
Amphenol RF
Global RF Solutions

Frequency Range Chart

Millitary Aerospace
Electronic Warfare

Test & Measurement
High Frequency
Communication

Instrumentation

Satcom (downlink)
Test & Measurement
Police Radar
Microwave Radio Links

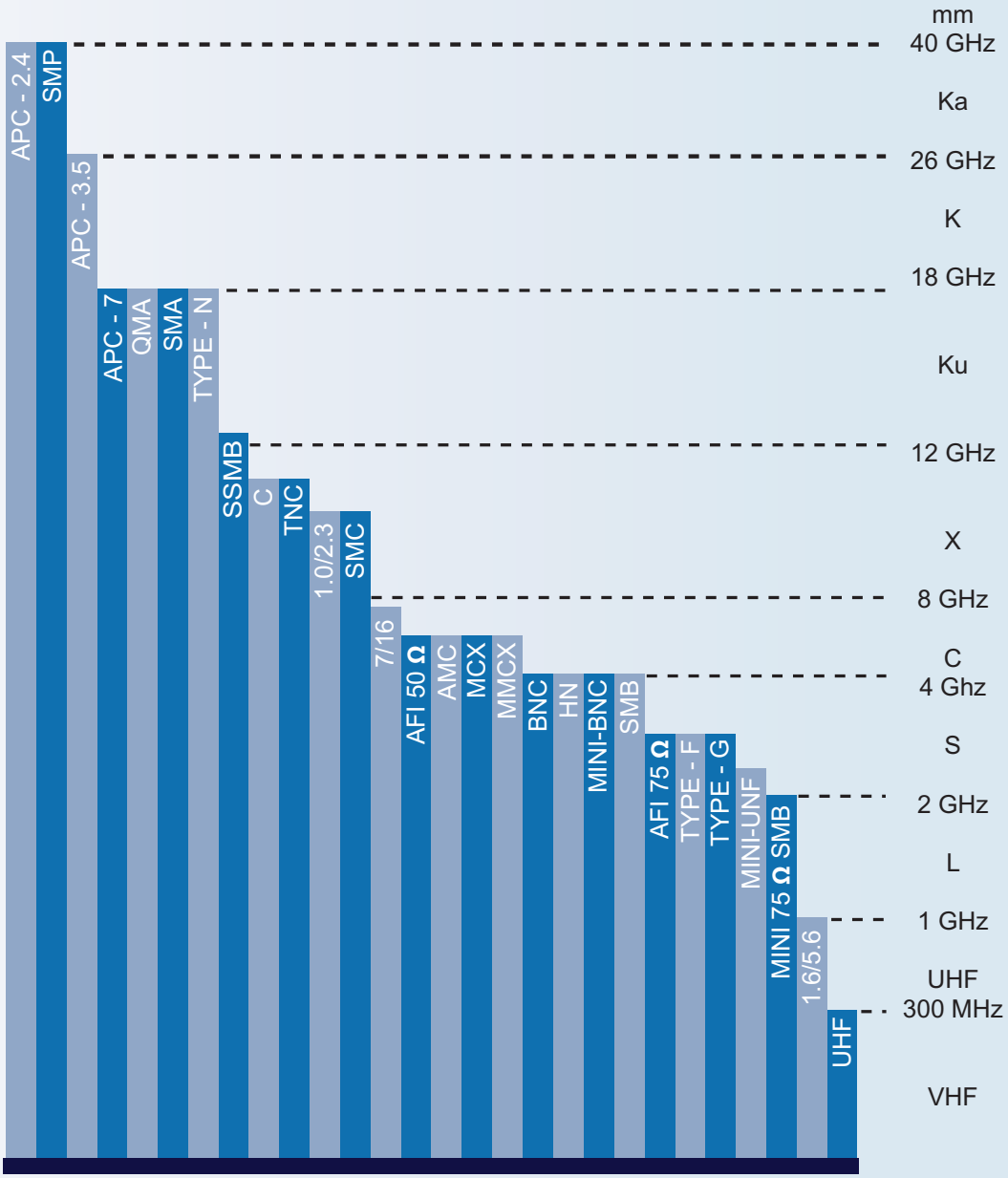
Airborne Radar
Navigation Radar
Antennas
Base Stations

Satcom (uplink)
Telecommunications
Airport Search Radar
Test & Measurement
Datacom

Cable TV
Mobile Radio
Body Scanners

Broadcast TV
LAN

Point to Point
Cable Routers
LAN



The Company

Amphenol Corporation (NYSE ticker: APH) is one of the largest manufacturers of interconnect products in the world. The Company designs, manufactures and markets electrical, electronic and fiber optic connectors, coaxial and flat-ribbon cable and interconnect systems.

Amphenol has a diversified presence as a leader in high growth segments of the interconnect market including: Military and Commercial Aerospace, Automotive, Broadband Communication, Industrial, Information Technology and Data Communications Equipment, Mobile Devices and Wireless Infrastructure.

The interconnect products and assemblies segment produces connectors and connector assemblies primarily for the communications, aerospace, industrial and automotive markets. The cable products segment produces coaxial and flat ribbon cable and related products primarily for communication markets, including cable television.

Interconnect Products and Assemblies

The Company produces a range of interconnect products and assemblies primarily for voice, video and data communication systems, commercial and military aerospace systems, automotive and mass transportation applications and industrial and factory automation equipment. Interconnect products include connectors, which when attached to an electronic or fiber-optic cable, a printed circuit board or other device, facilitate electronic or fiber-optic transmission. Interconnect assemblies generally consist of a system of cable and connectors for linking electronic and fiber-optic equipment. Amphenol designs and produces a range of connector and cable assembly products used in communication applications, such as engineered cable assemblies used in base stations for wireless communication systems and internet networking equipment; smart card acceptor devices used in mobile Global System for Mobile Communications (GSM) telephones, cable modems and other applications to facilitate reading data from smart cards; fiber-optic couplers and connectors used in fiber-optic signal transmission; input/output connectors and assemblies used for servers and data storage devices and linking personal computers (PCs) and peripheral equipment, and sculptured flex-ible circuits used for integrating printed circuit boards in communication applications. The Company also designs and produces a range of radio frequency (RF) connector products used in telecommunications, computer and office equipment, instrumentation equipment, local area networks and automotive electronics. Its RF interconnect products and assemblies are also used in base stations, mobile communication devices and other components of cellular and personal communications networks.

Table of Contents

Amphenol supplies high-performance, military-specification, circular environmental connectors. Such connectors require superior performance and reliability under conditions of stress and in hostile environments. High-performance environmental connectors and interconnect systems are generally used to interconnect electronic and fiber-optic systems in sophisticated aerospace, military, commercial and industrial equipment. These applications present demanding technological requirements in that the connectors are subject to rapid and severe temperature changes, vibration, humidity and nuclear radiation. Frequent applications of these connectors and interconnect systems include aircraft, guided missiles, radar, military vehicles, equipment for spacecraft, energy, medical instrumentation, geophysical applications and off-road construction equipment. The Company also designs and produces industrial interconnect products used in a variety of applications such as factory automation equipment, mass transportation applications including railroads and marine transportation, as well as automotive safety products, including interconnect devices and systems used in automotive airbags, pretensioner seatbelts, antilock braking systems and other onboard automotive electronic systems. In addition, Amphenol designs and produces highly engineered cable and backplane assemblies. Such assemblies are specially designed by the Company in conjunction with original equipment manufacturer (OEM) customers for specific applications, primarily for computer, wired and wireless communication systems, office equipment and aerospace applications.

Cable Products

Amphenol designs, manufactures and markets coaxial cable primarily for use in the cable television industry. It manufactures two primary types of coaxial cable, semi-flexible, which has an aluminum tubular shield, and flexible, which has one or more braided metallic shields. Semi-flexible coaxial cable is used in the trunk and feeder distribution portion of cable television systems, and flexible cable (also known as drop cable) is used primarily for hookups from the feeder cable to the cable television subscriber's residence. Flexible cable is also used in other communication applications. The Company is also a producer of flat-ribbon cable, a cable made of wires assembled side by side such that the finished cable is flat. Flat-ribbon cable is used to connect internal components in systems with space and component configuration limitations. The product is used in computer and office equipment components, as well as in a variety of telecommunication applications.

OVERVIEW

Amphenol RF Division

Amphenol is the world's largest manufacturer of RF interconnect solutions, with experience extending over half a century. Our complete range of RF interconnect solutions are used in the Automotive, Broadband, Wireless LAN/RFID, Wireless Infrastructure, Military Aerospace and Instrumentation markets. Our solutions range from connectors to cable assemblies to passive RF components, such as attenuators and RF switches.

Did you know?

UHF - Invented in the 1930's by an Amphenol engineer, E. Clark Quackenbush, for use in the radio industry.

N - Was the first coaxial connector capable of microwave performance and was invented by and named for Paul Neill of Bell Labs.

C - Invented by and named for Amphenol engineer Carl Concelman. Type C has quick connect/disconnect bayonet coupling features.

BNC - The name stands for Bayonet Neill Concelman. This series features a bayo net for mating.

TNC - The name stands for Threaded Neill Concelman. This series features screw threads for mating.

Commitment to Quality

For over 70 years, leading manufacturers of communications, consumer, industrial, automotive, military and aerospace products have relied on Amphenol to provide total interconnect solutions. Maintaining this high level of customer trust requires a total concern for complete customer satisfaction at all levels – from engineering to manufacturing to quality assurance. Since many products are custom designed to individual customer specifications, often for the harshest environments, it's critical that a teamwork approach be taken, involving the customer at all levels. It starts with the design engineers who listen closely to customer needs, combining solid analytic skills with the latest CAD tools to quickly solve problems. Amphenol RF Engineering also uses paperless design capabilities which are designed to test with 3D Mechanical Design (PRO-E), 3D Mechanical Analysis (ANSYS), and 3D High Frequency Structure Simulator Analysis (ANSOFT).

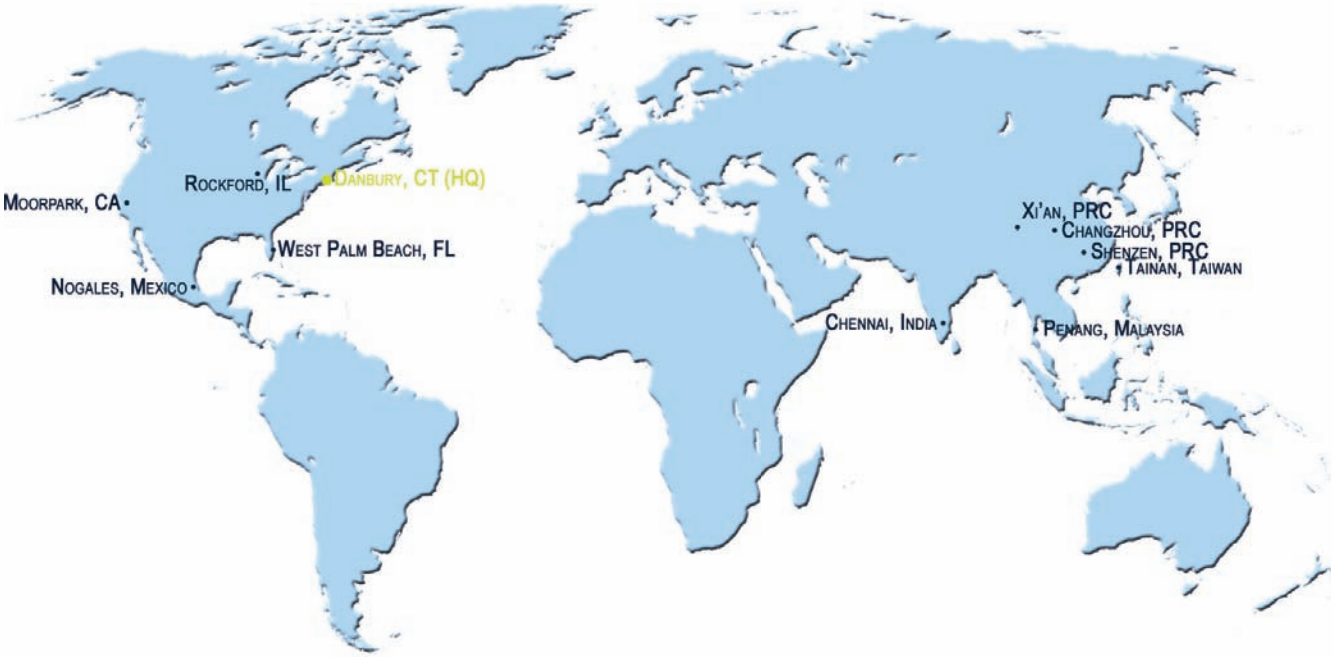
Amphenol also employs multifunctional teams to ensure that all products are designed for manufacturability. Serving the needs of our customers also requires a strong worldwide manufacturing presence. That's why we operate advanced production and assembly facilities strategically located across three continents. Yet, our quality remains exceptionally uniform and internationally standardized, from raw materials testing, through design engineering, to automated manufacturing and sub-assembly, to fully documented and traceable test procedures developed in accordance with customer specifications. Amphenol also employs Statistical Process Control and maintains quality management certifications at all sites appropriate for the product they provide. As a result, we offer precisely what every customer is looking for – world class quality with dedicated technical support at all stages. All of our Quality Management System registrations are available to view or print at www.amphenolrf.com.

Environmental Compliance

Amphenol RF is proud to be a continued world leader in improving environmental issues in the global marketplace. We are committed to meeting and exceeding the ever changing expanse of environmental compliance requirements. Amphenol works diligently with our customers on a variety of environmental protocols. As a global supplier we are committed to supporting RoHS/202/95/EC, PFOS 2006/12/EC, and REACH requirements.

Environmental compliance is paramount at Amphenol RF. Our dedicated Engineering and RoHS Quality teams work together to find solutions for our customers. From the first design stages and throughout the product realization process we communicate with our customers to incorporate the best environmental practices possible. All of our Quality Management System registrations are available for viewing and printing at www.

Global RF & Microwave Locations



Tainan, Taiwan
Date Founded: 1982

Danbury, CT USA (HQ)
Date Founded: 1957

West Palm Beach, FL USA
Date Founded: 1993

Shenzhen, China
Date Founded: 2000

Moorpark, CA USA
Date Founded: 1998

Nogales, Mexico
Date Founded: 1985

Penang, Malaysia
Date Founded: 2001

Changzhou, China
Date Founded: 1996

Xi'an, China
Date Founded: 1996

Chennai, India
Date Founded: 2008

Frequency Range
The application frequency range may limit the connector choice. Refer to the inside front cover for the Frequency Range Chart.

Cable
The cable specified may limit the connector choice. Refer to the Cable Group Legend in each product section.

Impedance
For maximum impedance matching, the connector has the same impedance as the cable. Standard connector choices are 50 ohm or 75 ohm.

Coupling Style
The application will determine the coupling mechanism preference. Basic styles: 2-Stud Bayonet, Threaded, Snap-on and Slide-on.

Performance Specifications
The application performance requirements may limit the connector choice. Criteria to consider: Voltage Rating, Dielectric Withstand Voltage, and Voltage Standing Wave Ratio (VSWR).

Connector P/N
The connector part number is located in the first column (if there is no cable group listed), or the second column (if there is a cable group listed).

Cable
The cable listed in the first column is based on the mechanical size of the military specified cable. Caution is advised when a commercial, RG Type size cable is being used since the cable dimensions may vary and result in a different size center conductor, dielectric, braiding and outer jacket of the cable. If the manufacturer's commercial cable P/N is not listed, contact Amphenol's customer service representative for the appropriate connector recommendation.

Design Considerations
Typically, the shorter the cable assembly, the more critical the connector insertion loss becomes. Typically, the longer the cable assembly, the less critical the connector insertion loss becomes. Typically, the higher the frequency, the more critical the connector insertion loss becomes. Typically, the more critical the connector insertion loss, the more critical the matched impedance of the cable and the connector becomes.

Intermodulation (IM)
Intermodulation is a phenomena that occurs when two or more fundamental frequencies are present in an electronic circuit. Passive components must eliminate or minimize nonlinearities known to generate IM. Two sources which create nonlinearities are contact junctions and ferromagnetic materials. Small separation of contact surfaces can generate microscopic arcing. The use of nickel or steel can also generate IM due to nonlinear voltage to current ratio.

OVERVIEW

AMC
Amphenol manufactures a family of Amphenol Micro Coaxial (AMC) Connectors for use in applications with 50 Ω impedance requirements. AMC connectors are low profile (2.5mm of the board) and offer an extremely small board footprint (3mm x 3mm).

SMP
The SMP interface is a subminiature interface in the same scale as MMCX connectors but offers a frequency range of DC to 40 GHz. It is commonly used in miniaturized high frequency coaxial modules and is offered in both push-on and snap-on mating styles. The interface is an excellent choice for PC board to board interconnects. For these applications, the interface series offers an interesting solution by utilizing a male connector on each of the PC boards and a female-to-female adapter mounted in between to complete the connection. The female adapter is often called a bullet and is necessary to provide a flexible link between the male connectors. This flexible link allows .020 inches of radial float and .010 inches of axial float. Typically, one male connector will be specified as a snap on interface and the other as a push on. This ensures that the bullet adapter remains fixed in the same male connector if the PC boards are separated. The bullets are available in multiple lengths to allow for different board spacing.

MMCX
Amphenol's MicroMate™ MMCX connector line is a family of products designed as the next generation 50 ohm microminiature surface mount coaxial interconnection system. Providing a more robust interface for greater durability, this series is ideal for high volume wireless SMT or PCMCIA applications in cellular base stations, cellular phones and personal communicators, global positioning systems (GPS) and wireless LAN (WLAN) applications.

MCX
To address the rapid implementation of the U.S. digital cellular PCN infrastructure, Global Positioning Systems (GPS) and Instrumentation and Wireless LAN Systems, Amphenol has optimized its MCX product offering to target these high growth market applications. The growth rate of these emerging markets has fueled an increasing demand for subminiature coaxial connectors with very good electrical performance to 6 GHz.

1.0/2.3
The 1.0/2.3 series of coaxial connectors are designed for telecommunication systems requiring a subminiature 50 ohm slide on/screw on connector. These connectors comply with the requirements of DIN41626, DIN47297, INFC 93569, INFC 93571 and CECC22230. The connectors perform DC through 10 GHz, and feature crimp cable termination for low installation cost.

SMB
SMB connectors feature quick connect/disconnect snap-on mating and are available in both 50 and 75 ohm impedance structures. For maximum space utilization, Amphenol also offers a high density 75 ohm version. This series of connectors conform to the requirements of MIL-C-39012 and the interface is in compliance with MIL-STD-348. Using highly efficient die cast molds and high speed fully-automated assembly equipment, Amphenol's SMB connector line offers a cost effective solution for digital cellular PCN, Global Positioning Systems (GPS) and wireless LAN systems needs.

Mini 75 Ω SMB
Mini 75 Ω SMB provides broadband capability through 3 GHz. Its snap-on design utilizes die cast components on non-critical areas to provide a low cost solution The Mini 75 Ω SMB offers snap fit mating for quick connect/disconnect. The reduced housing allows circuit miniaturization and efficient "real estate"

utilization. Built in accordance with requirements of Mil-C-39012, the interface is in compliance with Mil-STD 348 and is interchangeable with Industry Standard for Miniature 75 Ω SMB.

SMC

SMC connectors feature 10-32 threaded coupling with broadband performance with low reflection from DC-10 GHz. This series of connectors conforms to the requirements of MIL-C-39012 and the interface is in compliance with MIL-STD-348. These connectors are particularly suitable for use in high vibration environments.

SMA

Amphenol's 50 ohm SMA connectors are semi-precision subminiature connectors performing DC through 18 GHz. SMA connectors are primarily used where trends toward higher frequencies, miniaturization, and SMA connectors are built in accordance with MIL-C-39012 and CECC 22110/111, and are available for a variety of flexible and semi-rigid cables. Amphenol's line of brass SMA connectors provide a cost effective solution for applications where stainless steel construction is not required.

QMA

The QMA connector is a quick disconnect version of the SMA connector and shares the same internal construction, which allows the connector to have excellent performance. The electrical performance benefits of the QMA include low loss RF performance up to 18 GHz. Because of the innovative coupling mechanism, a 360-degree butt joint is maintained which results in low RF leakage. Since the RF line is identical to the SMA series, the QMA connectors also offer the same high power handling capability. This gives the series significant advantages over other quick disconnect connectors. Amphenol RF is a member of the Quick Lock Formula® Alliance. For further information on the QLF®, visit www.qlf.info.

Mini-UHF

Mini-UHF connectors are a miniature version of the original UHF connector and feature a threaded coupling mechanism for reliable mating. The mini-UHF connector is designed for use in cellular mobile telephone systems where size, weight, and cost are critical. Featuring crimp cable termination for low installation costs, these connectors provide excellent RF performance in applications through 2.5 GHz.

Type F

Amphenol has developed a variety of board level F receptacles for use on high speed modems and CIU's. These connectors utilize Amphenol's unique female contact design featuring a true cylindrical coaxial contact. As a result, superior RF performance and excellent insertion/withdrawal characteristics are achieved. We also offer designs capable of handling up to 15 amps for future set-top box applications. F receptacles are available in multiple styles including SMD versions complimenting Amphenol's line of drop F connectors and adapters.

Type G

Amphenol has developed a range of high performance G receptacles for use in today's 3 GHz amplifier and fiber optic node equipment designs. Amphenol has also developed a series of 15 amp G receptacles for HFC networks. These connectors are designed to meet the 15 amp current capability required to power loop electronics in support of enhanced telephony services being implemented by CATV MSO's and telco's.

OVERVIEW

Mini BNC

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 Ω systems. This allows 40% more interconnects in the same area.
The Mini BNC series provides a positive locking bayonet system where SMB and SMZ system have no locking feature. The SMB and SMZ were not designed to be field installed or repaired, while the Mini BNC is specifically designed to be a drop-in replacement and used with the Telco DS3 application and is compatible with the present field installer tooling and strip dimensions.

BNC

Developed in the late 1940's as a miniature version of the Type C connector, BNC stands for Bayonet Neill Concelman and is named after Amphenol engineer Carl Concelman.
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. BNC's are ideally suited for cable termination for miniature to subminiature coaxial cable (RG-58, 59, to RG-179, RG-316, etc.) Designed to accommodate a large variety of RG and industry standard cables, BNC connectors are available in crimp/crimp and field serviceable termination styles. A full line of printed circuit board receptacles, bulkhead receptacles, resistor terminations, and other accessories complement the product offering.

TNC

Amphenol TNC connectors were originally developed for aircraft and missile application where extreme vibration is a factor. TNC connectors are of miniature size like the BNC connector but feature a threaded coupling nut for application requiring performance through 11 GHz. Chosen for their durability and reliability, TNC connectors are widely used in the cellular/mobile communication industry for equipment cabling and antenna interfaces.

C

C connectors are medium size and weatherproof. Coupling is two-stud bayonet lock. C connectors provide constant 50 Ω impedance. They may be used with 75 Ω cable, at lower frequencies (below 300 MHz) where no serious mismatch is introduced.

UHF

Amphenol UHF connectors are the original radio frequency connector interface. They are general purpose units which operate satisfactorily DC to 300 MHz. Applications include citizens band radio receivers, public address systems, and a variety of other low frequency system applications where cost is a prime consideration.

Type N

Type N connectors are medium size threaded connectors for use DC through 18 GHz and feature a characteristic 50 ohm impedance structure. Applications for N connectors include base station equipment, broadcast and satellite communication systems as well as test and instrumentation equipment. Connector performance is per MIL-C-39012, with commercial grade versions available for the most popular configurations. Cable termination includes clamp styles and crimp styles, and connectors are available for the most widely used coaxial cables.

HN

HN connectors are medium size weatherproof units designed for high voltage applications. HN connectors feature captivated contact design which prevents contact recession under temperature extremes and mechanical stresses. Coupling is 3/4-20 threaded.

7/16

Amphenol's 7/16 connectors are designed for use in medium to high power communication systems. These connectors perform exceptionally well in multichannel cellular systems where power levels approximate 100 watts per channel. Designed for both flexible as well as corrugated cables, these connectors are used in a variety of cellular base station and broadcast communication applications. Amphenol's designs offer superior IMD characteristics and assembly onto corrugated cable has been greatly simplified.

MHV

MHV connectors from Amphenol RF are miniature, bayonet locking connections similar to the BNC interface but used for high voltage applications up to 5000 volts. MHV connectors offer quick-connect functionality and are used in a variety of applications where transmission of high voltage is a requirement.

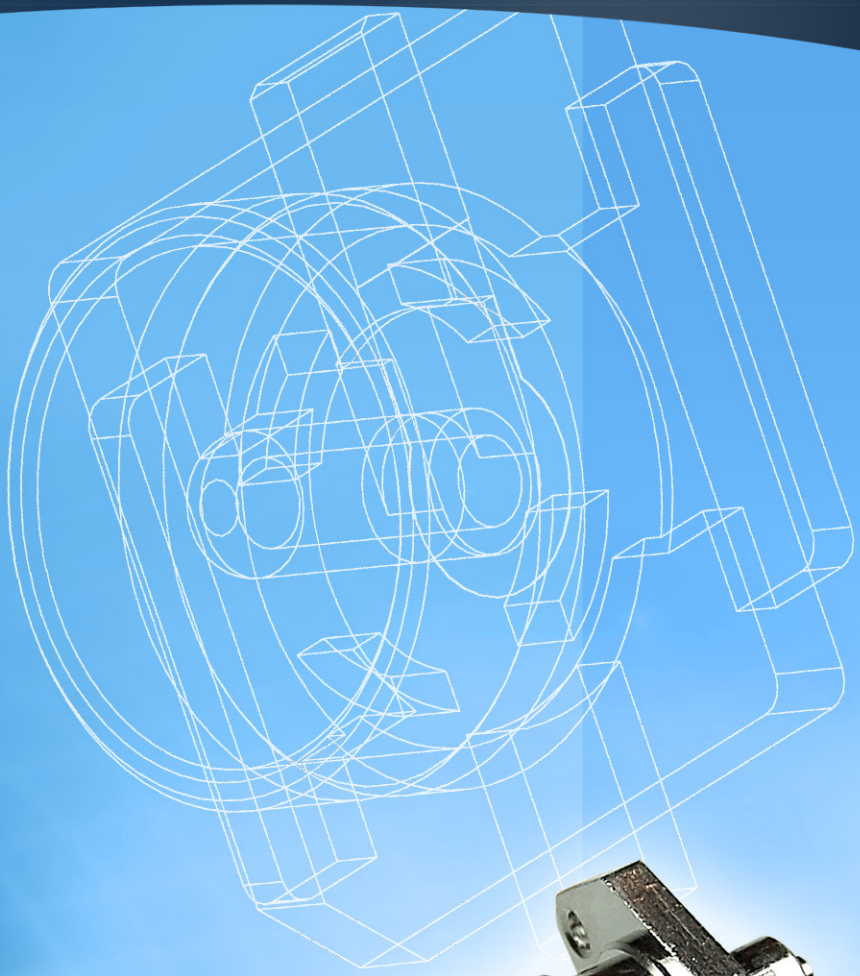
High Performance 75 Ω BNC

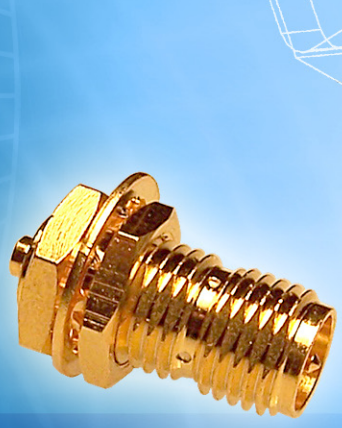
Amphenol RF's full line of True 75 Ohm BNC connectors are designed to meet the needs for higher performance, impedance-matched cable interconnections. These connectors can be used in a variety of applications where True 75 Ohm performance is needed to ensure low signal distortion. Our connectors are designed for the most popular 75 Ohm cables used in Broadcast, Telecommunications and various other RF applications. They feature crimp-crimp cable affixment compatible with major industry-standard tooling, requiring no new training for quick and reliable installation. Amphenol RF offers our True 75 Ohm BNC connectors in a variety of configurations: Straight, 45-degree and 90-degree plugs; as well as bulkhead, PCB and receptacle jacks.

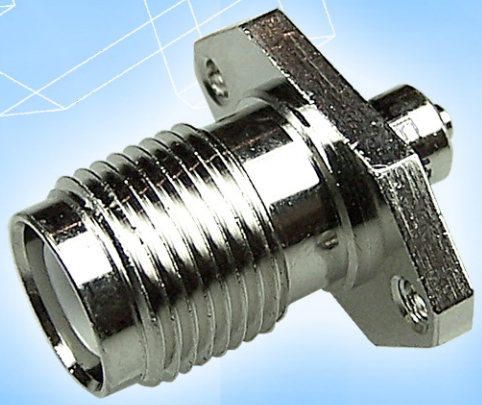
Cable Group Listing

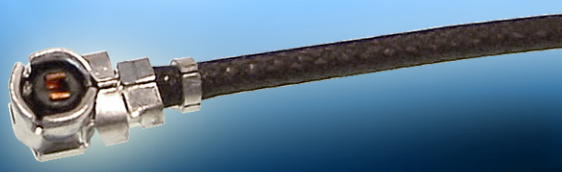
Cable Group	Cable Type
A	RG-178, 196
B	RG-174, 188A, 316, Belden 7805
B1	RG-179, 187, Belden 9221
B2	RD-188/U, RD-316/U
B3	RD-179/U, AT&T 19224L2
C	RG-58, 58A, 58C, 141, 303, LMR195, Belden 7806A, 9907
C1	RG-55, 142, 223, 400
C2	LMR200, Belden 7807A
D	RG-58/U Plenum, Thinnet, RG-122/U, Belden 88240, 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

AMC









AMC Connectors

AMC Solutions

Description

Amphenol RF manufactures a family of Amphenol Micro Coaxial (AMC) connectors and cable assemblies for use in applications with 50 Ω impedance requirements. AMC connectors are low profile (2.5 mm off the board) and offer an extremely small board footprint (3mm x 3mm).

Features/Benefits

- Easy snap-on/off mating
- Ultra low-profile (2.5mm mating height)
- Small foot print (3mm x 3mm)
- 100% Compatible with Hirose U.FI series
- Right angle plugs are pre-installed on 1.13mm, 1.32 mm or 1.37 mm coaxial cable and tested prior to shipment.

Applications

- Wireless Internet (WiFi, WiMax, EvDO/EvDV Solutions)
- Wireless Infrastructure (Cellular Base Stations)
- RFID
- Bluetooth
- Inventory/Barcode Scanners
- Handheld Devices

AMC Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC - 6 GHz
VSWR	1.3 max. @ DC - 3 GHz 1.4 max. @ 3 - 6 GHz
Contact resistance	center contact: ≤ 20 mΩ outer contact: ≤ 10 mΩ
Mechanical	
Mating	Snap-on coupling
Attachment method (inner / outer)	n/a
Center conductor cable affixment	n/a
Center contact retention force	0.15 N
Durability (matings)	30 cycles minimum
Environmental	
Temperature range	-40°C to +90°C
Material	
Body and outer contacts	Phosphor bronze, silver plated 0.08u min.
Male contact	Brass, gold plated 0.2u min.
Female contact	Phosphor bronze, gold plated 0.2u min.
Insulator	PBT or LCP
Cable jacket and dielectric	FEP

Custom Right Angle Plug Jumpers also available! For your convenience, please use the numbering system below to create your own part number:

A-1PAVWWW-XXXYZ

A: Series Name (A=AMC)

1PA: Plug

V: Connector Orientation
- (dash) – Both the Same Direction
- C – 90 deg. Clockwise Offset
- F – 180 deg. Offset
- R – 270 deg. Offset

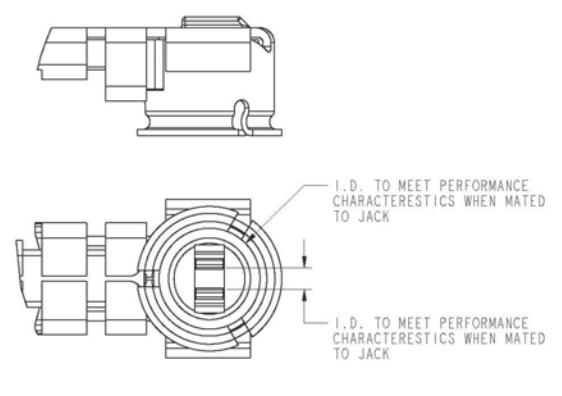
WWW: Cable diameter (OD)
- 113 – 1.13mm
- 132 – 1.32mm (double shielded)
- 137 – 1.37mm

XXX: Cable length in mm

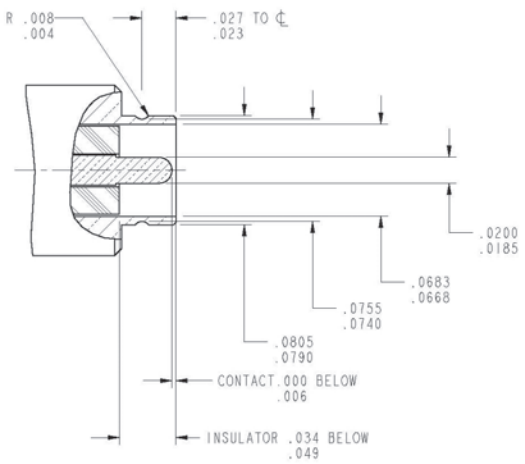
Y: Cable color:
- G – gray
- B – black
- W – white

Z: Number of terminated ends:
- 1
- 2

Plug


I.D. TO MEET PERFORMANCE CHARACTERESTICS WHEN MATED TO JACK
I.D. TO MEET PERFORMANCE CHARACTERESTICS WHEN MATED TO JACK

Jack


R .008
.004
.027 TO ℄
.023
.0200
.0185
.0683
.0668
.0755
.0740
.0805
.0790
CONTACT .000 BELOW
.006
INSULATOR .034 BELOW
.049

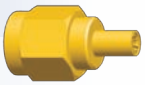
Cable Plugs

Cable Group	Part Number	Plating: Body	Plating: Contact	Insulator	Cable Length (mm)	Color
P2	A-1PA-113-300B2	Silver	Gold	PBT	300	Black
P2	A-1PA-113-100G2	Silver	Gold	PBT	100	Gray
P2	A-1PA-113-125W2	Silver	Gold	PBT	125	White
P2	A-1PA-113-150B2	Silver	Gold	PBT	150	Black
P2	A-1PA-113-180B2	Silver	Gold	PBT	180	Black
P3	A-1PA-132-100B2	Silver	Gold	PBT	100	Black
P3	A-1PA-132-125G2	Silver	Gold	PBT	125	Gray
P3	A-1PA-132-150W2	Silver	Gold	PBT	150	White
P3	A-1PA-132-180B2	Silver	Gold	PBT	180	Black
P3	A-1PA-132-300G2	Silver	Gold	PBT	300	Gray
P4	A-1PA-137-100W2	Silver	Gold	PBT	100	White
P4	A-1PA-137-125B2	Silver	Gold	PBT	125	Black
P4	A-1PA-137-150G2	Silver	Gold	PBT	150	Gray
P4	A-1PA-137-180W2	Silver	Gold	PBT	180	White
P4	A-1PA-137-300B2	Silver	Gold	PBT	300	Black

Printed Circuit Board Jacks

Part Number	Plating: Body	Plating: Contact	Insulator	Packaging
A-1JB	Silver	Gold	LCP	Tape & Reel, 2500 pieces per reel
A-1JB-100	Silver	Gold	LCP	Tape & Reel, 100 pieces on a strip
A-1JB-250	Silver	Gold	LCP	Tape & Reel, 250 pieces on a strip
A-1JB-500	Silver	Gold	LCP	Tape & Reel, 500 pieces on a strip

Cable Adapters



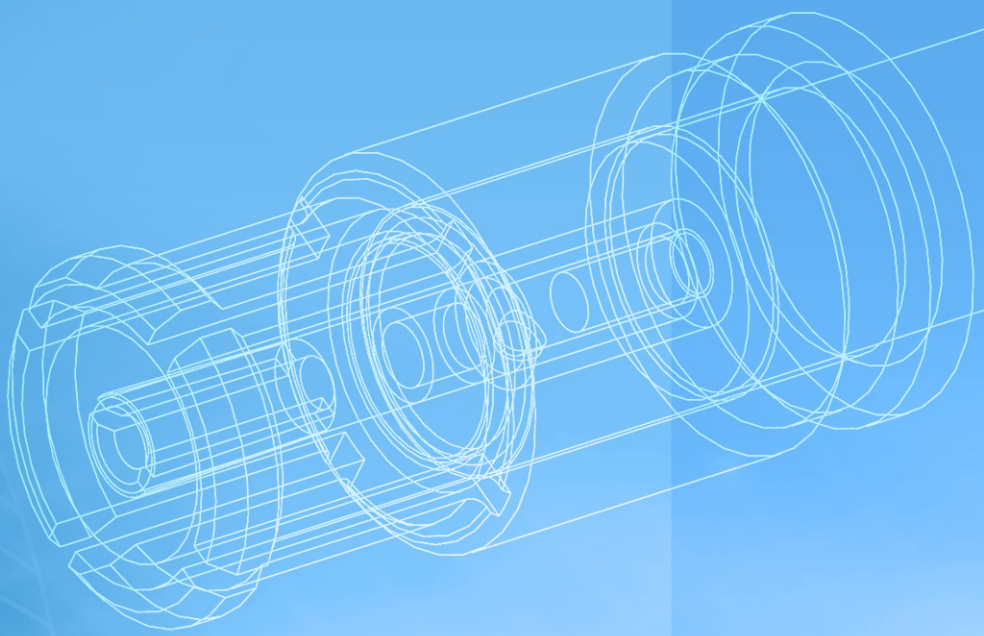
Series	Cable Group	Part Number	Plating: Body	Plating: Contact	Insulator	Description
SMA	P2	901-10107	Gold	Gold	PTFE	Straight Plug
MMCX	P2	908-43001	Gold	Gold	PTFE	Right Angle Plug
MMCX	P2	908-41000	Gold	Gold	PTFE	Straight Plug
SMA	P2	901-10129	Gold	Gold	PTFE	Straight Bulkhead Jack, Reverse Polarity
SMA	P2	901-10119	Gold	Gold	PTFE	Straight Bulkhead Jack

Cable Group Listing

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

Cable Group Listing

SMP



SMP Connectors

SMP Connectors

Description

Amphenol RF offers a solution for high frequency, high data rate applications in the SMP line of RF connectors. SMP connectors provide microwave performance and offer a push-on, high performing microwave interconnect system.

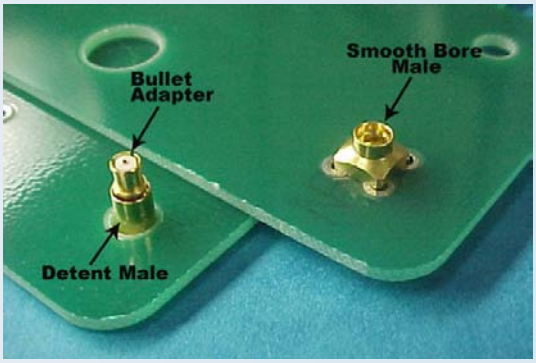
The available detent systems, full and limited, provide respective levels of engagement/ disengagement forces. This family of interconnects addresses all package design needs. Outside of microwave performance it can be utilized as a highly shielded interconnect for high data rate applications or in a board-to-board blind mate application using a floating bullet. This floating bullet provides a link between mated pairs compensating for both radial and axial mis-alignment. Available in a cable-to-board mated pair, the plug side can be provided in either right angle or straight with termination capability to either 0.047", 0.086", semi-rigid or conformable coax. The receptacles are designed for surface-mount termination (SMT) or through hole, end launch for board edge or vertical mount. Other configurations are available. Consult factory for price and lead time.

