ORN/GRN	g	BLU	h	WHT	
15	ORN/BRN	i	BLU	k	WHT	
16	ORN	m	BLU	n	WHT	
17	PNK/BLU	p	BLU	q	WHT	
18	PNK/YEL	s	BLU	t	WHT	
19	PNK/GRN	u	BLU	v	WHT	
20	PNK/BRN	w	BLU	x	WHT	
21	PNK	AB	BLU	z	WHT	
22	WHT/BLU	AA	BLU	AC	WHT	
23	WHT/YEL	AD	BLU	AF	WHT	
24	WHT/GRN	AG	BLU	AE	WHT	

MULTI CONNECTOR PIN NO

For 32 Channels

CHAN NO.	MR202-32AT CHANNEL COLOR	XLR3 CONNECTORS PIN 2		PIN 3		PIN 1
1	BLK/BRN	A	BRN	B	CLR	
2	BLK/RED	C	RED	D	CLR	
3	BLK/ORN	F	ORN	H	CLR	
4	BLK/YEL	J	YEL	K	CLR	
5	BLK/GRN	L	GRN	M	CLR	
6	BLK/BLU	N	BLU	P	CLR	
7	BLK/PPL	R	PPL	S	CLR	
8	BLK/GRY	T	GRY	U	CLR	
9	BLK/WHT	V	WHT	W	CLR	
10	BRN/BLK	Y	BLK	Z	CLR	
11	BRN	a	BRN	b	CLR	
12	BRN/RED	c	RED	d	CLR	
13	BRN/ORN	f	ORN	g	CLR	
14	BRN/YEL	h	YEL	i	CLR	
15	BRN/GRN	j	GRN	k	CLR	E X
16	BRN/BLU	m	BLU	n	CLR	P Q r S t
17	BRN/PPL	u	PPL	v	CLR	AK BB
18	BRN/GRY	w	GRY	x	CLR	COMMON
19	BRN/WHT	y	WHT	z	CLR	SHIELD
20	RED/BLK	AA	BLK	AB	CLR	
21	RED/BRN	AC	BRN	AD	CLR	
22	RED	AE	RED	AF	CLR	
23	RED/ORN	AH	ORN	AJ	CLR	
24	RED/YEL	AL	YEL	AM	CLR	
25	RED/GRN	AN	GRN	AP	CLR	
26	RED/BLU	AR	BLU	AS	CLR	
27	RED/PPL	AT	PPL	AU	CLR	
28	RED/GRY	AV	GRY	AW	CLR	
29	RED/WHT	AX	WHT	AY	CLR	
30	ORN/BLK	AZ	BLK	BA	CLR	
31	ORN/BRN	BC	BRN	BD	CLR	
32	ORN/RED	BE	RED	BF	CLR	

MULTI CONNECTOR PIN NO



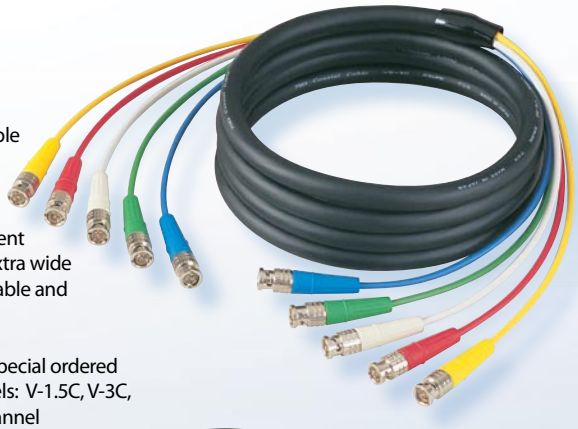
36-73

CHANNEL: 8, 12*, 16, 24, 32

1 meter = 3.28 feet, 10 m = 33 ft, 30 m = 90 ft, 50 m = 164 ft

75Ω Multichannel & Single Video Cable Assemblies

VS • 75Ω Component Video Fantails



Canare 75Ω VS component cable is available in a variety of pre-cut lengths terminated with our true 75Ω BNC crimp plugs. All assemblies are precisely timed with less than 2.2 nanoseconds between adjacent video channels. Canare VS fantails offer extra wide video bandwidth performance because cable and connectors are 75Ω impedance matched.

