Audio and Video Composite Camera Cable
Overview

BRILLIANCE®

Audio and Video Composite Camera Cables

Audio/video composite cables are used in camera cable applications requiring one or more coaxes for video and one or more shielded pairs for audio and power.

Applications for such cables include interconnect of remote field cameras for Electronic News Gathering (ENG), Electronic Field Production (EFP) and Closed Circuit Television (CCTV).

ENG cameras are used in shooting on-site News reports which may be live or recorded. EFP applications involve on-site recording of videos produced for companies or private enterprises (i.e., advertisement or training films).

The three most common audio/video configurations are one coax-one pair, one coax-three pair and two coax-three pair designs.

One Coax-One Pair

The most common use for cable of this design is the interconnection of cameras requiring one coax for the video connection to the camera and one pair for audio.

The audio pair may be connected either to the camera itself, to an audio junction box or directly into a microphone.

Another common application for this design is the connection of CCTV surveillance cameras where the coax is used for the video connection and the twisted pair to power the camera.

One Coax-Three Pair

This cable is used in camera applications requiring a coaxial video feed, one audio pair for a MIC hook-up, and two audio pairs for the Interrupted Feedback (IFB) connections to the camera person and talent (anchor). IFB is the audio feed(s) to the talent and camera person's headset which enables them to listen and receive information and directions from the news director as they make the recording.

Two Coax-Three Pair

Camera applications utilizing this design again utilize one coax for the camera video connection and three audio pairs for the MIC and IFB hook-ups. The additional coax can be used to provide video to a portable TV monitor so the talent can view him or herself as the report is being recorded.

HDTV Fiber/Copper Composite Cable

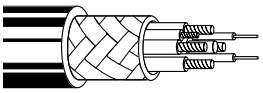
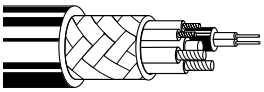
Designed specifically for high-definition cameras, these composite cables can multiplex audio and video signals and power. The cables meet all the requirements of the SMPTE 311 standard developed by the Society of Motion Picture and Television Engineers (SMPTE). They are also compatible with industry standard SMPTE 304M connectors.

Audio and Video Composite Camera Cable

SMPTE 311M HDTV Cables

Single-mode Fiber with Copper Conductors

BRILLIANCE®

Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Conductor (stranding) Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Nominal OD		Nominal Optical Attenuation (@1310nm)	
			Ft.	m	Lbs.	kg		Inch	mm		Inch	mm	dB/1000 Ft.	dB/km
4 Power Conductors • SM Fiber w/24 and 20 AWG Stranded (7x32 and 19x32) TC Conductors • TC Braid Shield (95% Coverage)														
PVC Insulation • Black Belflex® Jacket														
	**7804R**	NEC:	328	100.0	33.1	15.0	(2) Fibers: SM/125µ/900µ (core/clad/buffer)	.035	.89	36 AWG TC Braid 95% Shield Coverage 2.9Ω/M′ 9.5Ω/km	.362	9.20	.14	.45
		CMR	500	152.4	47.5	21.6								
		CEC:	1000	304.8	96.0	43.5								
		CMG FT4	1640	500.0	152.5	69.2	(2) Cond.: 24 AWG (7x32) .024″ Tinned Copper 23.3Ω/M′ 76.4Ω/km	.050	1.27					
			3280	1000.0	314.9	142.8								
							(4) Cond.: 20 AWG (19x32) .037″ Tinned Copper 8.8Ω/M′ 28.9Ω/km	.063	1.60					
2 Power Conductors • SM Fiber▲ w/24 and 16 AWG Stranded (7x32 and 65x34) TC Conductors • TC Braid Shield (95% Coverage)														
PVC Insulation • Black Belflex Jacket														
	**7804C**	NEC:	328	100.0	32.8	14.9	(2) Breakout Fibers: SM/125µ/900µ (core/clad/buffer)	.079	2.00	38 AWG TC Braid 95% Shield Coverage 2.8Ω/M′ 9.2Ω/km	.362	9.20	.14	.45
		CMR	500	152.4	49.0	22.2								
		CEC:	1000	304.8	99.0	44.9								
		CMG FT4	1640	500.0	157.4	71.4	(2) Cond.: 24 AWG (7x32) .024″ Tinned Copper 23.3Ω/M′ 76.4Ω/km	.050	1.27					
			3280	1000.0	324.7	147.3								
							(2) Cond.: 16 AWG (65x34) .059″ Tinned Copper 4.3Ω/M′ 14.1Ω/km	.093	2.36					

Plenum version and other conductor counts/diameters available by special order.

