

CANARE®

US Edition

CATALOG 13

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Canare, offering value-added products to meet your needs for today and tomorrow.



Canare Building in Nagoya



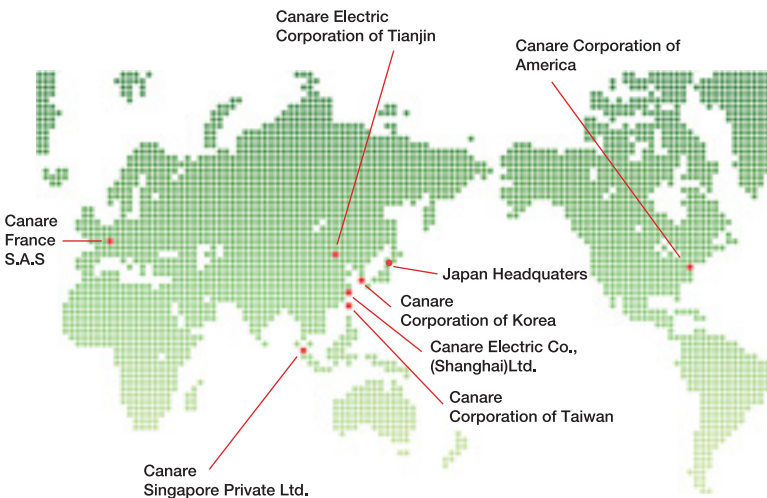
Nano-Tech Laboratory

Corporate Profile

- Name: Canare Electric Co., Ltd.
- Incorporated: February 1974 (Commenced operation 1970)
- Capital: 1.04 billion yen
- Activities: Manufacture and sale of audio-video cables, connectors, assemblies, converters and related products for professional audio and video industry.

Five-point Product Development Goal

- 1 Responsive:**
Fulfilling the needs of the industry through custom solutions.
- 2 Unique:**
Incorporating valuable features not offered by competitors.
- 3 Cutting-edge:**
Devoted to meeting the requirements for emerging technologies.
- 4 Enduring:**
Concentrated on products with long-term value.
- 5 Global:**
Focused on niche markets as well as universal products.



U.S Location

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- Canare France S.A.S www.canare.fr
- Canare Singapore Private Ltd. www.canare.com.sg
- Canare Harness Co., Ltd. (Japan)
- Canare Electric Co., Ltd. (Shanghai)



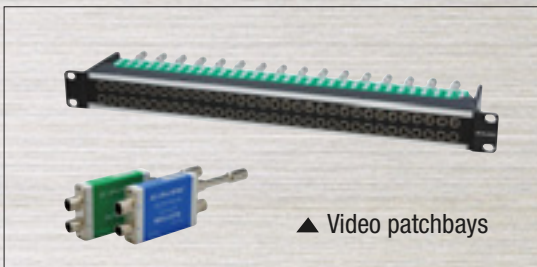
◀ Fiber optic system



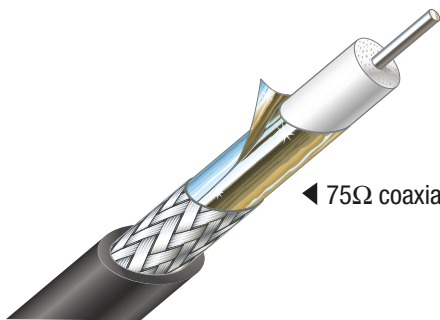
▲ 75Ω BNC connectors



◀ Tools



▲ Video patchbays



◀ 75Ω coaxial cable for HDTV

▼ Cable assemblies



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55	Reels
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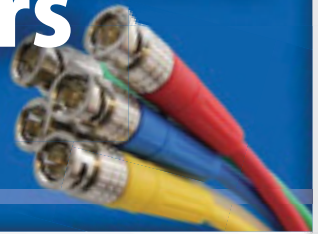
Cable Assemblies

56	BNC, RCA
57	Video Patch, Audio Patch, XLR, LAN
58	Digital Audio

75Ω
DIN 1.0/2.3 **Compact Coaxial Connectors**

CANARE

75Ω
Crimp Type **BNC Connectors**
75Ω Connector



Always expanding...

*The wide world of
Canare connectors*

DIN1.0/2.3
75Ω Mini Coax Plugs(Crimp Type)

DCP-C25HD For L-2.5CHD,1855A
DCP-C3F For L-3CFB

These mini input-output coaxial connectors are ideal for routers, switchers, and similar equipment.

Canare's extensive knowledge of the world of connectors now brings them in Canare's shape complying to the standard DIN 1.0/2.3

Patent Pending

Ball lock mechanism smoothes connection with the receptacle and keeps the connector locked firmly in place.



DIN1.0/2.3
75Ω Mini Coax Receptacles (Board-Mounted Type)

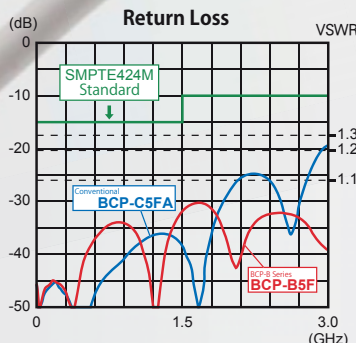
DCJ-LR

75Ω BNC Plugs (Crimp Type)

BCP-B series

Model	Compatible Cable	Belden
BCP-B25HD	L-2.5CHD	-
BCP-B26	-	1855A
BCP-B3F	L-3CFB , LS-3CFB	-
BCP-B31F	L-3CFW	-
BCP-B4F	L-4CFB , LS-4CFB	1505A
BCP-B5F	L-5CFB , LS-5CFB	-
BCP-B51F	L-5CFW	-
BCP-B53	L-4.5CHD	1694A

These high-end BNC plugs easily handle 3GHz performance, and they help with cable matching to realize even stronger high-end performance.



Active

BNC Connectors

Active BNC Connector

CANARE



A common hassle for board designers...

Solved in one stroke!

3G-SDI, HD-SDI, SD-SDI compatible
Active BNC Connectors

TX With built-in cable driver

BCA-TL (right angle)

BCA-TS (straight)

RX With built-in cable equalizer

BCA-RL (right angle)

BCA-RS (straight)

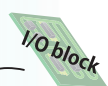
Small connector body packs in a cable equalizer or cable driver.

Connector alone satisfies SMPTE 424M standards, allowing easier design of tricky I/O block circuits for securing return loss performance and easier circuit board design in general.

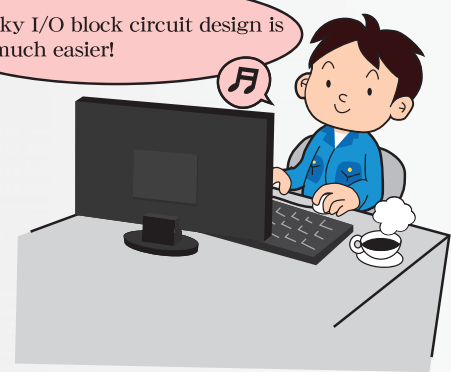
Reduced board surface area requirements help reduce device size.

Compatible Standards

SMPTE-259M/292M/424M



Tricky I/O block circuit design is so much easier!



Optical Transmission Systems in the Age of 3G

The Increasing Capacity of Transmission Signals

The current move toward HD digital signals carrying extremely fine quality data has been radically increasing transmission signal bandwidth requirements. Standards for serial video signal transmission with 4:4:4-sampled Y/PB/Pr, too, have lately been bumped to 3Gbps by the Society of Motion Picture and Television Engineers (SMPTE) in the United States. Given these industry trends, it's clear that the bandwidth for transmission signals used by broadcasters will only increase in coming years.

The Limitations of Coaxial Cables

Steadily increasing bandwidth requirements are already revealing limitations in conventional coaxial cables. Such systems are already becoming too unwieldy in terms of performance (attenuation), space factors, and equipment management.

Converting Trunk Lines to Optical Fiber

Trunk Lines Today

Trunk lines carry many different kinds of signals—video, synchronization, audio, control, power supply—and consequently they're usually comprised of numerous different types of cables. As a result, conduits, electrical pits, and ladders tend to overflow with cabling, leaving hardly any room when lines must be added to upgrade or expand the system.

But, converting these disparate signals into optical signals and transmitting them using fiber optic cables greatly reduces the need for so many specialized cables. Converting trunk lines to fiber optics makes it much easier to design and upgrade equipment and systems, because once laid these lines can be used with considerable flexibility. Fiber optic cables also have smaller diameters, meaning they take up less space, a clear advantage in alleviating some of the problems of today's cable-stuffed broadcasting facilities.

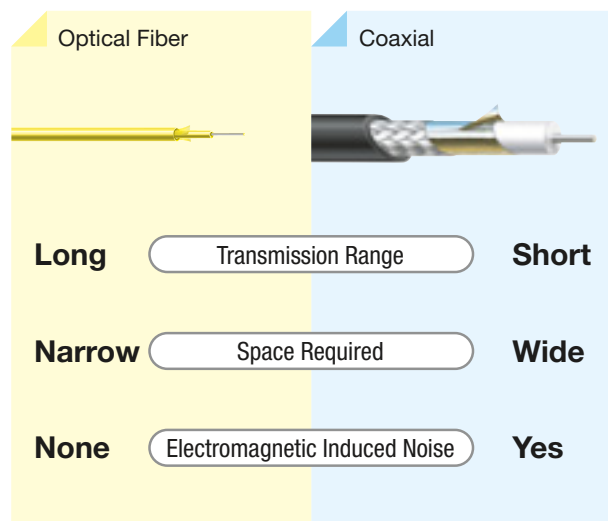
Freedom of Line & Equipment Layout

HD-SDI signals can travel only about 100 meters over standard coaxial cables (5C-FB). This means that when wiring rooms and buildings with coaxial cables, it's sometimes difficult to achieve an optimal layout or position equipment where it will be most convenient and useful.

Further, signal transmissions often need to cover unexpectedly long distances, and fiber optic cables, with their transmission distance measured in tens of kilometers, win hands-down over coaxial cables. This flexibility alleviates much of the conventional worry about cable routing and allows the equipment itself to take center stage.

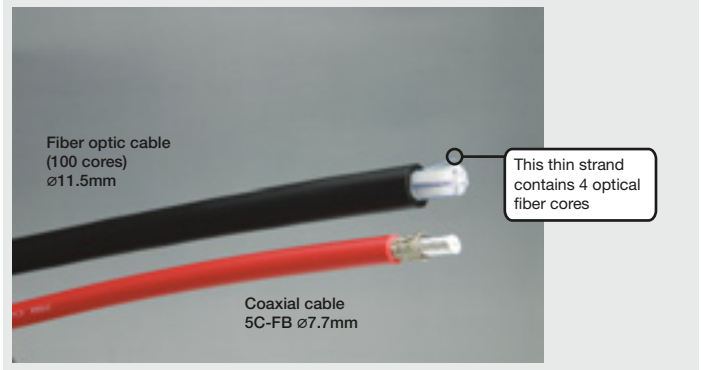
The cost of optical signal converters has dropped radically, too—most can be had for a few hundred dollars—making it difficult these days to find reasons not to introduce fiber optic systems!

Comparison of Cable Characteristics



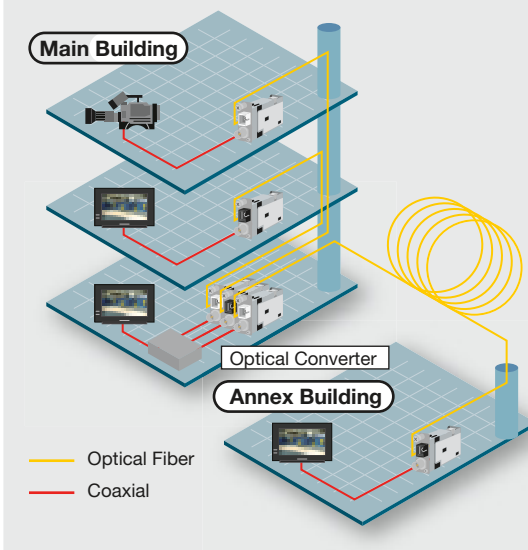
Cable Diameters

Even with 100 cores (lines), a fiber optic cable has an external diameter of just 11.5 mm. Compare that to a typical coaxial cable and the difference is clear.



Example of an Optical Fiber Trunk Line

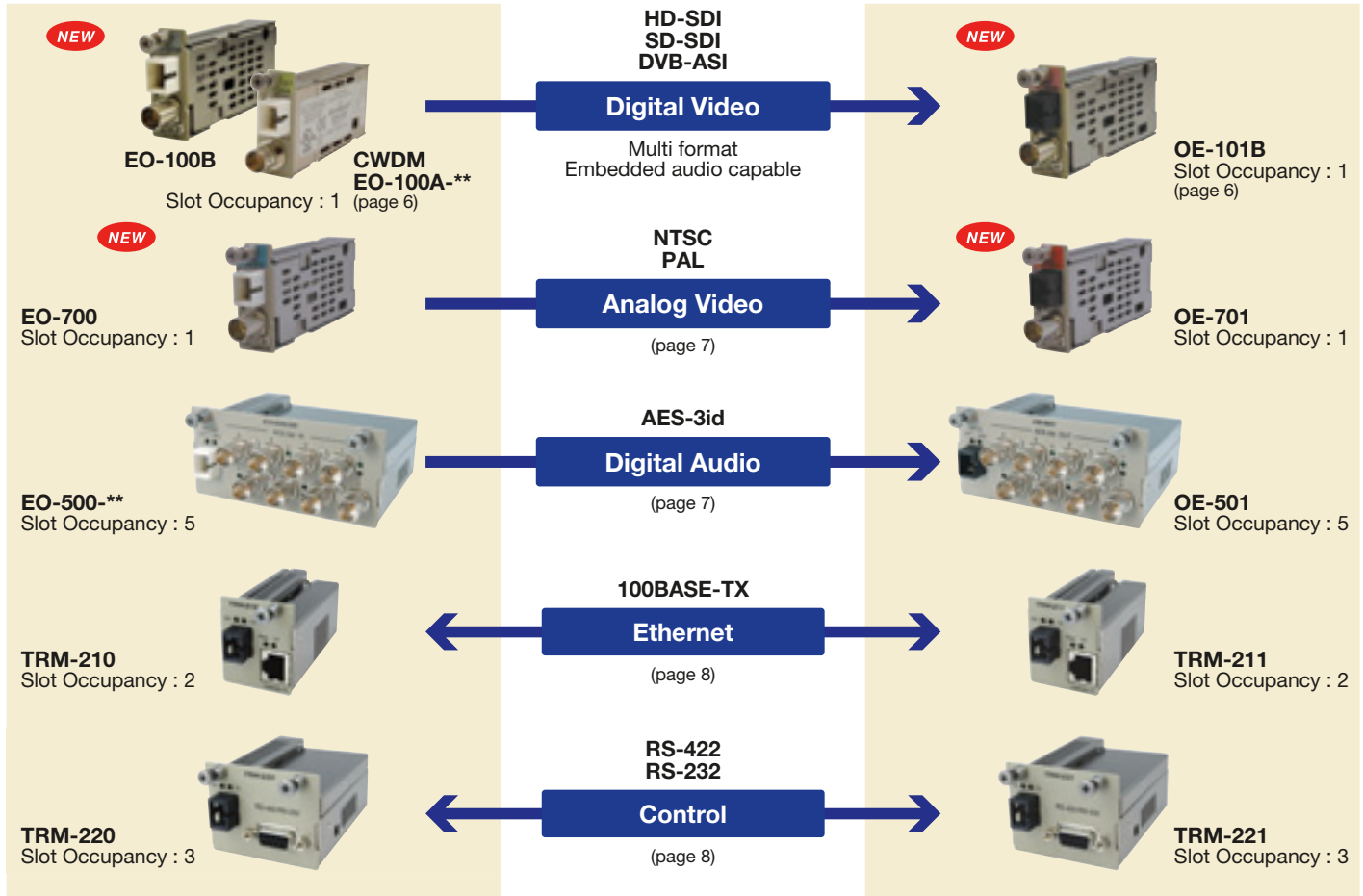
Fiber optic systems are used in signal transmissions within a single broadcast station, or between a main building and an annex building.



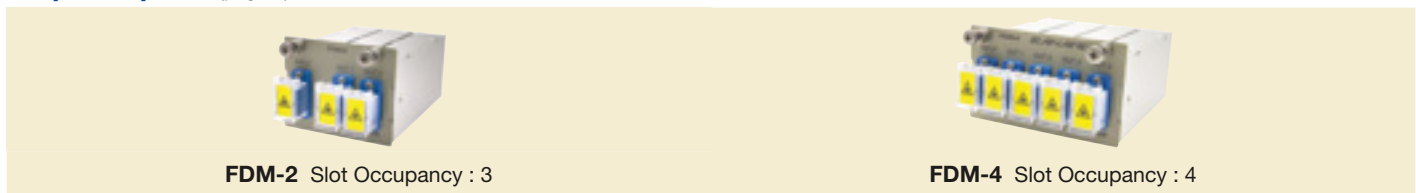
Optical Module Lineup

Canare provides a wide selection of optical modules for your ideal system design.

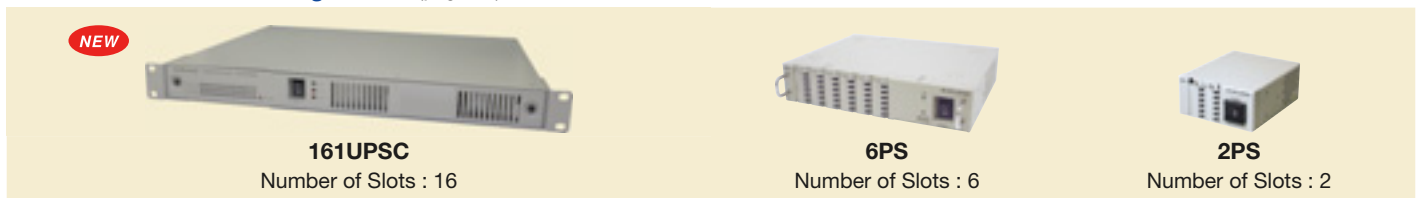
Optical Converters



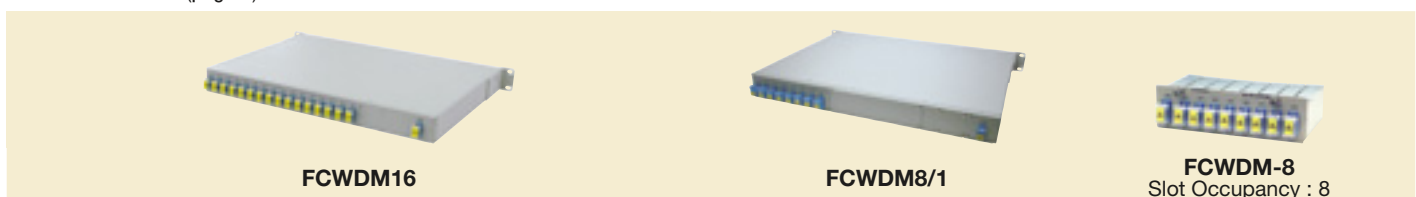
Optical Splitter (page 9)



Platform for Canare Plug-in Unit (page 10)



Mux/Demux (page 9)



Wavelength Multiplexing Systems

Multiplexing

“Multiplexing” is a technology that allows multiple signals with different wavelengths to be transmitted together over a single optical fiber. Three general types of multiplexing — WDM, CWDM and DWDM — offer increasing signal-carrying capacities, as described below.

Wavelength Division Multiplexing (WDM)

WDM is the simplest form of multiplexing and uses two wavelengths of 1310nm and 1551nm. Unlike when using an optical divider, insertion loss can be kept below 0.5dB.

Coarse Wavelength Division Multiplexing (CWDM)

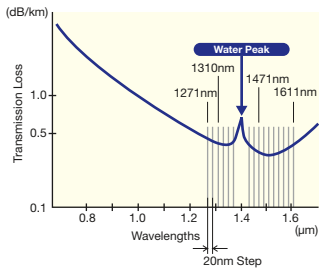
CWDM systems use 8 wavelengths (20nm grid) primarily between 1471nm and 1611nm. To these it is also possible to add 8 more between 1271nm and 1451nm to allow a maximum of 16 wavelengths to be carried as a single multiplexed transmission. An ultra-thin membrane filter on the optical multiplexer/demultiplexer (mux/demux) keeps insertion loss at just 2-3dB.

*CWDM standardized through ITU G695.

Optical Converter (TX for CWDM)

Canare’s CWDM optical converter uses a DFB laser, which offers a much tighter spectrum than FP lasers. Up to 16 different wavelengths fall within 1271nm and 1611 nm in 20nm intervals. The wavelengths in the 20nm grid between 1391nm and 1411nm are not used because their proximity to the water peak results in too much attenuation.

Optical Fiber Transmission Loss Characteristics



Optical Multiplexer/Demultiplexers

The optical signals output from the optical converter (TX) are combined into a single signal by the multiplexer (mux) and transmitted along a single optical fiber. At the receiving end, these combined optical signals are demultiplexed (demux) to split them back into their original component 8 signals. Optical mux/demuxes are bi-directional, so the same model can be used for transmitting and receiving on each end. It’s also possible to use 4 wavelengths out of the 8 for transmitting and the remaining four for receiving. Both 8-wavelength and 16-wavelength models are available, and combining these with an optical converter allows a variety of system constructions with many uses.

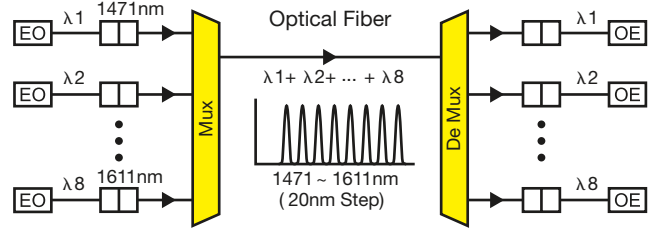
Optical Converter (RX)

Canare’s optical converter (RX) converts a light signal comprised of 8 different wavelengths into electrical signals. This converter is common to all wavelengths and one converter is required for each wavelength.

Once optical fiber cables have been laid, multiplexing the transmissions carried on them eliminates the need to purchase and install new cables when more transmission lines are needed.

Eight Canare optical converters and an FCWDM-8 mux/demux can be installed compactly on a single 161UPSC 1U-size platform, effectively allowing an 8-wavelength transmission system to be achieved in just 1U of space.

Multiplexing (CWDM)



8-wavelength transmission

TX

1471nm
1491nm
1511nm
1531nm
1551nm
1571nm
1591nm
1611nm

EO-100A-47
EO-100A-49
EO-100A-51
EO-100A-53
EO-100A-55
EO-100A-57
EO-100A-59
EO-100A-61

EO converter for CWDM
EO-100A-**

Mux/Demux
FCWDM-8

Fiber-Optic cable

RX

Mux/Demux
FCWDM-8

OE converter
OE-101B
× 8

Note: Please use with canare platform.

HD-SDI EO/OE Converters

Canare's answer for HD-SDI distribution. We upgraded our EO/OE modules and offer them at lower prices.

Electric to Optic Converters (TX)

Model	Wavelength	Emission	Equalizer	Reclocker
EO-100B NEW	1310nm	-3.5dBm	Yes	Yes
EO-140			No	No
EO-160			Yes	No

★ Production by order. Please ask us for ordering lot.

Electric to Optic Converters for CWDM (TX)

Model	Wavelength	Emission	Equalizer	Reclocker
EO-100A-**	1271 - 1611nm	-2.5dBm	Yes	Yes

** Please see the following ordering information for complete model number.

Ordering Information for EO100A-**

EO-100A - 47

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

Optic to Electric Converters (RX)

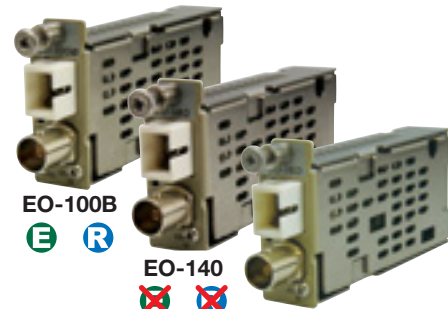
Model	Wavelength	Sensitivity	Reclocker
OE-101B NEW	1200 to 1620nm	-24dB	Yes
OE-151			No

★ Production by order. Please ask us for ordering lot.

Key Features and Benefits

- Multi format - HD-SDI (up to 1.485Gbps), SD-SDI and DVB-ASI
- Embedded audio capable
- Handles pathological test pattern
- No-reclocker models support wide bit rate range. (50Mbps to 1485Mbps)
- Compact design - Maximum 16 modules within 1RU
- Hot swappable
- Cost effective
- Easy to use - BNC and SC-type connector.

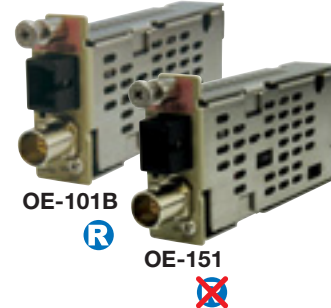
Note: No-equalizer models are usable only in case of the coaxial cable part in a system is short and allow further cost reduction.



EO-100B **E** **R**
 EO-140 ~~**E**~~ ~~**R**~~
 EO-160 **E** ~~**R**~~
 Slot Occupancy : 1 slot
 Dimensions : 17 x 43.4 x 78.4mm
 Weight : 77g



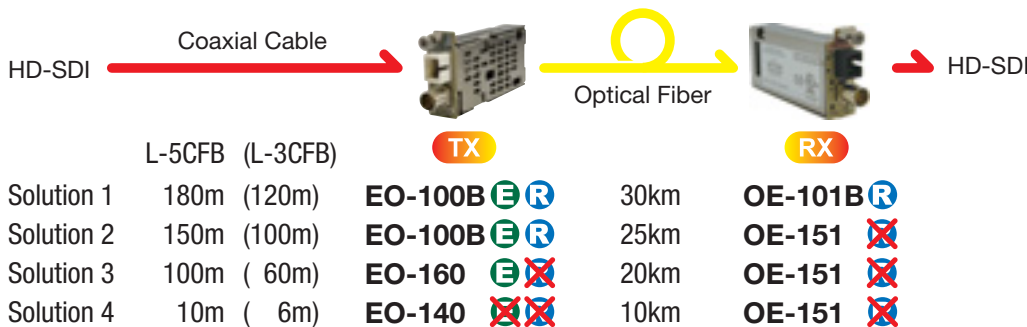
EO-100A-** **E** **R**
 Slot Occupancy : 1 slot
 Dimensions : 17 x 43.4 x 79.2mm
 Weight : 58g



OE-101B **R**
 OE-151 ~~**R**~~
 Slot Occupancy : 1 slot
 Dimensions : 17 x 43.4 x 78.4mm
 Weight : 77g

HD-SDI Transmission Distance (for Reference)

* Condition: line loss 0.5dB/km



Analog Video Optical Converters

Model	Description
★ EO-700 NEW	NTSC/PAL Electric to Optic Converter
★ OE-701 NEW	NTSC/PAL Optic to Electric Converter

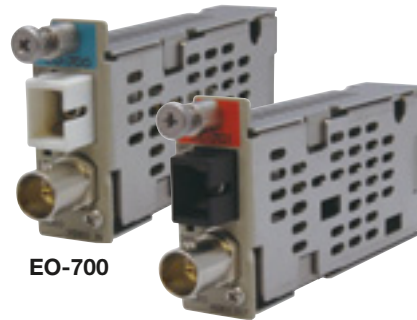
★ Production by order. Please ask us for ordering lot.

Key Features and Benefits

- Supports both NTSC and PAL video signals.
- Tri-Level Sync can be transmitted.
- Extends communications up to 45 km (condition: line loss 0.5dB/km)

Specifications

Model	EO-700	OE-701
Convertibility	Electric to Optic	Optic to Electric
Wavelength	1310nm	1200 to 1620nm
Emission/Sensitivity	-3.5dBm	-26dBm
Analog Video I/O Connector	1 x 75 BNC/INPUT	1 x 75 BNC/OUTPUT
Optic Connector	1 x SC-type (Single Mode)	
Signal to Noise Ratio	60dB	
Bandwidth	6MHz	
Typical Compliances	SMPTE 170M, ITU-R BT.470, CB, CE, UL/cUL, FCC Part15 ClassA, FDA, RoHS	



EO-700

OE-701

Slot Occupancy : 1 slot
Dimensions : 17 x 43.4 x 78.4mm
Weight : 84g

AES 3id Optical Converters

AES-3id optical converters multiplex and optically convert AES signals from up to 8 ports (16 audio channels) to allow them to be transmitted over long distances. Further, eight different types of TX (distinguished by emitted light wavelengths from 1471nm to 1611nm) use coarse wavelength division multiplexing (CWDM) to allow AES signals from up to 64 ports (128 audio channels) to be transmitted via a single fiber-optic cable.

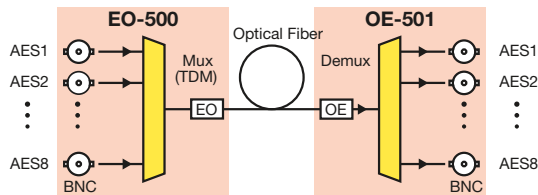
Model	Description
★ EO-500-**	AES-3id Electric to Optic Converter
★ OE-501	AES-3id Optic to Electric Converter

** Please see the following ordering information for complete model number.

★ Production by order. Please ask us for ordering lot.