Features/Benefits

- Smaller Package Size
- Higher Frequency Range
- Compensate for Radial and Axial Misalignment

Applications

- Military/Aerospace
- Board-to-Board Interconnect
- Blind Mate
- Broadband
- Instrumentation
- Optical Nodes
- Phased Array Antennas
- Routers
- Telecom

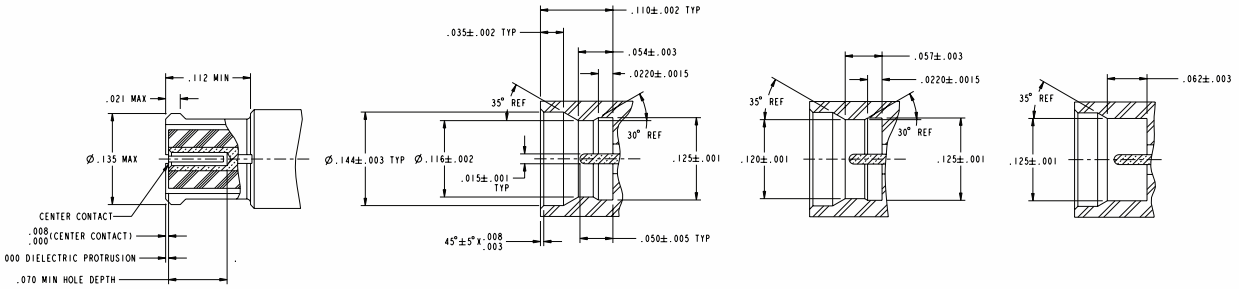


A floating bullet used between two PCB-mounted connectors

SMP Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC -26.5 GHz extended performance to 40 GHz
VSWR	1.2 max DC-18 GHz 1.3 max 18 - 26.5 GHz 1.7 max 26.5 - 40 GHz
Voltage rating (at sea level)	≥ 500 Vrms (depending on cable)
Contact resistance	center contact: ≤ 6 mΩ outer contact: ≤ 2 mΩ
Insulation resistance	5,000 MΩ minimum
Mechanical	
Mating	MIL-STD-348
Engagement force	≤ 15.0 lbs (40N)
Disengagement force	≥ 0.5 lbs (2N)
Durability (matings)	100 cycles minimum
Environmental	
Temperature range	-65°C to +165°C
Thermal shock	MIL-STD-202, method 107, cond. C
Vibration	MIL-STD-202, method 204, cond. B
Mechanical shock	MIL-STD-202, method 213, cond. B
Humidity	MIL-STD-202, method 106, cond. D
Material	
Outer contacts	Brass, gold plated
Male contact	Brass, gold plated
Female contact	Beryllium copper center, gold plated
Crimp ferrule	Copper
Insulator	PTFE or PEEK

Plug **Jack (full detent)** **Jack (limited detent)** **Jack (smooth bore)**

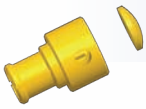


Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating			Termination	
		Body	Contact	Insulator	Body	Contact
L2	SMP-FS-C07	Gold	Gold	PTFE	Solder	Solder
L4	SMP-FS-C06	Gold	Gold	PTFE	Solder	Solder

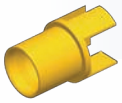
Angle Plugs



Cable Group	Part Number	Plating			Termination	
		Body	Contact	Insulator	Body	Contact
L2	SMP-FR-C07	Gold	Gold	PTFE	Solder	Solder
L4	SMP-FR-C06	Gold	Gold	PTFE	Solder	Solder

Printed Circuit Board Connectors

Edge Mount Jacks



Part Number	Plating		Insulator	Detent Style
	Body	Contact		
SMP-MSFD-PCE	Gold	Gold	PTFE	Full

Thru-Hole Jacks

Part Number	Plating		Insulator	Detent Style
	Body	Contact		
SMP-MSLD-PCT	Gold	Gold	Peek or LCP	Limited
SMP-MSSB-PCT	Gold	Gold	Peek or LCP	Smooth Bore

Surface Mount Jacks (Right Angle Contact Pin)

Part Number	Plating		Insulator	Detent Style
	Body	Contact		
SMP-MSLD-PCR	Gold	Gold	Peek or LCP	Limited
SMP-MSSB-PCR	Gold	Gold	Peek or LCP	Smooth Bore
SMP-MSSB-PCS	Gold	Gold	Peek or LCP	Smooth Bore

Female-to-Female Bullet Adapters

Part Number	Length (mm)	Plating		Insulator
		Body	Contact	
SMP-FSBA-224	2.24	Gold	Gold	PTFE
SMP-FSBA-645	6.45	Gold	Gold	PTFE
SMP-FSBA-990	9.9	Gold	Gold	PTFE
SMP-FSBA-145	14.5	Gold	Gold	PTFE

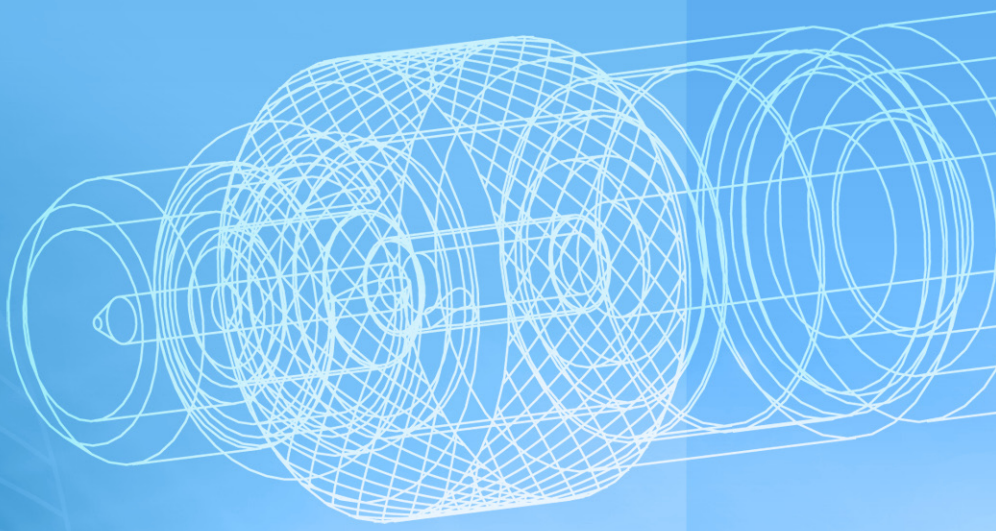
Notes

Cable Group Listing

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

Cable Group Listing

MMCX



MMCX Connectors

Micro-Mate™ (MMCX) Connectors

Description

MMCX (also called MicroMate™), is a micro-miniature connector series with a snap-lock mechanism allowing for 360 degrees rotation enabling flexibility in PCB layouts. MMCX connectors conform to the European CECC 22000 specification. The MicroMate Family of products is a 6 GHz 50 Ω interconnect system. A range of connectors is available including surface mount, edge card, and cable connectors.

Features/Benefits

- Broadband performance with low reflection DC to 6 GHz
- Quick connect/disconnect snap-on mating reduces installation time
- Conforms to European CECC 22000 specifications
- Available in straight and right angle plugs and printed circuit board connectors

Applications

- Antennas
- Cable Assemblies
- Instrumentation
- Satcom
- Base Stations
- Components
- PCMCIA Cards
- Telecom
- Broadband Communications
- GPS
- Radio Boards

MMCX Specifications

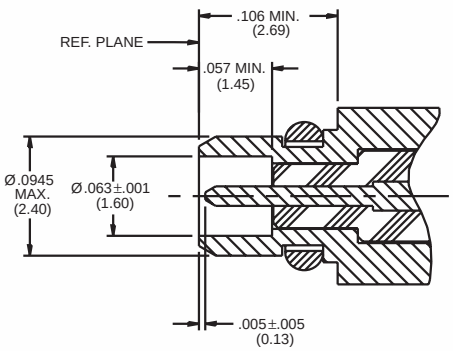
Electrical		CECC 22000
Impedance	50 Ω	
Frequency range	DC - 6 GHz	
VSWR	1.15 max. @ DC - 4 GHz 1.40 max. @ 4 - 6 GHz	4.4.1
RF-leakage	60 dB minimum 1 GHz (flexible cable) 70 dB minimum 1 GHz (semi-rigid cable)	4.4.8
Voltage rating (at sea level)	≤ 170 Vrms (depending on cable)	
Contact resistance	center contact: ≤ 10 mΩ	4.4.2
	outer contact: ≤ 5 mΩ	4.4.3
Insulation resistance	1,000 MΩ minimum	4.4.4
Dielectric withstanding voltage	500 Vrms (at sea level)	4.4.5

Mechanical		
Mating	Snap-on coupling	
Contact Captivation	2.3 lbs	4.5.2
Engagement force	≤ 3.4 lbs (15N)	4.5.4
Disengagement force	≥ 1.4 lbs (6N)	4.5.4
Durability (matings)	500 cycles minimum	4.7.1

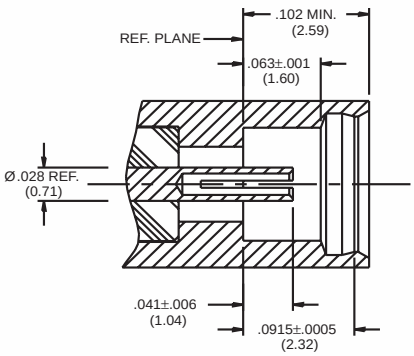
Environmental		
Temperature range	-55°C to +155°C	4.6.5
Thermal shock	MIL-STD-202, method 107, cond. F	4.6.7
Moisture resistance	MIL-STD-202, method 106	4.6.6
Corrosion	MIL-STD-202, method 101, cond. B	4.6.10
Vibration	3 cycles, 3 opposite directions, 10 - 150 Hz, 10 - 60 Hz: 0.75mm / 0.03 in., 60 - 150 Hz: 10 G	4.6.3
Mechanical shock	MIL-STD-202, method 213, cond. B	4.6.4
Humidity	MIL-STD-202, method 103, cond. B	4.6.6

Material	
Body and outer contacts	Brass, nickel or gold plated
Male contact	Brass, gold plated
Female contact	Beryllium copper or phosphor bronze, gold plated
Crimp ferrule	Copper or brass, nickel plated
Insulator	LCP, PTFE or PFA

Plug



Jack



Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating Body and Contact	Termination Body	Termination Contact
A	908-41200	Gold	Crimp	Solder
B	908-41300	Gold	Crimp	Solder
B2	908-41500	Gold	Crimp	Solder
L2	908-41400	Gold	Solder	Solder
L4	908-41600	Gold	Solder	Solder

Angle Plugs

Cable Group	Part Number	Plating Body and Contact	Termination Body	Termination Contact
A	908-43200	Gold	Crimp	Solder
B	908-43300	Gold	Crimp	Solder
B2	908-43500	Gold	Crimp	Solder
L2	908-43400	Gold	Solder	Solder
L4	908-43600	Gold	Solder	Solder

Straight Jacks

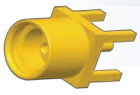
Cable Group	Part Number	Plating Body and Contact	Termination Body	Termination Contact
B	908-42300	Gold	Crimp	Solder
B2	908-42500	Gold	Crimp	Solder

Printed Circuit Board Connectors

Straight Plugs

Part Number	Plating Body and Contact	Description
908-21103	Gold	Thru-Hole

Straight Jacks

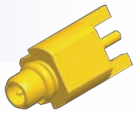


Part Number	Plating Body and Contact	Description
908-22106	Gold	Thru-Hole
908-22109	Gold	Surface Mount

Angle Jacks

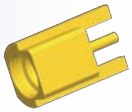
Part Number	Plating Body and Contact	Description
908-24100	Gold	Thru-Hole

Edge Mount Plugs



Part Number	Plating Body and Contact	Description
908-21100	Gold	
908-21100T	Gold	Tape & Reel, 1500 per reel
908-21102	Gold	Offset

Edge Mount Jacks



Part Number	Plating Body and Contact	Description
908-22100	Gold	
908-22100T	Gold	Tape & Reel, 1500 per reel
908-22103	Gold	Offset

Surface Mount Jacks

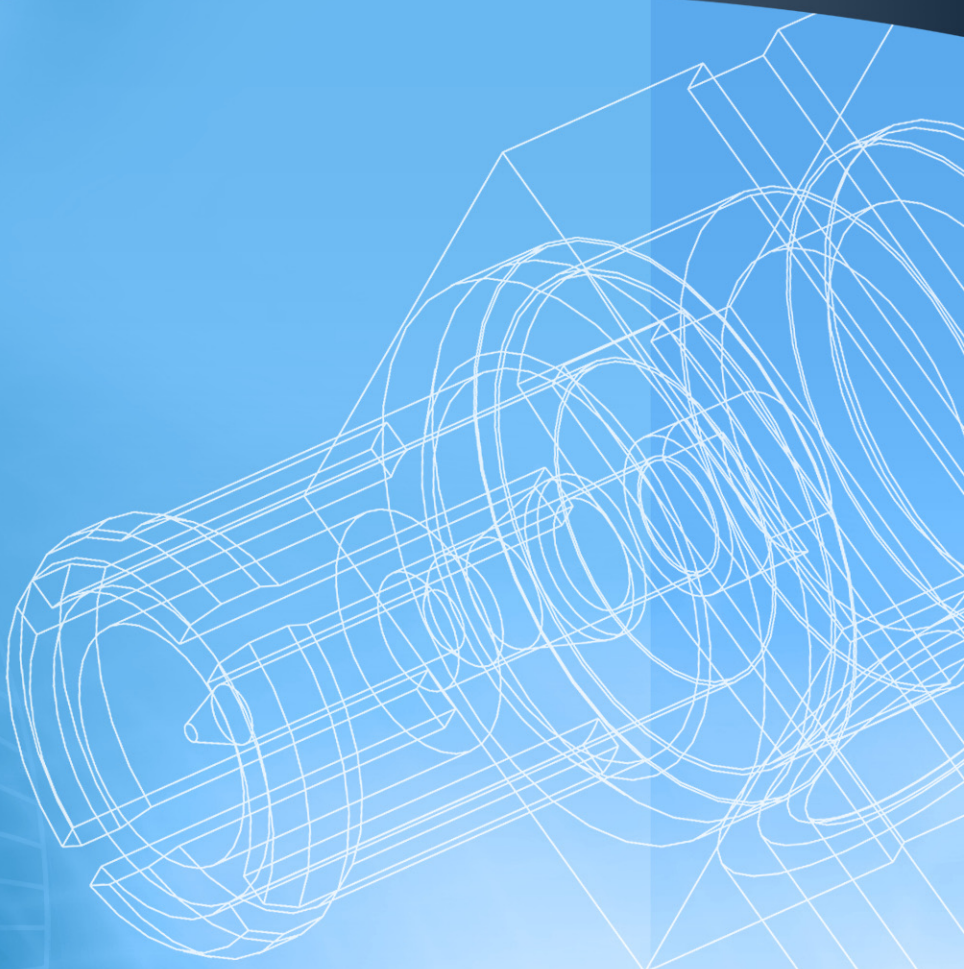
Part Number	Plating Body and Contact	Insulator	Cap	Description
908-22101	Gold	LCP	-	Single Packed
908-22101B	Gold	LCP	-	Bulk Packed, 100 per bag
908-22101T	Gold	LCP	-	Tape & Reel, 1500 per reel
908-22101-TC	Gold	LCP	LCP	Tape & Reel, 1500 per reel

Cable Group Listing

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

Cable Group Listing

MCX



MCX Connectors

MCX Connectors

Description

MCX connectors conform to the European CECC 22000 spec and were introduced in the 1980's. While the MCX uses identical inner contact and insulator dimensions as the SMB, the outer diameter of the plug is .140 inches, which is 30% smaller than the SMB. This series provides designers with options where weight and physical space are limited. MCX provides broadband capability though 6 GHz with a snap-on connector design. A range of connectors are available, including printed circuit board and cable connectors and they are all used in the Automotive, Wireless LAN, Broadband and Wireless Infrastructure markets.

Features/Benefits

- Broadband performance with low reflection DC to 6 GHz
- Quick connect/disconnect snap-on mating reduces installation time
- Accommodates a wide range of miniature RG flexible semi-rigid coaxial cables

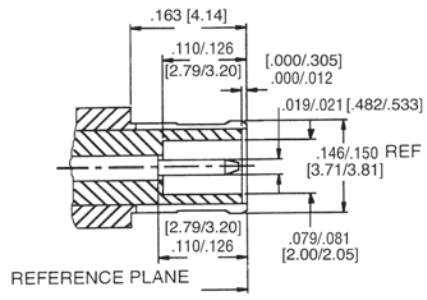
Applications

- Base Stations
- Components
- GPS
- Head End Equipment
- Instrumentation
- PC/LAN
- Radios
- Telecom
- Wireless Network Antennas

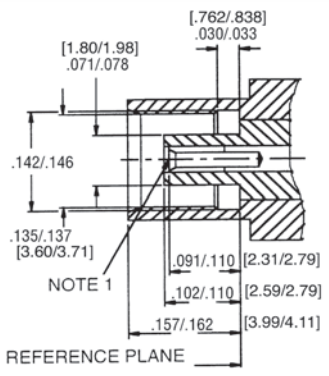
50 Ω MCX Specifications

Electrical		CECC 22000
Impedance	50 Ω	
Frequency range	DC - 6 GHz	
VSWR	1.06 max. DC - 2.5 GHz (straight) 1.1 max. DC - 2.5 GHz (right-angle)	
RF-leakage	60 dB minimum @ 1 GHz (flexible cable) 70 dB minimum @ 1 GHz (semi-rigid cable)	4.4.8
Voltage rating (at sea level)	≥ 335 Vrms (depending on cable)	
Contact resistance	center contact: ≤ 5 mΩ outer contact: ≤ 2.5 mΩ	4.4.2 4.4.3
Insulation resistance	10,000 MΩ minimum	4.4.4
Insertion loss maximum	0.10 dB @ 1 GHz	
Dielectric withstanding voltage	1,000 Vrms (at sea level)	4.4.5
Mechanical		
Mating	Snap-on coupling per CECC 22220	
Braid/Jacket cable affixment	Hex crimp	
Center conductor cable affixment	Solder	
Captivated contacts	All, unless noted otherwise	
Contact Captivation	≥ 2.3 lbs (10N)	4.5.2
Engagement force	≤ 5.6 lbs (25N)	4.5.1
Disengagement force	≥ 2.3 lbs (10N)	4.5.1
Durability (matings)	500 cycles minimum	4.7.1
Environmental		
Temperature range	-55°C to +155°C	
Thermal shock	MIL-STD-202, method 107, cond. F	4.6.7
Moisture resistance	MIL-STD-202, method 106	4.6.6
Corrosion	MIL-STD-202, method 101, cond. B	4.6.10
Vibration	MIL-STD-202, method 204, cond. D	4.6.3
Mechanical shock	MIL-STD-202, method 213, cond. B	
Material		
Male contact	Brass, gold plated	
Female contact	Beryllium copper, gold plated	
Crimp ferrule	Copper or brass, nickel plated	
Other metal parts	Brass, nickel or gold plated	
Insulator	PTFE	

Plug



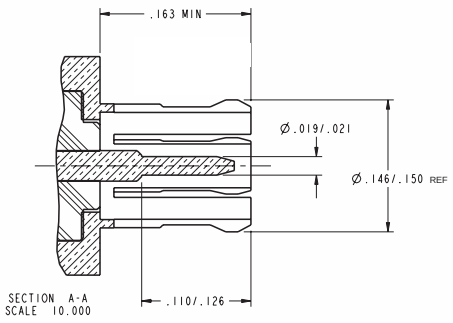
Jack



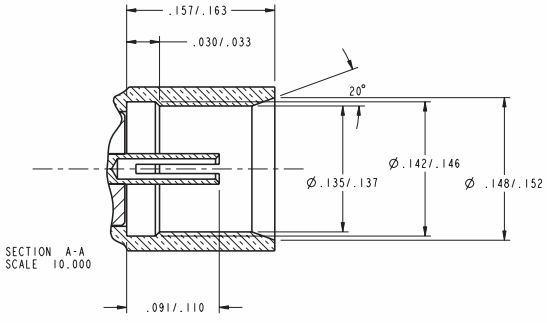
75 Ω MCX Specifications

Electrical		CECC 22000
Impedance	75 Ω	
Frequency range	DC - 6 GHz	
VSWR	1.06 max. @ DC - 2.5 GHz (straight) 1.1 max. @ DC - 2.5 GHz (right-angle)	
RF-leakage	60 dB minimum @ 1 GHz (flexible cable) 70 dB minimum @ 1 GHz (semi-rigid cable)	4.4.8
Voltage rating (at sea level)	≥ 170 Vrms (depending on cable)	
Contact resistance	center contact: ≤ 5 mΩ outer contact: ≤ 2.5 mΩ	4.4.2 4.4.3
Insulation resistance	10,000 MΩ minimum	4.4.4
Insertion loss maximum	0.10 dB @ 1 GHz	
Dielectric withstanding voltage	500 Vrms (at sea level)	4.4.5
Mechanical		
Mating	Snap-on coupling per CECC 22220	
Braid/Jacket cable affixment	Hex crimp	
Center conductor cable affixment	Solder	
Contact Captivation	≥ 2.3 lbs (10N)	4.5.2
Engagement force	≤ 5.6 lbs (25N)	4.5.1
Disengagement force	≥ 1.8 lbs (8N)	4.5.1
Durability (matings)	500 cycles minimum	4.7.1
Environmental		
Temperature range	-55°C to +165°C	
Thermal shock	MIL-STD-202, method 107, cond. F	4.6.7
Moisture resistance	MIL-STD-202, method 106	4.6.6
Corrosion	MIL-STD-202, method 101, cond. B	4.6.10
Vibration	MIL-STD-202, method 204, cond. D	4.6.3
Mechanical shock	MIL-STD-202, method 213, cond. B	
Material		
Male contact	Brass, gold plated	
Female contact	Beryllium copper, gold plated	
Crimp ferrule	Copper or brass, nickel plated	
Other metal parts	Brass, nickel or gold plated	
Insulator	PTFE	
Gasket	Silicone rubber	

Plug



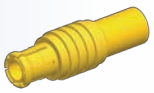
Jack



50Ω Cable Connectors

Straight Plugs

		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
A	919-121P-51SX	Gold	Gold	Solder	Crimp
B	919-101P-51SX	Gold	Gold	Crimp	Crimp
B	919-101P-51S1X	Nickel	Gold	Solder	Crimp
B2	919-130P-51SX	Gold	Gold	Crimp	Crimp
L2	919-120P-51SX	Gold	Gold	Solder	Solder



Angle Plugs

		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
A	919-122P-51AX	Gold	Gold	Crimp	Crimp
B	919-104P-51AX	Gold	Gold	Crimp	Solder
B	919-104P-51A1X	Nickel	Gold	Crimp	Solder
L	919-103P-51AX	Gold	Gold	Solder	Solder
L2	919-102P-51AX	Gold	Gold	Solder	Solder

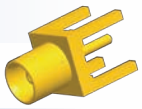
Straight Jacks

		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
A	919-131J-51SX	Gold	Gold	Crimp	Solder
B	919-107J-51SX	Gold	Gold	Crimp	Solder
B	919-107J-51S1X	Nickel	Gold	Crimp	Solder
B2	919-129J-51SX	Gold	Gold	Crimp	Solder
L2	919-114J-51SX	Gold	Gold	Solder	Solder

50Ω Printed Circuit Board Connectors

Straight Jacks

	Plating		
Part Number	Body	Contact	Description
919-109J-51PX	Gold	Gold	Blunt Post Terminal



Angle Jacks

	Plating		
Part Number	Body	Contact	Description
919-119J-51AX	Gold	Gold	Blunt Post Terminal

Surface Mount Jacks

	Plating		Description
Part Number	Body	Contact	
919-118J-51P	Gold	Gold	
919-118J-519T	Gold	Gold	Tape & Reel- 75 Pieces

75Ω Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B1	919-137P-71SX	Gold	Gold	Crimp	Solder
B3	919-137P-71S2X	Gold	Gold	Crimp	Solder

Angle Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B1	919-136P-71AX	Gold	Gold	Crimp	Solder
B3	919-136P-71A2X	Gold	Gold	Crimp	Solder

75Ω Printed Circuit Board Connectors

Surface Mount Jacks

Part Number	Plating		Description
	Body	Contact	
919-132J-71P	Gold	Gold	
919-132J071PT	Gold	Gold	Tape & Reel, 75 Pieces

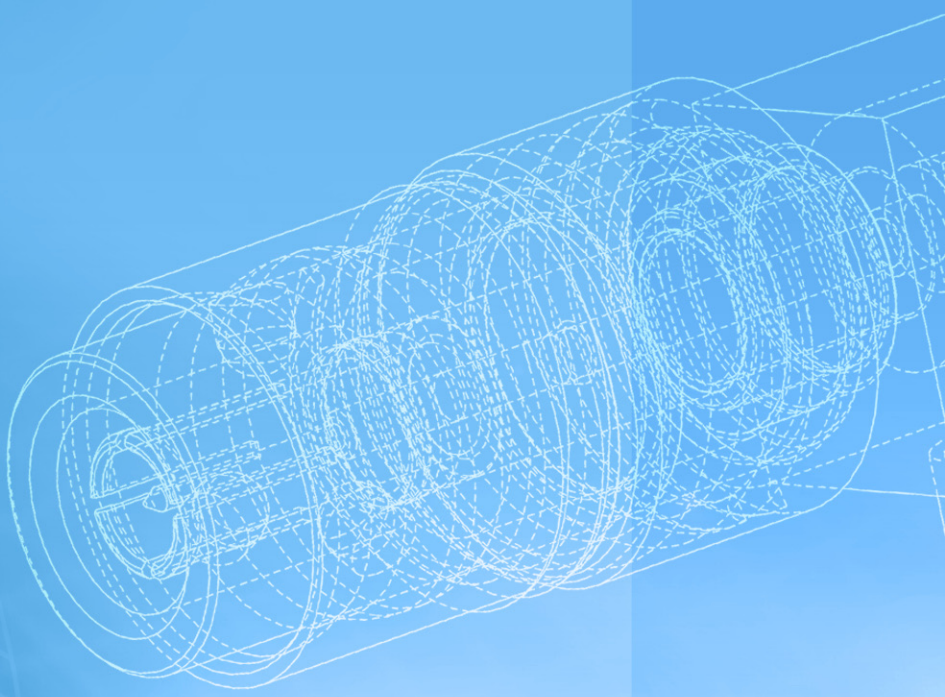
Notes

Cable Group Listing

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

Cable Group Listing

1.0/2.3



1.0/2.3 Connectors

1.0/2.3 Connector Series

Description

The compact European design of the 1.0/2.3 series permits dense connector packing; they are ideally suited to applications where space limitation is a factor. Versions are available with threaded coupling mechanisms which provide positive mating or a unique push-pull coupling system which allows quick installation. The Amphenol push-pull process is patented and ensures positive locking.

Amphenol 1.0/2.3 coaxial connectors are 50 Ω units operating from DC-10 GHz. This series complies with DIN 41626, DIN 47297, and NFC 93-571 international specifications.

Features/Benefits

- Push-pull coupling with patented locking mechanism allows quick installation.
- Push-pull offers safe coupling.
- Locking mechanism will not vibrate loose as threaded connectors are prone to do.
- Push-pull connectors can be more densely packed saving panel space in components that are shrinking in size.

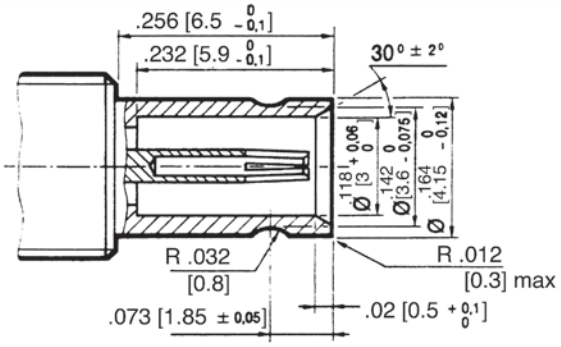
Applications

- Amplifiers
- Base Stations
- Cable Assemblies
- Components
- Filters
- Routers
- Switching Equipment
- Telecom

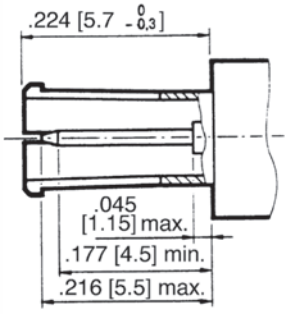
1.0/2.3 Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC - 10 GHz
VSWR	1.06 max. @ DC - 1 GHz 1.13 max. @ 1 - 4 GHz 1.22 max. @ 4 - 10 GHz
Voltage rating (at sea level)	≥ 250 Vrms (depending on cable)
Contact resistance	center contact: ≤ 10 mΩ outer contact: ≤ 3 mΩ
Insulation resistance	10,000 MΩ minimum
Mechanical	
Mating	Slide-on, push-pull, threaded
Attachment method (inner / outer)	Crimp, clamp
Braid/Jacket cable affixment	Hex crimp
Center conductor cable affixment	Crimp or solder
Engagement force	≤ 2.3 lbs (10N)
Disengagement force	≥ 2.3 lbs (10N)
Durability (matings)	500 cycles minimum
Environmental	
Temperature range	-40°C to +155°C
Material	
Body and outer contacts	Brass and beryllium copper, nickel and gold plated
Male contact	Brass, gold plated
Female contact	Beryllium copper center and outer, gold plated
Crimp ferrule	Copper or brass
Insulator	PTFE

Plug



Jack



Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B	102-799-16	Nickel	Gold	Crimp	Solder
B	102-920-06	Gold	Gold	Crimp	Solder
B2	102-799-16DB	Nickel	Gold	Crimp	Crimp
C	102-799-04	Nickel	Gold	Crimp	Solder
C1	102-799-04DB	Nickel	Gold	Crimp	Solder
C2	102-799-20	Nickel	Gold	Crimp	Solder
L	102-799-41	Nickel	Gold	Solder	Solder
L2	102-799-85	Nickel	Gold	Solder	Solder
G2	102-799-48	Nickel	Gold	Crimp	Solder

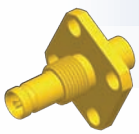
Angle Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B	102-799-116	Nickel	Gold	Crimp	Solder
B2	102-799-116DB	Nickel	Gold	Crimp	Solder
C	102-799-104	Nickel	Gold	Crimp	Solder
C1	102-799-104DB	Nickel	Gold	Crimp	Solder
L	102-799-141	Nickel	Gold	Crimp	Solder
L2	102-799-185	Nickel	Gold	Crimp	Solder

Straight Bulkhead Jacks

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
L	102-246-41	Gold	Gold	Solder	Solder
L2	102-246-85	Gold	Gold	Solder	Solder
P3	102-913-07	Gold	Gold	Crimp	Solder
B	102-913-06	Gold	Gold	Crimp	Solder
B2	102-913-06DB	Gold	Gold	Crimp	Solder

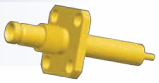
Straight Panel Jacks (4-Hole Flange)



Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
L	102-243-41	Gold	Gold	Solder	Solder

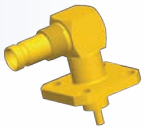
Receptacles

Straight Panel Jacks: 4-Hole Flange (Blunt Post Terminal)



Part Number	Plating: Body	Plating: Contact	Dielectric Length	Center Conductor Length
102-233-01	Gold	Gold	0.590” (14.99mm) behind flange	0.705” (17.91mm) behind flange
102-233-10	Gold	Gold	0.240” (6.10mm) behind flange	0.380” (9.65mm) behind flange
102-233-20	Gold	Gold	0.350” (8.89mm) behind flange	0.490” (12.45mm) behind flange
102-233-30	Gold	Gold	0.170” (4.32mm) behind flange	0.310” (7.87mm) behind flange

Angle Panel Jacks: 4-Hole Flange (Blunt Post Terminal)



Part Number	Plating: Body	Plating: Contact	Dielectric Length	Center Conductor Length
102-245-01	Gold	Gold	0.118” (3.00mm) behind flange	0.235” (5.97mm) behind flange
102-245-10	Gold	Gold	0.210” (5.33mm) behind flange	0.420” (10.67mm) behind flange
102-245-20	Gold	Gold	0.200” (5.08mm) behind flange	0.550” (13.97mm) behind flange

Straight Panel Jacks: Press-In (Blunt Post Terminal)

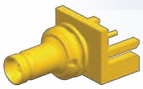
Part Number	Plating: Body	Plating: Contact	Terminal Type
102-912-20	Passivated	Gold	Blunt Post

Printed Circuit Board Connectors

Straight Jacks

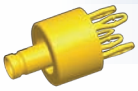
Part Number	Plating: Body	Plating: Contact	Terminal Type
102-692-01	Gold	Gold	Blunt Post

Edge Mount Jacks



Part Number	Plating: Body	Plating: Contact	Terminal Type
102-692-04	Gold	Gold	Blunt Post

Press Fit Jacks



Part Number	Plating: Body	Plating: Contact	Terminal Type
102-909-D100	Gold	Gold	Compliant Pin
102-912-10	Gold	Gold	Blunt Post

Straight Bulkhead Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type
102-692-10	Gold	Gold	Blunt Post
102-912-02	Gold	Gold	Blunt Post

Angle Bulkhead Jacks

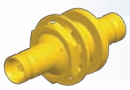
Part Number	Plating: Body	Plating: Contact	Terminal Type
102-909-02	Gold	Gold	Blunt Post

Press Fit Bulkhead Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type
102-811-03	Gold	Gold	Compliant Pin

Adapters

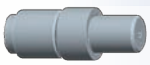
In-Series Adapter



Part Number	Plating: Body	Plating: Contact	Description
102-100-01	Gold	Gold	Jack-Jack for Push Pull Plug

Accessories

1.0/2.3 Push-Pull Termination



Part Number	F(GHz)	Power	VSWR
102-799-050	0-2	1/4 Watt	1.1 + 0.2f GHz (Max)

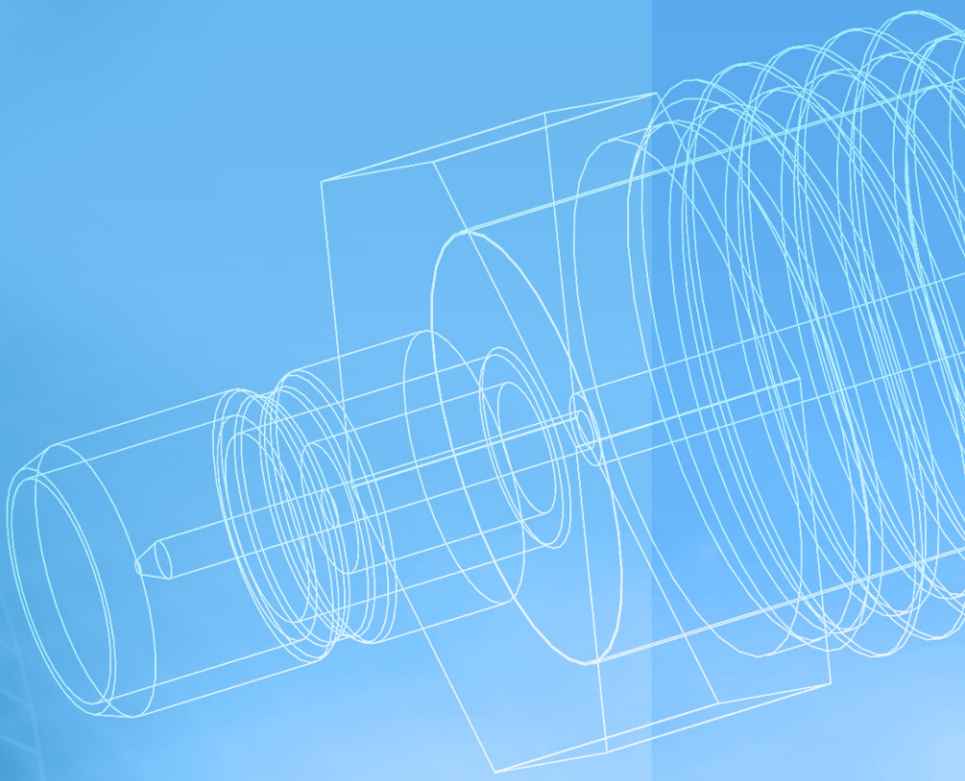
Notes

Cable Group Listing

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

Cable Group Listing

SMB



SMB Connectors

SMB Connectors

Description

The SMB name derives from SubMiniature B (the second subminiature design). Developed in the 1960's, this sub miniature interface has snap-on coupling. Amphenol's SMB connectors conform to the requirements of MIL-C-39012, and the interface is in compliance with MIL-STD-348. Available in 50 Ω and 75 Ω, the SMB provides broadband capability through 10 GHz with a snap-on connector design and utilizes die cast components on non-critical areas to provide a low-cost solution.

Features/Benefits

- Broadband performance with low reflection DC to 4 GHz provides low cost connector combined with high quality.
- Quick connect/disconnect snap-on mating reduces installation time.
- Various plating options in nickel, gold, and tin. Selective plating provides corrosion resistance finish as well as good solderability characteristics.
- SMB PCB slide-on plug and jack allows board-to-board mounting with a low insertion force. This is ideal for mating a high number of connectors on a pair of PCB's.

Applications

- Automotive
- Base Stations
- Cable Assemblies
- Components
- Instrumentation
- PC/LAN
- Process Controls
- Radio Boards
- Surge Protection
- Telecom
- Test and Measurement
- Video Systems

50 Ω SMB Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC - 4 GHz (usable to 10 GHz)
VSWR	1.2 max. @ DC - 4 GHz 1.5 max. @ 4 - 10 GHz
RF-leakage	55 dB minimum @ 1 GHz (flexible cable)
Voltage rating (at sea level)	≥ 250 Vrms (depending on cable)
Contact resistance	center contact: ≤ 6 mΩ outer contact: ≤ 2.5 mΩ braid to body: ≤ 1 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	0.3 dB @ 1.5 GHz
Dielectric withstanding voltage	1,000 Vrms (at sea level)
Mechanical	
Mating	Snap-on coupling (MIL-STD-348)
Braid/Jacket cable affixment	Hex crimp
Center conductor cable affixment	Solder
Captivated contacts	All, unless noted otherwise
Engagement force	≤ 14.2 lbs (63N)
Disengagement force	≥ 1.8 lbs (8N)
Durability (matings)	500 cycles minimum
Environmental	
Temperature range	-65°C to +165°C
Thermal shock	MIL-STD-202, method 107, cond. B
Moisture resistance	MIL-STD-202, method 106
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. D
Mechanical shock	MIL-STD-202, method 213, cond. B

50 Ω SMB Specifications (continued)

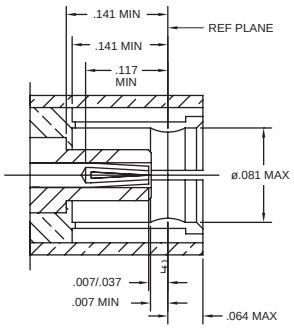
Material

Body and outer contacts	Body: brass or zinc alloy (ASTM-B86-71), gold or nickel plated
Male contact	Brass, gold plated
Female contact	Beryllium copper or phosphor bronze, gold plated
Crimp ferrule	Copper or brass, nickel or gold plated
Insulator	PTFE

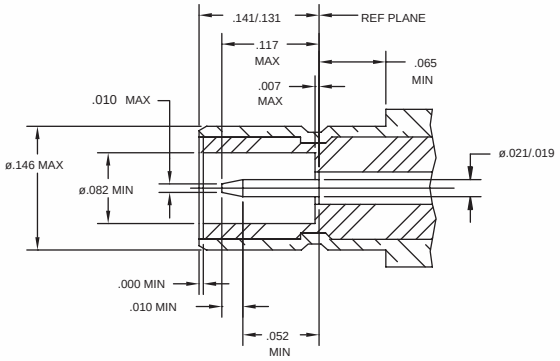
Military

MIL-C-22557A	where applicable

Plug



Jack



75 Ω SMB Specifications

Electrical	
Impedance	75 Ω
Frequency range	DC - 4 GHz
VSWR	1.4 max. @ DC - 4 GHz
RF-leakage	55 dB minimum @ 1 GHz (flexible cable)
Voltage rating (at sea level)	≥ 250 Vrms (depending on cable)
Contact resistance	center contact: ≤ 6 mΩ outer contact: ≤ 1 mΩ braid to body: ≤ 1 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	0.3 dB @ 1.5 GHz
Dielectric withstanding voltage	1,000 Vrms (at sea level)
Mechanical	
Mating	Snap-on coupling (MIL-STD-348)
Braid/Jacket cable affixment	Hex crimp
Center conductor cable affixment	Solder
Captivated contacts	All, unless noted otherwise
Engagement force	≤ 14.2 lbs (63N)
Disengagement force	≥ 1.8 lbs (8N)
Durability (matings)	500 cycles minimum
Environmental	
Temperature range	-65°C to +165°C
Thermal shock	MIL-STD-202, method 107, cond. B
Moisture resistance	MIL-STD-202, method 106
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. D
Mechanical shock	MIL-STD-202, method 213, cond. B

75 Ω SMB Specifications (continued)

Material

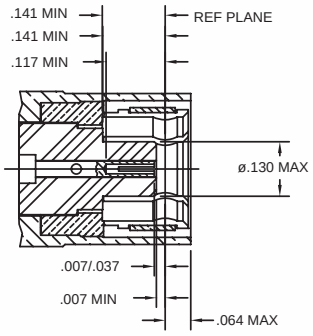
Body and outer contacts	Body: brass or zinc alloy (ASTM-B86-71), gold or nickel plated
Male contact	Brass, gold plated
Female contact	Beryllium copper or phosphor bronze, gold plated
Crimp ferrule	Copper or brass, nickel or gold plated
Insulator	PTFE

Military

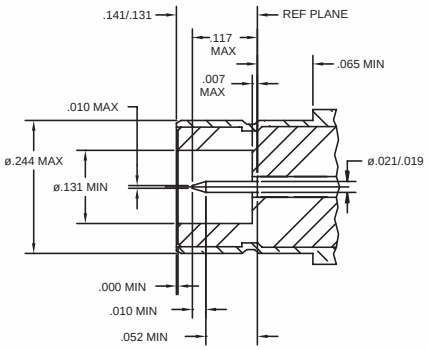
MIL-C-22557A	where applicable

Note: These characteristics are typical but may not apply to all connectors.

