

# Amphenol® RF



## HD-BNC Product Series Solutions Guide

50 & 75 Ohm Solutions



# ABOUT AMPHENOL RF

**Amphenol RF, a division of Amphenol Corporation, is the largest manufacturer of radio frequency connectors, coaxial adapters and RF cable assemblies in the world.**

With a global team of experienced engineers, Amphenol RF is able to offer the broadest portfolio of standard RF products on the market today.

As a leader in design and manufacturing of RF interconnect products, our dedicated team of engineers specialize in custom product development to meet the challenges of design-specific constraints.

## GLOBAL PRESENCE



With a global presence, Amphenol RF has experienced engineers and production capabilities in multiple regions across the globe. Our experienced cross-functional teams oversee the entire process from the initial design through delivery, and beyond.

Amphenol RF has a global footprint of operations in North America, Europe and Asia.

# HD-BNC PRODUCT SERIES



The HD-BNC product series is a highly versatile line of miniature connectors designed to meet the growing demand for high-density solutions across various industries. These connectors are significantly smaller than traditional BNC connectors, offering four times the density without sacrificing the durability or reliability of the familiar BNC interface. This makes them ideal for designs where space is limited but high-performance is essential such as broadcast, telecommunications, military communications and test and measurement applications.

With a frequency range of up to 12 GHz, HD-BNC connectors are well-suited for high-bandwidth technology such as 4K/Ultra-HD video transmission, test and measurement equipment and wireless infrastructure. They feature the popular bayonet-style coupling mechanism for quick connect and disconnect that offers fast and secure connections in the field. The rugged design of these connectors allows them to offer reliable performance even in demanding environments where vibration and shock resistance is needed to ensure consistent performance.

These combination of high-density, reliable electrical performance and robust mechanical construction makes the HD-BNC a flexible option for engineers and system designers. This series is available in 50 and 75 ohm configurations in a variety of straight and right-angle designs, and is a proprietary interface unique to Amphenol RF. When selecting a mating connector, it is likely that use of a non-licensed version of the HD-BNC interface will result in performance and/or connectivity issues. The patented design of the HD-BNC, when paired with a specialized tool, enables quick and easy connection and disconnection, even in dense setups with numerous cables. This tool-assisted mechanism simplifies handling in high-density environments, ensuring efficient maintenance and minimizing downtime.

## FEATURES AND BENEFITS

- Trusted bayonet style positive locking mechanism
- Closed entry interface
- 51% smaller footprint than traditional BNCs
- Durable construction supporting 500 mating cycles
- Complete product portfolio including connectors, cable assemblies, adapters, and terminations



FOOTPRINT 51% SMALLER THAN TRADITIONAL BNCs

## APPLICATIONS

### 50 Ohm

- Telecommunications
- Test & Measurement Equipment
- Military/Defense & Aerospace
- Medical Imaging Equipment
- Networking and Data Centers
- Industrial Automation

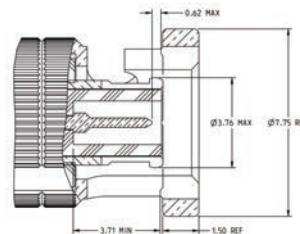
### 75 Ohm

- Broadcast & Video Transmission
- Video Surveillance Systems
- Audio/Visual (A/V) Equipment
- Telecommunication Systems
- Medical Imaging Equipment
- Test & Measurement Equipment
- Home Entertainment Systems
- Industrial Video Applications

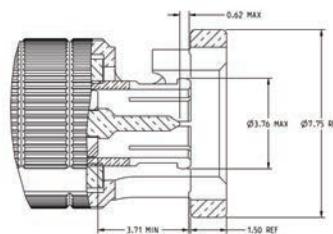
# HD-BNC PRODUCT SERIES

## INTERFACE DIMENSIONS

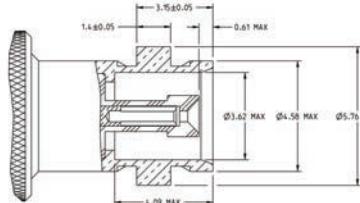
### 75 OHM PLUG



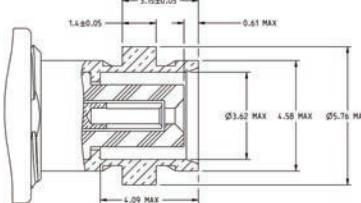
### 50 OHM PLUG



### 75 OHM JACK



### 50 OHM JACK



NOTE: FOR FULL 75 OHM HD-BNC INTERFACE, SEE IEC 61169-70 SPECIFICATION

## PCB MOUNT CONNECTORS

HD-BNC PCB mounted connectors enable reliable, high-definition signal transmission directly from printed circuit boards to external equipment. They provide a compact and secure connection solution, making them ideal for space-constrained applications where maintaining signal integrity is essential, such as in custom systems or embedded designs.