Key Features and Benefits

- AES-3id-1995 and SMPTE 276M
- Fully asynchronous multiplex transmission.
- Word clock can be transmitted (30kHz to 50kHz).
- Dolby-E compatible



EO-500-55



OE-501

Slot Occupancy : 5 slots
Dimensions : 76.2 x 43.4 x 91mm
Weight : 170g

Specifications

Model	EO-500-**	OE-501
Convertibility	Electric to Optic	Optic to Electric
LD/PD	DFB-LD	PIN-PD
Wavelength	1471 to 1611nm	-
Emission/Sensitivity	-3.0dBm	-26dBm
AES in/out	8 x 75 BNC / Input	8 x 75 BNC / Output
Platform (Max. Unit)	161UPSC (3), 6PS (1)	
Optic Connector	1 x SC-type (Single Mode)	
Sampling Rate	30KHz to 50KHz	
Power Req., Consump.	DC5V, 2.5W	
Operating Temperature	0 to 40°C	
Typical Compliances	AES-3id-1995, SMPTE 276M, CB, CE, UL/cUL, FCC, FDA, EMC, IEC 60825-1 Class 1 Laser	

Ordering Information

EO - 500 - 47

Convertibility Type	
EO	Electric to Optic
OE	Optic to Electric

LD/PD Type	
500	DFB-LD
501	PIN-PD

Wavelength (EO-500 Only)

47	1471nm
49	1491nm
51	1511nm
53	1531nm
55	1551nm
57	1571nm
59	1591nm
61	1611nm

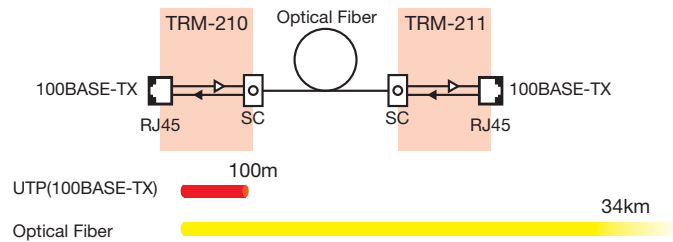
100BASE-TX Optical Converters

Model	Wavelength	Receptacle Connector
★ TRM-210	1310nm	1 x SC, 1 x RJ45
★ TRM-211	1550nm	1 x SC, 1 x RJ45

★ Production by order. Please ask us for ordering lot.

Key Features and Benefits

- Media convertert for Fast Ethernet.
- Auto MDI/MDX
- Extends communications up to 34 km (condition : line loss 0.5dB/km)
- Bi-directional optical interface



Note1: Please use TRM-210 and TRM-211, in pairs.

Note2: 10BASE-T is unsupported.



TRM-210

TRM-211

Slot Occupancy : 2 slots
Dimensions : 35.5 x 43.4 x 76.2mm
Weight : 103g

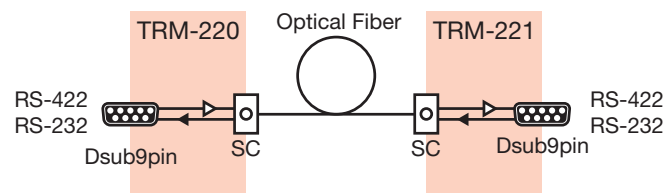
RS-422/RS-232 Optical Converters

Model	Wavelength	Receptacle Connector
★ TRM-220	1310nm	1 x SC, 1 x D-sub 9 pin (F) w/4-40 screws
★ TRM-221	1550nm	1 x SC, 1 x D-sub 9 pin (F) w/4-40 screws

★ Production by order. Please ask us for ordering lot.

Key Features and Benefits

- TIA-422, SMPTE 207M, RS-232
- Usable in a case of RS-422 <=> RS-232
- Extends communications up to 34 km (condition: line loss 0.5dB/km)
- Bi-directional optical interface



Note: Please use TRM-220 and TRM-221 in pairs.



TRM-220

TRM-221

Slot Occupancy : 3 slots
Dimensions : 54 x 43.4 x 76.2 mm
Weight : 110g

HD-SDI Signal Repeater

Model	EE-100
Description	HD-SDI Signal Repeater (Electric to Electric)
Video Format	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 75 BNC
Compliances	SMPTE 259M and 292M, DVB-ASI EN 50083-9, ARIB BTA S-004B CE, RoHS, FCC Part15Class A

Key Features and Benefits

- Additionally expandable: 120m for HD-SDI and 320m for SD-SDI thru L-5CFB
- Multi format - supports HD-SDI, SD-SDI and DVB-ASI
- Embedded audio capable



EE-100

Slot Occupancy : 1 slot
Dimensions : 17x 43.4 x 79.2 mm
Weight : 60g

CWDM Mux/Demux

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.

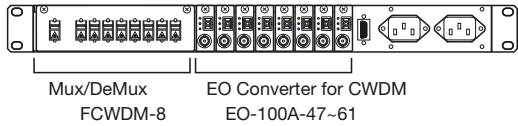
Model	Description
★ FCWDM-8	Module Type for 161UPSC, 1x 8CWDM
★ FCWDM8/1	1RU Rack Mount Type, 1x 8CWDM
★ FCWDM8/2	1RU Rack Mount Type, 2x 8CWDM
★ FCWDM16	1RU Rack Mount Type, 1x 16CWDM

★ Production by order

Key Features and Benefits

- Bi-directional 8 or 16 wavelengths.
- Passive and stand-alone products.
- FCWDM-8 can be loaded into 161UPSC.
- Easy to use - Just plug in SC-type connectors.
- Cost Effective

<Loading example (rear view of 161UPSC)>



Specifications

Model	FCWDM-8	FCWDM8/1 (8/2)	FCWDM16
Wavelength	1471 to 1611nm		1271nm to 1611nm
Channel Spacing	20nm		20nm except for 1372 to 1431nm
Passband width	>15nm		>13nm
Insertion Loss	<2.5dB		<3.3dB
Isolation		>30dB	
Reflection Attenuation		≥45dB	
Operating Temperature		0 to 70°C	
Dimensions	146x 43.4x 100.2mm	482.6x 44x 362.3mm	
Weight	255g	2520g (2696g)	2550g

Optical Splitter

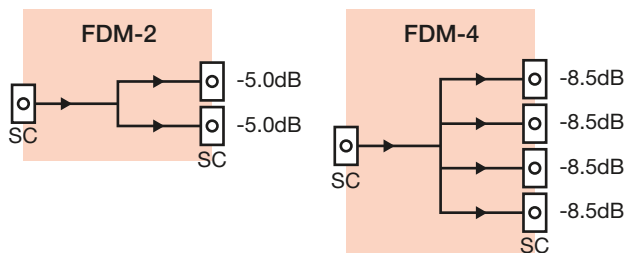
Model	Wavelength	Description
★ FDM-2	1261 to 1611nm	1x2 Splitter for Single Mode Fiber
★ FDM-4		1x4 Splitter for Single Mode Fiber

★ Production by order

Key Features and Benefits

- Divides single optical input into multiple optical output.
- Passive and stand-alone products.
- Can be loaded into platform for Canare plug-in unit.
- Easy to use - Just plug in SC-type connectors.
- Low insertion loss.

Insertion Loss



FCWDM-8



(Rear View)



FCWDM16

(Rear View)



Slot Occupancy : 3 slots
Dimensions : 54 x 43.4 x 82 mm
Weight : 83g



FDM-4
Slot Occupancy : 4 slots
Dimensions : 72 x 43.4 x 82 mm
Weight : 110g

Platform for canare Plug-in Unit

Canare PS series is platform for plug-in units of EO/OE, EE, TRM, and other modules. The robust 1RU rack mountable and space efficient portable frames are available.

Model	Description
161UPSC <small>NEW</small>	1RU Rack Mount Type, 16 Slots
6PS	Portable Type, 6 Slots
2PS	Palm Size, 2 Slots

Key Features and Benefits

- Compact design - Maximum 16 modules within 1RU
- Hot swappable
- 4 type of alarm signals can be output via Dsub-9P(F) connector (161UPSC).
- Redundant power supply for 161UPSC with secondary PSM2

Specifications

Model	161UPSC	6PS	2PS
Number of Slots	16	6	2
Power Requirement	AC100 to 240V	AC100 to 200V, DC 12V	DC 5V
Power Consumption	Max. 40W	Max. 60VA (AC100V) Max. 80VA (AC200V) Max. 18W (DC12V)	Max. 4W
Power Connectors	AC3P Jack x2	XLR2 Male (AC) XLR4 Male (DC)	XLR4 Male (DC)
Power Supply to Modules	DC5V	DC5V	DC5V
Operating Temperature	-10 to 40°C	0 to 40°C	
Typical Compliances	CB, CE, UL/cUL, KC, RoHS; FCC15B ClassA	FCC Part15 Subpart B Class A	



Dimensions : 434 x 44 x 340 mm
Weight : 4500g



6PS
Dimensions : 210 x 44 x 165 mm
Weight : 780g



2PS
Dimensions : 90 x 44 x 110 mm
Weight : 200g

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.

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

*TAJIMI compatible type (OC Series) is also available.
Please contact Canare for more information.

★ Production by order

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
EO/OE Config.	SDI1 Slot	EO-100B
	SDI2 Slot	OE-101B
HFO Connector	Canare FCFRA (SMPTE, Female)	Canare FCMRA (SMPTE, Male)
SDI I/O Connector	2x 75 ohm BNC	
EXT Connector	2x XLR3 Female	2x XLR3 Male
Power Requirement	AC100 to 240V, DC 12V	
Power Consumption	Max. 5W	
Power Connector	AC3P Jack XLR4 Male (DC)	
Operating Temperature	0 to 40°C	

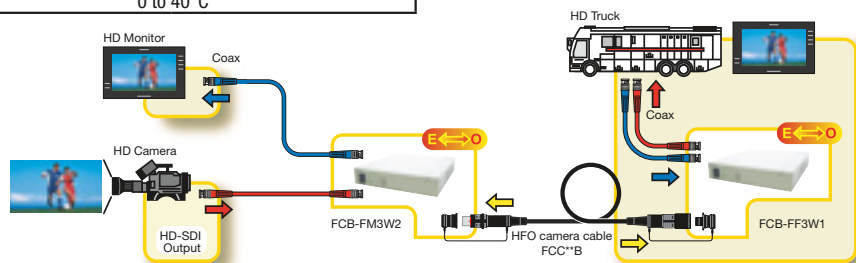
FCB-FM3W2



FCB-FF3W1






Rear view



SMPTE311M Hybrid Fiber-optic Camera Cables

Key Features and Benefits

- SMPTE 311M
- Meets HDTV Camera systems
- Rugged and flexible construction
- Slim and Light (LF-2SM7R)

Type	Model	Sales units (m)	Nom. O.D. (mm)	Weight kg/100m	Outer Jacket	Overall Shield	Tension Tolerance (N)	Bend Radius	Temp. Range	Channel Unit			
										Fiber	Signal (Control)	Aux. (Power)	Strength Member
 LF-2SM7R Jacket color : black	LF-2SM7R	Please contact Canare sales.	7.1	6.8	Abrasion-resistance Elastomer	8/24/0.10TA 91%	300	x6 over of Nom. O.D.	-40°C to +75°C	2x SM9.2/125µm Kevlar+PVC Jacket (1x BLU, 1x YEL) Unit OD: 1.7mm	2x 25AWG, 7/0.18TA (1x CLR, 1x RED) Unit OD: 1.2mm	2x 23AWG, 25/0.12TA (1x BLK, 1x WHT) Unit OD: 1.35mm	1x 18AWG, 19/0.24 (1x CLR) Unit OD: 1.4mm
 LF-2SM9RB	LF-2SM9RB		9.2	12.0	PVC	9/24/0.10TA 91%	700			2x SM9.5/125µm Kevlar+PVC Jacket (1x BLU, 1x YEL) Unit OD: 1.7mm	2x 25AWG, 7/0.18TA (1x GRY, 1x RED) Unit OD: 1.2mm	4x 20AWG, 21/0.18TA (2x BLK, 2x WHT) Unit OD: 1.7mm	1x 15AWG, 19/0.24 (1x CLR) Unit OD: 2.6mm
	LF-2SM9		12.0										
 LF-2SM9RB	LF-2SM12		12.0	18.0	Abrasion-resistance Elastomer (Inner Jacket: PVC)								
	LF-2SM16		16.0	29.0	PVC (Double)								

★ Production by order. Contact Canare sales for details.



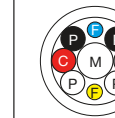
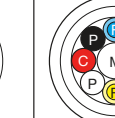
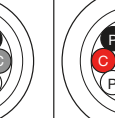
LF-2SM7R: OD 7mm of slim profile and 43% lighter than LF-2SM9R, best fit for mobile applications.

LF-2SM9RB: Durable OD 9mm hybrid cable features abrasion-resistance PVC jacket and Kevlar+PVC jacketed fiber units. Best fit for all studio and outside broadcast applications. -most common-

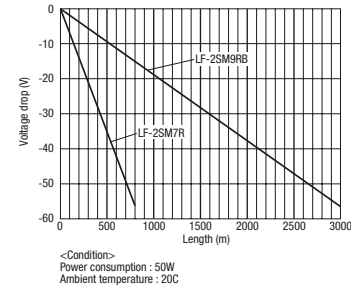
LF-2SM9: Ideal for fixed HDTV system installments
LF-2SM12, LF-2SM16: Rugged construction, double jacket

Note :
 The power supply distance depends on HFO camera cable voltage drop and the system used.
 Calculate the distance using the graph below provided as a guideline.

Cross Section




LF-2SM7R	LF-2SM9RB	LF-2SM9	LF-2SM12	LF-2SM16
				
Key: F E : Kevlar+PVC Jacketed Fiber C C : Signal (Control) P P : Aux (Power) M : Strength Member				
F E : Fiber				

Voltage Drop



HFO Camera Cable (Multi Channel)

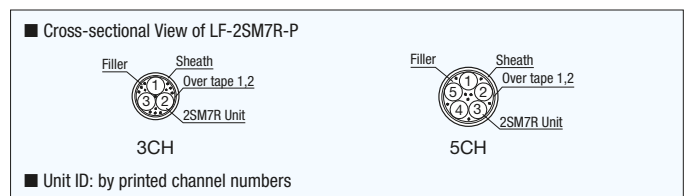
NEW

Type	cross-section view	Model	No. of ch.	Sales units (m)	Nom. O.D. (mm)	Unit O.D. (mm)	Weight kg/100m	Outer Jacket	Tension Tolerance (N)	Bend Radius	Temp. Range	Unit composition
 LF-2SM7R-3P Jacket color : black	★ 	LF-2SM7R-3P	3	Please contact Canare sales.	19.4	7.1	36	PVC	900	6 x over of Nom. O.D.	-30°C to +75°C	Refer to LF-2SM7R
	★ 	LF-2SM7R-5P	5		23.7							

★ Production by order. Contact Canare sales for details.

LF-2SM7R-P SERIES

- Canare multi channel hybrid fiber cables are now available in 3 or 5-channel format.
- LF-2SM7R-P is designed with thin OD and light weight for ease of mobile HD applications.



HFO Camera Cable Assemblies

Key Features and Benefits

- SMPTE 304M, 311M, and ARIB BTA S-1005B compliant.
- Connector body material is stainless steel

- Return loss: 45dB or greater ($\lambda=1.3\mu\text{m}$)
- Insertion loss: 0.5dB or less ($\lambda=1.3\mu\text{m}$)

HFO Camera Cable Assemblies

Type	Model	Length (m)
	★ FCC10B	10
	★ FCC20B	20
	FCC50B	50
	FCC100B	100
	★ FCC50A-WJ	50
	★ FCC100A-WJ	100

★ Production by order. Custom lengths order available.

* TAJIMI compatible type (OC series) is also available. Please contact Canare for more information.

- FCC**A-WJ series prevent the cable from catching on skirt of camera pedestal.
- 2 each of 7 color rings included.

Slim HFO Camera Cable Assemblies

Type	Model	Length (m)
	★ FCC10A-7R	10
	★ FCC20A-7R	20
	★ FCC30A-7R	30
	★ FCC50A-7R	50
	★ FCC100A-7R	100

★ Production by order. Custom lengths order available.

* TAJIMI compatible type (OC series) is also available. Please contact Canare for more information.

- Equipped Slim HFO cables; LF-2SM7R plus specialized connector.
- 43% lighter and 22% thinner than regular HFO assemblies.
- 2 each of 7 color rings included.

Note: Power supply distance for FCC**A-7R shortens to approximately 1/4 of that of the FCC**B and FCC**A-WJ series.

Slim HFO Camera Cable Assemblies (Multi Channel Fantails) NEW

Type	Model	Length (m)
	★ F3-FCC10A-7R	10
	★ F3-FCC20A-7R	20
	★ F3-FCC30A-7R	30
	★ F3-FCC50A-7R	50
	★ F3-FCC100A-7R	100
	★ F5-FCC10A-7R	10
	★ F5-FCC20A-7R	20
	★ F5-FCC30A-7R	30
	★ F5-FCC50A-7R	50
	★ F5-FCC100A-7R	100

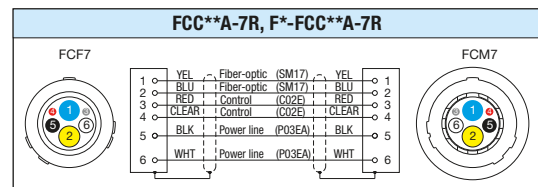
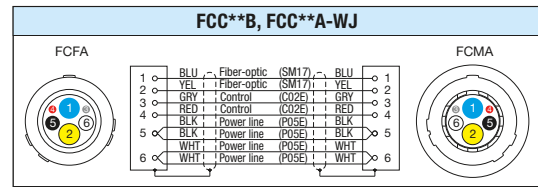
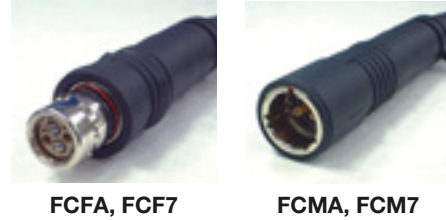
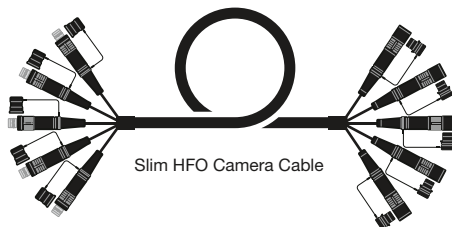
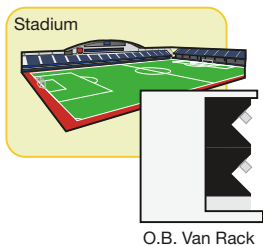
★ Production by order. Custom lengths order available.

* TAJIMI compatible type (OC series) is also available. Please contact Canare for more information.

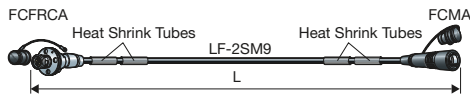
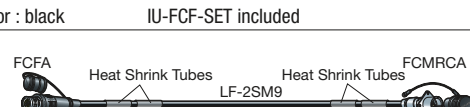
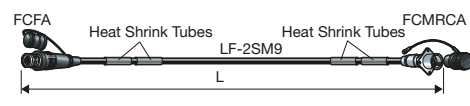
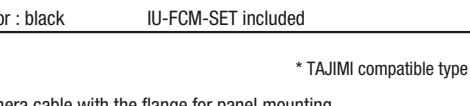
- Equipped Slim HFO cables; LF-2SM7R-*P plus specialized connector.
- Color rings included.

Note: Power supply distance for F*-FCC**A-7R shortens to approximately 1/4 of that of the FCC**B and FCC**A-WJ series.

<Example of Uses>



Hybrid Fiber-optic Camera Cable Assemblies (Flanged Type)

Type	Model	Length (m)
	★ FCC05A-FRCM	5
	★ FCC10A-FRCM	10
Jacket color : black IU-FCF-SET included		
	★ FCC05A-FMRC	5
	★ FCC10A-FMRC	10
Jacket color : black IU-FCM-SET included		

★ Production by order.

* TAJIMI compatible type (OC series) is also available. Please contact Canare for more information.

- HFO camera cable with the flange for panel mounting.
- SMPTE 304M, 311M, and ARIB BTA S-1005B compliant.
- Return loss: 45dB or greater ($\lambda=1.3\mu\text{m}$).
- Insertion loss: 0.5dB or less ($\lambda=1.3\mu\text{m}$).
- Connector body material is stainless steel.
- 2 each of 7 color rings and insulation plates included.



Color Rings



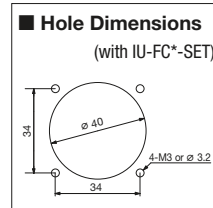
IU-FC*-SET



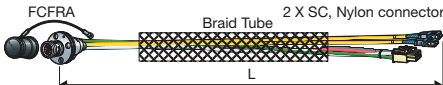
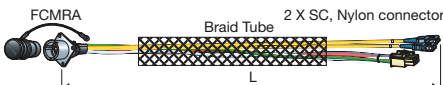
FCFRCA



FCMRCA



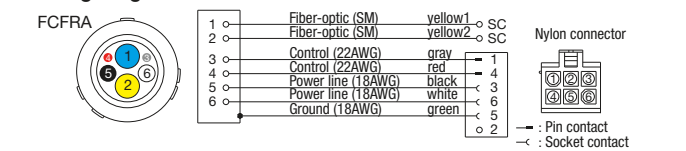
Hybrid Fiber-optic Receptacle Cables (SMPTE/ARIB)

Type	Model	Length (m)
	FCS015A-FR	1.5
	FCS015A-MR	1.5
Jacket color : black IU-FCF-SET included		
Jacket color : black IU-FCM-SET included		

* TAJIMI compatible type (OC series) is also available. Please contact Canare for more information.

- Ideal for connecting wall terminal panels to splice enclosures, etc.
- Return loss: 45dB or greater ($\lambda=1.3\mu\text{m}$).
- Insertion loss: 0.5dB or less ($\lambda=1.3\mu\text{m}$).
- Connector body material is stainless steel.
- Insulation plates included.

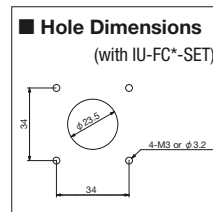
■ Wiring Diagram



FCFRCA



FCMRCA



Insulation Plate

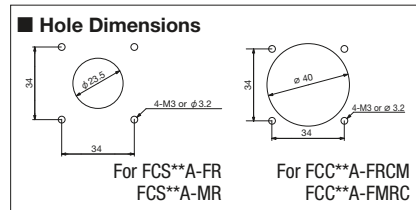
Ideal for perfect insulation between individual connector and panel.

Model	Description
IU-FCM-SET	FCMRA, FCMRCA
IU-FCF-SET	FCFRA, FCFRCA

- Material: Bakelite (phenolic resin)
- Mounting screws included.



IU-FC*-SET



Extraction Tool

Extraction tool helps easy to clean Canare HFO connectors.

Model	Description
ASPT-1	FCFA, FCF7, FCFRA, FCFRCA

- Tool to be used to release the alignment sleeve unit when cleaning HFO connectors.

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



ASPT-1



Quick-release

US Patent No.724105B2
JP Patent No.4340186

Hybrid Camera Cable Checker

Canare Cable Checker allows fast, easy confirmation of HFO cables in the field. No heavy equipment to drag around. The compact design features a backlight digital display to measure optical loss/power and electrical continuity. Small and light, Canare cable checker helps make mobile installations smooth, secure and constant.

Kit Model	Individual Model	
	Measuring Unit	Loop-back Unit
FCT-FCKIT	FCT-FC	FCT-FCLB

* TAJIMI compatible type (OC series) is also available. Please contact Canare for more information.

Key Features and Benefits

- Compact, hand-held design
- Measured optical loss and power in addition to electrical signals
- 2x AA, 20 hours battery life
- The kit includes a storage case, carrying cases, AA Batteries, and cleaning sticks

Specifications

Kit Model	FCT-FCKIT
Connector	SMPTE/ARIB (Canare FC Series)
LD	FP-LD
Wavelength	1310nm
Output Power	-2.5dBm
Sensitivity	-24 to -2dBm
Maximum Length	3.5km (Canare LF-2SM9RB)
Optic Lines	Two Lines: Power and Loss
Copper Lines	Power, Control, and Shield: Connectivity
Battery/Life	2pcs of AA/ Approx. 20hours
Operating Temperature	-10 to 60°C
Dimensions	FCT-FC: 46x 46x 150mm FCT-FCLB: 46x 46x 65mm
Weight	FCT-FC: 380g FCT-FCLB: 170g
Accessories	Storage case, carrying cases, AA Batteries, and cleaning sticks

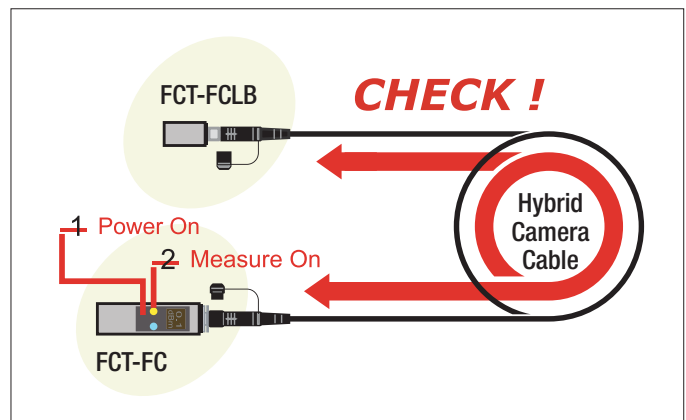
CE, FCC, FDA registered
US Patent No.7113678
JP Patent No.4155979



Carrying Cases



Storage Case

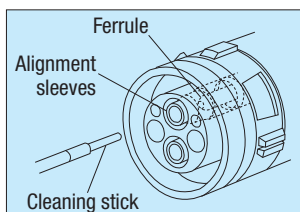


Technical Note

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 FCFA and FCFRA enhance easy



cleaning procedure for its innovative alignment sleeve and indulator detachable design.

US Patent: No.7241055B2, JP Patent: No.4340186

- 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



After cleaning

Hybrid Fiber-optic Camera Connector Panels

Pre-terminated HFO camera connector panel with built-in splice enclosure box provides easy and quick installation between HD camera system and terminal panel or rack. By combining the unit and frame, HFO camera connector panel enables a variety of layouts depending on the system design.

■ COPS-F Series (SMPTE)

Model	Panel Size	Panel Connectors* (Assembly)
★ COPS-FF3	Wall Mount Type	2x FCFRA (FCS003A-FR)
★ COPS-FM3	3RU Height, W:197.6mm	2x FCMRA (FCS003A-MR)
★ COPS-FF2	Wall Mount Type	2x FCFRA (FCS003A-FR)
★ COPS-FM2	2RU Height, W:197.6mm	2x FCMRA (FCS003A-MR)
★ COPS3-FF3	Rack Mount Type	6x FCFRA (FCS003A-FR)
★ COPS3-FM3	3RU	6x FCMRA (FCS003A-MR)
★ COPS3-FF2	Rack Mount Type	6x FCFRA (FCS003A-FR)
★ COPS3-FM2	2RU	6x FCMRA (FCS003A-MR)

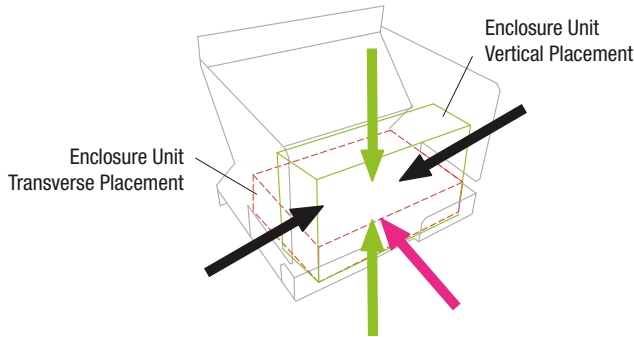
* Each panel connector is pre-terminated, length at 0.3m.

* TAJIMI compatible type (OC series) is also available. Please contact Canare for more information.

★ Production by order

Key Features and Benefits

- Exclusive "5-directional Wiring"
- Convenient to build I/O interface between HD facilities and HD OB vans
- Variety of choice of 2RU/3RU and wall/rack mount
- Pre-terminated HFO connectors reduce installation time dramatically.
- Cost effective

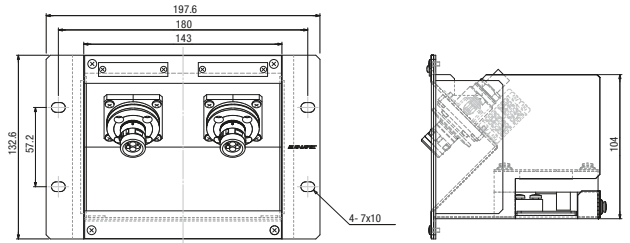
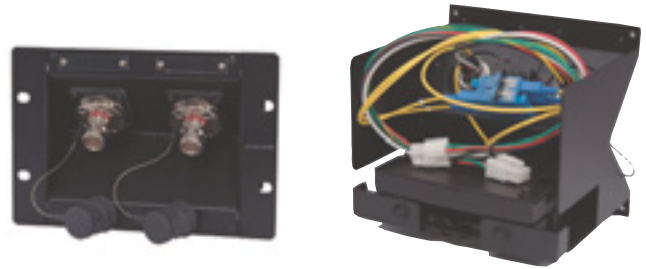
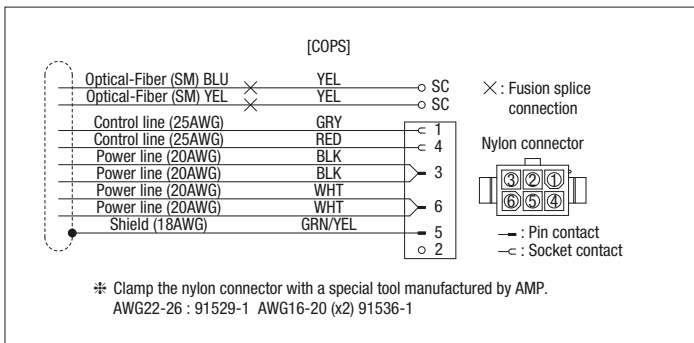


5 directions of cabling as indicated by colored arrows

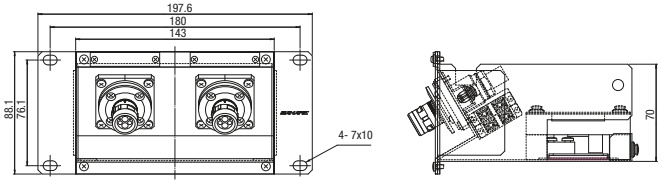
- Vertical/Transverse placement
- Transverse placement
- Vertical placement

5-directional Wiring
JP Patent No.4388540

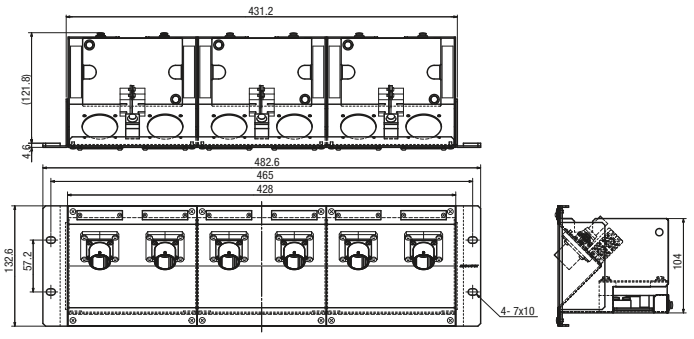
■ Wiring Diagram



COPS-FF3



COPS-FF2



COPS3-FM3

Accessories

Fiber-optic cable w/SC connector (2m), grounding cable, nylon connector, Pin connector, socket contact, tie-band, fusion reinforcement sleeve, fusion rubber holder, color-coded tube, mounting screw, laser warning label.
[NOTE] A separately available dedicated tool is required to assemble nylon connectors.

