

## Video Cable

Precision Video Cables for Analog and Digital Applications  
RG-6/U and RG-59/U Types

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. (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.	dB/ 100m

**RG-6/U Type • 18 AWG** Solid .040" Bare Copper Conductor • Duofoil® (100% Coverage) + Tinned Copper Braid Shield (95% Coverage)

**Gas-injected Foam HDPE Insulation • PVC Jacket** (Available in 10 colors)\*

SDI/HDTV	<b>1694A</b>	NEC:	500 <sup>▲</sup>	152.4	20.5	9.3	18 AWG	.180	4.57	Duofoil	.274	6.96	75	82%	16.2	53.2	1	.2	.8
Digital Video		CMR	1000	304.8	45.0	20.5	(solid)			+ 95%							3.6	.5	1.5
75°C		CEC:	4500	1371.6	202.5	91.9	.040"			TC Braid							10	.7	2.4
		CMG FT4					BC			2.8Ω/M'							71.5	1.6	5.2
							6.4Ω/M'			9.2Ω/km							135	2.1	6.9
							21.0Ω/km										270	3.0	9.7
																	360	3.4	11.3
																	540	4.3	13.9
																	720	4.9	16.1
																	750	5.0	16.4
																	1000	5.9	19.3
																	1500	7.3	24.0
																	2250	9.1	30.0
																	3000	10.7	35.0
																	4500	13.3	43.6



<sup>▲</sup>500 ft. put-up available in Black only.

\*Available in Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray or White.  
Black jacket suitable for Outdoor and Aerial applications.

**Plenum • Foam FEP Teflon® Insulation • Flamarrest® Jacket** (Available in 10 colors)\*\*

SDI/HDTV	<b>1695A</b>	NEC:	500 <sup>†</sup>	152.4	20.5	9.3	18 AWG	.170	4.32	Duofoil	.234	5.94	75	82%	16.2	53.2	1	.2	.8
Digital Video		CMP	1000 <sup>†</sup>	304.8	45.0	20.5	(solid)			+ 95%							3.6	.5	1.5
75°C		CEC:					.040"			TC Braid							10	.8	2.5
		CMP FT6					BC			2.8Ω/M'							71.5	1.8	5.8
							6.4Ω/M'			9.2Ω/km							135	2.4	7.9
							21.0Ω/km										270	3.4	11.2
																	360	4.0	13.1
																	540	5.2	17.1
																	720	6.1	20.0
																	750	6.2	20.3
																	1000	7.3	24.0
																	1500	9.2	30.2
																	2250	11.6	38.0
																	3000	13.7	44.9



<sup>†</sup>500 ft. put-up available in Black or Natural only.

\*\*Available in Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray or Natural.  
Black jacket suitable for Outdoor and Aerial applications.

**Gas-injected Foam HDPE Insulation • Overall Matte Black PVC Jacket** (Color Code: See chart below)

SDI/HDTV	<b>7713A</b>	NEC:	500	152.4	463.0	210.0	18 AWG	.180	4.57	Duofoil	1.386	35.20	75	82%	16.2	53.2	1	.2	.8
Digital Video		CMR	1000	304.8	904.0	410.4	(solid)			+ 95%							3.6	.5	1.5
75°C		CEC:					.040"			TC Braid							10	.7	2.4
		CMG FT4					BC			3.0Ω/M'							71.5	1.6	5.2
							6.4Ω/M'			9.8Ω/km							135	2.1	6.9
							21.0Ω/km										270	3.0	9.7
																	360	3.4	11.3
																	540	4.3	13.9
																	720	4.9	16.1
																	750	5.0	16.4
																	1000	5.9	19.3
																	1500	7.3	24.0
																	2500	9.1	31.8
																	3000	10.7	35.0



**RG-59/U Type • 20 AWG** Solid .032" Bare Copper Conductor • Duofoil (100% Coverage) + Tinned Copper Braid Shield (95% Coverage)

**Gas-injected Foam HDPE Insulation • PVC Jacket** (Available in 10 colors)\*

SDI/HDTV	<b>1505A</b>	NEC:	500 <sup>▼</sup>	152.4	15.5	7.0	20 AWG	.145	3.68	Duofoil	.233	5.92	75	83%	16.3	53.5	1	.3	1.0
Digital Video		CMR	1000 <sup>*</sup>	304.8	35.0	15.9	(solid)			+ 95%							3.6	.6	1.8
75°C		CEC:	5000 <sup>*</sup>	1524.0	165.0	74.9	.032"			TC Braid							10	.9	2.9
		CMG FT4					BC			3.8Ω/M'							71.5	2.1	6.9
							10.0Ω/M'			12.5Ω/km							135	2.7	8.9
							32.8Ω/km										270	3.8	12.5
																	360	4.4	14.4
																	540	5.5	18.0
																	720	6.4	21.0
																	750	6.5	21.3
																	1000	7.6	24.9
																	1500	9.3	30.5
																	2250	11.6	38.0
																	3000	13.4	44.0
																	4500	16.4	53.8

<sup>▼</sup>500 ft. put-up available in Black, Red or Blue only.

