

# BELDEN Cable™

**Belden's New RG-179 Type coaxial cable is ideal for HDTV broadcast trucks — weighing about 60% less and taking up to 40% less space than standard Mini RG-59/U Type coaxes.**



## **Brilliance® DigiTruck™ 179DT Lightweight, Miniature Coax for Broadcast Production Trucks**

To comfortably support today's broadcast technology, especially HDTV, mobile television broadcast trucks are densely packed with equipment and over-the-road axle weight requirements have become a real concern. To help lighten the truck's load, lessen the amount of space needed, and to improve air-conditioning air flow and gas mileage, Belden offers Brilliance DigiTruck 179DT lightweight RG-179 Type 75-ohm coaxial cable. This new coax weighs 7.25 pounds per 1,000 feet — 60% less than standard Mini RG-59/U type cables. Also, 179DT requires approximately 40% less space than a standard Mini RG-59/U Type coax (standard Mini RG-59/U type coaxes have a nominal OD of 0.159 inches vs. 0.100 inches for 179DT).

Belden's new 179DT coax was designed for use in analog, SDI, HD video and AES/EBU digital audio transmissions.

### **Low Return Loss Characteristics In A Rugged Construction**

Brilliance DigiTruck 179DT Coax has a guaranteed return loss of 21dB (minimum) and is sweep tested to 3 GHz. This mimics the return loss performance of Belden's most

popular Brilliance precision video cables, providing 6dB of RL headroom against the SMPTE 292M specification. 179DT features a highly crush-resistant, foamed high-density polyethylene (FHDPE) dielectric to help ensure the durability of the cable — a particularly important characteristic for use on television broadcast trucks.

### **Versatile Shield**

179DT's foil/braid shield consists of a unique lightly bonded Duobond® tape that can either be left bonded to the insulation to simplify termination with one-piece connectors or removed for use with multi-piece designs.

### **An Extremely Compact Cable With Installable Performance®**

When you consider the major benefits built into 179DT coax: its low return loss characteristics (that supply ample headroom below the SMPTE RL requirement of -15dB) and the high resistance to crushing provided by the foamed high-density polyethylene, you have what Belden calls "Installable Performance."

NEW PRODUCT  
**BULLETIN**

NP 207



## DigiTruck™ Miniature Coax for Broadcast Production Trucks

Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Nominal OD		Nom. Imp. of Prop. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation	
			Ft.	m	Lbs.	kg		Inch	mm		Inch	mm			pF/Ft.	pF/m	MHz	dB/100 Ft.

**28.5 AWG Solid .012" Bare Copper • Duobond® Foil (100%)+ 95% Tinned Copper Braid Shield**

**Gas-injected Foam HDPE Insulation • PVC Jacket (Red, Green, Blue, White, Yellow, Brown, Orange, Gray, Violet, Black)**

SDI/HDTV	179DT	NEC:	500	152.4	4.2	1.9	28.5 AWG (solid) .012" BC 108Ω/M' 350Ω/km	.056	1.42	Duobond Foil (100%) + 95% TC Braid 8.9Ω/M' 29.2Ω/km	.100	2.54	75	77%	17.4	57.4	1	1.18	3.87
Digital Video		CMR	1000	304.8	8.0	3.6											5	1.74	5.71
75°C		GEC:															7	2.03	6.66
		CMG FT4															10	2.25	7.38
																	67.5	5.51	18.08
																	71.5	5.66	18.57
																	88.5	6.20	20.34
																	100	6.55	21.49
																	135	7.51	24.64
																	143	7.69	25.23
																	180	8.58	28.15
																	270	10.50	34.45
																	360	12.20	40.03
						540	15.10	49.54											
						720	17.50	57.41											
						750	17.80	58.40											
						1000	20.70	67.91											
						1500	25.40	83.33											
						2000	29.60	97.11											
						2250	31.50	103.35											
						3000	36.70	120.41											

100% Sweep Tested to 3 GHz.  
Guaranteed Return Loss: 21dB Min.