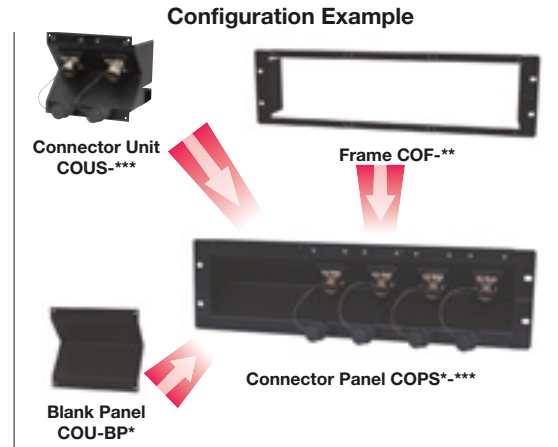
Individual Panel Parts

Model	Panel Height	Description
★ COUS-FF3	3RU	Panel Module w/ 2x FCFRA (FCS003A-FR)
★ COUS-FM3	3RU	Panel Module w/ 2x FCMRA (FCS003A-MR)
★ COUS-FF2	2RU	Panel Module w/ 2x FCFRA (FCS003A-FR)
★ COUS-FM2	2RU	Panel Module w/ 2x FCMRA (FCS003A-MR)
★ COU-BP3	3RU	Blank Panel
★ COU-BP2	2RU	Blank Panel
★ COF-13	3RU	Frame for 1 Unit
★ COF-12	2RU	Frame for 1 Unit
★ COF-33	3RU	Frame for 3 Unit
★ COF-32	2RU	Frame for 3 Unit

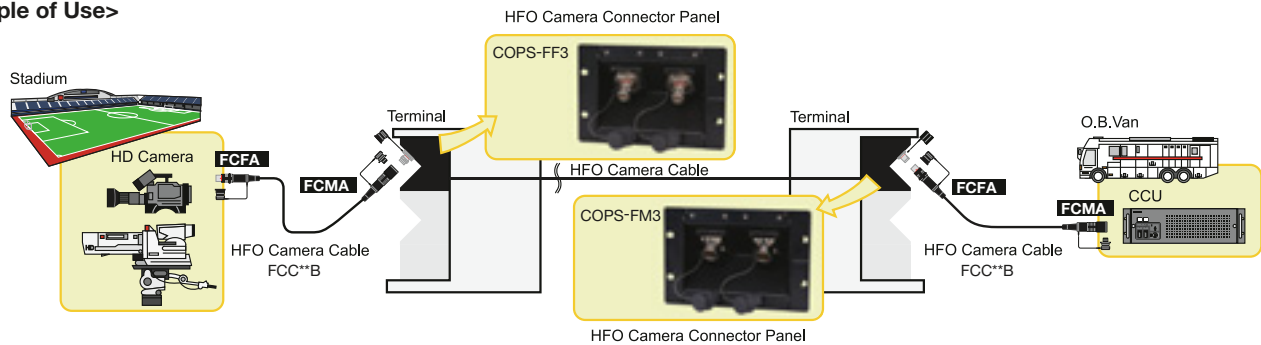
* Each panel connector is pre-terminated, length at 0.3m.

* TAJIMI compatible type (OC series) is also available. Please contact Canare for more information.

★ Production by order



<Example of Use>



Hybrid Fiber-optic Splice Enclosures

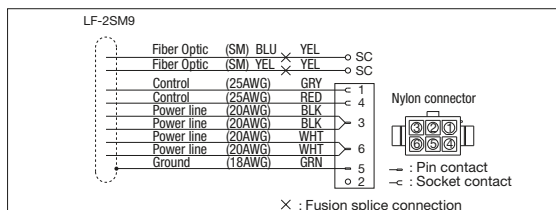
The fiber-optic splice enclosure was designed specifically for use with hybrid fiber-optic camera cables. The enclosure is used to protect fusion splice connection parts after installation.

Model	No. of cables	Fusion splice tray No.	Adapter	
			SC	Nylon connector
★ FCE-2	2	1	4	2
★ FCE-4	4	2	8	4
★ FCE-6	6	3	12	6

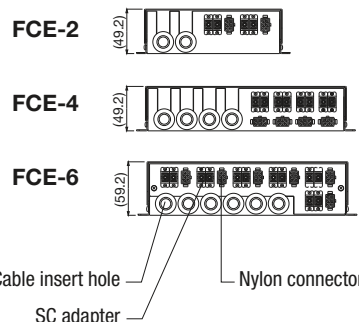
- The enclosure is designed specifically for the hybrid fiber-optic camera cable (LF-2SM9), making installation and operation very easy.
- The enclosure can be installed on walls or placed flat. Mounting bracket (connector protection cover) can be detached from the box when installing in limited space.
- The enclosure is designed with two configurations, the top-bottom split design (FCE-2, FCE-4) and the removable panel design (FCE-6). Both designs enable easy installation of cables.
- The connection with hybrid fiber-optic receptacle cable is done by use of connectors, thus enabling easy interchanging of lines after installation.
- The tension member is insulated from the chassis.

Note :
The following special tools are required for installing the nylon connectors.
Models: AMP91529-1 (26 to 22 AWG) and AMP91536-1 (20 to 16 AWG)

Wiring Diagram (Canare standard)

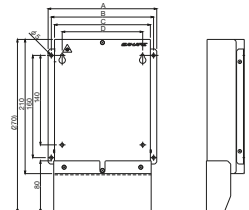


* Component numbers shown above are for the FCE-2.



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

(mm)



3G Transmission Design

What is 3G-SDI?

3G-SDI is a new transmission format (1080p) that offers twice the data carrying capacity (bandwidth) of today's widely used HD-SDI (1080i). SMPTE 424M covering this format includes regulations for the coaxial connectors and cables used for transmission, and Canare's 75Ω products already meet the performance requirements for these.

Signal Attenuation in 3G Transmission Lines

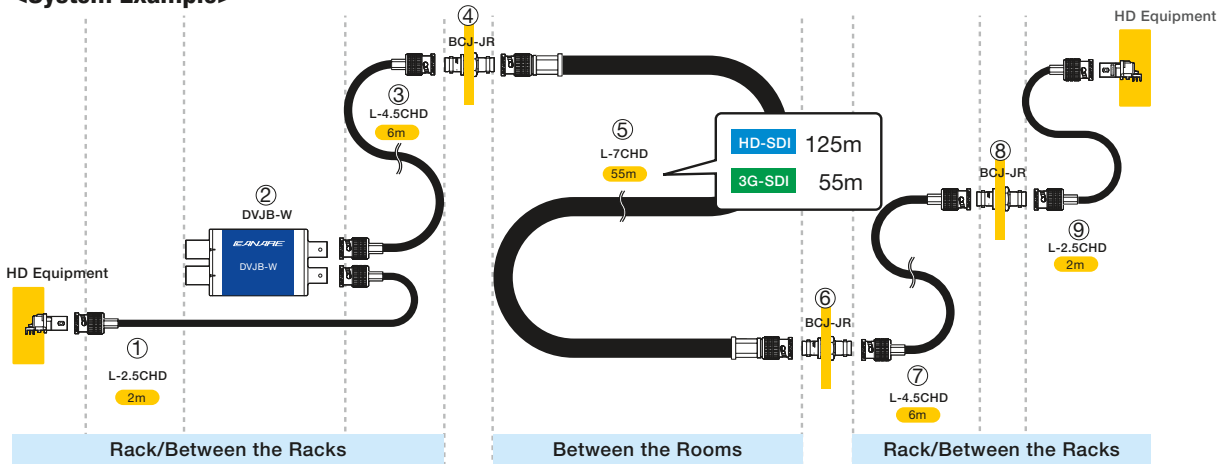
In order to keep overall transmission line attenuation below the 20dB loss budget, it is necessary to calculate attenuation amounts individually for each section in the system. In the system shown below, the losses occurring within each transmission line have been calculated and entered into a level diagram. From this it is possible to see the differences in transmission distances possible with HD-SDI and 3G-SDI when using a coaxial cable (L-7CHD). If this shows that attenuation will surpass the specified loss budget, then it will be necessary to change to cables with less attenuation, or to revise the circuit and/or equipment layout to compensate. It is also recommended that these calculations include a 2–3dB design margin.

SMPTE 424M Performance Requirements

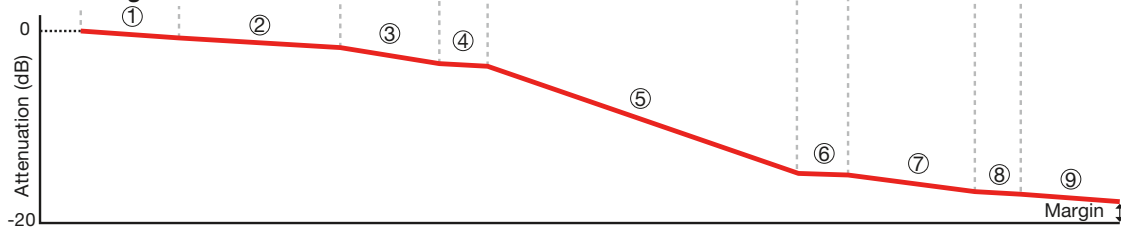
(for Television — 3Gbps Signal / Data Serial Interface)

Format	HD-SDI SMPTE 292M	3G-SDI SMPTE 424M
Transmission Bit Rate	1.485Gbps	2.97Gbps
Characteristic Impedance (Zo)	75Ω	
Transmission Line Los	20dB (@742.5MHz)	20dB (@1.485GHz)
Transmission Line Return Loss	15dB or greater (5M~1.485GHz)	15dB or greater (5M~1.485GHz) 10dB or greater (1.485~2.97GHz)

<System Example>



<Level Diagram>



System Attenuation

Format	Connector/ Cable	① L-2.5CHD	② DVJB-W	③ L-4.5CHD	④ BCU-JR	⑤ L-7CHD	⑥ BCU-JR	⑦ L-4.5CHD	⑧ BCU-JR	⑨ L-2.5CHD	Sub Total	Margin	Total Amount
HD-SDI	m or pcs	2	1	6	1	125	1	6	1	2	17.6dB	2.4dB	20.0dB
	Loss (each) (dB/m)	0.3	0.9	0.2	0.2	0.1	0.2	0.2	0.2	0.3			
	Loss (total) (dB)	0.6	0.9	1.2	0.2	12.5	0.2	1.2	0.2	0.6			
3G-SDI	m or pcs	2	1	6	1	55	1	6	1	2	17.7dB	2.3dB	20.0dB
	Loss (each) (dB/m)	0.4	0.9	0.3	0.2	0.2	0.2	0.3	0.2	0.4			
	Loss (total) (dB)	0.8	0.9	1.8	0.2	11.0	0.2	1.8	0.2	0.8			

75Ω BNC Crimp Plugs

Canare true 75Ω BCP connectors has been widely used in a number of video formats analog to digital with outstanding electrical and mechanical performance. Exceeding 3.0Gbps HD-SDI requirements specified in SMPTE424M. The highest quality BNC in the market.

■ BCP-B Series (Straight Type) NEW

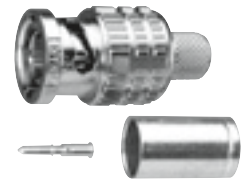
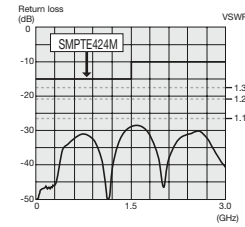
VSWR 1.1@ 3GHz Applications: 3.0G-HD

Model	Suitable Cable		Center Pin	Sleeve	Boot	Die Set
	Canare	Belden (suggested)				
BCP-B25HD	L-2.5CHD	—	B11015E	★ BN7129	CB02	TCD-35CA
BCP-B26	—	1855A	B11014E	★ BN7029C	CB02	TCD-35CA
BCP-B3F	L-3CFB, LS-3CFB	—	B11015E	BN7003A	CB03	TCD-35CA
BCP-B31F	L-3CFW	—	B11015E	BN7015A	CB04	TCD-4CA, TCD-451CA
BCP-B4F	L-4CFB, LS-4CFB	1505A	B11016E	BN7015A	CB04	TCD-4CA, TCD-451CA
BCP-B53	L-4.5CHD	1694A	B11020D	BN7046	CB05A	TCD-35CA
BCP-B5F	L-5CFB, LS-5CFB	—	B11020D	B75004A	CB05A	TCD-5CF, TCD-55FA
BCP-B51F	L-5CFW	—	B11020D	B75004A	CB05A	TCD-5CF, TCD-55FA

• Standard package (20pcs/100pcs)

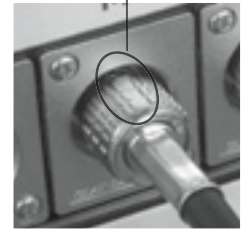
★Production by order. Please ask us for ordering lot.

- High performance of 1.1 or less VSWR up to 3GHz.
- Position mark on body allows the connector fit to be checked easily.
- Connector body only has been made die-cast, achieving lower price with high performance.
- Use of crimping to attach the connectors ensures quick, reliable installation.
- Lock mechanism used on insulation improves reliability by preventing shifting or detaching of the contact pin.
- Gold plating on the contact pin prevents deterioration, even after years of use.
- Elongated body design enables easy attachment and removal.



BCP-B5F

Position Mark



BCP-B5F

Slim BNC Plugs

■ MBCP-C Series (Straight Type)

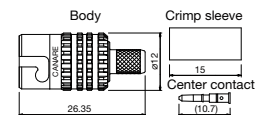
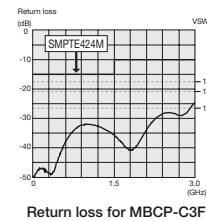
VSWR 1.1@ 1.5GHz Applications: 1.5G-HD

Model	Suitable Cable		Center Pin	Sleeve	Boot	Die Set
	Canare	Belden (suggested)				
MBCP-C25F	L-2.5CFB	1855A, 8218, 1417B, 1418B	B11014E	★ BN7029C	—	TCD-35CA
MBCP-C3F	L-3CFB, LS-3CFB	—	B11015E	BN7003A	CB24	TCD-35CA
MBCP-C4	LV-61S, LS-4CFB	8241, 8279, RG-59B/U	B11015E	BN7015A	CB25	TCD-4CA, TCD-451CA
MBCP-C4F	L-4CFB	1505A, 8212, 8241F, 9167, 9259	B11016E	BN7015A	CB25	TCD-4CA, TCD-451CA
MBCP-C53	L-4.5CHD	1694A, 9066, 9116, 9118, 9248	B11020D	BN7046	—	TCD-35CA
MBCP-C5F	L-5CFB, LS-5CFB	—	B11020D	B75004A	CB26	TCD-5CF, TCD-55FA

• Standard package (20pcs/100pcs)

★Production by order. Please ask us for ordering lot.

- OD 12mm slim design.
- True 75Ω, 100% compatible with industry standard 75Ω BNC receptacles.
- Return loss: 26 dB or greater (DC - 1.5GHz), 20dB or greater (DC - 2.4GHz).
- Reliable design; Gold-plated "snap locks" crimp center contact, sleeve and beryllium copper outer contact.



MBCP-C3F

Be sure to use Canare crimping tool for installing connectors on cables.

Technical Note

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. 1. 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. 2)

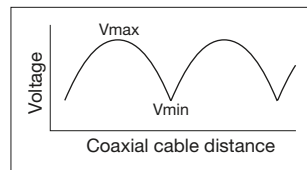


Fig. 1 Voltage Distribution Over Coaxial Cable

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. 2 VSWR to Return Loss Conversion Table

75Ω BNC Crimp Plugs

■ BCP-C Series (Straight Type)

VSWR 1.1@ 2GHz Applications: 2.0G-HD

Model	Suitable Cable		Center Pin	Sleeve	Boot	Die Set
	Canare	Belden (suggested)				
BCP-C1	L-1.5C2VS, V*-1.5C	83264, 83267	Solder	★ BN7022	CB01	TCD-1DB
BCP-C25	L-2.5C2V	—	★ BN1018A	★ BN7029C	CB02	TCD-35CA
BCP-C25F	L-2.5CFB	1855A, 8218, 1417B, 1418B	B11014E	★ BN7029C	CB02	TCD-35CA
BCP-C25HDA	L-2.5CHD	—	B11015E	★ BN7129	CB02	TCD-35CA
BCP-C31	L-3C2W	—	B11014E	★ BN7011	CB04	TCD-31C
★ BCP-C32	—	1506A, 1824A, 1825A, 1826A, 643948	B11016E	★ BN7026A	CB03	TCD-35CA
BCP-C3B	L-3C2VS, L-3C2V, V*-3C	—	B11014E	BN7003A	CB03	TCD-35CA
BCP-C3F	L-3CFB, LS-3CFB, V*-3CFB	—	B11015E	BN7003A	CB03	TCD-35CA
BCP-VC3	V*-3C	—	B11014E	★ BN7052A	CB02	TCD-35CA
★ BCP-C42	—	1505F	B11016E	★ BN7011	CB04	TCD-31C
BCP-C4B	LV-61S	8241, 8279, RG-59B/U	B11015E	BN7015A	CB04	TCD-4CA, TCD-451CA
BCP-C4F	L-4CFB, LS-4CFB, V*-4CFB	1505A, 8212, 8241F, 9167, 9259, 9659	B11016E	BN7015A	CB04	TCD-4CA, TCD-451CA
★ BCP-C51	—	728A, 8281, 8281B	B11016E	BN7002	—	TCD-451CA
BCP-C52	L-5C2W	—	B11016E	★ BN7014	—	TCD-451CA
BCP-C53A	L-4.5CHD	1694A, 9066, 9116, 9118, 9248	B11020D	BN7046	CB05A	TCD-35CA
★ BCP-C55A	—	1695A, 89120, 87120, 633948, 9116P	B11020D	★ BN7045A	CB04	TCD-35CA
BCP-C5B	L-5C2VS, L-5C2V, V*-5C	—	B11016E	BN7016	CB05A	TCD-35CA
BCP-VC5	V*-5C	—	B11016E	★ BN7045A	CB05A	TCD-35CA
BCP-C5FA	L-5CFB, LS-5CFB, V*-5CFB	—	B11020D	B75004A	CB05A	TCD-5CF, TCD-55FA
★ BCP-C5HD	L-5CHD	—	★ BN1139	B75004A	CB05A	TCD-5HD
BCP-C6HD	L-6CHD	—	★ BN1083A	★ BN7074A	—	TCD-67HD
BCP-C71A	—	7731A, 9064, 9292, 1617A, 9011	★ BN1043A	★ BN7021A	—	TCD-7CA
BCP-C77A	LV-77S	8281F	B11016E	B75004A	CB05A	TCD-5CF, TCD-55FA
BCP-C7FA	L-7CFB	—	★ BN1012B	★ BN7021A	—	TCD-7CA
BCP-C7HD	L-7CHD	—	★ BN1082A	★ BN7021A	—	TCD-67HD

• Standard package (20pcs/100pcs).

★ Production by order. Please ask us for ordering lot.

■ BCP-LC Series (Right Angle Type)

VSWR 1.1@ 2GHz Applications: 2.0G-HD

Model	Suitable Cable		Center Pin	Sleeve	Boot	Die Set
	Canare	Belden (suggested)				
BCP-LC3	L-3C2VS, L-3C2V, V*-3C	—	B11014E	BN7003A	—	TCD-35CA
BCP-LC3F	L-3CFB, LS-3CFB, V*-3CFB	—	B11015E	BN7003A	—	TCD-35CA
BCP-LC5	L-5C2VS, L-5C2V, V*-5C	—	B11016E	BN7016	—	TCD-35CA
BCP-LC5F	L-5CFB, LS-5CFB, V*-5CFB	—	B11020D	B75004A	—	TCD-5CF, TCD-55FA

• Standard package (20pcs)

- High performance of 1.1 or less VSWR up to 2GHz. <Fig. 1> (VSWR 1.1 or less up to 1GHz for BCP-C25, BCP-C25F)
- Use of crimping to attach the connectors ensures quick, reliable installation. <Fig. 2>
- Lock mechanism used on insulation improves reliability by preventing shifting or detaching of the contact pin.

- Gold plating on the contact pin prevents deterioration, even after years of use.
- Elongated body design enables easy attachment and removal.

Be sure to use the Canare crimping tool for installing connectors on cables.

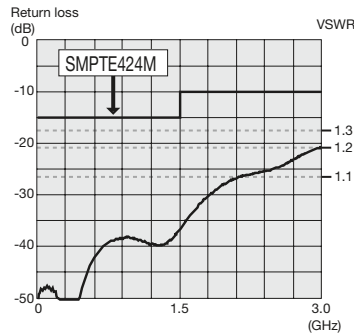
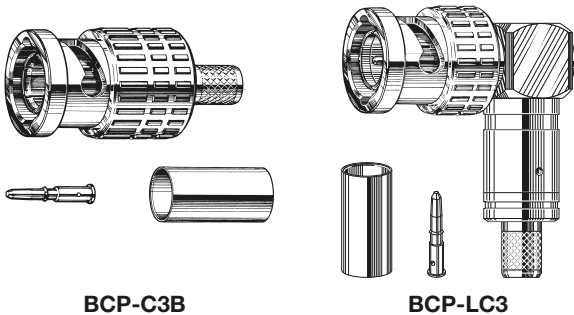


Fig. 1 Return loss for BCP-C3B

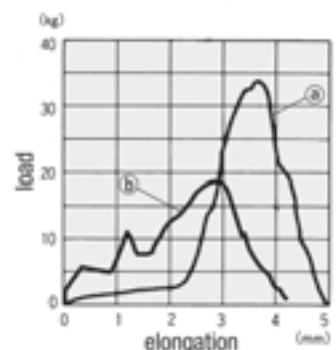


Fig. 2 (a) Cable Pull Test for BCP-C3B+3C-2V
(b) Cable Pull Test for BCP-C25+2.5C-2V

75Ω BNC Solder Plugs

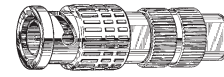
■ BCP-H Series (Straight Type)

VSWR 1.1@ 1GHz

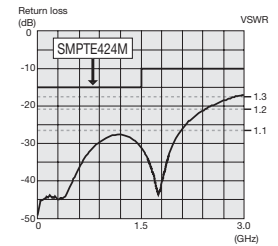
Model	Suitable Cable	
	Canare	Belden (suggested)
BCP-H3B	L-3C2VS, L-3C2V, L-3CFB, LS-3CFB	---
BCP-H31F	L-3CFW	---
BCP-H51F	L-5CFW	---

• Standard package (20pcs)

- The tubular (ferrule) section is silver plated to make soldering easier.
- Cable strippers TS100 series can be used. (Excluding BCP-H31F, BCP-H51F)



BCP-H3B



Return loss for BCP-H3B

75Ω Multi-pin Coax Connectors

Single connector handles load of up to five 75Ω coaxial connectors.

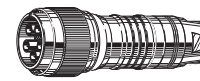
Model	Description	Suitable Cable
MCM-V5C3	Plug	V5-3C
MCF-V5C3	Receptacle	V5-3C, L-3C2V, 3C-2V

Model	Description	Suitable Cable
DCM01	Dust Cap	MCM-V5C3
DCF01		MCF-V5C3

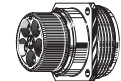
- 1.2 or less. VSWR up to 1.5GHz.
- Canare multi-pin coaxial connectors' crimp system ensures quick and reliable installation.

* Replacement unit also available. MCM-V5C3: BN9078A MCF-V5C3: BN9079B

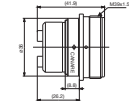
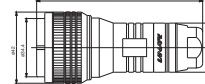
Be sure to use the Canare crimping tool for installing connectors on cables.



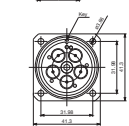
MCM-V5C3



MCF-V5C3



Panel Hole Dimensions (Mounting screw M3 x 4 pcs)



Replacement Unit BN9078A



Replacement Unit BN9079B

Connector Boots

■ CB0x Series

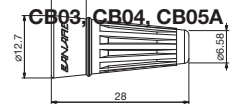
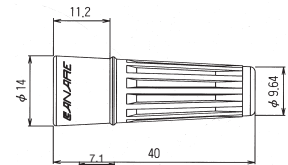
Our best selling connector boots for Canare BNC, TNC crimp plugs.

Model	Colors Available	Typical Connectors		
		BCP-xx	BP-xx	TNP-xx
CB01	BLK, BLU, GRN, RED, YEL, WHT	C1		
CB02		B25HD, B26, C25, C25F, C25HDA, VC3		
CB03	BLK, BLU, BRN, GRN, GRY,	B3F, B31F, C32, C3B, C3F, PC3, PC3F	C3, C4	C3, C4
CB04	ORN, PPL, RED, YEL, WHT	B4F, C31, C42, C4B, C4F, C55A, PC4, PC4F	C31	C31
CB05A		B53, B5F, B51F, C53A, C5B, VC5, C5FA, C5HD, C77A, PC5, PC5F	C5, C5FA	C5

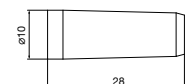
■ CB2x Series

Thinner type of CB0x series. Best fit for Canare Slim BNC, RCA, and F crimp plugs.

Model	Colors Available	Typical Connectors		
		MBCP-xx	RCAP-xx	FP-xx
CB24		C3F	C3A, C3F	C3, C3F
CB25	BLK, BLU, GRN, RED, YEL, WHT	C4, C4F	C3GS, C4A, C4F	C31, C4, C4F
CB26		C5F	C53, C5A, C5F	C5, C53A, C5F



CB01, CB02



CB24, CB25, CB26

75Ω BNC PCB Mount Receptacles (Hex Nut Type)

BCJ-FP Series

Model	Description	Stud Position	Panel Mount
BCJ-FPLVA	Right Angle	Vertical	Front: Hex nut and lock washer
BCJ-FPLV01	Right Angle, Low-cost Model		
★ BCJ-FPLV-L	Right Angle		
BCJ-FPLHA	Right Angle	Horizontal	
BCJ-FPC	Straight	—	
BCJ-FPC02	Straight, Low-cost Model		

•Standard package (20pcs / 100pcs) ★Production by order. Please ask us for ordering lot.

BCJ-RP Series

Model	Description	Stud Position	Panel Mount
BCJ-RPLV	Right Angle	Vertical	Rear: Hex nut and lock washer
BCJ-RPLH	Right Angle	Horizontal	
BCJ-RPC	Straight, Through Hole Mount	—	
BCJ-RPC/1	Straight, Surface Mount		

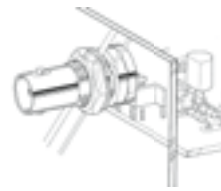
•Standard package (20pcs / 100pcs)

● VSWR 1.1 or less up to 1GHz, 1.2 or less up to 2.5GHz. (1.1 up to 3GHz for BCJ-FPLV-L)

● Gold plated beryllium copper center contact.

Note: Any cleaning solvents cannot be used. This leads to insulation problems.
Insulation material: m-PPO (m-PPE)

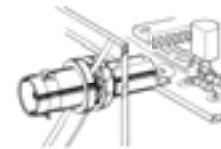
Right Angle Type		Straight Type	



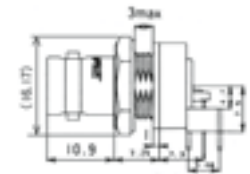
BCJ-FPLV01



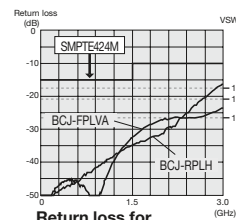
BCJ-FPC02



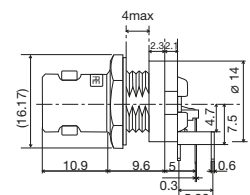
BCJ-RPC/1



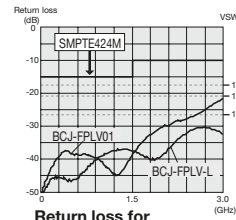
BCJ-FPLVA



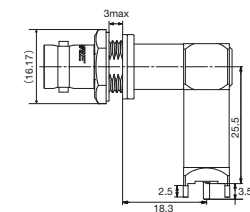
Return loss for BCJ-FPLVA, BCJ-RPLH



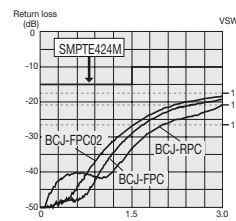
BCJ-FPLV01



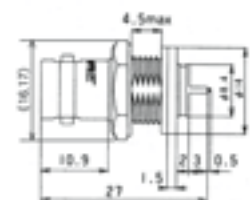
Return loss for BCJ-FPLV01, BCJ-FPLV-L



BCJ-FPLV-L



Return loss for BCJ-FPC, BCJ-FPC02, BCJ-RPC

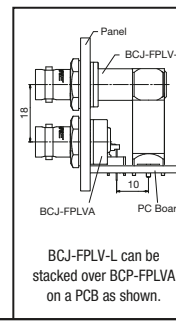


BCJ-FPC

<Panel Hole Dimensions>

BCJ-FPLVA* BCJ-FPLV01* BCJ-FPLV-L*	BCJ-FPLHA*	BCJ-FPC* BCJ-FPC02*	BCJ-RPC/1 BCJ-RPC BCJ-RPLV BCJ-RPLH

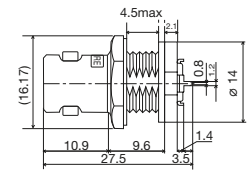
* BCJ-FP series accept insulation bushing IU-7/16. Mounting hole for IU-7/16 should be adopted. (See page 25)



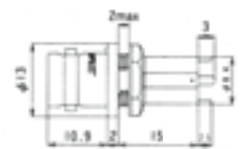
BCJ-FPLV-L can be stacked over BCJ-FPLVA on a PCB as shown.

