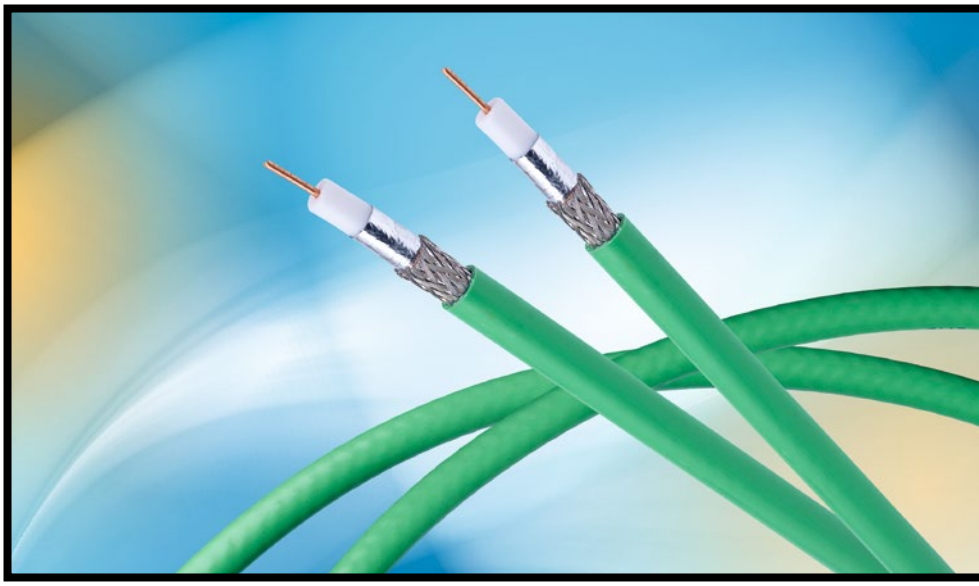
BELDEN
SENDING ALL THE RIGHT SIGNALS

Product Bulletin

PB 137E

Duobond® II HD Digital Video Cables

Belden launches Duobond® II HD Digital Video cables for the reliable transmission of HD digital video signals in broadcast systems at data rates of 3 GB/s



Duobond® II HD Digital Video coaxial cables provide improved performance and uninterrupted transmission thanks to their perfect harmony with Belden 1-piece HD BNC connectors.

- Connectors are easy to install on the cable, thanks to bonded foil on the dielectric
- Proven cable technology that has already been successful in broadband applications
- Coax reliably transmits HD digital video signals at a data rate of 3 GB/s

Belden's new Duobond® II HD Digital Video cables are coaxial cables for use in broadcast systems to carry data at up to 3 GB/s. As an extension to the company's existing product range of HD Digital Video cables, they provide high signal integrity and flawless streams.

Applications

Broadcasters have to carry virtually any video signal including analog, digital (SD-SDI), high definition (HD), 3G (2K) and even 3D and Quad Full-HD with cable bundles of 2 or 4 coaxes. They are concerned about the distance their cables will be able to transmit video signals.

Duobond® II HD Digital Video cables, especially in combination with Belden 1-piece HD compression connectors, provide broadcasters with a cost-effective solution that is high in performance and reliability while supporting various rates and standards:

- SDI: SMPTE 259M (279 MB/s)
- HD: SMPTE 292M, 372M (1.5 GB/s)
- 2K: SMPTE 424M (3 GB/s)
- QFHD: SMPTE 425 under revision (6 GB/s)
- 4K: SMPTE 425 under revision (12 GB/s)

These cables have an operating temperature range of -30°C to +70°C. They are available in various colors: black, green, turquoise, blue, yellow, gray, purple.

The cables belong to a complete system from Belden for broadcast applications in the production and delivery area. Other products include connectors, patch panels, and routers.

Your Benefits

The customer obtains an improved cable-connector combination, thanks to the easy installation of Belden 1-piece compression connectors at each end to form a secure connection. Crimp connectors are also easy to attach. End users can be sure of high signal integrity when using these cables.

The perfect combination of the cable and the connector not only improves the reliability of the system, it also helps reduce installation time. The technology used in the new cables has already been proven in other applications, broadband in particular.

A new product to serve your needs.
Be certain.

BELDEN
SENDING ALL THE RIGHT SIGNALS

Ordering Information

Duobond® II HD Digital Video cables give users in various broadcast applications extra confidence in signal integrity.