### PCB Jacks (50 Ohm)

SKU	Orientation	Termination	Features	Image
034-5013	Straight	PCB - End Launch, max 0.080 Inches (2.03 mm)	Bulkhead – Rear Mount	
034-5022	Straight	Through Hole		
034-5023	Straight	Through Hole	Bulkhead – Rear Mount	
034-5024	Right-Angle	Through Hole	Bulkhead – Rear Mount	
034-5037	Straight	PCB - End Launch, max 0.062 inches (1.57 mm)	Bulkhead – Rear Mount	
034-5038	Straight	PCB - End Launch, max 0.032 inches (0.81 mm)	Bulkhead – Rear Mount	
034-5066	Right-Angle	Through Hole	Isolated, Bulkhead – Rear Mount	

## PCB Jacks (75 Ohm)

SKU	Orientation	Termination	Features	Image
034-1018	Straight	PCB - End Launch, max 0.062 inches (1.57 mm)	Bulkhead – Rear Mount	
034-1021	Straight	Through Hole		
034-1024	Straight	Through Hole		
034-1028	Straight	Through Hole	Bulkhead – Rear Mount	
034-1030	Right-Angle	Through Hole	Bulkhead – Rear Mount	
034-1032	Straight	Through Hole		
034-1034	Straight	Through Hole	Bulkhead - Rear Mount	
034-1040	Straight	Through Hole		
034-1099	Straight	Through Hole	IP67, Bulkhead – Rear Mount	

## CABLE MOUNT CONNECTORS

HD-BNC cable connectors are used to attach coaxial cables to devices or equipment with HD-BNC connectors, ensuring a secure, high-quality connection for transmitting high definition signals. Featuring a robust design, supporting both 50 and 75-ohm cable types HD-BNC connectors are ideal for mission critical applications regardless of market or industry.

## Cable Plugs (50 Ohm)

SKU	Orientation	Cable Type	Features	Image
034-5008	Straight	RG-174, RG-188, RG-316, Times LMR 100A		
034-5011	Straight	RG-178, RG-196		
034-5012	Right-Angle	RG-178- RG-196		

SKU	Orientation	Cable Type	Features	Image
034-5017	Straight	RG-58, RG-141, Times LMR-195	IP67	
034-5021	Right Angle	RG-58, RG-141, Times LMR-195	IP67	
034-5026	Straight	0.085-inch Conformable RG-405		
034-5027	Straight	0.047-inch Conformable		
034-5042	Straight	RG-55, RG-142, RG-223, RG-400		
034-5067	Straight	RG-174, RG-188, RG-316, Times LMR-100A		
034-5071	Right Angle	RG-174, RG-188, RG-316, Times LMR-100A		
034-5074	Straight	RG-178, RG-196	IP67	
034-5079	Straight	Times LMR-195-UF		

### Cable Jacks (50 Ohm)

SKU	Orientation	Cable Type	Features	Image
034-5019	Straight	RG-174, RG-188, RG-316, Times LMR-100A		
034-5020	Straight	RG-174, RG-188, RG-316, Times LMR-100A	IP67	
034-5043	Straight	0.085-inch Conformable, RG-405	Bulkhead – Rear Mount	
034-5063	Straight	RG-55, RG-142, RG-223, RG-400	Bulkhead – Rear Mount	
034-5073	Straight	RG-178, RG-196	IP67 Bulkhead – Rear Mount	
034-5080	Straight	Times LMR-195-UF	Bulkhead – Rear Mount	

## Cable Plugs (75 Ohm)

SKU	Orientation	Cable Type	Features	Image
034-1001	Straight	AT&T 735, AT&T 735A, Belden 735A1		
034-1017-300	Straight	Belden 1694A		
034-1025	Straight	Belden 1505A, AT&T 734		
034-1026	Straight	Belden 1855A		
034-1027	Straight	Belden 1695A		
034-1033	Straight	TFC HD 210		
034-1037	Straight	Belden 1855A		
034-1037-100	Straight	Belden 1855A		
034-1042	Straight	RG-179, Belden 179DT		
034-1055	Straight	AT&T 735, AT&T 735A, Belden 735A1		
034-1061	Right-Angle	RG-179, Belden 179DT		
034-1100	Straight	Belden 1855A	IP67	