<sup>\*</sup>1000 ft. and 5000 ft. put-ups available in all ten colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray or White.

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

Contact the Belden Customer Service Department for a Comprehensive Connector Cross Reference. **1-800-BELDEN-1**.

Request quotations of RG/U cables not listed. For additional selection of Belden® Video Cables, refer to the Coaxial and Broadcast Cables sections of this catalog.

<sup>†</sup>Spools are one piece, but length may vary ±10% from length shown.

Teflon is a DuPont trademark.

### Color Code Chart

Cond.	Color	Cond.	Color
1	Red	6	Brown
2	Green	7	Orange
3	Blue	8	Gray
4	White	9	Purple
5	Yellow	10	Black

**BELDEN**

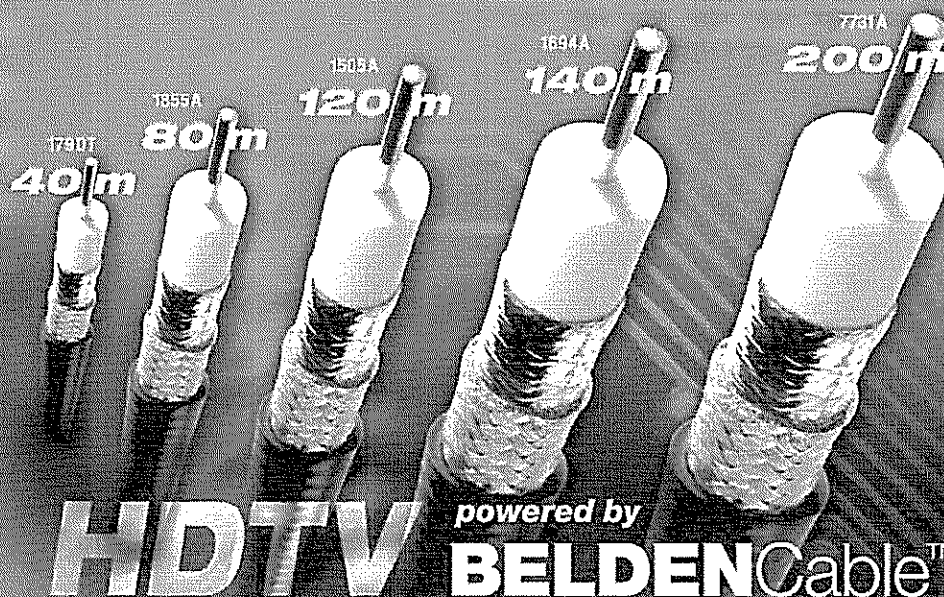
For more information, contact **Belden Technical Support: 1-800-BELDEN-1 • www.belden.com**

**Belden CDT**

TB E101

**BELDEN**Cable™

BeldenCable™ exceeds the standards by delivering Installable Performance® and extending sweep testing of Brilliance® Precision video cables to 4.5 GHz, paving the way for 1080P HDTV/SDI format.



Technical BULLETIN

TB E101



## BeldenCable™ exceeds the standards

Brilliance™ broadcast video coaxes are designed for maximum bandwidth, minimum return loss and minimum attenuation loss. These cables already meet the very tight specifications for electrical properties and are ideally suited for both analog and digital video in broadcast, post-production and other critical video applications.

**BeldenCable™ extends sweep testing to 4.5 GHz**

Now Brilliance™ broadcast video coaxes' performance specifications are extended from

3 GHz to 4.5 GHz. Every reel is sweep tested for return loss and certified to the new, higher frequency. This extension is designed to (re)assure broadcasters, leading edge broadcast equipment manufacturers and the standards bodies that BeldenCable™ delivers performance and reliability, as they begin to migrate from the existing 1080i (interlaced) HD format to the emerging 1080p (progressive) format, protocols and equipment, which require twice the bandwidth of 1080i.

BeldenCable™ is the first cable manufacturer to perform sweep testing and certification to meet this emerging format.

