

## Belden® Introduces Flexible Brilliance® 1505F Precision Digital Video Coaxial Cable

NP 183

*New RG-59/U type*

*precision video cable*

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**N**ew RG-59/U type precision video cable provides top quality signal transmissions (both analog and digital), exceptional flexibility and superior cable life — whether it's used indoors or out.

Lack of flexibility and a relatively short cable flex life can be a challenge for today's on-the-move broadcast video crews. Under the stress of repeated pulling, flexing, bending and crushing, cables can develop discontinuities that lead to degraded signal transmission — or even breakage. To combat these usage problems, Belden now offers an innovative solution: Brilliance NEC-rated 1505F.

### **“Super-Flexible” for Demanding Applications**

Belden Brilliance 1505F is an exceptionally flexible version of our popular 1505A RG-59 digital video coax cable.

It is designed to perform in the most demanding SDI/HDTV applications and is ideal for use in patch bays, mobile studio trucks, remote outdoor field locations, and more. Since its enhanced flexibility makes it easy to route through building walls and conduit, this CM-listed cable can also be used in studio settings and other fixed installations.

Increasingly, digital audio signals are run through coax in accordance with Audio Engineering Society standard AES-3id. Belden 1505F is an excellent choice for AES-3id applications where optimum flexibility and flex life are additional requirements.

See the Transmission Distance Charts that follow for 1505F. They show the distance both Serial Digital Video and AES-3id Audio may be run through this new flexible design.

### **Exceptional Design And Construction**

The robust performance and enhanced flexibility of Belden 1505F cable is the result of its unique design and construction.

Optimum flexibility starts with a 22 AWG bare copper compacted, stranded center conductor. Advanced impedance stability and return loss characteristics are achieved by the use of foam polyethylene insulation and best-in-class manufacturing.

Cable shielding consists of a double tinned copper braid. This shielding construction provides superior flex characteristics over foil/braid shield designs, while offering 100 dB of shield isolation. An abrasion-resistant matte PVC jacket adds further protection and flexibility.

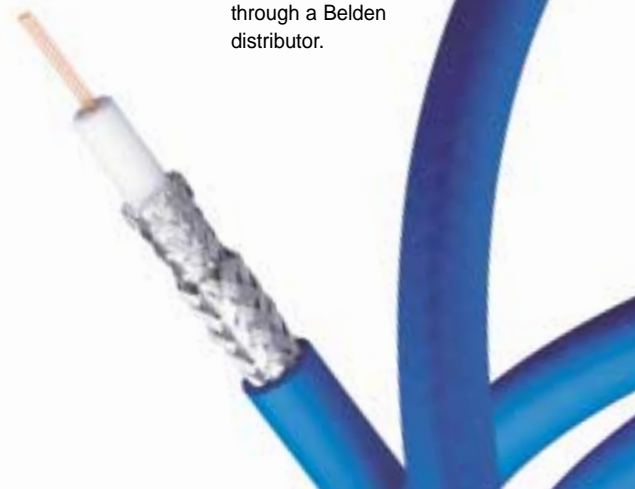
### **Low Return Loss**

Return loss relates to the measurement of the reflected signals that occur when there are impedance discontinuities in the channel. These discontinuities can be caused by the connectors, transition devices, patch panels or the cable itself — or they could be the result of improper handling, poor installation practices or repeated flexing of the cable.

To ensure best-in-class return loss performance, all Belden precision digital video coaxial cables, including 1505F, are 100% sweep tested to 3 GHz after the final packaging operation.

### **Product Availability**

Belden Brilliance 1505F precision Digital Video Coaxial cable is fully compatible with 1505A BNC connectors. The cable is available on 1000-ft. reels; colors include Red, Blue, Green, Yellow and Black. Contact Belden Electronics Customer Service department at 1-800-BELDEN-1 and request a quote through a Belden distributor.



## RG-59/U Type Precision Digital Video Coax for Analog and Digital SDI/HDTV Applications

Description UL AWM Style	Trade No. UL NEC Type CSA Cert.	Standard Lengths		Std. Unit Lbs. ea.	AWG (stranding) (Dia. in In.) Nom. DCR	Insulation & Nominal Core OD		Nominal OD		No. of Shields & Material Nom. DCR	Nom. Imp. (ohms)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation	
		Ft.	m			Inch	mm	Inch	mm				pF/ Ft.	pF/ m	MHz	dB/ 100 Ft.

### RG-59/U Type

 75°C	<b>1505F</b> NEC CM CEC CM	1000	304.8	32.1	22 (7x29) .032" bare copper 12.2Ω/M' 40.0Ω/km	Gas injected foam Polyethylene		.242	6.17	95% Double braided tinned copper shield 2.4Ω/M' 7.9Ω/km	75	80%	17.0	55.7	1	.21	.70
		3.58	.50	1.6													
		5	.60	2.0													
		7	.73	2.4													
		10	.89	2.9													
		67.5	2.4	8.0													
		71.5	2.5	8.3													
		88.5	2.8	9.2													
		100	3.0	9.9													
		135	3.5	11.5													
		143	3.6	11.9													
		180	4.1	13.4													
		270	5.1	16.7													
		360	6.0	19.5													
		540	7.4	24.4													
		720	8.7	28.6													
		750	8.9	29.2													
1000	10.5	34.4															
1500	13.3	43.5															
2000	15.7	51.6															
2250	16.9	55.5															
3000	20.3	66.6															

### Maximum Transmission Distance in Feet (meters) 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
Belden® No.						
<b>1505F</b>	1200 (366)	1071 (327)	857 (261)	732 (223)	588 (179)	225 (68)

\* Proposed at time of printing.

NOTE: 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.

### For More Information:

Belden Electronics Division  
 Technical Support:

1-800-BELDEN-1 or  
 1-800-BELDEN-3

www.belden.com

### Maximum Transmission Distance in Feet (meters) at Digital Audio Rates

	2 MHz		4 MHz		5 MHz		6 MHz		12 MHz		25 MHz	
	(Ft)	(m)	(Ft)	(m)	(Ft)	(m)	(Ft)	(m)	(Ft)	(m)	(Ft)	(m)
<b>1505F</b>	5882	1793	3774	1150	3333	1016	2985	910	2041	622	1389	423