# Amphenol<sup>®</sup>Connex A New Kind of RF Solution

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<u>7/16</u> <u>BNC</u>		Please note: Images are for reference only						
D-Sub FME MCX MMCX SMA SMB SMC TNC Twin BNC			Part Number: 172125 Family/Series: Type N Coaxial Connectors Product Type: TEE ADAPTERS/ANGLE ADAPTERS Description: Tee Adapter - Jack-To-Plug- To-Jack Cable: Non Applicable **			Fi In ANGLE In C	Cable Group: N/A Finish: Nickel Insulation: Teflon Impedance: 50 ohms Crimp Tool: <u>N/A</u>	
<u>Type F</u> Type N UHF		Add to Cart   !	Product Specs	Customer Dra	awing			
<u>Between-Serie</u> Shielded Term	es Adapters							
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1 BODY 2 INSULATOR 3 CONTACT PIN	ω
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APPROVALS DRAWN B. BURTON CHECKED ISSUED	
DATE 6/3/96 ЯЛЕ А SCALE	
7-1 RAFT 10.	
Connector Corporat JACK-PLUG-JACK	SILVER SOLDER
Curporation ADAPTOR JG-JACK 172125.DWG	5/8-24UNEF-2A
	APPROVED

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A New Kind of RF Solution

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#### **Our Products**

### 7/16 BNC D-Sub FME MCX MMCX SMA SMB SMC TNC Twin BNC Type F Type N UHF

Between-Series Adapters Shielded Terminations Strain-Relief Boots

Tools

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# Type N connector series

Features & Benefits | Applications | Standard Specs | Corrugated Specs | Assembly Instructions

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 11 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. 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



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potential to deliver all the performance your system requires, but they are often limited by the performance of the connectors.

Intermodulation distortion, a major concern in today's communications systems, is consistently low with corrugated cable connectors. Typical performance is -125 dBm (-168 dBdc). In-house IMD measurement capability gives Amphenol the unique ability to understand the effects of connector design elements on IMD generation and to design the best performing connectors in the industry. Self-flaring designs are easily attached with standard hand tools in the field, and are highly resistant to pull off and twist off. All corrugated cable connectors are optimally matched to their cables for low VSWR and insertion loss.

#### **Type N Coaxial Connectors**

Panel Receptacle Plug - Slot Terminal

CRIMP/SOL	DER ATTACHMENTS FOR FLEXIBLE AND SEMI-RIGID CABLE
Straight Crim	p Plug - Captive Contact
Straight Solde	er Plug - Semi-Rigid Cable
Crimp Plug -	Ethernet Cable
Right Angle C	Crimp Plugs
Right Angle S	older Plug - Semi-Rigid Cable
Straight Crim	p Jack - Captive Contact
Straight Solde	er Jack - Semi-Rigid Cable
Bulkhead Crir	mp Jack - Captive Contact - Standard Cables
Bulkhead Sol	der Jack - Semi-Rigid Cable
Bulkhead Crir	mp Jack - Ethernet Cable
Bulkhead Cla	mp Jack - Rear Mount - Miniature Cable
Bulkhead Cla	mp Jack - Front Mount- Miniature Cable
Straight Crim	p Panel Jack- Captive Contact - Standard Cable
Straight Solde	er Panel Jack - Semi-Rigid Cable
	TACHMENTS FOR FLEXIBLE CABLE
Straight Solde	er Plug - Captive Contact
Straight Solde	er Plug - Captive Contact
Straight Solde	er Jack - Captive Contact
Straight Solde	er Jack - Captive Contact
	MOUNT SOLDER RECEPTACLES
	peptacle - Front Mount
	peptacle - Front Mount
PANEL MO	UNT/SOLDER RECEPTACLES
Panel Recept	acle Jack - Exposed TFE Type
Panel Recept	acle Plug - Exposed TFE Type
Panel Recept	acle Plug - Solder Pot Terminal
Panel Recept	acle Jack - Solder Pot Terminal
Panel Mount	- Round Flange

Panel Receptacle Jack - Slot Terminal Panel Receptacle Jack - Extended Teflon Panel Receptacle - Extended Body Panel Receptacle - Extended Body - Post Contact Panel Receptacle - Tab Post Printed Circuit Board Receptacle Press Fit Receptacle Right Angle Printed Circuit Board Receptacle