BC = Bare Copper • DCR = DC Resistance • HDPE = Foam High-density Polyethylene • TC = Tinned Copper

### Maximum Transmission Distance at Serial Digital Data Rates

Data Rate:	143 Mb/s		177 Mb/s		270 Mb/s		360 Mb/s		540 Mb/s		1.5 Gb/s	
Spec:	SMPTE 259M		ITU-R BT. 601		SMPTE 259M		SMPTE 259M		SMPTE 344M		SMPTE 292M	
Application:	Composite NTSC		Composite PAL		Component Video		Component Widescreen		Component Widescreen		HDTV	
Part No.	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m
179DT	504	154	457	139	384	117	242	74	196	60	110	34

The serial digital interconnect standards are designed to operate where the signal loss at 1/2 the clock frequency does not exceed the approximate loss values listed below. The maximum length values shown are based on typical attenuation values for the cables listed and the following criteria: **Maximum length = 30 dB loss at 1/2 the clock frequency: SMPTE 259M, PAL, Widescreen. Maximum length = 20 dB loss at 1/2 the clock frequency: SMPTE 292M.** The bit error rate (BER) can vary dramatically as the calculated distances are approached. BER is dependent on receiver design and the losses of the actual coax used. Distribution and routing equipment manufacturers should be contacted to verify their maximum recommended transmission.

### Digital Audio Attenuation

Part No.	2 MHz		4 MHz		5 MHz		6 MHz		12 MHz		25 MHz	
	dB/100 Ft.	dB/100m	dB/100 Ft.	dB/100m	dB/100 Ft.	dB/100m	dB/100 Ft.	dB/100m	dB/100 Ft.	dB/100m	dB/100 Ft.	dB/100m
179DT	1.34	4.40	1.67	5.48	1.74	5.71	1.99	6.53	2.77	9.09	3.83	12.57

Values reflect typical results.

### Maximum Recommended Transmission Distance at Digital Audio Data Rates\*

Part No.	2 MHz		4 MHz		5 MHz		6 MHz		12 MHz		25 MHz	
	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m
179DT <sup>†</sup>	1493	455	1198	365	1149	350	1005	306	722	220	522	159
179DT <sup>††</sup>	597	182	479	146	460	140	402	123	289	88	209	64

\*Longer transmission distances are achievable but are contingent upon system component quality and input/output voltages.

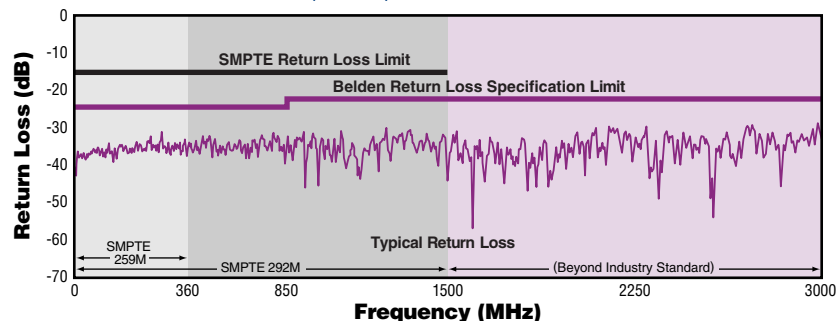
<sup>†</sup>Per AES3-2003 assuming minimum allowable output signal amplitude of 2V and minimum allowable input signal amplitude of 200mV.

<sup>††</sup>Per AES-3id-2001. When using analog video distribution equipment to implement AES-3id, minimum transmission distances are 40% of AES3 values assuming a minimum allowable output signal amplitude of 1V and minimum allowable input signal amplitude of 320mV.

### BNC Connector Availability

Manufacturer	Product No.
ADC	BNC-31
Bormar	HBC179DT
Canare	BCP-C1
Holland Electronics LLC	SLC-BNC-179DT
Kings	2065-26-9
Trompeter	UPL2000-D7

### Return Loss Headroom (179DT)



For More Information:

[www.belden.com](http://www.belden.com)

Belden CDT Electronics Division Technical Support 1-800-BELDEN-1 or 1-800-BELDEN-3