Des-cription	Part No.	UL NEC/ C(UL) CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material 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/100 m
Mini RG59 Type • 22 AWG • Solid 0.65 mm Bare Copper Conductor • Duobond® II • 80% Tinned Copper Braid																			
Gas-injected Foam HDPE Insulation • PVC Jacket																			
HDTV/SDI Digital Video 75°C	**70080**	–	1.640	500	26.5	12.0	0.56 mm 22 AWG Solid BC 75.0 Ω/km* 55.0 Ω/km**	0.142	2.9	Duobond® II +80% TC braid 20.0 Ω/km***	0.175	4.45	75	84%	16.2	53	1.0 3.6 10.0 71.5 135.0 270.0 360.0 540.0 720.0 750.0 1000.0 1500.0 2250.0 3000.0 4500.0	0.5 0.8 1.1 2.6 3.5 4.9 5.7 7.0 8.0 8.2 9.5 11.8 14.6 17.1 21.4	1.7 2.5 3.7 8.6 11.5 16.1 18.6 22.8 26.4 26.9 31.3 38.7 48.0 56.1 70.2
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														
Gas-injected Foam HDPE Insulation • FRNC/LSNH Jacket																			
HDTV/SDI Digital Video 75°C	**70080NH** IEC 60332-1 IEC 61034 IEC 60754	–	1.640	500	26.5	12.0	0.56 mm 22 AWG Solid BC 75.0 Ω/km* 55.0 Ω/km**	0.142	2.9	Duobond® II +80% TC braid 20.0 Ω/km***	0.175	4.45	75	84%	16.2	53	see above information on PVC Jacket		
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														
HDTV/SDI Digital Video 75°C	**70080CH** IEC 60332-3-25 IEC 60332-1 IEC 61034 IEC 60754	–	1.640	500	26.5	12.0	0.56 mm 22 AWG Solid BC 75.0 Ω/km* 55.0 Ω/km**	0.142	2.9	Duobond® II +80% TC braid 20.0 Ω/km***	0.175	4.45	75	84%	16.2	53	see above information on PVC Jacket		
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														
RG59 Type • 20 AWG • Solid 0.8 mm Bare Copper Conductor • Duobond® II • 80% Tinned Copper Braid																			
Gas-injected Foam HDPE Insulation • PVC Jacket																			
HDTV/SDI Digital Video 75°C	**70081**	–	1.640	500	48.5	22.0	0.8 mm 20 AWG Solid BC 44.0 Ω/km* 32.0 Ω/km**	0.145	3.68	Duobond® II +80% TC braid 12.0 Ω/km***	0.233	5.92	75	83%	16.2	53	1.0 3.6 10.0 71.5 135.0 270.0 360.0 540.0 720.0 750.0 1000.0 1500.0 2250.0 3000.0 4500.0	0.3 0.6 0.9 2.1 2.7 3.8 4.4 5.5 6.4 6.5 7.6 9.3 11.6 13.4 16.4	1.0 2.0 3.0 6.9 8.9 12.5 14.4 18.1 21.0 21.3 24.9 30.5 38.0 44.0 53.8
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														
Gas-injected Foam HDPE Insulation • FRNC/LSNH Jacket																			
HDTV/SDI Digital Video 75°C	**70081NH** IEC 60332-1 IEC 61034 IEC 60754	–	1.640	500	48.5	22.0	0.8 mm 20 AWG Solid BC 44.0 Ω/km* 32.0 Ω/km**	0.145	3.68	Duobond® II +80% TC braid 12.0 Ω/km***	0.233	5.92	75	83%	16.2	53	see above information on PVC Jacket		
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														

* DCR loop = DCR center conductor + shielding • ** DCR center conductor • *** DCR shielding • BC = Bare Copper • DCR = DC resistance

Des-cription	Part No.	UL NEC/ C(UL) CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material 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/100 m

RG59 Type • 20 AWG • Solid 0.8 mm Bare Copper Conductor • Duobond® II • 80% Tinned Copper Braid

Gas-injected Foam HDPE Insulation • FRNC/LSNH Jacket

HDTV/SDI Digital Video 75°C	**70081CH** IEC 60332-3-25 IEC 60332-1 IEC 61034 IEC 60754	–	1.640	500	48.5	22.0	0.8 mm 20 AWG Solid BC 44.0 Ω/km* 32.0 Ω/km**	0.145	3.68	Duobond® II +80% TC braid 12.0 Ω/km***	0.233	5.92	75	83%	16.2	53	1.0 3.6 10.0 71.5 135.0 270.0 360.0 540.0 720.0 750.0 1000.0 1500.0 2250.0 3000.0 4500.0	0.3 0.6 0.9 2.1 2.7 3.8 4.4 5.5 6.4 6.5 7.6 9.3 11.6 13.4 16.4	1.0 2.0 3.0 6.9 8.9 12.5 14.4 18.1 21.0 21.3 24.9 30.5 38.0 44.0 53.8
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														