FEEDTHROUGH ADAPTERS

Plug-To-Plug Adapter

Jack-To-Jack Adapter

Jack-To-Jack Bulkhead Adapter

#### TEE ADAPTERS/ANGLE ADAPTERS

Tee Adapter - Jack-To-Plug-To-Jack

Tee Adapter - Jack-To-Jack-To-Jack

Tee Adapter - Plug-To-Jack-To-Jack

Angle Adapter - Plug-To-Jack

Angle Adapter - Plug-To-Plug

#### TERMINATORS

N Terminator Plug

N Terminator Jack

#### ACCESSORIES

N Male Cap & Chain

#### **Features & Benefits**

- Accommodates a wide range of medium to miniature-sized RG coaxial cables in a rugged medium-sized design
- Broad line of Military (M39012), Industrial (UG) and Commercial (RFX) grade products available, giving customers choices in weighing cost versus performance benefits
- 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
- Cable assemblies
- Instrumentation
- PCS
- Satcom

- Base stations
- Cellular
- Microwave Radio
- Radar
- Surge Protection
- Broadcast
- Components
- Mil-Aero
- Radios
- WLAN

#### **Type N Standard Specifications**

Electrical	
Impedance	50 Ω
Frequency Range	0 - 11 GHz
Voltage Rating	1,500 volts peak
VSWR	MIL-C-39012 straight connectors: 1.3 max 0-11 GHz MIL-C-39012 right angle connectors: 1.35 max 0-11 GHz
Dielectric Withstanding Voltage	2,500 volts rms
Insulation Resistance	5,000 MΩ minimum
Center Contact Resistance	1.0 mΩ
Outer Contact Resistance	0.2 mΩ
RF Leakage	-90 dB minimum at 3 GHz
Insertion Loss	.15 dB maximum at 10 GHz
Mechanical	

Mating	5/8-24 threaded coupling		
Braid or Jacket Cable Affixment	All crimps: hex braid crimp		
	Clamps: screw-thread nut and braid clamp		
Center Conductor Cable Affixment	Crimp: crimp or solder		
	All others: solder only		
Captivated Contact	All crimps unless specified otherwise		
Cable Retention	Crimps: 60-120 lbs		
	Clamps: 30-70 lbs		
Material			
Male Contacts	Brass, silver or gold plated		
Female Contacts	Phosphorous bronze or beryllium copper, silver or gold plated		
Other Metal Parts	Brass with ASTROplate® finish; M39012 has silver finish		
Insulators	TFE, copolymer of styrene or glass-TFE (hermetic seal)		
Weatherproof Gaskets	Silicone rubber of synthetic rubber		
Crimp Ferrule	Copper		
Environmental			
Temperature Range	TFE: -65°C to +165°C		
Weatherproof	All series N with gaskets are weatherproof		
Hermetic Seals	Pass helium leak test of 2x10-8 cc/sec		
Pressurized Shock	Compression seal MIL-STD-202, method 213		
Vibration	MIL-STD-202, method 204, test condition B		
Moisture Resistance	MIL-STD-202, method 106		
Corrosion	MIL-STD-202, method 101, test condition B		
Temperature Cycling	MIL-STD-202, method 102, test condition C		
Altitude	MIL-STD-202, method 105, test condition C		
Millitary			
MIL-C-39012	Where applicable		
MIL-A-55339			
Note: These characteristics are typic	al but may not apply to all connectors.		

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

## Corrugated Type N Specifications

Electrical				
Impedance	50 Ω			
Frequency Range	11.0 GHz			
Return Loss	33 dB (1-2 GHz) 28 dB (2-3 GHz)			
Operating Voltage	Maximum 707 rms			
Dielectric Withstanding Voltage	2,000 vdc			
Insulation Resistance	5,000 MΩ minimum			
Insertion Loss	.05 frequency GHz			
Shielding Effectiveness	Minimum 125 dB			
Peak Power	Maximum 10 kW			
Average Power	Maximum .60 kW			
3rd Order IM Product	Typical -125 dBm (-168 dBc)			
Mechanical				
Mating	MIL-STD-348			
Inner Attachment Method	Solder or captivated			
Outer Attachment Method	Compression			
Assembly Torque	18/22 lb-ft (25/30 N-m)			
Coupling Torque	15.00 lb-in (1.70 N-m)			
Coupling Nut Retention Force	100.00 lbs (444.80 N)			
Connector Durability	500 cycles, 12 cycles/minute			
Material				
Body	Brass, silver plated			