<PC Board Hole Dimensions>

BCJ-FPLVA BCJ-FPLV01 BCJ-FPLHA	BCJ-FPLV-L	BCJ-FPC BCJ-FPC02	BCJ-RPLV BCJ-RPLH	BCJ-RPC



BCJ-FPC02



BCJ-RPC

75Ω BNC Receptacles

BNC Receptacles emphasizing true 75Ω impedance.

■ Panel Mount Receptacles

Model	Description	Suitable Cable	Die Set
BCJ-R	Jack to Solder Pin	—	—
BCJ-R/1	Jack to Solder Cup with Ground Lug	—	—
BCJ-FC1	Panel Jack	1.5C-2V	TCD-1DB
BCJ-FC1-7/16			
BCJ-JR	Jack to Jack	—	—

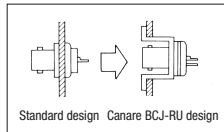
•Standard package (20pcs / 100pcs)

■ Recessed Bulkhead Receptacles

Model	Description	Suitable Cable	Die Set
BCJ-RU	Jack to Solder Cup	—	—
BCJ-RUC1	Panel Jack	1.5C-2V	TCD-1DB
BCJ-RUD	Jack to Solder Cup, Neutrik D type	—	—
BCJ-RUDB	Jack to Solder Cup, Neutrik D type (Black)	—	—
BCJ-JRU	Jack to Jack	—	—
BCJ-JRUD	Jack to Jack, Neutrik D type	—	—
BCJ-JRUDB	Jack to Jack, Neutrik D type (Black)	—	—

•Standard package (20pcs / 100pcs)

- 1.1 or less VSWR up to 2GHz. (1.1 up to 1GHz for the Panel Jack type)
- Beryllium copper (gold plated) is used on the center contact for its superior spring characteristics.
- Center contact for the solder pin connectors are solder type.
- The recessed flush-mount configuration is designed to prevent damage on the flange type connectors.
- Two types of flange are available: ITT XLR-F77 and Neutrik D compatible.
- The panel jack connectors are based on a space-saving configuration designed for use with internally hard-wired equipment.
- Connection portion of the panel jack connectors is securely shielded by the metal crimp sleeve.



Be sure to use the Canare crimping tool for the panel jack connectors.

- A ground lug can be provided for the BCJ-R connector. Information is available on request.

■ Panel Hole Dimensions

BCJ-R	★BCJ-R/1 ★BCJ-JR	BCJ-FC1	★BCJ-FC1-7/16	BCJ-RUC1 BCJ-RU BCJ-JRU	BCJ-RUD BCJ-RUDB BCJ-JRUD BCJ-JRUDB

★ Indicate connectors that accept insulation bushing. Mounting hole for insulation bushing IU 7/16 should be adopted.

Insulation Bushing

Model	Description
IU-7/16	ABS plastic, Color: White (standard stock). Black, Blue, Green, Red and Yellow (custom*)

•Standard package (20pcs)

*MOQ: 5000pcs

- Used to insulate a connector from a panel.

Note: Please remove washers from a connector before using IU-7/16.

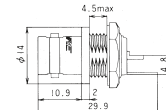
Mountable panel thickness:

1.2~1.5mm: BCJ-FPLVA, BCJ-FPLHA, BCJ-R/1

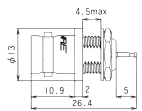
1.2~3.0mm: BCJ-FPC, BCJ-FPC02, BCJ-JR, BCJ-FPLV01



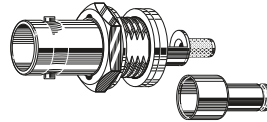
BCJ-R/1



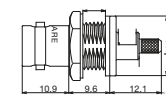
BCJ-R/1



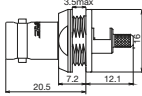
BCJ-R



BCJ-FC1-7/16



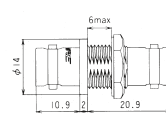
BCJ-FC1-7/16



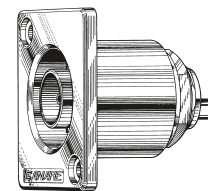
BCJ-FC1



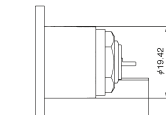
BCJ-JR



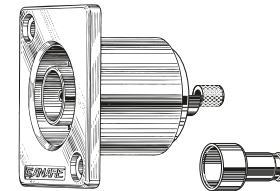
BCJ-JR



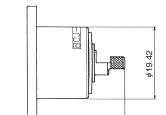
BCJ-RU



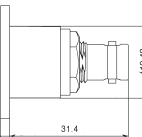
BCJ-RU



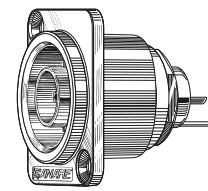
BCJ-RUC1



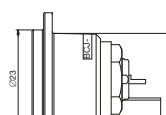
BCJ-RUC1



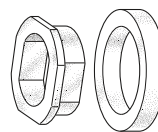
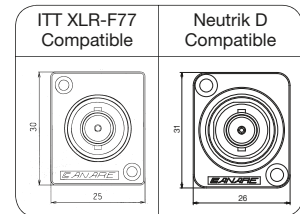
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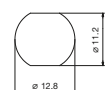
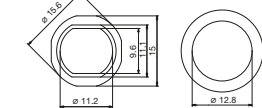
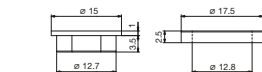
BCJ-RUD



BCJ-RUD



IU-7/16



Panel Hole Dimensions

75Ω BNC Jack Plug

Model	Suitable Cable	Boot	Die Set
BCJ-C4	RG-59 B/U, LV-61S, Belden 8241, 8279, 88241	CB25	TCD-4CA TCD-451CA

•Standard package (20pcs)

- 1.1 or less VSWR up to 1.5GHz, 1.2 or less up to 2.4GHz.
- Beryllium copper (gold plated) is used on the center contact for its superior spring characteristics. (Center contact is soldered.)

Be sure to use the Canare crimping tool for installing connectors on cables.

75Ω BNC Extension Adapter

Model	Description
BCJ-J	Jack to Jack

•Standard package (20pcs / 100pcs)

- Beryllium copper is used on the center contact for its superior spring characteristics.
- 1.1 or less VSWR up to 2GHz. <Fig. 1>

75Ω BNC Termination Plugs

Designed for true 75Ω termination

Model	Description
BCP-TA	Standard 75Ω Termination (2.0GHz Type)

•Standard package (20pcs / 100pcs)

- Includes 1/4 watt resistance.
- 1.1 or less VSWR up to 2GHz. (Up to 1GHz for BCP-PT) <Fig. 2>

BNC Dust Caps

Model	Description
BCJ-DC	Polyethylene (Black)

•Standard package (20pcs / 100pcs)

- Protects unused BNC receptacles from dirt and dust.

75Ω N Solder Plug

Model	Suitable Cable
NCP-H8HD	L-8CHD

•Standard package (1pc)

- Gold plating on the contact pin prevents deterioration, even after years of use.
- 1.1 or less VSWR up to 2GHz. <Fig. 3>
- Solder type

Tools required: 17mm and 21mm wrenches

Caution: The connecting section of the N connector uses a shape that conforms to the IEC169-16's 75Ω impedance standard. Note that the 50Ω N and other connectors that do not conform to this specification can not be connected.

75Ω N to BNC Adapter

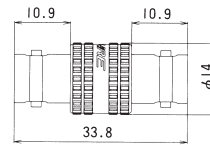
Model	Description
NCJ-BCJR	N (F) - BNC (F)

•Standard package (1pc)

- Beryllium copper (gold plated) is used on the center contact for its superior spring characteristics.
- 1.1 or less VSWR up to 2GHz. <Fig. 4>
- Panel mountable as well. For isolation from the panel, use Canare isolation bushing IU-7/16.



BCJ-C4



BCJ-J

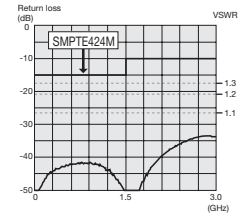
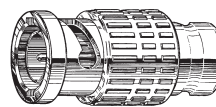


Fig.1 Return loss for BCJ-J



BCP-TA

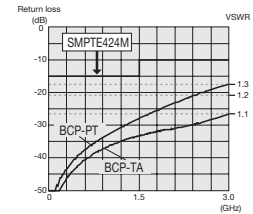
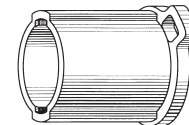
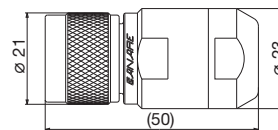


Fig.2 Return loss for BCP-PT, BCP-TA



BCJ-DC



NCP-H8HD

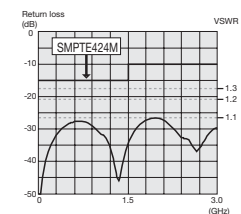
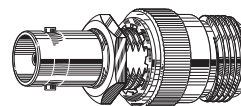


Fig.3 Return loss for NCP-H8HD



NCJ-BCJR

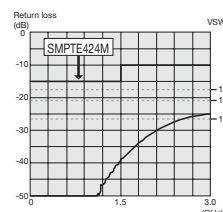
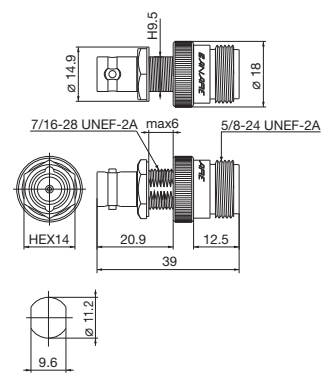


Fig.4 Return loss for NCJ-BCJR



Panel Hole Dimensions

RCA Pin Connectors

RCAP-C Series (Straight Plug, Crimp Type)

Model	Suitable Cable		Center Pin	Sleeve	Boot	Die Set
	Canare	Belden (suggested)				
* RCAP-C25F	L-2.5CFB	1855A, 8218, 1417B, 1418B	B11014E	★ BN7029C	—	TCD-35CA
RCAP-C25HD	L-2.5CHD	—	B11015E	★ BN7129	—	TCD-35CA
RCAP-C3A	L-3C2VS, L-3C2V, V*-3C	—	B11014E	BN7003A	CB24	TCD-35CA
* RCAP-C3GS	GS-6	—	★ BN1093	★ BN7079	CB25	TCD-35D
RCAP-C3F	L-3CFB, LS-3CFB, V*-3CFB	—	B11015E	BN7003A	CB24	TCD-35CA
* RCAP-C42	—	1505F	B11016E	★ BN7011	—	TCD-31C
RCAP-C4A	LV-61S	8241, 8279, RG-59B/U	B11015E	BN7015A	CB25	TCD-4CA, TCD-451CA
RCAP-C4F	L-4CFB, LS-4CFB, V*-4CFB	1505A, 8212, 8241F, 9167, 9259, 9659	B11016E	BN7015A	CB25	TCD-4CA, TCD-451CA
RCAP-C53	L-4.5CHD	1694A, 9066, 9116, 9118, 9248	B11020D	★ BN7046	CB26	TCD-35CA
RCAP-C5A	L-5C2VS, L-5C2V, V*-5C	—	B11016E	BN7016	CB26	TCD-35CA
RCAP-C5F	L-5CFB, LS-5CFB, V*-5CFB	—	B11020D	B75004A	CB26	TCD-5CF, TCD-55FA
RCAP-C77	LV-77S	8281F	B11016E	B75004A	CB26	TCD-5CF, TCD-55FA

•Standard package (20pcs / 100pcs)

★Production by order. Please ask us for ordering lot.

- The crimp design ensures fast and reliable cable connection.
- The crimp tool for the RCAP-C can be used for the Canare crimp BNC plugs as well, thus saving on extra equipment.

Be sure to use the Canare crimping tool for installing connectors on cables.

RCA Soler Plugs

Model	Description
F-09	RCA Pin Plug
F-10	RCA Pin Plug (Long sleeve)

•Standard package (10pcs)

- Offer strong cable clamping that prevents severed lines.
- Suited to cables up to 6.0mm \varnothing in size.
- Accommodates cables up to 7.5mm \varnothing in size when spring removed.

RCA Recessed Bulkhead Receptacles

Model	Description
RJ-RU	Jack to Solder Cup
RJ-BCJRU	RCA (F) - BNC (F)
RJ-RUD	Jack to Solder Cup, Neutrik D Type
RJ-RUDB	Jack to Solder Cup, Neutrik D Type (Black)
RJ-BCJRUD	RCA (F) - BNC (F), Neutrik D Type
RJ-BCJRUDB	RCA (F) - BNC (F), Neutrik D Type (Black)

•Standard package (20pcs / 100pcs) by insulation color.

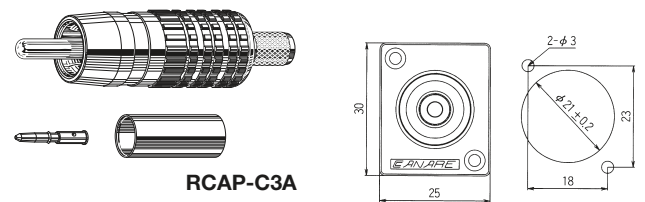
- Two types of flange are available: ITT XLR-F77 and Neutrik D compatible.
- VSWR is 1.1 or less up to 50MHz, enabling their use with HDTV and computer graphics video signals.
- Color-coded insulation enables users to easily distinguish between the R, G and B elements. Users can choose as required from five colors, including red, green, blue, yellow and white.

Phone Plugs

Model	Description
F-11	Mini Phone TS
F-12	Mini Phone TRS
F-15	1/4" TS Phone
F-16	1/4" TRS Phone

•Standard package (10pcs)

- Featuring a properly cable clamp system ensures long life reliability.
- Suited to cables up to 6.0mm \varnothing in size.
- Accommodates cables up to 7.5mm \varnothing in size when spring removed.

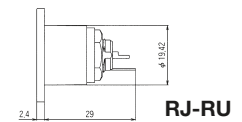


RCAP-C3A

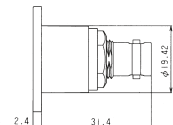


F-09

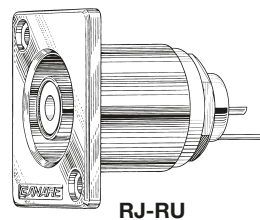
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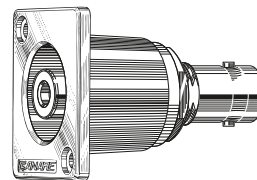
RJ-RU



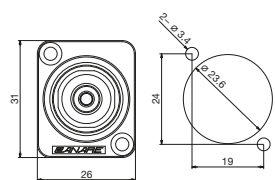
RJ-BCJRU



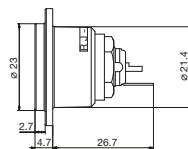
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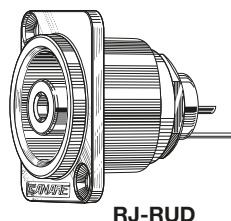
RJ-BCJRU



RJ-RUD



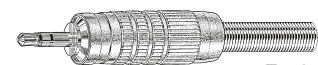
RJ-RUD



RJ-RUD



F-11



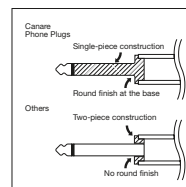
F-12



F-15



F-16



Canare's durable design

F Connectors

This type is used in such applications as home television receivers for cable television (CATV) systems.

FP-C Series (Straight Plug, Crimp Type)

Model	Suitable Cable		Center Pin	Sleeve	Boot	Die Set
	Canare	Belden (suggested)				
FP-C25HD	L-2.5CHD	—	BN1003B	★ BN7129	—	TCD-35CA
FP-C3	L-3C2VS, L-3C2V, V*-3C	—	BN1002B	BN7003A	CB24	TCD-35CA
FP-C31	L-3C2W	—	BN1002B	★ BN7011	CB25	TCD-31C
FP-C3F	L-3CFB, LS-3CFB, V*-3CFB	—	BN1003B	BN7003A	CB24	TCD-35CA
FP-C4	LV-61S	8241, 8279, RG-59B/U	BN1003B	BN7015A	CB25	TCD-4CA, TCD-451CA
FP-C4F	L-4CFB, LS-4CFB, V*-4CFB	1505A, 8212, 8241F, 9167, 9259, 9659	BN1004B	BN7015A	CB25	TCD-4CA, TCD-451CA
FP-C5	L-5C2VS, L-5C2V, V*-5C	—	BN1004B	BN7016	CB26	TCD-35CA
FP-C52	L-5C2W	—	BN1004B	★ BN7014	—	TCD-451CA
FP-C53A	L-4.5CHD	1694A, 9066, 9116, 9118, 9248	BN1005B	★ BN7046	CB26	TCD-35CA
★ FP-C55A	—	1695A, 89120, 87120, 633948, 9116P	BN1005B	★ BN7045A	—	TCD-35CA
FP-C5F	L-5CFB, LS-5CFB, V*-5CFB	—	BN1005B	B75004A	CB26	TCD-5CF, TCD-55FA
★ FP-C71A	—	7731A, 9064, 9292, 1617A, 9011	★ BN1041A	★ BN7021A	—	TCD-7CA
FP-C7FA	L-7CFB	—	★ BN1030A	★ BN7021A	—	TCD-7CA

•Standard package (20pcs / 100pcs)

★Production by order. Please ask us for ordering lot.

- Lock mechanism improves reliability by preventing shifting or detaching of the center pin.
- The tools and cable stripper can be used for the Canare crimp BNC plugs as well, thus saving on extra equipment.
- VSWR of 1.1 or less up to 2GHz. Compatible with broadcast satellite (BS) and communications satellite (CS) signals.
- Designed for indoor use.

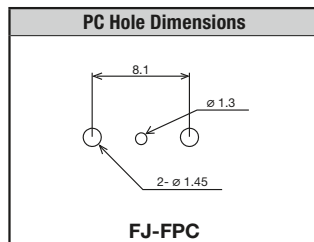
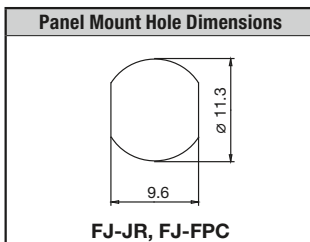
Be sure to use the Canare crimping tool for installing connectors on cables.

F Panel Mount Receptacles

Model	Description
FJ-JR	Jack to Jack
FJ-FPC	PC Board Straight Mount

•Standard package (20pcs / 100pcs)

- VSWR of 1.1 or less up to 2GHz. Compatible with broadcast satellite (BS) and communications satellite (CS) signals. <Fig. 1>
- For insulation from the panel, use insulation bushing IU-7/16. (Panel thickness: 1.2~3.0mm)

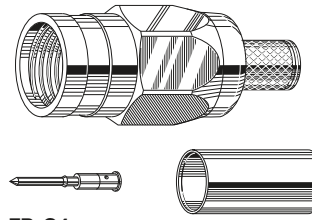


F Recessed Bulkhead Receptacles

Model	Description
FJ-JRU	Jack to Jack
FJ-JRUD	Jack to Jack, Neutrik D Type
FJ-JRUDB	Jack to Jack, Neutrik D Type (Black)

•Standard package (20pcs / 100pcs)

- Two types of flange are available: ITT XLR F77 and Neutrik D compatible.



FP-C4

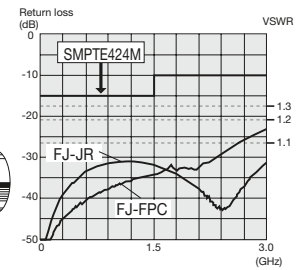
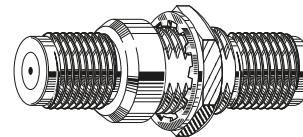
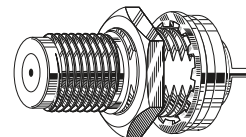


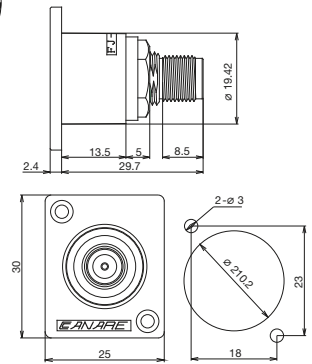
Fig.1 Return loss for FJ-FPC and FJ-JR



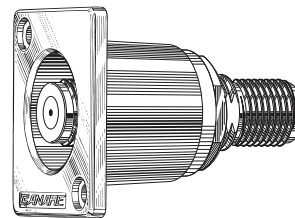
FJ-JR



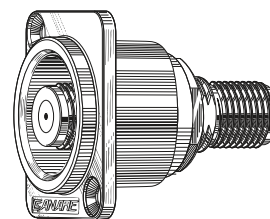
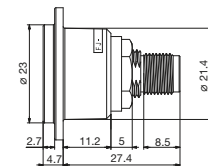
FJ-FPC



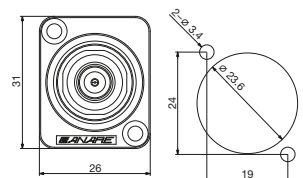
FJ-JRU



FJ-JRU



FJ-JRUD



FJ-JRUD

TS100E Coaxial Cable Stripper

- For most Canare 75Ω BNC, RCA and F crimp plugs.
- Rotary knob selects 5 different cable setups.
- Make your own cable setting within cable O.D. 4mm~11mm
- Hexagonal wrench is attached for quick blade adjustment
- 1 blade attached, and also sold separately. (TSC)

Model	Description
TS100E	(Preset to LV-77S-L-5CFB, V*-5CFB, V*-5C, LV-61S-L-4CFB, V*-3C)
TSC (1pc)	Replaceable blade

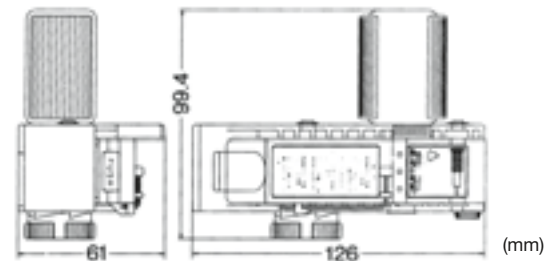
Note:

The following types of cables may not be accurately processed by Canare's TS100E Cable Stripper, owing to their construction.

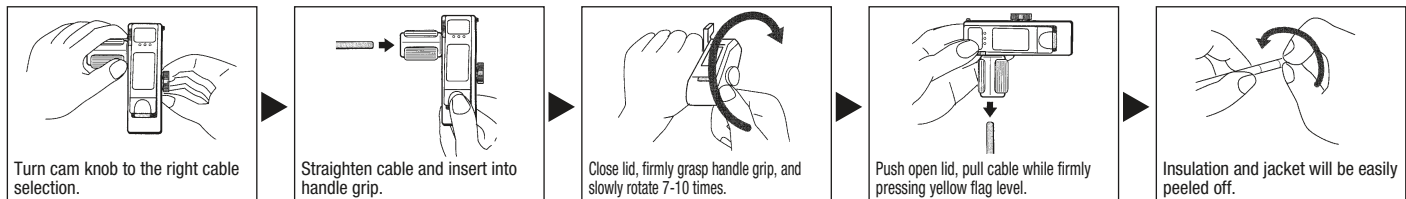
1. Cables employing such hard jacket material as polyethylene.
2. Cables employing such particularly soft insulator material as high-foam polyethylene. (Canare L-CHD and L-CFW)
3. Cables employing steel wire and semirigid pipe for outer conductor.



TS100E



(mm)



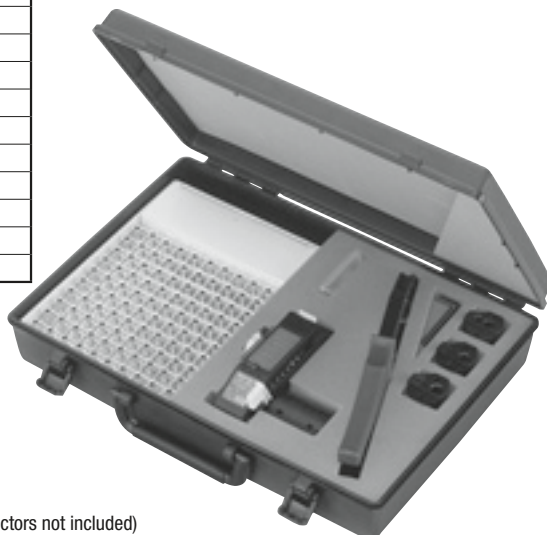
Crimp Tools

Canare crimp tool offers reliable high-quality crimping performance in an easy-to-use design.

Die Sets

Model
TCD-1DB
TCD-31C
TCD-3151D
TCD-316C
TCD-35CA
TCD-35D
TCD-35DF
TCD-4CA
TCD-451CA
TCD-55FA
TCD-5CF
TCD-5HD
TCD-65C
TCD-67HD
TCD-7CA
TDC-96C

Select the appropriate crimp die to suit the individual connector.



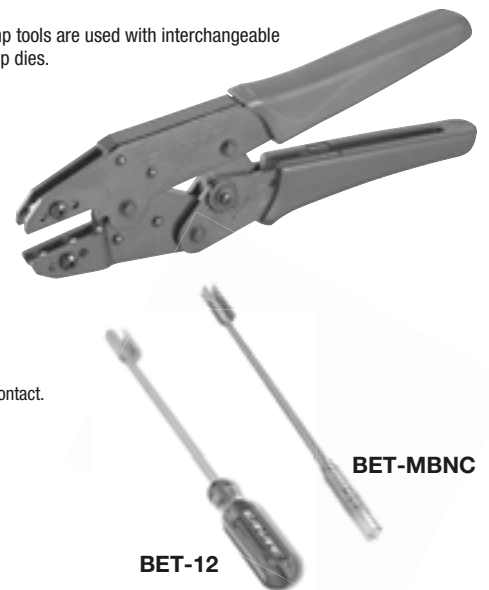
Hand Crimp Tools

Model
TC-1
TC-2

Crimp tools are used with interchangeable crimp dies.

Crimp hole for crimp sleeve.

Crimp hole for center contact.



BET-12

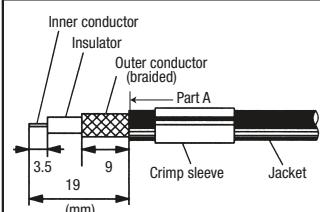
BET-MBNC

Accessories

Model	Description	Length
BET-12	BNC extraction tool	12inch
BET-MBNC	BNC extraction tool for Canare Slim BNC Plugs	30cm

R5A
(tools and connectors not included)

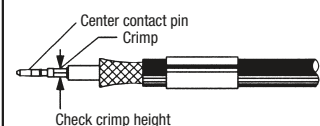
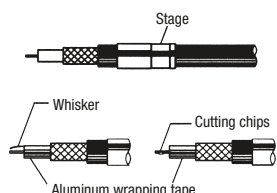
Crimp Connector Assembly Instructions



Make sure the connector selected is compatible with the cable.

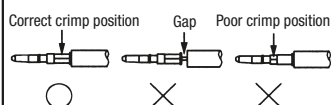
1. Slide the crimp sleeve onto the cable, then strip off the portions of the coaxial cable jacket, braided outer conductor, and insulator as shown at left.

- If the inner conductor is a stranded cable, then twist it in the direction of the strands after removing the insulator.
- For a crimp sleeve with a stage or groove, pass the crimp sleeve onto the cable from the stage side as shown in the diagram.
- For cables with aluminum wrapping tape, remove the tape up until part A as shown in the diagram. However, if the aluminum tape proves too difficult to remove, simply remove any piece of tape whisker or cutting chips that might cause short-circuiting.



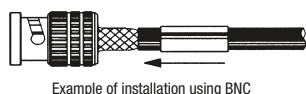
2. Insert the center contact into the inner conductor of the coaxial cable and crimp using a crimping tool so that there is no space between the crimp and the insulator.

- To check whether the crimping has been done correctly, use a knife to remove the extra burr from the section to be measured and measure the crimp height. If the measurement does not match the reference value, adjust the crimping tool until it does.
- Do not crimp the stage section at the base of the center contact.



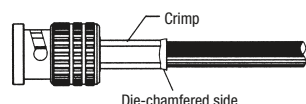
3. Holding the base of the coaxial cable, push the crimp forward until it fits snugly into place.

- Tug the cable lightly (no more than 19.6N : 2kg) to confirm that the center contact is locked in place.



4. Move the crimp sleeve until it butts up against the connector. Crimp the crimp sleeve with a crimping tool. At this time, press the back side of the crimping tool (the side not chamfered) firmly against the connector.

- Do not crimp while pulling on the cable.



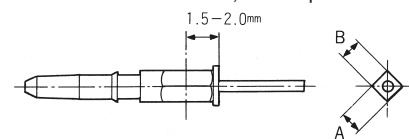
Adjusting Crimp Tool

1. Measuring Crimping height

Crimp height is measured after the crimp is made. As shown in the figure, the sum of the measured values for both directions is divided by two to arrive at the crimp height. The ideal value range for the BCP-C3B connector, for example, is 1.4mm to 1.5mm. When this value is lower (overcrimping occurs) than the recommended crimp height, the crimp becomes very hard. A value higher (undercrimping occurs) than the recommended value can result in increased electrical resistance and a physically weaker crimp. Either digital calipers or a micrometer should be used for measuring crimp height.