RG6 Type • 18 AWG • Solid 1.0 mm Bare Copper Conductor • Duobond® II • 80% Tinned Copper Braid

Gas-injected Foam HDPE Insulation • PVC Jacket

HDTV/SDI Digital Video 75°C	**70082**	–	1.640	500	63.0	28.5	1.02 mm 18 AWG Solid BC 31.0 Ω/km* 21.0 Ω/km**	0.18	4.57	Duobond® II +80% TC braid 10.0 Ω/km***	0.274	6.96	75	82%	16.2	53	1.0 3.6 10.0 71.5 135.0 270.0 360.0 540.0 720.0 750.0 1000.0 1500.0 2250.0 3000.0 4500.0	0.2 0.5 0.7 1.7 2.3 3.2 3.7 4.6 5.3 5.5 6.4 7.9 9.8 11.6 14.6	0.8 1.5 2.4 5.6 7.4 10.4 12.1 15.0 17.5 17.9 21.0 26.0 32.0 38.0 48.0
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														

Gas-injected Foam HDPE Insulation • FRNC/LSNH Jacket

HDTV/SDI Digital Video 75°C	**70082NH** IEC 60332-1 IEC 61034 IEC 60754	–	1.640	500	63.0	28.5	1.02 mm 18 AWG Solid BC 31.0 Ω/km* 21.0 Ω/km**	0.18	4.57	Duobond® II +80% TC braid 10.0 Ω/km***	0.274	6.96	75	82%	16.2	53	see above information on PVC Jacket		
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														
HDTV/SDI Digital Video 75°C	**70082CH** IEC 60332-3-25 IEC 60332-1 IEC 61034 IEC 60754	–	1.640	500	63.0	28.5	1.02 mm 18 AWG Solid BC 31.0 Ω/km* 21.0 Ω/ km**	0.18	4.57	Duobond® II +80% TC braid 10.0 Ω/km***	0.274	6.96	75	82%	16.2	53	see above information on PVC Jacket		
			Return loss:		5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB														

* DCR loop = DCR center conductor + shielding • ** DCR center conductor • *** DCR shielding • BC = Bare Copper • DCR = DC resistance

BELDEN
SENDING ALL THE RIGHT SIGNALS

Ordering Information

Des-cription	Part No.	UL NEC/ C(UL) CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material 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/100 m
RG11 Type • 14 AWG • Solid 1.6 mm Bare Copper Conductor • Duobond® II • 80% Tinned Copper Braid																			
Gas-injected Foam HDPE Insulation • PVC Jacket																			
HDTV/SDI Digital Video 75°C	**70084**	–	1.640	500	124.5	56.5	1.63 mm 14 AWG Solid BC 13.9 Ω/km* 8.2 Ω/km**	0.28	7.11	Duobond® II +80% TC braid 5.7 Ω/km***	0.402	10.2	75	84%	16.2	53	1.0 3.6 10.0 71.5 135.0 270.0 360.0 540.0 720.0 750.0 1000.0 1500.0 2250.0 3000.0 4500.0	0.2 0.3 0.5 1.1 1.5 2.1 2.4 3.0 3.6 3.7 4.3 5.5 6.9 8.2 10.4	0.5 1.0 1.5 3.6 4.8 6.9 8.0 10.1 11.7 12.0 14.1 18.0 22.6 26.9 34.1
			Return loss: 5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB																
Gas-injected Foam HDPE Insulation • FRNC/LSNH Jacket																			
HDTV/SDI Digital Video 75°C	**70084NH** IEC 60332-1 IEC 61034 IEC 60754	–	1.640	500	124.5	56.5	1.63 mm 14 AWG Solid BC 13.9 Ω/km* 8.2 Ω/km**	0.28	7.11	Duobond® II +80% TC braid 5.7 Ω/km***	0.402	10.2	75	84%	16.2	53	see above information on PVC Jacket		
			Return loss: 5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB																
Gas-injected Foam HDPE Insulation • FRNC/LSNH Jacket																			
HDTV/SDI Digital Video 75°C	**70084CH** IEC 60332-3-25 IEC 60332-1 IEC 61034 IEC 60754	–	1.640	500	124.5	56.5	1.63 mm 14 AWG Solid BC 13.9 Ω/km* 8.2 Ω/km**	0.28	7.11	Duobond® II +80% TC braid 5.7 Ω/km***	0.402	10.2	75	84%	16.2	53	see above information on PVC Jacket		
			Return loss: 5-1.600 MHz: ≥ 23 dB 1.600-4.500 MHz: ≥ 21 dB																