Plug



Jack



50 Ω Cable Connectors

Straight Plugs

		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
A	903-287P-51S	Gold	Gold	Crimp	Solder
A	903-509P-51S	Gold	Gold	Crimp	Solder
A	903-371P-51S	Nickel	Gold	Crimp	Solder
A	903-578P-51S	Gold	Gold	Crimp	Crimp
A	903-578P-51S1	Nickel	Gold	Crimp	Crimp
B	903-285P-51S	Gold	Gold	Crimp	Solder
B	903-370P-51S	Nickel	Gold	Crimp	Solder
B	903-577P-51S1	Nickel	Gold	Crimp	Crimp
B	903-577P-51S	Gold	Gold	Crimp	Crimp
B2	903-401P-51S	Gold	Gold	Crimp	Solder
B2	903-579P-51S	Gold	Gold	Crimp	Crimp
B2	903-579P-51S1	Nickel	Gold	Crimp	Crimp

Angle Plugs

		Plating		Termination		
Cable Group	Part Number	Body	Contact	Body	Contact	Description
A	903-291P-51A	Gold	Gold	Crimp	Solder	
A	903-291P-51A1	Gold	Gold	Crimp	Solder	Zinc Diecast Body
A	903-368P-51A1	Nickel	Gold	Crimp	Solder	
B	903-289P-51A	Gold	Gold	Crimp	Solder	
B	903-367P-51A	Nickel	Gold	Crimp	Solder	
B	903-367P-51A2	Nickel	Gold	Crimp	Solder	
B2	903-369P-51A2	Nickel	Gold	Crimp	Solder	

50 Ω Cable Connectors (continued)

Straight Bulkhead Jacks

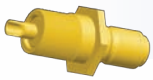
Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B2	903-505J-51S1	Gold	Gold	Crimp	Solder
B2	903-505J-51S	Gold	Gold	Crimp	Solder
L2	903-659J-51S	Gold	Gold	Solder	Solder

Angle Bulkhead Jacks

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B	903-422J-51A	Gold	Gold	Crimp	Solder
B2	903-683J-51A	Gold	Gold	Solder	Solder
B2	903-422J-51A2	Gold	Gold	Crimp	Solder

50Ω Receptacles

Straight Front Mount Bulkhead Jacks



Part Number	Plating		Terminal Type
	Body	Contact	
903-406J-51R	Gold	Gold	Solder Cup
903-402J-51R	Gold	Gold	Blunt Post

Angle Front Mount Bulkhead Jacks

Part Number	Plating		Terminal Type
	Body	Contact	
903-416J-51R	Gold	Gold	Solder Cup

Straight Rear Mount Bulkhead Jacks

Part Number	Plating		Terminal Type
	Body	Contact	
903-305J-51R	Gold	Gold	Solder Cup

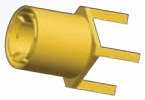
Straight Recessed Mount Bulkhead Jacks

Part Number	Plating		Terminal Type
	Body	Contact	
903-407J-51R	Gold	Gold	Solder Cup

50Ω Printed Circuit Board Connectors

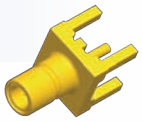
Straight Plugs

Part Number	Plating: Body	Plating: Contact	Terminal Type	Description
903-410P-53P	Gold	Gold	Blunt Post	For .360” (9mm) Bd. Spacing/Four Legs
903-409J-53P	Gold	Gold	Blunt Post	For .360” (9mm) Bd. Spacing/Four Legs



Straight Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type	Description
903-415J-51P	Gold	Gold	Blunt Post	Four Legs
903-499J-51P2	Gold	Gold	Blunt Post	Four Legs

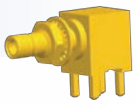


Straight Bulkhead Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type	Description
903-375J-53P	Nickel	Gold	Blunt Post	Four Legs
903-518J-51P	Gold	Gold	Blunt Post	Four Legs
903-515J-51P	Matte Tin	Gold	Blunt Post	Four Legs

Angle Bulkhead Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type	Description
903-413J-51A	Gold	Gold	Blunt Post	Four Legs/Leak Tight
903-373J-51A	Gold	Gold	Blunt Post	Four Legs/Leak Tight



Accessories

SMB/SMC Accessories: Jam Nuts

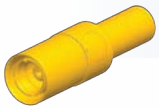
Part Number	Description
903-10408-1	SMB/SMC Gold Plated Nut Hex, Bulk pack version

SMB/SMC Accessories: Lockwashers

Part Number	Description
903-10409-1	SMB/SMC Gold Plated Lockwasher, Bulk pack version

75 Ω Cable Connectors

Straight Plugs



Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B	903-502P-71S	Nickel	Gold	Crimp	Solder
B1	903-152P-71S3	Gold	Gold	Crimp	Solder
B1	903-575P-71S	Nickel	Gold	Crimp	Solder
B1	903-660P-71S	Gold	Gold	Crimp	Solder
B3	903-574P-71S	Nickel	Gold	Crimp	Solder
I2	903-152P-71S7	Gold	Gold	Crimp	Solder
I2	903-663P-71S	Gold	Gold	Crimp	Solder
K3	903-152P-71S	Gold	Gold	Crimp	Solder

Angle Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B1	903-661P-71A	Gold	Gold	Crimp	Solder
B1	903-662P-71A	Nickel	Gold	Crimp	Crimp

Straight Bulkhead Jacks

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B1	903-108J-71S	Gold	Gold	Crimp	Solder

75Ω Receptacles

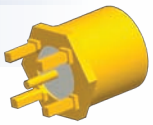
Straight Bulkhead Jacks

Part Number	Plating		Termination Type	Description
	Body	Contact		
903-382J-71R	Gold	Gold	Solder Cup	Rear Mount
903-675J-71S	Gold	Gold	Solder Cup	Panel Threaded

75Ω Printed Circuit Board Connectors

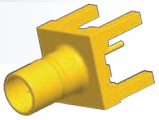
Straight Plugs

Part Number	Plating: Body	Plating: Contact	Termination Type	Description
903-522P-71P	Gold	Gold	Blunt Post	Four Legs, Slide-On



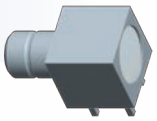
Straight Jacks

Part Number	Plating: Body	Plating: Contact	Termination Type	Description
903-523J-71P	Nickel	Gold	Blunt Post	Four Legs



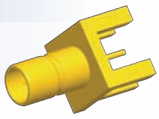
Angle Jacks

Part Number	Plating: Body	Plating: Contact	Termination Type	Description
903-585J-71A	Nickel	Gold	Blunt Post	Four Legs
903-519J-71P	Gold	Gold	Blunt Post	Four Legs



Edge Mount Jacks

Part Number	Plating: Body	Plating: Contact	Termination Type	Description
903-518J-71P	Gold	Gold	Blunt Post	Four Legs

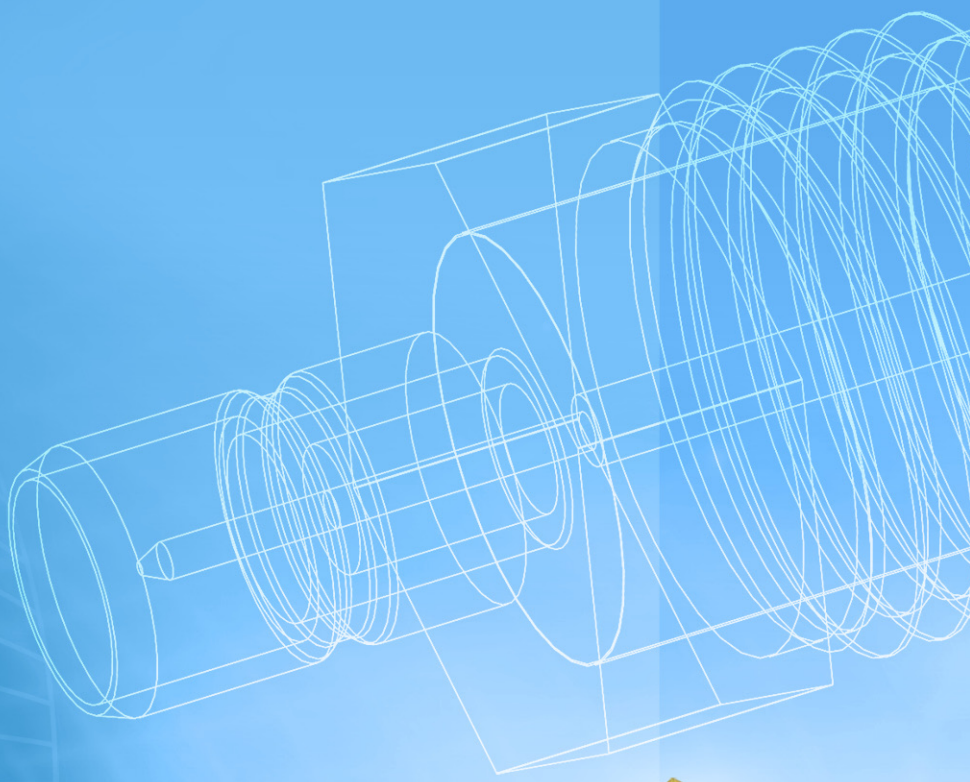


Cable Group Listing

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

Cable Group Listing

MINI 75Ω SMB



Mini 75Ω SMB Connectors

Mini 75 Ω SMB Connectors

Description

Amphenol's Mini 75 Ω SMB connector provides broadband capability through 2 GHz. Its designs utilize die cast components on non-critical areas to provide a low cost solution. These connectors offer snap-fit mating for quick connect/disconnect. The reduced housing allows circuit miniaturization and efficient "real estate" utilization. Built in accordance with requirements of MIL-C-39012, the interface is in compliance with MIL-STD 348 and is interchangeable with Industry Standard for Miniature 75 Ω SMB.

Features/Benefits

- 75 Ω snap-on coupling allows for quick installation.
- Same interface as 50 Ω SMB.
- Product is interchangeable with competitors.
- Diecast components which offers low cost solution.

Applications

- Telecommunication
- Networking
- Switching Equipment

Specifications

Electrical

Impedance	75 Ω
Frequency range	DC - 2 GHz
VSWR	1.33 max. @ DC - 2 (straight) 1.43 max. @ DC - 2 (right-angle)
RF-leakage	55 dB minimum @ 2 GHz
Voltage rating (at sea level)	≥ 335 Vrms (depending on cable)
Contact resistance	center contact: ≤ 6 mΩ outer contact: ≤ 1 mΩ
Insulation resistance	1,000 MΩ minimum
Insertion loss maximum	0.30 dB @ 1.5 GHz (straight) 0.60 dB @ 1.5 GHz (right-angle)
Dielectric withstanding voltage	750 Vrms (at sea level)

Mechanical

Mating	Snap-on coupling (MIL-STD-348)
Braid/Jacket cable affixment	Hex crimp
Center conductor cable affixment	Crimp or solder
Engagement force	≤ 14 lbs (62N)
Disengagement force	≥ 2 lbs (9N)
Durability (matings)	500 cycles minimum

Environmental

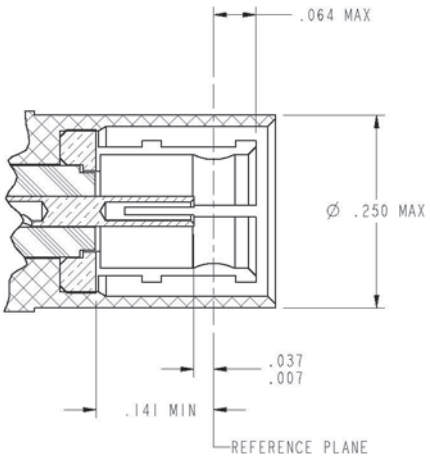
Temperature range	-65°C to +165°C
Thermal shock	MIL-STD-202, method 107, cond. B
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. D
Mechanical shock	MIL-STD-202, method 213, cond. B

Specifications (continued)

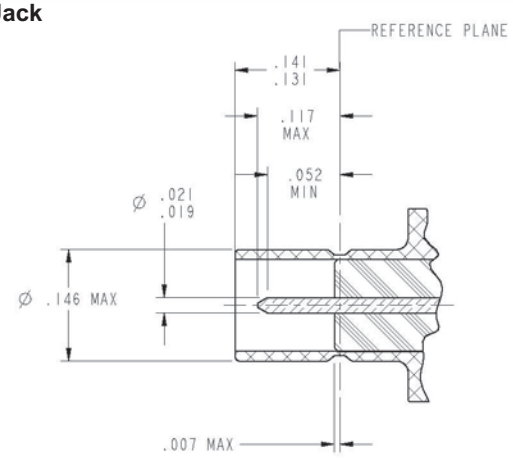
Material

Body and outer contacts	Body: brass or zinc alloy (ASTM-B86-71), gold or nickel plated
Male contact	Brass, gold plated
Female contact	Beryllium copper, gold plated
Crimp ferrule	Copper or brass
Insulator	PTFE

Plug



Jack



Cable Connectors

Straight Plugs

		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
B1	903-600P-71S	Nickel	Gold	Crimp	Solder
B3	903-605P-71S	Nickel	Gold	Crimp	Solder
I2	903-598P-71S	Nickel	Gold	Crimp	Solder

Angle Plugs

		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
B1	903-586P-71A	Nickel	Gold	Crimp	Solder
B3	903-599P-71A	Nickel	Gold	Crimp	Solder
I2	903-588P-71A	Nickel	Gold	Crimp	Solder
I2	903-677P-71A	Gold	Gold	Crimp	Solder

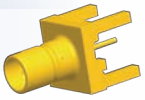
Straight Bulkhead Jacks

		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
B3	903-604J-71S	Nickel	Gold	Crimp	Crimp

Printed Circuit Board Connectors

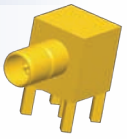
Straight Jacks

	Plating	
Part Number	Body	Contact
903-581J-71P	Gold	Gold



Angle Jacks

	Plating	
Part Number	Body	Contact
903-601J-71P	Tin	Gold

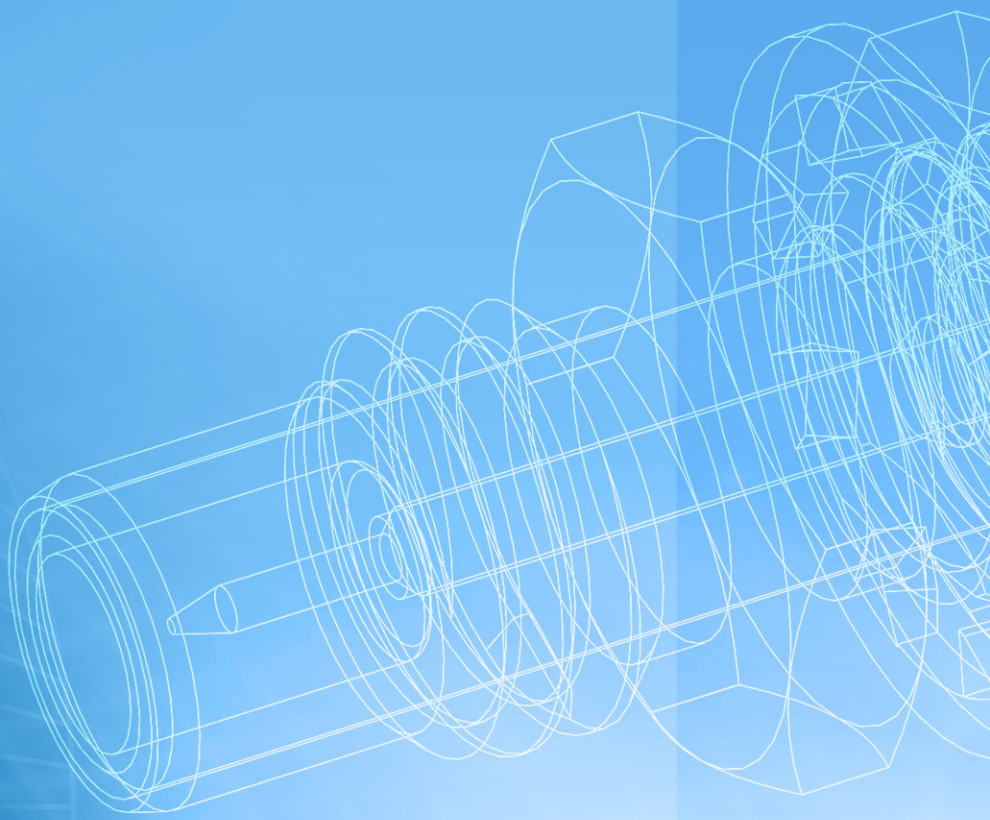


Cable Group Listing

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

Cable Group Listing

SMC



SMC Connectors

SMC Connectors

Description

The SMC name derives from SubMiniature C (the third subminiature design). The SMC design was developed in the 1960's. SMC has threaded coupling with 10-32 threads. Available in 50 Ω impedance, the SMC Series utilizes die cast components on non-critical areas to provide a low cost solution.

Features/Benefits

- Broadband performance with low reflection DC to 10 GHz.
- Conforms to the interface dimensions of MIL-STD-348.
- 10-32 screw-on (threaded) coupling mechanism allows performance to 10 GHz with low reflection.
- Right Angle connectors available in one piece construction.

Applications

- Antennas
- Automotive (GPS)
- Base Stations
- Cable Assemblies
- Instrumentation
- Video Systems
- Process Controls
- Radio Boards
- Telecom
- Test and Measurement

SMC Specifications

Electrical

Impedance	50 Ω
Frequency range	DC - 10 GHz
VSWR	1.25 + .04 f (GHz)
RF-leakage	55 dB minimum @ 2-3 GHz
Voltage rating (at sea level)	≥ 250 Vrms (depending on cable)
Contact resistance	center contact: ≤ 6 mΩ ≤ 1 mΩ ≤ 1 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	0.25 dB max. @ 4 GHz (straight) 0.5 dB max. @ 4 GHz (right-angle)
Dielectric withstanding voltage	1,000 Vrms (at sea level)

Mechanical

Mating	Threaded coupling (MIL-STD-348)
Coupling nut retention force	35 lbs (156N) min.
Braid/Jacket cable affixment	Hex crimp
Center conductor cable affixment	Crimp
Durability (matings)	500 cycles minimum

Environmental

Temperature range	-65°C to +165°C
Thermal shock	MIL-STD-1344, method 1003, cond. A
Corrosion	MIL-STD-1344, method 1001, cond. B
Vibration	MIL-STD-1344, method 2005, cond. IV

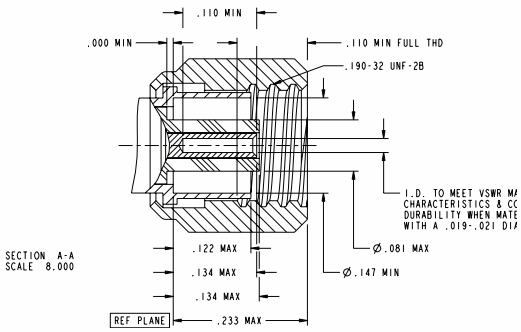
Material

Body and outer contacts	Brass or zinc alloy (ASTM-B86-71), gold or nickel plated
Male contact	Brass, gold plated
Female contact	Beryllium copper center, gold plated
Crimp ferrule	Copper or brass, nickel or gold plated
Insulator	PTFE

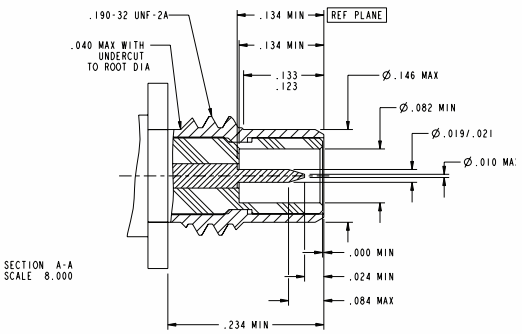
Military

MIL-C-39012	where applicable

Plug



Jack

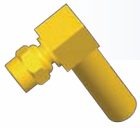


Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact
B	903-284P-52S	Gold	Gold	Crimp	Solder
B	903-284P-52S1	Nickel	Gold	Crimp	Solder

Angle Plugs



Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact
B	903-288P-52A	Gold	Gold	Crimp	Solder
B2	903-362P-52A1	Nickel	Gold	Crimp	Solder

Receptacles

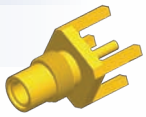
Straight Bulkhead Jacks

Part Number	Plating Body	Plating Contact	Description
903-408J-52R	Gold	Gold	Panel mount, 4-Hole

Printed Circuit Board Connectors

Straight Jacks

Part Number	Body	Plating Contact	Terminal Type
903-420J-52P	Gold	Gold	Blunt Post

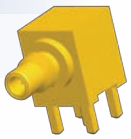


Straight Bulkhead Jacks

Part Number	Body	Plating Contact	Terminal Type
903-421J-52P	Gold	Gold	Blunt Post

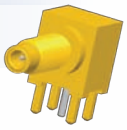
Angle Jacks

Part Number	Body	Plating Contact	Terminal Type
903-378J-52A	Gold	Gold	Blunt Post



Angle Bulkhead Jacks

Part Number	Body	Plating Contact	Terminal Type
903-419J-52A	Gold	Gold	Blunt Post



Accessories

SMB/SMC Accessories: Jam Nuts

Part Number	Description
903-10408-1	SMB/SMC Gold Plated Nut Hex, Bulk pack version

SMB/SMC Accessories: Lockwashers

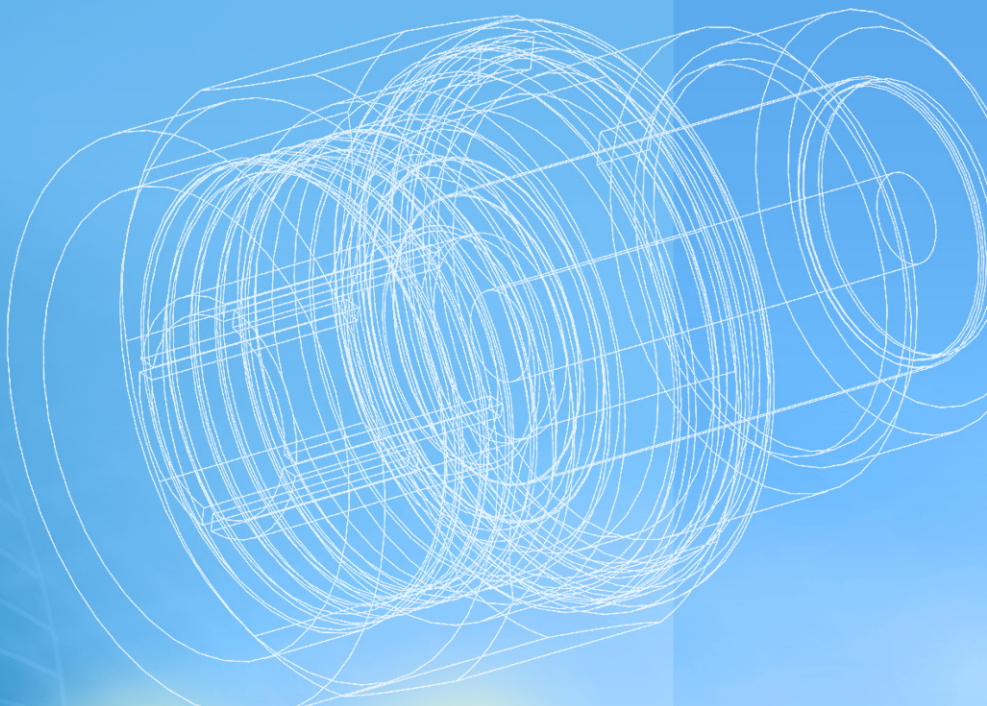
Part Number	Description
903-10409-1	SMB/SMC Gold Plated Lockwasher, Bulk pack version

Cable Group Listing

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

Cable Group Listing

SMA



SMA Connectors

SMA Connectors

Description

SMA is an acronym for SubMiniature version A and was developed in the 1960's. It uses a threaded interface. 50 Ω SMA connectors are semi-precision, subminiature units that provide excellent electrical performance from DC to 18 GHz. These high-performance connectors are compact in size and mechanically have outstanding durability.

For phase array radar, test equipment, ILS landing systems and other instrumentation using phase matching techniques, these SMA connectors for semi-rigid coaxial cables and the SMA Plug-to-Jack adapter offer a precise and simple means of phase adjustment for microwave devices. Built in accordance with MIL-C-39012 and CECC 22110/111, SMA connectors can be mated with all connectors that meet these interface specifications, regardless of manufacturer.

SMA is available both in Standard and Reverse Polarity. Reverse polarity is a keying system accomplished with a reverse interface, and ensures that reverse polarity interface connectors do not mate with standard interface connectors. Amphenol accomplishes this by inserting female contacts into plugs and male contacts into jacks.

Features/Benefits

- Broadband performance DC to 18 GHz with low reflection stainless steel construction and ¼-36 threaded coupling.
- Brass SMA available in nickel or gold plating which provides approximately 30% cost reduction with 100 mating cycles.
- Available for .085" and .141" diameter semi-rigid cables and all the standard flexible cables including double shielded RG-316.
- Phase Adjustable SMA connectors provide ease of mechanical screw adjustments.

Applications

- Base Stations
- Cable Assemblies
- Instrumentation
- Mil/Aero
- Process Controls
- PC/LAN
- Telecom

Stainless Steel SMA Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC - 18 GHz (semi-rigid cable) DC - 12.4 GHz (flexible cable)
RF-leakage	100 dB-f minimum @ 3 GHz (semi-rigid cable) 60 dB minimum @ 3 GHz (flexible cable)
Voltage rating (at sea level)	≤ 500 Vrms (semi-rigid, depending on cable) ≤ 335 Vrms (flexible, depending on cable)
Contact resistance	center contact: ≤ 2 mΩ outer contact: ≤ 2 mΩ braid to body: ≤ 0.5 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	dB maximum = .03 √ f(GHz)
Dielectric withstanding voltage	1,500 Vrms (semi-rigid cable, at sea level) 1,000 Vrms (flexible cable, at sea level)
Mechanical	
Mating	.250-36 threaded coupling
Coupling torque	15 in-lbs (22 / 170 N-cm) max, recom. 7 / 10 in-lbs (80 / 110 N-cm)
Coupling nut retention force	100 in-lbs (300 N-cm) min.
Braid/Jacket cable affixment	Crimp and solder types
Center conductor cable affixment	Solder, unless noted otherwise
Captivated contacts	All types, unless noted otherwise
Durability (matings)	500 cycles minimum
Environmental	
Temperature range	-65°C to +165°C
Weatherproof	crimp: w/ heat shrink tubing, solder: w/ gasket
Thermal shock	MIL-STD-202, method 107, cond. B
Moisture resistance	MIL-STD-202, method 106 (except step 7b)
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. D
Mechanical shock	MIL-STD-202, method 213, cond. 1
Altitude	MIL-STD-202, method 105, cond. C (n/a 70,000 ft)

Note: These characteristics are typical but may not apply to all connectors.

Stainless Steel SMA Specifications (continued)

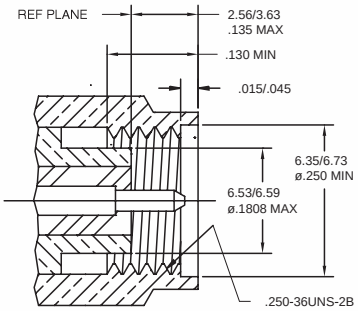
Material

Center contact	Beryllium copper, gold plated
Crimp ferrule	Copper or brass
Other metal parts	Non-magnetic stainless steel (except as noted)
Plated	Gold or nickel
Insulator	PTFE (ASTM D1457)
Gasket	Silicone rubber (MIL-R-5847 and ZZ-R-765)

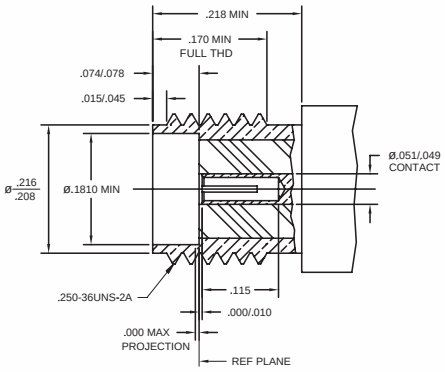
Military

MIL-C-39012	where applicable
MIL-C-83517 SMA	where applicable

Plug



Jack



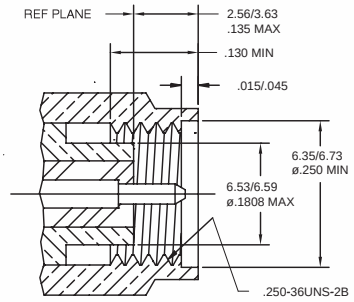
Brass SMA Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC - 18 GHz (semi-rigid cable) DC - 12.4 GHz (flexible cable)
RF-leakage	100 dB-f minimum @ 3 GHz (semi-rigid cable) 60 dB minimum @ 3 GHz (flexible cable)
Voltage rating (at sea level)	≤ 500 Vrms (semi-rigid, depending on cable) ≤ 335 Vrms (flexible, depending on cable)
Contact resistance	center contact: ≤ 2 mΩ outer contact: ≤ 2 mΩ braid to body: ≤ 0.5 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	dB maximum = .06 √ f(GHz)
Dielectric withstanding voltage	1,500 Vrms (semi-rigid cable, at sea level) 1,000 Vrms (flexible cable, at sea level)
Mechanical	
Mating	.250-36 threaded coupling
Coupling torque, min./max.	max. = 5.2 in-lbs (60 N-cm), recommended = 4 in-lbs (45 N-cm)
Coupling nut retention force	100 in-lbs (300 N-cm) min.
Braid/Jacket cable affixment	Crimp and solder types
Center conductor cable affixment	Solder, unless noted otherwise
Captivated contacts	All types, unless noted otherwise
Durability (matings)	100 cycles minimum
Environmental	
Temperature range	-65°C to +165°C
Weatherproof	crimp: w/ heat shrink tubing, solder: w/ gasket
Thermal shock	MIL-STD-202, method 107, cond. B
Moisture resistance	MIL-STD-202, method 106 (except step 7b)
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. D
Mechanical shock	MIL-STD-202, method 213, cond. 1
Altitude	MIL-STD-202, method 105, cond. C (n/a 70,000 ft)
Material	
Male contact	Brass, gold plated
Female contact	Beryllium copper, gold plated
Crimp ferrule	Copper or brass
Other metal parts	Brass (except as noted), gold or nickel plated
Insulator	PTFE (ASTM D1457)
Gasket	Silicone rubber (MIL-R-5847 and ZZ-R-765)
Military	
MIL-C-39012	where applicable
MIL-C-83517 SMA	where applicable

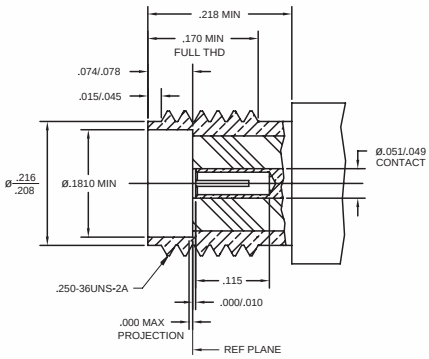
Note: These characteristics are typical but may not apply to all connectors.

Brass SMA Specifications (continued)

Plug



Jack

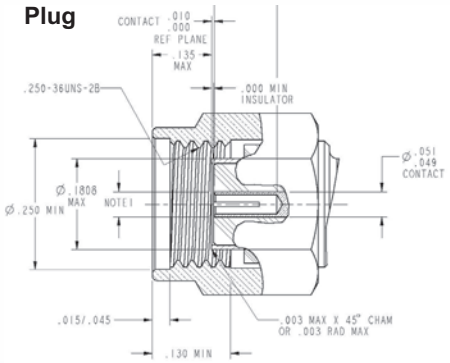


Reverse Polarity SMA Specifications

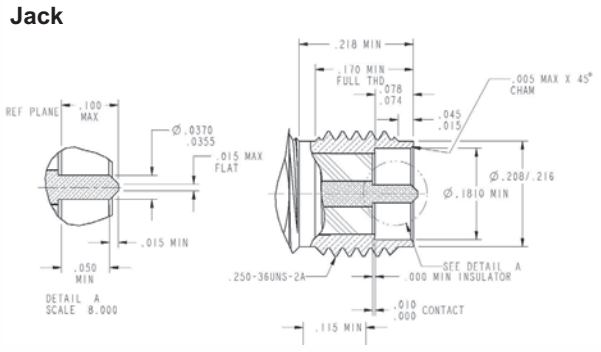
Electrical	
Impedance	50 Ω
Frequency range	DC - 18 GHz (semi-rigid cable) DC - 12.4 GHz (flexible cable)
RF-leakage	100 dB-f minimum @ 3 GHz (semi-rigid cable) 60 dB minimum @ 3 GHz (flexible cable)
Voltage rating (at sea level)	≤ 500 Vrms (semi-rigid, depending on cable) ≤ 335 Vrms (flexible, depending on cable)
Contact resistance	center contact: ≤ 2 mΩ outer contact: ≤ 2 mΩ braid to body: ≤ 0.5 mΩ
Insulation resistance	5,000 MΩ minimum
Dielectric withstanding voltage	1,500 Vrms (semi-rigid cable, at sea level) 1,000 Vrms (flexible cable, at sea level)
Mechanical	
Mating	.250-36 threaded coupling
Coupling nut retention force	100 in-lbs (300 N-cm) min.
Braid/Jacket cable affixment	Crimp and solder types
Center conductor cable affixment	Solder, unless noted otherwise
Captivated contacts	All types, unless noted otherwise
Durability (matings)	100 cycles min. (brass), 500 cycles min. (stainless steel)
Environmental	
Temperature range	-65°C to +165°C
Weatherproof	crimp: w/ heat shrink tubing, solder: w/ gasket
Thermal shock	MIL-STD-202, method 107, cond. B
Moisture resistance	MIL-STD-202, method 106 (except step 7b)
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. D
Mechanical shock	MIL-STD-202, method 213, cond. 1
Altitude	MIL-STD-202, method 105, cond. C (n/a 70,000 ft)
Material	
Center contact	Beryllium copper, gold plated
Crimp ferrule	Copper or brass
Other metal parts	Non-magnetic stainless steel or brass, gold, silver or nickel plated
Insulator	PTFE (ASTM D1457)
Gasket	Silicone rubber (MIL-R-5847 and ZZ-R-765)
Military	
MIL-C-39012	where applicable
MIL-C-83517 SMA	where applicable

Note: These characteristics are typical but may not apply to all connectors.

