

Belden übertrifft erneut alle Standards

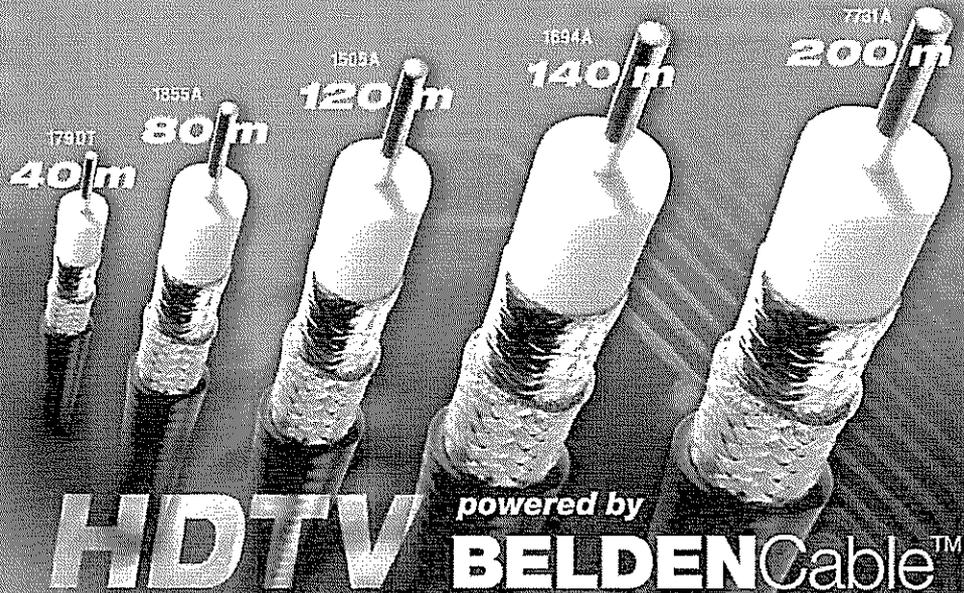
Die **HDTV** Videokabel von Belden haben erneut sämtliche Standards übertroffen. Somit können auch für die neueren Formate wie 1080i & 1080p die selbst seit 10 Jahren im Markt befindlichen Kabel wie das klassische 1694A bis zu 4.5GHz verwendet werden.

Belden COT

TB E101

BELDENCable™

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.

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™ extends sweep testing to 4.5 GHz

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

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.


BRILLIANCE®



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	2480	756	2040	622	1760	536	1430	436	550	168	656	200	+32	360	110

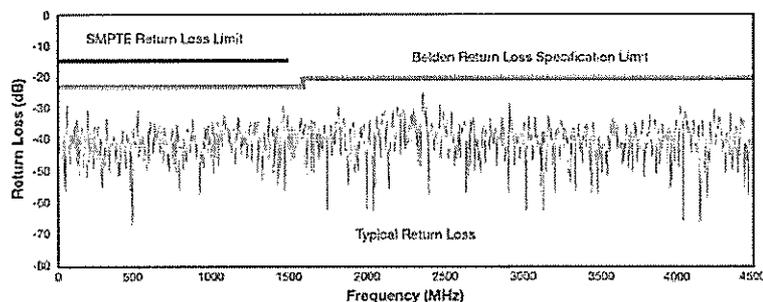
*more details available

SMPTE 292M

New Test Results

The verdict:
BELDENCable™ exceeds
the listed values (SMPTE 292M).

Return Loss Headroom (1694A)



ft.	m.	
132	40	+6
263	80	+1
394	120	-
394	120	+26
328	100	+31
459	140	+18
656	200	+32

The key advantage:
Higher performance - Longer distances

There is no Equal!

For More Information:

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info@belden.de

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For more Information
please call

1-800-Belden1



Description:

20 AWG solid .032" bare copper conductor, gas-injected foam HDPE insulation, Duofoil® + tinned copper braid shield (95% coverage), PVC jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Coax	AWG	Stranding	Conductor Material	Dia. (in.)
1	20	Solid	BC - Bare Copper	.032

Insulation

Insulation Material:

Insulation Material	Dia. (in.)
Gas-injected FHDPE - Foam High Density Polyethylene	.145

Outer Shield

Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Duofoil®	Tape	Aluminum Foil-Polyester Tape-Aluminum Foil	100
2		Braid	TC - Tinned Copper	95

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Overall Cabling

Overall Nominal Diameter: 0.233 in.

Mechanical Characteristics (Overall)

Operating Temperature Range: -30°C To +75°C

UL Temperature Rating: 75°C

Bulk Cable Weight: 31 lbs/1000 ft.

Max. Recommended Pulling Tension: 47 lbs.