## Cable Jacks (75 Ohm)

SKU	Orientation	Cable Type	Features	Image
034-1046	Straight	Belden 1855A	Bulkhead – Rear Mount	
034-1053	Straight	RG-179, Belden 179DT	Bulkhead – Rear Mount	

## PANEL MOUNT CONNECTORS

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Panel mount HD-BNC connectors are designed to be mounted onto equipment panels, providing a convenient and securely mounted interface for connecting external cables to internal systems. These connectors are ideal for installations in rack-mounted gear, broadcast setups, or any application requiring a stable, accessible connection point for HD-BNC cables.

### Panel Mount Jacks (50 Ohm)

SKU	Orientation	Termination	Features	Image
034-5025	Straight	Round-Post	Four-Hole Flange	

# ADAPTERS

## IN-SERIES ADAPTERS

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In-series HD-BNC adapters are used to connect multiple coaxial cables while maintaining high-definition video and audio transmission and are often used in professional broadcast and audio-visual setups where signal integrity over long distances is critical.

### HD-BNC to HD-BNC Adapters (75 Ohm)

SKU	Side 1	Side 2	Cable Type	Features	Image
APH-HDBNCJ-J	HD-BNC Jack	HD-BNC Jack	Straight		
APH-HDBNCP-J	HD-BNC Plug	HD-BNC Jack	Straight		
APH-HD-ISO-HD	HD-BNC Jack	HD-BNC Jack	Straight	Bulkhead, Isolated	
APH-RA-HDP-J-75	HD-BNC Plug	HD-BNC Jack	Right-Angle		
APH-HDBNCP-P	HD-BNC Plug	HD-BNC Plug	Straight		

### HD-BNC T-Shape Adapters (75 Ohm)

SKU	Side 1	Side 2	Side 3	Features	Image
034-1023	HD-BNC Jack	HD-BNC Jack	HD-BNC Jack		

## BETWEEN-SERIES ADAPTERS

Between-series HD-BNC adapters are designed to connect devices with different types of BNC connectors, such as between standard BNC and HD-BNC, or between N-type and HD-BNC. They enable seamless integration between equipment with different connector specifications, ensuring proper signal transmission and maintaining high-definition performance.

### 50 Ohm

SKU	Side 1	Side 2	Orientation	Features	Image
APH-HDBNCJ-SMAJ	HD-BNC Jack	SMA Jack	Straight		
APH-HDBNCP-SMAJ	HD-BNC Plug	SMA Jack	Straight		
APH-HDBNCP-SMAP	HD-BNC Plug	SMA Plug	Straight		

### 75 Ohm

SKU	Side 1	Side 2	Orientation	Features	Image
APH-HD-ISO-1023	HD-BNC Jack	1.0-2.3 Jack	Straight	Bulkhead, Isolated	
APH-BNCJ-HDBNCJ	HD-BNC Jack	BNC Jack	Straight		
APH-BNCJ-HDBNCP	HD-BNC Plug	BNC Jack	Straight		
APH-BNCP-HDBNCJ	HD-BNC Jack	BNC Plug	Straight		
APH-HD-ISO-BNC	HD-BNC Jack	BNC Jack	Straight	Bulkhead, Isolated	
APH-BNCP-HDBNCP	HD-BNC Plug	BNC Plug	Straight		
AD-HDBNCHDAFI-2	HD-BNC Jack	HD-AFI Jack	Straight	Thread-In	
APH-NJ-HDBNCJ	HD-BNC Jack	N-Type Jack	Straight		
APH-NP-HDBNCJ	HD-BNC Jack	N-Type Plug	Straight		
APH-NP-HDBNCP	HD-BNC Plug	N-Type Plug	Straight		

SKU	Side 1	Side 2	Cable Type	Features	Image
APH-NJ-HDBNCP	HD-BNC Plug	N-Type Jack	Straight		
AD-NPHDBNCJ-1	HD-BNC Jack	N-Type Plug	Straight		
AD-NJHDBNCP-1	HD-BNC Plug	N-Type Jack	Straight		
AD-NPHDBNCP-1	HD-BNC Plug	N-Type Plug	Straight		
AD-NJHDBNCJ-1	HD-BNC Jack	N-Type Jack	Straight		

## FIXED LENGTH CABLE ASSEMBLIES

Pre-configured HD-BNC cable assemblies are available in multiple configurations and lengths to suit almost any application. These assemblies play a crucial role in ensuring reliable and efficient connectivity facilitating the transmission of video and data signals with minimal loss and interference. Their superior electrical performance make them essential for high-frequency applications where signal quality and precision are paramount.

