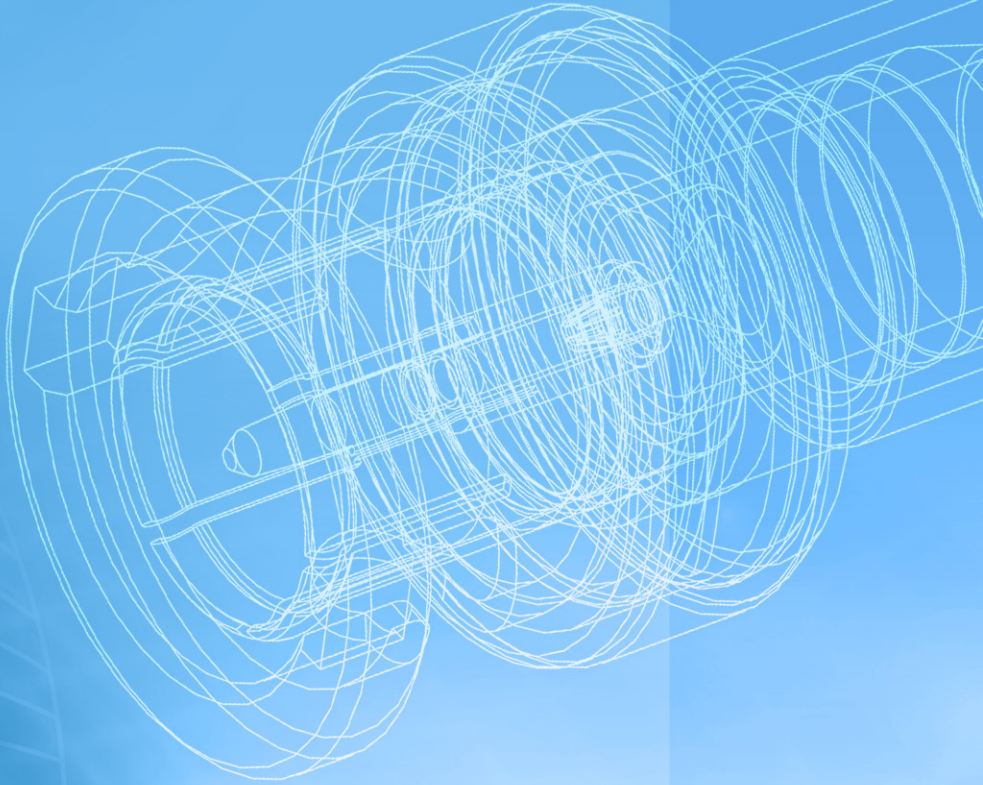


# MINI-BNC



## Mini-BNC Connectors

# Mini-BNC Connectors

## Description

Amphenol RF introduces the new generation of quality BNC connectors for the telecommunication and broadband applications for higher connector densities while preserving the positive characteristics of the Amphenol full-size BNC's for 75  $\Omega$  systems. This allows 40% more interconnects in the same area.

The Mini-BNC series provides the same positive locking bayonet system found on the BNC. These connectors were designed to be field installed or repaired. Also, the Mini-BNC is designed to be a drop-in replacement used in Telco DS3/DS4 applications and is compatible with the present field installer tooling and strip dimensions.

DS3 and DS4 lines in Telco Central Offices are 75 $\Omega$  and the Mini-BNC is as well. Furthermore, this characteristic is tightly designed and manufactured to stay at this impedance over the frequencies of interest and beyond. This allows RF "head room" and presents a matched impedance condition to the electromagnetic field that is so important to return loss performance.

Because the mated condition is so important to flawless signal processing over long periods of time, the bayonet coupling can be quickly inspected to determine if the plug is fully engaged to the jack. This is unique to the BNC and Mini-BNC product since threaded parts do not have a positive stop representing full engagement.

## Features/Benefits

- Smaller than the Telco standard BNC allowing 40% more interconnects in the same area
- Crimp/Crimp design compatible with all major manufacturer's tooling
- True 75 Ohm impedance end to end
- Drop-in replacement for most high-density SMB/SMZ applications
- Bayonet coupling provides a positive lock and allows for quick and easy connect/disconnects
- Qualified by most major OEMs
- Made by the Inventors of the BNC

## Applications

- Broadcast
- Custom Cable Assemblies
- Digital Video – HDTV
- DS3/DS4
- Instrumentation
- Medical Equipment
- Mil/Aero
- Network Routing & Switching
- Satellite Headends
- Telco Central Office

# Mini-BNC

## Mini-BNC Specifications

### Electrical

Impedance	75 Ω
Frequency range	DC - 4 GHz (acceptable return loss up to 1 GHz)
Return loss	26.4 dB @ DC - 750 Hz 22.6 dB @ DC - 1 GHz
VSWR	1.10 max. @ DC - 750 Hz 1.16 max. @ DC - 1 GHz
Voltage rating (at sea level)	≤ 500 V peak (depending on cable)
Contact resistance	center contact: ≤ 12 mΩ
Insulation resistance	1,000 MΩ minimum
Insertion loss maximum	0.10 dB max. @ 1 GHz
Dielectric withstanding voltage	1,000 Vrms (at sea level)

### Mechanical

Mating	2-stud bayonet lock coupling
Attachment method (inner / outer)	Crimp, clamp
Center contact retention force	≥ 6 lbs (27N)
Braid/Jacket cable affixment	Hex crimp
Center conductor cable affixment	Crimp or solder
Engagement force	≤ 5 lbs (22N)
Disengagement force	≥ 1.5 lbs (7N)
Durability (matings)	500 cycles minimum