2. Measuring Frequency

Crimp height is measured prior to commencing use of the crimp tool and always when changing the crimping die. After this, the crimp height is regularly measured after about each 1,000 crimps.

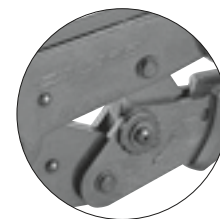


$$\text{Crimp height value} = (A+B) / 2$$

Refer to the separately included manual for the appropriate crimp height values for individual connectors.

3. Tool Measuring Procedures

Crimp force increases and crimp height decreases when the tool's adjuster dial is turned in the direction of the 9. The dial is adjusted by first releasing it using a screw driver.



FAQ

Q Does it matter in which direction crimp sleeves are attached?

A For BCP-C3B—use and other non-stepped (straight type) crimp sleeves, it does not matter in which direction the crimp sleeve is attached. The attachment direction also does not matter for BCP-C5FA—use and other specific-use types that have a chamfer (groove) at one end of the crimp sleeve.

However, stepped crimp sleeves such as those for BCP-C1, etc. are directional and must be attached in the direction shown in the diagram below, with the cable threaded through the sleeve starting from the end with the step (that is, the end with smaller-diameter hole).



Q What should be done with the tape on aluminum tape-wrapped coaxial cables?

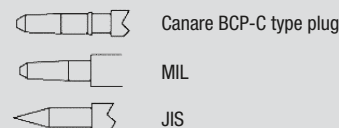
A For coaxial cables with lightly adhered removable aluminum tape, peel back the tape to the root of the braid.

For coaxial cables with strongly adhered unremovable aluminum tape, simply make sure to remove any burrs or other fine strands of tape in the area up to the insulation cut, since these could cause shorts.

Q Why do some BNC plugs made by other companies have a sharp point at the tip of the central contact? Are these compatible with Canare's BNC receptacles?

A The central contact is pointed in conformance with the JIS standard for 50 BNC connectors. The central contacts on Canare's connectors conform to the MIL standard, and therefore are not pointed. These two different shapes simply offer different ways to guide the plug into the female receptacle and have no direct effect on contact quality.

The actual contact surfaces on Canare's BNC connectors are designed in conformance with JIS standards and therefore pose no compatibility problems.



Q Is it possible to use cables not listed in the connector compatibility table as long as they are close to the dimensions of those listed?

A No. While connection may be possible, performance may be adversely affected.

Even if the connection appears to work, factors such as electrical instability, weak cable contact strength and others may cause problems during actual use.

Therefore, it is necessary to test and evaluate whether it is actually possible to use the configuration in question. Particular caution should be used when crimping is involved.

Q What is meant by "cable contact strength"?

A Cable contact strength refers to the maximum load borne by the cable when exerting tensile force to remove it from the connector. For Canare products, "cable contact strength" refers to the contact strength of a cable's outer conductor, not including the pull-out strength of the central contact or the contact strength of the inner conductor.

Q What is the approximate insertion loss associated with connectors?

A The value varies depending on the connector, but for BNC plugs the value is approximately 0.1dB per plug (DC-2GHz).

Connectors – Die Cross-Reference

■ C ANARE

Model Number	BNC						Jack	F	RCA	Other		Suitable Die Set	Ideal value of crimp height range		
	Plug Type					Solder				Crimp	Crimp			Crimp	Solder
	B series	C, VC Series	PC Series	MBCP Series	LC Series										
1.5C	L-1.5C2VS											TCD-1DB	—		
	1.5C-2V					BCP-C1*1	BCJ-FC1*1 BCJ-FC1-7/16*1 BCJ-RUC1*1								
	V*-1.5C														
2.5C	L-2.5C2V		BCP-C25									TCD-35CA	1.40~1.47		
	L-2.5CFB		BCP-C25F		MBCP-C25F				RCAP-C25F						
	L-2.5CHD	BCP-B25HD	BCP-C25HDA						FP-C25HD	RCAP-C25HD					
3C	L-3C2V		BCP-C3B				BCP-H3B*2 BCP-H5/1*2					TCD-35CA	1.40~1.50		
	L-3C2VS														
	V3-3C			BCP-PC3		BPC-LC3			FP-C3	RCAP-C3A					
	V4-3C		BCP-C3B												
	V5-3C		BCP-VC3							MCM-V5C3 MCF-V5C3					
	L-3CFB	BCP-B3F	BCP-C3F	BCP-PC3F	MBCP-C3F	BCP-LC3F	BCP-H3B*2 BCP-H5/1*2		FP-C3F	RCAP-C3F					
	LS-3CFB														
	V*-3CFB			BCP-PC3F											
	L-3CFW	BCP-B31F					BCP-H31F*2							TCD-4CA or TCD-451CA	
	L-3C2W		BCP-C31						FP-C31					TCD-31C	
GS-6									RCAP-C3GS		TCD-35D	2.10~2.20			
4C	LV-61S		BCP-C4B	BCP-PC4	MBCP-C4		BCJ-C4*1	FP-C4	RCAP-C4A		VWP-C4A*1 MVP-C4*1	TCD-4CA or TCD-451CA	1.40~1.50		
	L-4CFB	BCP-B4F	BCP-C4F	BCP-PC4F	MBCP-C4F										
	LS-4CFB							FP-C4F	RCAP-C4F						
	V*-4CFB														
	L-4.5CHD	BCP-B53	BCP-C53A						FP-C53A	RCAP-C53					
5C	L-5C2V		BCP-C5B				BCP-H5B*2 BCP-H5/1*2					TCD-35CA	1.40~1.50		
	L-5C2VS			BCP-PC5		BPC-LC5			FP-C5	RCAP-C5A					
	V*-5C		BCP-C5B BCP-VC5												
	LV-77S		BCP-C77A							RCAP-C77					
	L-5CFW	BCP-B51F					BCP-H51F*2							TCD-5CF or TCD-55FA	
	L-5C2W		BCP-C52						FP-C52					TCD-451CA	
	L-5CFB	BCP-B5F	BCP-C5FA	BCP-PC5F	MBCP-C5F	BCP-LC5F	BCP-H5B*2 BCP-H5/1*2 BCP-H51F*2		FP-C5F	RCAP-C5F				TCD-5CF TCD-55FA (Remake: BCP-PC5F⇒TCD-35CA)	
LS-5CFB															
V*-5CFB															
L-5CHD		BCP-C5HD									TCD-5HD	1.90~2.00			
6C	L-6CHD		BCP-C6HD									TCD-67HD	2.15~2.25		
7C	L-7CHD		BCP-C7HD												
	L-7CFB		BCP-C7FA						FP-C7FA			TCD-7CA	1.90~2.00		
8C	L-8CHD										NCP-H8HD*2	—	—		

■ Others

Model Number	BNC					Jack	F	RCA	Other	Suitable Die Set	Ideal value of crimp height range
	Plug Type				Solder						
	B series	C Series	PC Series	MBCP Series							
Belden 1855A	BCP-B26	BCP-C25F		MBCP-C25F			RCAP-C25F			TCD-35CA	1.40~1.50
Belden 1506A		BCP-C32									
Belden 1505F		BCP-C42					RCAP-C42			TCD-31C	
RG-59 B/U		BCP-C4B	BCP-PC4	MBCP-C4	BCJ-C4*1	FP-C4	RCAP-C4A	VWP-C4A*1 MVP-C4*1		TCD-4CA or TCD-451CA	
Belden 1505A	BCP-B4F	BCP-C4F	BCP-PC4F	MBCP-C4F		FP-C4F	RCAP-C4F			TCD-451CA	
Belden 8281		BCP-C51								TCD-451CA	
Belden 1694A	BCP-B53	BCP-C53A		MBCP-C53		FP-C53A	RCAP-C53			TCD-35CA	
Belden 1695A		BCP-C55A				FP-C55A					
Belden 8281F		BCP-C77A					RCAP-C77			TCD-5CF or TCD-55FA	
Belden 9292		BCP-C71A				FP-C71A				TCD-7CA	

*1: The center contact pin is of solder type.

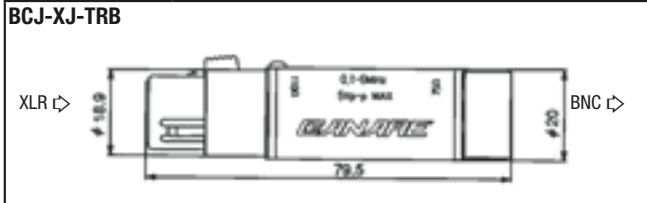
*2: Crimping tool not required.

Note:

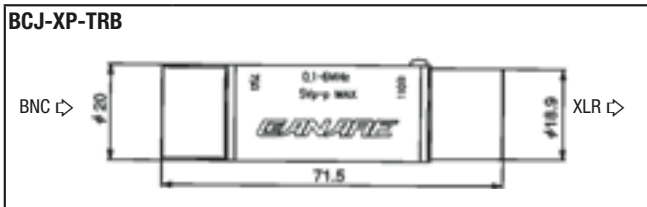
Be sure to use tools compatible with the cables and connectors. Using products other than those designated will prevent correct connection. However, there are some cases in which even a compatible cable will not be able to pass through the crimp sleeve. Please confirm in advance whether the cables you are using will fit through Canare crimp sleeves.

Applications

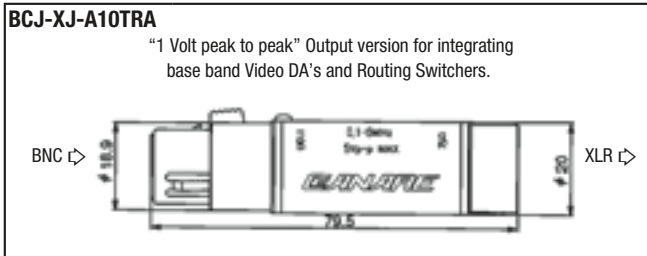
- Post production suites
- DAT routing
- Recording studios
- Digital audio tie lines



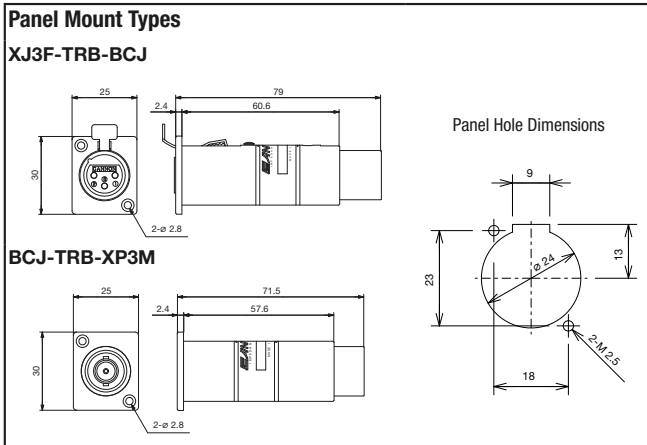
XLR3 - Female	BNC Receptacle
110Ω Input	75Ω Output



BNC Receptacle	XLR3-Male
75 Input	110 Output



XLR3 - Female	BNC Receptacle
110 Input	75 Output (at 1VP-P)
10dB Attenuation Pad	



Model	Description (Front - Back)	Flange Type
XJ3F-TRB-BCJ	XLR(F) - BNC	ITT XLR-F77
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	

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

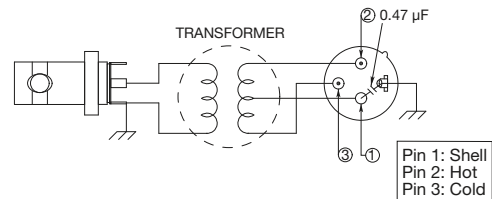


GENERAL SPECIFICATION	
Bandwidth	0.1 - 6MHz
Maximum Voltage	5V p-p
VSWR	Less than 1.1
Insertion Loss	Less than 0.3 dB

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.

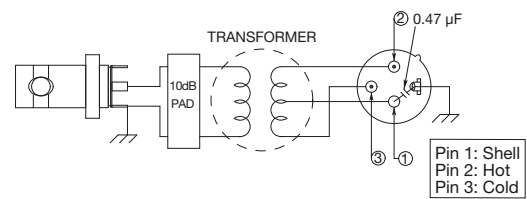
BCJ-XJ-TRB / BCJ-XP-TRB

75 BNC (unbalanced) 110Ω XLR3 (balanced)



BCJ-XJ-A10TRA

75 BNC (unbalanced) 110Ω XLR3 (balanced)



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

75Ω Triaxial Connectors

Canare CC series cover global triaxial interconnection. CC-F series are ideal for interconnecting European triax system and CC-K series for American triax system.

Key Features and Benefits

- True 75Ω, DC 1.5GHz; ≥20dB return loss (≤ 1.2 VSWR)
- Push-lock mechanism
 - no cable stress when detaching to prevent cable break

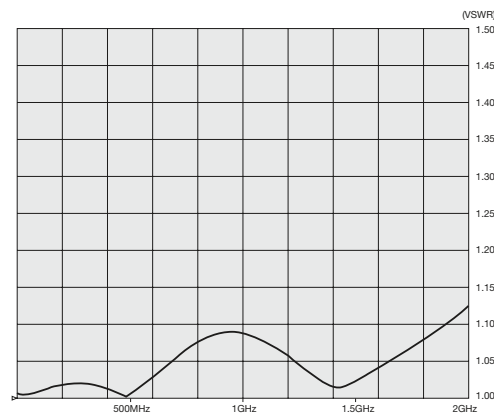
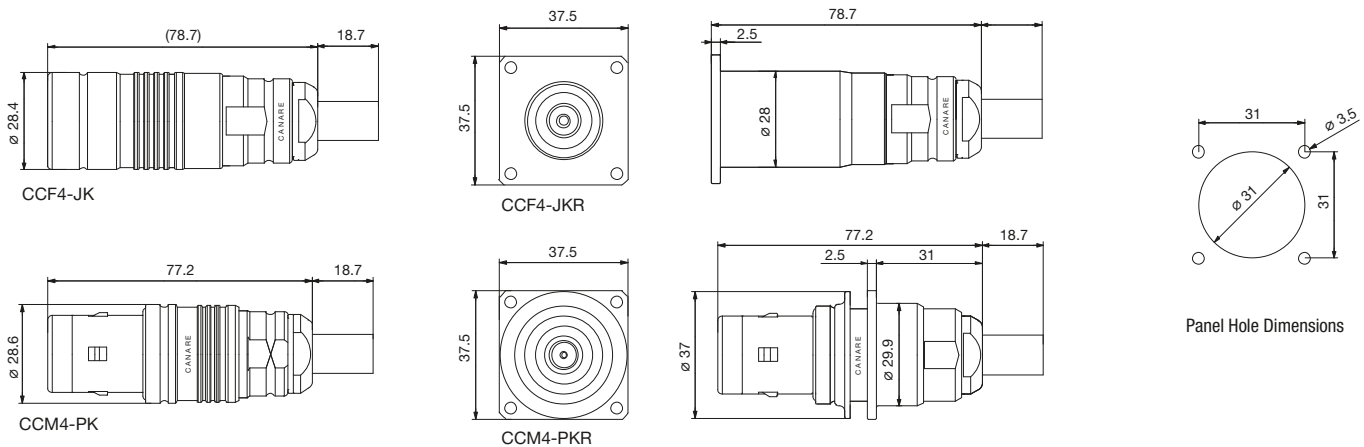
- Reliable crimp system
- Rugged and durable construction

CC-K Series

Cable compatibility meets American interconnecting requirements.

Model	Description	Suitable Cable		Retrofit Kit	Boot/Cap	Crimp Tool
		Canare	Others			
CCF4-JK	Crimp type, Female cable mount	L-4CFTX	Belden: 1856A, 1857A, 9267 Geppo: LVT61859, VT61859	★ BN9127A	CB23	TC-1 + TCD-316C
CCM4-PK	Crimp type, Male cable mount			★ BN9128B	CB22	
CCF4-JKR	Crimp type, Female panel mount			★ BN9127A	DCM02	
CCM4-PKR	Crimp type, Male panel mount			★ BN9128B	DCM03	
CCF11-JKR	Crimp type, Female panel mount	-	Belden: 1858A, 9192, 9232, 8233** Geppo: LVT-61811	★ BN9209	DCM02	TC-2 + TCD-9C
CCM11-PKR	Crimp type, Male panel mount			★ BN9208	DCM03	

★ Production by order. Please ask us for ordering lot.
** Special retrofit kit available.



VSWR for CCx4-K

Considerations When Configuring and Selecting Cables for Microphone Systems

With the growing demand of recent years for both greater physical comfort and savings in energy consumption, systems incorporating digital control based on the latest advances in electronics are coming into wider use for air conditioning and lighting systems. As all these systems come on line, we cannot help but be reminded of the fact that the wiring used for these digital control systems generates pulse-based electromagnetic noise of the kind that affects the very delicate signals used in microphone lines.

Microphone cables are designed to carry a range of signals that span the spectrum from 1/100 of a volt (10mV) to 1/1,000,000 (1µV). One small error in wiring procedure or cable selection and the entire microphone system turns into an antenna collecting the surrounding noise.

The following section uses a question and answer format to cover a list of the essential points for configuring microphone systems.

Q1 Under what sort of conditions should a two-conductor microphone cable be used?

The two-conductor microphone cable is suited to environments where noise is not such a great factor and the audio signals are in the comparatively high -20dB to 0dB level range. In such cases, the two-conductor cable offers the advantages of smaller diameter and lower cost. Of course if microphone level, rather than line level, is the criterion being used, star quad cable should be used instead.

Q2 Under what conditions should star quad microphone cable be used?

This type is used for environments with a higher noise factor and where audio signals are in the low -50dB or less range. This type of cable performs well under noise conditions that exceed the capacity of the two-conductor shielded cable, effectively shielding out over ninety percent more noise. (See Figs. 1, 2)

However, should this type be routed alongside a power cable of any significant capacity it should probably be encased in metal conduit just to be safe.

Q3 Isn't star quad cable expensive?

The cost for this type of cable has fallen significantly in recent years. Several decades ago, cost was so prohibitive a factor that only large musical auditoriums and broadcasting facilities could afford them. Canare succeeded in developing a low-cost star quad cable using aluminum foil in 1981. In addition to traditional professional facilities, this type gained wide use in such non-traditional areas as wedding halls and school lecture rooms.

Q4 When avoiding use of metal conduit, how far away should microphone cable be from power cables?

When foregoing the use of protective metal conduit, use the graph shown in Fig. 3 as a general guide for distancing cables. Note that ignoring basic guidelines for positioning cables can easily result in noise induction problems which are very difficult to deal with later. Encasing microphone cables in metal conduits is highly recommended for applications that utilize the delicate signal range.

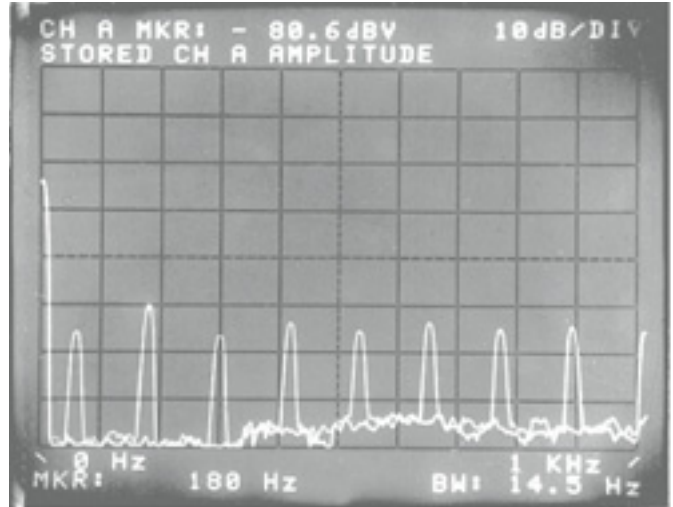


Fig. 1 Noise induced in star quad cable (Canare L-4E5AT)



Fig. 2 Noise induced in two-conductor shielded cable (MVVS)

<Test conditions>

1. Flush along power cables for 20m distance
2. Power cable connected to lighting fixture dimmed to 50% capacity with load of 1kW.
3. The noise induced in the audio cable was boosted by 50dB in the head amplifier and viewed on a spectrum analyzer.

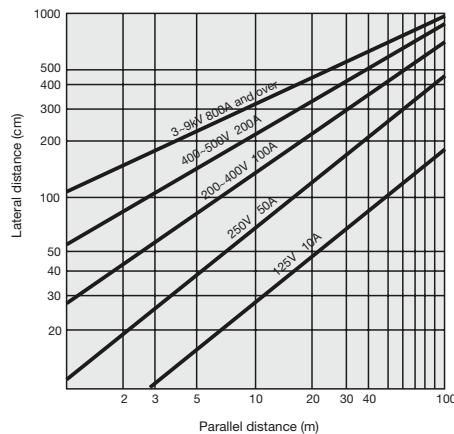


Fig. 3 Distances for positioning microphone and power cables

<Requisite conditions>

1. Cables are the star quad type.
2. Power cables are in the circular cab tire configuration.

Q5 What considerations are required when using a rack for strong electric current?

The same as for the preceding question when metal conduit is not used.

Q6 Would there be any problem with routing the cables through a flexible metal conduit?

The flexible conduit would certainly help to reduce noise but would not be as effective as a rigid metal conduit. Use the graph in Fig. 4 as a guide for distancing cables.

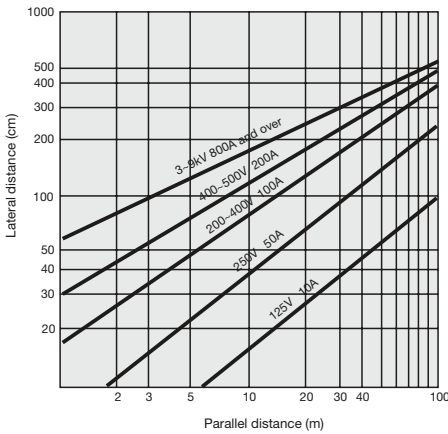


Fig. 4 Distances for positioning microphone and power cables when routing microphone cables via flexible metal conduit

- <Requisite conditions>
1. Cables are the star quad type routed through flexible metal conduit.
 2. Metal conduit is grounded using appropriate level of resistance.
 3. Power cables are in the circular cab tire configuration.

Q8 What are the criteria for choosing between the many different types of microphone cables?

As all are designed to provide electromagnetic shielding there is not that much basic difference in shielding performance. However, they do differ in various specific characteristics. Cable type should be selected according to specific requirements. (See Fig. 5)

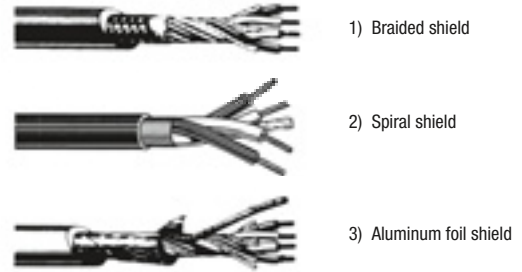


Fig. 5 Types of star quad microphone cables

• Braided Shield

The braided copper shield is designed to maintain effective shielding performance, regardless of how many times the cable is unwound, bent, twisted or rewound. It is ideal for use as handheld microphone cables or extension cables. This type is more expensive than other types as it is braided very finely to ensure a highly impenetrable shield. Cable termination requires seasoned expertise.

• Spiral Shield

The spiral shield consists of several copper wires wound tightly around the cable in a spiral wind. The shielding effect is heightened by winding the shield on twice, each time from different directions in what is referred to as the “double-spiral shield.” The cost range for the spiral shield cable lies roughly mid way between the braided shield and the aluminum foil shield cable. Although cable termination operations are comparatively simple, the spiral shield tends to deteriorate when flexed too frequently. It is designed for stationary installation.

• Aluminum Foil Shield

The aluminum foil shield cable consists of aluminum foil fused onto a polyester film and wound around the cable in the form of a tape. Cable termination involves a simple operation and the cable is relatively inexpensive. The aluminum foil cable is recommended for use as stationary cabling.

Aluminum foil cable with a Kevlar cable filler is highly recommended for areas where cables will be routed through metal conduit. The Kevlar filler protects the cable as it passes through the conduit, preventing cable breakage or shorting, even when intense stress is applied to the cable. The aluminum foil cable is currently widely used in function halls and multipurpose track and field stadiums.

Q7 What is a “corrugate” configuration?

The corrugate, shown in Photograph 1, is a configuration in which thin metal tape which serves as a shield is wound in a spiraled design around the cable. It is mainly used in underground cables. The shielding effect of the corrugate is midway between that of bare cable and cable routed through metal conduit. One drawback is its poor flexibility. Special care must be taken when bending this type of cable.



Photograph 1 Microphone cable with corrugate configuration

AWG is for Indicating conductor size

AWG is the abbreviation for American Wire Gauge. For solid center conductor, numbers are decided by conductor O.D. and for stranded center conductor, numbers are decided by conductor cross sectional area. The AWG numbers for conductors used at Canare are listed in Table 1.

AWG	Conductor cross sec. area (mm ²)	AWG	Conductor cross sec. area (mm ²)
13	2.81	22	0.34, 0.37, 0.39
14	2.18	23	0.29, 0.30, 0.31
15	1.75	24	0.20, 0.22, 0.23
16	1.27	25	0.18
18	1.0	26	0.14, 0.15
20	0.51, 0.56	28	0.08, 0.09
		31	0.04

Table 1: AWG Numbers for Cables Used by Canare

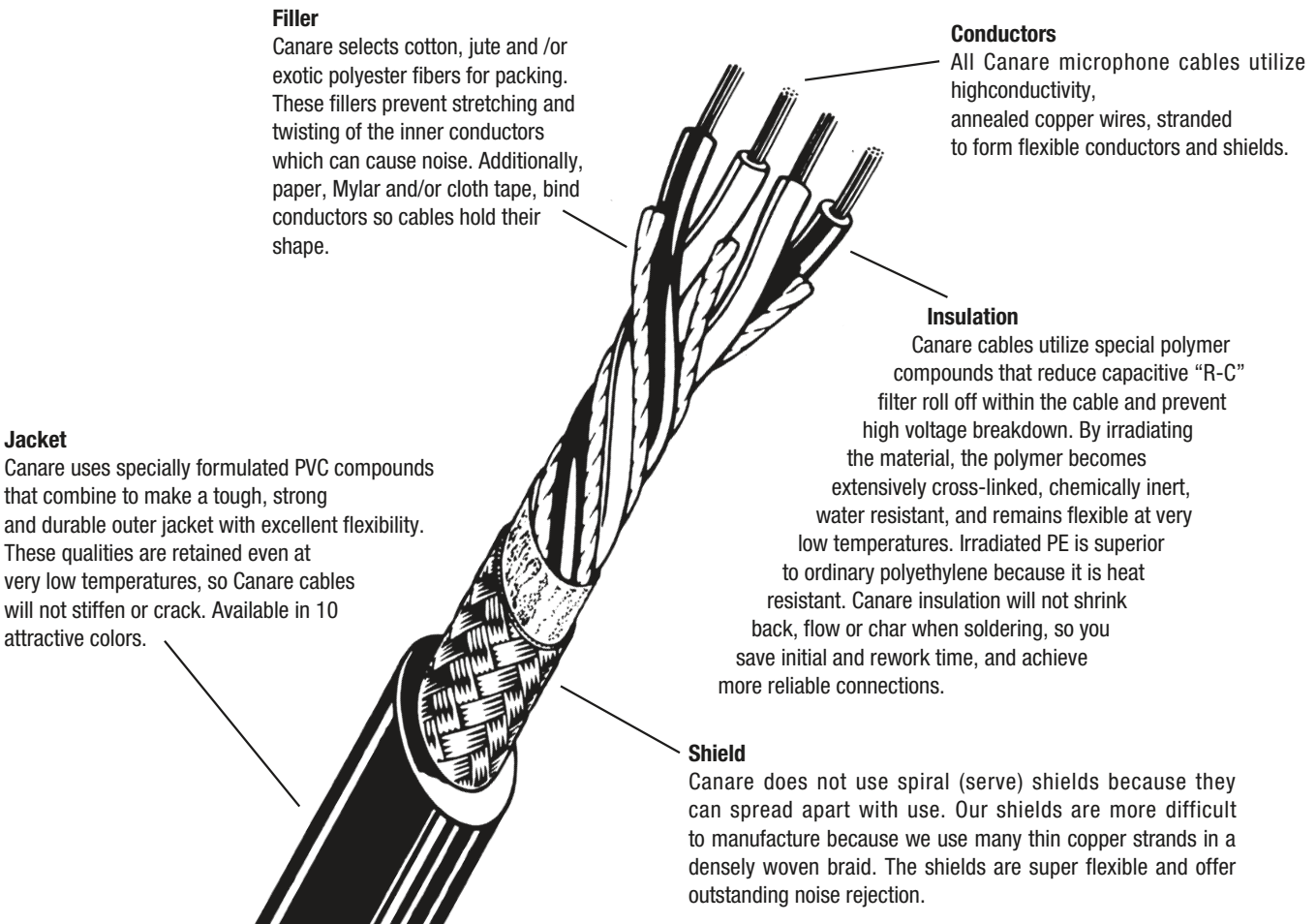
The Star Quad Story

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.

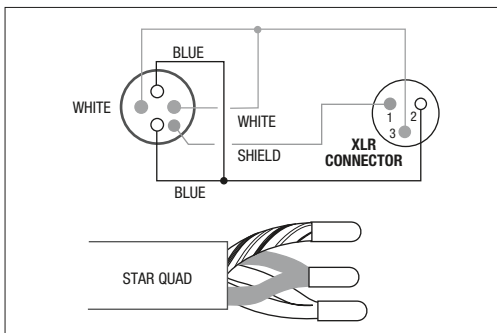
Canare Star Quad is designed for use with microphones but is also excellent for all line-level signals (e.g. mixer to power amps). The 4-conductor Star Quad arrangement, cancels electromagnetically induced noise from

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 with braided shields 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.