### HD-BNC to HD-BNC Assemblies

SKU	Side 1	Side 2	Cable Type	Features	Image
095-850-158-XXX	HD-BNC Straight Plug	HD-BNC Straight Plug	Belden 1855A		
095-850-160-XXX	HD-BNC Straight Plug	HD-BNC Straight Plug	Belden 1694A		
095-850-185-XXX	HD-BNC Straight Plug	HD-BNC Straight Plug	RG-316		

### Between-Series

SKU	Side 1	Side 2	Cable Type	Features	Image
095-850-155-XXX	HD-BNC Straight Plug	1.0-2.3 Straight Plug	Belden 1855A		
095-850-156-XXX	HD-BNC Straight Plug	1.0-2.3 Straight Plug	Belden 1505A		
095-850-157-XXX	HD-BNC Straight Plug	1.0-2.3 Straight Plug	Belden 1694A		

SKU	Side 1	Side 2	Cable Type	Features	Image
095-666-44882-X	HD-BNC Straight Plug	BNC Straight Jack	Belden 1694A		
095-666-44883-X	HD-BNC Straight Plug	BNC Straight Jack	Belden 1855		
095-850-239-XXX	HD-BNC Straight Plug	BNC Straight Jack	Belden 1855A		
095-850-130-XXX	HD-BNC Straight Plug	BNC Straight Plug	Belden 1855A		
095-850-131-XXX	HD-BNC Straight Plug	BNC Straight Plug	Belden 1694A		
095-850-162-XXX	HD-BNC Straight Plug	BNC Straight Plug	Belden 1505A		

Note: 'XXX' denotes length code. See component drawing for available lengths.

## 12G CONNECTORS

### 12G SDI HD-BNC

Amphenol RF's line of 12G HD-BNC products is optimized for 4K Ultra HD broadcast video, providing fully intact signal transmission on a single channel. These connectors, adapters and fixed-length cable assemblies are designed for 12G-SDI video applications with data transfer rates of up to 12 Gbps. Peak performance can be reached when Amphenol RF 12G connectors are used as a mated pair.

### PCB MOUNT CONNECTORS

SKU	Gender	Orientation	Termination	Features	Image
034-1018-12G	Jack	Straight	PCB - End Launch, max 0.062 inches (1.57 mm)		
034-1028-12G	Jack	Straight	Through Hole	Bulkhead	
034-1028H-12G	Jack	Straight	Through Hole	Bulkhead, Hex Nut	
034-1030-12G	Jack	Right-Angle	Through Hole		
034-1065-12G	Jack	Straight	Through Hole		

SKU	Gender	Orientation	Termination	Features	Image
034-1126-12G	Jack	Straight	Through Hole	Surface Mount, Bulkhead	
034-1131-12G	Jack	Right-Angle	Through Hole	Dual Port, Vertical	
034-1135-12G	Jack	Right-Angle	Through Hole	Dual Port, Offset	
034-1139-12G	Jack	Straight	Through Hole	Isolated	
034-1140-12G	Jack	Right-Angle	Through Hole	Isolated	

## CABLE MOUNT CONNECTORS

### Cable Plugs

Part Number	Orientation	Cable Type	Features	Image
034-1107-12G	Straight	Belden 4855R, Belden 4855P		
034-1118-12G	Right-Angle	Belden 4855R, Belden 4855P		
034-1119-12G	Right-Angle	Belden 4794R		
034-1120-12G	Straight	Belden 4505R		
034-1121-12G	Straight	Belden 4694R		
034-1122-12G	Right-Angle	Belden 4855R, Belden 4855P	IP67	
034-1127-12G	Straight	Canare L-5.5CUHD		
034-1128-12G	Straight	Canare L-3.3CUHD		
034-1130-12G	Straight	Belden 1695A, Belden 4694P		
034-1132-12G	Straight	Belden 4731P, Belden 4731R		

SKU	Orientation	Termination	Features	Image
034-1104-12G	Straight	Belden 1794A, Belden 4794R		
034-1017-12G	Straight	Belden 4694R		
034-1025-12G	Straight	Belden 1505A, AT&T 734, Belden 4505R		
034-1026-12G	Straight	Belden 1855A, Belden 4855R		
034-1137-12G	Straight	Belden 4505P		