* DCR loop = DCR center conductor + shielding • ** DCR center conductor • *** DCR shielding • BC = Bare Copper • DCR = DC resistance

Connector Reference

Duobond® II Design			Compression Connector					Crimp BNC Connector			
PVC	DESCR 1 PVC	DESCR 2	1-piece Locking	1-piece	Compression Tool	Strip Tool	Boot	3-piece Crimp	Crimp Tool	Strip Tool	Boot
70080	Coax mini RG59/U PVC HDTV Precision Video	0.65/2.9 PHYS 180T 4.3	1855ABHDL	1855ABHD1	CPLCRBC-BR	LDT-Mini	SLS-RGB/color	1855ABHD3-ENH	BB3PHCT	BB3PST	SLS-RGB
70081	Coax RG59/U PVC HDTV Precision Video	0.81/3.68 PHYS 180T 5.94	1505ABHDL	1505ABHD1	CPLCRBC-BR	LDT596-250	SLS-59/6-color	1505ABHD3	BB3PHCT	BB3PST	SLS-59/6
70082	Coax RG6/U PVC HDTV Precision Video	1.02/4.57 PHYS 180T 6.99	1694ABHDL	1694ABHD1	CPLCRBC-BR	LDT596-250	SLS-59/6-color	1694ABHD3	BB3PHCT	BB3PST	SLS-59/6
70084	Coax RG11/U PVC HDTV Precision Video	1.63/7.11 PHYS 180T 10.3	–	FS11BNC	CPLCCT-11BNC	SDT11-250	–	–	–	–	–
LSNH IEC 60332-1	**DESCR 1 LSNH**	**DESCR 2**	**1-piece Locking**	**1-piece**	**Compression Tool**	**Strip Tool**	**Boot**	**3-piece Crimp**	**Crimp Tool**	**Strip Tool**	**Boot**
70080NH	Coax mini RG59/U LSNH HDTV Precision Video	0.65/2.9 PHYS 180T 4.3	1855ABHDL	1855ABHD1	CPLCRBC-BR	LDT-Mini	SLS-RGB/color	1855ABHD3-ENH	BB3PHCT	BB3PST	SLS-RGB
70081NH	Coax RG59/U LSNH HDTV Precision Video	0.81/3.68 PHYS 180T 5.94	1505ABHDL	1505ABHD1	CPLCRBC-BR	LDT596-250	SLS-59/6-color	1505ABHD3	BB3PHCT	BB3PST	SLS-59/6
70082NH	Coax RG6/U LSNH HDTV Precision Video	1.02/4.57 PHYS 180T 6.99	1694ABHDL	1694ABHD1	CPLCRBC-BR	LDT596-250	SLS-59/6-color	1694ABHD3	BB3PHCT	BB3PST	SLS-59/6
70084NH	Coax RG11/U LSNH HDTV Precision Video	1.63/7.11 PHYS 180T 10.3	–	FS11BNC	CPLCCT-11BNC	SDT11-250	–	–	–	–	–
LSNH IEC 60332-3-25	**DESCR 1 LSNH**	**DESCR 2**	**1-piece Locking**	**1-piece**	**Compression Tool**	**Strip Tool**	**Boot**	**3-piece Crimp**	**Crimp Tool**	**Strip Tool**	**Boot**
70080CH	Coax mini RG59/U LSNH HDTV Precision Video	0.65/2.9 PHYS 180T 4.3	1855ABHDL	1855ABHD1	CPLCRBC-BR	LDT-Mini	SLS-RGB/color	1855ABHD3-ENH	BB3PHCT	BB3PST	SLS-RGB
70081CH	Coax RG59/U LSNH HDTV Precision Video	0.81/3.68 PHYS 180T 5.94	1505ABHDL	1505ABHD1	CPLCRBC-BR	LDT596-250	SLS-59/6-color	1505ABHD3	BB3PHCT	BB3PST	SLS-59/6
70082CH	Coax RG6/U LSNH HDTV Precision Video	1.02/4.57 PHYS 180T 6.99	1694ABHDL	1694ABHD1	CPLCRBC-BR	LDT596-250	SLS-59/6-color	1694ABHD3	BB3PHCT	BB3PST	SLS-59/6
70084CH	Coax RG11/U LSNH HDTV Precision Video	1.63/7.11 PHYS 180T 10.3	–	FS11BNC	CPLCCT-11BNC	SDT11-250	–	–	–	–	–

For more information, visit us at **www.beldensolutions.com** and follow us on **Twitter@BeldenInc.**