

Description

Developed in the late 1940's, the BNC is a miniature version of the Type C. BNC stands for Bayonet Neill Concelman and is available in 50 Ohm and 75 Ohm impedance versions.

The BNC product line is a miniature quick connect / disconnect RF connector. It features two bayonet lugs on the female connector; mating is achieved with only a quarter turn of the coupling nut.

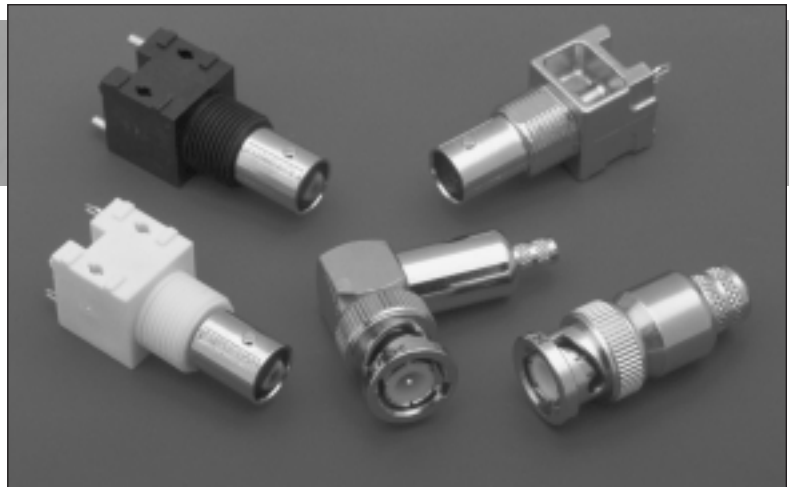
Primary Applications - Ideally suited for cable termination for miniature to subminiature coaxial cable (RG-58, 59, to RG-179, RG-316, etc.)

Features/Benefits

- Bayonet coupling mechanism provides quick mating and unmating.
- 50 and 75 ohm impedance designs allow customers to match impedance to system requirements.
- 50 and 75 ohm connectors are intermateable to ensure nondestructive mating.
- Three grades of connectors are available for military, industrial and commercial applications.

Applications

- Antennas
- Automotive (GPS)
- Base Stations
- Broadcast (75 ohm)
- Cable Assemblies
- Cable Modems
- Components
- Computers/LANs
- Instrumentation
- Network Analyzers
- Oscilloscopes
- Medical Equipment
- Mil-Aerospace
- Networks
- Radios
- Satcom
- Surge Protection
- Telecom



**50 ohm
BNC Cable Connectors**

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75 ohm

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Description

Amphenol 50 ohm BNC connectors are miniature, lightweight units designed to operate up to 11 GHz and typically yield low reflection through 4 GHz. Designed to accommodate a large variety of RG and industry standard cables, BNC connectors are available in crimp-crimp, clamp-solder, SURETWIST®, and field serviceable termination styles. A full line of printed circuit board receptacles, bulkhead receptacles, resistor terminations, and other accessories complement the product offering.

Features/Benefits

Amphenol manufactures a full line of BNC connectors to meet all users' needs. Parts which are listed with the appropriate M39012 number in the catalog are **Military Grade** connectors produced in accordance with and actively qualified to the military specification MIL-C-39012. Connectors not listed with the M39012 number constitute the **Industrial Grade** product offering. These connectors provide comparable performance and generally feature nickel plated brass bodies, Teflon insulators, and either gold or silver plated center contacts. Amphenol's **Commercial Grade** connector offering carries the part number designation "RFX" for easy recognition. These low cost connectors typically utilize diecast and molded components. While



performance will not be equal to the Industrial or Military grade products, these connectors are ideal for use on a variety of commercial applications.

Amphenol's 50 ohm BNC connectors (where indicated) are recognized under the Component Program of Underwriter's Laboratories, Inc. They are ideal for use with medical equipment and test instrumentation where safety cannot be compromised.

Applications

- Computers/LANs
- Test and Measurement
- Medical Equipment
- Telecommunications
- Wireless/Networks

50 ohm

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ELECTRICAL

Impedance	50 ohms nominal ■
Frequency range	0-4 GHz w/low reflection
Voltage rating	500 volts peak
Dielectric withstanding voltage	1,500 volts rms.
VSWR	M39012 straight connectors: 1.3 max. 0-4 GHz M39012 right angle: 1.35 max. 0-4 GHz
Other (MIL-C-39012 cable connectors)	Contact resistance: center contact 1.5 milliohm outer contact 0.2 milliohm Braid to body 0.1 milliohm RF leakage: - 55 dB minimum at 3 GHz Insertion loss: 0.2 dB maximum at 3 GHz Insulation resistance: 5000 megohms (min.)

