



## Specifications for BNC Connectors

BNC style connectors are miniature, light-weight, weatherproof interconnecting devices characterized by their two-stud, quick disconnect bayonet lock coupling arrangement. Their design functions satisfactorily from DC to 11 GHz in static applications, or from DC to 4GHz in applications involving vibration. The connectors typically yield a low VSWR (reflected signal) to 4GHz. Primary applications include radio telecommunications, broadcast equipment, medical equipment, computer, Precision Video, High definition studio broadcast, video switching and test instrumentation where frequent coupling and de-coupling are necessary. Bomar's BNCs are available in an extensive variety of configurations and cable sizes and are impedance matched to either 50 ohm or 75 ohm.

### MATERIALS

Connector Parts	Material	Equivalent Standard
Connector Body and Parts	Brass	ISOCuZn38Pb2 Body Part
Male Contact Pin	Brass	QQ-B-626
Commercial Grade	Zinc Alloy/Brass	-----
Outer Contact	Brass	QQ-B-750
Socket Contact	Beryllium Copper	QQ-C-530 / MIL-H-7199
-----	Phosphor Copper	CuBe2
Crimp Ferrule	Annealed Copper	QQ-C-576
Insulators, Standard Versions	Teflon	L-P403 / BS4271
-----	Delrin	Grade B
Rubber Gaskets	Silicone Rubber	ASTM-E1418PSI
Plating	Nickel (Silver Optional)	MIL-G-45204

### ELECTRICAL

Requirement	Performance		Test † Specification
Impedance	50Ω	75Ω	-----
Frequency Range	0-4GHz	0-1 GHz	-----
VSWR	1.30 Max.		MIL-C-39012
RF Insertion Loss	0.2 db Min. at 3 GHz		MIL-C-39012
RF Leakage	-55 db Min. at 3 GHz		MIL-C-39012
Test Voltage ( At Sea Level)	1500V rms		MIL-STD-202
Working Voltage ( At Sea Level )	500V rms		MIL-STD-202
Insulation Resistance	5000 Meg ohms Min.		MIL-STD-202
Contact Resistance	3 Milli ohms Max.		MIL-C-39012

### Mechanical & Environmental

Requirement	Performance	Test † Specification
Durability	500 Insertions & Extractions Min.	MIL-C-39012
Shock	50 G	MIL-STD-202

Vibration	20 G from 80-2000 Hz	MIL-STD-202
Cable Retention (Cable Types)	60 lbs. Minimum Pull Test	MIL-C-39012
Coupling Nut	60 lbs. Maximum	MIL-C-39012
Temperature Range	Teflon: -55 to +199 C	-----
	Delrin: -40 to +85 C	-----
Moisture Resistance	Continuous Test	MIL-STD-202
Salt Spray	48 Hours	MIL-STD-202

6783

†Products are made to conform to the Mil standard but are for commercial applications and are not QPL

FOR TECHNICAL SUPPORT: PHONE 973-347-4040 / FAX973-347-2111 [Back to Index](#)

1

-Page1-

-Page2-



## 3 Piece Crimp

BNC three piece crimp connectors feature semi-captive contacts that “click” into place assuring perfect installation. Each crimp pin has a vent hole for optional soldering. Soldering is recommended for all stranded conductors 26 AWG or smaller.