Min. Bend Radius (Install)/Minor Axis: 2.500 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMR

CEC/C(UL) Specification: CMG

EU CE Mark: Yes

EU Directive 2000/53/EC (ELV): Yes

EU Directive 2002/95/EC (RoHS): Yes

EU RoHS Compliance Date (mm/dd/yyyy): 01/01/2005

EU Directive 2002/96/EC (WEEE): Yes

EU Directive 2003/11/EC (BFR): Yes

CA Prop 65 (CJ for Wire & Cable): Yes

MII Order #39 (China RoHS): Yes

RG Type: 59/U

Flame Test

UL Flame Test: UL1666 Vertical Shaft

Suitability

Suitability - Indoor: Yes

Suitability - Outdoor: Yes - Black only

Suitability - Aerial: Yes - Black only, when supported by a messenger wire

Plenum/Non-Plenum

Plenum (Y/N): No

Plenum Number: 1506A

Electrical Characteristics (Overall)

Nom. Characteristic Impedance:

Impedance (Ohm)

75

Nom. Inductance:

Inductance (µH/ft)

0.107

Nom. Capacitance Conductor to Shield:

Capacitance (pF/ft)

16.3

Nominal Velocity of Propagation:

VP (%)

83

Nominal Delay:

Delay (ns/ft)

1.22

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

10.0

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

3.8

Nom. Attenuation:

Freq. (MHz) Attenuation (dB/100 ft.)

1.000 0.300

3.600 0.600

5.000 0.630

6.000 0.690

7.000 0.740

10.000 0.900

12.000 0.910

25.000 1.300

67.500 2.050

71.500 2.100

88.500 2.200

100.000 2.300

135.000 2.700

143.000 2.800

180.000	3.100
270.000	3.800
360.000	4.400
540.000	5.500
720.000	6.400
750.000	6.500
1000.000	7.600
1500.000	9.300
2000.000	10.900
3000.000	13.400
2250.000	11.600
4500.000	16.400

Max. Operating Voltage - UL:

Voltage
300 V RMS

Other Electrical Characteristic 1: Impedance tested in accordance with ASTM D-4566 paragraph 43.2, option 2 using a 75 Ohm fixed bridge and termination. 75 +/- 1.5 Ohms

Other Electrical Characteristic 2: Return Loss tested in accordance with ASTM D-4566 paragraph 45.3, using a 75 Ohm fixed bridge and termination.

Minimum Return Loss:

Start Freq. (MHz)	Stop Freq. (MHz)	Min. RL (dB)
5	1600	23
1600	4500	21

Sweep Test

Sweep Testing: 100% Sweep tested 5 MHz to 4.5 GHz.

Misc. Information (Overall)

Notes (Overall)

Notes: Also available in bundled versions. See 7794A through 7798A.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
1505A N3U1000	1,000 FT	35.000 LB	GREEN, MIL	C	#20 PE/GIFHDPE SH FR PVC
1505A N3U5000	5,000 FT	165.000 LB	GREEN, MIL	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0011000	1,000 FT	35.000 LB	BROWN	C	#20 PE/GIFHDPE SH FR PVC
1505A 0015000	5,000 FT	165.000 LB	BROWN	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0021000	1,000 FT	35.000 LB	RED	C	#20 PE/GIFHDPE SH FR PVC
1505A 002500	500 FT	15.500 LB	RED	C	#20 PE/GIFHDPE SH FR PVC
1505A 0025000	5,000 FT	165.000 LB	ORANGE	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0031000	1,000 FT	35.000 LB	ORANGE	C	#20 PE/GIFHDPE SH FR PVC
1505A 0035000	5,000 FT	165.000 LB	ORANGE	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0041000	1,000 FT	35.000 LB	YELLOW	C	#20 PE/GIFHDPE SH FR PVC
1505A 0045000	5,000 FT	165.000 LB	YELLOW	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0061000	1,000 FT	35.000 LB	BLUE, LIGHT	C	#20 PE/GIFHDPE SH FR PVC
1505A 006500	500 FT	15.500 LB	BLUE, LIGHT	C	#20 PE/GIFHDPE SH FR PVC
1505A 0065000	5,000 FT	165.000 LB	BLUE, LIGHT	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0071000	1,000 FT	35.000 LB	VIOLET	C	#20 PE/GIFHDPE SH FR PVC
1505A 0075000	5,000 FT	165.000 LB	VIOLET	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0081000	1,000 FT	35.000 LB	GRAY	C	#20 PE/GIFHDPE SH FR PVC
1505A 0085000	5,000 FT	165.000 LB	GRAY	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0091000	1,000 FT	35.000 LB	WHITE	C	#20 PE/GIFHDPE SH FR PVC
1505A 0095000	5,000 FT	165.000 LB	WHITE	C N	#20 PE/GIFHDPE SH FR PVC
1505A 0101000	1,000 FT	35.000 LB	BLACK	C	#20 PE/GIFHDPE SH FR PVC
1505A 010500	500 FT	15.500 LB	BLACK	C	#20 PE/GIFHDPE SH FR PVC
1505A 0105000	5,000 FT	165.000 LB	BLACK	C N	#20 PE/GIFHDPE SH FR PVC

Notes:

C = CRATE REEL PUT-UP.
N = FINAL PUT-UP LENGTH MAY VARY -0% TO +10% FROM LENGTH SHOWN.

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