Plug

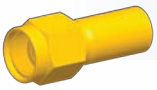


Jack



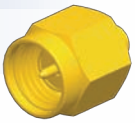
Cable Connectors

Straight Plugs for Flexible Cable



Cable Group	Part Number	Body Material	Plating		Termination	
			Body	Contact	Body	Contact
B	901-9601-3	Stainless Steel	Gold	Gold	Crimp	Solder
B	901-9601-3SF	Stainless Steel	Passivated	Gold	Crimp	Solder
B	901-9501-3	Stainless Steel	Gold	Gold	Crimp	Solder
B	901-128-11 (QPL)	Stainless Steel	Gold	Gold	Clamp	Solder
B	901-9511-3	Stainless Steel	Gold	Gold	Crimp	Solder
B	901-9511-3SF	Stainless Steel	Passivated	Gold	Crimp	Solder
B	901-9511-12SF	Stainless Steel	Passivated	Gold	Crimp	Solder
B	901-9511-3SFC	Stainless Steel	Passivated	Gold	Solder	Crimp
B	901-9511-12SFC	Stainless Steel	Passivated	Gold	Solder	Crimp
B	901-155-12 (QPL)	Stainless Steel	Gold	Gold	Crimp	Solder
B	901-155-16 (QPL)	Stainless Steel	Gold	Gold	Crimp	Solder
B2	901-9877-RFX	Brass	Nickel	Gold	Crimp	Solder
B	901-9916	Brass	Gold	Gold	Crimp	Solder
C	901-103	Stainless Steel	Gold	Gold	Clamp	Solder
C	901-103-11 (QPL)	Stainless Steel	Gold	Gold	Clamp	Solder
C	901-9511-2	Stainless Steel	Gold	Gold	Crimp	Solder
C	901-9511-2SF	Stainless Steel	Gold	Gold	Crimp	Solder
C	901-9870	Brass	Gold	Gold	Crimp	Solder
C	901-9876-RFX	Brass	Nickel	Gold	Crimp	Solder
C	901-9871	Brass	Gold	Gold	Crimp	Solder
C1	901-9601-1SF	Stainless Steel	Passivated	Gold	Crimp	Solder
C1	901-9511-1	Stainless Steel	Gold	Gold	Crimp	Solder
C1	901-9511-1SF	Stainless Steel	Passivated	Gold	Crimp	Crimp
C1	901-9511-1SFC	Stainless Steel	Passivated	Gold	Crimp	Crimp
C1	901-101-15 (QPL)	Stainless Steel	Gold	Gold	Crimp	Crimp
C2	901-10010-RFX	Brass	Gold	Gold	Crimp	Solder
C2	901-10012	Stainless Steel	Passivated	Gold	Crimp	Solder
G2	901-10009-RFX	Brass	Gold	Gold	Crimp	Solder
G2	901-10011	Stainless Steel	Passivated	Gold	Crimp	Solder

Straight Plugs for Semi-Rigid Cable



Cable Group	Part Number	Body Material	Plating		Termination
			Body	Contact	Body & Contact
L	901-9201-1A	Stainless Steel	Gold	Gold	Solder
L	901-9201-1ASF	Stainless Steel	Gold	Gold	Solder
L	901-9808	Stainless Steel	Gold	Gold	Solder
L	901-9808-1	Stainless Steel	Gold	Gold	Solder
L	901-9808-2	Stainless Steel	Gold	Gold	Solder
L	901-9868-RFX	Brass	Gold	Gold	Solder
L2	901-9201-2A	Stainless Steel	Gold	Gold	Solder
L2	901-9201-2ASF	Stainless Steel	Gold	Gold	Solder
L2	901-9723	Stainless Steel	Gold	Gold	Solder
L2	901-9723-10	Stainless Steel	Gold	Gold	Solder
L2	901-9805-HP	Stainless Steel	Gold	Gold	Solder
L2	901-9867-RFX	Brass	Gold	Gold	Solder

Angle Plugs for Flexible Cable

Cable Group	Part Number	Body Material	Plating		Termination	
			Body	Contact	Body	Contact
B	901-368-12 (QPL)	Stainless Steel	Gold	Gold	Solder	Solder
B	901-9531-3	Stainless Steel	Gold	Gold	Crimp	Solder
B	901-9521-3	Stainless Steel	Gold	Gold	Crimp	Solder
B	901-9531-3SF	Stainless Steel	Passivated	Gold	Crimp	Crimp
B	901-9872	Brass	Gold	Gold	Crimp	Solder
B	901-9881-RFX	Brass	Nickel	Gold	Crimp	Solder
B2	901-9531-12	Stainless Steel	Gold	Gold	Crimp	Crimp
B2	901-9531-12SF	Stainless Steel	Passivated	Gold	Crimp	Solder
C	901-9531-2	Stainless Steel	Gold	Gold	Crimp	Solder
C	901-9531-2SF	Stainless Steel	Passivated	Gold	Solder	Crimp
C	901-9873	Brass	Gold	Gold	Crimp	Solder
C	901-9880-RFX	Brass	Nickel	Gold	Crimp	Solder
C1	901-148-15 (QPL)	Stainless Steel	Gold	Gold	Solder	Solder
C1	901-9531-1	Stainless Steel	Gold	Gold	Crimp	Solder
C1	901-9531-1SF	Stainless Steel	Passivated	Gold	Crimp	Solder
C1	901-9874	Brass	Gold	Gold	Crimp	Solder
G2	901-10014	Stainless Steel	Passivated	Gold	Solder	Crimp

Cable Connectors (continued)

Angle Plugs for Semi-Rigid Cable

Cable Group	Part Number	Body Material	Plating		Termination
			Body	Contact	Body & Contact
L	901-9221-1A	Stainless Steel	Gold	Gold	Solder
L	901-9221-1ASF	Stainless Steel	Gold	Gold	Solder
L2	901-9221-2A	Stainless Steel	Gold	Gold	Solder
L2	901-9221-2ASF	Stainless Steel	Gold	Gold	Solder

Straight Jacks

Cable Group	Part Number	Body Material	Plating		Termination	
			Body	Contact	Body	Contact
B	901-9602-3	Stainless Steel	Gold	Gold	Crimp	Solder
B	901-9602-3SF	Stainless Steel	Passivated	Gold	Crimp	Solder
B2	901-9602-12SF	Stainless Steel	Passivated	Gold	Crimp	Solder
C1	901-9602-1	Stainless Steel	Gold	Gold	Crimp	Solder
C1	901-9602-1SF	Stainless Steel	Passivated	Gold	Crimp	Solder
L	901-9202-1A	Stainless Steel	Gold	Gold	Solder	Solder
L	901-9704	Stainless Steel	Gold	Gold	Solder	Captivated
L2	901-9202-2A	Stainless Steel	Gold	Gold	Solder	Solder

Bulkhead Jacks

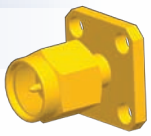
Cable Group	Part Number	Body Material	Plating		Termination	
			Body	Contact	Body	Contact
B	901-9610-3	Stainless Steel	Gold	Gold	Crimp	Solder
B	901-9610-3SF	Stainless Steel	Passivated	Gold	Crimp	Solder
B	901-10021-3SF	Stainless Steel	Passivated	Gold	Crimp	Solder
B	901-9875	Brass	Gold	Gold	Crimp	Solder
B	901-9879-RFX	Brass	Nickel	Gold	Crimp	Solder
B	901-10013-RFX	Brass	Nickel	Gold	Crimp	Solder
B2	901-9610-12SF	Stainless Steel	Passivated	Gold	Crimp	Solder
B2	901-10021-12SF	Stainless Steel	Passivated	Gold	Crimp	Solder
C1	901-9610-1SF	Stainless Steel	Passivated	Gold	Crimp	Solder
C1	901-10021-1SF	Stainless Steel	Passivated	Gold	Crimp	Solder
G2	901-10015	Stainless Steel	Passivated	Gold	Crimp	Solder
L	901-9210-1	Stainless Steel	Gold	Gold	Solder	Solder
L2	901-9210-2	Stainless Steel	Gold	Gold	Solder	Solder

Receptacles

Straight Bulkhead Jacks

Part Number	Body Material	Plating Body	Plating Contact	Terminal Type	Description
901-9911	Stainless Steel	Passivated	Gold	Blunt Post	Front Mount, .050 Pin
901-9211	Stainless Steel	Gold	Gold	Solder Cup	Rear Mount/Hex Flange
901-9220	Stainless Steel	Gold	Gold	Blunt Post	Front or Rear Mount
901-9841	Stainless Steel	Gold	Gold	Post	Front Mount
901-9856	Stainless Steel	Passivated	Gold	Slot	Press Fit
901-9023	Stainless Steel	Passivated	Gold	Socket	Front or Rear Mount (launcher)

Straight Panel Plugs: 4-Hole Flange



Part Number	Body Material	Plating Body	Plating Contact	Terminal Type
901-9214-CC	Stainless Steel	Gold	Gold	Blunt Post/.158(4.0) Long
901-9767	Stainless Steel	Passivated	Gold	Blunt Post/.115(2.9) Long

Straight Panel Jacks: 4-Hole Flange

Part Number	Body Material	Plating Body	Plating Contact	Terminal Type
901-9215	Stainless Steel	Gold	Gold	Solder Cup .200” (5.1mm) Long
901-9758	Stainless Steel	Passivated	Gold	Blunt Post .115” (2.9mm) Long
901-9204-CCSF	Stainless Steel	Passivated	Gold	Blunt Post .205” dielectric + .060” center conductor behind flange
901-9839	Stainless Steel	Passivated	Gold	Blunt Post .06” dielectric + .120” center conductor behind flange
901-9789	Stainless Steel	Passivated	Gold	Blunt Post .590” dielectric + .117” center conductor behind flange
901-9804-1	Stainless Steel	Passivated	Gold	Blunt Post, Solder Dipped .010 dia

Straight Panel Jacks: 2-Hole Flange

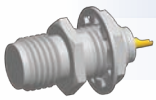
Part Number	Body Material	Plating Body	Plating Contact	Terminal Type
901-9244-1	Stainless Steel	Gold	Gold	Slot .025” (0.6mm) wide
901-9244-1SF	Stainless Steel	Passivated	Gold	Slot .025” (0.6mm) wide
901-9814	Stainless Steel	Passivated	Gold	Socket (Flush)
901-9770	Stainless Steel	Passivated	Gold	Socket (Extended Dielectric)

Receptacles (continued)

Panel Jacks

Part Number	Body Material	Plating: Body	Plating: Contact	Terminal Type
901-9893-RFX	Brass	Nickel	Gold	Solder Cup
901-9892-RFX	Brass	Nickel	Gold	Solder Cup
901-9891-RFX	Brass	Nickel	Gold	Blunt Post
901-9887-RFX	Brass	Nickel	Gold	Blunt Post

Bulkhead Jacks



Part Number	Body Material	Plating: Body	Plating: Contact	Terminal Type	Description
901-9889-RFX	Brass	Nickel	Gold	Solder Cup	Front Mount
901-9890-RFX	Brass	Nickel	Gold	Solder Cup	Rear Mount

Printed Circuit Board Connectors

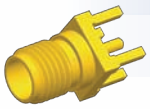
Straight Plugs

Part Number	Body Material	Plating: Body	Plating: Contact	Terminal Type	Description
901-9895-RFX	Brass	Gold	Gold	Thru-Hole	Four Legs

Angle Plugs

Part Number	Body Material	Plating: Body	Plating: Contact	Terminal Type	Description
901-9894-RFX	Brass	Gold	Gold	Thru-Hole	Four Legs

Straight Jacks

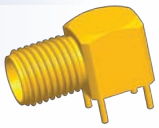


Part Number	Body Material	Plating: Body	Plating: Contact	Terminal Type	Description
901-144-8RFX	Brass	Gold	Gold	Thru-Hole	Four Legs
901-144	Stainless Steel	Gold	Gold	Thru-Hole	Four Legs
901-144-2	Stainless Steel	Gold	Gold	Thru-Hole	Four Legs
901-144-3	Stainless Steel	Gold	Gold	Thru-Hole	Four Legs
901-144-4	Stainless Steel	Gold	Gold	Thru-Hole	Four Legs

Printed Circuit Board Connectors (continued)

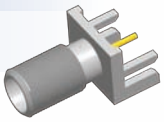
Angle Jacks

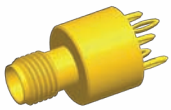
Part Number	Body Material	Plating		Terminal Type	Description
		Body	Contact		
901-143-6RFX	Brass	Gold	Gold	Thru-Hole	Four Legs
901-143	Stainless Steel	Gold	Gold	Thru-Hole	Four Legs
901-143-3	Stainless Steel	Gold	Gold	Thru-Hole	Four Legs
901-143-4	Stainless Steel	Gold	Gold	Thru-Hole	Four Legs



Edge Mount Jacks

Part Number	Body Material	Plating		Terminal Type
		Body	Contact	
901-9850	Brass	Nickel	Gold	Blunt Post
901-10003	Brass	Gold	Gold	Blunt Post
901-10019	Brass	Gold	Gold	Blunt Post
901-10110	Brass	Gold	Gold	Tab
901-10111	Brass	Gold	Gold	Tab
901-10044-4RFX	Brass	Gold	Gold	Tab
901-10044-6RFX	Brass	Gold	Gold	Blunt Post
901-10186	Brass	Gold	Gold	Blunt Post
901-1004-3RFX	Brass	Gold	Gold	Tab
901-1004-2RFX	Brass	Gold	Gold	Blunt Post
901-1004-1RFX	Brass	Gold	Gold	Blunt Post





Straight Press Fit Jacks

Part Number	Body Material	Plating		Terminal Type
		Body	Contact	
901-144-PFD	Brass	Nickel	Gold	Compliant Pin
901-144-PF8	Brass	Gold	Gold	Blunt Post

Reverse Polarity Cable Connectors

Straight Plugs

Cable Group	Part Number	Body Material	Plating		Termination	
			Body	Contact	Body	Contact
B	901-9852	Brass	Nickel	Gold	Crimp	Solder
C1	901-9884	Stainless Steel	Passivated	Gold	Crimp	Solder

Angle Plugs

Cable Group	Part Number	Body Material	Plating		Termination	
			Body	Contact	Body	Contact
C1	901-9908	Stainless Steel	Passivated	Gold	Crimp	Solder

Reverse Polarity Cable Connectors (continued)

Straight Bulkhead Jacks

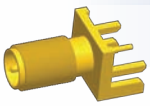
Cable Group	Part Number	Body Material	Plating		Termination	
			Body	Contact	Body	Contact
A	901-9990	Stainless Steel	Passivated	Gold	Crimp	Solder
B	901-9863	Stainless Steel	Passivated	Gold	Crimp	Solder
L	901-9857	Stainless Steel	Passivated	Gold	Crimp	Solder

Reverse Polarity Printed Circuit Board Connectors

Angle Jacks

Part Number	Body Material	Plating		Description
		Body	Contact	
901-9865	Stainless Steel	Gold	Gold	Post Terminal

Edge Mount Jacks



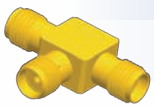
Part Number	Body Material	Plating		Description
		Body	Contact	
901-9864	Brass	Gold	Gold	Post Terminal

Adapters

In-Series Adapters

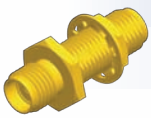
Part Number	Body Material	Plating		Description
		Body	Contact	
901-9217	Stainless Steel	Gold	Gold	Straight Jack-Jack
901-9217-SF	Stainless Steel	Passivated	Gold	Straight Jack-Jack
901-9216	Stainless Steel	Gold	Gold	Straight Plug-Jack
901-9216-SF	Stainless Steel	Passivated	Gold	Straight Plug-Jack
901-9218	Stainless Steel	Gold	Gold	Straight Plug-Plug
901-9218-SF	Stainless Steel	Passivated	Gold	Straight Plug-Plug
901-125-11	Stainless Steel	Gold	Gold	Angle Plug-Jack
901-125-11SF (QPL)	Stainless Steel	Passivated	Gold	Angle Plug-Jack

In-Series T-Adapters



Part Number	Body Material	Plating		Description
		Body	Contact	
901-178	Brass	Gold	Gold	Jack-Jack-Jack
901-382-1	Brass	Gold	Gold	Jack-Jack-Jack

In-Series Bulkhead Adapters



Part Number	Body Material	Plating		Description
		Body	Contact	
901-9209-A	Brass	Gold	Gold	Jack-Jack Front or Rear Mount
901-9209-ASF	Brass	Gold	Gold	Jack-Jack Front or Rear Mount

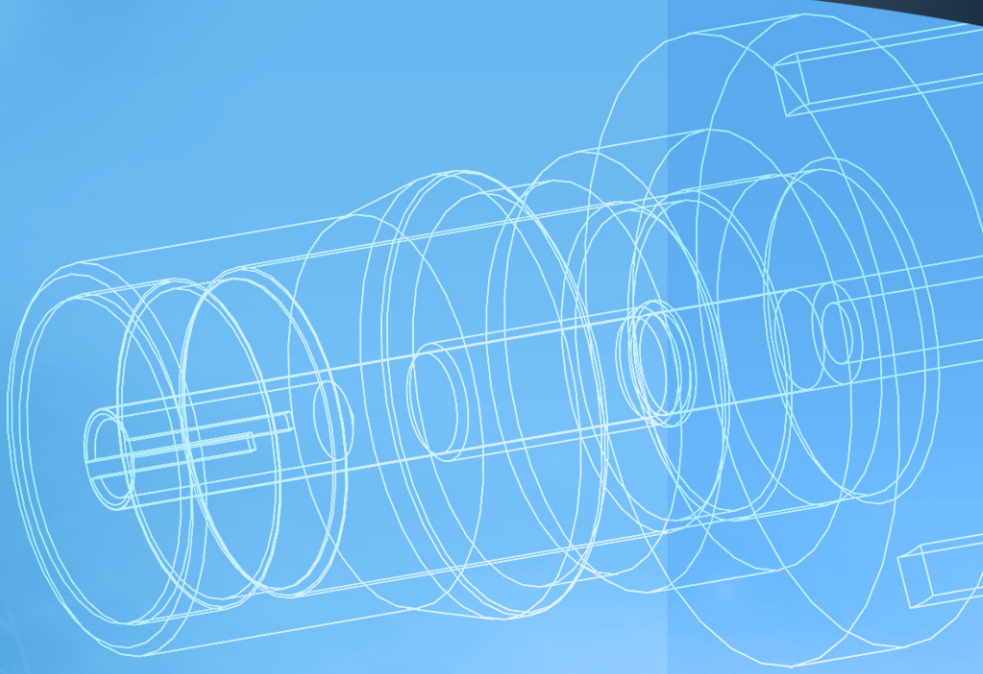
Notes

Cable Group Listing

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

Cable Group Listing

QMA



QMA Connectors

QMA Connector Series

Description

The QMA connector is a quick disconnect version of the SMA connector and shares the same internal construction, which allows the connector to have excellent performance. The electrical performance benefits of the QMA include low loss RF performance up to 18 GHz. Because of the innovative coupling mechanism, a 360-degree butt joint is maintained which results in low RF leakage. Since the RF line is identical to the SMA series, the QMA connectors also offer the same high power handling capability. This gives the series significant advantages over other quick disconnect connectors. Amphenol RF is a member of the Quick Lock Formula® Alliance. For further information on the QLF®, visit www.qlf.info.

Features/Benefits

- Operates at the same electrical performance as SMA up to 18 GHz
- Snap-on interface for quick and easy installation
- Rotatable 360˚ after connection for flexibility with installation
- Higher Packaging Density, Size equivalent to SMA, but space saving as there is no need for wrench clearance.

Applications

- Base Station Equipment
- Amplifiers

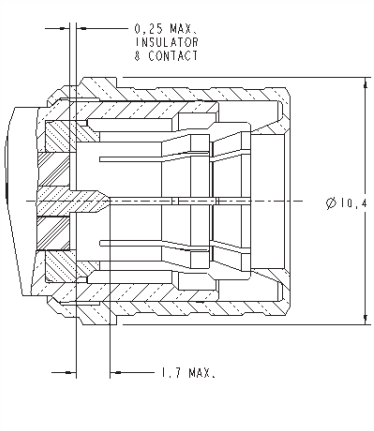
QMA Specifications

Electrical	Requirements
Impedance	50 Ω
Frequency	DC to 18 GHz
Dielectric Withstanding Voltage	1000 V RMS 50 Hz, sea level
Working Voltage	≤ 480 V RMS 50 Hz, sea level
Insulation Resistance	5 x10^3 MΩ min. (initial)
Power Handling	150 W @ 2.5 GHz typical
Contact Resistance	
center contact	3.0 mΩ max. (initial)
outer contact	2.5 mΩ max. (initial)
Passive Intermodulation	-120 dBc @ 1.8 GHz 2x 20 W static
Screening Effectiveness	
DC to 3 GHz	-80 dB min.
3 to 6 GHz	-70 dB min.

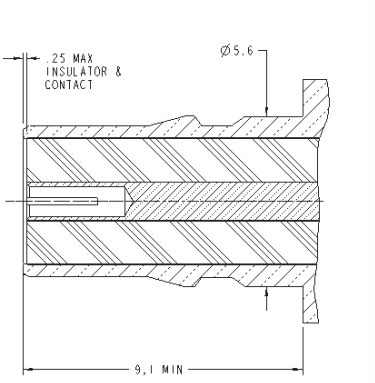
Mechanical	Requirements
Mating Characteristics	
Engagement Force	25 N typical
Disengagement Force	20 N typical
Interface Retention Force	60 N min.
Durability	100 mating cycles min.
Connector pitch	12.4 mm min. center to center

Environmental	Requirements
Temperature Range	- 40°C to + 85°C
Thermal Shock	IEC 60169-1 16.4 (-40° C / + 85° C)
Corrosion	IEC 60169-1 16.7 (48 hrs)
Damp Heat	IEC 60169-1 16.3 (96 hrs) steady state
Vibration	IEC-68-2-64 random
	5-20 Hz: 1.29 $(m/s^2)^2$ /Hz 20-500 Hz: -3dB/octave

Plug



Jack



Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
L	930-108P-51S	White Bronze	Gold	Solder	Crimp
B2	930-115P-51S	White Bronze	Gold	Crimp	Crimp
L2	930-119P-51S	White Bronze	Gold	Solder	Solder
C	930-120P-51S	White Bronze	Gold	Crimp	Solder
B	930-129P-51S	White Bronze	Gold	Crimp	Crimp

Angle Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
G2	930-106P-51A	White Bronze	Gold	Crimp	Solder
C	930-110P-51A	White Bronze	Gold	Crimp	Solder
L	930-103P-51A	Gold	Gold	Solder	Solder
L2	930-104P-51A	Gold	Gold	Solder	Solder
C1	930-150P-51A	White Bronze	White Bronze	Crimp	Solder
B	930-118P-51A	White Bronze	Gold	Crimp	Solder

Straight Bulkhead Jacks

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B	930-124J-51S	White Bronze	Gold	Crimp	Solder
B2	930-123J-51S	White Bronze	Gold	Crimp	Solder
C	930-125J-51S	White Bronze	Gold	Crimp	Solder
L2	930-121J-51S	Gold	Gold	Solder	Captivated
L	930-122J-51S	Gold	Gold	Solder	Captivated

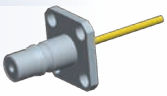
Receptacles

Straight Press Fit Jacks

Part Number	Plating: Body	Plating: Contact
930-105J-51S	White bronze	Gold

Straight Panel Jacks: 4-Hole Flange

Part Number	Plating: Body	Plating: Contact
930-109J-51S	White bronze	Gold



Angle Bulkhead Jacks

Part Number	Plating: Body	Plating: Contact	Description
930-111J-51P	Gold	Gold	Tape & Reel, 200 piece

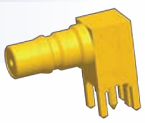
Printed Circuit Board Connectors

Straight Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type
930-116J-51P	White bronze	White bronze	Blunt Post

Angle Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type
930-128J-51P	Gold	Gold	Thru-Hole



* Amphenol RF is a member of the Quick Lock Formula® Alliance.
For further information on the QLF®, visit www.qlf.info.

Cable Group Listing

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

Cable Group Listing

MINI-UHF

Mini-UHF Connectors

Mini-UHF Connectors

Description

Mini-UHF is a miniature version of the UHF connectors that were developed for use in the radio industry. Mini-UHF connectors are designed for use as coaxial interconnection in cell phones, automotive systems, and similar applications where size, weight, and cost factors are critical. Mini-UHF connectors terminate to RG-58, RG-58A, RG-58B, RG-58C, and Belden 9258 cables. Crimp-type cable plugs and jacks are available as well as panel and printed circuit board receptacles.

Features/Benefits

- Miniature 3/8-24 thread size provides excellent RF performance
- The small size and light weight provide excellent electrical characteristics
- Crimp-type cable terminations provide low installation cost
- Diecast bodies and molded insulators ensure low cost
- Teflon insulators provide higher temperature range

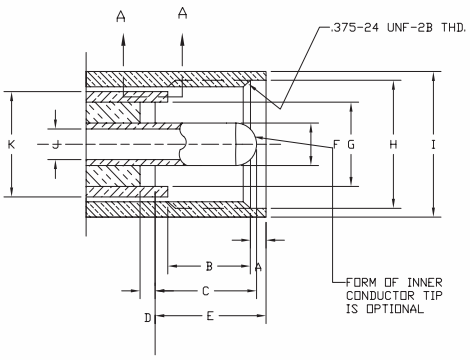
Applications

- Antennas
- Cable Assemblies
- Cellular

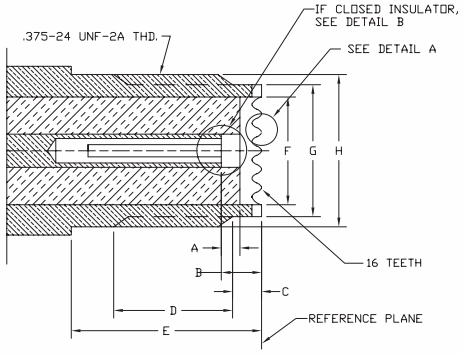
Mini-UHF Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC - 2.5 GHz
VSWR	1.25 max. @ DC - 2.5 GHz
Voltage rating (at sea level)	≤ 335 Vrms (depending on cable)
Insulation resistance	5,000 MΩ minimum
Dielectric withstanding voltage	1,000 Vrms (at sea level)
Mechanical	
Mating	3/8-24 threaded coupling
Braid/Jacket cable affixment	Hex crimp
Center conductor cable affixment	Crimp
Environmental	
Temperature range	-55°C to +85°C
Thermal shock	MIL-STD-202, method 107, cond. A
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. A
Mechanical shock	MIL-STD-202, method 213, cond. 1
Material	
Other metal parts	Brass or zinc alloy, nickel plated
Insulator	PTFE

Plug



Jack



Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
C	81-115N-1000	Nickel	Gold	Crimp	Crimp
C	81-115BK-1000	Black Chromate	Gold	Crimp	Crimp
E	81-181-RFX	Nickel	Gold	Crimp	Solder
G2	81-114-RFX	Nickel	Gold	Crimp	Solder

Angle Plugs

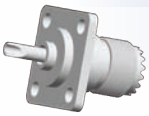
Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
C	81-141-1002	Nickel	Tin	Crimp	Solder

Straight Jacks

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
C	81-116	Nickel	Tin	Crimp	Gold
C	81-183-RFX	Nickel	Gold	Crimp	Solder
E	81-182-RFX	Nickel	Gold	Crimp	Solder

Receptacles

Straight Panel Jacks



Part Number	Plating	
	Body	Contact
81-118-1001	Nickel	Tin

Straight Bulkhead Jacks

Part Number	Plating	
	Body	Contact
81-120	Nickel	Tin

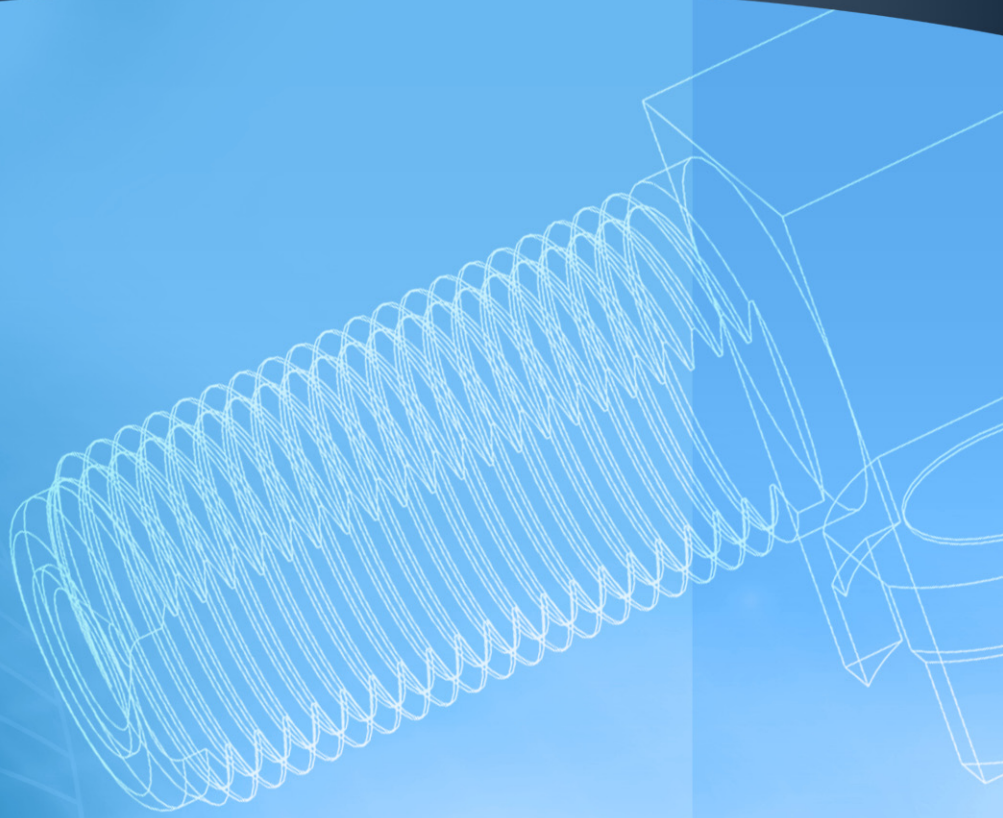
Notes

Cable Group Listing

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

Cable Group Listing

TYPE F



Type F Connectors

Type F Connector Series

Description

Type F connectors are miniature threaded connectors used extensively in the cable television industry. The connectors feature a 3/8-32 threaded interface, and cable mounted connectors feature crimp termination. Amphenol's line of F connectors are designed to meet the demands of high speed cable modems and customer interface units. Primary applications are for cable television (CATV), set top boxes, and cable modems.

Features/Benefits

- Patent pending contact design provides a truly cylindrical coaxial contact and provides superior RF performance and excellent insertion/withdrawal characteristics.
- 30 dB return loss to 1 GHz ensures a high performance specification that outperforms competition.
- Multiple PCB mount packages: surface mount, edge mount, right angle and straight.
- Accommodates .022-.042 inch center conductor sizes.

Applications

- Cable Assemblies
- CATV
- CIMs
- Head End Equipment
- High Speed Cable Modems
- Hybrid Fiber Coax Networks
- Set Top Boxes

Type F Specifications

Electrical

Impedance	75 Ω
Frequency range	DC - 3 GHz
Return loss	30 dB @ DC - 1 GHz
RF-leakage	100 dB minimum @ 1 GHz

Mechanical

Mating	3/8-32 threaded coupling
Braid/Jacket cable affixment	Hex crimp
Durability (matings)	100 cycles minimum

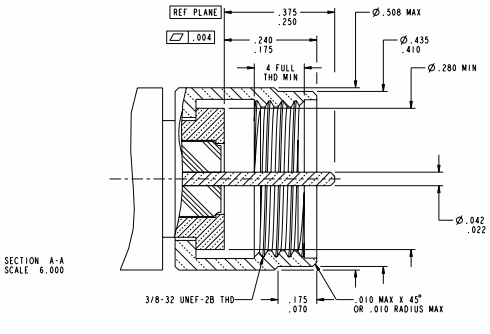
Environmental

Temperature range	-40°C to +140°C

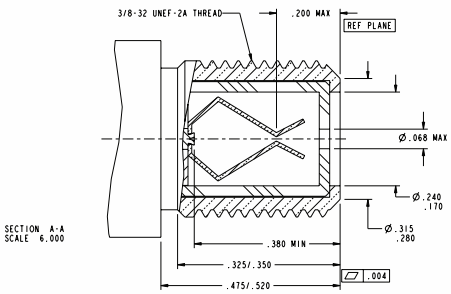
Material

Female contact	Beryllium copper or phosphor bronze, matte tin plated
Crimp ferrule	Copper or brass, nickel or matte tin plated
Other metal parts	Brass, nickel or tin plated
Insulator	PTFE

Plug

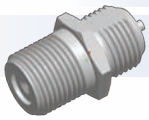


Jack



Receptacles

Straight Jacks



Part Number	Plating: Body	Plating: Contact	Terminal Type
531-40001	Tin	Tin	Round (PC Board)

Printed Circuit Board Connectors

Straight Plugs

Part Number	Plating: Body	Plating: Contact	Description
531-40135	Tin	Tin	Push-On

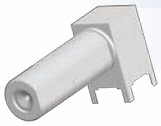
Straight Edge Mount Jacks

Part Number	Plating: Body	Plating: Contact
531-40035-1006	Tin	Tin
531-40039	Tin	Tin
531-40101	Nickel	Tin
531-40144	Nickel	Tin

Straight Bulkhead Jacks

Part Number	Plating: Body	Plating: Contact	Description
531-40046-1	Tin	Tin	With Gasket & Nut
531-40046-3	Tin	Tin	Without Nut
531-40103	Tin	Tin	With Nut, Lockwasher, Gasket
531-40132	Tin	Tin	Without Nut

Angle Jacks



Part Number	Plating: Body	Plating: Contact	Description
531-40047-3	Tin	Tin	With Hardware
531-40047-4	Tin	Tin	Without Hardware
531-40136	Tin	Tin	
531-40156	Tin	Tin	
531-40165	Tin	Tin	Moisture Sealed

Adapters

Straight Jack-Jack

Part Number	Body Plating	Contact Plating
531-40008	Tin	Tin
531-40120	Tin	Tin

Bulkhead Jack-Jack

Part Number	Body Plating	Contact Plating
531-40147	Tin	Nickel

Straight Plug-Jack

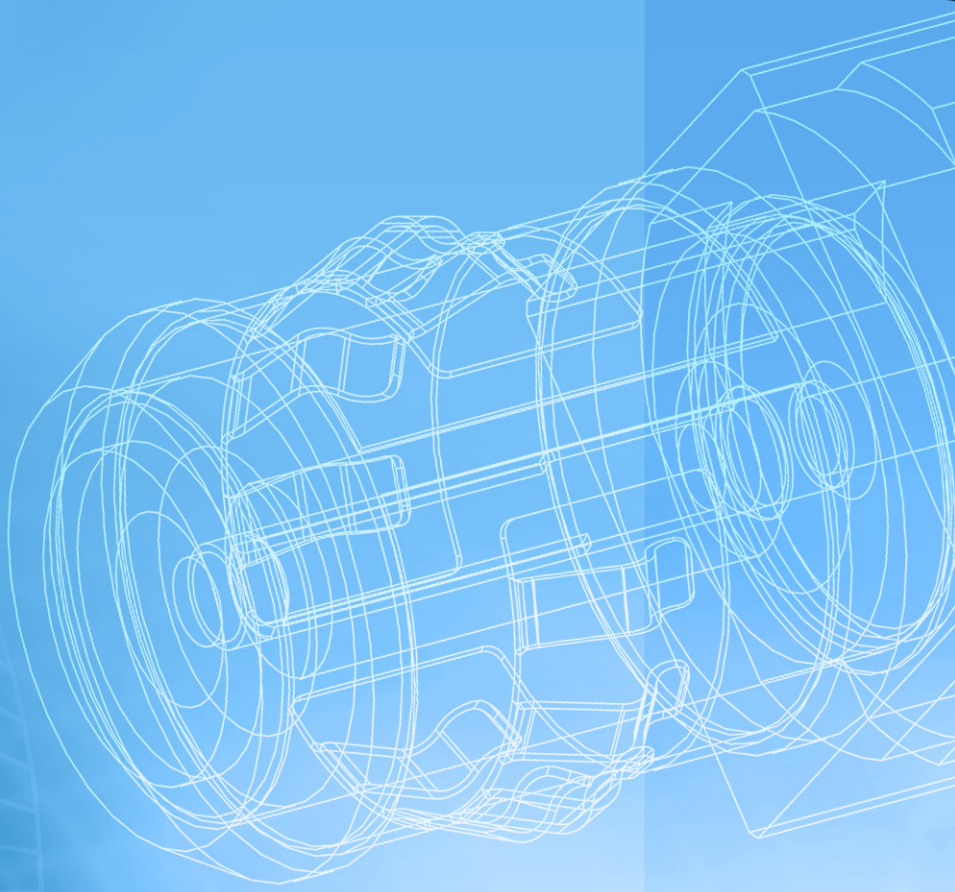
Part Number	Body Plating	Contact Plating
531-40148	Tin	Nickel

Cable Group Listing

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

Cable Group Listing

TYPE G



Type G Connectors

Type G Connector Series

Description

Type G is a slide-on alternative to the Type F with 15A continuous current rating. All connectors comply with the MIL-STD-202 specification for vibration, shock, thermal shock, moisture resistance and salt spray. Since the Type G has an impedance of 75 Ω, it is ideal for CATV applications. This connector line consists of Bulkhead Mount Jack Receptacles and PCB Mount Jack Receptacles.

Features/Benefits

- Push-on blind mate capabilities using BeCu springs provide quick installation and multiple matings
- Version available with 15 Amp continuous current capability meets new generation equipment for HFC Networks (Hybrid Fiber Coax)
- Truly cylindrical coaxial contact provides superior RF performance and excellent insertion/withdrawal characteristics
- 30 dB return loss to 1 GHz with 10 Amp current capability. 20 dB return loss with 15 Amp version provides high performance.

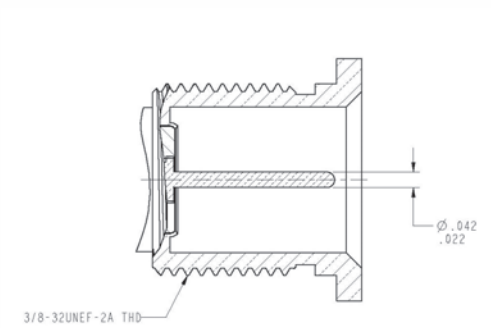
Applications

- CATV
- Head End Equipment
- Components (Amplifiers)
- Hybrid Fiber Coax Networks
- Set Top Boxes

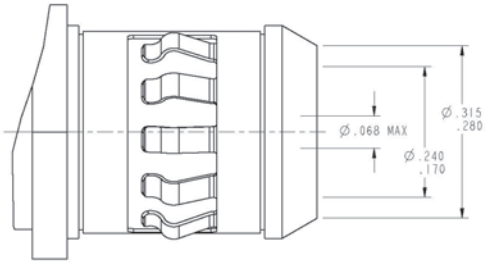
Type G Specifications

Electrical	
Impedance	75 Ω
Frequency range	DC - 3 GHz
Return loss	30 dB @ DC - 1 GHz
RF-leakage	100 dB minimum @ 1 GHz
Mechanical	
Mating	Push-on coupling
Braid/Jacket cable affixment	Hex crimp
Durability (matings)	100 cycles minimum
Environmental	
Temperature range	-40°C to +140°C
Material	
Female contact	Beryllium copper or phosphor bronze, matte tin plated
Crimp ferrule	Copper or brass, nickel or matte tin plated
Other metal parts	Brass, nickel or tin plated
Insulator	PTFE

Plug



Jack



Receptacles

Straight Bulkhead Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type	Description
531-40065	Bright Acid Tin	Bright Acid Tin	Round	Panel Mount (Threaded)
531-40024	Bright Acid Tin	Silver	Round	Panel Mount (Threaded)
531-40131	Tin	Gold	Round	Panel Mount (Threaded)

Printed Circuit Board Connectors

Straight Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type
531-40051	Bright Acid Tin	Gold	Thru-Hole
531-40070	Tin	Gold	Thru-Hole

Straight Edge Mount Jacks

Part Number	Plating: Body	Plating: Contact	Terminal Type
531-40106	Tin	Tin	Round

Adapters

Straight Jack-Jack

Part Number	Plating: Body	Plating: Contact
531-40119	Bright Acid Tin	Bright Acid Tin

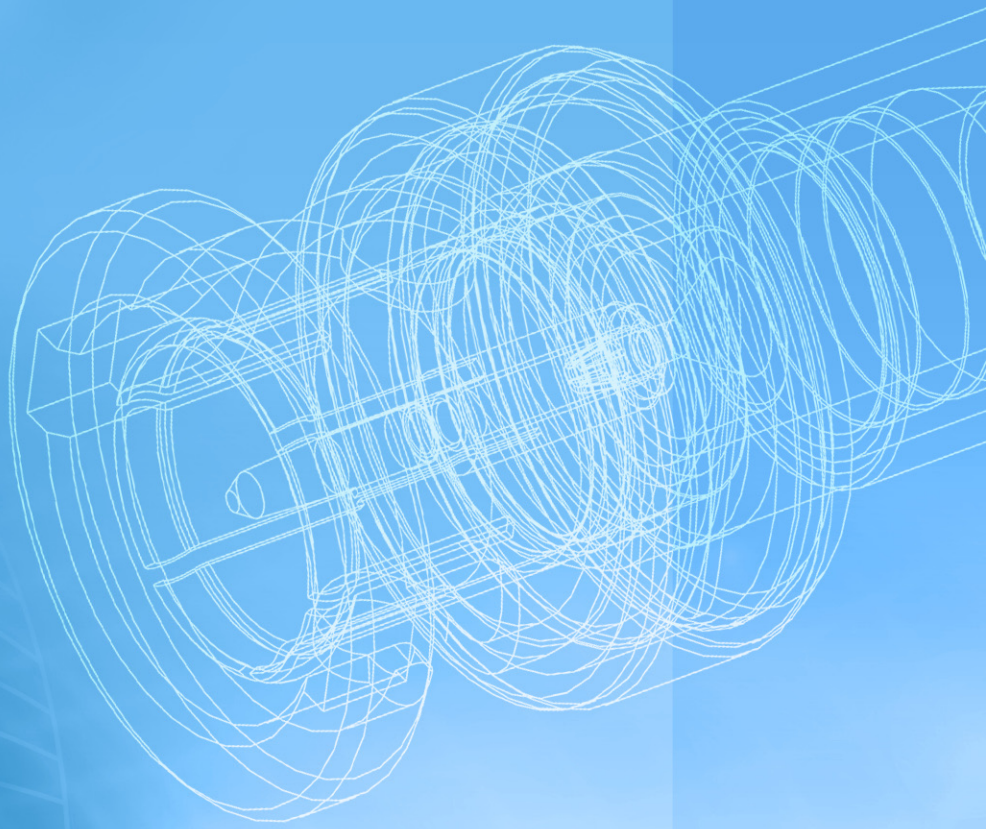
Notes

Cable Group Listing

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

Cable Group Listing

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 Ω 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 75Ω 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 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

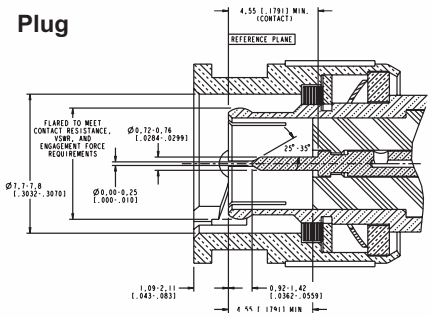
Environmental

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

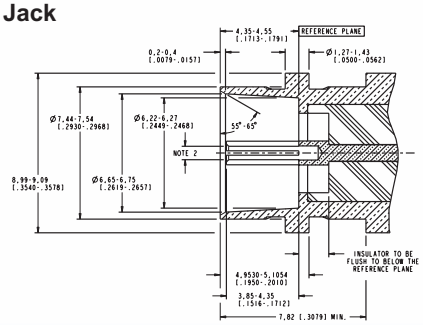
Material

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	Plating	
		Body	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	Plating	
		Body	Contact
I2	031-70333	Nickel	Gold

Straight Crimp-Crimp Jacks

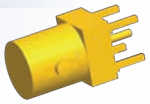
Cable Group	Part Number	Plating	
		Body	Contact
B	031-70331	Nickel	Gold

Straight Crimp-Crimp Bulkhead Jacks

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

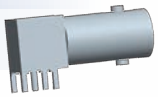
Receptacles

Straight Jacks



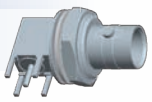
Part Number	Plating Body	Plating Contact
031-70250	Gold	Gold
031-70249	Nickel	Gold

Angle Jacks



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

Cable Group Listing

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

Cable Group Listing

BNC

BNC Connectors

BNC Connectors

Description

Developed in the late 1940's as a miniature version of the Type C connector, BNC stands for Bayonet Neill Concelman and is named after Amphenol engineer Carl Concelman. 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. BNC's are ideally suited for cable termination for miniature to subminiature coaxial cable (RG-58, 59, to RG-179, RG-316, etc.)