Custom assembly configurations can be special ordered using any of Canare's other V-Series models: V-1.5C, V-3C, V-5C, V-3CFB, V-4CFB and V-5CFB multichannel 'video snake series in a variety of metric lengths.

Applications
- Analog & digital video
- RGB(S, H/V) Component Video
- Video Walls
- Hi-Res Projectors
- CG / CAD Workstations

Features
Canare true 75Ω BCP-C Crimp Plugs
< 2.2 nanoseconds channel delay
Super Flexible, easy payout & wrap-up
Bundled Cables keep work site neat
100% Test and Quality Controlled
Excellent Connector Pull Strength
Color Matching BNC Strain Relief Boots
Jacket Protection Sleeve at Fan Breakout
Wide Selection of V-Series Cable Types

Custom Model Selection Guide

4	-	VS	-	05	-	3C

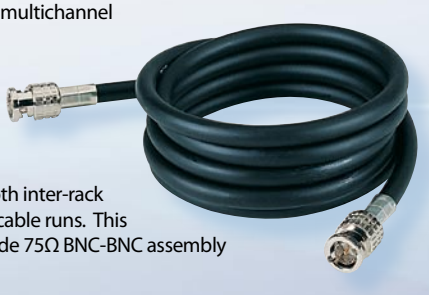
Number of Channels
3, 4, 5

Video Snake
VS = 75Ω BNC-BNC
VF = BNC-F
VR = BNC-RCA
VC = F-RCA
VP = F-F
VH = RCA-RCA

Length (meters)
3, 5, 8, 15, 30, 50
Other Custom Lengths are available

V-Series Cable Type
1.5C
3C
5C
3CFB
4CFB
5CFB

VIC • 75Ω BNC (8281F) Video Cords



Canare VIC cords are useful for both inter-rack harness wiring and longer video cable runs. This super flexible 8281F type pre-made 75Ω BNC-BNC assembly is available in a variety of colors.

Applications
- Analog & digital video
- Studio tie lines
- patch cords
- rack wiring
- satellite headends
- OB vans

Features
Canare 75Ω BNC, F or RCA Crimp Plugs
Super Flexible, easy payout & wrap-up
High Density Copper Braid, or Foil + Braid Shields
Variety of Matte Finish Jacket Colors
100% Test and Quality Controlled
Excellent Connector Pull Strength
Color Matching Strain Relief Boots

Standard Stock • VS 75Ω Video Snakes

Model	Lng.	Number of Channels	75Ω Cable	75Ω BNC Plugs	Color Boot
3VS03-3C	9.8ft, 3m	3	V3-3C	BCP-C3B	CB03
3VS05-3C	16.4ft, 5m	RED, GRN, BLU			
4VS03-3C	9.8ft, 3m	4	V4-3C		
4VS05-3C	16.4ft, 5m	RED, GRN BLUE, WHT			
5VS03-3C	9.8ft, 3m	5	V5-3C		
5VS05-3C	16.4ft, 5m	RED, GRN BLUE, WHT, YEL			

75Ω F Cords

Premium RF video line cords can now be special ordered using our new FP-C series 2GHz crimp connector. Choose from a wide assortment of jacket colors and lengths of Canare standard analog or low loss digital 75Ω Video Coax Cables.

75Ω RCA Video Cords

RCA video patch cords can now be special ordered. Made with our new RCAP series 200MHz crimp connector. Choose from a wide assortment of Canare 75Ω Video Coax Cables. Perfect for SPDIF Digital Audio and MultiMedia.