MECHANICAL

Mating	2-stud bayonet coupling per M39012
Cable affixment (braid or jacket)	All crimps: hex braid crimp. Clamps: screw-thread nut and braid clamp.
Cable affixment (center conductor)	Crimps: crimp or solder All others: solder only
Captivated contact	All crimps Others: where specified.
Cable retention	Crimps: 20-100 lbs. All others: 30-70 lbs.

MATERIAL

Center contacts	Male: brass Female: Beryllium copper or phosphor bronze. Silver or gold plated
Other metal parts	Brass, Nickel finish except M39012 silver.
Insulators	TFE; copolymer of styrene, glass-TFE (hermetically sealed)
Clamp gaskets	Synthetic rubber, Silicone rubber
Crimp ferrule	Copper / Brass

ENVIRONMENTAL

Temperature range	TFE insulators: - 65°C to + 165°C Copolymer of Styrene: - 55°C to + 85°C
Weatherproof	Clamps with clamp gaskets. Crimps with heat-shrink tubing.
Hermetic seals	Pass helium leak test of 2 X 10 ⁻⁸ cc/sec
Shock	MIL-Std. 202 method 202
Vibration	MIL-Std. 202 method 204 (test cond. D)
Moisture resistance	MIL-Std. 202 method 106
Corrosion	MIL-Std. 202 method 101 (test cond. B)
Temperature cycling	MIL-Std. 202 method 102 (test cond. D)
Altitude	MIL-Std. 202 method 105 (test cond. C)

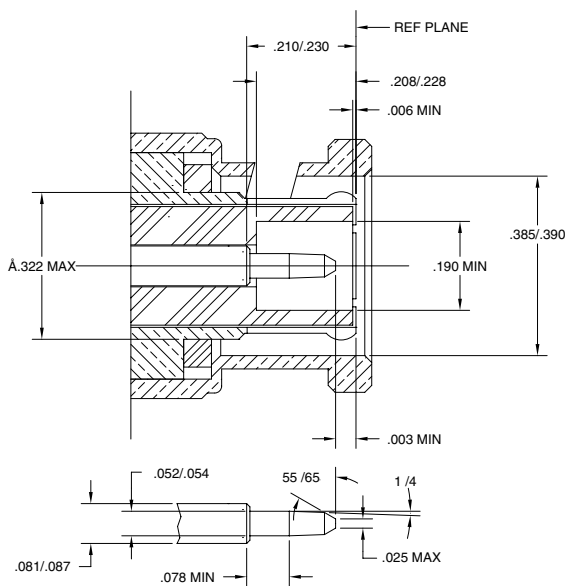
MILITARY SPECIFICATIONS

MIL-C-39012	Where applicable
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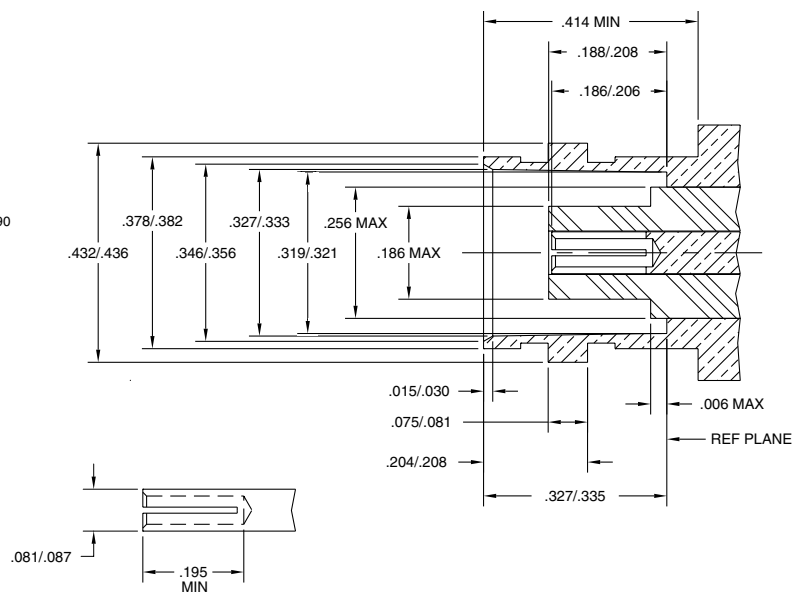
NOTE: These characteristics are typical and may not apply to all connectors.