Amphenol 50 Ω BNC connectors are miniature, lightweight units useable 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.

A variety of our 50 Ω BNC connectors are recognized under the Component program of Underwriter's Laboratories, Inc. These connectors are ideal for use with medical equipment and test instrumentation where safety cannot be compromised.

Amphenol also offers a full line of 75 Ω BNC connectors to meet the needs for higher performance impedance-matched cable interconnections. These connectors can be used in a variety of applications where true 75 Ω performance is needed to insure low signal distortion. Designed for the most popular 75 Ω cables used in broadcast and telecommunications applications as well as for plenum and other cables, these connectors feature crimp-crimp cable affixment for quick and reliable installation.

Part numbers that are listed with the appropriate M39012 number 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 die cast and molded components.

Reverse Polarity BNC's are also available. Reverse polarity is a keying system accomplished with a reverse interface, and ensures that reverse polarity interface connectors do not mate with standard interface connectors. Amphenol accomplishes this by inserting female contacts into plugs and male contacts into jacks. Other manufacturers may use reverse threading to accomplish reverse polarity keying.

Features/Benefits

- Bayonet coupling mechanism provides quick mating and unmating
- 50 Ω and 75 Ω impedance designs allow customers to match system requirements
- 50 Ω and 75 Ω connectors are intermateable
- Four grades of connectors are available for military, industrial, commercial and performance applications

Applications

- Antennas
- Base Stations
- Broadcast
- Cable Assemblies
- Computers/LANs
- Radios
- Satellite Communications
- Surge Protection
  - Telecom
- Instrumentation
- Oscilloscopes
- Medical Equipment

50 Ω BNC Specifications

Electrical

Impedance	50 Ω nominal
Frequency range	DC - 4 GHz (usable to 11 GHz)
VSWR	1.3 max. @ DC - 4 GHz (straight) 1.35 max. @ DC - 4 GHz (right-angle)
RF-leakage	55 dB minimum @ 3 GHz
Voltage rating (at sea level)	≥ 500 V peak (depending on cable)
Contact resistance	center contact: ≤ 1.5 mΩ outer contact: ≤ 0.2 mΩ braid to body: ≤ 0.1 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	0.2 dB max. @ 3 GHz
Dielectric withstanding voltage	1,500 Vrms (at sea level)

Mechanical

Mating	2-stud bayonet lock coupling (MIL-STD-348)
Attachment method (inner / outer)	Crimp, clamp
Coupling torque, min./max.	0.6 / 2.5 in-lbs (7 / 28 N-cm)
Coupling nut retention force	101 lbs (450N) min.
Center contact retention force	≥ 6.1 lbs (27N)
Braid/Jacket cable affixment	Hex crimp or screw-threaded clamps
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	-65°C to +165°C
- copolymer of styrene:	-55°C to +85°C
Hermetic seals	Helium leak test, 2 x 10^8 cc/sec.
Thermal shock	MIL-STD-202, method 102, cond. D
Moisture resistance	MIL-STD-202, method 106
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. D
Mechanical shock	MIL-STD-202, method 202
Altitude	MIL-STD-202, method 105, cond. C

Note: These characteristics are typical but may not apply to all connectors.

50 Ω BNC Specifications (continued)

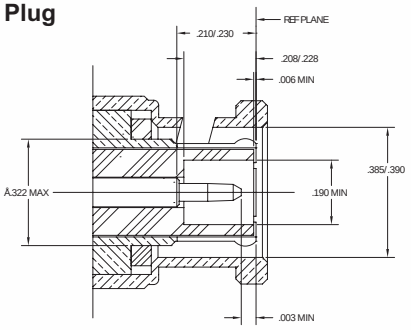
Material

Body and outer contacts	Brass, nickel plated
Male contact	Brass, gold plated
Female contact	Beryllium copper or phosphor bronze, gold or silver plated
Crimp ferrule	Copper or brass, nickel plated
Other metal parts	Brass, nickel plated (except M39012 silver plated)
Insulator	PTFE, copolymer of styrene, glass TFE (hermetically sealed)
Gasket	Silicone rubber

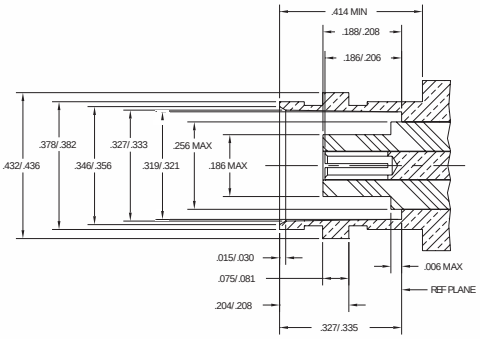
Military

MIL-C-39012	where applicable

Plug



Jack



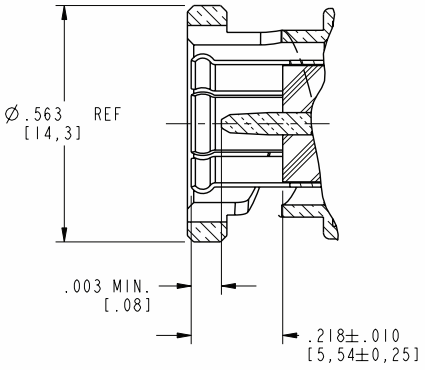
75 Ω BNC Specifications

Electrical

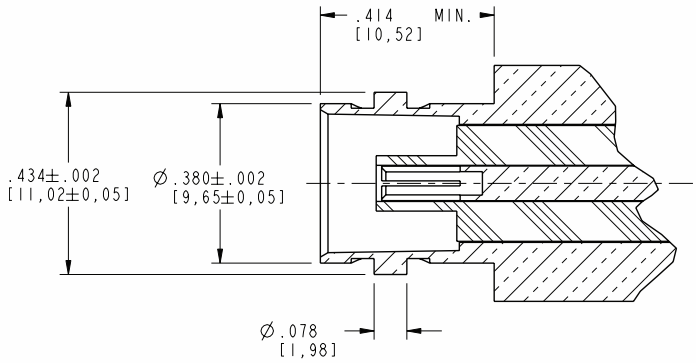
Impedance	75 Ω nominal
Frequency range	Type 1: DC – 4 GHz (performance grade useable to 6 GHz) Type 2: DC – 1 GHz
VSWR	Type 1: 1.5 + 0.1 f (GHz) DC – 4 GHz Type 1 (Performance grade): 1.16 max. @ DC – 3 GHz Type 2: 1.0 + 0.25 f (GHz) DC – 1 GHz
RF-leakage	55 dB minimum @ 3 GHz
Voltage rating (at sea level)	≥ 500 Vrms (depending on cable)
Contact resistance	center contact: ≤ 1.5 mΩ outer contact: ≤ 0.2 mΩ braid to body: ≤ 0.1 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	0.2 dB max. @ 3 GHz
Dielectric withstanding voltage	1,500 Vrms (at sea level)

Mechanical	
Mating	2-stud bayonet lock coupling (MIL-STD-348)
Attachment method (inner / outer)	Crimp, clamp
Coupling torque, min./max.	0.6 / 2.5 in-lbs (7 / 28 N-cm)
Coupling nut retention force	101 lbs (450N) min.
Center contact retention force	≥ 6.1 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	-65°C to +165°C
Thermal shock	MIL-STD-202, method 102, cond. D
Moisture resistance	MIL-STD-202, method 106
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. D
Mechanical shock	MIL-STD-202, method 202
Altitude	MIL-STD-202, method 105, cond. C
Material	
Body and outer contacts	Brass or phosphor bronze, nickel plated
Male contact	Brass, gold plated
Female contact	Beryllium copper or phosphor bronze, silver or gold plated
Crimp ferrule	Copper or brass, nickel plated
Other metal parts	Brass, nickel plated
Insulator	PTFE
Gasket	Silicone rubber
Military	
MIL-C-39012	where applicable

Plug



Jack



Note: These characteristics are typical but may not apply to all connectors.

50Ω Cable Connectors

Straight Crimp Plugs

Cable		Plating		Termination		
Group	Part Number	Body	Contact	Body	Contact	Grade
B	031-315	Nickel	Gold	Crimp	Crimp	Industrial
B	031-315-RFX	Nickel	Gold	Crimp	Crimp	Commercial
B1	031-242	Nickel	Gold	Crimp	Crimp	Industrial
B1	031-242-RFX	Nickel	Gold	Crimp	Crimp	Commercial
B2	031-315-1005	Nickel	Gold	Crimp	Crimp	Industrial
C	031-320	Nickel	Gold	Crimp	Crimp	Industrial
C	031-320-RFX	Nickel	Gold	Crimp	Crimp	Commercial
C	031-4320 (QPL)	Silver	Gold	Crimp	Crimp	Industrial
C	031-5800	Nickel	Gold	Crimp	Solder	Commercial
C1	031-326	Nickel	Gold	Crimp	Crimp	Industrial
C1	031-326-RFX	Nickel	Gold	Crimp	Crimp	Commercial
C1	031-4427 (QPL)	Silver	Gold	Crimp	Crimp	Industrial
D	031-320-1006	Nickel	Gold	Crimp	Crimp	Industrial
E	031-321	Nickel	Gold	Crimp	Solder	Industrial
E	031-321-RFX	Nickel	Gold	Crimp	Crimp	Commercial
E	031-4321 (QPL)	Silver	Gold	Crimp	Crimp	Industrial
E	031-5900	Nickel	Gold	Crimp	Solder	Commercial
E	000-68175-1005	Nickel	Gold	Crimp	Crimp	Industrial
E	000-68175-11RFX	Nickel	Gold	Crimp	Crimp	Commercial
E1	000-68175-5RFX	Nickel	Gold	Crimp	Crimp	Commercial
E2	031-321-1000	Nickel	Gold	Crimp	Crimp	Industrial
F	000-68175-1003	Nickel	Gold	Crimp	Crimp	Industrial
G2	031-5999-RFX	Nickel	Gold	Crimp	Crimp	Commercial
G2	031-6006	Nickel	Gold	Crimp	Crimp	Commercial
G3	031-5998-RFX	Nickel	Gold	Crimp	Crimp	Commercial
H2	031-4411	Nickel	Gold	Crimp	Crimp	Industrial
K3	031-325	Nickel	Gold	Crimp	Crimp	Industrial

Angle Crimp Plugs

Cable		Plating		Termination		
Group	Part Number	Body	Contact	Body	Contact	Grade
B	031-316	Nickel	Gold	Crimp	Crimp	Industrial
C	031-335	Nickel	Gold	Crimp	Crimp	Industrial
C	031-335-RFX	Nickel	Gold	Crimp	Crimp	Commercial
E	031-336	Nickel	Gold	Crimp	Crimp	Industrial
E	031-336-RFX	Silver	Gold	Crimp	Crimp	Commercial
G2	031-6005-RFX	Nickel	Gold	Crimp	Solder	Commercial
G3	031-6004-RFX	Nickel	Gold	Solder	Crimp	Commercial

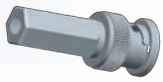
Press Fit Plugs

		Plating		Termination		
Cable Group	Part Number	Body	Contact	Body	Contact	Grade
C	031-5557-RFX	Nickel	Gold	Crimp	Press Fit	Commercial
D	031-5559-RFX	Nickel	Gold	Crimp	Press Fit	Die Cast
E	031-5556-RFX	Nickel	Gold	Crimp	Press Fit	Commercial
G1	031-5558-RFX	Nickel	Gold	Crimp	Press Fit	Commercial

Straight Clamp Plugs

		Plating		Termination		
Cable Group	Part Number	Body	Contact	Body	Contact	Grade
A	000-15875	Nickel	Silver	Clamp	Solder	Industrial
B	000-69475	Nickel	Silver	Clamp	Solder	Industrial
C	031-202	Nickel	Silver	Clamp	Solder	Industrial
C	031-2-RFX	Nickel	Gold	Clamp	Solder	Commercial
C	031-3301 (QPL)	Silver	Gold	Clamp	Solder	Industrial
E	031-212	Nickel	Silver	Clamp	Solder	Industrial
E	031-212-1005	Nickel	Silver	Clamp	Solder	Industrial
E	031-212-RFX	Nickel	Gold	Clamp	Solder	Commercial
E	031-3302 (QPL)	Silver	Gold	Clamp	Solder	Industrial
G4	000-6775	Nickel	Silver	Clamp	Solder	Industrial

Sure Twist® Plugs



		Plating		Termination		
Cable Group	Part Number	Body	Contact	Body	Contact	Grade
C	031-5137	Nickel	Tin	Twist On		Industrial
C	031-5137-RFX	Nickel	Gold	Twist On		Commercial
E	031-5136	Nickel	Matte Tin	Twist On		Industrial
E	031-5136-RFX	Nickel	Gold	Twist On		Commercial

50Ω Cable Connectors (continued)

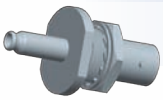
Straight Crimp Jacks

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact	Grade
B	031-317	Nickel	Gold	Crimp	Crimp	Industrial
C	031-4327 (QPL)	Silver	Gold	Crimp	Crimp	Industrial
C	000-36800-RFX	Nickel	Gold	Crimp	Crimp	Commercial
C	000-36800	Nickel	Gold	Crimp	Crimp	Industrial

Straight Clamp Jacks

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact	Grade
C1	031-5	Nickel	Gold	Clamp	Solder	Industrial
E	031-15	Nickel	Silver	Clamp	Solder	Industrial

Straight Bulkhead Crimp Jacks



Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact	Grade
B	031-318	Nickel	Gold	Crimp	Crimp	Industrial
B	031-318-RFX	Nickel	Gold	Crimp	Crimp	Commercial
C	031-342	Nickel	Gold	Crimp	Crimp	Industrial
C	031-342-RFX	Nickel	Gold	Crimp	Crimp	Commercial
E	031-343-RFX	Nickel	Gold	Crimp	Solder	Commercial

Straight Bulkhead Clamp Jacks

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact	Grade
C	031-206	Nickel	Silver	Clamp	Solder	Industrial
E	031-207	Nickel	Silver	Clamp	Solder	Industrial
B	000-86350	Nickel	Silver	Clamp	Solder	Industrial

50Ω Receptacles

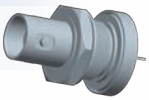
Straight Panel Jacks

Part Number	Plating Body	Plating Contact	Terminal Type	Description	Grade
031-105	Nickel	Silver	Solder Cup	4-hole Square Flange .120” Dia.	Industrial
031-203	Nickel	Silver	Solder Cup	4-hole Square Flange No. 3-56	Industrial
031-203-RFX	Nickel	Gold	Solder Cup	4-hole Square Flange .125” Dia.	Commercial
000-4500	Nickel	Silver	Turret	4-hole Square Flange .136” Dia.	Industrial

Front Mount Bulkhead Panel Jacks

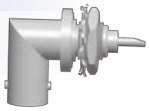
Part Number	Plating Body	Contact	Terminal Type	Description	Grade
031-10	Nickel	Silver	Solder Cup	Isolated	Industrial
031-10-RFX	Nickel	Silver	Solder Cup	Isolated	Commercial
031-102	Nickel	Silver	Solder Cup	Pressurized	Industrial
031-221	Nickel	Silver	Solder Cup		Industrial
031-221-RFX	Nickel	Gold	Solder Cup		Commercial
031-2221	Nickel	Silver	Solder Cup		Industrial
031-236	Nickel	Silver	Solder Cup		Industrial
031-239	Nickel	Silver	Solder Cup	Pressurized	Industrial
031-3376 (QPL)	Silver	Gold	Solder Cup		Industrial
031-4238 (QPL)	Silver	Gold	Eyelet	Hermetic	Industrial
031-4890-1	Silver	Silver	Solder Cup	Isolated	Industrial

Rear Mount Bulkhead Panel Jacks



Part Number	Plating Body	Contact	Terminal Type	Description	Grade
031-237 (QPL)	Silver	Gold	Eyelet	Rear Mount, Hermetic	Industrial

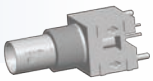
Angle Bulkhead Panel Jacks



Part Number	Plating Body	Contact	Terminal Type	Description	Grade
031-222	Nickel	Silver	Solder Cup	With Tooth Lockwasher	Industrial

50Ω Printed Circuit Board Connectors

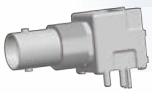
Straight Jacks



Part Number	Plating Body	Contact	Mounting Style	Grade	Description
031-5633	Nickel	Gold	Blunt Post	Industrial	
031-5493-1010	Nickel	Gold	Compliant Pin	Industrial	
031-5633-1010	Nickel	Gold	Compliant Pin	Industrial	
000-18225	Nickel	Silver	Blunt Post (Sq.)	Industrial	4 Leg Post Terminal 040(1.0), Dia. X .125(3.2) Long
031-5329	Nickel	Gold	Blunt Post (Flush)	Industrial	3 Leg Long Post Terminal .040(1.0), Dia. X .125(3.2) Long/.025(0.6)
031-5329-51RFX	Nickel	Silver	Blunt Post (Lip)	Commercial	4 Legs .176(4.5) Long/Post Terminal, .037(0.9) Dia
031-5329-52RFX	Nickel	Gold	Blunt Post (Lip)	Commercial	4 Legs .176(4.5) Long/Post Terminal, .037(0.9) Dia

50Ω Printed Circuit Board Connectors (continued)

Angle Jacks

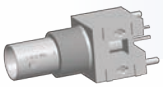


Part Number	Plating Body	Plating Contact	Mounting Style	Grade	Description
031-5640	Nickel	Gold	Blunt Post	Industrial	
031-5640-1010	Nickel	Gold	Compliant Pin	Industrial	
031-5431	Nickel	Gold	Blunt Post	Industrial	
031-5538-1010	Nickel	Gold	Compliant Pin	Industrial	
031-5431-1010	Nickel	Gold	Compliant Pin	Industrial	White Plastic Housing
031-5431-10RFX	Nickel	Gold	Compliant Pin	Commercial	White Plastic Housing
031-5486-10RFX	Nickel	Gold	Compliant Pin	Commercial	White Plastic Housing
031-5538	Nickel	Gold	Blunt Post	Industrial	Black Plastic Housing
031-5538-10RFX	Nickel	Gold	Compliant Pin	Commercial	Black Plastic Housing

Low Profile Angle Jacks

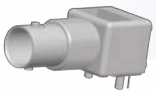
Part Number	Plating Body	Plating Contact	Mounting Style	Grade
031-5637	Nickel	Gold	Blunt Post	Industrial
031-5540-1010	Nickel	Gold	Compliant Pin	Industrial

Straight Bulkhead Jacks



Part Number	Plating Body	Plating Contact	Mounting Style	Description	Grade
031-5493	Nickel	Gold	Blunt Post	White Plastic Housing	Industrial
031-5539	Nickel	Gold	Blunt Post	Black Plastic Housing	Industrial
031-5539-1010	Nickel	Gold	Blunt Post	Black Plastic Housing	Industrial

Low Profile Angle Bulkhead Jacks



Part Number	Plating Body	Plating Contact	Mounting Style	Description	Grade
031-5486	Nickel	Gold	Blunt Post	White Plastic Housing	Industrial
031-5486-1010	Nickel	Gold	Compliant Pin	White Plastic Housing	Industrial
031-5540	Nickel	Gold	Blunt Post	Black Plastic Housing	Industrial

50Ω Adapters

Straight Plug-Plug

Part Number	Plating Body	Plating Contact	Description	Grade
031-218	Nickel	Silver	Straight, Plug-Plug	Industrial
031-218-RFX	Nickel	Gold	Straight, Plug-Plug	Commercial

Straight Jack-Jack

Part Number	Plating Body	Plating Contact	Grade
031-219	Nickel	Silver	Industrial
031-219-RFX	Nickel	Silver	Commercial

Straight Jack-Jack, Panel Mount

Part Number	Plating: Body	Plating: Contact	Grade
000-47000	Nickel	Gold	Industrial

Angle Jack-Plug

Part Number	Plating: Body	Plating: Contact	Grade
031-9	Nickel	Silver	Industrial
031-9-RFX	Nickel	Gold	Commercial

Straight Jack-Jack Bulkhead Adapters

Part Number	Plating: Body	Plating: Contact	Description	Grade
031-220G-RFX	Nickel	Gold	Gasket Sealed	Commercial
031-220H	Nickel	Silver	Pressurized	Industrial
031-220N	Nickel	Silver		Industrial
031-220N-RFX	Nickel	Gold		Commercial
031-3220	Silver	Silver	Pressurized	Industrial

T- Adapters

Part Number	Plating: Body	Plating: Contact	Description	Grade
000-21900	Nickel	Silver	Plug-Jack-Jack	Industrial
031-208	Nickel	Silver	Jack-Plug-Jack	Industrial
031-208-RFX	Nickel	Gold	Jack-Plug-Jack	Commercial

50Ω Reverse Polarity Connectors

Straight Cable Plugs

Part Number	Plating: Body	Plating: Contact	Termination: Body	Termination: Contact	Grade
031-5705	**Nickel**	**Gold**	**Crimp**	**Crimp**	Commercial
031-5787-T	**Nickel**	**Gold**	**Crimp**	**Crimp**	Commercial
031-6034	**Nickel**	**Gold**	**Crimp**	**Crimp**	Commercial
031-6032	**Nickel**	**Gold**	**Crimp**	**Crimp**	Commercial
031-6035	**Nickel**	**Gold**	**Crimp**	**Crimp**	Commercial
031-6036	**Nickel**	**Gold**	**Crimp**	**Crimp**	Commercial

75Ω Cable Connectors

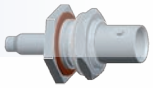
Straight Crimp-Crimp Plugs

Cable Group	Part Number	Plating		Type	Grade
		Body	Contact		
B	031-71013	Nickel	Gold	2	Industrial
B1	031-70013	Nickel	Gold	1	Industrial
B1	031-71013-RFX	Nickel	Gold	2	Commercial
E	031-70008	Nickel	Gold	1	Industrial
E	031-71008	Nickel	Gold	2	Industrial
E	031-71008-RFX	Nickel	Gold	2	Commercial
E	031-71032	Nickel	Gold	2	Industrial
E1	031-70008-3000	Nickel	Gold	1	Industrial
E1	031-71008-1000	Nickel	Gold	2	Industrial
E1	031-71008-1RFX	Nickel	Gold	2	Commercial
E2	031-70235	Nickel	Gold	1	Industrial
E3	031-71066	Nickel	Gold	2	Industrial
F	031-71008-2000	Nickel	Gold	2	Industrial
G1	031-70000	Nickel	Gold	1	Industrial
H1	031-70234	Nickel	Gold	1	Industrial
H1	031-71000-RFX	Nickel	Gold	2	Commercial
H3	031-71065	Nickel	Gold	2	Industrial
I	031-70237	Nickel	Gold	1	Industrial
I2	031-70238	Nickel	Gold	1	Industrial
K3	031-70236	Nickel	Gold	1	Industrial
K3, I2	031-71033	Nickel	Gold	2	Industrial

Angle Crimp-Crimp Plugs

Cable Group	Part Number	Plating		Type	Grade
		Body	Contact		
I	031-70239	Nickel	Gold	2	Industrial
I2	031-70240	Nickel	Gold	1	Industrial

Bulkhead Crimp-Crimp Jacks



Cable Group	Part Number	Plating Body	Plating Contact	Type	Grade
B1	031-71016-RFX	Nickel	Gold	2	Commercial
E	031-71011-RFX	Nickel	Gold	2	Commercial

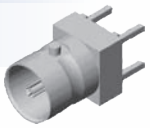
75Ω Receptacles

Bulkhead Solder Cup Jacks

Part Number	Plating Body	Plating Contact	Terminal Type	Type	Grade
031-10-75	Nickel	Gold	Solder Cup	2	Commercial
031-221-75RFX	Nickel	Gold	Solder Cup	2	Commercial
031-70018	Gold	Nickel	Solder Cup	1	Industrial
031-71004	Nickel	Gold	Solder Cup	2	Commercial

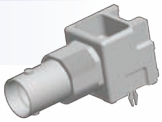
75Ω Printed Circuit Board Connectors

Straight Jacks



Part Number	Plating Body	Plating Contact	Mounting Style	Type	Grade
031-71045-1010	Nickel	Gold	Compliant Pin	2	Industrial
031-71058	Nickel	Gold	Blunt Post	2	Industrial
031-71062	Nickel	Gold	Thru-Hole (Blunt Post)	2	Industrial
031-6009	Nickel	Gold	Edge	2	Industrial
031-70040-100T	Nickel	Gold	Blunt Post	1	Industrial

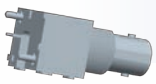
Angle Jacks



Part Number	Plating Body	Plating Contact	Mounting Style	Type	Grade
031-71043	Nickel	Gold	Blunt Post	2	Industrial
031-71043-1010	Nickel	Gold	Compliant Pin	2	Industrial
031-71052	Nickel	Gold	Blunt Post	2	Industrial
031-71052-10RFX	Nickel	Nickel	Compliant Pin, Blunt Post	2	Commercial
031-71053	Nickel	Gold	Blunt Post	2	Industrial
031-71053-1010	Nickel	Gold	Compliant Pin	2	Industrial

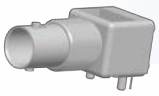
75Ω Printed Circuit Board Connectors (continued)

Straight Bulkhead Jacks



Part Number	Body	Plating: Contact	Mounting Style	Type	Grade
031-71059	Nickel	Gold	Blunt Post	2	Industrial
031-71059-1010	Nickel	Gold	compliant Pin	2	Industrial

Angle Bulkhead Jacks



Part Number	Body	Plating: Contact	Mounting Style	Type	Grade
031-71042	Nickel	Gold	Blunt Post	2	Industrial
031-71047-1010	Nickel	Gold	compliant Pin	2	Industrial
031-70221	Nickel	Gold	Blunt Post	1	Industrial

75Ω Adapters

Straight Plug-Plug

Part Number	Body	Plating: Contact	Type	Grade
031-218-75RFX	Nickel	Gold	2	Commercial

Straight Jack-Jack

Part Number	Body	Plating: Contact	Type	Grade
031-70019	Nickel	Gold	1	Industrial
031-220N-75	Nickel	Gold	2	Industrial

Straight Bulkhead Jack-Jack

Part Number	Body	Plating: Contact	Description	Type	Grade
031-220N-75RFX	Nickel	Gold	Not Gasketed	2	Commercial
031-4803-75	Nickel	Gold	Isolated	2	Industrial
031-70020	Nickel	Gold	Gasketed	1	Industrial
031-219-75	Nickel	Gold		2	Commercial

Angle Jack-Plug

Part Number	Body	Plating: Contact	Type	Grade
031-9-75	Nickel	Gold	2	Industrial
031-9-75RFX	Nickel	Gold	2	Commercial

T- Adapters

Part Number	Body	Plating: Contact	Type	Grade
031-70036	Nickel	Gold	1	Industrial

Accessories

Terminations

Part Number	Plating Body	Plating Contact	Description	Grade
000-46650-51	Nickel	Silver	Male Cap, Resistor Terminated, 50 Ω	Industrial
000-46650-51RFX	Nickel	Gold	Male Cap, Resistor Terminated, 1% 1 watt, 50 Ω	Commercial
000-46650-75RFX	Nickel	Gold	Male Cap, Resistor Terminated, 1% 1 watt, 75 Ω	Commercial
000-46650-93RFX	Nickel	Gold	Male Cap, Resistor Terminated, 1% 1 watt, 90 Ω	Commercial

Caps & Chains

Part Number	Plating Body	Plating Contact	Description	Grade
000-35650-51	Nickel	Gold	Cap & Chain, Resistor Terminated, 50 Ω	Industrial
000-35650-75	Nickel	Gold	Cap & Chain, Resistor Terminated, 75 Ω	Industrial
031-17	Nickel	Silver	Male Shorting Cap & Chain	Industrial
031-6	Nickel	N/A	Cap & Chain	Industrial
031-6-RFX	Nickel	N/A	Cap & Chain	Commercial

Miscellaneous Accessories

Part Number	Plating	Quantity	Description	Grade
031-759	Nickel	Pkg. of 25	Shield Grounding Lug	Commercial
031-10152-RFX	Nickel	Pkg. of 25	Toothed Grounding Lug	Commercial
031-5663	N/A	1 ea.	4.8” x Diameter 1.3” piece of velcro	Industrial
000-5275	Nickel	1 ea.	Shorting Plug less chain	Industrial

Cable Group Listing

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

Cable Group Listing

TNC

TNC Connectors

TNC Connectors

Description

Developed in the late 1950's, the TNC stands for Threaded Neill Concelman and is named after Amphenol engineer Carl Concelman. Designed as a threaded version of the BNC, the TNC series features screw threads for mating. TNC connectors are miniature, threaded weatherproof units with a constant 50 Ω impedance, operating from DC – 11 GHz.

There are two types of TNC connectors: Standard and Reverse Polarity. Reverse polarity is a keying system accomplished with a reverse interface, and ensures that reverse polarity interface connectors do not mate with standard interface connectors. Amphenol accomplishes this by inserting female contacts into plugs and male contacts into jacks. Other manufacturers may use reverse threading to accomplish reverse polarity keying.

Amphenol's commercial grade connector offering carries the part number designation "RFX" for easy recognition. These low-cost connectors typically utilize die cast 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.

Features/Benefits

- Threaded coupling interface ensures connector will not de-couple in vibration-intensive applications.
- Available in both standard and reverse polarity interfaces.
- Performance from DC – 11 GHz operations in many applications.

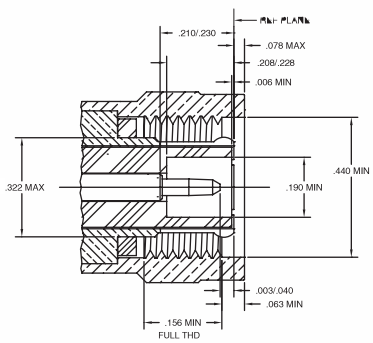
Applications

- Antennas
- Base Stations
- Cable Assemblies
- Cellular
- Instrumentation
- Mil-Aero
- WLAN Networks
- Radar
- Telecom
- RFID Readers

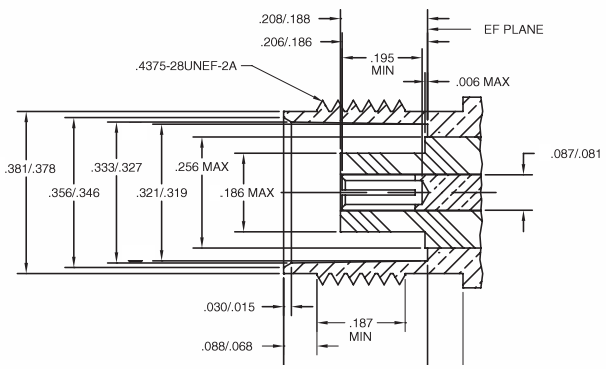
Standard TNC Specifications

Electrical	
Impedance	50 Ω nominal
Frequency range	DC - 11 GHz
VSWR	1.3 max. @ DC - 11 GHz (straight) 1.35 max. @ DC - 11 GHz (right-angle)
RF-leakage	60 dB minimum @ 3 GHz
Voltage rating (at sea level)	≥ 500 V peak (depending on cable)
Contact resistance	center contact: ≤ 1.5 mΩ outer contact: ≤ 0.2 mΩ braid to body: ≤ 0.1 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	0.18 dB @ 9 GHz
Dielectric withstanding voltage	1,500 Vrms (at sea level)
Mechanical	
Mating	7/16 threaded coupling (MIL-STD-348)
Coupling torque, min./max.	4.1 / 6.1 in-lbs (46 / 69 N-cm), recommended
Coupling nut retention force	101 lbs (450N) min.
Braid/Jacket cable affixment	Hex crimp or screw-threaded clamps
Durability (matings)	500 cycles minimum
Environmental	
Temperature range	-65°C to +165°C
Weatherproof	crimp: w/ heat shrink tubing, clamp: w/ gasket
Hermetic seals	Helium leak test, 2 x 10^8 cc/sec.
Thermal shock	MIL-STD-202, method 107, cond. B
Moisture resistance	MIL-STD-202, method 106
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. B
Mechanical shock	MIL-STD-202, method 213, cond. G
Altitude	MIL-STD-202, method 105, cond. C
Material	
Male contact	Brass, gold plated
Female contact	Beryllium copper or phosphor bronze, silver or gold plated
Crimp ferrule	Copper or brass, nickel plated
Other metal parts	Brass, nickel plated (except M39012 silver plated)
Insulator	PTFE, copolymer of styrene, glass TFE (hermetically sealed)
Gasket	Silicone or synthetic rubber

Plug



Jack



Note: These characteristics are typical but may not apply to all connectors.

Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B	031-2315	Nickel	Gold	Crimp	Crimp
B	031-2315-RFX	Nickel	Gold	Crimp	Crimp
B1	031-2242-RFX	Nickel	Gold	Crimp	Solder
B3	031-6147	Nickel	Gold	Crimp	Crimp
C	031-2367	Nickel	Gold	Crimp	Crimp
C	031-2367-RFX	Nickel	Gold	Crimp	Crimp
C	000-79875	Nickel	Silver	Clamp	Solder
C	000-79875-RFX	Nickel	Silver	Clamp	Crimp or Solder
C, C1	031-6148	White Bronze	Gold	Clamp	Crimp
C1	031-2373	Nickel	Silver	Crimp	Crimp
C2	031-6138	Nickel	Gold	Crimp	Solder
D	031-6142	Nickel	Gold	Crimp	Solder
D	031-5987-RFX	Nickel	Gold	Clamp	Solder
E	031-2368	Nickel	Gold	Crimp	Crimp
E	031-2368-RFX	Nickel	Gold	Crimp	Crimp
F	031-6143	Nickel	Gold	Crimp	Solder
F1	031-6153	Nickel	Gold	Clamp	Solder
G2	031-6000-RFX	Nickel	Gold	Crimp	Solder
G3	031-6001-RFX	Nickel	Gold	Crimp	Solder
G4	031-6154	Nickel	Gold	Clamp	Solder
G4	031-6140	Nickel	Gold	Crimp	Crimp
K	031-6141	Nickel	Gold	Crimp	Solder
L	031-6145	Nickel	Gold	Solder	Crimp
L2	031-6144	Gold	Gold	Solder	Crimp

Angle Plugs

Cable Group	Part Number	Plating		Termination	
		Body	Contact	Body	Contact
B	031-6160	Nickel	Gold	Crimp	Solder
B1	031-6162	Nickel	Gold	Crimp	Solder
B2	031-6161	Nickel	Gold	Crimp	Solder
B3	031-6163	Gold	Gold	Crimp	Solder
C	031-5849-RFX	Nickel	Gold	Crimp	Solder
C	031-6156	Nickel	Gold	Crimp	Solder
C1	031-6157	Nickel	Gold	Crimp	Solder
E	031-6158	Nickel	Gold	Solder	Crimp
G2	031-6003-RFX	Nickel	Gold	Crimp	Solder
G3	031-6002-RFX	Nickel	Gold	Crimp	Solder
L	031-6165	Gold	Gold	Solder	Solder
L2	031-6164	Nickel	Gold	Solder	Solder

Straight Bulkhead Jacks

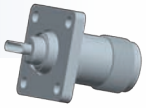
		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
B	031-2318	Nickel	Gold	Crimp	Crimp
B	031-2318-RFX	Nickel	Gold	Crimp	Crimp
B	031-6176	Nickel	Gold	Crimp	Crimp
E	031-5859-RFX	Nickel	Gold	Crimp	Crimp
G3	031-6171	Nickel	Gold	Crimp	Crimp
A	031-6177	Nickel	Gold	Crimp	Crimp
B	031-6174	Nickel	Gold	Crimp	Solder
B3	031-6175	Nickel	Gold	Crimp	Solder
C	031-6166	Nickel	Gold	Crimp	Crimp
C1	031-6169	Nickel	Gold	Crimp	Crimp
L	031-6178	Nickel	Gold	Solder	Solder
L2	031-6179	Nickel	Gold	Solder	Crimp
C2	031-6170	Nickel	Gold	Crimp	Crimp

Rear Mount Bulkhead Jacks: 4 Hole Flange

		Plating		Termination	
Cable Group	Part Number	Body	Contact	Body	Contact
L	031-6180	Nickel	Gold	Solder	Solder
L2	031-6181	Nickel	Gold	Solder	Solder

Receptacles

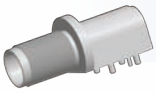
Rear Mount Bulkhead Jacks: 4 Hole Flange



	Plating	
Part Number	Body	Contact
031-2300	Nickel	Gold
031-2300-RFX	Nickel	Silver

Printed Circuit Board Connectors

Angle Jacks



Part Number	Plating	
	Body	Contact
031-5607	Matte Tin	Silver
031-5660	Nickel	Gold
031-6294	Matte Tin	Gold

Straight Jacks

Part Number	Plating	
	Body	Contact
031-71063	Nickel	Gold
031-6293	Matte Tin	Gold

Adapters

Straight Jack to Jack

Part Number	Body	Plating Contact	Description
031-4791	Nickel	Silver	Jack to Jack
031-6203	Nickel	Gold	Plug to Plug

Bulkhead Jack to Jack

Part Number	Body	Plating Contact	Description
031-6198	Nickel	Gold	Bulkhead with Gasket
031-6201	Nickel	Gold	Bulkhead without Gasket

Angle Jack to Plug

Part Number	Body	Plating Contact
000-79125	Nickel	Gold

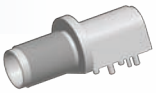
Tee Jack-Plug-Jack

Part Number	Body	Plating Contact
000-79700	Nickel	Silver

Reverse Polarity Connectors

Angle Jacks

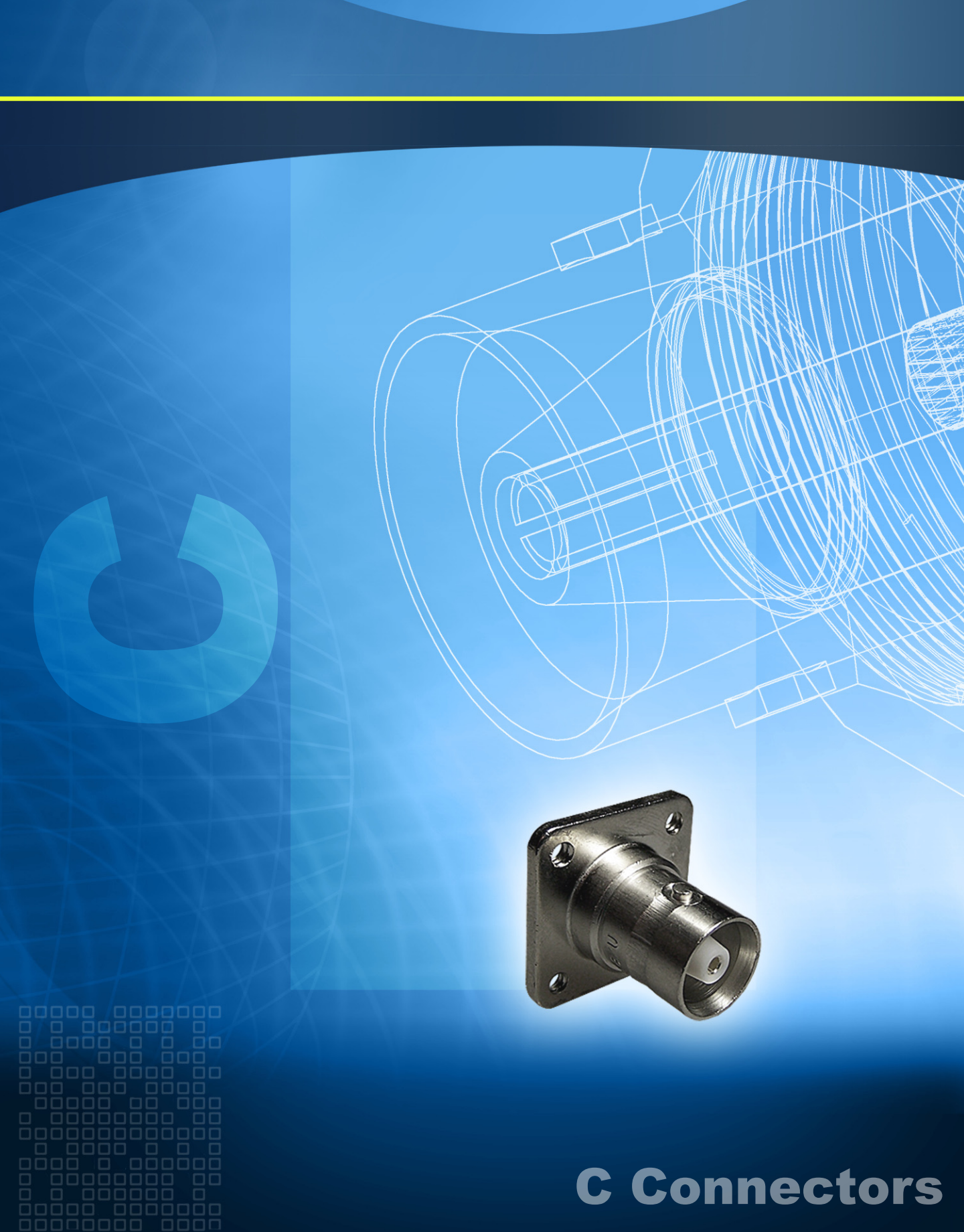
Part Number	Plating	
	Body	Contact
031-5684	Nickel	Gold
031-6031	Nickel	Gold
031-5685	Nickel	Gold
031-6030	Nickel	Gold
031-5680	Nickel	Gold
031-5686	Nickel	Gold
031-6033	Nickel	Gold
031-5677-1000	Nickel	Gold
031-6032	Nickel	Gold
031-6293	Matte Tin	Gold



Cable Group Listing

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

Cable Group Listing



C Connectors

C Connectors

Description

C Connectors are medium size and weatherproof. Coupling is two-stud bayonet lock. C connectors provide constant 50 Ω impedance. They may be used with 75 Ω cable, at lower frequencies (below 300 MHz) where no serious mismatch is introduced.