#### Cable Jacks

SKU	Orientation	Termination	Features	Image
034-1123-12G	Straight	Belden 4855R, Belden 4855P	IP67	

# 12G ADAPTERS

## IN-SERIES ADAPTERS

### HD-BNC to HD-BNC Adapters

SKU	Side 1	Side 2	Orientation	Features	Image
034-1109-12G	HD-BNC Jack	HD-BNC Jack	Straight	Bulkhead	
034-1110-12G	HD-BNC Jack	HD-BNC Jack	Straight	Bulkhead, Isolated	
034-1111-12G	HD-BNC Plug	HD-BNC Jack	Right-Angle		
034-1112-12G	HD-BNC Jack	HD-BNC Jack	Straight		
034-1113-12G	HD-BNC Plug	HD-BNC Plug	Straight		

## BETWEEN-SERIES ADAPTERS

SKU	Side 1	Side 2	Orientation	Features	Image
031-70540-12G	HD-BNC Plug	BNC Jack	Straight		
031-70541-12G	HD-BNC Jack	BNC Plug	Straight		
AD-HDBNJMCP-12G	HD-BNC Jack	MCX Plug	Straight		
AD-HDBNJMJC-12G	HD-BNC Jack	MCX Jack	Straight		

## 12G FIXED LENGTH CABLE ASSEMBLIES

### HD-BNC to HD-BNC Assemblies

SKU	Side 1	Side 2	Cable Type	Features	Image
095-850-188-XXX	HD-BNC Straight Plug	HD-BNC Straight Plug	Belden 4855R		
095-850-214-XXX	HD-BNC Straight Plug	HD-BNC Straight Plug	Belden 4794R		
095-850-300-XXX	HD-BNC Straight Bulkhead Jack IP67	HD-BNC Straight Plug	Belden 4855R	IP67	

### Between-Series

SKU	Side 1	Side 2	Cable Type	Features	Image
095-850-192-XXX	HD-BNC Straight Plug	BNC Straight Jack	Belden 4794R		
095-850-193-XXX	HD-BNC Straight Plug	BNC Straight Jack	Belden 4855R		
095-850-215-XXX	HD-BNC Straight Plug	BNC Straight Jack	Belden 4505R		
095-850-216-XXX	HD-BNC Straight Plug	BNC Straight Jack	Belden 4694R		
095-850-217-XXX	HD-BNC Straight Plug	BNC Straight Plug	Belden 4505R		
095-850-218-XXX	HD-BNC Straight Plug	BNC Straight Plug	Belden 4694R		
095-850-189-XXX	HD-BNC Straight Plug	BNC Straight Plug	Belden 4855R		

Note: 'XXX' denotes length code. See component drawing for available lengths

# TECHNICAL SPECIFICATIONS

## Electrical

Impedance	50 Ohm	75 Ohm			
Frequency Range	DC - 6 GHz	DC- 6 GHz (0 - 18 GHz on 12G Products)			
Voltage Rating	170 Volts RMS Continuous				
Dielectric Withstanding Voltage	500 Volts RMS Min				
VSWR (Return Loss)					
DC - 4 GHz	1.065 (-30 dB) Max	12G Products: DC - 6 GHz	1.22 (-20 dB) Max		
		12G Products: 6 - 12 GHz	1.43 (-15 dB) Max		
Insulation Resistance	10000 MΩ Min				
Center Contact Resistance	5 mΩ Max				
Outer Contact Resistance	2.5 mΩ Max				
RF Leakage (Interface)	60 dB Max @ 1 GHz	60 dB Max @ 3 GHz			
Insertion Loss	$.1 \sqrt{f(GHz)} \text{ dB Max}$				

## Environmental

Temperature Change	-65°C to +165°C		
Thermal Shock	MIL-STD-202, Method 107 (Test Condition B), Except high temp test @ +200°C		
Corrosion	MIL-STD-202, Method 101 (Test Condition B) - 5% Salt Solution		
Vibration	MIL-STD-202, Method 204 (Test Condition B)		
Mechanical Shock	MIL-STD-202, Method 213 (Test Condition B)		
Moisture Resistance	MIL-STD-202, Method 106		

## Mechanical

Mating Cycles	500 Min	
Coupling Mechanism	Bayonet	
Frequency Range	Amphenol RF Proprietary	IEC 61169-70 (as developed by Amphenol RF)

*Note: Technical specifications are typical and may vary by specific part number and design. See component drawing for additional details.*

# Amphenol® RF

[www.amphenolrf.com](http://www.amphenolrf.com)



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### Learn More

about our HD-BNC  
product portfolio

