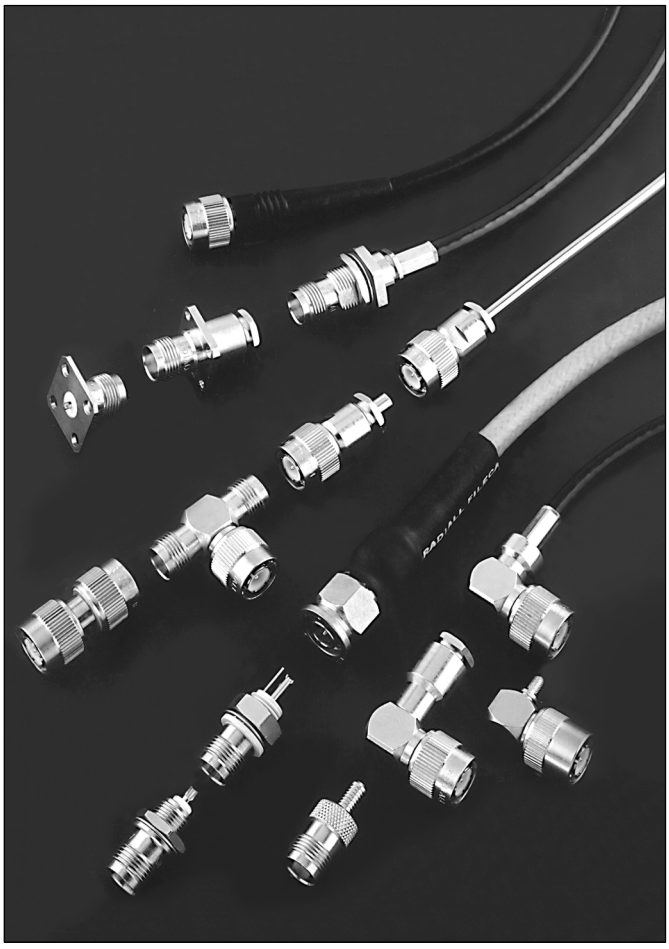
TNC



50 Ω	**DC-11 GHz** standard **DC-18 GHz** 18 GHz series
75 Ω	**DC-1.5 GHz** **DC-1 GHz** recommended
50 and **75** Ω **COMMERCIAL**	**DC-1.5 GHz**

GENERAL

- Screw-on equivalent to BNC bayonet series
- Good RF performance
- Suitable for high power levels
- Long life and high strength
- 3 ranges :
  - Standard TNC series (50 and 75 Ω)
  - Commercial TNC series (50 and 75 Ω)
  - 18 GHz TNC series (50 Ω)

APPLICABLE STANDARDS

- MIL-C-39012
- IEC 169-17
- CECC (draft)
- GAM list

APPLICATIONS

- Avionics
- Aeronautics
- Computers
- Countermeasures

TNC

CHARACTERISTICS

TEST/CHARACTERISTICS	MIL-C-39012 A	VALUES/REMARKS	

ELECTRICAL CHARACTERISTICS

Impedance		50 Ω	75 Ω
Frequency range		DC-11 GHz	DC-1.5 GHz

V.S.W.R.	3-14	1.30 max		
Insertion loss	3-27	0.18 dB max at 9 GHz		
RF leakage	3-26	-60 dB min from 2 to 3 GHz		
Insulation resistance	3-11	5000 MΩ min		
Contact resistance	3-16	center contact (mΩ) outer contact (mΩ)	Initial 1.5 0.2	After proof 2 -
Working voltage		at sea level : 500 V rms	at 70000 ft (21000 m) : 125 V rms	
Dielectric withstanding voltage	3-17	at sea level : 1500 V rms	at 70000 ft (21000 m) : 375 V rms	
RF withstanding voltage	3-23	at sea level : 1000 V rms (5 MHz sine wave)		

MECHANICAL CHARACTERISTICS

Durability	3-15	500 matings	
Mating / unmating		axial force : not applicable torque : 1.96 inch pounds (22.6 N.cm)	
Recommended mating torque		3.99 to 5.98 inch pounds (46 to 69 N.cm)	
Proof torque		14.74 inch pounds (170 N.cm)	
Coupling mechanism retention force	3-25	100 Lbf (44.5 daN)	
Cabling retention force	3-24	cable clamp :	40.6 Lbf (181 N min) (all cables)
		crimped :	51 Lbf (227 N min) (cable dia. .189 (4.8) to .228 (5.8))
			76.4 Lbf (340 N min) (cable dia. .250 (6.35) and above)
Center contact retention		Axial : 6.06 Lbf (27 N)	