Requirements for 1088i vs. 1080p line formatting and transmission protocols:

Line Format	Image Resolution	Frames per second	HDTV/SDI Video operating frequency	Test frequency
1080i	1920x1080 pixels	60 interlaced	0.743 GHz	2.25 GHz
1080p	1920x1080 pixels	60 complete	1.485 GHz	4.5 GHz

## 2006 sports events will bring HD to Europe

This year is the busiest ever in the international sports arena. Major events include:

- Winter Olympics, Turin
- Commonwealth Games, Melbourne
- Football World Cup, Germany
- Athletics European Cup, Sweden
- Basketball Worldcup, Japan
- Asian Games, Doha

Most of these events will be filmed in High Definition (HD). The upgraded technology will stimulate a growing interest from TV viewers around the world. Once they have seen the clear HD picture – they will not want to go back to lower quality. The 2006 Football World Cup in Germany will bring High Definition to viewers around the world. With every major broadcaster looking to transmit at least one HD feed, this football tournament is set to become the springboard for HD broadcasting worldwide.



## Installable Performance®

Positive test for Brilliance™ broadcast video coaxes

An independent test laboratory took an in-depth look at the HD performance of the video coaxes used in TV studios. Cables were tested for return loss, attenuation and maximum cable run on HD (1080i and 720p).

The most popular precision video coaxial cables for HDTV/SDI, Belden Brilliance™ 179DT, 1855A, 1855ENH, 1505A, 1505F, 1694A and 7731A were subjected to extended testing. In the end results all BeldenCable™ products delivered performance values that exceeded those listed in Belden's own catalogues:

### 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		1.5 Gb/s		3.0 Gb/s		
Spec:	SMPTE 259M		ITU-R BT.601		SMPTE 259M		SMPTE 259M		SMPTE 344M		SMPTE 292M		Independent Test*		SMPTE 292M		
Application:	Composite NTSC		Composite PAL		Component Video		Component Widescreen		Component Widescreen		HDTV		HDTV		Prog. Scan HDTV		
Part No.:	ft.	m.	ft.	m.	ft.	m.	ft.	m.	ft.	m.	ft.	m.	ft.	m.	ft.	m.	
179DT	500	152	450	137	380	116	340	104	280	85	110	34	132	40	+6	80	24
1855A	980	299	950	290	790	241	680	207	560	171	260	79	263	80	+1	150	46
1855ENH	-	-	-	-	-	-	-	-	-	-	-	-	394	120	-	-	-
1505A	1430	436	1360	415	1110	338	970	296	790	241	310	94	394	120	+26	220	67
1505F	1200	366	1071	327	857	261	732	223	588	179	225	69	328	100	+31	-	-
1694A	1880	573	1710	521	1430	436	1240	378	1010	308	400	122	459	140	+18	270	82
7731A	2750	838	2460	756	2040	622	1760	536	1430	436	550	168	656	200	+32	360	110

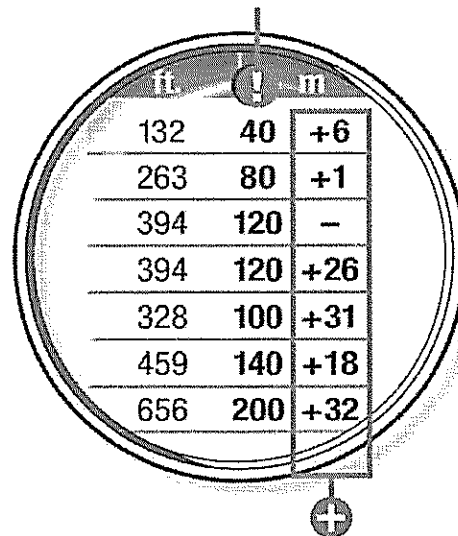
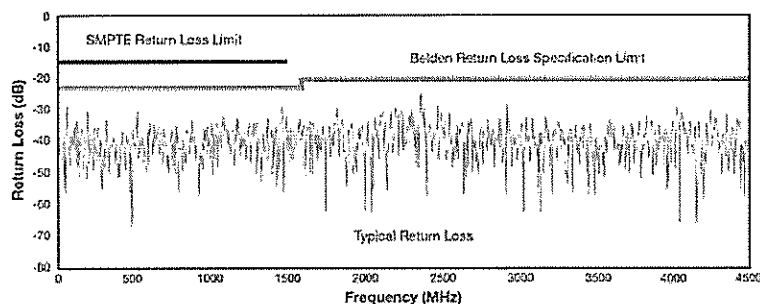
\*more details available

SMPTE 292M

### New Test Results

The verdict:  
**BELDEN**Cable™ exceeds  
the listed values (SMPTE 292M).

### Return Loss Headroom (1694A)



The key advantage:  
Higher performance - Longer distances

There is no Equal!

For More Information:

Belden CDT Support Germany: +49 (0) 202 24255-0

www.belden.de

info@belden.de

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