

BULLETIN

The ideal choice for your Home Theater application, HomeChoice® Mini Component cables are the industry's first cables to offer true 75 ohm performance. With precise 75 ohm impedance, whole-system performance is optimized.



Belden® Mini High-Res Component Video Cables Are Designed for RGB, DTV and HDTV Applications

The RGB standards were designed to address analog video's ability to capture and transmit complex moving images, loaded with information, utilizing analog-only equipment and frequency-limited cables. Most RGB cables available today are still designed for these outdated standards, formats and frequencies.

Precision analog video, utilizing cables that provide greater signal integrity, delivers a better picture than typical RGB transmissions, but digital video and HDTV run at higher frequencies and make better use of component video for even greater picture clarity.

To accommodate the need for higher frequency, longer distance transmissions and the ability to run more demanding applications such as high resolution graphics on large screens, HDTV, Hi-res CAD, animation, editing and special effects, a true 75 ohm, high-frequency cable with optimum design features is needed. HomeChoice Mini Component cables meet these new high-end requirements.

The unique design of these cables also makes them ideal for multiple runs of composite video signals such as SDI or HDTV (video snake cable).

Construction Details

Bundled mini coaxial cables are used for component video formatted applications that segment the video signal into Red, Green and Blue elements, identified through use of corresponding cable jacket colors (RGB cables). Synchronization (Sync) and Vertical Hold (Hold) signals can be embedded within one of the elemental video components or they can be transmitted separately utilizing the 4th and 5th coaxes. When present, the 4th coax has a Yellow jacket; the 5th coax has a White jacket..

HomeChoice Mini Component riser-rated (CMR) cables are available in bundles comprised of 3 or 5 coaxes. The conductors are 25 AWG (solid) tinned copper, rather than

the traditional 26 AWG stranded analog style. The insulation is high-density foamed PE. Shielding is Duobond® foil (100%) combined with Belden's unique interlocked serve shield. The individual coax jackets are PVC; the overall jackets are also PVC.

Exceptional Benefits

Superior cable design means more benefits to both the installer and end-user. Key features and benefits include:

- > Solid copper center conductor – low attenuation, easier termination.
- > High velocity, low-loss PE insulation – low attenuation, long distances and improved timing.
- > Foil under braid shielding – Broadcast Quality standard, contributes to low attenuation and is easier to terminate.
- > The foil layer of the shield is semi-bonded to the dielectric to hold in place for RCA- and F-style connectors, but can also be removed if desired for BNC connectors to minimize conductor-to-shield shorts.
- > Unique interlocked serve shield (won't open if bent) – achieves uniform, consistent coverage.
- > Round, uniform, flexible jacket – for professional appearance, proper boot fit, easy flexing for installation and equipment hook-up.
- > Sweep tested – every reel is tested and verified to have a minimum Return Loss of 20dB at all frequencies up to 850 MHz.

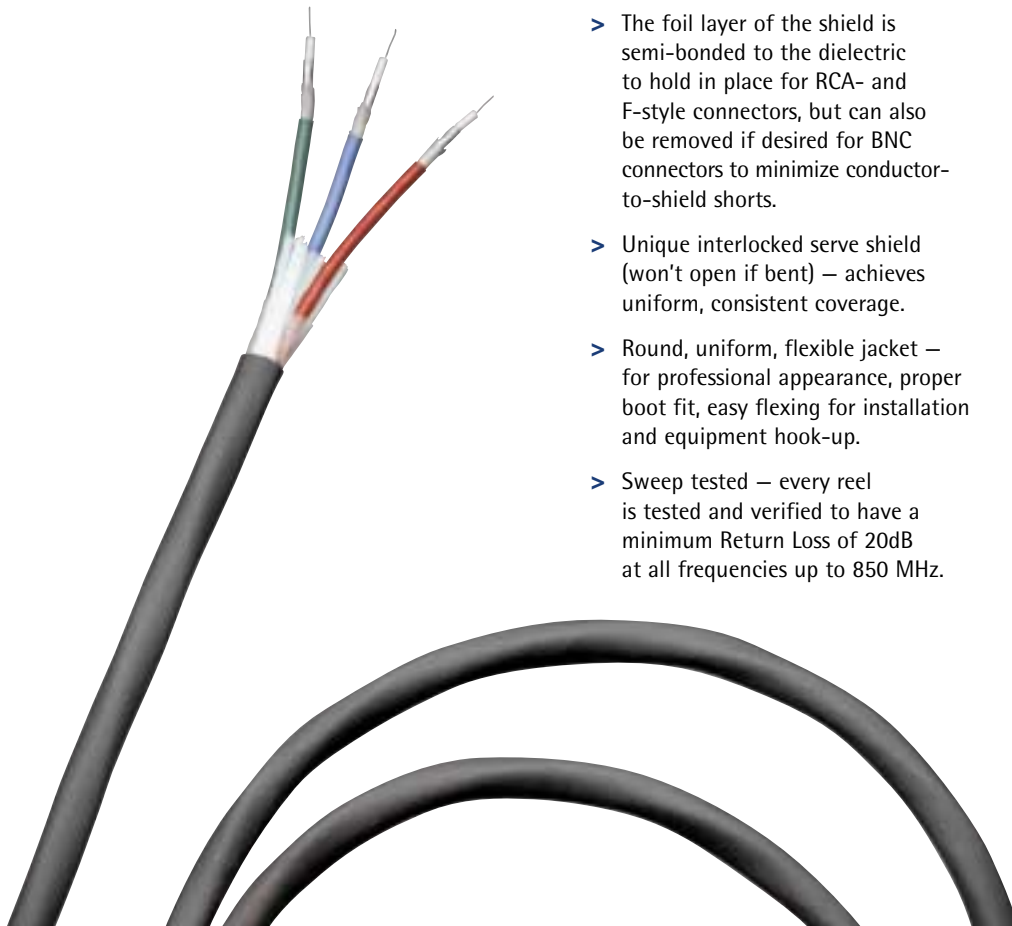
- > True 75 ohm impedance – ensures no impedance mismatches for optimal whole-system performance, quality signal transmission over long distances.
- > Fits standard Mini RGB and coaxial connectors – for installation flexibility.
- > Color-coded jackets – for easy circuit identification.
- > Rip cord – included for easy jacket removal.
- > Sequential marking – for usage tracking during installation.