ENVIRONMENTAL CHARACTERISTICS

Temperature range		standard models hermetic sealed models models for semi-rigid cables	-65˚C / + 165˚C -65˚C / +100˚C -65˚C / +105˚C
Combined climate tests			
Thermal shock	3-20	MIL-STD-202, method 107, condition B	
High temperature endurance		MIL-STD-202, method 108	
Corrosion (salt spray)	3-13	MIL-STD-202, method 101, condition B	
Vibrations	3-18	MIL-STD-202, method 204, condition B	
Shocks	3-19	MIL-STD-202, method 213, condition G	
Moisture resistance	3-21	MIL-STD-202, method 106	
Low pressure	3-22	not applicable	
Hermetic seal		applied vacuum 10^{-6} mm of Hg (Torrs) leakage rate < 10^{-6} atm/cm^3/s	
Leakage		pressure 3.5 bars ; duration 2mn ; temperature 15˚C to 25˚C	

MATERIALS

Body and center pin contact		brass as per QQ-B-626
Center socket contact		beryllium copper as per QQ-C-530
Ferrules		brass
Insulators		PTFE teflon
Gaskets		silicone elastomer

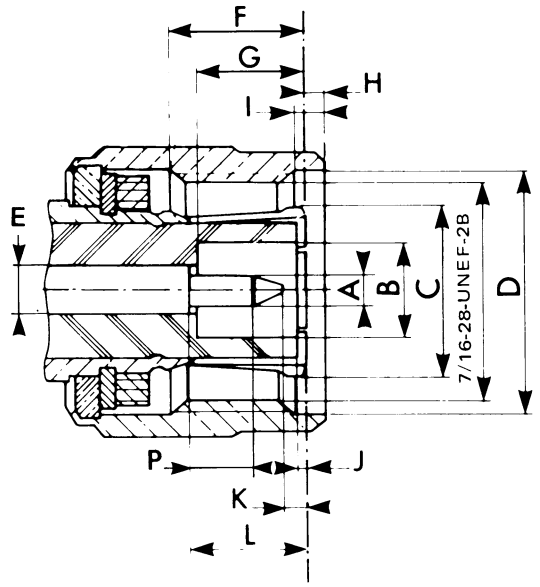
PLATING

Body		nickel plated
Center contacts		gold plated

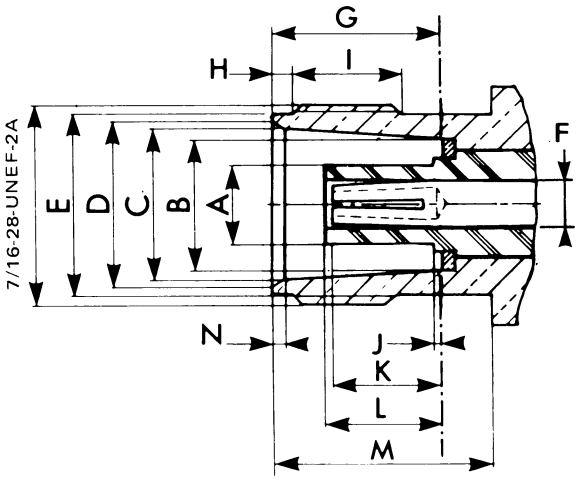
All dimensions are given in inches (millimeters)

RADIALL®

PLUG



JACK



Letter	PLUG				JACK			
	mm		inch		mm		inch	
	min.	max	min.	max	min.	max.	min.	max.
Dia. A	1.32	1.37	.052	.054	-	4.72	-	.186
Dia. B	4.83	-	.190	-	8.10	8.15	.319	.321
Dia. C	-	-	-	-	8.31	8.46	.327	.333
Dia. D	11.18	-	.440	-	8.76	9.04	.345	.356
Dia. E	-	2.2	-	.087	9.60	9.68	.378	.381
F	3.96	-	.156	-	-	2.2	-	.087
G	5.28	5.79	.208	.228	8.36	8.46	.329	.333
H	-	1.98	-	.078	1.73	2.24	.068	.088

Letter	PLUG				JACK			
	mm		inch		mm		inch	
	min.	max.	min.	max.	min.	max	min.	max.
I	1.60	-	.063	-	4.75	-	.187	-
J	0.15	-	.006	-	-	0.15	-	.006
K	0.08	1.02	.003	.040	4.72	5.23	.186	.206
L	5.33	5.84	.210	.230	4.78	5.28	.188	.208
M	-	-	-	-	10.56	-	.415	-
N	-	-	-	-	0.38	0.76	.015	.030
P	1.98	-	.078	-	-	-	-	-