Features/Benefits

- Two-stud bayonet lock allows quick & easy coupling

Applications

- Airframe
- Cable Assemblies
- Instrumentation
- MIL Aerospace
- Test & Measurement

C Specifications

Electrical

Impedance	50 Ω nominal
Frequency range	DC - 11 GHz (1,500 volt type) DC - 2 GHz (4,000 volt type)
VSWR	1.35 max. @ DC - 11 GHz
Voltage rating (at sea level)	≥ 1,500 Vrms or 4,000 Vrms (depending on cable)
Contact resistance	center contact: ≤ 1 mΩ outer contact: ≤ 0.2 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	≤ 0.15 dB @ 10 GHz
Dielectric withstanding voltage	3,000 Vrms (at sea level), 1,500 volt type 6,000 Vrms (at sea level), 4,000 volt type

Mechanical

Mating	2-stud bayonet lock
Braid/Jacket cable affixment	Braid clamp
Durability (matings)	500 cycles minimum

Environmental

Temperature range	-65°C to +165°C
Weatherproof	All, except as noted
Hermetic seals	Helium leak test, 2 x 10^8 cc/sec.
Pressurized	Compression seal

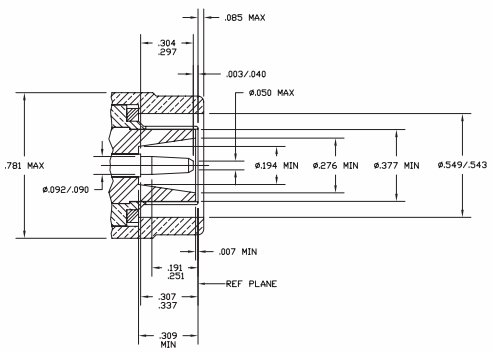
Material

Male contact	Brass, silver plated (except M39012 gold)
Female contact	Beryllium copper center and outer, silver plated (except M39012 gold)
Other metal parts	Brass, nickel plated (except M39012 silver plated)
Insulator	PTFE, glass TFE (hermetically sealed)
Gasket	Silicone rubber (weatherproof)

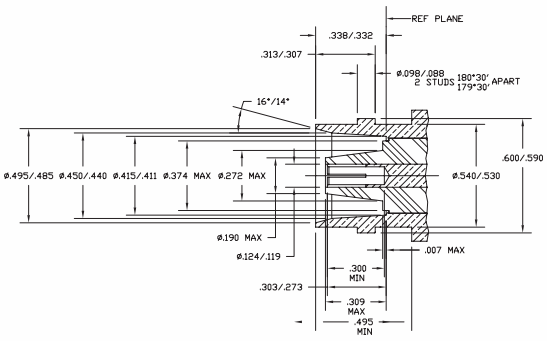
Military

MIL-C-39012	where applicable
MIL-A-55339	where applicable

Plug



Jack



Note: These characteristics are typical but may not apply to all connectors.

Cable Connectors

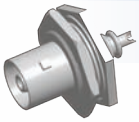
Straight Plugs

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact	Description
G4	082-530	Nickel	Silver	Clamp	Solder	UG-573
G4	082-532	Nickel	Silver	Clamp	Solder	UG-532

Receptacles

Panel Jacks: 4-Hole Flange

Part Number	Plating Body	Plating Contact	Termination
082-504	Silver	Silver	Solder Cup



Straight Bulkhead Jacks

Part Number	Plating Body	Plating Contact	Termination
082-515	Nickel	Silver	Solder Cup

Notes

Cable Group Listing

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

Cable Group Listing

UHF

UHF Connectors

UHF Connector Series

Description

Invented in the 1930's by an Amphenol Engineer named E. Clark Quackenbush, UHF coaxial connectors are general purpose units developed for use in low frequency systems from DC – 300 MHz. Invented for use in the radio industry, UHF is an acronym for Ultra High Frequency. UHF connectors feature a threaded coupling. Because these connectors are low-cost, the impedance is variable.

Amphenol's commercial grade connector offering carries the part number designation "RFX" for easy recognition. These low-cost connectors typically utilize die cast 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.

Features/Benefits

- Optional reducing adapters accommodate a wide range of popular coaxial cables
- Solder termination types require no special assembly tools
- Crimp termination types provide a lower cost installation method
- Large-size threaded coupling is rugged design
- Non-demanding specifications and low cost

Applications

- Antennas
- Cable Assembly
- Low Frequency Applications
- Public Address Systems
- CB Radios

UHF Specifications

Electrical

Impedance	Non-constant
Frequency range	DC - 300 Hz (usable to 500 Hz)
Voltage rating (at sea level)	≤ 500 V peak (depending on cable)
Insulation resistance	5,000 MΩ minimum
Dielectric withstanding voltage	1,000 Vrms (at sea level)

Mechanical

Mating	5/8-24 Threaded coupling
Center conductor cable affixment	Braid solder. set screw, clamp and crimp
Durability (matings)	500 cycles minimum

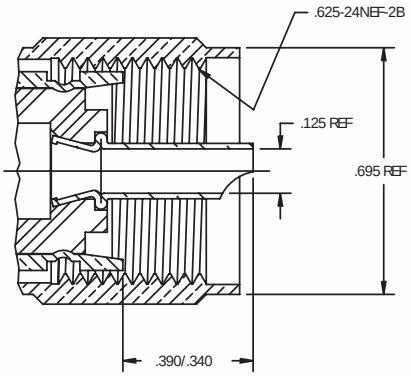
Environmental

Temperature range	-65°C to +165°C
- copolymer of styrene:	-55°C to +85°C
Thermal shock	MIL-STD-202, method 107, cond. A
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. A
Mechanical shock	MIL-STD-202, method 213, cond. 1

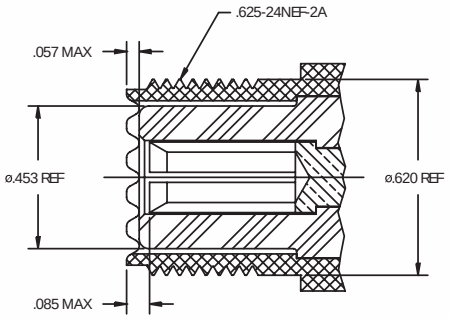
Material

Body and outer contacts	Bodies: brass or zinc alloy
Male contact	Brass, silver plated
Female contact	Beryllium copper, silver plated
Crimp ferrule	Copper or brass
Other metal parts	Brass, nickel plated
Insulator	PTFE, copolymer of styrene, or mica-filled phenolic

Plug

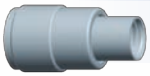


Jack



Cable Connectors

Straight Plugs



Cable Group	Part Number	Plating: Body	Plating: Contact	Termination: Body	Termination: Contact
C	083-58FCP	Nickel	Nickel	Crimp	Crimp
C	083-58FCP-RFX	Nickel	Gold	Crimp	Crimp
C	083-58SP	Nickel	Silver	Crimp	Solder
C1	083-58SP-1002	Nickel	Silver	Crimp	Solder
E	083-59SP	Nickel	Silver	Crimp	Solder
G4	083-1SP	Silver	Silver	Solder	Solder
G4	083-1SP-1050	Nickel	Silver	Solder	Solder
G4	083-1SP-15RFX	Nickel	Silver	Solder	Solder
G4	083-822	Nickel	Silver	Solder	Solder
G4	083-8SP-RFX	Nickel	Silver	Crimp	Solder
G4	083-1SP-4051	Nickel	Silver	Solder	Solder
G4	083-1SPB-15RFX	Nickel	Silver	Solder	Solder
G4	083-886	Nickel	Silver	Solder	Solder
G4	083-886-2050	Silver	Silver	Solder	Solder

Angle Plugs

Cable Group	Part Number	Plating: Body	Plating: Contact	Termination: Body	Termination: Contact
G4	083-67	Nickel	Silver	Solder	Solder
G4	083-59	Nickel	Silver	Solder	Solder

Receptacles

Panel Jacks

Part Number	Plating: Body	Plating: Contact	Description
083-1R	Nickel	Silver	Solder Cup 4-hole Square Flange
083-1R-RFX	Nickel	Silver	Solder Cup 4-hole Square Flange
083-798	Nickel	Silver	4-hole Square Flange

Front Mount Bulkhead Jacks

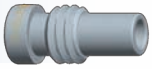
Part Number	Plating: Body	Plating: Contact
083-875	Nickel	Silver
083-875-1002	Nickel	Silver

Rear Mount Bulkhead Jacks

Part Number	Body	Plating Contact
083-878	Nickel	Silver
083-878-RFX	Nickel	Silver

Adapters

Reducing Adapters



Cable Group	Part Number	Body Plating
C	083-185 (UG 175/U)	Nickel
C	083-185-RFX	Nickel
E	083-168 (UG 176/U)	Nickel
E	083-168-RFX	Nickel

Straight Plug-Plug

Part Number	Body	Plating Contact
083-877	Nickel	Silver

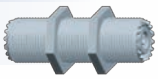
Straight Jack-Jack

Part Number	Body	Plating Contact
083-1J	Nickel	Silver

Angle Jack-Plug

Part Number	Body	Plating Contact
083-1AP	Nickel	Silver

Bulkhead Jack-Jack



Part Number	Body	Plating Contact
083-1F	Nickel	Silver

T-Adapters, Jack-Plug-Jack

Part Number	Body	Plating Contact
083-1T	Nickel	Silver

Accessories

Male Cap & Chain

Part Number	Description
083-1AC-RFX	UHF Cap & Chain
083-1AC	UHF Cap & Chain

In-Series Adapters: Hoods

Part Number	Description
083-1H	4-Hole Flange Hood - Adapts Panel Receptacle 83-1R to RG-8, 10, 11, 12, 63, 79, 115, 149, 213, 215 cables
083-765	4-Hole Flange Hood - Adapts Panel Receptacle 83-1R to RG-58, 141 cables
083-909	4-Hole Flange Hood – Adapts Panel Receptacle 83-1R to RG-55, 142, 223, 400 cables.

Notes

Cable Group Listing

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

TYPE N

Type N Connectors

Type N Connectors

Description

Named after Paul Neill of Bell Labs after being developed in the 1940's, the Type N offered the first true microwave performance. The Type N connector was developed to satisfy the need for a durable, weatherproof, medium-size RF connector with consistent performance through 18 GHz.

There are two families of Type N connectors: Standard N (coaxial cable) and Corrugated N (helical and annular cable). Their primary applications are the termination of medium to miniature size coaxial cable, including RG-8, RG-58, RG-141, and RG-225.

Features/Benefits

- Accommodates a wide range of medium to miniature-sized RG coaxial cables in a rugged medium-sized design.
- Meets many customer application demands with plug styles available in straight and right angle and jack styles available in panel mount, bulkhead mount, and receptacle.

Applications

- Antennas
- Base Stations
- Broadcast
- Instrumentation
- Microwave Radio
- Mil-Aero
- PCS
- Radar
- Radios
- Satellite Communications
- Surge Protection
- WLAN

Type N Specifications

Electrical

Impedance	50 Ω
Frequency range	DC - 11 GHz (flexible cable) DC - 18 GHz (semi-rigid)
VSWR	1.3 max. @ DC - 11 GHz (straight) 1.35 max. @ DC - 11 GHz (right-angle)
RF-leakage	90 dB minimum @ 3 GHz
Voltage rating (at sea level)	≤ 1,500 V peak (depending on cable)
Contact resistance	center contact: ≤ 1 mΩ outer contact: ≤ 0.2 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	≤ 0.15 dB @ 10 GHz
Dielectric withstanding voltage	2,500 Vrms (at sea level)

Mechanical

Mating	5/8-24 Threaded coupling (MIL-STD-348)
Coupling torque, min./max.	15 inch lbs to max recommended
Coupling nut retention force	101.2 lbs (450N) min.
Assembly torque (body/clamp nut)	positive stop, 18/20 lb-ft (25/30 N-m)
Braid/Jacket cable affixment	All braid hex crimps, clamps: screw-thread and braid clamp
Center conductor cable affixment	Solder
Captivated contacts	All crimp, unless noted otherwise
Contact Captivation	6.3 lbs (28N) min.
Durability (matings)	500 cycles minimum

Environmental

Temperature range	-65°C to +165°C
- copolymer of styrene:	-55°C to +85°C
Weatherproof	All series N with gaskets
Hermetic seals	Helium leak test, 2 x 10^8 cc/sec.
Thermal shock	MIL-STD-202, method 107, cond. B
Moisture resistance	MIL-STD-202, method 106
Corrosion	MIL-STD-202, method 101, cond. B
Vibration	MIL-STD-202, method 204, cond. B
Mechanical shock	MIL-STD-202, method 213, cond. 1

Note: These characteristics are typical but may not apply to all connectors.

Type N Specifications (continued)

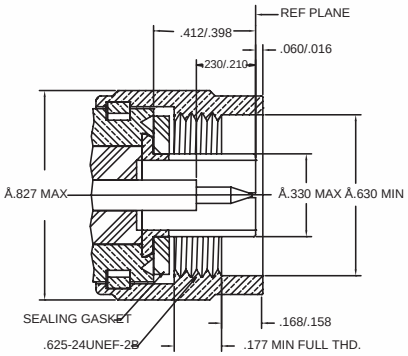
Material

Male contact	Brass, gold or silver plated
Female contact	Phosphor bronze or beryllium copper, gold or silver plated
Crimp ferrule	Copper or brass
Other metal parts	Brass, nickel plated
Insulator	PTFE, copolymer of styrene, glass TFE (herm. sealed)
Gasket	Silicone or synthetic rubber (weatherproof)

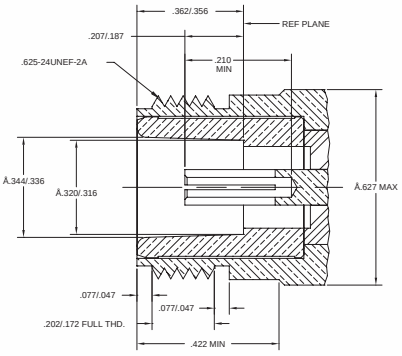
Military

MIL-STD-348A	where applicable
MIL-A-55339	where applicable

Plug



Jack

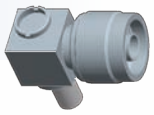


Cable Connectors

Straight Plugs

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact
B	082-6034	Nickel	Gold	Crimp	Crimp/Clamp
C	000-34025-536C	Nickel	Gold	Clamp	Solder
C	082-5375	Nickel	Gold	Crimp	Crimp
C	082-5375-RFX	Nickel	Gold	Crimp	Crimp
C	000-34025-RFX	Nickel	Gold	Clamp	Solder
C1	082-5370	Nickel	Gold	Crimp	Crimp
C1	082-4427 (QPL)	Silver	Gold	Crimp	Crimp
E	082-5380-RFX	Nickel	Gold	Crimp	Crimp
G2	082-6106	Nickel	Gold	Crimp	Crimp
G2	082-6152	Nickel	Gold	Crimp	Crimp
G3	082-340-1052	Nickel	Gold	Crimp	Crimp
G3	082-6142-1000	Silver	Gold	Crimp	Crimp
G3	082-202-1006	Nickel	Gold	Clamp	Solder
G4	082-340 (QPL)	Silver	Gold	Crimp	Crimp
G4	082-332 (QPL)	Silver	Gold	Crimp	Crimp
G4	082-4425-1003	Silver	Gold	Crimp	Crimp
G4	082-4425 (QPL)	Silver	Gold	Crimp	Crimp
G4	082-4426-11RFX	Nickel	Gold	Crimp	Crimp
G4	082-3202	Nickel	Silver	Clamp	Clamp
G4	082-312	Nickel	Silver	Clamp	Solder
G4	082-202	Nickel	Silver	Solder	Clamp
G4	082-202-RFX	Nickel	Gold	Clamp	Solder
G4	082-4426 (QPL)	Silver	Gold	Crimp	Crimp
G4	082-4352 (QPL)	Silver	Gold	Clamp	Solder
K	082-5993	Silver	Gold	Crimp	Crimp
L	082-5955-RFX	Nickel	Gold	Solder	Solder
L2	082-5956-RFX	Nickel	Gold	Solder	Solder
L3	082-6124	Nickel	Gold	Solder	Solder

Angle Plugs



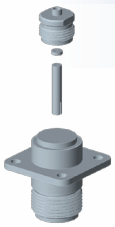
Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact
C1	082-5374	Nickel	Gold	Crimp	Crimp
C1	082-4442 (QPL)	Silver	Gold	Crimp	Solder
G2	082-6157	Nickel	Gold	Crimp	Solder
G3	082-6048-1000	Silver	Gold	Crimp	Solder
G4	082-4440-1001	Nickel	Gold	Crimp	Crimp
G4	082-4440 (QPL)	Silver	Gold	Crimp	Crimp
G4	082-5988-1000	Silver	Gold	Crimp	Solder
K	082-5995	Silver	Gold	Crimp	Solder

Cable Connectors (continued)

Straight Jacks

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact
G4	082-63	Nickel	Silver	Clamp	Solder
G3	082-209-1006	Nickel	Silver	Clamp	Solder
C	082-5376-RFX	Nickel	Gold	Crimp	Crimp
E	082-6092-RFX	Nickel	Gold	Crimp	Crimp
G4	082-63-RFX	Nickel	Gold	Clamp	Solder
G2	082-6158	Nickel	Gold	Crimp	Crimp
C1	000-35025-RFX	Nickel	Gold	Clamp	Solder
E	000-36500-RFX	Nickel	Gold	Clamp	Solder
G4	082-4429-RFX	Nickel	Gold	Clamp	Solder

Panel Jacks: 4-Hole Flange



Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact
C1	082-5372	Nickel	Gold	Crimp	Crimp
G4	082-62	Nickel	Silver	Clamp	Solder
L	082-6099-RFX	Nickel	Gold	Solder	Crimp
L2	082-6098-RFX	Nickel	Gold	Solder	Crimp
L3	082-6163	Nickel	Gold	Solder	Solder

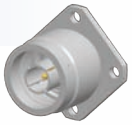
Bulkhead Jacks

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact
B	082-5933	Nickel	Gold	Crimp	Solder
B	082-6096-RFX	Nickel	Gold	Solder	Solder
B	082-6093-RFX	Nickel	Gold	Crimp	Crimp
C	082-5378	Nickel	Gold	Crimp	Crimp
C	082-5378-RFX	Nickel	Gold	Crimp	Crimp
C1	082-5373	Nickel	Gold	Crimp	Crimp
G2	082-6151-RFX	Nickel	Gold	Crimp	Crimp
G3	082-6143-1000	Silver	Gold	Crimp	Crimp
G4	082-346-RFX	Nickel	Gold	Crimp	Crimp
K	082-5994	Silver	Gold	Crimp	Solder
L	082-6097-RFX	Nickel	Gold	Solder	Crimp
L3	082-6162	Nickel	Gold	Solder	Crimp

Receptacles

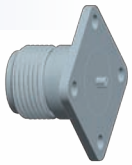
Panel Plugs: 4-Hole Flange

Part Number	Body	Plating: Contact	Terminal Type	Description
000-49000-RFX	Nickel	Gold	Solder Cup	Front Mount Only
082-6100-RFX	Nickel	Gold	Slotted Post	Front Mount Only



Panel Jacks: 4-Hole Flange

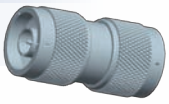
Part Number	Body	Plating: Contact	Terminal Type	Description
082-97	Nickel	Silver	Solder Cup	Front or Rear Mount
082-97-RFX	Nickel	Gold	Solder Cup	Front or Rear Mount
082-368 (QPL)	Silver	Gold	Solder Cup	Front or Rear Mount
082-6101-RFX	Nickel	Gold	Slotted Post	Slot Terminal



Adapters

Straight Plug-Plug

Part Number	Plating: Body	Contact
082-100	Silver	Silver
082-100-RFX	Nickel	Gold



Straight Jack-Jack

Part Number	Plating: Body	Contact
082-101	Nickel	Silver
082-101-RFX	Nickel	Gold

Bulkhead Jack-Jack

Part Number	Plating: Body	Contact
082-66	Nickel	Silver
082-66-RFX	Nickel	Gold

Angle Plug-Jack

Part Number	Plating: Body	Contact
082-213	Nickel	Silver
082-64	Nickel	Silver
082-64-RFX	Nickel	Gold

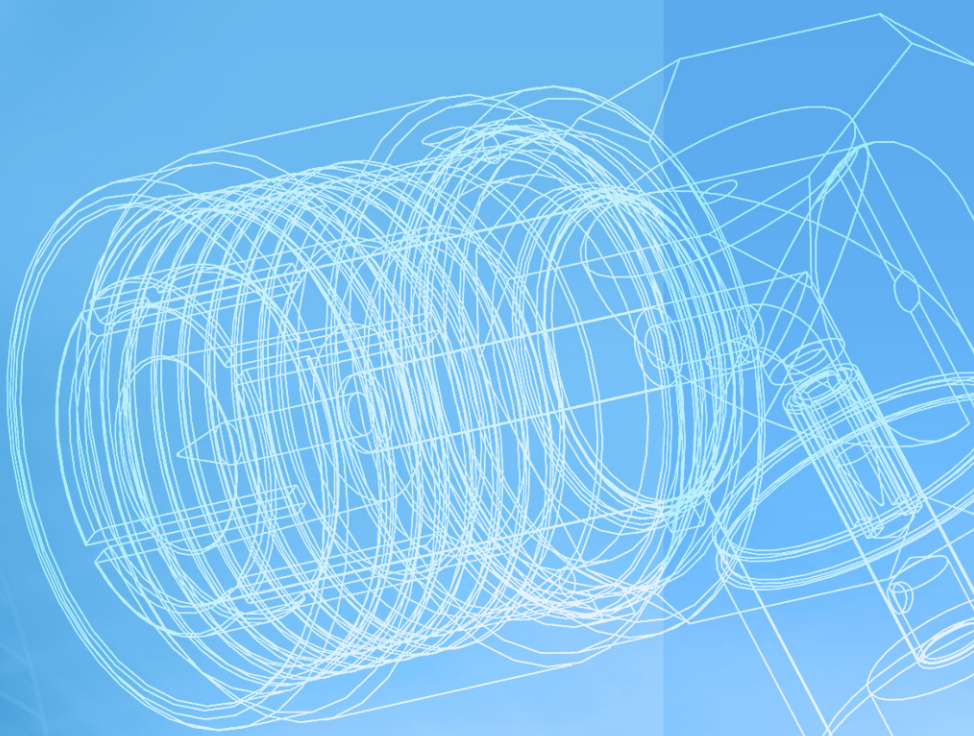
T-Adapters

Part Number	Plating: Body	Contact	Adapter Ends
082-102	Nickel	Silver	Jack-Plug-Jack
082-99	Nickel	Gold	Jack-Jack-Jack

Cable Group Listing

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

HN



HN Connectors

HN Connector Series

Description

HN connectors are medium size weatherproof units designed for high voltage applications. HN connectors feature captivated contact design which prevents contact recession under temperature extremes and mechanical stresses. The coupling mechanism features a ¾ -20 threaded interface.

Features/Benefits

- Rugged construction for high voltage applications
- Captivated contacts prevent movement under temperature extremes
- Nickel plated bodies provide durable surface finish

Applications

- Instrumentation
- Cable Assemblies
- Mil Aerospace
- Airframe
- Test & Measurement

HN Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC - 4 GHz
Voltage rating (at sea level)	≥ 7,000 Vrms (depending on cable)
Contact resistance	center contact: ≤ 1 mΩ
	outer contact: ≤ 0.2 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	≤ 0.15 dB @ 10 GHz
Dielectric withstanding voltage	5,000 Vrms (at sea level)
Mechanical	
Mating	3/4 - 20 threaded coupling
Braid/Jacket cable affixment	Screw-thread nut / braid clamp
Captivated contacts	All, unless noted otherwise
Durability (matings)	500 cycles minimum
Environmental	
Temperature range	-65°C to +165°C
- copolymer of styrene:	-55°C to +85°C
Weatherproof	All, except as noted
Hermetic seals	Helium leak test, 2 x 10^8 cc/sec.
Pressurized	Compression seal
Material	
Body and outer contacts	Outer contact: brass, silver or gold plated
Male contact	Brass, silver or gold plated
Female contact	Beryllium copper, silver or gold plated
Other metal parts	Brass, nickel plated
Insulator	PTFE, copolymer of styrene, glass TFE (herm. sealed)
Gasket	Silicone or synthetic rubber (weatherproof)

Plug	**Jack**

Note: These characteristics are typical but may not apply to all connectors.

Cable Connectors

Straight Plugs

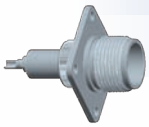
Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact	Description
E	082-804	Nickel	Silver	Clamp	Solder	Lock wire Holes
H3	082-816-1000	Silver	Silver	Clamp	Solder	

Angle Plugs

Cable Group	Part Number	Plating Body	Plating Contact	Termination Body	Termination Contact
G4	082-6316	Nickel	Silver	Crimp	Solder
G4	082-856	Nickel	Silver	Clamp	Solder

Receptacles

Panel Jacks



Part Number	Plating Body	Plating Contact	Terminal Type	Description
082-805	Nickel	Silver	Solder Cup	4-Hole Flange, UG-560/U
082-92	Nickel	Silver	Solder Cup	4-Hole Flange, UG-496/U

Bulkhead Jacks

Part Number	Plating Body	Plating Contact	Terminal Type	Description
082-843	Silver	Silver	Rear Mount/Spade	Bulkhead

Adapters

Angle Jack-Plug

Part Number	Plating Body	Plating Contact
082-91	Nickel	Silver

Bulkhead Jack-Jack

Part Number	Plating Body	Plating Contact
000-11050	Silver	Silver

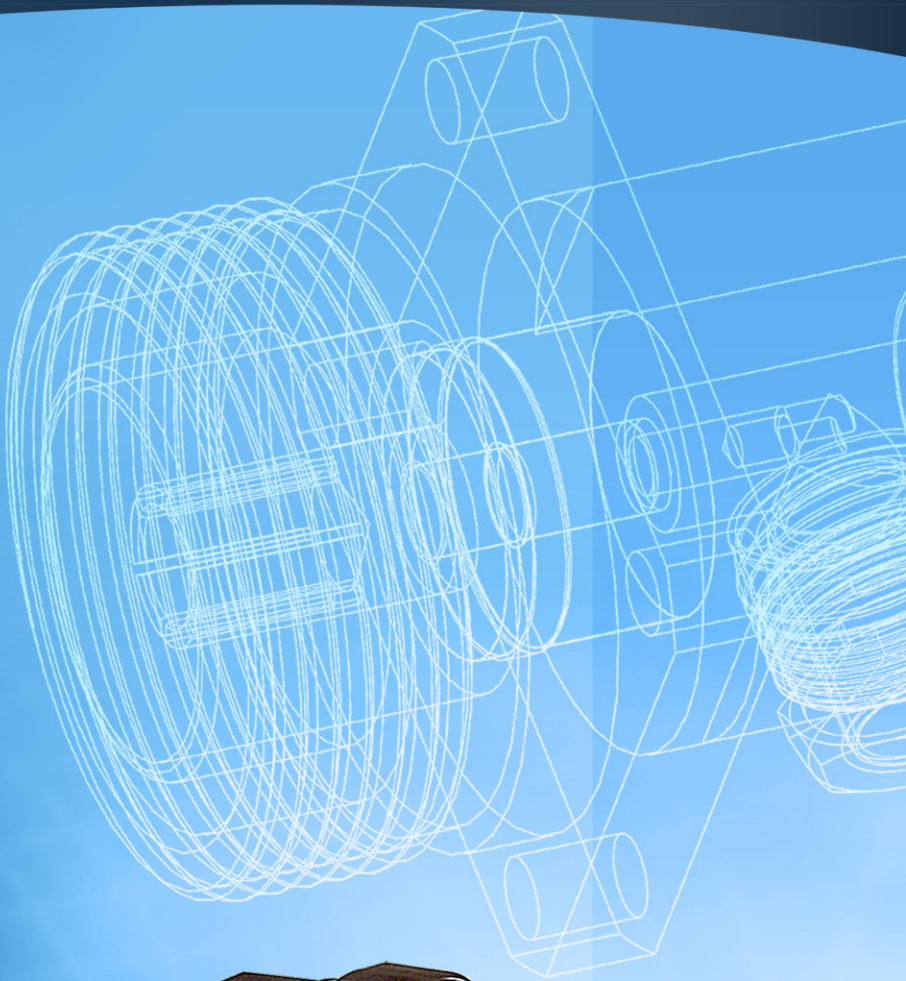
Notes

Cable Group Listing

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

Cable Group Listing

7/16



7/16 Connectors

7/16 Connectors

Description

The 7/16 series name derives from the metric dimensions of the connector interface: 7mm OD of inner contact, 16 mm ID of outer contact. 7/16 connectors are designed for use in communications systems with power levels of 100 watts per channel. Long popular in Europe, the 7/16 interface has gained acceptance in the U.S. for its ability to operate at elevated power levels.

There are three families of 7/16 DIN connectors: corrugated cable (both Annular and Superflex), standard cable connectors, and custom.

RF coaxial connectors are the most important element in the cable system. Corrugated copper coaxial cables have the potential to deliver all the performance your system requires, but they are often limited by the performance of the connectors. Corrugated connectors have been designed from the ground up to deliver optimum performance, while retaining ease of installation. Inter-modulation distortion, a major concern in today's communications systems, is consistently low with these connectors. Typical performance is -120 dBm (-165 dBc). Amphenol's in-house IMD measurement capability gives us the unique ability to understand the effects of connector design elements on IMD generation so that we can design the best performing connectors in the industry.

Features/Benefits

- Low IMD and VSWR
- Self-flaring design ensures ease of installation
- Pre-assembled gasket protects against dust (P68) and water (IP68) per IEC 169
- Limited internal junctions reduce sources of IMD
- Silver-plated contacts and silver or white
- Bronze-plated bodies deliver a high conductivity and corrosion resistance for a long, trouble-free life
- Easy-Hex coupling nut allows tightening by hand or with a standard wrench for ease of mating

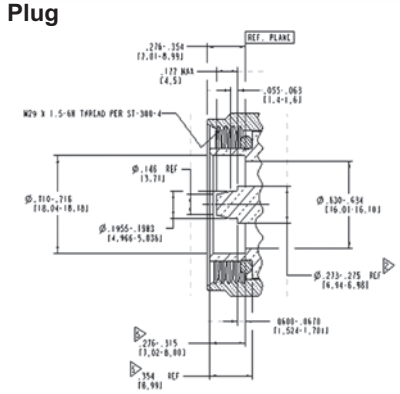
Applications

- Antennas
- Base Stations
- Broadcast
- Jumper Assemblies
- Lightning Protection
- Satellite Communications

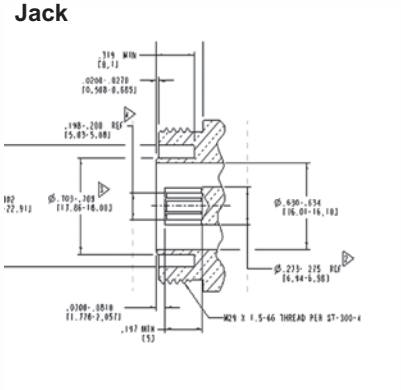
7/16 Corrugated Cable Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC – 7.5 GHz
Return loss	30 dB @ DC - 1.0 GHz (3 ft. assembly) 28 dB @ 1.0 - 2.0 GHz 21 dB @ 2.0 - 3.0 GHz
RF-leakage	125 dB minimum
Voltage rating (at sea level)	≥ 813 Vrms (depending on cable)
Average (Peak) power maximums	3.0 kW (13.2 kW)
Contact resistance	center contact: ≤ 0.4 mΩ outer contact: ≤ 1.5 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	0.05 dB @ 1 GHz
Dielectric withstanding voltage	2,300 Vrms (at sea level)
3rd order Inter-Modulation Distortion	-120 dBm / -165 dBc typical (+43 dBm carriers)
Mechanical	
Mating	M29 x 1.5 threaded coupling nut
Attachment method (inner / outer)	captivated / compression
Coupling torque, min./max.	15 / 20 lb-ft (20 / 28 N-m)
Coupling nut retention force	225 lbs (1000N) min.
Assembly torque (body/clamp nut)	positive stop, 18/20 lb-ft (25/30 N-m)
Durability (matings)	500 cycles min. (DIN 47275, 2/10.82 section 2.10)
Environmental	
Temperature range	-65°C to +165°C
Thermal shock	IEC 68, part 2-14, test Na
Immersion	IEC 529, IP68
Corrosion	IEC 68, part 2-1, test Ka
Vibration	IEC 68, part 2-6
Mechanical shock	IEC 68, part 2-27
Material	
Male contact	Brass
Female contact	Beryllium copper
Other metal parts	Brass per ASTM-B16, silver or white bronze plated
Insulator	PTFE per ASTM-D1457
Gasket	Silicone rubber (weatherproof), ZZ-R-75
Protective coating	Clear chromate (on silver plating)

Plug



Jack

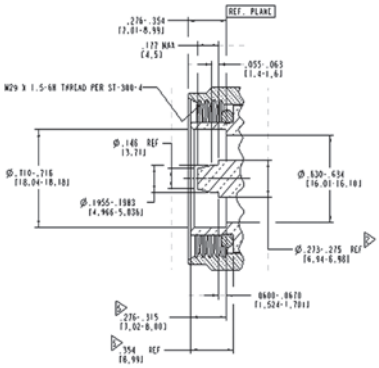


Note: These characteristics are typical but may not apply to all connectors.

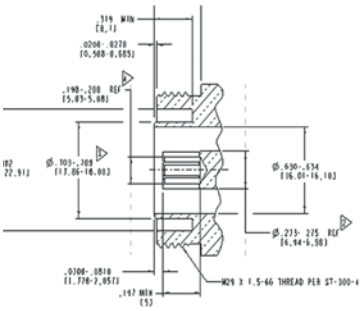
7/16 Semi-Rigid & RG Cable Specifications

Electrical	
Impedance	50 Ω
Frequency range	DC - 7.5 GHz
VSWR	1.3 max. @ DC - 7 GHz
RF-leakage	125 dB minimum
Voltage rating (at sea level)	≥ 2,700 Vrms (depending on cable)
Contact resistance	center contact: ≤ 0.4 mΩ outer contact: ≤ 1.5 mΩ
Insulation resistance	5,000 MΩ minimum
Dielectric withstanding voltage	4,000 Vrms (at sea level)
3rd order Inter-Modulation Distortion	-120 dBm / -165 dBc typical (+43 dBm carriers)
Mechanical	
Mating	M29 x 1.5 threaded coupling nut
Attachment method (inner / outer)	captivated or solder / solder
Center conductor cable affixment	Socket or solder
Coupling torque, min./max.	15 / 20 lb-ft (20 / 28 N-m)
Coupling nut retention force	225 lbs (1000N) min.
Durability (matings)	500 cycles min. (DIN 47275, 2/10.82 section 2.10)
Environmental	
Temperature range	-65°C to +165°C
Thermal shock	IEC 68, part 2-14, test Na
Immersion	IEC 529, IP68
Corrosion	IEC 68, part 2-1, test Ka
Vibration	IEC 68, part 2-6
Mechanical shock	IEC 68, part 2-27
Material	
Body and outer contacts	Brass per ASTM-B16, silver or white bronze plated
Male contact	Brass
Female contact	Beryllium copper
Other metal parts	Brass per ASTM-B16, silver or white bronze plated
Insulator	PTFE per ASTM-D1457
Gasket	Silicone rubber (weatherproof), ZZ-R-75
Protective coating	Clear chromate (on silver plating)

Plug



Jack



Cable Connectors

Straight Crimp-Crimp Plugs

Cable Group	Part Number	Plating Body	Plating Contact
M	AFB5-4	White bronze	Silver
M1	AFB17	White bronze	Silver
M2	AFB14	White bronze	Silver
M3	AFB1-6	White bronze	Silver
N	AFB21-1	White bronze	Silver
N1	AFB133-1	White bronze	Silver
N2	AFB3-2	White bronze	Silver
N3	AFB33-5	White bronze	Silver

Angle Plugs

Cable Group	Part Number	Plating Body	Plating Contact
M	AFB93-1	White bronze	Silver
N2	AFB6-1	White bronze	Silver

Straight Jacks

Cable Group	Part Number	Plating Body	Plating Contact
M	AFB7-4	White bronze	Silver
M1	AFB16	White bronze	Silver
M2	AFB15	White bronze	Silver
M3	AFB2-9	White bronze	Silver
N	AFB20-1	White bronze	Silver
N2	AFB4-2	White bronze	Silver
N3	AFB46-5	White bronze	Silver

Straight Bulkhead Jacks (Solder)

Cable Group	Part Number	Plating Body	Plating Contact
N	AFB70-4	White bronze	Silver

Cable Connectors (continued)

Straight Panel Jacks - (Solder)

Cable Group	Part Number	Plating	
		Body	Contact
C1	AFB180-2	White bronze	Silver
N	AFB70-1	White bronze	Silver
N	AFB70-2	White bronze	Silver
N1	AFB70-3	White bronze	Silver

Receptacles

Panel Mount Jacks

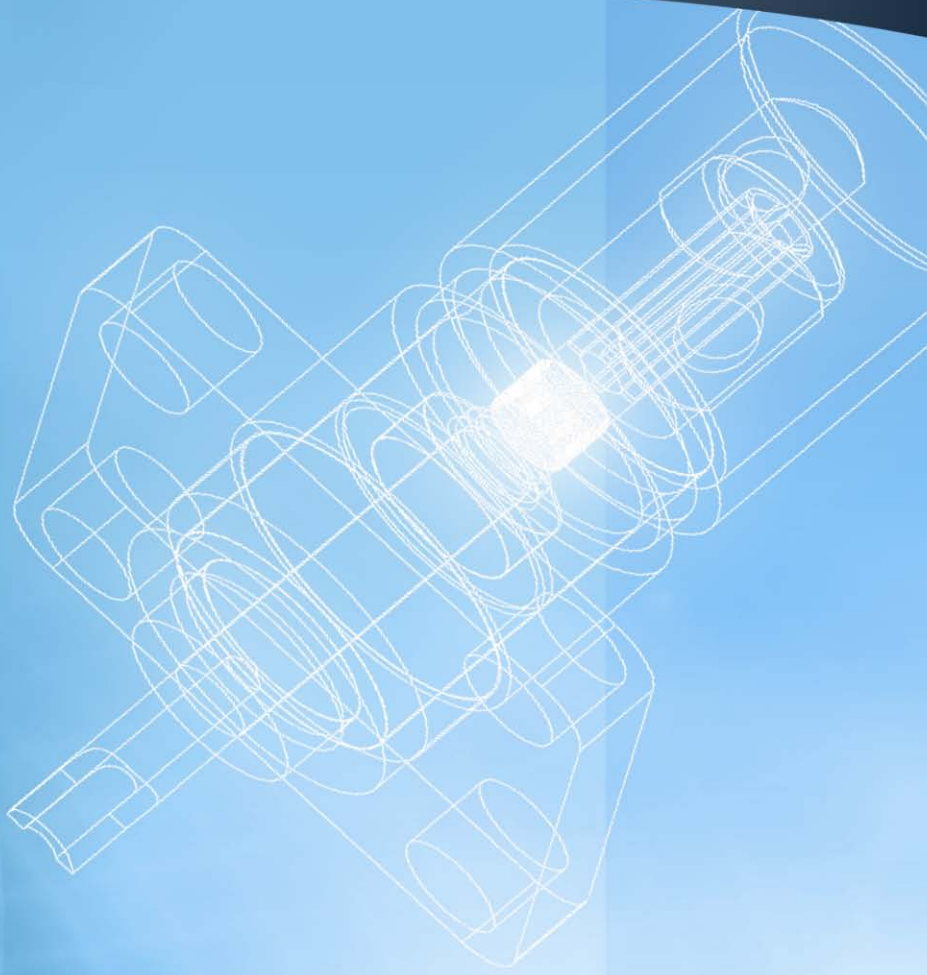
Part Number	Plating	
	Body	Contact
AFB42-8	Silver	Silver
AFB42-14	White bronze	Silver

Adapters

In-Series Adapters

Part Number	Description
AFZ3-1	Jack to Jack
AFZ4-1	Plug to Plug
AFZ5-1	Plug to Jack

MHV



MHV Connectors

MHV Connectors

Description

MHV connectors from Amphenol RF are miniature, bayonet locking connections similar to the BNC interface but used for high voltage applications up to 5000 volts. This interface conforms to MIL-STD-348 and does not mate with standard BNC connectors. MHV connectors offer quick-connect functionality and are used in a variety of applications where transmission of high voltage is a requirement. The design of the MHV interface is such that the insulator protrudes beyond the outer contact to provide a degree of protection from shock in the unmated condition. In the mated condition, this interface is considered weatherproof and free from dust ingress.