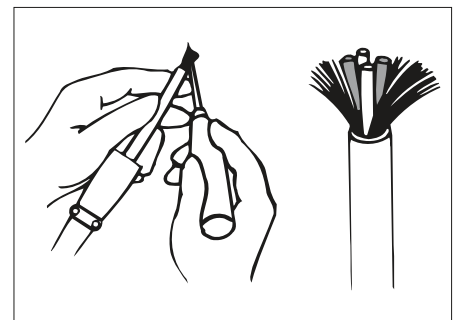


In order to maximize noise rejection, Star Quad must be properly wired to the XLR-3 connector (or terminal block).



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.



Star Quad Microphone Cables (Single)

Effectively reduce noise levels to 1/10 that of general-purpose, 2-conductor shielded cables.

Aluminum Foil Shield

Type	Model	Sales units	Nom. O.D	Weight	Composition			Electrical characteristics			
					No. of cond.	Cross sec area (AWG) and cond. comp.	Twist pitch	Cond. D.C.R.	Shield D.C.R.	Nom. cap.*	Nom. cap.**
					m	mm	kg/100m	mm ² /(AWG) Q'ty/mm	mm	/100m	/100m
 L-4E5AT Jacket colors L-4E5AT, L-4E6AT: gray, black	L-4E5AT	100	5.0	3.2	4	0.18(25) 16/0.12A	21	10.7	—	164	222
	L-4E6AT	200	6.2	5.0	4	0.31(23) 12/0.18A	25	6.4	—	150	210

Insulation: Cross-linked PE (blue-blue, white-white) Jacket: PVC Dielectric strength: 500V AC/min.

*Capacitance between conductors **Capacitance between conductor and shield.

L-4E5AT, L-4E6AT

- The Kevlar* cable filler prevents damage due to excess stretching and stress that may occur when pulling the cable through conduits. <Fig. 1 >
- Internal drain wire eliminates the troublesome part of line termination work.
- Aluminum foil shield blocks out electromagnetic noise.
- The microphone cable of choice for music auditorium and studio facilities where noise prevention and audio quality come first.

* Kevlar is the registered trademark of Dupont Corporation.

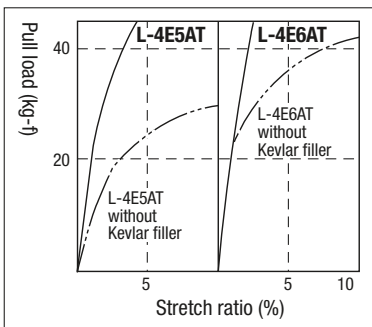


Fig.1 Cable Pull Load and Stretch Ratio

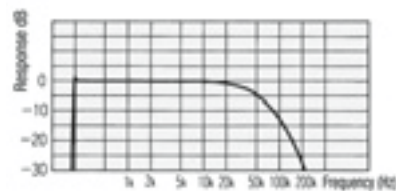


Fig. 2 Frequency Characteristics for L-4E5AT (100m)

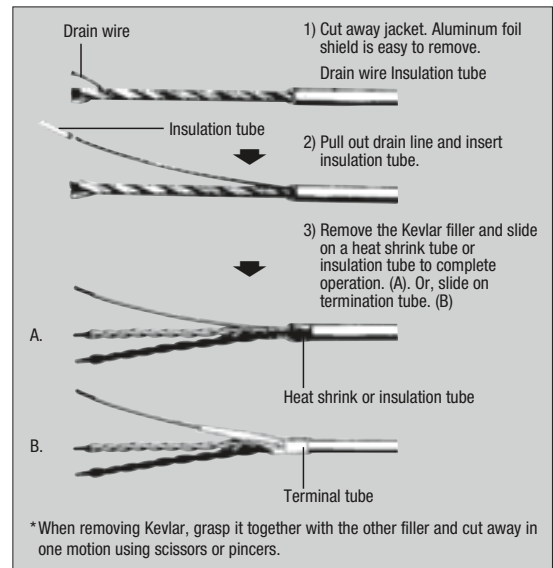



Fig. 3 Terminating L-4E5AT and L-4E6AT

*When removing Kevlar, grasp it together with the other filler and cut away in one motion using scissors or pincers.

Aluminum Foil Shield

Type	Model	Sales units	Nom. O.D	Weight	Composition				Electrical characteristics			
					No. of cond.	Cross sec area (AWG) and cond. comp.	Twist pitch	Shield Coverage (Braid*)	Cond. D.C.R.	Shield D.C.R.	Nom. cap.*	Nom. cap.**
					m	mm	kg/100m	mm ² /(AWG) Q'ty/mm	mm	%	/100m	/100m
 L-4E6S Jacket colors L-4E6S: brown, red, orange, yellow, green, blue, purple, gray, white, black L-4E5C: red, orange, yellow, green, blue, gray, black	L-4E5C	100	4.8	3.4	4	0.15(26) 30/0.08A	18	>96%	13.0	2.4	162	200
	L-4E6S	200 305	6.0	5.0	4	0.20(24) 40/0.08A	20	>94%	9.8	3.0	150	185

Insulation: Cross-linked PE (blue-blue, white-white) Jacket: PVC Dielectric strength: 500V AC/min.

*Capacitance between conductors. **Capacitance between conductor and shield.

L-4E5C, L-4E6S

- Bend resistant design makes this ideal for the stage and for press conference type applications.
- Braid coverage of 94% or over provides intense shielding that blocks out electromagnetic noise.
- L-4E6S conductor consists of 40 ultra-fine 0.08mm strands (30 for L-4E5C) in a stranded format that offers excellent durability.

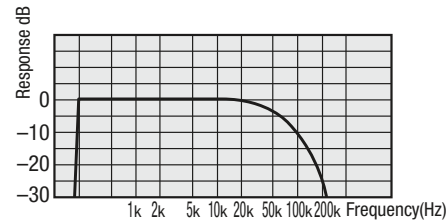



Fig. 4 Frequency Characteristics for L-4E6S (100m)

Star Quad Multichannel Microphone Cables

Aluminum Foil Shield

Type	Model	No. of ch.	Sales units	Nom. O.D	Weight	No. of cond.	Unit composition			Electrical characteristics			
							Cross sec area (AWG) and cond. comp.	Twist pitch	Ch. O. D.	Cond. D.C.R.	Shield D.C.R.	Nom. cap.*	Nom. cap.**
							m	mm	kg/100m	mm ² /(AWG) Q'ty/mm	mm	mm	/100m
 L-4E4-8AT Jacket color: gray	L-4E4-2AT	2	100 200	10.5	12	8	0.18(25) 16/0.12A	21	3.7	10.8	—	164	222
	L-4E4-4AT	4		12.3	17	16							
	L-4E4-8AT	8		16.9	31	32							
	★ L-4E4-12AT	12		18.9	41	48							
	★ L-4E4-16AT	16		20.9	50	64							
	★ L-4E4-24AT	24		26.1	76	96							

Insulation: Cross-linked PE (blue-blue, white-white) Jacket, inner Jacket: PVC Dielectric strength: 500V AC/min.

*Capacitance between conductors **Capacitance between conductor and shield.

★Production by order. Please ask us for ordering lot.

L-4E3-**AT, L-4E4-**AT

- The multichannel microphone cable is the cable of choice for music auditorium and studio facilities where noise prevention and audio quality are the prime considerations.
- Each unit contains the highly pull-resistant Kevlar cable filler.

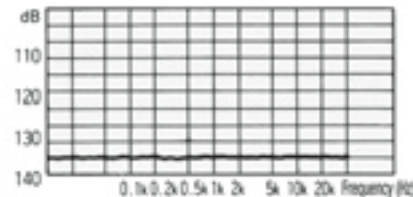



Fig. 1 Crosstalk Characteristics for L-4E4-4AT (100m)

■ Braided Shield

Type	Model	No. of ch.	Sales units	Nom. O.D	Weight	No. of cond.	Unit composition				Electrical characteristics				
							Cross sec area (AWG) and cond. comp.		Twist pitch	Shield coverage (braid)	Ch. O. D.	Cond. D.C.R.	Shield D.C.R.	Nom. cap.*	Nom. cap.**
							mm ² /(AWG) Q'ty/mm		mm	%	mm	/100m	/100m	pF/m	pF/m
 L-4E3-8P Jacket color: black (L-4E3-2H gray)	L-4E3-2P	2	100	8.9	8.2	8	0.08(28) 7/0.12A	16	>93%	3.4	24.9	3.4	145	170	
	L-4E3-4P	4		10.9	13	16									
	L-4E3-8P	8		15.3	26	32									
	★ L-4E3-12P	12		17.4	36	48									
	★ L-4E3-16P	16		18.9	46	64									
	★ L-4E3-24P	24		24.0	70	96									

Insulation: Cross-linked PE (blue-blue, white-white) Jacket, inner jacket: PVC Dielectric strength: 500V AC/min. *Capacitance between conductors **Capacitance between conductor and shield.
 ★Production by order. Please ask us for ordering lot.

L-4E3-**P, L-4E4-**P

- Ideal multichannel cable for PA and live events where cables are laid down and taken back up on a regular basis.
- Contains the highly pull-resistant Kevlar cable filler.

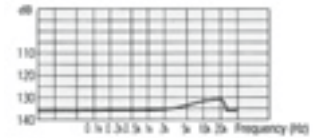
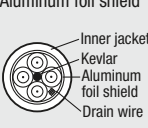


Fig. 1 Crosstalk Characteristics for L-4E4-4P (100m)

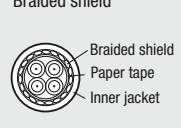
■ Cross-sectional View

Single unit config.

Aluminum foil shield



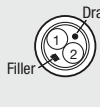
Braided shield



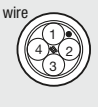
Inner jacket
Kevlar
Aluminum foil shield
Drain wire

Braided shield
Paper tape
Inner jacket


2ch




4ch



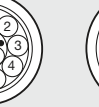
8ch




12ch



16ch



24ch




Drain wire
Filler

■ Channel color code: Spiral marks on inner jacket (gray).

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
Spiral mark	RED	BLU	YEL	GRN	BRN	-	BLU/BLK	YEL/BLK	GRN/BLK	BRW/BLK	BLK	BLU/ORN	YEL/ORN	GRN/ORN	BRW/ORN	ORN	BLU/PNK	YEL/PNK	GRN/PNK	BRW/PNK	PNK	BLU/WHT	YEL/WHT	GRN/WHT

Two-Conductor Shielded Cables (Single)

■ Aluminum Foil Shield

Type	Model	Sales units	Composition				Electrical characteristics				
			Nom. O.D	Weight	No. of cond.	Cross sec area (AWG) and cond. comp.	Twist pitch	Cond. D.C.R.	Shield D.C.R.	Nom. cap.*	Nom. cap.**
			m	mm	kg/100m						
 L-2B2AT Jacket colors: gray, black	L-2B2AT	200 500	3.2	1.3	2	0.18(25) 16/0.12A	25	10.5	—	73	120

Insulation: Cross-linked PE (polyethylene for L-2E5AL and L-2B2AL) Jacket: PVC Dielectric strength: 500V AC/min. *Capacitance between conductors **Capacitance between conductor and shield.

L-2B2AT

- Ideal for internal rack wiring.
- Internal drain wire eliminates the troublesome part of line termination work.

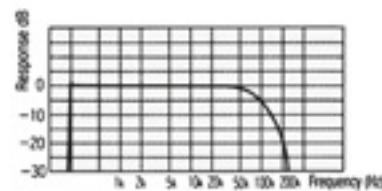



Fig. 2 Frequency Characteristics for L-2B2AT (100m)

Two-Conductor Shielded Cables

■ Braided Shield

Type	Model	Sales units	Composition						Electrical characteristics			
			Nom. O.D	Weight	No. of cond.	Cross sec area (AWG) and cond. comp.	Twist pitch	Shield coverage (braid)	Cond. D.C.R.	Shield D.C.R.	Nom. cap.*	Nom. cap.**
			m	mm	kg/100m	mm ² /(AWG) Q'ty/mm	mm	%	/100m	/100m	pF/m	pF/m
 L-2T2S Jacket colors for L-2T2S: red, orange, yellow, blue, gray, black; for L-2T2S+: black; for L-2E5: black	L-2T2S	100	6.0	4.6	2	0.30(23)	20	94% or more	6.4	3.1	70	106
	L-2T2S +	200				60/0.08A						
	L-2E5	200	4.6	3.0	2	0.15(26)	18	94% or more	12.7	2.2	—	—

Insulation: Cross-linked PE Jacket: PVC Dielectric strength: 500V AC/min.

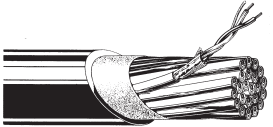
*Capacitance between conductors **Capacitance between conductor and shield.
 ★Production by order. Please ask us for ordering lot.

L-2T2S, L-2T2S +, L-2E5

- Braid coverage of 94% and above provides dense shielding that blocks out electromagnetic noise.
- L-2T2S (+) consists of 60 ultra-fine 0.08mm strands (30 for L-2E5) in a stranded format that offers excellent durability.

- Highly pliable and durable PVC used for jacket. (Brittle temp. -49°C)
- L-2T2S +: Improved price and yet the same spec as L-2T2S.

■ Aluminum Foil Shield

Type	Model	No. of ch.	Sales units	Nom. O.D	Weight	No. of cond.	Unit composition			Electrical characteristics			
							Cross sec area (AWG) and cond. comp.	Twist pitch	Ch. O. D.	Cond. D.C.R.	Shield D.C.R.	Nom. cap.*	Nom. cap.**
							mm ² /(AWG) Q'ty/mm	mm	mm	/100m	/100m	pF/m	pF/m
 MR202-24AT Jacket color: black	MR202-2AT	2	100 200	6.7	4.6	4	0.18(25)	25	2.7	10.7	—	76	142
	MR202-4AT	4		7.6	7.0	8							
	MR202-8AT	8		11.0	14	16							
	MR202-12AT	12		12.7	20	24							
	MR202-16AT	16		14.0	23	32							
	MR202-24AT	24		17.4	39	48							
	MR202-32AT	32		19.1	44	64							

Insulation: Cross-linked PE Jacket: PVC Dielectric strength: 500V AC/min.

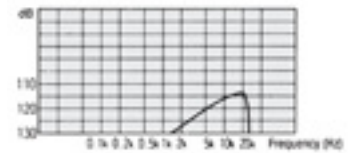
*Capacitance between conductors **Capacitance between conductor and shield.
 ★Production by order. Please ask us for ordering lot.

MR202-AT Series

- Multichannel cable for studio applications.
 Ideal for pit (duct) wiring and for interconnecting devices in studios.
- Color coding for channels conforms to international standards pertaining to color coding for resistors.
 - Internal drain wire eliminates the troublesome part of line termination work.
 - Outer diameter is a very slim 17.4mm, even with 24 channels.

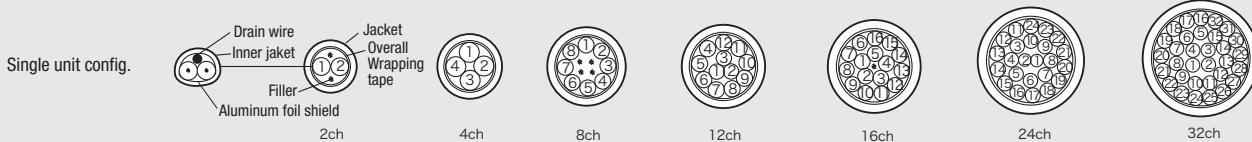
Note:

The MR202-AT Series cables are not geared to conduit or field use applications in which cables are subject to strong pulling action.



Crosstalk Characteristics for MR202-24AT (100m)

■ Cross-sectional View



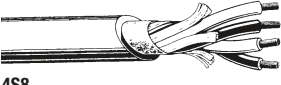
■ Channel color code: Inner jacket color coding and spiral markings.* Insulation inside units: one is clear and the other bears the same color as the spiral markings.

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
Insulation 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 markings	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								ORN							

Speaker Cables (Single)

Four-conductor configuration minimizes noise and polyethylene insulation reduces induction rate to boost frequency characteristics

4-conductor Speaker Cable

Type	Model	Pair cross-sec mm ²	Sales units m	Nom. O.D. mm	Weight kg/100m	Composition				Electrical characteristics	
						No. of cond.	Cross sec area (AWG) mm ² /(AWG)	Cond. comp Q'ty/mm	Twist pitch mm	Cond. D.C.R.	Nom. capacitance*
										Ω/100m	pF/m
	4S6	1.0	100 200	6.4	5.4	4	0.51(20)	20/0.18A	45	3.7	125
	4S8	2.5		8.3	9.5	4	1.27(16)	50/0.18A	70	1.5	145
	4S11	4.3		10.7	16	4	2.18(14)	41/0.26A	100	0.9	146

Jacket color for 4S6: gray, black, red, blue, cream; for 4S8: gray, black; for 4S11: gray, black
Insulation: polyethylene (red, translucent red, white, translucent white) Jacket: PVC Dielectric strength: 500V AC/min.

*Capacitance between conductors.

★Production by order. Please ask us for ordering lot.

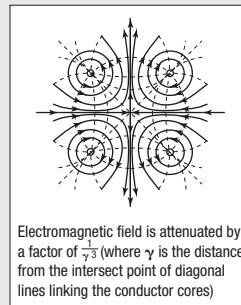
4S6, 4S8, 4S11

- High-performance PVC jacket, resistant to bending and twisting.
- 4S6 designed to fit snugly with Cannon XLR.

Technical Note

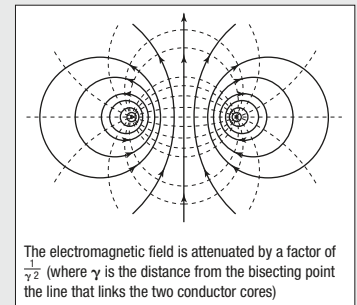
Four-conductor Configuration Minimizes Noise

Because speaker cables are used to transmit comparatively high frequency signals, there is always the danger of electromagnetic noise affecting microphone cables that are used to transmit signals in the very delicate range. To overcome this problem, Canare has adopted a four-conductor configuration for all of its speaker cables. As shown in Fig. 2, the centers of the four conductors are positioned equidistantly in a configuration where the magnetic fields of adjoining cables are designed to cancel each other out. This distance factor significantly enhances the attenuation effect over that of the two-conductor configuration illustrated in Fig. 3. The result is a speaker cable design with a significantly lower noise emission factor.



Electromagnetic field is attenuated by a factor of $\frac{1}{\sqrt{3}}$ (where γ is the distance from the intersect point of diagonal lines linking the conductor cores)

Fig.2 Electromagnetic Field Generated by Four-Conductor Cable



The electromagnetic field is attenuated by a factor of $\frac{1}{\sqrt{2}}$ (where γ is the distance from the bisecting point the line that links the two conductor cores)

Fig.3 Electromagnetic Field Generated by Two-Conductor Cable

Selecting the Right Speaker Cable

The goal when using speaker cables is to keep them as short as possible. A rather lofty ideal, however, given the real demands of large facilities. Power amplifiers are in one location, power lines must be drawn and various other electrical systems for maintenance and safety are also in place. Economic considerations preclude splurging on the thicker, more expensive cabling. The following section describes an example for selecting speaker cables using the damping factor as the criterion.

The damping factor is the damping effect on the speaker that is determined by power amplifier performance. It is expressed using the formula shown below.

$$\text{damping factor} = \frac{\text{speaker impedance}}{\text{power amp. output impedance} + \text{speaker cable conductor resistance}}$$

The greater the damping factor the better the ability to control the speaker and create sharp, clear quality in low range output.


As the formula shows, a high conductor resistance in the speaker cable, the lower the damping factor, which prevents even quality amplifiers from performing at their best.

When selecting cables, users should aim for a higher damping factor in the range of 20 to 50 for music facilities, and a lower factor of 10 to 20 for sports stadiums, where output is mainly speech. The table below shows the damping factors (DF) for various lengths of Canare cable for use as a quick reference.

Table 1 Values calculated assuming power amplifier output impedance is 0.05Ω

Model	Pair cond. resist. (Ω/100m) & cross-sec (mm ²)	Cond. resist. (Ω/100m) for return path	Cable length/damping factor	
			DF=20	DF=50
4S6	1.87/1.0mm ² AWG 17	3.7	9.5m	3.0m
4S8	0.75/2.5mm ²	1.5	23.3	7.3
4S11	0.43/4.3mm ²	11	40.2	12.6

OFC Line Cables

Type	Model	Sales units	Nom. O.D	Weight	Inner cond.		Insulation	Outer conductors	Electrical characteristics		
					Cross sec area (AWG) and cond. comp.	Nom. O.D			Shield construction and coverage	Chan. D.C.R.	Shield. D.C.R.
					m	mm	kg/100m	mm ² /(AWG) Q'ty/mm	mm	mm	mm/ends/carriers
 GS-6 Jacket color for GS-4: black GS-6: red, orange, yellow, green, blue, black	GS-4	200	4.0	2.7	0.39(22) 50/0.1(OFC)	0.82	1.82	Carbon plastic shield +0.1 (OFC)/6/16 93% or more	4.7	3.1	—
	GS-6	100 200	5.8	5.0	1.0(18) 127/0.1(OFC)	1.3	3.0	Carbon plastic shield +0.1 (OFC)/8/16 92% or more	1.8	2.5	160

Insulation: polyethylene Jacket: PVC Dielectric strength: 500V AC/min.

*Capacitance between conductor to shield.

GS-4, GS-6

- Outer conductor of fine 0.1mmØ OFC strands provide a highly flexible braided configuration. (See photographs A and B)



- Center conductor with 127 fine 0.1mmØ strands (50 for GS-4) increases durability.

* Note:
The GS-4 and GS-6 have a layer of carbon plastic shield underneath the braided shield (see Fig. 1) to block out noise. Shorting will result if this shield contacts the center conductor line, so special care must be taken when connecting the cable.

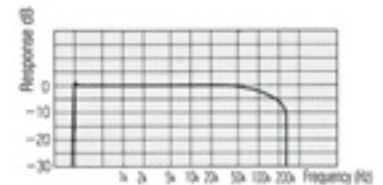
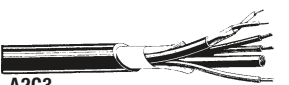

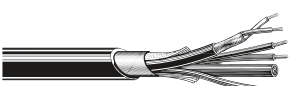



Fig. 2 Frequency Characteristics for GS-6 (100m, 100Ω → 1MΩ load)

RS422 Cables

Type	Cross-section view	Model	Sales units	Nom. O.D	Weight	Unit type	Unit composition			Overall Shield coverage	Conductor resistance	Characteristic impedance	Attenuation	
							Cross sec area (AWG) and cond. comp.	Shield coverage	Unit O.D.					
							m	mm	kg/100m	mm ² /(AWG) Q'ty/mm	%	mm	%	Ω/100m
 A2C3 Jacket color: black		A2C3	100 200 500	6.5	5.5	A	Digital lines two conductor shielded x 2	0.09(28) 7/0.127TA	90% or more Spiral shield	2.5	—	25.2	110	—
						C	Control lines 0.2mm ² x 3	0.22(24) 11/0.16TA	—	1.24				
 A2C3-SS Jacket color: black		A2C3-SS	100 200 500	7.0	7.2	A	Digital lines two conductor shielded x 2	0.09(28) 7/0.127TA	90% or more Spiral shield	2.5	92.7% Spiral shield	25.2	110	—
						C	Control lines 0.2mm ² x 3	0.22(24) 11/0.16TA	—	1.24				

Insulation: Cross-linked foam PE Jacket: Frame retardant PVC Dielectric strength: 500V AC/min.

A2C3


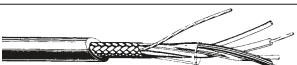


- Short distance version of the RS422 class cables.
- Irradiated foam core PE used for the insulation in the digital signal unit.

A2C3-SS

- Created by adding an overall spiral shield to the A2C3 to heighten shielding performance.

AES/EBU Digital Audio Cables

Ideal for conveying digital audio signals in conformance with AES/EBU and IEC standards.

Type	No. of ch.	Model	Sales units	Nom. O.D	Weight	Unit composition				Electrical characteristics				Charac-teristic impedance	Attenua-tion	
						Cross sec area (AWG) and cond. comp.	Twist pitch	Shield cov-erage (braid)	Unit O.D.	Cond. D.C.R	Shield D.C.R.	Nom. cap.*	Nom. cap.**			
						mm ² /(AWG) Q'ty/mm	mm	%	mm	Ω/100m	Ω/100m	pF/m	pF/m			Ω
 DA206 Jacket color: blue	1	DA206	100 200	7.3	7.5	0.56(20) 7/0.32A	60	95% or more	—	3.3	1.4	48	73	110	2.6	
 DA202 Jacket color: blue	1	DA202		5.0	3.6	0.18(25) 7/0.18A	32	95% or more	—	10.6	2.2	45	—	110	5.1	
 DA202AT Jacket color: blue	1	DA202AT		4.0	1.6	0.18(25) 7/0.18A	38	—	—	10.6	—	45	—	110	6.7	
 DA202F-8P Jacket color: blue	★	2	DA202F-2P	100	7.7	0.18(25) 7/0.18TA	25	91% or more Spiral shield	3.0	11.3	3.0	47	95	110	5.6	
	★	4	DA202F-4P	200	8.8											10
	★	8	DA202F-8P	500	11.5											17

Insulation: Cross-linked PE (DA202F-P: Cross-linked foam PE) Jacket: PVC Dielectric strength: 500V AC/min.

*Capacitance between conductors **Capacitance between conductor and shield.
★Production by order. Please ask us for ordering lot.

DA206, DA202 Series

- PE rod configuration ensures consistent 110Ω impedance with large or small bends in cable during installation.
- DA206 ideal for digital audio paths up to 360m*.
- DA202 ideal for digital audio paths up to 180m*.

*Condition: AES3 SR48kHz

DA202F Series NEW

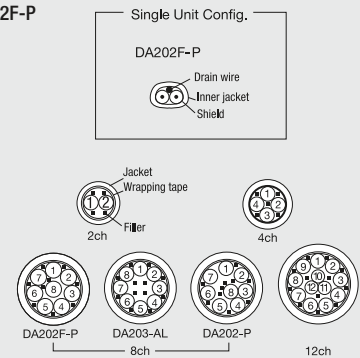
- Slim and lightweight.
- DA202F-8P designed to fit snugly with D-sub 25 pin connector.
- Cross-linked foam PE insulation.
- Ideal for digital audio paths up to 140m*.

Channel Color Coding

DA202F-P: by the insulator color & the spiral markings on the inner jacket (blue).

Unit no.	1	2	3	4	5	6	7	8
Insulator Color	BRN, WHT	RED, WHT	ORG, WHT	YEL, WHT	GRN, WHT	BLU, WHT	PUR, WHT	GRY, WHT
Spiral Markings	BRN	RED	ORG	YEL	GRN	—	PUR	GRY


Cross-sectional View for DA202F-P



75Ω Coaxial Cables

Canare's variety of coaxial cable series support full-range of video formats. Our cutting-edge L-CHD, L-CFW, and L-CFB series are ideal for HD-SDI distribution.

■ Super Low Loss Coax (Highly-Foamed PE Insulation)

Type	Model	Sales units	Nom. O.D	Weight	Inner cond		Insulation	Outer conductors	Inner cond. resistance	Outer cond. resistance	Static capacity	Charac-teristic impedance	Attenuation		
					Composition	O.D.								O.D.	Shield coverage & comp.
					Qty/mm (AWG)	mm								mm	mm/ends/carriers
 Jacket colors: black, red, yellow, green, blue and others (please ask us).	L-2.5CHD	200	4.2	2.6	1/0.59A (23)	0.59	2.59	0.12TA/7/16 (95% or more)	≤64.3	≤16.9	53	75±3	30.2		
	L-4CHD		6.1	5.2	1/0.82A (20)	.82	3.68	0.14TA/8/16 (95% or more)	≤3.6 @100m	≤1.1 @100m	53	75±3	21.3		
	L-4.5CHD		7.0	6.2	1/1.02A (18)	1.02	4.57	0.14TA/6/24 (91% or more)	≤23.3	≤9.9	53	75±3	17.4		
	★ L-5CHD		7.7	7.4	1/1.20A (17)	1.2	4.9	0.14TA/7/24 (93% or more)	≤16.1	≤8.2	50	75±3	15.6		
	★ L-6CHD		8.9	1068	1/1.5A (15)	1.5	6.1	0.14TA/7/24 (93% or more)	≤10.3	≤7.2	50	75±3	12.9		
	★ L-7CHD		10.2	13	1/1.8A (13)	1.8	7.3	0.16TA/8/24 (93% or more)	≤7.1	≤6.1	50	75±3	10.9		
	★ L-8CHD		11.1	14	1/2.0A (12)	2.0	8.2	0.16TA/8/24 (90% or more)	≤5.8	≤6.3	50	75±3	9.6		

Jacket: PVC Dielectric strength: 1000V AC/min.

★ Production by order. Please ask us for ordering lot.

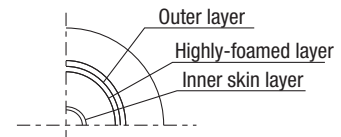
L-CHD Series

- Highly-foamed PE insulation allows further improvement in the attenuation characteristics.
- Multi-layer insulation in which to each layer is given a different foaming ratio is used to increase strength.
- Tinned copper braid with aluminum foil brings excellent shielding.
- Flame resistance UL 1666 Riser (L-2.5CHD, L-4.5CHD, L-4CHD and L-5CHD)

Note 1: Designed for fixed installation, and not fit for mobile use where external force or pressure is unavoidable.

Note 2: Cable strippers (TS100 series) cannot be used.

<View of Three-Layer Insulation >
(L-6CHD, L-7CHD, L-8CHD)

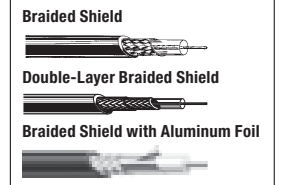


Technical Note

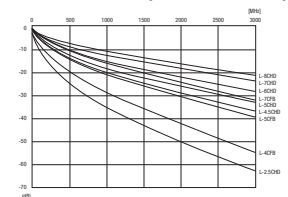
Many types of video coax. What're the differences and how select?