Part Number (Male)	“A” Dim. (I.D.)	Fig. No.	RG/U Cable
310A205A	.200 In.	Fig. 1	6, 21 AWG Center Conductor
310A205A18	.200 In.	Fig. 1	6 CATV, 18 AWG Center Conductor
310A205F	.124 In.	Fig. 1	58A/U, 58C/U Stranded, 141, Thin PVC
310A205FS	.124 In.	Fig. 1	58/U Solid Conductor
310A205FV	.125 In.	Fig. 2	58/U Thin-Net Plenum
310A205FV2	.125 In.	Fig. 2	Mini 59, RGB Cable (23 AWG)
310A205FV3	.125 In.	Fig. 2	Mini 59, RGB Cable (26 AWG)
310A204G	.150 In.	Fig. 1	59, 62, 210
310A205G20	.150 In.	Fig. 1	RG59 20 AWG Center Cond.
310A205G23	.150 In.	Fig. 1	Belden 8241
310A205MV	.125 In.	Fig. 3	174, 178, 196, Mini RGB Cable 50 Ω
310B205MV	.125 In.	Fig. 3	174, 178, 196, Mini RGB Cable 75 Ω
310A205N	.090 In.	Fig. 3	179, 187
310A205P	.125 In.	Fig. 1	223
310B205Q	.205 In.	Fig. 1	Belden 8281 True 75 Ohms
310A204T	.150 In.	Fig. 2	59, 62, Plenum
310A208W2	.103 In.	Fig.1	Mini 59, RGB Cable (26 AWG)



Fig.1



Fig.2



Fig.3



Fig.4

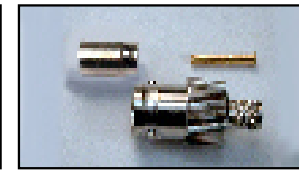


Fig.5

## Twist-On and 2 Piece Crimp

BNC Twist-On connectors are field installable and require no tooling other than a stripping tool for the cable preparation. The center conductor is inserted into Bomar's unique Posi-Con™ contact, as the connector is twisted onto the cable's outer jacket.

BNC 2 Piece crimp connectors make use of a fully captivated pin. Just insert the center conductor into the connector body, slide the ferrule over the braid, and apply a single hex-crimp to the ferrule. These connectors are easy to install and reliable and are recommended only for the lower data transmission speeds.

Part Number	Gender	Fig. No.	RG/U Cable
310A405A	Male	Fig. 8	6, Thick net
310A405F	Male	Fig. 8	58A/U Solid Cond, 141, Thin PVC
310A405F1	Male	Fig. 8	58/U Solid Cond. -.172" - .178"
310A405F2	Male	Fig. 8	58/U Thin Plenum - .158" - .162"
310A405F3	Male	Fig. 8	Thin Plenum .150"
310A405G	Male	Fig. 8	59, 62, 210 PVC
310A405T	Male	Fig. 8	59, 62, 210 Plenum
320A405F	Female	Fig. 8A	58 Solid (PVC)
320A405G	Female	Fig. 8A	59, 62, 210 (PVC)
310X205F	Male	Fig. 6	RG58 (PVC)
310X205G	Male	Fig. 6	RG59, 62 (PVC)
320X205F	Female	Fig. 7	RG58 (PVC)
320X205G	Female	Fig. 7	RG59, 62 (PVC)



Fig.8A



Fig.8



Fig.6



Fig.7

s

s

-Page 2-

- Page 3 -

## BNC Connectors

### Standard Clamp

BNC standard clamp style is a simplified version of the original military clamp style. It is required that the contact be soldered to the center conductor of the cable.

Part Number	Gender	Fig. No.	RG/U Cable
310A105A	Male	9	6
310A105D	Male	9	11A
310A105F	Male	9	58, 58A, 58C, 141
310A105G	Male	9	59, 62, 210
310A105M	Male	9	174, 188, 316
320A105F*	Female	10	58, 58A, 58C, 141
320A105G*	Female	10	59, 62, 214

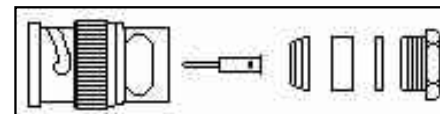


Figure 9

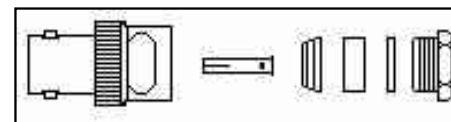


Figure 10



### Specialty Broadcast Plugs

Broadcast grade BNC connectors are perfectly matched to 75 ohm impedance's. The superior plugs are for studio wiring and other broadcast uses. Solid precision machined brass, not die-cast, hold up under the toughest conditions. Here, we are showing the eight most popular but there are many more versions matched to the popular cable manufacturer's part number.