Features/Benefits

- 5000 Volts Peak
- Quick Connect/Disconnect
- Non-Constant Impedance
- Conforms to Mil 348 Standards

Applications

- High Voltage Environments
- Transmission/Conversion lines
- Power Supplies
- Military Applications

MHV	Specifications
Electrical	
Impedance	Non-Constant
Frequency range	0-50MHz
Voltage rating (at sea level)	5,000 volts peak
Current rating	5 amp max
Mechanical	
Mating	2 stud bayonet lock/ braid clamp
Cable affixment	Standard Clamp, MIL Clamp, and Original Crimp (see description)
Environmental	
Temperature range	-65°C to +165°C
Weatherproof	All
Hermetic seals	Pass helium leak test of 2 x 10^{-8} cc/sec.
Material	
Body and outer contacts:	Brass
Male contact	Brass
Female contact	Beryllium copper. Silver plated
Other metal parts	Brass: ASTROplate finish
Insulator	Teflon, glass teflon (herm. seal)
Clam Gaskets:	Silicone or synthetic rubber

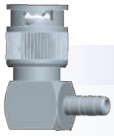
Note: These characteristics are typical but may not apply to all connectors.

Plugs

Straight

Cable Group	Part Number	Plating Body	Plating Contact	Military Reference
C	000-29100	Nickel	Silver	
E	000-28000	Nickel	Silver	UG 932/U
E	000-27975	Nickel	Silver	UG 932A/U

Right Angle



Cable Group	Part Number	Plating Body	Plating Contact
E	000-28100	Nickel	Silver

Jacks

Straight Jack

Part Number	Plating Body	Plating Contact	Military Reference
000-27075	Nickel	Silver	UG 1016A/U

Panel Jack

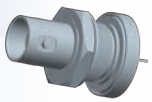
Part Number	Plating Body	Plating Contact
000-28175	Nickel	Silver

Receptacle

Panel Receptacle

Part Number	Body	Plating Contact	Military Reference
000-27000	Nickel	Silver	UG 931/U

Bulkhead Receptacle



Part Number	Body	Plating Contact	Terminal	Description
000-10400	Nickel	Silver	Glass	Rear Mount Glass, Pressurized
000-27025	Nickel	Silver	Turret	Rear Mount

Adapters

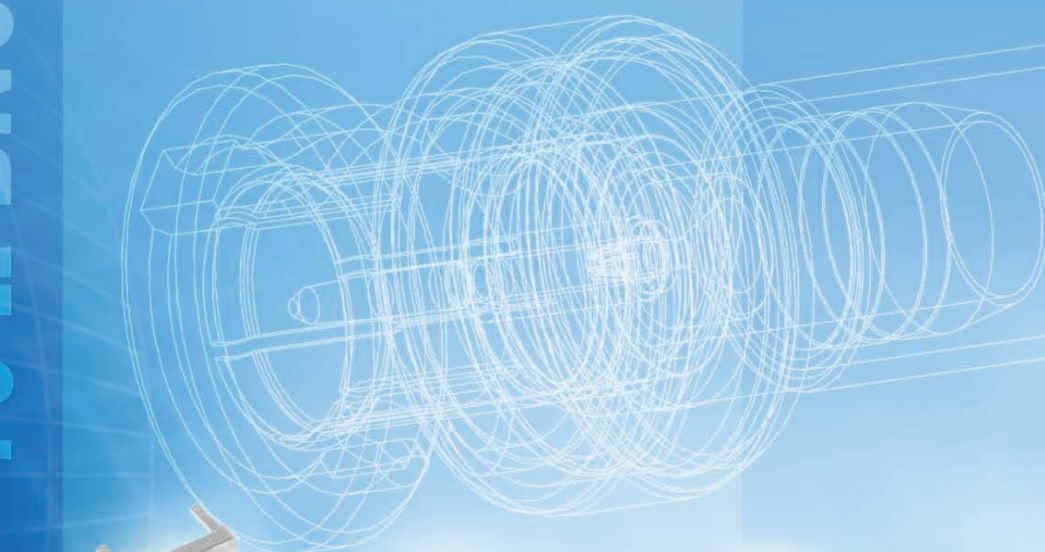
Part Number	Body	Plating Contact	Description
000-12650	Nickel	Silver	Straight (Jack to Jack) 4 hole flange

Cable Group Listing

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

Cable Group Listing

HIGH PERFORMANCE
75 Ω BNC



High Performance 75 Ω BNC Connectors

High Performance 75 Ω BNC Connectors

Description

Amphenol RF has worked hard to develop our High Performance 75 Ohm BNC product line and will continue to
do so. Amphenol engineer Carl Concellman invented the BNC more the 60 years ago, and our engineers are still
working to produce a variety of high quality RF solutions perfect for our customers' needs. We offer a full line of 75 Ohm BNC connectors designed to meet the need for higher performance,impedance-matched cable interconnections. These connectors can be used in a variety of applications where True 75 Ohm performance is needed to ensure low signal distortion.

Our connectors are designed for the most popular 75 Ohm cables used in Broadcast, Telecommunications and various other RF applications, and feature crimp-crimp cable affixment compatible with Trompeter tooling, requiring no new training for quick and reliable installation. They are ideally suited for 3 Gb/s serial data rates utilized in digital video transmission and conform to the SMPTE 424M-2006 specification.

Amphenol RF offers our High Performance 75 Ohm BNC connectors in a variety of configurations: Straight, 45 degree and 90 degree plugs; as well as bulkhead, PCB and receptacle jacks.

Features/Benefits

- True 75 Ohm impedance end to end
- One piece spring alloy body/outer contact
- Strip/Crimp requirements consistent with all major industry providers
- Bayonet coupling provides a positive lock and allows for quick and easy connect / disconnects.

Applications

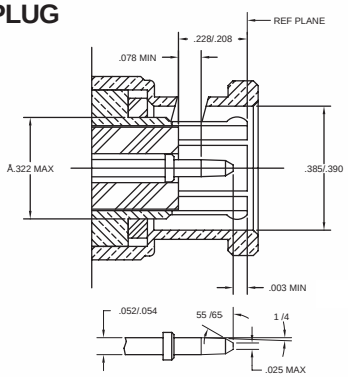
- Network Routing and Switching
- Broadcast
- Custom Cable Assemblies
- DS3/DS4
- Satellite Headends
- Instrumentation
- Military / Aerospace
- Digital Video - HDTV

High Performance 75 Ω BNC

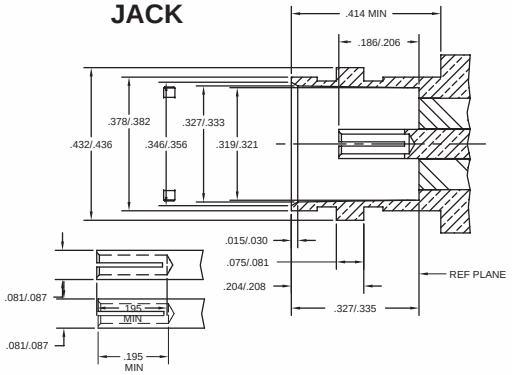
75 Ω BNC Specifications

Electrical	
Impedance	75 Ω, nominal
Frequency Range	DC - 4 GHz (useable to 6 GHz)
VSWR	< 1.10 (DC to 2.0 GHz) < 1.16 (DC to 3.0 GHz)
RF-leakage	55 dB minimum @ 3 GHz
Voltage Rating (at sea level)	500 Vrms (depending on cable)
Contact Resistance	center contact: ≤ 1.5 mΩ outer contact: ≤ 0.2 mΩ braid to body: ≤ 0.1 mΩ
Insulation resistance	5,000 MΩ minimum
Insertion loss maximum	0.2 dB max. @ 3 GHz
Dielectric withstanding voltage	1,500 Vrms (at sea level)
Mechanical	
Mechanical	Durability 500 cycles minimum
Center Contact	Retention 6 lbs. minimum
Coupling Mechanism	100 lbs. minimum
Cable Pulloff Force	Dependent on cable size
Cable Bend and Twist	500 cycles minimum
Force to Engage/Disengage	1.5 lbs minimum, 5 lbs maximum/12 oz. minimum
Mating	2-stud bayonet lock
Environmental	
Temperature Range	-40°C to + 85°C
Moisture Resistance	0% to 95%; MIL-STD-202 Method 106
Corrosion (Salt Spray)	MIL-STD-202 Method 101, Test Condition B
Flammability	UL 94-VO rated (center conductor insulator)
Vibration	MIL-STD-202 Method 201, Condition B
Solvent Resistance	MIL-STD-202 Method 215
Finish	Tarnish-resistant electroless nickel plating
Material	
Inner Body	Phosphor bronze
Crimp Ferrule	Copper alloy
Contact Plating	Gold
Insulator	TFE, copolymer of styrene, glass-TFE (hermetically sealed)

PLUG



JACK



Note: These characteristics are typical but may not apply to all connectors.

High Performance 75Ω Cable Connectors

Straight Crimp-Crimp Plugs

Cable Group	Part Number	Plating: Body	Plating: Contact	Type	Grade
B1	031-80101	Nickel	Gold	1	Performance
B2	031-80107	Nickel	Gold	1	Performance
B	031-80106	Nickel	Gold	1	Performance
E	031-80103	Nickel	Gold	1	Performance
E2	031-80108	Nickel	Gold	1	Performance
H1	031-80109	Nickel	Gold	1	Performance
I	031-80104	Nickel	Gold	1	Performance
I2	031-80105	Nickel	Gold	1	Performance
K3	031-80102	Nickel	Gold	1	Performance

Angle Crimp-Crimp Plugs

Cable Group	Part Number	Plating: Body	Plating: Contact	Type	Grade
B1	031-80901	Nickel	Gold	1	Performance
I	031-80904	Nickel	Gold	1	Performance
I2	031-80905	Nickel	Gold	1	Performance

45° Crimp-Crimp Plugs

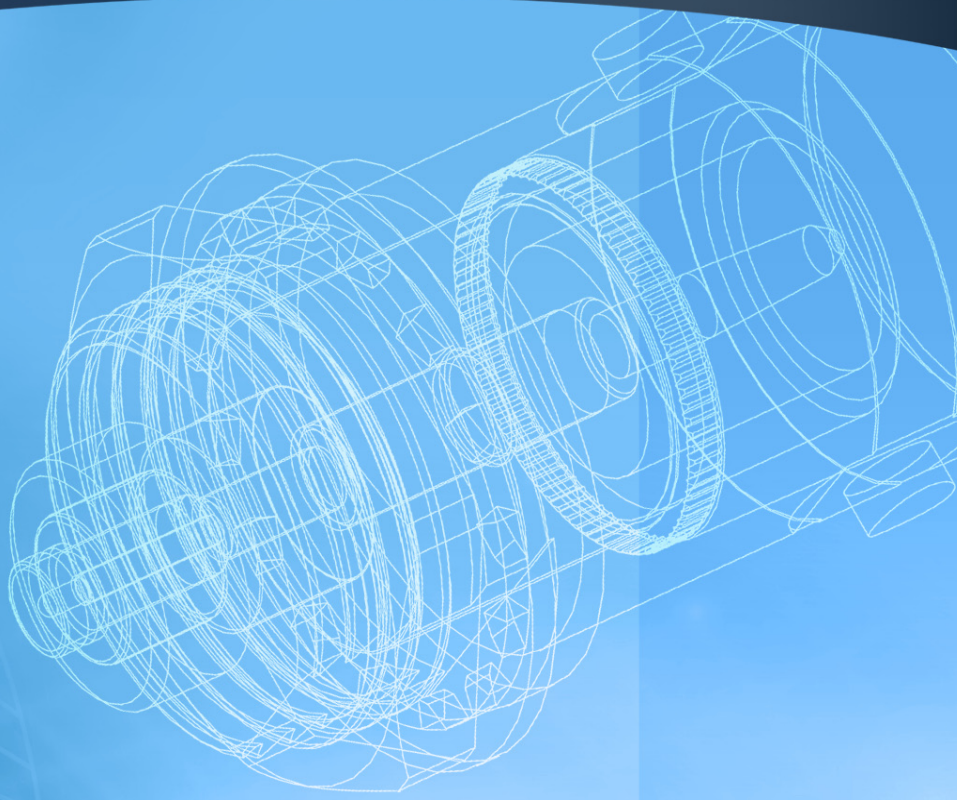
Cable Group	Part Number	Plating: Body	Plating: Contact	Type	Grade
B1	031-80401	Nickel	Gold	1	Performance
I	031-80404	Nickel	Gold	1	Performance
I2	031-80405	Nickel	Gold	1	Performance

Notes

Cable Group Listing

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

BETWEEN SERIES ADAPTERS



Between Series Adapters

Between Series Adapters

AMC Between Series Adapters

Part Number	Description	Body Material
031-6101	AMC Jack to TNC Jack R/P	Brass, 2- Hole Flange
031-6109	AMC Jack to BNC Jack R/P (special)	Brass
031-6112	AMC Jack to TNC Jack R/P (standard)	Brass, Bulkhead
901-10097	AMC Jack to SMA Jack R/P	Brass

MMCX Between Series Adapters

Part Number	Description	Body Material
908-31100	MMCX Plug to SMA Jack	Brass/Beryllium Copper
APH-SMAJ-MMCXP	MMCX Plug to SMA Jack	Brass
908-32101	MMCX Jack to SMA Plug	Brass/Beryllium Copper
APH-SMAP-MMCXJ	MMCX Jack to SMA Plug	Brass
APH-SMAP-MMCXP	MMCX Plug to SMA Plug	Brass
APH-SMAJ-MMCXJ	MMCX Jack to SMA Jack	Brass

MCX Between Series Adapters

Part Number	Description	Body Material
APH-SMAP-MCXJ	MCX Jack to SMA Plug	Brass
APH-SMAJ-MCXP	MCX Plug to SMA Jack	Brass
APH-SMAP-MCXP	MCX Plug to SMA Plug	Brass
APH-SMAJ-MCXJ	MCX Jack to SMA Jack	Brass

1.0/2.3 Between Series Adapters

Part Number	Description	
901-10005	1.0/2.3 Jack to SMA Plug	Stainless Stainless Steel
901-10006	1.0/2.3 Plug to SMA Jack	Beryllium Copper
901-10007	1.0/2.3 Plug to SMA Plug	Beryllium Copper
901-10008	1.0/2.3 Jack to SMA Jack	Stainless Stainless Steel

SMB Between Series Adapters

Part Number	Description	
901-9033	SMB Jack to SMA Jack	Stainless Stainless Steel
APH-SMAJ-SMBJ	SMB Jack to SMA Jack	Brass
APH-SMAP-SMBJ	SMB Jack to SMA Plug	Brass
901-9034	SMB Plug to SMA Jack	Brass/Stainless Stainless Steel
APH-SMAJ-SMBP	SMB Plug to SMA Jack	Brass
901-9038	SMB Plug to SMA Plug	Brass/Stainless Stainless Steel
APH-SMAP-SMBP	SMB Plug to SMA Plug	Brass

SMA Between Series Adapters

Part Number	Description	Body Material
131-91038	SMA Plug to APC-7	Beryllium Copper
APH-SMAP-MMCXJ	SMA Plug to MMCX Jack	Brass
908-32101	SMA Plug to MMCX Jack	Beryllium Copper or Brass
APH-SMAJ-MMCXP	SMA Jack to MMCX Plug	Brass
908-31100	SMA Jack to MMCX Plug	Beryllium Copper or Brass
APH-SMAP-MMCXP	SMA Plug to MMCX Plug	Brass
APH-SMAJ-MMCXJ	SMA Jack to MMCX Jack	Brass
APH-SMAP-MCXP	SMA Plug to MCX Plug	Brass
APH-SMAJ-MCXJ	SMA Jack to MCX Jack	Brass
APH-SMAP-MCXJ	SMA Plug to MCX Jack	Brass
APH-SMAJ-MCXP	SMA Jack to MCX Plug	Brass
901-10005	SMA Plug to 1.0/2.3 Jack	Stainless Steel
901-10006	SMA Jack to 1.0/2.3 Plug	Beryllium Copper
901-10007	SMA Plug to 1.0/2.3 Plug	Beryllium Copper
901-10008	SMA Jack to 1.0/2.3 Jack	Stainless Steel
901-10097	SMA Jack R/P to AMC Jack	Brass
APH-SMAP-SMBJ	SMA Plug to SMB Jack	Brass
APH-SMAJ-SMBP	SMA Jack to SMB Plug	Brass
901-9034	SMA Jack to SMB Plug	Stainless Steel/Brass
APH-SMAP-SMBP	SMA Plug to SMB Plug	Brass
901-9038	SMA Plug to SMB Plug	Stainless Steel/Brass
APH-SMAJ-SMBJ	SMA Jack to SMB Jack	Brass
901-9033	SMA Jack to SMB Jack	Stainless Steel
930-100A-51S	SMA Jack to QMA Jack	Brass
930-101A-51S	SMA Jack to QMA Plug	Brass
APH-SMAP-MUHFJ	SMA Plug to Mini UHF Jack	Brass
APH-SMAJ-MUHFP	SMA Jack to Mini UHF Plug	Brass
APH-SMAP-MUHFP	SMA Plug to Mini UHF Plug	Brass
APH-SMAJ-MUHFJ	SMA Jack to Mini UHF Jack	Brass
APH-SMAP-BNCJ	SMA Plug to BNC Jack	Brass
APH-SMAJ-BNCP	SMA Jack to BNC Plug	Brass
APH-SMAJ-BNCJ	SMA Jack to BNC Jack	Brass
APH-SMAP-BNCP	SMA Plug to BNC Plug	Brass
APH-SMAP-TNCJ	SMA Plug to TNC Jack	Brass
901-168	SMA Plug to TNC Plug	Beryllium Copper/Brass
APH-SMAP-TNCP	SMA Plug to TNC Plug	Brass
901-171	SMA Jack to TNC Jack	Beryllium Copper/Brass
APH-SMAJ-TNCJ	SMA Jack to TNC Jack	Brass
APH-SMAJ-TNCP	SMA Jack to TNC Plug	Brass
APH-SMAP-UHFJ	SMA Plug to UHF Jack	Brass
APH-SMAJ-UHFP	SMA Jack to UHF Plug	Brass
APH-SMAP-UHFP	SMA Plug to UHF Plug	Brass
APH-SMAJ-UHFJ	SMA Jack to UHF Jack	Brass
APH-SMAJ-NP	SMA Jack to N Plug	Brass
APH-SMAP-NP	SMA Plug to N Plug	Brass
APH-SMAJ-NJ	SMA Jack to N Jack	Brass
APH-SMAJ-NJBHD	SMA Jack to N Jack	Brass
APH-SMAP-NJ	SMA Plug to N Jack	Brass

Between Series Adapters

QMA Between Series Adapters

Part Number	Description	Body Material
930-100A-51S	QMA Jack to SMA Jack	Brass
930-101A-51S	QMA Plug to SMA Jack	Brass

Mini-UHF Between Series Adapters

Part Number	Description	Body Material
083-910-RFX	Mini-UHF Plug to UHF Plug	Brass
APH-SMAP-MUHFJ	Mini UHF Jack to SMA Plug	Brass
APH-SMAJ-MUHFP	Mini UHF Plug to SMA Jack	Brass
APH-SMAP-MUHFP	Mini UHF Plug to SMA Plug	Brass
APH-SMAJ-MUHFJ	Mini UHF Jack to SMA Jack	Brass
APH-MUHFP-UHFJ	Mini UHF Plug to UHF Jack	Brass

Type F Between Series Adapters

Part Number	Description	Body Material
531-40010	Type F Jack to Type G Plug	Brass
APH-BNCP-FJ	Type F Jack to BNC Plug	Brass
APH-NJ-FJ	Type F Jack to Type N Jack	Brass
APH-NJ-FP	Type F Plug to Type N Jack	Brass

Type G Between Series Adapters

Part Number	Description	
531-40010	Type G Plug to Type F Jack	Brass

BNC Between Series Adapters

Part Number	Description	
031-6109	BNC Jack R/P to AMC Jack (special)	Brass
APH-BNCP-FJ	BNC Plug To Type F Jack	Brass
APH-SMAP-BNCJ	BNC Jack to SMA Plug	Brass
APH-SMAJ-BNCP	BNC Plug to SMA Jack	Brass
APH-SMAJ-BNCJ	BNC Jack to SMA Jack	Brass
APH-SMAP-BNCP	BNC Plug to SMA Plug	Brass
APH-BNCP-TNCJ	BNC Plug to TNC Jack	Brass
APH-BNCJ-TNCP	BNC Jack to TNC Plug	Brass
APH-BNCJ-TNCJ	BNC Jack to TNC Jack	Brass
APH-BNCP-TNCP	BNC Plug to TNC Plug	Brass
APH-BNCP-UHFJ	BNC Plug to UHF Jack	Brass
031-28	BNC Jack to UHF Plug	Brass
APH-BNCP-UHFP	BNC Plug to UHF Plug	Brass
000-2900	BNC Plug to UHF Jack	Brass

TNC Between Series Adapters

Part Number	Description	Body Material
031-6101	TNC Jack R/P to AMC Jack	Brass, 2-Hole Flange
031-6112	TNC Jack R/P to AMC Jack (standard)	Brass, Bulkhead
901-168	TNC Plug to SMA Plug	Brass/Beryllium Copper
901-171	TNC Jack to SMA Jack	Brass/Beryllium Copper
APH-SMAP-TNCJ	TNC Jack to SMA Plug	Brass
APH-SMAJ-TNCP	TNC Plug to SMA Jack	Brass
APH-SMAP-TNCP	TNC Plug to SMA Plug	Brass
APH-SMAJ-TNCJ	TNC Jack to SMA Jack	Brass
APH-BNCP-TNCJ	TNC Jack to BNC Plug	Brass
APH-BNCJ-TNCP	TNC Plug to BNC Jack	Brass
APH-BNCJ-TNCJ	TNC Jack to BNC Jack	Brass
APH-BNCP-TNCP	TNC Plug to BNC Plug	Brass
APH-NP-TNCJ	TNC Jack to Type N Plug	Brass
APH-NJ-TNCP	TNC Plug to Type N Jack	Brass
APH-NJ-TNCJ	TNC Jack to Type N Jack	Brass
APH-NP-TNCP	TNC Plug to Type N Plug	Brass

UHF Between Series Adapters

Part Number	Description	Body Material
083-10	UHF Jack to RCA Plug	Brass
APH-SMAP-UHFJ	UHF Jack to SMA Plug	Brass
APH-SMAJ-UHFP	UHF Plug to SMA Jack	Brass
APH-SMAP-UHFP	UHF Plug to SMA Plug	Brass
APH-SMAJ-UHFJ	UHF Jack to SMA Jack	Brass
APH-MUHFP-UHFJ	UHF Jack to Mini UHF Plug	Brass
APH-BNCP-UHFJ	UHF Jack to BNC Plug	Brass
APH-BNCP-UHFP	UHF Plug to BNC Plug	Brass
000-2900	UHF Jack to BNC Plug	Brass
031-28	UHF Plug to BNC Jack	Brass
APH-NP-UHFJ	UHF Jack to Type N Plug	Brass
000-4400	UHF Jack to N Plug	Brass
000-14000	UHF Plug to N Jack	Brass
083-910-RFX	UHF Plug to Mini-UHF Plug	Brass

Between Series Adapters

Type N Between Series Adapters

Part Number	Description	Body Material
APH-SMAJ-NP	Type N Plug to SMA Jack	Brass
APH-SMAJ-NJ	Type N Jack to SMA Jack	Brass
APH-SMAP-NJ	Type N Jack to SMA Plug	Brass
APH-SMAP-NP	Type N Plug to SMA Plug	Brass
APH-SMAJ-NJBHD	Type N Bulkhead Jack to SMA Jack	Brass
APH-NJ-FJ	Type N Jack to Type F Jack	Brass
APH-NJ-FP	Type N Jack to Type F Plug	Brass
APH-NP-BNCJ	Type N Plug to BNC Jack	Brass
APH-NJ-BNCP	Type N Jack to BNC Plug	Brass
APH-NJ-BNCJ	Type N Jack to BNC Jack	Brass
APH-NP-BNCP	Type N Plug to BNC Plug	Brass
APH-NP-TNCJ	Type N Plug to TNC Jack	Brass
APH-NJ-TNCP	Type N Jack to TNC Plug	Brass
APH-NJ-TNCJ	Type N Jack to TNC Jack	Brass
APH-NP-TNCP	Type N Plug to TNC Plug	Brass
000-4400	Type N Plug to UHF Jack	Brass
000-14000	Type N Jack to UHF Plug	Brass
APH-NP-UHFJ	Type N Plug to UHF Jack	Brass
000-16050	Type N Jack to HN Plug	Brass
000-16075	Type N Plug to HN Jack	Brass
AFZ1-1	Type N Jack to 7/16 Jack	Brass
AFZ2-1	Type N Jack to 7/16 Plug	Brass
AFZ7-1	Type N Plug to 7/16 Plug	Brass

HN Between Series Adapters

Part Number	Description	Body Material
000-16050	HN Plug to Type N Jack	Brass
000-16075	HN Jack to Type N Plug	Brass

7/16 Between Series Adapters

Part Number	Description	Body Material
AFZ3-1	Jack-Jack	Brass
AFZ4-1	Plug-Plug	Brass
AFZ5-1	Plug-Jack	Brass

Notes

Cable Group Listing

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

TOOLS

Tools

Tools

Description

Amphenol offers a full line of termination tooling to meet your specific production requirements. All tools meet Amphenol's stringent design and quality requirements, including full cycle ratchet control, which prevents the connector from being removed from the tool prior to completing the crimping operation. Amphenol's tools provide a consistent and reliable crimp each and every time, thereby ensuring the integrity of the connector termination.

Tool Series

- Bench Mounted Pneumatic Crimp Machine
- CTL Series Crimp Tools
- Hand Crimp Tool
- ECONOHEX Crimp Tool
- MMCX CTL Crimp Tool
- CAP Installation and Connector Removal Tool

Bench Mounted Pneumatic Crimp Machine

This pneumatic-powered crimp tool makes production termination for coaxial cable easy, efficient and precise. Our compact (less than 20 pounds) unit is hand-activated. The dual-position feet allow horizontal or vertical loading for maximum efficiency. The manually-activated mode is adaptable to either right or left-hand operation. The connector/cable loading mechanism is spring loaded to help keep hands away from the work area during the crimp cycle. The die holder is compatible with industry standard die sets from Connex, Ideal Industries, Paladin and Sargent. The adjustable crimp height allows for termination of coaxial cable, as well as discrete wire terminations, with appropriate dies for custom crimp applications.

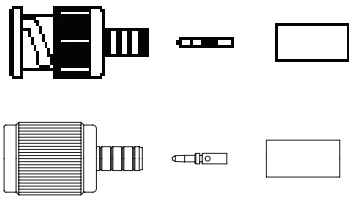
PCTL-S1000

CTL Series Crimp Tools

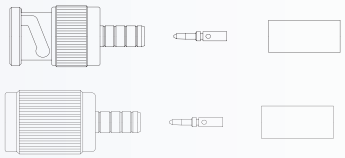
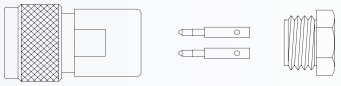
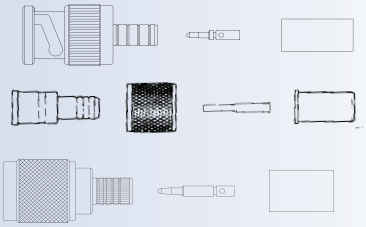
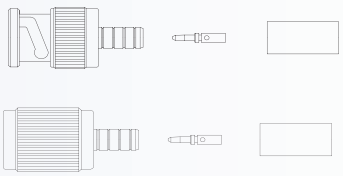
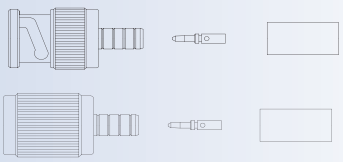
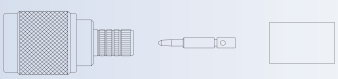
Amphenol CTL Series crimp tools are sold complete as a tool handle with the die set included. Purchase of some or all of the seven tools shown below will allow the user to terminate most popular RG coaxial cables.

Cross Reference		CTL Series Tool No.
MIL-22520 Die Sets	227-No. Die Sets	
/5-11, -13	-1221-11, -13	CTL-1
/5-09	-1221-09 & -32	CTL-2
/5 -57	-1221-25 & -57	CTL-3
–	-1414	CTL-4
/5-11, -13, -57 & -59	-1221-11, -13, -57 & -59 -980-1, -1409	CTL-5
/5-09, -13	-1221-09, -13, -980-1, -980-7	CTL-6
/5-13	-1221-13, -32, -980-1, -980-3	CTL-8

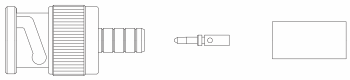
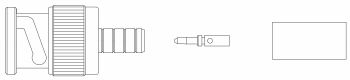
Tool Data

CTL Series Tool No.	Hex Sizes	Cable RG-/U	Connectors	Notes
CTL-1	.068 (1.7) .213 (5.4) .255 (6.5)	RG-55, 58, 141, 142 223, 303, 400 RG-59, 62, 140, 210 Plenum 59, 62 Belden 9258, 9259, 9907, 89907		for BNC, & TNC 3-Piece Crimp Connectors
PCTL-100 Die set only for Bench Crimper				

▲ distributor stocked

CTL Series Tool No.	Hex Sizes	Cable RG-/U	Connectors	Notes
CTL-2 PCTL-200 Die set only for Bench Crimper	.178 (4.5) .324 (8.2) .068 (1.7)	RG-6 RG-174, 188, 316 RG-179, 187 Plenum 58 Belden 8281		for BNC & TNC 3-Piece Crimp Connectors
CTL-3 PCTL-300 Die set only for Bench Crimper	.100 (2.5) .429 (10.9) .213 (5.4)	RG-55, 58, 141, 142 223, 303, 400 RG-8, 11, 149, 213, 214, 225, 393 Ethernet Cables		for Type N 3-Piece Crimp Connectors
CTL-4 PCTL-400 Die set only for Bench Crimper	.429 (10.9) .075 (1.9) .075 (1.9)	Belden 8227 9207, 89207 IBM 7362211 Twinax Cable		for Center Contacts of Twinax Plugs 82-5589 and 82-5589-RFX1
CTL-5 PCTL-500 Die set only for Bench Crimper	.052 (1.3) .100 (2.5) .255 (6.5) .068 (1.7) .213 (5.4)	RG-55, 58, 141, 142 223, 303, 400 RG-59, 62, 140, 210 Plenum 59, 62 Belden 9258, 9259, 9907, 89907		for BNC, TNC, Mini-UHF, and Type N 3-Piece Crimp Connectors
CTL-6 PCTL-600 Die set only for Bench Crimper	.255 (6.5) .068 (1.7) .178 (4.5) .052 (1.3)	RG-174 RG-59, 62 Plenum 59, 62		for 50Ω and 75Ω BNC & TNC 3-Piece Crimp Connectors
CTL-8 PCTL-800 Die set only for Bench Crimper	.052 (1.3) .255 (6.5) .068 (1.7) .324 (8.2)	RG-59, 62 Plenum 59, 62 RG-6		for 50Ω and 75Ω BNC & TNC 3-Piece Crimp Connectors
CTL-9 PCTL-900 Die set only for Bench Crimper	.128 (3.3) .068 (1.7) .178 (4.5)	RG-174, 188, 360, 180		for SMA Crimp Connectors
CTL-11 PCTL-1100 Die set only for Bench Crimper	.116 (2.9) .429 (10.9)	Belden 9913, 9914, LMR 400		for Type N 3-Piece Crimp Connectors

Tool Data (continued)

CTLSeries Tool No.	Hex Sizes				Cable RG-/U	Connectors	Notes
CTL-13 PCTL-1300 Die set only for BenchCrimper	.105 (2.7)	.128 (3.3)	.151 (3.8)		RG-174,178,188,196, 316,RD-316		MicroMate,SMB,SMA
CTL-14	.255 (6.5)	.319 (8.2)	.324 (8.3)	.042 (1.1)	Belden8281, 1694A AT&T734A		for 3-PieceBNC Crimp Connectors
CTL-15	.178 (4.6)	.187 (4.8)	.042 (1.1)		AT&T735A AT&T734A Belden8218		for 3-PieceBNC Crimp Connectors

ECONOHEX™ Crimp Tool and Dies

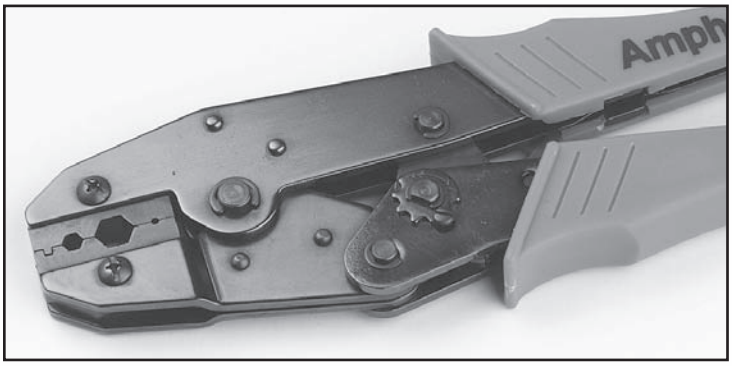
The Amphenol ECONOHEX hand crimp tool is similar in features and application to the TRIHEX crimp tools. However, the ECONOHEX provides the additional feature of die set insertion and removal such that the purchase of the ECONOHEX tool handle and some or all of the four die sets will allow the user to terminate most popular RG coaxial cables as well as Twinaxial cable for IBM system 3X networks.

ECONOHEX order information

Amphenol Die Set Number	Cable RG-/U	Connector Series by Cavity Used	Hex Sizes Across Flats, In. (mm)	
			Cavity A (outer)	Cavity B (inner)
227-1420	8, 9, 11, 87A, 149, 165, 213, 214, 216, 225, 393	BNC, N	.429(10.9)	.100(2.5)
227-1419	55, 58, 141, 142, 142B, 223, 303, 400	BNC, RP-BNC, RP-TNC, RP-SMA	Cav. B = .213(5.4)	Cav. C = .068(1.7}
	59, 62, 140, 210, 302, Belden 9258, Amph. 621-6003	BNC	Cav. A = .255(6.5)	
227-1418	122, 180, 195, 316, Amphenol 21-597	BNC	.178(4.5)	.068(1.7)
227-1417	Belden 8227, 9207; IBM 7362211 Twinax Cable	B/C only center contacts of 82-5589 Twinax Plug	.429(10.9)	B/C = .075(1.9)
227-987	ECONOHEX Tool Handle without dies			

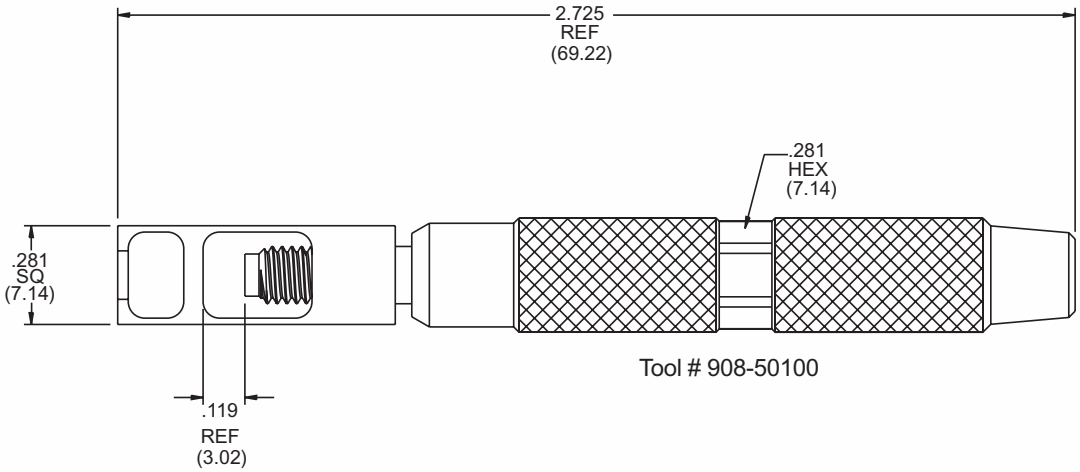
MMCX CTL Crimp Tool

Amphenol CTL Series crimp tools are sold complete as a tool handle with the die set included. Purchase of some or all of the tools shown below will allow the user to terminate most popular RG coaxial cables.



CAP Installation and Connector Removal Tool

Universal tool for MicroMate™ (MMCX) right angle connectors for protective cap mounting and decoupling of connectors.



Tool # 908-50100

Hand Crimp Tool

The Amphenol TWINHEX crimp tool system is used in Industrial/Military Standard applications. It consists of a tool frame and a selection of die sets for use in assembling Amphenol RF connectors. The TWINHEX tool frame 227-944 (M22520/5-01) is sold without dies.