Standard Stock • 75Ω Video Cords

MODEL	Lng.	75Ω Coax Cable	75Ω BNC Crimp Plugs	Color Boot
VAC003F	3ft	LV-61S	BCP-C4B	CB04
VAC006F	6ft			
VAC010F	10ft			
VAC025F	25ft			

Standard Stock • 75Ω Video Cords

MODEL	Lng.	75Ω Coax Cable	75Ω BNC Crimp Plugs	Color Boot
VIC010F	10ft	LV-77S	BCP-C77A	No
VIC025F	25ft			
VIC050F	50ft			
VIC100F	100ft			

Custom Model Selection Guide

B	02	B	005F		BLACK

1st End Connector Type
B = 75Ω BNC Crimp Plug (BCP-C)
F = 75Ω F Crimp Plug (FP-C)
R = 75Ω type RCA Crimp Plug (RCAP-C)

75Ω COAX Cable Type
01 = L-1.5C2VS
02 = L-3C2VS
03 = LV-61S
04 = LV-77S
05 = L-2.5CFB
06 = L-3CFB
07 = L-4CFB
08 = L-5CFB
09 = L-7CFB

Cable Color
BLACK, BLUE, BROWN, GRAY, GREEN ORANGE, PURPLE, RED, WHITE, YELLOW

Boot
BLANK = 2ea Matching Color CB Boots
X = No Boots
S = Other CB Boot Colors

Length (feet)
1, 2, 3, 5, 8, 10, 15, 30, 50, 100
Other Custom Lengths are available

2nd End Connector Type
B = 75Ω BNC Crimp Plug
F = 75Ω F Crimp Plug
R = 75Ω type RCA Crimp Plug
X = Blunt Cut

75Ω VGA Assemblies

Special order: Dsub15P (M) - Dsub 15P (M), Dsub15P (M) - BNC (M) and Dsub15P (M) - BNC (F)

Bantam, Guitar, A/V Combo & Audio Cords

BC Bantam Audio Patchcords

Canare offers a highly flexible, yet extremely rugged premium TT Patchcord usable in all balanced Audio Bantam Patchbays. Carefully assembled using Canare L-4E5C mini Star Quad audio cable and meticulously soldered onto Nickel & Gold Plated TRS Bantam Plugs.

Available in 7 Cable jacket Colors and supplied with set of snap in place Color ID Rings.

TRS Bantam Audio Patch Cords				
Model	Lng.	Star Quad Audio Cable	Audio Plug	Color Rings
BC003M	1ft	L-4E5C	TRS Bantam	Red, Orn, Yel, Grn, Blu, Gry
BC006M	2ft			
BC009M	3ft			

Colors Available						
BLK	BLU	GRY	GRN	ORN	RED	YEL

□ = Standard Stock ○ = Special Order

GO Guitar Cords

These high quality 1/4" guitar/patch cords come in a variety of convenient lengths and colors. All models are meticulously hand soldered using our very flexible, low noise GS-6 instrument cable mated with two premium Canare F-15 1/4" mono phone plugs. Also highly recommended as an Amplifier to Speaker Cabinet lead.

Go Pre-Made Cords			
Model	Lng.	Cable	Audio connector 1/4" Phone Plug
GO10F	10ft	GS-6	F-15
GO20F	20ft		
GO25F	25ft		

Colors		
BLK	BLU	RED

AV Combo Snakes

For ENG/EFP/OB operations. Broadcast quality made-to-order A/V combo snakes using flexible Canare A2V1 (pictured), A3V1-FB, A2V2-L, A3V2-FB Audio+Video composite cable.

Each end precisely terminated to your choice of impedance matched 75Ω BNC, F or RCA crimp plugs with Male &/or Female XLR3 Connectors. Contact Canare for all custom snake requirements.

Star Quad Microphone and Balanced Audio Line Cords

Star Quad

Canare Star Quad is designed for use with microphones but is also excellent for all line-level signals (e.g. mixer to power amps). The 4-conductor Star Quad arrangement cancels electromagnetically induced noise from SCR dimmer packs, fluorescent lighting ballasts and AC power transformers. Handling noise is prevented by use of cotton filler material. Excellent frequency response is maintained due to special irradiated polyethylene insulation which provides a low capacitance dielectric.

Canare Star Quad cable is super flexible. We use large numbers of thin wire strands in both the conductors and overall shield. We extrude a special compound PVC outer jacket that remains pliant at extremely low temperatures with no wait between cold shipping and installation.