Plenum version and other conductor counts/diameters available by special order.

▲Fibers and aramid fillers contained within a .008 in (2.0mm) diameter PVC breakout jacket.

DCR = DC Resistance • SM = Single-mode • TC = Tinned Copper

Contact the Belden Customer Service Department for a Comprehensive Connector Cross Reference. **1-800-BELDEN-1**. Request quotations of cables not listed.

Composite Camera Cable

Television Camera and CCTV Cables

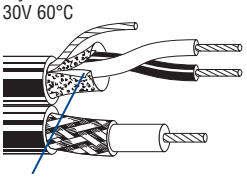
RG-59/U Type Coax with Shielded Twisted Pair(s)

BRILLIANCE®

22 AWG Stranded (7x30) Conductors • BC Coax w/BC Braid Shield (95% Coverage) • TC Twisted Pair w/Beldfoil® Shield (100% Cov.) +Drain Wire

Foam Polyethylene (Coax) **and PVC** (Pairs) **Insulation • Black PVC Jacket**

Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths Ft.	Standard Lengths m	Standard Unit Weight Lbs.	Standard Unit Weight kg	Conductor (stranding) Diameter Nom. DCR	Nominal Core OD Inch	Nominal Core OD mm	Shielding Materials Nom. DCR	Overall Nominal OD Inch	Overall Nominal OD mm	Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance pF/Ft.	Nominal Capacitance pF/m	Nominal Attenuation MHz	Nominal Attenuation dB/ 100 Ft.	Nominal Attenuation dB/ 100m
UL AWM Style 20006 30V 60°C	**9265**	NEC: CL2	500 1000	152.4 304.8	32.5 62.0	14.7 28.1	(1) Coax: 22 AWG (7x30) .030″ BC 15.0Ω/M′ 49.2Ω/km	.146 Coax OD: .242	3.71 6.15	BC Braid 95% Shield Coverage 2.6Ω/M′ 8.5Ω/km	.242 x .470	6.15 x 11.94	75	78%	17.3	56.8	1 5 10 50 100	.3 .7 1.0 2.1 3.0	1.0 2.3 3.3 6.9 9.8
							(2) Cond: 22 AWG (7x30) .030″ TC 15.0Ω/M′ 49.2Ω/km Black, Red	.054 Pair OD: .112	1.37 2.84	Pair: Beldfoil Shielded 100% Shield Coverage w/ 22 AWG Drain Wire 11.0Ω/M′ 36.1Ω/km			35	58%	51.0	167.3			



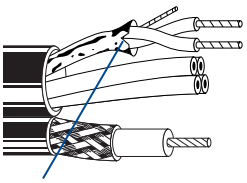
Z-Fold®

Siamese Type Construction

22 AWG Stranded (7x30) Conductors • BC Coax w/BC Braid Shield (95% Cov.) • (3) TC STP Individually Beldfoil Shielded (100% Cov.) w/Drain Wire

Foam Polyethylene (Coax) **and PVC** (Pairs) **Insulation • Black PVC Jacket**

Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths Ft.	Standard Lengths m	Standard Unit Weight Lbs.	Standard Unit Weight kg	Conductor (stranding) Diameter Nom. DCR	Nominal Core OD Inch	Nominal Core OD mm	Shielding Materials Nom. DCR	Overall Nominal OD Inch	Overall Nominal OD mm	Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance pF/Ft.	Nominal Capacitance pF/m	Nominal Attenuation MHz	Nominal Attenuation dB/ 100 Ft.	Nominal Attenuation dB/ 100m
UL AWM Style 20006 30V 60°C	**9165**	NEC: CL2X	500 1000	152.4 304.8	50.0 94.0	22.7 42.7	(1) Coax: 22 AWG (7x30) .030″ BC 15.0Ω/M′ 49.2Ω/km	.146 Coax OD: .242	3.71 6.15	BC Braid 95% Shield Coverage 2.6Ω/M′ 8.5Ω/km	.290 x .561	7.37 x 14.25	75	78%	17.3	56.8	1 5 10 50 100 400	.3 .7 1.0 2.1 3.0 7.4	1.0 2.3 3.3 6.9 9.8 24.3
							(3) Pairs: 22 AWG (7x30) .030″ TC 15.0Ω/M′ 49.2Ω/km Red & Black, Orange & Brown, Green & White	.054 Pair OD: .116	1.37 2.95	Each Pair: Individually Beldfoil Shielded 100% Shield Coverage w/ 22 AWG Drain Wire 11.0Ω/M′ 36.1Ω/km			35	58%	51.0	167.3			