Die Sets for Crimp Tool 227-944

Amphenol Die Set Number	Military Die Set Number	Hex Size Inches (mm)	
		Cavity A (Outer)	Cavity B (Inner)
227-980-1	---	.255(6.5)	.049(1.2)
227-980-2	---	.178(4.5)	.049(1.2)
227-980-3	---	.324(8.2)	.052(1.3)
227-980-7	---	.178(4.5)	.052(1.3)
227-1221-3	M22520/5-03	.128(3.2)	.105(2.7)
227-1221-9	M22520/5-09	.178(4.5)	.068(1.7)
227-1221-11	M22520/5-11	.213(5.4)	.068(1.7)
227-1221-13	M22520/5-13	.255(6.5)	.068(1.7)
227-1221-15	M22520/5-15	.263(6.7)	.068(1.7)
227-1221-23	M22520/5-23	.384(9.8)	---
227-1221-25	M22520/5-25	.429(10.9)	.100(2.5)
227-1221-29	M22520/5-29	.324(8.2)	.100(2.5)
227-1221-32	M22520/5-32	.324(8.2)	.068(1.7)
227-1221-37	M22520/5-37	.314(8.0)	.151(3.8)
227-1221-57	M22520/5-57	.213(5.4)	.100(2.5)
227-1221-59	M22520/5-59	.255(6.5)	.100(2.5)
227-1221-61	M22520/5-61	.429(10.9)	.116(2.9)
227-1409	---	.213(5.4)	.052(1.3)sq.
227-1414	---	.429(10.9)	B/C= .075(1.9)
227-1448	---	.160(4.1)	.049(1.2)

TWINHEX Order Information

Amphenol Number	Military Number	Description
227-944	M22520/5-01	Hand Tool Frame for use with Twinhex 227-1221-XX and 227-980-X Die Sets (Die Sets sold separately)

Notes

Glossary

A

Accessories
Mechanical devices, such as cable clamps, added to connector shells and other such hardware which is attachable to connectors to make up the total connector configuration.

AMC
Amphenol Micro Coaxial Connectors. For use in applications with 50 _ impedance requirements. Low profile (2.5 mm of the board) with extremely small board footprint (3mm x 3mm).

AMPS
Advanced Mobile Phone System, an analog standard for wireless service.

A/D
Analog-to-digital.

Alloy
A mixture of two or more metals combined to achieve properties, such as a lower melting point or greater strength, that the individual metals do not possess.

Ambient
The atmospheric conditions surrounding a given item. Normally in terms of factors which influence or modify, such as temperature, humidity, etc.

Amplitude
The magnitude of variation in a changing quantity from its zero value. The word required modification - as with adjectives such as peak, maximum, rms, etc. - to designate the specific amplitude in question.

Analog
The representation of information by means of continuously variable signal.

Attenuation (a)
The decrease of a signal with the distance in the direction of propagation. Attenuation may be expressed as the scalar ratio of the input power to the output power, or as the ratio of the input signal voltage to the output signal voltage.

B

Back Mounted (rear mounting)
When a connector is mounted from the inside of a panel or box with its mounting flange inside the equipment.

Backplane Panels
An interconnection panel into which PCB cards or other panels can be plugged. These panels come in a variety of designs ranging from a PC motherboard to individual connectors mounted in a metal frame. Panels lend themselves to automated wiring.

Bandwidth
The range of frequencies for which performance falls within specific limits.

Barrier Seal
A barrier seal is a seal preventing the passage of moisture or gases through the insulator and the gap between insulator and center conductor or outer conductor of a connector or adapter.

Base Material
Metal from which the connector, contact or other piece part accessory is made and on which one or more metals or coatings may be deposited.

Bayonet Coupling
A quick coupling device for plug and receptacle connectors, accomplished by rotation of a cam operating device designed to bring the connector halves together.

B-CDMA
Broadband - Code Division Multiple Access (CDMA)

Bending Radius
The minimum permissible radius for fixed installation of the cable. This radius is mainly used in climatic tests. Minimum dynamic: The minimum permissible radius for flexible applications of the cable.

BNC (Bayonet Neill Concelman)
Coaxial connector with bayonet coupling mechanism. Available in 50 Ohm and 75 Ohm versions. Frequency range DC - 4 GHz (50 Ohm) and DC-1 GHz (75 Ohm), respectively. Named after Amphenol Engineer Carl Concelman, and Bell Labs Engineer Paul Neill.

Body
Main, or largest, portion of a connector to which other portions are attached.
Bonded Assembly
A connector assembly in which the components are bonded together using an electrically appropriate adhesive in a sandwich structure to provide sealing against moisture.

Braid
Woven wire used as shielding for insulated wires and coaxial cables. Also, a woven fibrous protective outer covering over a conductor or cable.

Braid Coverage
A calculated percentage which defines the completeness with which a braid or shield covers the surface of the underlying component.

Bulkhead
A term used to define a mounting style of connectors. Bulkhead connectors are designed to be inserted into a panel cutout from the rear (component side) or front side of the panel.

Butted Contact
When two conductors come together end-to-end, but do not overlap, with their axis in line.

C

CATV
Cable television (previously community antenna television) technology, commonly employed by broadband LANs for signal distribution.

Cable Assembly
A completed cable and its associated hardware (e.g. connector).

Capacitance
The property of an electrical conductor (dielectric in a capacitor) that permits the storage of energy as a result of electrical displacement. The basic unit of capacitance is the Farad, however measurement is more commonly in microfarads or picofarads.

Capillary Actions
The effect of surface tension that draws a liquid into a small opening.

Catcher's Mitt
A smooth bore style that has a large interface target area. The larger target area is used to maximize the target area for blind mate applications.

CDMA (IS-95)
Code Division Multiple Access, a digital standard for wireless service.

Closed Entry Contact
A specially designed connector interface which controls the entry of the male pin from damaging the female contact.

Coaxial Cable
A transmission line consisting of two concentric conductors insulated from each other. In its flexible form it consists of either a solid or stranded center conductor surrounded by a dielectric. A braid is then woven over the dielectric to form an outer conductor. A protective plastic covering is placed on top of the braid.

Concelman
Amphenol Engineer after which many coaxial connectors are named: C, BNC, TNC, etc.

Connector Assembly
Includes housing and contact plus additional components such as hardware used to hold the assembly together and/or make the assembly a functional connector.

Contact
The conducting part of an interconnect at the interface between the connector and the lead on the device being connected.

Contact Alignment
Defines the overall radial play which contacts shall have within the insert cavity so as to permit self-alignment of mated contacts. Sometimes referred to as amount of contact float.

Contact Cavity
A defined hole in the connector insert or housing into which the contact must fit.

Contact Durability
The number of insertion and withdrawal cycles that a connector must be capable of withstanding while remaining within the performance levels of the applicable

Contact Engaging & Separating Force
Force needed to either engage or separate pins and socket contacts when they are in and out of connector inserts. Values are generally established for maximum and minimum forces. Performance acceptance levels vary by specification and/or customer requirements.

Contact Plating
Deposited metal applied to the basic contact metal to provide the required contact-resistance and/or wear-resistance.

Contact Pressure
Force which mating surfaces exert against one another.

Contact Resistance
Measurement of electrical resistance of mated contacts when assembled in a connector under typical service use. Electrical resistance is determined by measuring from the rear of the electrical area of one contact to the rear of the mating contact (excluding both crimps) while carrying a specified test current.

Contact Retention
Defines minimum axial load in either direction which a contact must withstand while remaining firmly fixed in its normal position within an insert.

Convection
The transfer of heat by movement of hot air. Often used in conjunction with infrared radiation to reduce the effect of IR shadowing.

Coplanarity
The distance between the lowest and highest lead when the connector is laying in its seating plane.

Corona
A luminous discharge due to ionization of the air surrounding a conductor caused by a voltage gradient exceeding a certain critical value.

Crimp
Act of compressing (deforming) a connector ferrule around a cable in order to make an electrical connection.

Crimping Dies
A term used to identify the shaping tools that, when moved toward each other, produce a certain desirable shape to the barrel of the terminal or contact that has been placed between them. Crimping dies are often referred to as die sets or as die inserts.

Crimping Termination
Connection in which a metal sleeve is secured to a conductor by mechanically crimping the sleeve with pliers, presses or crimp dies.

Crimping Tool
A term commonly used to identify a hand held mechanical device or table press that is used to crimp a contact, terminal or spice.

Cross Talk
A magnetic or electrostatic coupling which causes the unwanted transfer of energy from one circuit (disturbing circuit) to another circuit (disturbed circuit).

CTIA
Cellular Telecommunications Industry Association.

Cut-off Frequency (fc)
The frequency, above which other than the TEM mode may occur. The transmission characteristics of cables above their cutoff frequency may be unstable.

Cycle
One complete sequence of values of an alternating quantity, including a rise to maximum in one direction and of return to zero. The number of cycles occurring in one second is called the frequency.

D

D/A
Digital-to-analog

DBm
Relative measure of signal power where the reference 0 dBm is equal to one milliwatt. See also decibel.

Decibel (dB)
A relative unit without dimensions calculated as ten times the logarithm to the base 10 of a power ratio or as twenty times the logarithm to the base 10 of a voltage ratio. Note: What is commonly measured as VSWR in the RF world is referred to as return loss and measured in dB in the CATV industry.

Delay Line
A cable that delays electrical signals by a specified amount of time.

Dewetting
A situation where a lead or pad was at one point in the soldering process wetted by the solder, but due to extended time or temperature, the presence of intermetallics, volatiles or other causes, has become withdrawn from the wetted surface.

Dielectric
In a coaxial cable, the insulation between inner and outer conductor. It significantly influences electrical characteristics such as impedance, capacitance, and velocity of propagation.

Dielectric Constant
Electrical property of a material that describes its behavior in an electric field. The dielectric constant of the dielectric is the most important design parameter for coaxial cables and determines dimensions, losses and propagation characteristics.

Dielectric Loss
In a coaxial cable, the losses caused by transformation of electromagnetic energy into heat within the dielectric material.

Dielectric Strength
The voltage which an insulating material can withstand before breakdown occurs.

Dielectric Withstanding Voltage
The maximum potential gradient that a dielectric material can withstand without failure.

Digital
(1) Pertaining to the utilization of discreet integral numbers in a given base to represent all the quantities that occur in a problem or a calculation. It is possible to express in digital form all information stores, transferred or processed by a dual-state condition; e.g., on-off, open-closed and true-false. (2) Compare with analog.

DIN 7/16
50 ½ coaxial connector with screw type coupling mechanism providing excellent intermodulation characteristics. Suitable for medium to high power applications. Frequency range DC - 7.5 GHz.

Dip Solder Terminal
The terminals on a connector which are inserted into holes in the PC board and then soldered in place.

Direct Current (DC)
An electric current which flows in only one direction. Dissipation
Unusable or lost energy, such as the production of unused heat in a circuit.

Distortion
An unwanted change or addition to a signal or waveform when it is amplified. This definition excludes noise which is an extraneous signal super-imposed on the desired signal.

Dummy Load
A dissipative device used at the end of a transmission line or waveguide to convert transmitted energy into heat, so essentially no energy is radiated outward or reflected back to its source.

Dust Cap
A device attached to a connector to provide protection against dust and foreign debris.

E

Eccentricity
A measure of a conductor's location with respect to the circular cross section of the insulation. Expressed as a percentage of center displacement of one circle within the other.

EIA
Electronic Industries Association.

Electromagnetic Compatibility (EMC)
EMC describes the ability of an electrical system to avoid electromagnetic interference with the environment.

Electromagnetic Interference (EMI)
Unwanted electrical or electromagnetic energy that causes undesirable responses, degrading performance or complete malfunctions in electronic equipment. See also: Noise.

Electronic Industries Association (EIA)
A U.S. manufacturer's group which, as one of its functions, sets some interface standards.

Electroplating
A method of electrically depositing metals of very precise compositions and thickness onto a base metal.

Ethernet
(1) In a local computer network, a branching broadcast communications system for carrying digital data packets among locally distributed computing stations. (2) A two-level, baseband, local-area data communications network developed by Xerox and supported by DEC and Intel, among others.

Eutectic Solder
The most common solder alloy because of its low melting point (183oC/361oF), composed of 63% tin and 37% lead.

F

FCC
Federal Communications Commission.

Feed-through
A connector or terminal block, usually having double-ended terminals which permits simple distribution and bussing of electrical circuits. Also used to describe a bushing in a wall or bulkhead separating compartments at different pressure levels, with terminations on both sides.

Ferrule
A short tube to make solderless connections to shielded or coaxial cable (e.g. as in crimping).

Fiber Optics
The technology for guidance of light waves through optical fibers; specifically when the optical energy is guided to another location in order to transmit information.

Flange
A projection extending from, or around the periphery of, a connector and provided with holes to permit mounting the connector to a panel, or to another mating connector half.

Footprint
The pattern on the printed circuit board to which the leads on a surface mount component are mated. Also called a land or a pad.

Frequency Modulation (fm)
A scheme for modulating a carrier frequency in which the amplitude remains constant but the carrier frequency is displaced in frequency proportionally to the amplitude of the modulating signal. An fm broadcast is practically immune to atmospheric and man-made interference.

Fretting Corrosion
A form of accelerated oxidation that appears at the interface of contacting materials undergoing slight cyclic relative motion. All non-noble metals (tin) are susceptible to some degree of fretting corrosion and will suffer contact resistance increases.

Front Mounted (front mounting)
A connector is front mounted when it is attached to the outside or mating side of a panel. A front mounted connector can only be installed or removed from the outside of the equipment.

G

GHz
See Gigahertz.

Gigahertz (GHz)
One billion cycles per second (1x109).

GPS
Global Positioning System

GSM
Global System for Mobile communication, a digital standard for wireless service for high-performance cell phones; European and defacto world standard.

H

HDTV
High-definition television.

Heat Shock
Test to determine the stability of a material when exposed to a sudden high temperature change for a short period of time.

Heat Treating
A process that uses precise heating and tooling of metals in order to optimize internal stresses and spring properties.

Hermetic Seal
Hermetically sealed connectors provide contacts bonded to the connector by glass. They permit maximum leakage rate of gas through the connector of 1.0 micron ft/hr at one atmosphere pressure for special applications.

Hermaphroditic Connector
A connector where both mating members are exactly alike at their mating face. There are no male or female members, but provisions have been made to maintain correct polarity, hot lead protection, sealing and coupling.

Hermaphroditic Contacts
Contacts in which both mating elements are precisely alike at their mating face.

Hertz (Hz)
International standard term for cycles per second. Named after the German physicist Heinrich R. Hertz (e.g. 60 cycles per second is equal to 60 hertz or 60 Hz).

I

IEEE
Institute of Electrical and Electronics Engineers.

IM/PIM (Passive Intermodulation)
The generation of new (and in the case of cable assemblies undesirable) signals (intermodulation products) at the non-linear characteristics of transmission elements.

Impedance (characteristic, Z0)
Characteristic property of a transmission line describing the ratio between electric and magnetic fields.

Impedance Match
A condition in which the impedance of a component or circuit is equal to the internal impedance of a transmission line. This gives maximum transfer of energy from the source to the load, as well as minimum reflection and distortion.

Inductance
The property of a circuit or circuit element that opposes a change in current flow, thus causing current changes to lag behind voltage changes. It is measured in Henrys.

Insert
The part which holds the contacts in their proper arrangement and electrically insulates them from each other and from the shell.

Insertion Loss
The loss in load power due to the insertion of a component, connector or devise at some point in a RF transmission system. Generally expressed in decibels as the ratio of the power received at the load before insertion of the apparatus, to the power received at the load after insertion (for more information please refer to Appendix).

Insulation
A material having high resistance to the flow of electric current. Often called a dielectric in RF cable.

Insulation Resistance
The electrical resistance of the insulating material (determined under specified conditions) between any pair of contacts, conductors, or grounding device in various combinations.

Interconnection
Mechanically joining assemblies together to complete electrical circuits.

Interface
The two surfaces on the contact side of both halves of a multiple-contact connector which face each other when the connector is assembled.

Interference
An electrical or electromagnetic disturbance that causes undesirable response in electronic equipment.

Intermetallic
Chemical compounds formed between the metals present in the solder, base metal and protective plating. Intermetallic formation is necessary for good solder joints, but excessive intermetallics can cause brittleness.

Intermodulation (IMD)
A phenomenon that occurs when two or more fundamental frequencies are present in an electronic circuit.

IR Shadowing
When connector bodies or other components prevent the infrared energy from directly striking some solder joints, causing non-uniform heading.

ISO
International Standards Organization.

J

Jack
A connecting device into which a plug can be inserted to make circuit connections. The jack may also have contacts which open or close to perform switching functions when the plug is inserted or removed. See also: receptacle.

Jacket
An outer non-metallic protective cover applied over an insulated wire or cable.

J-Lead
A surface mount lead configuration where leads are bent into curves. Infrequently used on interconnects.

L

LAN
Local Area Network. A data communication network confined to a limited geographic area (up to 6 miles or about 10 kilometers).

Land
The metal portion of a printed circuit board where the pads on a surface mount component are mated. Also called a footprint or a pad.

LCP
Liquid Crystal Polymer

Levels of Interconnection
Device to board or chassis. The connection point between components (tubes, transistors, IC packages) and the PC board or chassis. Board to motherboard or backplane. The connection point between PC boards or subcircuit modules and the motherboard or a backplane Board.

Backplane wiring
Connections between levels to each other and to other sub-circuits. Input/output. Connections for power and signals into and out of a system. Connections may be between subassemblies within the same enclosure or between individual units.

Limited detent (for AFI and SMP type interfaces):
The inside surface of the connector has an undercut to a larger diameter. This creates a snap feature so the bullet adapter will remain in position with the limited detent connector during disengagement from its mating smooth bore connector.

Line Impedance
Impedance as measured across the terminals of a transmission line; frequently the characteristic impedance of the line.

Low Noise Cable
Cable specially constructed to avoid spurious electrical disturbances caused by mechanical movements.

M

Mating Face Seal
A mating face seal is a seal preventing the passage of moisture or gases into or out of the connecting interface of two connectors in mated condition.

MCX (Micro coaxial)
Micro coaxial connector with snap on coupling mechanism. Available in 50 ohm and 75 ohm versions. Frequency range DC - 6 GHZ.

MHV (Miniature High Voltage)
Coaxial connector with bayonet coupling mechanism. Working voltage 2.2 kV DC.

Microstrip
A type of transmission line configuration which consists of a conductor over a parallel ground plane, and separately by a dielectric.

Microwave
That portion of the electromagnetic spectrum lying between the far infrared and conventional radio frequency range. The microwave frequency range extends from 1 GHz to 300 GHz. Microwaves are usually used in point-to-point communications because they are easily concentrated into a beam.

MIL
Military (e.g. as in Military Standards).

Mini 75 Ω SMB
Mini 75 Ω SMB provides broadband capability through 2 GHz. Its snap-on design utilizes die cast components on non-critical areas to provide a low cost solution The Mini 75 Ω SMB offers snap fit mating for quick connect/disconnect. The reduced housing allows circuit miniaturization and efficient "real estate" utilization. Built in accordance with requirements of Mil-C-39012, the interface is in compliance with Mil-STD 348 and is interchangeable with Industry Standard for Miniature 75 Ω SMB.

Mini BNC
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 Ω systems. This allows 40% more interconnects in the same area.

The Mini BNC series provides a positive locking bayonet system where SMB and SMZ system have no locking feature. The SMB and SMZ were not designed to be field installed or repaired, while the Mini BNC is specifically designed to be a drop-in replacement and used with the Telco DS3 application and is compatible with the present field installer tooling and strip dimensions.

Mismatch (Connector Impedance or Line Impedance)
The condition in which the impedance of a source does not match or equal the impedance of the connected load. This reduces power transfer by causing reflection.

MMCX
Miniature Microcoax connector with snap on coupling mechanism. Available in 50 ohm and 75 ohm versions. Frequency range DC - 6 GHz.

Moisture Resistance
The ability of a material to resist absorbing moisture from the air or when immersed in water.

Motherboard
A printed board used for interconnecting arrays of plug-in electronic modules.

N

N (Neill)
Coaxial connector with screw type coupling mechanism. Available in 50 ohm and 75 ohm version. Frequency range DC - 18 GHz (50 ohm) and DC-1 GHz (75 ohm), respectively.

NAB
National Association of Broadcasters

Noise
Random electrical signals, generated by circuit components or by natural disturbances.

O

OEM
Original Equipment Manufacturer.

Ohm
The unit of measurement for electrical resistance. A circuit is said to have a resistance of one ohm when an applied emf of one volt causes a current of one ampere to flow.

P

Pad
The metal portion of a printed circuit board where the leads on a surface mount component are mated. Also called a footprint or a land.

Panel Seal
A panel seal is a seal preventing the passage of moisture or gases through the gap between the mounting hole of the panel and the connector body of the fixed connector.

PCB
Printed Circuit Board.

PC
Personal Computer.

Permeability (magnetic)
The measure of how much better a material is than air as a path for magnetic lines of force. Air is assumed to have a permeability of 1.

Permittivity Relative
Synonym term for relative dielectric constant Er.

Phase Shift
Change in phase of a voltage or current after passing through a circuit or cable.

Phase Stability
Variation of the electrical length of a cable that can result from temperature or mechanical stress due to bending or torsion.

Pin Contact
A male type contact, usually designed to mate with a socket or female contact. It is normally connected to the "dead" side of a circuit.

Plated Through-Hole
A hole through a printed circuit board that has been electroplated and into which a lead is placed and soldered for electrical and mechanical connection.

Plug
In coaxial RF connectors the plug is usually the movable portion, and is usually attached to a cable or removable assembly. Plugs mate with receptacles, jacks, outlets, etc.

Press-Fit Contact
An electrical contact which can be pressed into a hole in an insulator, printed board (with or without plated-through holes), or a metal plate.

Printed Circuit Board (PCB)
An epoxy glass and metal composite on which circuits are etched and to which active, passive and hardware components are attached. Also called PCB or PC Board.

Propagation Delay
Time required for an electronic digital device, or transmission network to transfer information from its input to its output.

Prototype
A model suitable for use in the complete evaluation of form, design and performance.

PTFE (polytetraflouroethylene)
The thermally most stable and chemically most resistant carbonaceous compound. It is unaffected by sunlight, moisture, and virtually all chemicals. Temperature range is -200oC to +260oC / -392oF to +500oF. Electrical properties are very constant over temperature and wide range of frequencies.

Pulse
A change in the level, over a relatively short period of time, of a signal whose value is normally constant.

Pulse Width
The length of time that the pulse voltage is at the transient level. Electronic pulse widths are usually in the millisecond (10-3), microsecond (10-6) or nanosecond (10-9) range.

Q

QMA
A quick disconnect version of the SMA connector. The electrical performance benefits of the QMA include low loss RF performance up to 6 GHz.

R

Range
Number of sizes of connectors or cables of a particular type.

Receptacle
Usually the fixed or stationary half of a two-piece multiple contact connector. Also the connector half usually mounted on a panel and containing socket (female) contacts.

Reflection
See VSWR.

Reflection Loss
The part of a signal which is lost due to reflection of power at a line discontinuity.

Reflow Soldering
The process of screen printing solder paste and then heating it to cause it to melt, or “reflow”, to wet the leads and pads around it.

RF
Radio frequency.

RG/U
Symbol used to designate coaxial cables that are made to government specification (e.g., RG-58U; in this designation the “R” means radio frequency, the “G” means government, the “58” is the number assigned to the government approval, and the “U” means it is an universal specification).

Rise Time
The time required for a component or logic circuit to change from the quiescent to the transient state when an output is applied, (e.g. elapsed time between application of input and attainment of full output level).

RMS
Root Mean Square The effective value of an alternating current, corresponding to the direct current value that will produce the same heating effect.

S

SC (Concelman, Amphenol Engineer)
Threaded connector 0 to 11 GHz.

Screening Effectiveness
Ratio of the power fed into a coaxial cable to the power transmitted by the cable through the outer conductor.

Screw Machine Contact
A contact which is machined from solid bar stock.

Self-Align
Design of two mating parts so that they will engage in the proper relative position.

Self Alignment
The tendency of leads to center themselves on solder pads due to the surface tension of the liquid solder.

Semi-Rigid
A cable containing a flexible inner core and a relatively inflexible sheathing.

Shield
(1) A conducting housing or screen that substantially reduces the effect of electric or magnetic fields on one side thereof, upon devices or circuits on the other side. Cable shields may be solid, braided, or taped (longitudinally or spirally). (2) In cables, a metallic layer placed around a conductor or group of conductors to prevent electrostatic or electromagnetic interference between the enclosed wires and external fields.

Shielding
The metal sleeve surrounding one or more of the conductors, in a wire circuit to prevent interference, interaction or current leakage.

Shock (mechanical)
(1) An abrupt impact applied to a stationary object. (2) An abrupt or non-periodic change in position, characterized by suddenness, and by the development of substantial internal forces.

SHV (Safe High Voltage)
Coaxial connector with bayonet coupling mechanism. Working voltage 5 kV DC.

Skin Effect
The phenomenon wherein the depth of penetration of electric currents into a conductor decreases as the frequency of the current increases.

SMA (Subminiature A)
50 ohm - subminiature coaxial connector with screw type coupling mechanism. Frequency range DC-18 GHz.

SMB (Subminiature B)
Subminiature coaxial connector with snap-on coupling mechanism. Frequency range DC - 4 GHz.

SMC (Subminiature C)
Subminiature coaxial connector with screw type coupling mechanism. Frequency range DC - 10 GHz.

SMP
A subminiature interface in the same scale as MMCX connectors but offers a frequency range of DC to 40 GHz. Commonly used in miniaturized high frequency coaxial modules, SMP is offered in both push-on and snap-on mating styles.

Smooth bore (for AFI and SMP type interfaces):
The inside surface is smooth and of a constant diameter. This allows un-mating with less force so the bullet will remain in position with the limited detent connector during disengagement.

SMS
Subminiature coaxial connector with slide-on coupling mechanism. Frequency range DC - 4 GHz.

Snap on
Used to describe the easy removal or assembly of one part to another. A connector containing socket (female) contacts into which a plug connector having male contacts is inserted.

Solder Contact
A contact or terminal with a cup, hollow cylinder, eyelet or hood to accept a wire for a conventional soldered termination.

Spring-Finger Action
Design of a contact, as used in a printed circuit connector or a socket contact, permitting easy, stress-free spring action to provide contact pressure and/or retention.

Standing-Wave
Distribution of current and voltage on a transmission line, resulting from two sets of waves traveling in opposite directions.

Standing Wave Ratio
A measure of the mismatch between the load the line. It is equal to 1 when the line impedance is perfectly matched to the load. (In which case the maximum and minimum are the same, as current and voltage do not vary along the line). The perfect match would be a 1 to 1 ratio.

Stripline
A type of transmission line configuration which consists of a single narrow conductor parallel and equidistant to two parallel ground planes.

Surface Mount Device (SMD)
An active or passive device designed to be soldered to the surface of the printed circuit board.

Surface Mount Technology (SMT)
The process of assembling printed circuit boards with components soldered to the surface rather than fastened to printed circuit board through-holes.

SWR
Standing Wave Ratio.

T

TDMA
Time Division Multiple Access, a digital standard primarily used in Asia and Europe.

Thermal Shock
The effect of heat or cold applied at such a range that non-uniform thermal expansion or contraction occurs within a given material or combination materials. The effect can cause inserts and other insulation materials to pull away from metal parts.

Third Generation (3G)
The next generation in wireless producing a convergence of standards and services.

TNC (Threaded Neill Concelman)
Coaxial connector with screw type coupling mechanism. Available in 50 ohm and 75 ohm versions. Frequency range DC - 11 GHz (50 ohm) and DC - 1 GHz (75 ohm), respectively.

Transmission Line
A signal-carrying circuit composed of conductors and dielectric material with controlled electrical characteristics used for the transmission of high-frequency, narrow-pulse type signals.

Transmission Loss
The decrease of loss in power during transmission of energy from one point or another. Usually expressed in decibels.

Triaxial Cable
A cable consisting of one center conductor and two outer concentric conductors (with an insulating layer separating them). Notable for increased shielding efficiency.

Twinaxial Cable
Two conductors that are insulated from one another, twisted together and surrounded by a common shield.

U

UG
Symbol used to describe coaxial connectors that were made to a government specification. This specification is now obsolete.

UHF
Coaxial connector with screw type coupling mechanism invented in the 1930's by Amphenol engineer E. Clark Quackenbush for use in the radio industry. Non-defined impedance. Frequency range DC.

Ultra High Frequency (UHF)
A Federal Communications Commission designation for the band from 300 MHz to 3,000 MGz (3 GHz) on the radio spectrum.

UMTS
Universal Mobile Telecommunications Systems.

V

Very High Frequency (VHF)
A Federal Communications Commission designation for the band from 30 to 300 MHz on the radio spectrum.

Velocity of Propagation
The speed of an electrical signal down a length of cable compared to speed in free space expressed as a percentage.

Voltage
The term most often used to designate electrical pressure that exists between two points and is capable of producing a flow of current when a closed circuit is connected between the two points. Voltage is measured in volts, millivolts, microvolts and kilovolts. The terms electromotive force (emf), potential, potential difference and voltage drop are often referred to as voltage.

Voltage Standing Wave Ratio (VSWR)
A measure of the reflection, resulting from a ratio of the input signal to the reflected signal. VSWR = (1+L) / (1-L)

VSWR
See Voltage Standing Wave Ratio and Standing Wave Ratio.

W

Wavelength
The distance, measured in the direction of propagation, of a repetitive electrical pulse or waveform between two successive points that are characterized by the same phase of vibration.

Wave Soldering
The most widely used mass soldering process, primarily for through-hole boards, where the board is passed over a wave of solder which laps against the bottom of the board to wet the metal surfaces to be joined.

W-CDMA
Wideband-Code Division Multiple Access (CDMA).

Wetting
The ability of liquid solder to attach itself to the surfaces being joined through the formation of intermetallic bonds.

Wiping Action
The action which occurs when contacts are mated with a sliding action. Wiping has the effect of removing small amounts of contamination from the contact surfaces, thus establishing better conductivity.

WLAN
Wireless Local Area Network.

WLL
Wireless Local Loop.

Cable Selection Chart

	AMC	SMP	MMCX	MCX
A: RG-178, 196			16	23
B: RG-174, 188A, 316, Belden 7805			16	23
B1: RG-179, 187, Belden 9221				23
B2: RD-188/U, RD-316/U			16	23
B3: RD-179/U, AT&T 19224L2				23
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 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				23
L2: .085, .086, .087 semi-rigid, RG-405/U		10	16	23
L3: .250 semi-rigid				
L4: .047 semi-rigid, Belden 1674		10	16	
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: 1.13mm OD micro-cable, TCB-068	5			
P3: 1.32 mm OD micro-cable	5			
P4: 1.37 mm OD micro-cable	5			

Cable Selection Chart

	1.0/2.3	SMB	Mini 75Ω SMB	SMC
A: RG-178, 196		41, 44		
B: RG-174, 188A, 316, Belden 7805	30	41		56
B1: RG-179, 187, Belden 9221		44	51	
B2: RD-188/U, RD-316/U	30	41		56
B3: RD-179/U, AT&T 19224L2		44	51	
C: RG-58, 58A, 58C, 141, 303, LMR195, Belden 7806A, 9907	30			
C1: RG-55, 142, 223, 400	30			
C2: LMR200, Belden 7807A	30			
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 AWG center conductor, Belden 82108				
G1: RG-6, 143, 212				
G2: 8X, LMR240, Belden 7808A, 9258	30			
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		44	51	
J: Quad 59 headend cable				
K: LMR600				
K2: Belden 1695A				
K3: RG-122, 180, 195, Belden 1855, 1865A, 8218		44		
L: .141 semi-rigid, RG-402/U	30			
L2: .085, .086, .087 semi-rigid, RG-405/U	30	41		56
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: 1.13mm OD micro-cable, TCB-068				
P3: 1.32 mm OD micro-cable	30			
P4: 1.37 mm OD micro-cable				

Cable Selection Chart

	SMA	QMA	Mini-UHF	Mini-BNC
A: RG-178, 196				
B: RG-174, 188A, 316, Belden 7805	66, 67, 68	78		
B1: RG-179, 187, Belden 9221				102
B2: RD-188/U, RD-316/U	66, 67, 68	78		102
B3: RD-179/U, AT&T 19224L2				102
C: RG-58, 58A, 58C, 141, 303, LMR195, Belden 7806A, 9907	66, 67	78	84	
C1: RG-55, 142, 223, 400	66, 67, 68	78		
C2: LMR200, Belden 7807A	66			
D: RG-58/U Plenum, Thinnet, RG-122/U, Belden 88240, 89907				
E: RG-59, 62, 140, 210, Belden 8241, 8263, 8279, 9209			84	102
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 AWG center conductor, Belden 82108				
G1: RG-6, 143, 212				
G2: 8X, LMR240, Belden 7808A, 9258	66, 67	78	84	
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				102
I2: AT&T 735A, Belden 735A1				102
J: Quad 59 headend cable				
K: LMR600				
K2: Belden 1695A				
K3: RG-122, 180, 195, Belden 1855, 1865A, 8218				102
L: .141 semi-rigid, RG-402/U	67, 68	78		
L2: .085, .086, .087 semi-rigid, RG-405/U	67, 68	78		
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: 1.13mm OD micro-cable, TCB-068				
P3: 1.32 mm OD micro-cable				
P4: 1.37 mm OD micro-cable				

Cable Selection Chart

	BNC	TNC	C	UHF	Type N
A: RG-178, 196	111	125			
B: RG-174, 188A, 316, Belden 7805	110, 111, 112, 116	124, 125			147, 148
B1: RG-179, 187, Belden 9221	110, 116, 117	124			
B2: RD-188/U, RD-316/U	110	124			
B3: RD-179/U, AT&T 19224L2	116	124, 125			
C: RG-58, 58A, 58C, 141, 303, LMR195, Belden 7806A, 9907	110, 111, 112	124, 125		138, 139	147, 148
C1: RG-55, 142, 223, 400	110, 112	124, 125		138	147, 148
C2: LMR200, Belden 7807A	110	124			
D: RG-58/U Plenum, Thinnet, RG-122/U, Belden 88240, 89907	110, 111	124			
E: RG-59, 62, 140, 210, Belden 8241, 8263, 8279, 9209	110, 111, 112, 116, 117	124, 125		138, 139	147
E1: RG-59/U 20 AWG center conductor, Belden 1426A, 1505A, 9100, 9278	110, 116	124			
E2: RD-59/U, Belden 8281, 9141, 9231	110, 116				
E3: RG-59/U Quad Shield, Belden 1152A	116				
F: RG-59/U Plenum, Belden 1560A, 9259, 82259, 89259, 88241	110, 116	124			
F1: RG-59/U Plenum AWG center conductor, Belden 82108		124			
G1: RG-6, 143, 212	111				
G2: 8X, LMR240, Belden 7808A, 9258	110	124			147, 148
G3: LMR400, Belden 7810A, 8214, 9913	110	124, 125			147, 148
G4: RG-8, 8A, 9, 87A, 213, 214, 225, 393	111	124	132	138	147, 148
G5: RD-6/U					
H: RG-11					
H1: Belden 1694A, 9248	116				
H2: Belden 1859A, 7731, 8213, 9292	110				
H3: RG-54A/U	116				
I: AT&T 734A, Belden 1505A	116, 117				
I2: AT&T 735A, Belden 735A1	116, 117	125			
J: Quad 59 headend cable					
K: LMR600		124			147, 148
K2: Belden 1695A					
K3: RG-122, 180, 195, Belden 1855, 1865A, 8218	110, 116				
L: .141 semi-rigid, RG-402/U		124, 125			147, 148
L2: .085, .086, .087 semi-rigid, RG-405/U		124, 125			147, 148
L3: .250 semi-rigid					147, 148
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: 1.13mm OD micro-cable, TCB-068					
P3: 1.32 mm OD micro-cable					
P4: 1.37 mm OD micro-cable					

Cable Selection Chart

	HN	7/16	MHV	High Performance 75Ω BNC	Reverse Polarity (SMA)
A: RG-178, 196					
B: RG-174, 188A, 316, Belden 7805				172	71
B1: RG-179, 187, Belden 9221				172	
B2: RD-188/U, RD-316/U				172	
B3: RD-179/U, AT&T 19224L2					
C: RG-58, 58A, 58C, 141, 303, LMR195, Belden 7806A, 9907			166		
C1: RG-55, 142, 223, 400		162			71, 72
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	154		166	172	
E1: RG-59/U 20 AWG center conductor, Belden 1426A, 1505A, 9100, 9278					
E2: RD-59/U, Belden 8281, 9141, 9231				172	
E3: RG-59/U Quad Shield, Belden 1152A					
F: RG-59/U Plenum, Belden 1560A, 9259, 82259, 89259, 88241					
F1: RG-59/U Plenum 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	154				
G5: RD-6/U					
H: RG-11					
H1: Belden 1694A, 9248				172	
H2: Belden 1859A, 7731, 8213, 9292					
H3: RG-54A/U	154				
I: AT&T 734A, Belden 1505A				172	
I2: AT&T 735A, Belden 735A1				172	
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		161			
M1: 1 1/4 inch annular corrugated		161			
M2: 1 5/8 inch annular corrugated		161			
M3: 7/8 inch annular corrugated		161			
N: 1/4 Helical		161, 162			
N1: 3/8 Helical		161, 162			
N2: 1/2 Helical		161			
N3: 7/8 inch SFC		161			
P1: .81 mm OD micro-cable					
P2: 1.13mm OD micro-cable, TCB-068					
P3: 1.32 mm OD micro-cable					
P4: 1.37 mm OD micro-cable					

Notes

Catalog Index

Catalog Index

Catalog Index

Catalog Index

Catalog Index

Catalog Index

QPL Products

Our list of QPL products includes RF connectors and adapters qualified under the U.S. Government performance specifications MIL-PRF-39012 and MIL-PRF-55339. Below is a list of our QPL part numbers included in this catalog. Our full QPL and UG listing is available on our website at www.amphenolrf.com.

Military Number	Amphenol RF Number	Description
M39012/16-0101	031-3301	BNC Plug UG Clamp for RG-56, 141, 142, 223
M39012/16-0102	031-3302	BNC Plug UG Clamp for RG-62C, 140B, 210
M39012/21-0002	031-3376	BNC Bulkhead Receptacle Front Mount
M39012/24-0001	031-4237	BNC Rear Mount Hermetic Receptacle
M39012/24-0002	031-4238	BNC Front Mount Hermetic Receptacle
M39012/16-0013	031-4320	BNC Plug for RG-58, 141, 303
M39012/16-0015	031-4321	BNC Plug for RG-59, 62, 140, 210
M39012/17-0013	031-4327	BNC Jack for RG-58, 141
M39012/16-0503	031-4427	BNC Plug for RG-142, 400
M39012/01B0008	082-332	Quick Crimp Type N Plug for RG-9, 9A, 214
M39012/01B0007	082-340	Quick Crimp Type N Plug for RG-8, 8A, 213
M39012/04-0002	082-368	Type N 4-Hole Flange Panel Jack
M39012/01-0005	082-4352	Type N Pin Contact for RG-213, 214, 225
M39012/01-0501	082-4425	Type N Pin Contact for RG-214, 225, 393
M39012/01-0502	082-4426	Type N Pin Contact for RG-8, 213
M39012/01-0503	082-4427	Type N Pin Contact for RG-400, 142B
M39012/05-0501	082-4440	Type N Right Angle Plug for RG-9, 214, 225, 393
M39012/05-0503	082-4442	Type N Right Angle Plug for RG-142B, 400
M39012/55-4502	901-101-15	SMA RG-142B, 400 Plug
M39012/55-4009	901-103-11	SMA Clamp Plug for RG-55, 58, 142, 223
M55339/02-30001	901-125-11SF	SMA Right Angle Plug-Jack In-Series Adapter
M39012/55-4007	901-128-11	SMA Clamp Plug for RG-174, 188, 316
M39012/56-4502	901-148-15	SMA Right Angle Plug for RG-142, 400
M39012/55B4012	901-155-12	SMA PCB Jack
M39012/55-4026	901-155-16	SMA Straight Crimp Plug for RG-174, 316
M39012/56-4007	901-368-12	SMA Right Angle Plug for RG-174, 188, 316

Notes

Cable Group Listing

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

Ordering Information:
To obtain information on price and delivery, please contact your nearest Amphenol Sales Office.

For the primary customer service line, please call 1-800-627-7100

Specifications in this catalog are subject to change without notice. While the information contained in this catalog has been carefully complied to the best of our present knowledge, it is not intended as representation or warranty of any kind on our part regarding the suitability of the products concerned for any particular use or purpose. Please contact your Amphenol® RF sales representative for additional information regarding specifications.

rev. c

Global Headquarters
4 Old Newtown Road
Danbury, CT 06810 USA
Tel: (800) 627-7100
Fax: (203) 796-2032

P.R. China
Amphenol RF Shenzhen
Block DM2, Tong Wei Industrial District
Industry General Co.
Gong Ming Town, Bao An District
Shenzhen 518132, P.R. China

Amphenol® RF

Global RF Solutions