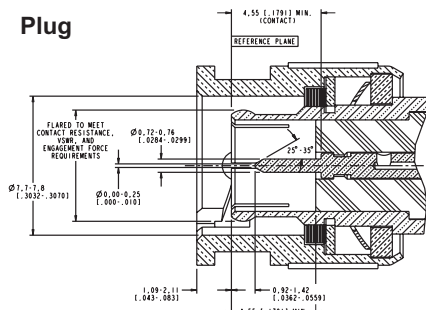
### Environmental

Temperature range	-45°C to +85°C
Thermal shock	MIL-STD-202, method 108, cond. D
Moisture resistance	EIA-364-31, method II, cond. C
Corrosion	MIL-STD-1344 method 1001, cond. B
Vibration	MIL-STD-1344 method 1001
Mechanical shock	MIL-STD-1344 method 2004, cond. D
Humidity	MIL-STD-1344 method 1002, cond. C

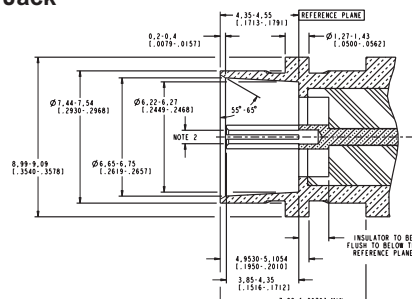
### Material

Body and outer contacts	Outer: beryllium copper or phosphor bronze, nickel plated
Male contact	Brass, gold plated
Female contact	Beryllium copper or phosphor bronze, gold plated
Crimp ferrule	Copper or brass, nickel plated
Other metal parts	Brass or zinc alloy, nickel plated
Insulator	PTFE
Gasket	Silicone rubber

Plug



Jack

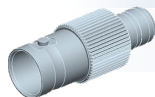


**Cable Connectors****Straight Crimp-Crimp Plugs**

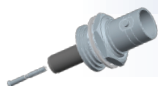
Cable Group	Part Number	Body	Plating	Contact
SPC-CBL-3340	031-70253	Nickel		Gold
B	031-70335	Nickel		Gold
B1	031-70261	Nickel		Gold
E1	031-70334	Nickel		Gold
I	031-70259	Nickel		Gold
I2	031-70251	Nickel		Gold
K3	031-70260	Nickel		Gold

**Angle Crimp-Crimp Plugs**

Cable Group	Part Number	Body	Plating	Contact
I2	031-70333	Nickel		Gold

**Straight Crimp-Crimp Jacks**

Cable Group	Part Number	Body	Plating	Contact
B	031-70331	Nickel		Gold

**Straight Crimp-Crimp Bulkhead Jacks**

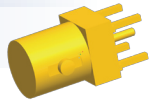
Cable Group	Part Number	Body	Plating	Contact	Description
B1	031-70332	Nickel		Gold	Straight Jack
I2	031-70252	Nickel		Gold	Isolated Jack

# Mini-BNC

## Receptacles

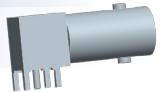
### Straight Jacks

Part Number	Body	Plating	Contact
031-70250	Gold		Gold
031-70249	Nickel		Gold



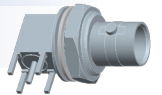
### Angle Jacks

Part Number	Body	Plating	Contact	Footprint
031-70265	Nickel		Gold	2.67 [.105] leg height
031-70255	Nickel		Gold	3.99 [.157] leg height



### Angle Bulkhead Jacks

Part Number	Body	Plating	Contact
031-6055	Nickel		Gold
031-6055-1	Gold		Gold



Cable Group	Cable Type
A	RG-178, 196
B	RG-174, 188A, 316, Belden 7805
B1	RG-179, 187, Belden 9221
B2	RD-188/U, RD-316/U
B3	RD-179/U, AT&T 19224L2
C	RG-58, 58A, 58C, 141, 303, LMR195, Belden 7806A, 9907
C1	RG-55, 142, 223, 400
C2	LMR200, Belden 7807A
D	RG-58/U Plenum, Thinnet, RG-122/U, Belden 88240, 89907
E	RG-59, 62, 140, 210, Belden 8241, 8263, 8279, 9209
E1	RG-59/U 20 AWG center conductor, Belden 1426A, 1505A, 9100, 9278
E2	RD-59/U, Belden 8281, 9141, 9231
E3	RG-59/U Quad Shield, Belden 1152A
F	RG-59/U Plenum, Belden 1560A, 9259, 82259, 89259, 88241
F1	RG-59/U Plenum 20 AWG center conductor, Belden 82108
G1	RG-6, 143, 212
G2	8X, LMR240, Belden 7808A, 9258
G3	LMR400, Belden 7810A, 8214, 9913
G4	RG-8, 8A, 9, 87A, 213, 214, 225, 393
G5	RD-6/U
H	RG-11
H1	Belden 1694A, 9248
H2	Belden 1859A, 7731, 8213, 9292
H3	RG-54A/U
I	AT&T 734A, Belden 1505A
I2	AT&T 735A, Belden 735A1
J	Quad 59 headend cable
K	LMR600
K2	Belden 1695A
K3	RG-122, 180, 195, Belden 1855, 1865A, 8218
L	.141 semi-rigid, RG-402/U
L2	.085, .086, .087 semi-rigid, RG-405/U
L3	.250 semi-rigid
L4	.047 semi-rigid, Belden 1674
M	1/2 inch annular corrugated
M1	1 1/4 inch annular corrugated
M2	1 5/8 inch annular corrugated
M3	7/8 inch annular corrugated
N	1/4 Helical
N1	3/8 Helical
N2	1/2 Helical
N3	7/8 inch SFC
P1	.81 mm OD micro-cable
P2	1.13 mm OD micro-cable, TCB-068
P3	1.32 mm OD micro-cable
P4	1.37 mm OD micro-cable