See table (opposite page) for a features/benefits comparison of traditional analog Mini RGB cables vs. Belden Mini Component digital-ready cables.

Applications

Belden HomeChoice® Mini Component cables are ideal for high-resolution monitor and projection imaging in the following situations:

- > Home theater
- > Sophisticated home offices and small offices
- > Teleconferencing rooms





Traditional Analog Styles vs. Belden Digital-Ready Mini RGB Cables

Attribute	Traditional Analog Mini RGB Cables	Belden Digital and Precision Analog Component Cables
Conductor	26 AWG Stranded	25 AWG Solid Lower attenuation, lower DCR. Dramatically easier connectorization.
Dielectric	Foam low-density PE 78% to 81% Velocity Greater material and process variability. Low crush resistance and impedance stability	Foam HDPE 81% Velocity. High-density foam, excellent crush resistance and impedance stability. Better Return Loss. Excellent material and process stability. Lower attenuation, longer distances, improved timing.
Shield	Foil over serve Higher attenuation. Serve opens if bent, serve bunches up under stress. Individual wires aren't stabilized. Lower shield effectiveness.	Unique interlocked serve over foil. Individual wires are stabilized and locked in place by a counter-direction, single weave braided through. Uniform coverage and better shield effectiveness. Foil is under the tinned copper (serve) in accordance with Broadcast Quality cable design convention. This gives significantly lower attenuation and permits the foil to remain on the dielectric, and under the connector collar, for best practice terminations. The foil is lightly bonded to the dielectric, holding in place for RCA and F connectors, or is easily removed, if desired, for BNC connectors.
Impedance	68 to 72 ohms actual Don't be fooled by "nominal."	75 (± 3) ohms
Design Frequency	50 MHz, Analog RGB	850 MHz Exceeds the bandwidth requirements for analog RGB, digital RGB, analog component, (Y^1 , P_B^1 , P_R^1), digital component (Y^1 , C_B^1 , C_R^1) and all SDI systems. Exceeds the primary frequency for HD-SDI.
Attenuation	Unnecessarily high	10% lower Provides increased transmission distances.
Return Loss and Sweep Test	No information available.	-20dB min. Guaranteed 5 MHz to 850 MHz. Tested at 75 ohms – fixed bridge. Each cable of each spool tested.

Connector Availability

Manufacturer	Style	Part No.
ADC	BNC	BNC-16
Extron	BNC	100-074-51
Holland	BNC F RCA	SLC-BNC-MINI25 SLC-MINI25 SLC-RCA-MINI25
ICM	RCA	FSRCA-1RGB
Kings	BNC	2065-25-9
Liberty	BNC	112491-10
Trompeter	BNC	105-2053-9

HDTV Miniature Low-Loss Component Cable

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Jacket Nom. Diameter		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.

Miniature • 25 AWG Solid .018" Bare Copper • Duobond® Foil (100%) + Tinned Copper Interlocked Serve Shield

Gas-injected Foam High-density PE Insulation • PVC Inner Jackets • Black PVC Jacket (Color Code: See chart below)

	HC2648R	NEC: CMR CEC: CMG	3	500	152.4	35.0	15.9	25 AWG (solid) .018"	.074	1.88	Duobond (100%) + TC Braid	Single: .114 2.90 Overall: .320 8.13	75	80%	17.0	.8	1	.50	1.6
								TC			5.4Ω/M'						5	1.2	3.9
								34.0Ω/M'			17.7Ω/km						10	1.6	5.2
								111.5Ω/km									20	2.4	7.9
																	50	3.8	12.1
																	71	4.4	14.1
	HC2650R	NEC: CMR CEC: CMG	5	250	76.3	21.3	9.2	same as above	.074	1.88	same as above	Single: .114 2.90 Overall: .403 10.24					100	4.9	16.1
				500	152.4	43.0	19.5										135	5.6	18.4
																	180	6.4	21.0
																	200	6.7	22.0
																	270	7.7	25.2
																	400	9.5	31.1
																	750	13.4	44.0
																1000	15.8	51.8	
																2250	26.1	85.6	
																3000	32.2	102.3	

Sweep Tested 5 MHz to 850 MHz.
Guaranteed Return Loss -20dB Max.

DCR = DC Resistance • TC = Tinned Copper

Color Code Chart

Cond.	Color
1	Red
2	Green
3	Blue
4	White
5	Yellow

For More Information: www.belden.com

Belden Electronics Division Technical Support 1-800-BELDEN-1 or 1-800-BELDEN-3