Z-Fold®

Siamese Type Construction

BC = Bare Copper • DCR = DC Resistance • STP = Shielded Twisted Pairs • TC = Tinned Copper

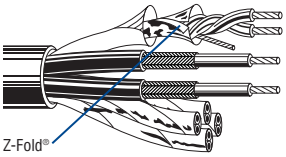
Contact the Belden Customer Service Department for a Comprehensive Connector Cross Reference. **1-800-BELDEN-1**. Request quotations of cables not listed.

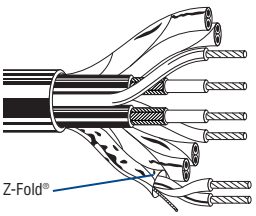
Composite Camera Cable

Audio and Video, ENG and EFP Cables
Multiple Coax with Shielded Twisted Pairs

BRILLIANCE®

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
12-conductor EFP and ENG Camera Cable																			
Foam Polyethylene (Coax) **and Polypropylene** (Pairs) **Insulation • Overall Chrome PVC Jacket**																			
75°C VW-1	**9170**	—	1000	304.8	113.0	51.4	(2) Coax: 25 AWG (7x33) .022″ BC 31.2Ω/M′ 102.0Ω/km Black, Black with Hash Marks	.100 Coax OD: .150	2.54 3.81	Each Coax: TC Braid 93% Shield Coverage 6.0Ω/M′ 19.7Ω/km	.490	12.45	75	78%	17.3	56.8	1 10 50 100 300 500	.4 1.5 3.8 5.6 10.6 13.8	1.3 4.9 12.5 18.4 34.8 45.3
							(5) Pairs: 24 AWG (7x32) .024″ TC 24.0Ω/M′ 78.0Ω/km Black & Red, Black & White, Black & Green, Black & Blue, Black & Yellow	.044 Pair OD: .095	1.12 2.41	Each Pair: Beldfoil® Shielded 100% Shield Coverage with 24 AWG Drain Wire 18.0Ω/M′ 59.1Ω/km				66%	27.0	88.6			
14-conductor EFP and ENG Camera Cable																			
Foam Polyethylene (Coax) **and PVC** (Pairs and Conductors) **Insulation • Overall Chrome PVC Jacket**																			
75°C	**9171**	—	500 1000	152.4 304.8	97.5 193.0	44.3 87.7	(2) Coax: 22 AWG (7x30) .030″ BC 15.0Ω/M′ 49.2Ω/km Black, Black with Hash Marks	.146 Coax OD: .242	3.71 6.15	Each Coax: BC Braid 95% Shield Coverage 2.5Ω/M′ 8.6Ω/km	.585	14.86	75	78%	17.3	56.8	1 2 10 50 100	.3 .6 1.0 2.3 3.2	1.0 2.0 3.3 7.5 10.5
							(5) Pairs: 22 AWG (7x30) .030″ TC 15.0Ω/M′ 49.2Ω/km Black & Red, Black & White, Black & Green, Black & Blue, Black & Yellow	.054 Pair OD: .110	1.37 2.79	Each Pair: Beldfoil Shielded 100% Shield Coverage with 22 AWG Drain Wire 11.6Ω/M′ 38.0Ω/km					51.0	167.3			
							(2) Cond: 16 AWG (26x30) .060″ TC 4.0Ω/M′ 13.1Ω/km Black, White	Each Cond. OD: .092	2.34										





BC = Bare Copper • DCR = DC Resistance • EFP = Electronic Field Production • ENG = Electronic News Gathering • TC = Tinned Copper

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Composite Camera Cable

Television Camera and CCTV Cables

BRILLIANCE®

TPE TV Camera Cable

28-Conductor

Product Description

A 75 Ohm cable designed to remain flexible in cold weather. Recommended for transistorized TV cameras.

(4) Conductors — 18 AWG: (16x30) Tinned copper, PVC insulation, ring band stripe color coded. Beldfoil® shield wrapped around four conductors with stranded drain wire. Polyester tape over this shielded group (100% coverage).

