

12G SDI

BROADCAST SOLUTIONS

Amphenol[®] RF
www.amphenolrf.com



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12G High-Frequency BNC & HD-BNC Connectors for Broadcast

Ultra High Definition Video (also known as “Ultra HD” or “4K”), with 4x the resolution of 1080P HD video, requires an interconnect system that can transfer data at a rate of up to 12 Gbps. Using legacy BNC connectors often supporting a max frequency of 3 GHz, this could require 2 or 4 channels.

Amphenol RF's line of 12G BNC and HD-BNC products are optimized for 4K Ultra HD Broadcast, providing fully intact signal transmission on a single channel. These connectors are designed for 12G-SDI video applications, and come in a variety of PCB mounting and cable terminations. Peak performance can be reached when Amphenol RF 12G connectors are used as a mated pair.

Cable Mount Connectors

Cable Type	Part Number	Configuration
Belden 1505A	112951-11	BNC Straight Crimp Plug
Belden 1694A	112957-11	BNC Straight Crimp Plug
Belden 1855A	112955-11	BNC Straight Crimp Plug
Belden 4505R	031-70546-12G	BNC Straight Crimp Plug
	031-70543-12G	BNC Straight Crimp Jack
Belden 4694R	031-70548-12G	BNC Straight Crimp Plug
	031-70547-12G	BNC Straight Crimp Jack
Belden 4794R	031-70539-12G	BNC Straight Crimp Jack
	031-70545-12G	BNC Right-Angle Crimp Plug
	031-70534	BNC Straight Crimp Plug
Belden 4855R	031-70544-12G	BNC Right-Angle Crimp Plug
	031-70549-12G	BNC Right-Angle Crimp Plug, IP67
	031-70537-12G	BNC Straight Crimp Plug
	031-70538-12G	BNC Straight Crimp Jack

Cable Type	Part Number	Configuration
Belden 1505A	034-1025-12G	HD-BNC Straight Crimp Plug
Belden 1694A	034-1017-12G	HD-BNC Straight Crimp Plug
Belden 1855A	034-1107-12G	HD-BNC Straight Crimp Plug
	034-1026-12G	HD-BNC Straight Crimp Plug
Belden 4505R	034-1120-12G	HD-BNC Straight Crimp Plug
Belden 4694R	034-1121-12G	HD-BNC Straight Crimp Plug
Belden 4794R	034-1119-12G	HD-BNC Right-Angle Crimp Plug
	034-1104-12G	HD-BNC Straight Crimp Plug
Belden 4855R	034-1118-12G	HD-BNC Right-Angle Crimp Plug
	034-1122-12G	HD-BNC Right-Angle Crimp Plug, IP67

PCB Connectors

Part Number	Configuration
031-70526-11	BNC Edge Mount PCB Jack, Hex Nut
031-70526-13	BNC Edge Mount PCB Jack, Spanner Nut
031-70530	BNC Straight PCB Jack, 16.22 mm
031-70535-12G	BNC Right Angle PCB Jack
031-70536-12G	BNC Straight PCB Jack, 20.95 mm

Part Number	Configuration
034-1018-12G	HD-BNC Edge Mount PCB Jack
034-1028-12G	HD-BNC Straight PCB Jack, Bulkhead
034-1030-12G	HD-BNC Right Angle PCB Jack
034-1065-12G	HD-BNC Straight PCB Jack
034-1126-12G	HD-BNC Straight PCB Jack, Surface Mount, Bulkhead



031-70530



034-1018-12G



031-70539-12G



034-1065-12G



031-70537-12G



034-1025-12G

Features and Benefits

- One channel for 4K or Ultra-HD quality
- Familiar BNC bayonet coupling mechanism in HD-BNC options
- Designs available for common and 12G-specific broadcast cable types