Applications

- Microphones
- Studio audio tie lines
- patch cords
- rack wiring
- snake systems
- PA Mixers

Features

Super Flexible even in sub-zero weather
Rejects EMI, RFI and Handling Noise
High Density Copper Braid Shield
Variety of Matte Finish Jacket Colors
100% Test and Quality Controlled
Excellent Connector Pull Strength

Standard Stock • Star Quad Audio Cords				
Model	Lng.	Cable Star Quad	Connector Plug XLR3-Female	Connector Plug XLR3-Male
EC005F	5ft	L-4E6S	Neutrik NC3FX-B Black Shell Gold pin	Neutrik NC3MX-B Black Shell Gold Pin
EC015F	15ft			
EC025F	25ft			
EC050F	50ft			
EC100F	100ft			

Colors Available									
BLK	BLU	BRN	GRY	GRN	ORN	PPL	RED	WHT	YEL

Cable / Connector / Tooling X-Reference Chart

Cables	BNC			F	RCA	Tools		
	BCP-C	**MBCP-C**	**PCP-PC**	**FP-C**	**RCAP-C**	**TC-1**	**STRIPPER**	**CRIMP DIE**
L-15C2VS V-1.5C 83264 83267	BCP-C1					*	N/A	**TCD-1DB**
L-2.5CFB 1855A 7538 753605	BCP-C25F	MBCP-C25F			RCAP-C25F	*	T5100E	**TCD-35CA**, TCD-3C
A2V1 A2V2-L V-3C L-3C2VS	BCP-C38		BCP-PC3	FP-C3	RCAP-C3A	*	T5100E	**TCD-35CA**, TCD-3C
V-3CFB A3V1-FB A3V2-FB L-3CFB	BCP-C3F, BCP-LC3F	MBCP-C3F	BCP-PC3F	FP-C3F	RCAP-C3F	*	T5100E	**TCD-35CA**, TCD-3C
1506A, 1824A 1825A, 1826A 2037V 2041K 2065V	BCP-C32					*	T5100E	**TCD-35CA**, TCD-3C
LV-61S 8241 8279, 88241 (RG59B/U)	BCP-C4B	MBCP-C4	BCP-PC4	FP-C4	RCAP-C4A	*	T5100E	**TCD-451CA**, TCD-4C
V-4CFB L-4CFB 1505A, 8241F 8212, 9167 9259, 9659 2000, 5553 5565, 5572 556510	BCP-C4F	MBCP-C4	BCP-PC4F	FP-C4F	RCAP-C4F	*	T5100E	**TCD-451CA**, TCD-4C
1505F	BCP-C42			FP-C42	RCAP-C42	*	T5100E	**TCD-31C**
V-5C	BCP-C5B		BCP-PC5	FP-C5	RCAP-C5A	*	T5100E	**TCD-35CA**
8281, 88281 728A, 8281B 7501, 7506	BCP-C51			FP-C51		*	T5100E	**TCD-451CA**
1694A, 9066 9116, 9118 9248 2227K, 2227V 2229V, 5729 5765, F690BVV	BCP-C53A	MBCP-C53		FP-C53A	RCAP-C53	*	T5100E	**TCD-35CA**
1695A, 87120 89120, 633948 9116P 2275V, 2276V 2277V, 2279V	BCP-C55A			FP-C55A		*	T5100E	**TCD-35CA**
L-5CFB V-5CFB 9290 1189A 5731	BCP-C5FA, BCP-LCSF	MBCP-C5F	BCP-PC5F	FP-C5F	RCAP-C5F	*	T5100E	**TCD-5CF**
LV-77S 8281F	BCP-C77A				RCAP-C77	*	T5100E	**TCD-5CF**
L-7CFB	BCP-C7FA			FP-C7FA		*	T5100E	**TCD-7CA**
9011, 9064, 9292 87292, 89292 1617A, 7731A 5906, 5940 2285K, 5914 F11SSVV	BCP-C71A			FP-C71A		*	T5100E	**TCD-7CA**

Cable Use Legend CANARE® BELDEN COMMSCOPE

canare corporation of america

531 5th street, unit a | san fernando, california 91340 usa
tel 818 365 2446 | fax 818 365 0479

170 main street, 2nd Floor | fort lee, new jersey 07024
tel 201 944 3433 | fax 201 944 2290

45 commerce way | totowa, new jersey 07512
tel 201 944 3433 | fax 201 944 2290

canare.com | e-mail: sales@canare.com