In brief, there are three of essential factors: 1) center conductor, 2) insulation, and 3) shield. Each factor has its advantage and disadvantage as described below:

- 1) Center Conductor: two types existing, "Solid" and "Stranded". Stranded conductor is more flexible and therefore the best choice for mobile and stage use.
- 2) Insulation: includes "Solid", "Foamed", and "Highly-foamed" types. Foamed and highly-foamed insulation would perform better attenuation, compared to the solid type thus they are often selected for hi-def video. However, since foamed and high-foamed insulation contain the air physically, they are weak to external pressure. You should pay attention to where and how the cables are installed.
- 3) Shield: we have "Braided" and "Braided with aluminum foil" type. Braided shields include single, double, or triple layers as well as bare copper or tinned copper. Braided with aluminum foil offers perfect screening, but they are not suitable for movement-intensive and mobile applications due to the foil's lack of strength. In that case, it's better to choose "Braided".



■ Attenuation (distance 100m)





■ Maximum Transmission Distance by Video Format

Standard	SMPTE 259M	ITU-R BT. 601	SMPTE 259M	SMPTE 259M	SMPTE 344M	SMPTE 292M	SMPTE 424M
Video Format	Composite NTSC	Composite PAL	Component 4:2:2	Component 4:2:2 16x9	SDI	HD-SDI	HD 1080p
Bit Rate	143 Mb/s	177 Mb/s	270Mb/s	360Mb/s	540Mb/s	1.5Gb/s	3.0 Gb/s
Model	m	m	m	m	m	m	m
L-2.5CFB	265	242	199	172	139	54	36
L-2.5CHD	314	287	237	206	168	66	46
L-3CFB	344	314	257	222	179	68	46
L-3CFW	319	288	230	197	158	60	40
L-4CFB	415	314	310	268	216	82	55
L-4.5CHD	551	504	415	361	293	115	79
L-5CFB	563	513	420	364	294	112	76
L-5CFW	535	483	384	333	267	103	70
L-5CHD	614	562	464	403	327	128	88
L-6CHD	766	700	575	499	403	154	105
L-7CHD	902	824	678	589	476	184	125
L-8CHD	1035	945	777	674	544	208	141

The above values are based on SMPTE standards 259M, 292M, 344M, and 424M. Our criteria are as follows: 259M & 344M: The listed coaxial cable's attenuation value does not exceed 30dB loss at one-half the clock frequency (bit rate). 292M & 424M: The listed coaxial cable's attenuation value does not exceed 20dB loss at one-half the clock frequency (bit rate).

Standard Coax (Solid PE Insulation)

Type	Model	Sales units	Nom. O.D	Weight	Inner cond		Insulation	Outer conductors	Electrical characteristics			Characteristic impedance	Attenuation
					Conductor comp.	O.D.			Shield inner/outer coverage & comp.	Inner cond. re-sistance	Outer cond. re-sistance		
		m	mm	kg/100m	(AWG) Q'ty/mm	mm	mm	mm/ends/carriers	Ω/100m	Ω/100m	pF/m	Ω	dB/100m (10MHz)
 <p>LV-61S Jacket color for L-3C2VS: brn, red, orn, yel, grn, blu, gry, wht, blk; for L-3C2V: red, yel, grn, blu, gry wht, blk; for LV-61S: blu, red, yel, blk, orn, brn, gry, grn, ppl</p>	★ L-1.5C2VS	—	2.9	1.3	(31) 7/0.09A	0.27	1.6	0.10A/5/16 (94% or more)	41.9	3.2	69	75	8.7
	L-3C2VS	100 200	5.5	4.5	(25) 7/0.18A	0.54	3.1	0.12A/7/16 (94% or more)	10.5	1.9	67		4.5
	LV-61S	153	6.1	5.0	(24) 7/0.20A	0.60	3.6	0.12A/6/24 (95% or more)	8.5	1.3			3.8
 <p>LV-77S Jacket color: black</p>	LV-77S	153	7.7	9.0	(22) 7/0.26A	0.78	4.8	0.12A/7/24 (92% or more) 0.12A/8/24 (95% or more)	5.0	0.55	67	75	3.4

Jacket: PVC Dielectric strength: 1000V AC/min. *100m/200m/500m/1000m

★Production by order. Please ask us for ordering lot.



L-3C2VS, LV-61S

- Stranded center conductors ideal for locations requiring cable bending.

LV-77S

- Double-braided shield enhances shielding performance.

Low Loss Coax (Foamed PE Insulation)

Type	Model	Sales units	Nom. O.D	Weight	Inner cond		Insulation	Outer conductors	Electrical characteristics			Characteristic impedance	Attenuation
					Conductor comp.	O.D.			Shield inner/outer coverage & comp.	Inner cond. re-sistance	Outer cond. re-sistance		
		m	mm	kg/100m	(AWG) Q'ty/mm	mm	mm	mm/ends/carriers	Ω/100m	Ω/100m	pF/m	Ω	dB/100m (10MHz)
 <p>L-5CFW Jacket colors: black, red, green and others (Please ask us)</p>	L-3CFW	100 200 1000	5.8	5.1	(22) 1/0.65A	0.65	3.1	0.12TA/5/24 (94% or more) 0.12TA/6/24 (94% or more)	5.5	0.7	55	75	3.4
	L-5CFW	7.7	8.1	(18) 1/1.05A	1.05	4.9	0.12TA/7/24 (93% or more) 0.12TA/9/24 (96% or more)	2.3	0.5	2.1			
<p>■ Braided shield + Aluminum foil shield</p>  <p>L-5CFB Jacket colors for L-3CFB, L-5CFB: red, yellow, green, blue, white, black. Others: black</p>	★ L-2.5CFB	—	4.0	2.4	(25) 1/0.5A	0.50	2.4	0.12TA/6/16 (92% or more)	9.3	2.0	55	75	4.8
	★ L-3CFB	100 200	5.5	4.0	(22) 1/0.65A	0.65	3.1	0.14TA/6/16 (91% or more)	5.5	1.4			3.7
	★ L-4CFB	6.1	4.9	(20) 1/0.80A	0.80	3.7	0.14TA/8/16 (93% or more)	3.6	1.0	3.0			
	★ L-5CFB	7.7	7.3	(18) 1/1.05A	1.05	5.0	0.14TA/7/24 (93% or more)	2.3	0.8	2.2			
	★ L-7CFB	10.2	13	(15) 1/1.50A	1.5	7.3	0.18TA/8/24 (96% or more)	1.0	0.5	1.6			

Jacket: PVC Dielectric strength: 1000V AC/min.

★Production by order. Please ask us for ordering lot.

L-CFW Series

- Best fit for mobile HD application.
- Double braided shield enables flexible and great bending performance.

Note: Cable strippers cannot be used with this cable.

L-CFB Series


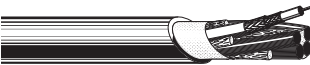
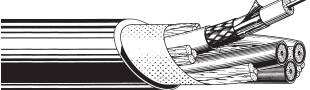
- Suited to HD-SDI, SD-SDI and analog video.
- TC braid plus aluminum foil brings excellent shielding.

Note: L-CFB cables are not suitable for use in on-the-road applications involving frequent bending and pulling, since such use may damage the cable's outer conductor and lead to broadcast interference when transmitting HDTV-SDI signals. For such applications, ensure proper operation by using L-CFW cables instead.

75Ω Coaxial Multichannel Cables

Combining multiple coaxial cables into one simplifies wiring for video peripherals

Inner jackets for individual units are color-coded for easy signal line identification. Significantly reduces work required to phase-compensate differences in line lengths.

Type	Model	No. of ch.	Sales units	Nom. O.D.	Weight	Unit composition				Electrical characteristics					
						Inner cond.		Insulation	Outer conductor		Unit O.D.	Inner cond. resistance	Outer cond. resistance	Characteristic impedance	Attenuation
						Cross sec. area	tion conductor comp.	O.D.	O.D.	Braid coverage					
m	mm	kg/100m	mm ² /(AWG) Q'ty/mm	mm	mm	mm/ends/carriers	mm	Ω/100m	Ω/100m	Ω	dB/100m (10MHz)				
 <p>V4-*C Jacket color: black Insulation: PE</p>	V3-1.5C	3	—	7.4	7.3	Refer to L-1.5C2VS (P51)					2.6	42.4	3.3	75	8.7
	V4-1.5C	4		8.4	9.4										
	V5-1.5C	5		9.2	11										
	V3-3C	3		11.5	15	0.18 (25) 7/0.18A	0.54	3.1	0.14A/5/24 (>97%)	4.4	10.6	1.1	75	4.5	
	V4-3C	4		13.0	20										
	V5-3C	5		14.2	24										
	V3-5C	3		15.5	23										
	V4-5C	4		17.1	30	Refer to L-5C2VS (P51)					6.0	5.1	1.2	75	2.9
V5-5C	5	19.2	38												
 <p>V5-*CFW Jacket color: black Insulation: Foam PE</p>	★ V5-3CFW	5	—	16.2	34	Refer to L-3CFW (P51)					4.9	5.6	0.7	75	3.4
	★ V5-5CFW	5		22.4	58	Refer to L-5CFW (P51)					7.0	2.4	0.5	75	2.1
 <p>V4-*CFB Jacket color: black Insulation: Foam PE</p>	★ V3-3CFB	3	—	11.5	14	Refer to L-3CFB (P51)					4.4	5.6	1.4	75	3.7
	★ V4-3CFB	4		13.0	19										
	★ V5-3CFB	5	14.2	23											
	★ V3-4CFB	3	12.9	18											
	★ V4-4CFB	4	14.4	23	Refer to L-4CFB (P51)					5.0	3.7	1.0	75	3.0	
	★ V5-4CFB	5	16.1	29											
	★ V3-5CFB	3	17.1	29											
	★ V4-5CFB	4	18.8	36	Refer to L-5CFB (P51)					6.5	2.3	0.8	75	2.2	
★ V5-5CFB	5	21.1	46												

Jacket PVC Dielectric strength: 1000V AC/min.

★Production by order. Please ask us for ordering lot.

V-C Series

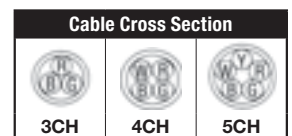
- Our best selling multi channel coax, ideal for component video. Bundled thinner jacket type of Canare L-xC2VS: flexible stranded conductor and solid PE insulation. Distinguishable RGB color-coded.

V-CFB Series


- Bundled thinner jacket type of Canare L-xCFB: solid conductor and foamed PE insulation wrapped with aluminum foil. Excellent low attenuation performance will fit for digital video in fixed installations. Distinguishable RGB color-coded.

V-CFW Series

- Newly developed for HD mobile application. Bundled thinner jacket type of Canare L-xCFW: solid conductor, foamed PE insulation, double braided shield. Excellent low attenuation and distinguishable RGB color-coded.



75Ω Triaxial Cables




Type	Model	Sales units	Nom. O.D.	Weight	Inner cond.		Insulation 1		Insulation 2		Outer cond.2			Electrical characteristics			Characteristic impedance	Attenuation
					Cross sec. (AWG) & comp.	O.D.	O.D.	Braid coverage and comp.	O.D.	Braid coverage and comp.	Inner cond. resistance	Outer cond. resistance	Static capacity					
					m	mm	kg/100m	mm ² /(AWG) Q'ty/mm	mm	mm	mm/ends /carriers	mm	mm/ends /carriers	Ω/100m	Ω/100m	pF/m	Ω	dB/100m (10MHz)
 <p>L-4CFTX Jacket colors: black, red, green</p>	L-4CFTX	100 200	9.1	11.0	0.50(20) 1/0.80A	0.80	3.7	0.14A/7/16 (93% or more)	5.5	0.14A/7/24 (95% or more)	2.7	—	55	75	2.9			

Insulation: 1: foam PE, 2: polyethylene Dielectric strength: 1000V AC/min.

- Abrasion-resistance PVC jacket.
- Cable assemblies also available. (See page 70)

A/V Composite Cables

Used for linking audio video equipment and as extensions for video cameras.

Type	Model	Sales units	Nom. O.D	Weight	Unit type V: Video A: Audio C: Control line	Unit composition			Electrical characteristics			
						Cross sec. area	Shield coverage	Unit O.D.	Characteristic impedance	Attenuation		
						Conductor comp.	%	mm	Ω	dB/100m (10MHz)		
						mm ² /(AWG)						
						Q'ty/mm						
 A2V1 		A2V1	100 200	9.7	11	V Video 3C-2V×1	0.20(24) 1/0.5A	97% or more (braid)	4.4	75	4.1	
	A Audio L-2B2AT×2	Refer to L-2B2AT		Aluminum foil shield	3.2	—	—					
	V Video 3C-2V×2	0.20(24) 1/0.5A		97% or more (braid)	4.4	75	4.1					
	A Audio L-2B2AT×2	Refer to L-2B2AT		Aluminum foil shield	3.2	—	—					
	C Control lines 0.2mm ² ×4	0.20(24) 18/0.12A		—	1.3	—	—					
	V Video 3C-2VS×1	0.18(25) 7/0.18A		97% or more (braid)	4.4	75	4.5					
	A Audio 4E3 Unit×2	0.08(29) 7/0.12A		93% or more (braid)	3.4	—	—					
	V Video 3C-2VS×2	0.18(25) 7/0.18A		97% or more (braid)	4.4	75	4.5					
	A Audio 4E3 Unit×2	0.08(29) 7/0.12A		93% or more (braid)	3.4	—	—					
	V Video 3CFB Unit×2	0.33(22) 1/0.65A		91% or more (braid) + Aluminum foil	4.4	75	3.7					
A Audio L-2B2AT×3	Refer to L-2B2AT	Aluminum foil shield	3.2	—	—							

Jacket color: black
Jacket: PVC Dielectric strength: 500V AC/min.

★Production by order. Please ask us for ordering lot.

A2V1, A2V2-L

- Designed for fixed installation.

A2V1B, A2V2B

- Ideal for locations requiring cable bending.

A3V2-FB




- 3 balanced audio channels and 2 video coax channels for ENG, EFP, or OB applications.

Nominal Attenuation

Model	Frequency	dB/100m												
		10MHz	30MHz	SMPTE 259M Composite NTSC 72.0MHz	ITU-R BT.601 Composite PAL 88.0MHz	SMPTE 259M Component 4:2:2 135MHz	SMPTE 259M Component 4:2:2 16x9 180MHz	SMPTE 344M 540Mb/s SDI 270MHz	440MHz	SMPTE 292M HD-SDI 750MHz	1.3GHz	SMPTE 424M HD 1080p 1.5GHz	2.4GHz	3GHz
75	L-1.5C2VS(V*-1.5C)	8.7	15.2	23.8	26.4	32.9	38.1	47.1	60.8	—	—	—	—	—
	L-3C2VS(V*-3C)	4.5	7.9	12.4	13.7	17.2	20.0	24.8	32.3	43.2	—	—	—	—
	L-3C2V/L-3C2W	4.1	7.2	11.3	12.5	15.7	18.3	22.8	29.7	40.0	—	—	—	—
	L-5C2VS(V*-5C)	2.9	5.2	8.1	9.0	11.4	13.3	16.5	21.7	29.2	40.5	44.1	58.7	67.5
	L-5C2V/L-5C2W	2.5	4.5	7.1	7.9	9.9	11.6	14.4	19.0	25.7	35.6	38.9	52.0	59.9
	LV-61S	3.8	6.6	10.4	11.6	14.5	16.9	20.9	27.3	36.6	49.9	54.2	71.5	81.7
	L-2.5CFB	4.8	7.6	11.3	12.4	15.1	17.4	21.5	27.8	37.0	50.0	54.1	70.5	80.2
	L-3CFB/LS-3CFB(V*-3CFB)	3.7	5.9	8.7	9.5	11.7	13.5	16.7	21.7	29.1	39.6	43.0	56.5	64.5
	L-4CFB/LS-4CFB(V*-4CFB)	3.0	4.9	7.2	7.9	9.7	11.2	13.9	18.1	24.3	33.2	36.0	47.5	54.3
	LS-5CFB	2.3	3.7	5.6	6.1	7.5	8.7	10.9	14.2	19.3	26.5	28.9	38.5	44.3
	L-5CFB(V*-5CFB)	2.2	3.6	5.3	5.8	7.1	8.2	10.2	13.2	17.7	24.1	26.1	34.3	39.1
	L-7CFB	1.6	2.5	3.8	4.2	5.1	6.0	7.5	9.8	13.4	18.8	20.5	27.6	32.0
	L-3CFW(V*-3CFW)	3.4	5.9	9.4	10.4	13.0	15.2	18.9	24.6	33.1	45.4	49.4	65.3	74.8
	L-5CFW(V*-5CFW)	2.1	3.6	5.6	6.2	7.8	9.0	11.2	14.5	19.4	26.2	28.4	37.1	42.2
	L-2.5CHD	4.1	6.5	9.5	10.4	12.6	14.5	17.8	22.9	30.2	40.0	43.1	55.1	62.0
	L-4.5CHD	2.3	3.7	5.4	6.0	7.2	8.3	10.2	13.2	17.4	23.2	25.1	32.3	36.5
L-5CHD	2.1	3.3	4.9	5.3	6.4	7.4	9.1	11.8	15.6	20.8	22.5	29.0	32.8	
L-6CHD	1.7	2.7	3.9	4.3	5.2	6.0	7.4	9.7	12.9	17.5	19.0	24.8	28.3	
L-7CHD	1.4	2.3	3.3	3.6	4.4	5.1	6.3	8.2	10.9	14.7	15.9	20.7	23.5	
L-8CHD	1.2	2.0	2.9	3.2	3.9	4.4	5.5	7.2	9.6	13.0	14.1	18.5	21.1	
50	L-3D2V/L-3D2W	4.5	8.0	12.6	14.1	17.7	20.7	25.9	34.1	46.4	64.5	70.4	94.6	109.2
	L-5D2V/L-5D2W	2.5	4.4	7.0	7.7	9.7	11.4	14.2	18.7	25.5	35.4	38.6	51.8	59.7
	L-5DFB	2.5	3.9	5.7	6.2	7.5	8.6	10.8	14.1	19.0	26.1	28.4	37.7	43.2

Ethernet Cables

Twisted-pair cable for 10BASE-T and 100BASE-TX Ethernet PC network standards.

Type	Crossection view	Model	Sales units	Nom. O.D	Weight	Unit composition		Electrical characteristics	Charac-teristic impedance	Attenuation
			m	mm	kg/100m	Cross sec. area Conductor comp.	Shield coverage & comp.	Cond. D.C.R.		
						mm ² /(AWG) Q'ty/mm	mm/ends/carriers	Ω/100 m	Ω	100MHz
 RJC5E-4P Jacket color for RJC5E-4P: blue, orange, white for RJC5ES-4P-BS: black		RJC5E-4P	300	5.3	3	0.20(24) 1/0.51A	—	9.4	100	22.0 dB/100m
		RJC5ES-4P-BS	—	6.8	6.3	0.22(24) 7/0.20A	0.10TA/10/16 (92% or more)	9.5	100	21.7 dB/50m

Insulation: polyethylen (RJC5ES-4P-BS: Cross-linked polyethylene.) Jacket: PVC Dielectric strength: 350V AC/min.

Jacket colors other than sky-blue are custom models. Please ask us for ordering lot.
★Production by order. Please ask us for ordering lot.

RJC5E-4P

- Compatible with Enhanced Category 5 networking.
- Convenient figure-8 coil (REELEX* coil) cardboard cable dispenser.
- Cable jacket marked every meter for easy cutting at desired cable length.
- Assembled cable with connectors (PCRJE**) are also available (See page 72).
- Flame resistance VL1581 VW-1.

*REELEX is the registered trademark of Windings Corporation.

RJC5ES-4P-BS

- Compatible with Enhanced Category 5 networking.
- Best fit for mobile application.
- Ideal for 100BASE-TX paths up to 50m.

75Ω Video Patchbays

75Ω Video Patchbays

3G-ready HD-SDI video patchbays featuring Canare's uniquely-developed rotary switches.

Model	Panel Size	Loaded Video Jacks
20DV	1RU	20 x DVJB-W
20DVS	1RU	20 x DVJB-S
* 20DV-2U	2RU	20 x DVJB-W
* 20DVS-2U	2RU	20 x DVJB-S
24DV	1RU	24 x DVJB-W
* 24DVS	1RU	24 x DVJB-S
24DV-2U	2RU	24 x DVJB-W
* 24DVS-2U	2RU	24 x DVJB-S
26DV	1RU	26 x DVJB-W
26DVS	1RU	26 x DVJB-S
26DV-2U	2RU	26 x DVJB-W
* 26DVS-2U	2RU	26 x DVJB-S

*Production by order
*Colors other than black are available on custom-made basis. (See page 57)

75Ω Dual Video Jacks

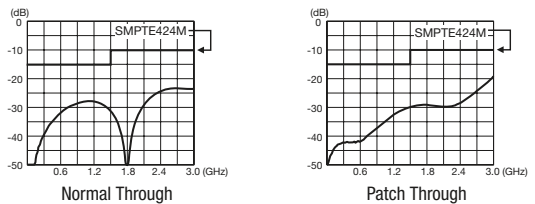
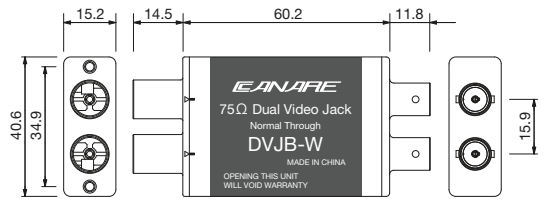
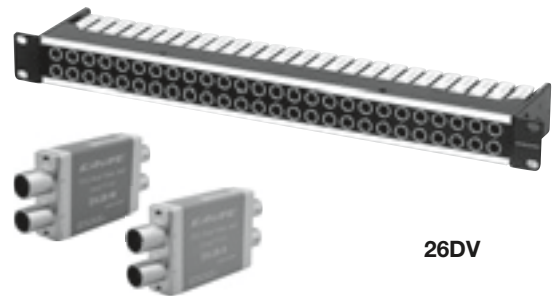
Model	Description
DVJB-W	Normal Through
DVJB-S	Straight Through
VJ-DC	Dust Cap for Video Jack (color: yellow)

Key Features and Benefits

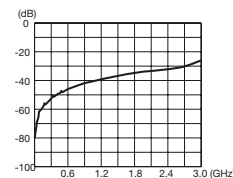
- Rotary switch has been improved for superior isolation.
- Also usable as digital audio patchbay.
- Can be recessed 25mm.
- Wide designation strip (2RU type).
- Lightweight aluminum alloy video jacks.

Return Loss & Isolation

Model	Return Loss			Isolation
	BNC-BNC: Normal Through	BNC-VIDEO: Patch Through	BNC-Self Termination	
DVJB-W		26dB or greater (~750MHz)		35dB or greater (~1.5GHz) 20dB or greater (~3.0GHz)
		20dB or greater (~2.4GHz)		
		10dB or greater (~3.0GHz)		
DVJB-S	N/A	26dB or greater (~750MHz)	26dB or greater (~750MHz)	35dB or greater (~1.5GHz) 20dB or greater (~3.0GHz)
		20dB or greater (~2.4GHz)	20dB or greater (~1.5GHz)	
		10dB or greater (~3.0GHz)	10dB or greater (~3.0GHz)	



Return loss for DVJB-W



Isolation

Technical Note

Rotary Switch Technology and Signal Routing Chart

At the heart of the video jack is an independently-developed rotary switch which has been specially designed for use with high frequency signals. It features dual-contact construction for improved contact stability.



W Series (Normal Through)			
Video Port: No Patch		BNC Port: Signal thru as Arrowed	Signal routes between top and bottom BNC without the use of Video plugs.
Video Port: Patch Upper		BNC Port: Lower Terminated	Inserting a Video Patch Cord into front "upper" port automatically terminates signal path into the lower 75 load.
Video Port: Patch Lower		BNC Port: Upper Terminated	Inserting a Video Patch Cord into front "lower" port automatically terminates signal path into the upper 75 load.
Video Port: Patch Both		BNC Port: Signal thru as Arrowed	Inserting Video Patch Cords into both front ports inputs and/or outputs signal.

S Series (Straight Through)			
Video Port: No Patch		BNC Port: Both Signal Terminated	Two independent single jacks in a dual housing.
Video Port: Patch Upper		BNC Port: Lower Terminated	Inserting a Video Patch Cord into front "upper" port automatically terminates signal path into the lower 75 load.
Video Port: Patch Lower		BNC Port: Upper Terminated	Inserting a Video Patch Cord into front "lower" port automatically terminates signal path into the upper 75 load.
Video Port: Patch Both		BNC Port: Signal thru as Arrowed	Inserting Video Patch Cords into both front ports inputs and/or outputs signal.

75Ω Staggered Mid-size Video Patchbays

3G-ready mid-size video jacks allow for more efficient use of rack space. The new 4RU size patchbays have been added to the lineup.

Model	Panel Size	Loaded Video Jacks
32MD-ST	1RU	32 x MDVJ-STW
32MD-ST-S	1RU	32 x MDVJ-ST-S
★ 32MD-ST-2U	2RU	32 x MDVJ-STW
★ 32MD-ST-S-2U	2RU	32 x MDVJ-ST-S
32MD-ST-4U	4RU	96 x MDVJ-STW
32MD-ST-S-4U	4RU	96 x MDVJ-ST-S

★Production by order

*Colors other than black are available on custom model basis except 4RU type (See page 57).

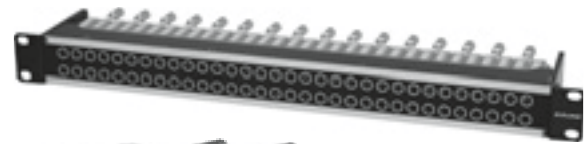
75Ω Staggered Mid-size Video Jacks

Model	Description
MDVJ-STW	Staggered Mid-size Video Jack, Normal Through
MDVJ-ST-S	Staggered Mid-size Video Jack, Straight Through
MVJ-DC	Dust Cap for Video Jack (color: yellow)

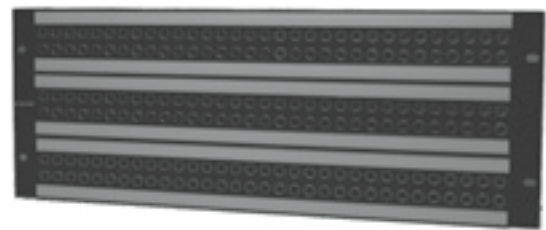
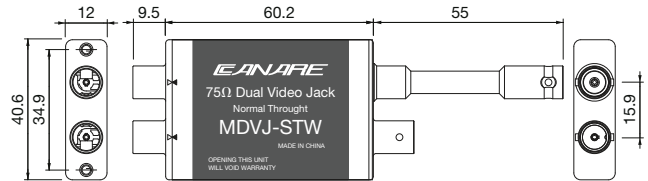
Key Features and Benefits

- 32 channels of I/O into 1RU or 2RU, 96 channels of I/O into 4RU.
- Rotary switch has been improved for superior isolation.
- Can be recessed 25mm (1RU, 2RU type).
- Wide designation strip (2RU, 4RU type).
- Lightweight aluminum alloy video jacks.
- Industry standard BNC plugs can be used.

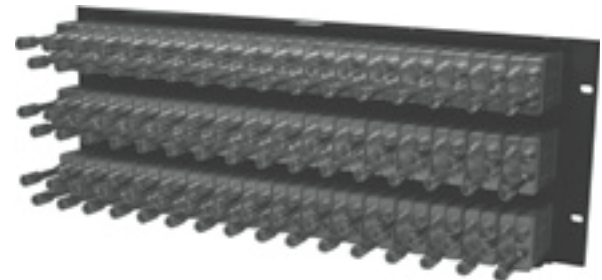
Note : Be sure to use with Mini-Weco video plug.



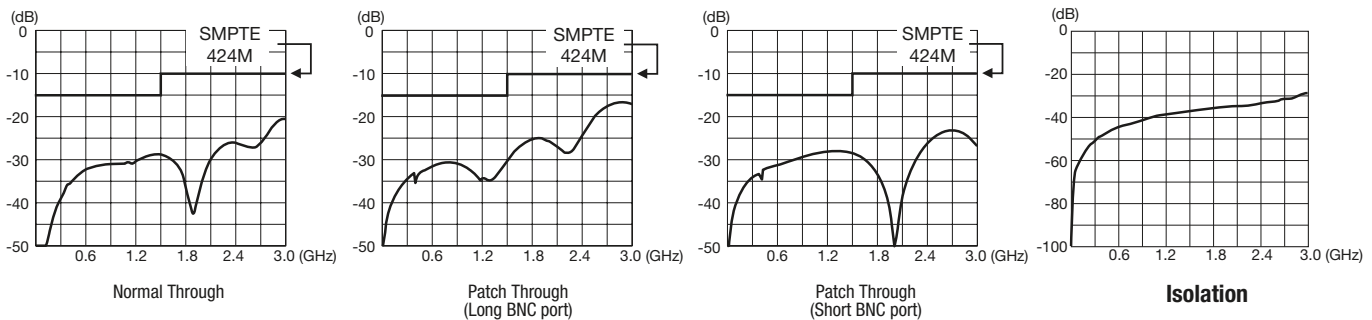
32MD-ST-S



32MD-ST-4U



32MD-ST-4U (Rear View)



Return loss for MDVJ-STW

Return Loss & Isolation

Model	Return Loss			Isolation
	BNC-BNC: Normal Through	BNC-VIDEO: Patch Through	BNC-Self Termination	
MDVJ-STW	N/A	26dB or greater (~750MHz)	26dB or greater (~750MHz)	35dB or greater (~1.5GHz) 20dB or greater (~3.0GHz)
		20dB or greater (~2.4GHz)		
		10dB or greater (~3.0GHz)		
MDVJ-ST-S	N/A	26dB or greater (~750MHz)	26dB or greater (~750MHz)	35dB or greater (~1.5GHz) 20dB or greater (~3.0GHz)
		20dB or greater (~2.4GHz)	20dB or greater (~1.5GHz)	
		10dB or greater (~3.0GHz)	10dB or greater (~3.0GHz)	

Connector Panels and Patchbays

Video Plugs

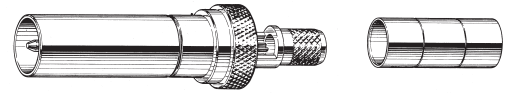
Video Plug (W.E.Standard)

Model	Suitable Cable	Boot	Die Set
VWP-C4A	LV-61S, RG-59B/U, Belden 8241, 8279, 88241	CB04	TCD-451CA TCD-4CA

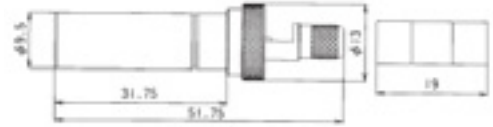
•Standard Package (20pcs)

- Gold-plated center contact resists deterioration over years of use.
- Solder center contact and crimp sleeve.