Applications



Mobile Broadcast



Patch Panels



HD Cameras



Digital Signage



Video Encoders



Video Routers



Remote Viewing

12G Cable Assemblies



Straight Plug to Straight Plug Cable Assemblies

Cable Type	Part Number	Configuration
Belden 4794R	95-850-186xxxx	BNC to BNC
Belden 4855R	95-850-187xxxx	BNC to BNC
	95-850-188xxxx	HD-BNC to HD-BNC
	95-850-189xxxx	HD-BNC to BNC

Straight Plug to Straight Jack Cable Assemblies

Cable Type	Part Number	Configuration
Belden 4794R	95-850-192xxxx	HD-BNC to BNC
Belden 4855R	95-850-193xxxx	HD-BNC to BNC

*xxxx denotes length code. See standard lengths available.

12G Adapters

Part Number	Description
031-218-12G	BNC Plug to BNC Plug
031-220N-75-12G	BNC Jack to BNC Jack, Bulkhead
031-9-75-12G	BNC Jack to BNC Plug, Right Angle
112444-12G	BNC Jack to BNC Jack, Bulkhead, Isolated
112446-12G	BNC Jack to BNC Jack
031-70540-12G	BNC Jack to HD-BNC Plug
031-70541-12G	BNC Plug to HD-BNC Jack
034-1109-12G	HD-BNC Jack to HD-BNC Jack, Bulkhead
034-1110-12G	HD-BNC Jack to HD-BNC Jack, Bulkhead, Isolated
034-1111-12G	HD-BNC Jack to HD-BNC Plug, Right Angle
034-1112-12G	HD-BNC Jack to HD-BNC Jack
034-1113-12G	HD-BNC Plug to HD-BNC Plug

Standard Lengths Available

Code	Length in Inches (Meters)
-006	6.00 [0.152]
-012	12.00 [0.305]
-018	18.00 [0.457]
-024	24.00 [0.610]
-036	36.00 [0.914]
-048	48.00 [1.219]
-060	60.00 [1.524]
-072	72.00 [1.829]
-120	120.00 [3.048]
-144	144.00 [4.572]
-180	180.00 [7.620]
-300	300.00 [15.240]
-600	600.00 [22.860]
-900	900.00 [30.480]

Code	Length in Inches (Meters)
M025	9.84 [0.25]
M050	19.69 [0.50]
M075	29.53 [0.75]
M100	39.37 [1.00]
M125	49.21 [1.25]
M150	59.06 [1.50]
M200	78.74 [2.00]
M300	118.11 [3.00]
M500	196.85 [5.00]
M10L	393.70 [10.00]
M20L	787.40 [20.00]
M30L	1181.10 [30.00]



031-220N-75-12G



031-9-75-12G

Technical Specifications (Connectors)

Electrical		BNC	HD-BNC
Impedance		75 Ω	
Frequency range		DC - 12 GHz	DC - 18 GHz
Return Loss		≥ 30 dB @ DC - 6 GHz	≥ 15 dB @ DC - 12 GHz
Dielectric Withstanding Voltage		1500 VRMS	1000 VRMS
Insulation Resistance		5000 C	10000 MΩ
Contact Resistance	Center Contact	≤ 1.5 mΩ	≤ 5 mΩ
	Outer Contact	≤ 0.2 mΩ	≤ 2.5 mΩ

Mechanical	
Coupling Style	2-stud bayonet coupling
Mating Cycles	500 cycles min.
Cable Attachment	Crimp
Assembly Tool	CTL-17

Environmental	
Temperature Range	-65 °C to +165 °C
RoHS	Compliant with exemption 6C

Materials	
Body and Outer Contacts	Brass or zinc die-cast, nickel or gold plated
Male Contact	Brass or phosphor bronze, gold plated
Female Contact	Beryllium copper, gold plated
Crimp Ferrule	Brass, nickel plated
Spring	Stainless steel, nickel plated
Insulator	PTFE
Gasket	Silicone rubber

*Technical specifications are typical and may vary by specific part number or design. See component drawing for additional information.

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