(21) Conductors — 22 AWG: (7x30) Tinned copper, PVC insulation, cabled in three groups of seven, ring band stripe color coded. One group of seven has Beldfoil shield wrapped overall with drain wire. Polyester tape over this shielded group (100% coverage). Other two groups are unshielded.

(3) 75 Ohm Coaxial Cables — 25 AWG: (7x33) .021″ (.53mm) bare copper-covered steel. Polyethylene insulation. Core OD .121″ (3.07mm). Tinned copper braid shield (95% coverage) plus cotton braid. Coax OD .178″ (4.52mm).

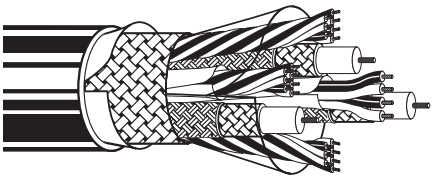
Overall: Tinned copper braid shield (85% coverage). Black thermoplastic elastomer jacket.

Specifications

Conductor	
(25) Conductors	Tinned Copper
(3) Coax	Bare Copper-covered Steel
Insulation	
Conductors	PVC
Coax	PE
Shield	
(4) 18 AWG Conductors	Beldfoil + PE Tape
(7) 22 AWG Conductors	Beldfoil + PE Tape
(14) 22 AWG Conductors	Unshielded
(3) Coax	95% TC Braid + Cotton Braid
Overall	85% Tinned Copper Braid
Jacket	Black TPE
Nominal OD	.730″ (18.54mm)
Nominal Impedance (Coax)	75Ω
Temperature Rating	80°C

Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight	
		Ft.	m	Lbs.	kg
TPE TV Camera					
28-conductor					
8286		500†	152.4	163.0	73.9
		1000†	304.8	323.0	146.5

† Spools are one piece, but length may vary -0% to +20% from length shown.



Remote Control and Video Cable

13-Conductor

Product Description

Recommended for use in installations requiring external drive signals, tallies, intercom, switching and video operations.
UL recognized component (Style 2594).
Passes VW-1 Vertical Wire Flame Test.

(12) Conductors — 20 AWG: (7x28) Tinned copper, PVC insulation, color coded.

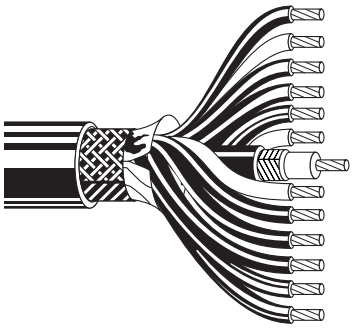
(1) 75 Ohm Coaxial — 22 AWG: (7x30) .031″ (.79mm) tinned copper. Foam polyethylene insulation. Core OD .146″ (3.71mm). Bare copper braid shield (95% coverage). Black PVC jacket. Coax OD .208″ (5.28mm).

Overall: Tinned copper braid shield (80% coverage). Gray PVC jacket.

Specifications

Conductor	
(12) Conductors	Tinned Copper
(1) Coax	Tinned Copper
Insulation	
Conductors	PVC
Coax	Foam PE
Shield	
(12) Conductors	Unshielded
(1) Coax	95% Bare Copper Braid
Overall	80% Tinned Copper Braid
Jacket	Gray PVC
Nominal OD	.406″ (11.70mm)
Nominal Impedance (Coax)	75Ω
Temperature Rating	60°C/75°C (UL)
Approvals/Rating	
UL AWM Style	2594
NEC Rating	CL2X

Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight	
		Ft.	m	Lbs.	kg
Remote Control and Video					
13-conductor					
9262	NEC	100	30.5	15.0	6.8
	CL2X	1000	304.8	160.0	72.6



Composite Camera Cable

Television Camera and CCTV Cables

BRILLIANCE®

Audio and Video Composite Cable

3 Paired, RG-59U Type

Product Description

Recommended for Electronic News Gathering (ENG) applications.

(3) Pairs — 22 AWG: (7x30) Tinned copper, polypropylene insulation. Nominal insulated conductor OD .046″ (1.17 mm). Individually Beldfoil® shielded with drain wire. PVC jacket, OD .125″ (3.20mm). Jacket colors: Brown, Red and Orange. Nominal impedance: 50Ω. Nominal velocity of propagation: 66%. Nominal capacitance: 32 pF/ft. (105 pF/m)*, 58 pF/ft. (191 pF/m)**.