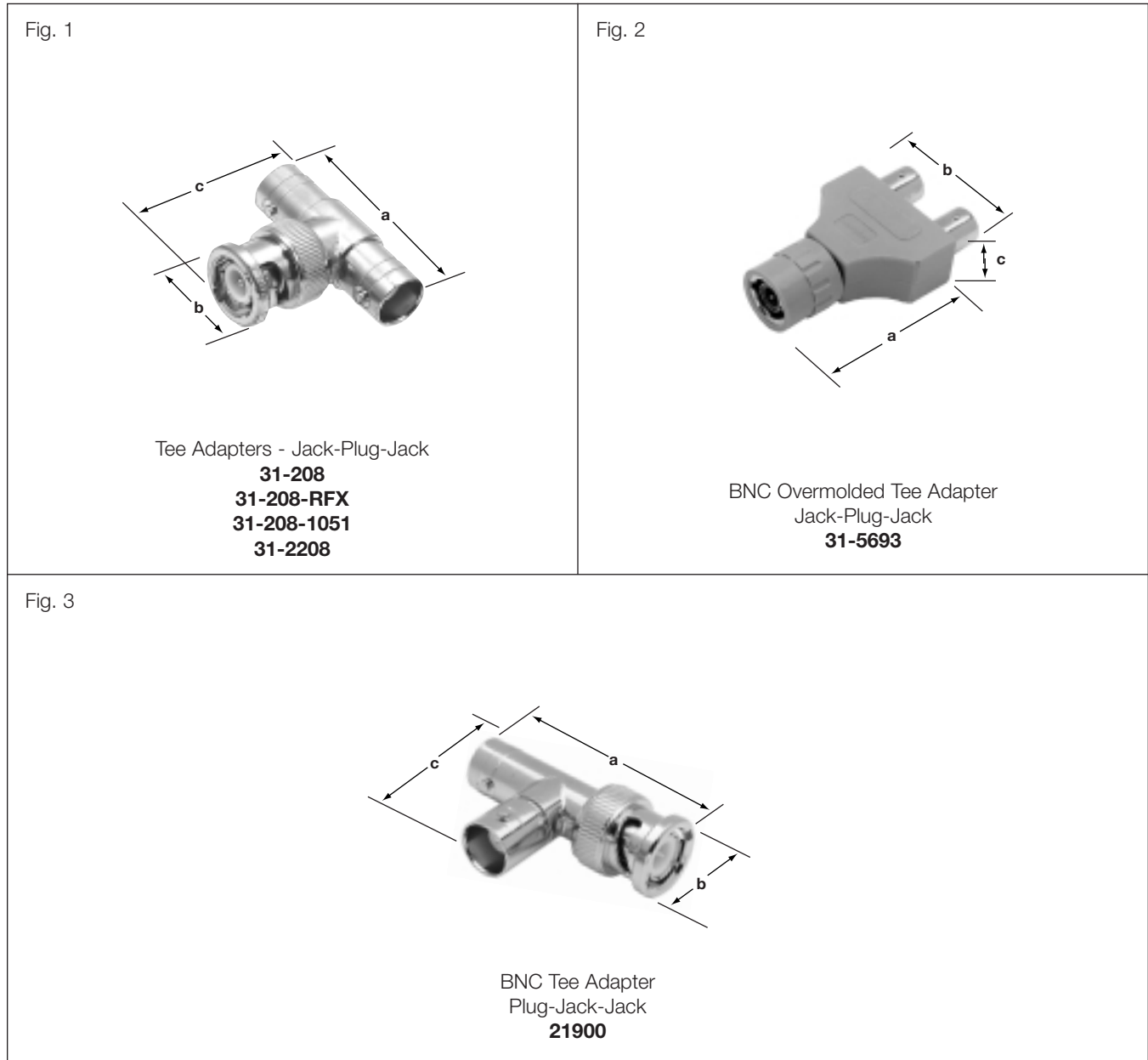
■ Also see 75 ohm BNC connectors in the following section

PLUG



JACK





BNC TEE ADAPTERS

Description		Dimensions, inches (millimeters)			Notes		Military Number	Amphenol Number	Fig.
		a	b	c	Plt.	Ins.			
Tee	Jack-Plug-Jack	1.28(32.5)	.562(14.3)	1.06(27.0)	P1	D1	UG-274A/U	31-208*	1 ▲
Tee	Jack-Plug-Jack	1.30(33.0)	.571(14.5)	1.04(26.3)	P7	D23	—	31-208-RFX	1 ▲
Tee	Jack-Plug-Jack	1.28(32.5)	.562(14.3)	1.06(27.0)	P15	D1	—	31-208-1051	1
Tee	Jack-Plug-Jack	1.28(32.5)	.562(14.3)	1.06(27.0)	P4	D1	UG-274B/U	31-2208*	1
Tee, Overmolded	Jack-Plug-Jack	1.72(43.6)	1.32(33.5)	.550(14.0)	P7	D14	—	31-5693	2 ▲
Tee	Plug-Jack-Jack	1.53(38.9)	.375(9.52)	1.00(25.4)	P1	D9	—	21900*	3

* recognized under the component program of U.L, Inc. ▲ distributor stocked