Be sure to use Canare crimping tool for installing connectors on cables.



VWP-C4A



VWP-C4A

Mini-WECO Video Plug

Model	Suitable Cable	Boot	Die Set
MVP-C4	LV-61S, RG-59B/U, Belden 8241, 8279, 88241	CB25	TCD-451CA TCD-4CA

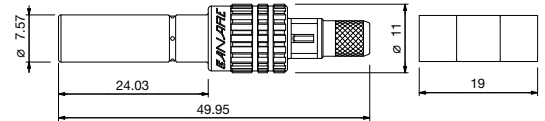
•Standard Package (20pcs)

- Return loss: 26 dB or greater (DC - 1.5GHz), 20dB or greater (DC - 2.4GHz).
- Gold-plated center contact resists deterioration over years of use.
- Solder center contact and crimp sleeve.

Be sure to use Canare crimping tool for installing connectors on cables.



MVP-C4



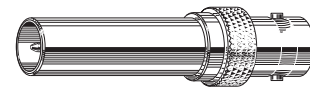
MVP-C4

Video Conversion Connectors

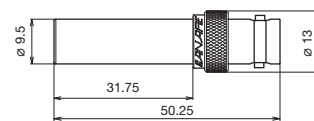
Model	Description
BCJ-VWP	BNC (female) - Video plug (W.E.Standard)
BCJ-MVP	BNC (female) - Mini-WECO Video plug

•Standard Package: BCJ-VWP (1pcs), BCJ-MVP (10pcs)

Note: BCJ-MVP is recommended to use with Slim BNC plug.



BCJ-VWP



BCJ-VWP

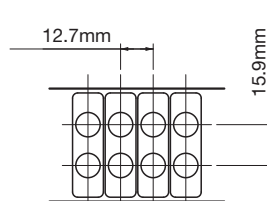
<Caution>

Conventional video plugs and BNC connectors are too large in O.D. to be connected to the 32-Channel Video Patchbay. Please be sure to use only the appropriate connectors, referring to the tables on this page.

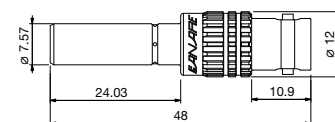


Conventional BNC Plug

Slim BNC Plug



BCJ-MVP



BCJ-MVP

Unloaded Video Jack Panels

Model	Panel Size	Description
★ VJ2-V20-1U-***	1RU	20ch (40 holes), for DVJB
★ VJ2-V20-2U-***	2RU	20ch (40 holes), for DVJB
★ VJ2-V24-1U-***	1RU	24ch (48 holes), for DVJB
★ VJ2-V24-2U-***	2RU	24ch (48 holes), for DVJB
★ VJ2-V26-1U-***	1RU	26ch (52 holes), for DVJB
★ VJ2-V26-2U-***	2RU	26ch (52 holes), for DVJB
★ MJ2-M32-1U-***	1RU	32ch (64 holes), for MDVJ
★ MJ2-M32-2U-***	2RU	32ch (64 holes), for MDVJ
★ VJ2-M32-4U	4RU	96ch (3 x 32ch, 192 holes), for MDVJ (Color: Black)

★ Production by order

*** : Please see the following ordering information for complete model number.

<Ordering Information>

Coding Ex. **VJ2 - V20 - 2U - BLK**

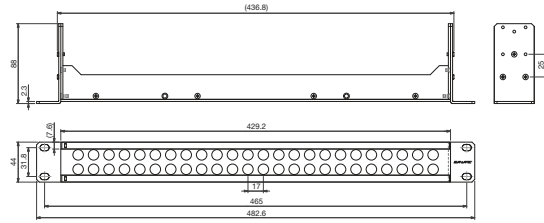
Panel Size

1U	1RU
2U	2RU
4U	4RU

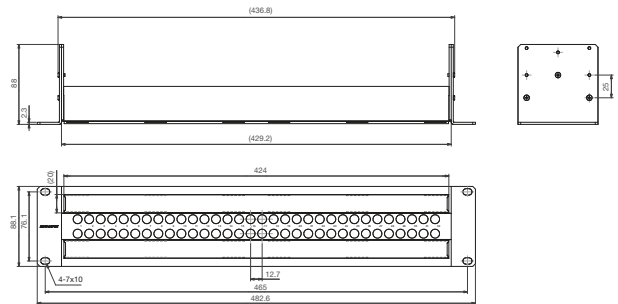
Color Codes

BLK	Black
BRN	Brown
RED	Red
ORG	Orange
YEL	Yellow
GRN	Green
BLU	Blue
PPL	Purple
GRY	Gray
WHT	White

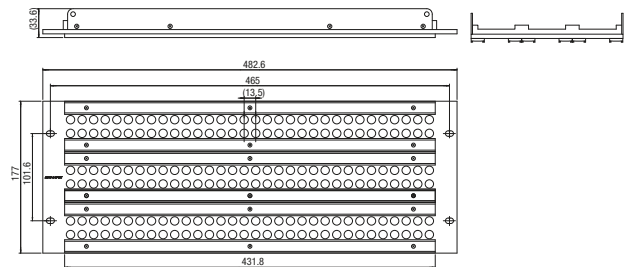
VJ2-V24-1U-BLK



MJ2-M32-2U-BLK



VJ2-M32-4U

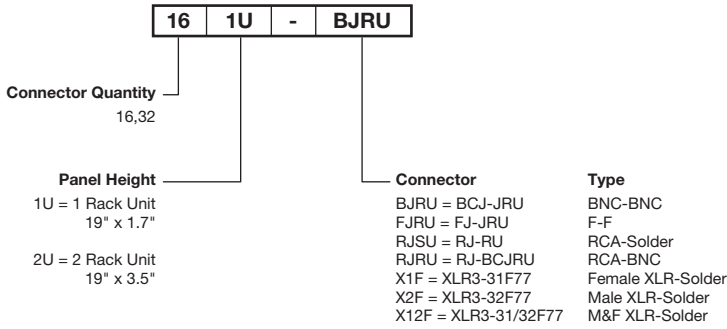


Pre-Loaded A/V Connector Panels

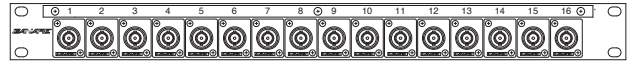
Key Features and Benefits

- Isolated BNC, RCA, F, XLR on same panel
- Clear plastic cover, full screen desi-strip

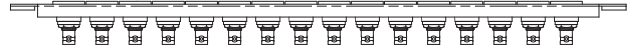
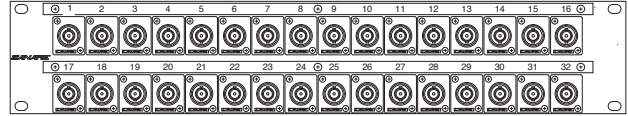
A/V Flush Mount Buckhead Model Selection Guide



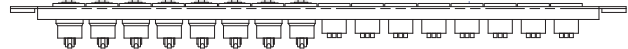
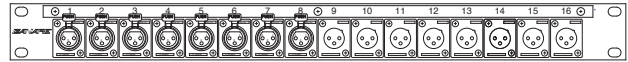
161U-BJRU



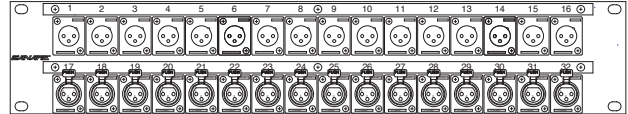
322U-BJRU



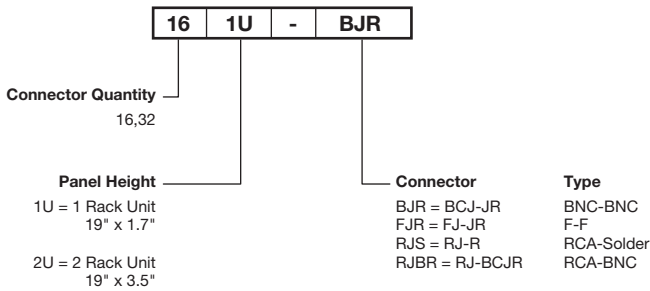
161U-X12F



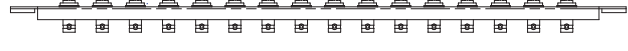
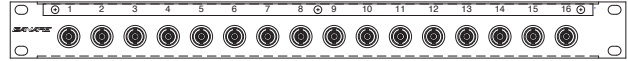
322U-X12F



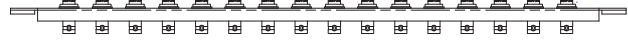
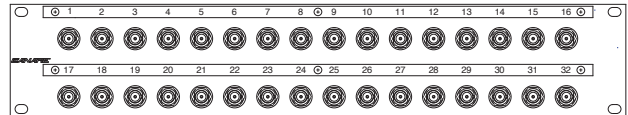
Stand-Off Bulkhead Model Selection Guide



161U-BJR



322U-BJR



Connector Panels and Patchbays

75Ω Video Patchbays

Ordering Information

Standard Video Patchbays

26 DV S - 5 - 2U

Number of Video Jacks

20	20pcs
24	24pcs
26	26pcs

Circuit Type

Blank	Normal Through
S	Straight Through

Rack Unit (height)

Blank	1RU
2U	2RU

Panel Color

Blank	Black
★ 1	Brown
★ 2	Red
★ 3	Orange
★ 4	Yellow
★ 5	Green
★ 6	Blue
★ 7	Purple
★ 8	Gray
★ 9	White

★ Custom

Mid-size Video Patchbays

32 MD - ST S - 1 - 2U

Circuit Type

Blank	Normal Through
S	Straight Through

Rack Unit (height) & Number of Video Jacks

Blank	1RU, 32 Jacks
2U	2RU, 32 Jacks
4U	4RU, 96 Jacks

Panel Color

Blank	Black
★ 1	Brown
★ 2	Red
★ 3	Orange
★ 4	Yellow
★ 5	Green
★ 6	Blue
★ 7	Purple
★ 8	Gray
★ 9	White

★ Custom

Note:

- 1) 4RU type is available in black color only
- 2) 4RU type can not be recessed.

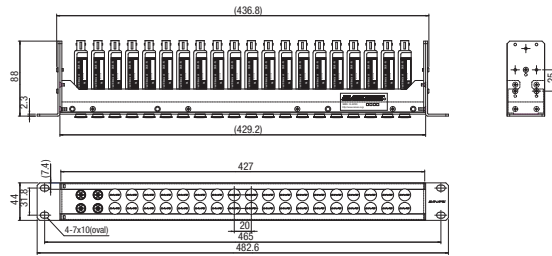
Designation Strip Dimensions

1RU: 426mm x 6.2mm

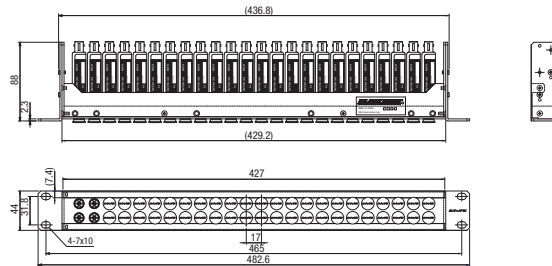
2RU: 420mm x 18.4mm

4RU: 431.8mm x 13.2mm

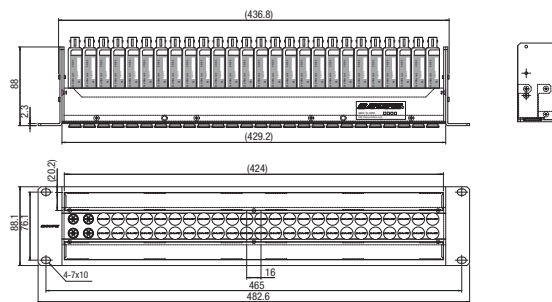
20DV (1RU)



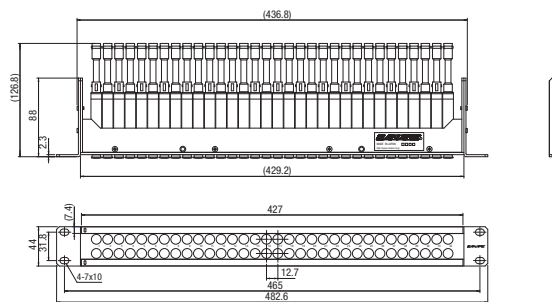
24DV (1RU)



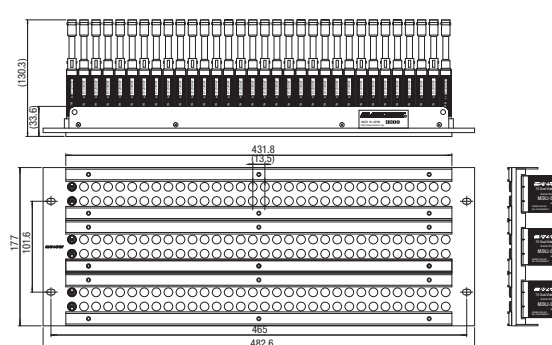
26DV-2U (2RU)



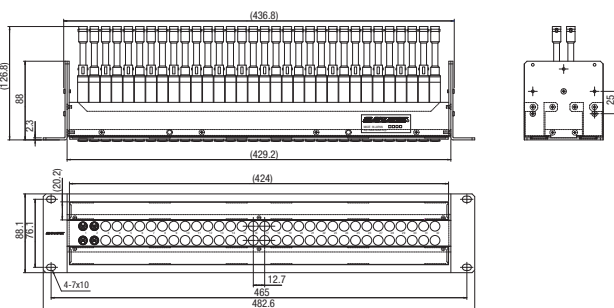
32MD-ST



32MD-ST-4U



32MD-ST-2U



Cable Reels

Plain reels for winding cable

Model	Weight (kg)	Description	Stackability
R460-S	9.9	Reel unit for cable winding / With caster.	N/A
R380-S	8.3	Reel unit for cable winding / With caster.	N/A
R300-S	4.3	Reel unit for cable winding.	✓
R300	4.3	Front panel can be refurbished to create connector mounting holes.	✓
R300-L	4.3	Both front panel and drum can be refurbished to create connector mounting holes.	✓
R300-CN	4.3	Both panel and drum have 2 XLR connectors (one male, one female) installed.	✓
R300-BN	4.3	Both panel and drum have BNC receptacles (one each).	✓

- 3-position brake force adjustment. (Lock/Soft/Free)
- Non-lubricated bearings.
- Rugged E frame design.

Wiring



R460-S



3-position brake



R300-S

Reel with Cable Assembly

Cable detachable type.

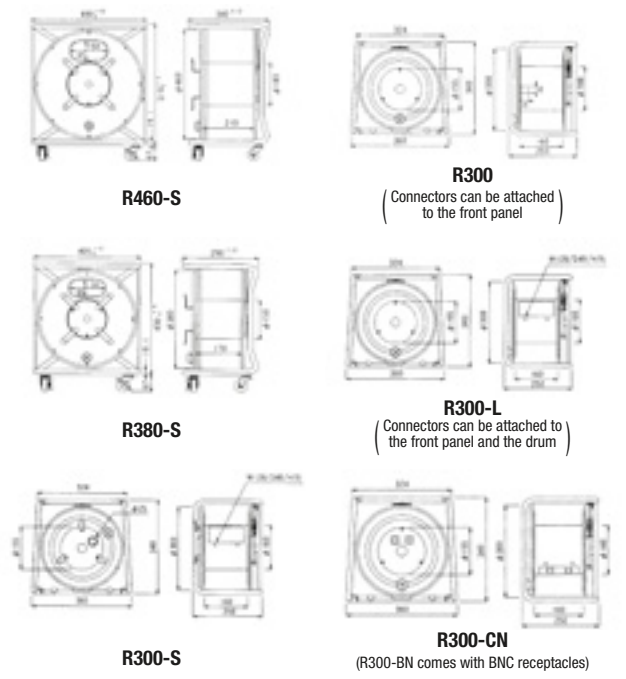
Model	Cable reel	Description			Weight (kg)
		Cable Assemblies			
		Set at inner end	Cable	Set at outer end	
CR100-CN	R300-CN	XLR3-12C	L-4E6S(100m)	XLR3-11C	9.6
CR100-S	R300-S	XLR3-12C	L-4E6S(100m)	XLR3-11C	9.6
CR90-BN	R300-BN	BCP-H5B	L-5C2VS(90m)	BCP-H5B	10.5

Equipped with brake

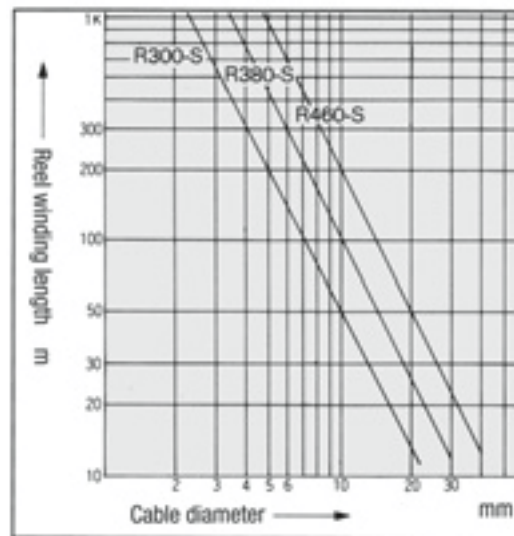


CR100-CN (with 100m cable)
L-4E6S (EC100) bundled with
R300-CN.
(Set with XLR3-11C at the cable outer
end when sold.)

Dimensions



Cable winding length reference chart



<Wind length conversion formula>

$$R300-S \quad L = \frac{8448}{D^2} \times 0.6 \quad (m) \quad R460-S \quad L = \frac{33852}{D^2} \times 0.6 \quad (m)$$

$$R380-S \quad L = \frac{18207}{D^2} \times 0.6 \quad (m) \quad D: \text{Cable outer diameter (mm)} \\ L: \text{wind length}$$

- High quality and reliable Canare assemblies are ideal for any interconnection including broadcast, professional A/V, and telecommunication.
- Custom assembly configurations can be special ordered at affordable cost and quick lead-time.



BNC

Cables for use with 75 Ω BNC connectors.

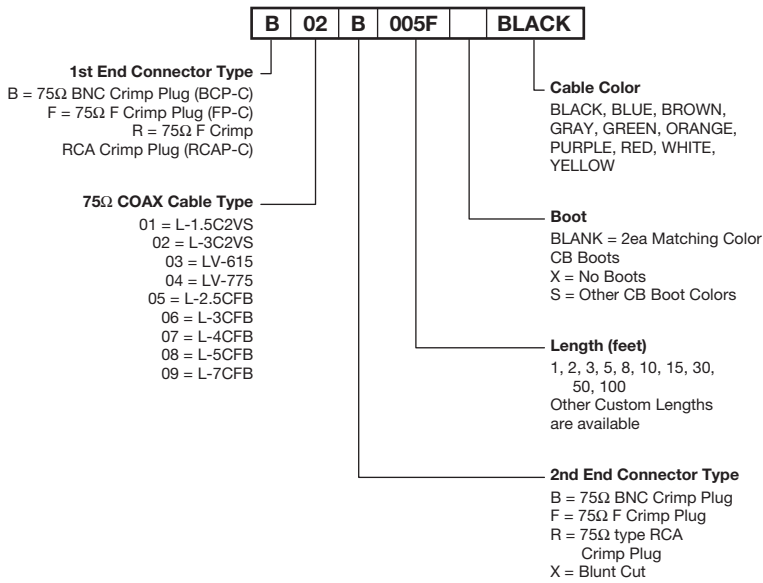
Type	Model	Length (ft)
BNC (M) – BNC (M) Crimp BCP-C4B LV-61S BCP-C4B	VAC003F	3
	VAC006F	6
	VAC010F	10
	VAC025F	25
BNC (M) – BNC (M) Crimp BCP-77A LV-77S BCP-C77A	VIC010F	10
	VIC025F	25
	VIC050F	50
	VIC100F	100

BNC (Multi)

These 75 Ω coax multi-cables reduce the correction work of phase shift caused by different cable lengths.

Type	Model	Length (m)
BNC (M) – BNC (M) (3C2VS unit) BCP-C3B V3-3C BCP-C3B	3VS01-3C	1
	3VS02-3C	2
	3VS03-3C	3
	3VS05-3C	5
	3VS08-3C	8
	3VS10-3C	10
	4VS01-3C	1
	4VS02-3C	2
	4VS03-3C	3
	4VS05-3C	5
BNC (M) – BNC (M) (4C3VS unit) BCP-C3B V4-3C BCP-C3B	4VS08-3C	8
	4VS10-3C	10
	5VS01-3C	1
	5VS02-3C	2
	5VS03-3C	3
	5VS05-3C	5
	5VS08-3C	8
	5VS10-3C	10
	5VS15-3C	15
	5VS20-3C	20
BNC (M) – BNC (M) (5C2VS unit) BCP-C3B V5-3C BCP-C3B	5VS30-3C	30
	3VS03-5C	3
	3VS05-5C	5
	3VS08-5C	8
	3VS10-5C	10
	3VS15-5C	15
	3VS20-5C	20
	5VS03-5C	3
	5VS05-5C	5
	5VS08-5C	8
5VS10-5C	10	
5VS15-5C	15	
5VS20-5C	20	

Custom Coax Cable Guide



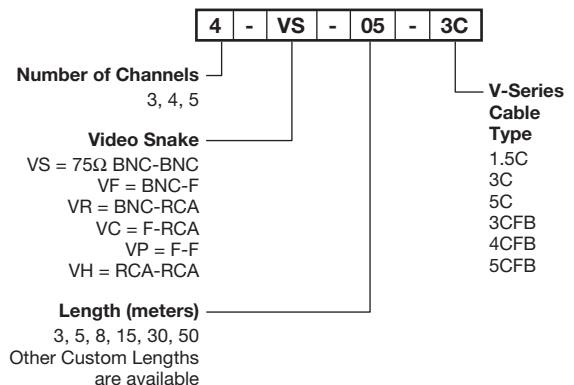
Lengths in brackets indicate that of 1m cable assembly.

RCA (Multi)

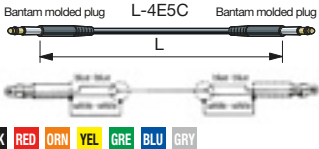
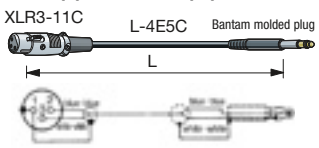
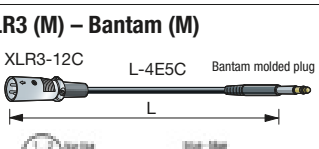
Color difference signal input/output cables feature 3CFB cable units to ensure superior transmission characteristics.

Type	Type
RCA (M) – RCA (M) RCAP-C3F V3-3CFB RCAP-C3F	RCA (M) – RCA (M) Crimp RCAP-C3F V5-3CFB RCAP-C3F

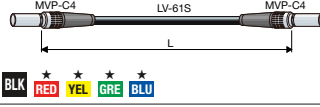
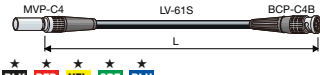
Custom Multi-Coax Cable Guide



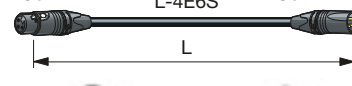
Audio Patch (Bantam)

Type	Model	Length (m)
Bantam (M) – Bantam (M)  Bantam molded plug L-4E5C Bantam molded plug BLK RED ORN YEL GRE BLU GRAY	BC003M	0.3
	BC006M	0.6
	BC009M	0.9
Bantam (F) – Bantam (M)  XLR3-11C L-4E5C Bantam molded plug BLK RED ORN YEL GRE BLU GRAY	BC02M-X1	2
XLR3 (M) – Bantam (M)  XLR3-12C L-4E5C Bantam molded plug BLK RED ORN YEL GRE BLU GRAY	BC02M-X2	2


Mini-WECO Video Patch Cords

Type	Model	Length (ft)
 MVP-C4 LV-61S MVP-C4 BLK RED YEL GRE BLU	MVPC001F	1
	MVPC002F	2
	MVPC003F	3
 MVP-C4 LV-61S BCP-C4B BLK RED YEL GRE BLU	★ MVPC006F-BP	6
	★ MVPC015F-BP	15

Audio (XLR)

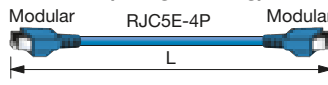
Type	Model	Length (ft)
NC3 (F) – NC3 (M)  NC3FX-B L-4E6S NC3MX-B BLK BRN RED ORN YEL GRE BLU PPL GRAY WHT	EC005F	5
	EC015F	15
	EC025F	25
	EC050F	50
	EC100F	100

Video Patch (W.E. standard)

Type	Model	Length (ft)
Video Patch (M) – Video Patch (M)  VWP-C4A LV-61S VWP-C4A BLK BRN RED ORN YEL GRE BLU PPL GRAY WHT	VPC001F	1
	VPC002F	2
	VPC003F	3
	VPC004F	4
	VPC005F	5
	VPC006F	6

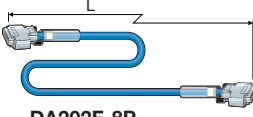
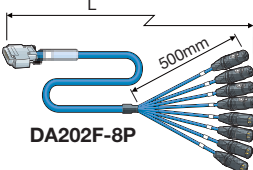
LAN

Used for 10BASE-T and 100BASE-TX networking.
Compliant with Enhanced Category 5.

Type	Model	Length (m)
RJ45 – RJ45 (Straight Wiring)  Modular RJC5E-4P Modular 1 WHITE / GREEN 1 2 GREEN 2 3 WHITE / ORANGE 3 4 BLUE 4 5 WHITE / BLUE 5 6 ORANGE 6 7 WHITE / BROWN 7 8 BROWN 8 BLU	PCRJE02	2
	PCRJE05	5
	PCRJE10	10
	PCRJE15	15
	PCRJE20	20
	PCRJE30	30
	★ PCRJE40	40
PCRJE50	50	

★ Marked models and colors are production by order.

Digital Audio

Type	Model	Reference Brands	A-side		B-side	
			Screw	Wiring	Screw	Wiring
Dsub25P(M) – Dsub25P(M)  DA202F-8P * BLU	★ 8DAC**-DD	Digidesign	4-40	Individual-A	4-40	Individual-B
	★ 8DAC**-TT	TEAC	M2.6	Individual-A	M2.6	Individual-B
	★ 8DAC**-YY	YAMAHA	M2.6	Common-A	M2.6	Common-B
	★ 8DAC**-DT	Digidesign ↔ TEAC	4-40	Individual-A	M2.6	Individual-B
	★ 8DAC**-DY	Digidesign ↔ YAMAHA	4-40	Individual-A	M2.6	Common-B
	★ 8DAC**-TY	TEAC ↔ YAMAHA	M2.6	Individual-A	M2.6	Common-B
Dsub25P(M) – NC3  DA202F-8P * BLU	★ 8DACS**-DB12	Digidesign	4-40	Individual-A	N/A	2: HOT 3: COLD 1: SHIELD
	★ 8DACS**-TB12	TEAC	M2.6	Individual-A	N/A	
	★ 8DACS**-YB12	YAMAHA	M2.6	Common-A	N/A	

** : Please see the following ordering information for complete model number.

<Ordering Information>

Length Code		Brand Code	
02	2m	D	Digidesign, GRACE
03	3m	T	TEAC, RAMSA
05	5m	Y	YAMAHA, APOGEE, MACKIE, FOSTEX, TC ELECTRONIC
07	7m		
10	10m		
30	30m		

<Wiring>

Individual-A						Individual-B					
Ch. No.	Color Coding	HOT	COLD	SHIELD	N.C.	Ch. No.	Color Coding	HOT	COLD	SHIELD	N.C.
1	BLU / BRN	24	12	25	13	1	BLU / BRN	18	6	19	13
2	BLU / RED	10	23	11		2	BLU / RED	4	17	5	
3	BLU / ORG	21	9	22		3	BLU / ORG	15	3	16	
4	BLU / YEL	7	20	8		4	BLU / YEL	1	14	2	
5	BLU / GRN	18	6	19		5	BLU / GRN	24	12	25	
6	BLU / -	4	17	5		6	BLU / -	10	23	11	
7	BLU / PPL	15	3	16		7	BLU / PPL	21	9	22	
8	BLU / GRY	1	14	2		8	BLU / GRY	7	20	8	



8DAC

Common-A						Common-B						
Ch. No.	Color Coding	HOT	COLD	SHIELD	N.C.	Ch. No.	Color Coding	HOT	COLD	SHIELD	N.C.	
1	BLU / BRN	1	14	10	9	1	BLU / BRN	5	18	10	9	
2	BLU / RED	2	15			2	BLU / RED	6	19			12
3	BLU / ORG	3	16			3	BLU / ORG	7	20			13
4	BLU / YEL	4	17			4	BLU / YEL	8	21			22
5	BLU / GRN	5	18			5	BLU / GRN	1	14			23
6	BLU / -	6	19			6	BLU / -	2	15			24
7	BLU / PPL	7	20			7	BLU / PPL	3	16			25
8	BLU / GRY	8	21			8	BLU / GRY	4	17			



8DACS

★ Marked models and colors are production by order.

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