(2) 75 Ohm Coaxial Cables — 25 AWG: (7x33) .021″ (.53mm) Bare copper. Foam polyethylene insulation. Nominal Core OD .100″ (2.54mm). Duofoil® plus tinned copper braid shield (95% coverage). PVC Jacket OD .160″ (4.06mm). Jacket colors: Red and Black. Nominal Impedance: 75Ω. Nominal velocity of propagation: 78%. Nominal capacitance: 17.3 pF/ft. (56.8 pF/m). Nominal attenuation value for respective frequencies:

1 MHz	.5 db/100 ft.	1.5 db/100m
5 MHz	1.1 db/100 ft.	3.6 db/100m
10 MHz	1.5 db/100 ft.	4.9 db/100m
50 MHz	3.2 db/100 ft.	10.5 db/100m
100 MHz	4.3 db/100 ft.	14.1 db/100m
300 MHz	10.6 db/100 ft.	34.8 db/100m
500 MHz	13.8 db/100 ft.	45.3 db/100m

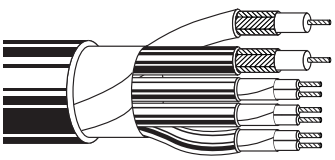
Overall: Matte Black PVC jacket.

Specifications

Conductor	
(3) Pairs	Tinned Copper
(2) Coax	Bare Copper
Insulation	
Pairs	Polypropylene
Coax	Foam Polyethylene
Shield	
(3) 22 AWG Pairs	Beldfoil
(2) Coax	Tinned Copper Braid
Jacket	Matte Black PVC
Nominal OD	.492″ (12.50mm)
Nominal Impedance (Coax)	75Ω

*Capacitance between conductors.
**Capacitance between one conductor and other conductors connected to shield.

Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight	
		Ft.	m	Lbs.	kg
Audio and Video Composite Cable					
RG-59/U Type • 3 Paired					
1263B		500	152.4	58.5	26.6
		1000	304.8	113.0	51.4



Camera Extension Cable

13-Conductor

Product Description

UL Recognized Component (Style 2497). Recommended for remote control, closed circuit and cue line applications. Style 2497 is specified for the Dage 800 and other similar cameras. Passes VW-1 Vertical Wire Flame Test.

(2) Conductors — 20 AWG: (10x30) Tinned copper, PVC insulation, color coded, twisted pair, Mylar® tape wrapped.

(9) Conductors — 22 AWG: (7x30) Tinned copper, PVC insulation. (2) conductors cabled with Beldfoil shield. (2) conductors cabled, unshielded. (5) conductors unshielded.

(2) 75 Ohm Coaxial Cables — 26 AWG: (7x34) .019″ (.48mm) bare copper-covered steel. Foam high-density polyethylene insulation. Core OD .088″ (2.24mm). Tinned copper braid shield (95% coverage). PVC jacket, color coded. Coax OD .142″ (3.61mm).

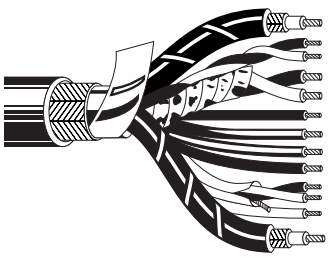
Overall: Tinned copper braid shield (85% coverage). Chrome PVC jacket.

Specifications

Conductor	
(11) Conductors	Tinned Copper
(2) Coax	Bare Copper-covered Steel
Insulation	
Conductors	PVC
Coax	Foam PE
Shield	
(7) Conductors	Unshielded
(2) Conductors	Beldfoil
(2) Conductors	Mylar Tape
(2) Coax	95% Tinned Copper Braid
Overall	85% Tinned Copper Braid
Jacket	Chrome PVC
Nominal OD	.550″ (13.97mm)
Nominal Impedance (Coax)	75Ω
Temperature Rating	60°C
Approvals/Rating	
UL AWM Style	2497
NEC Rating	CL2X

Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight	
		Ft.	m	Lbs.	kg
Camera Extension Cable					
13-conductor					
9254	NEC	250†	30.5	45.5	20.7
	CL2X	1000†	304.8	177.0	80.5

†Spools are one piece, but length may vary -0% to +20% from length shown.



Mylar is a DuPont trademark.