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Cable Assemblies

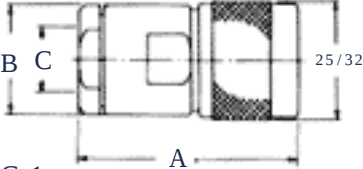
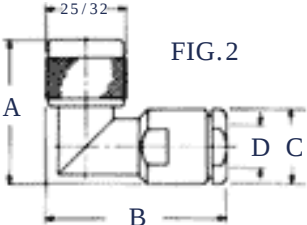
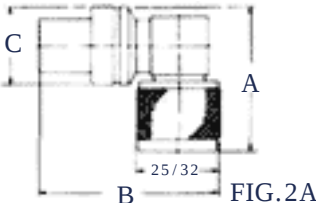
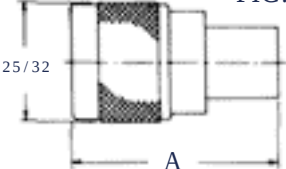
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TYPE N SERIES

Plugs

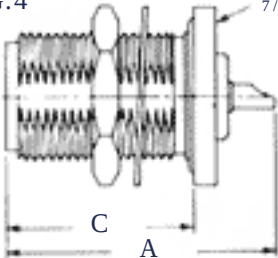
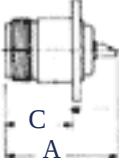
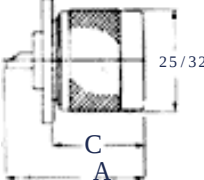
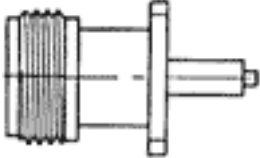





- Frequency Range:DC-11Ghz
 - Impedance: 50Ohm
 - Voltage Rating: 1000 VRMS
 - Dielectric Withstanding Voltage: 2500 VRMS
 - Base Metal Body: Brass
 - Contact: Male - Phosphor Bronze
 Female - Beryllium Copper
 - Plating: Contact: Silver/Gold

- Plating: Body - Silver/Nickel
 - Insulators: Teflon
 - Mating: 5/8-24 Threaded Coupling
 - VSWR: Per MIL-C 39012
 - Applicable Specifications: MIL-C 39012
 - Contact Resistance: Center - 1.0 Milliohm
 Outer - 0.2 Milliohm
 - Durability: 500 Cycles
 - Temperature Range: -65° C to + 165° C

Cable Group	Nemal Part Numbers	Fig. N°	Dimensions A (In.) B		Tooling	Notes
RG 5, 6, 21, 143, 212	UG 18C	1	1.50	.78	-	-
RG 8, 9, 213, 214, 225	UG 21B	1	1.81	.78	-	-
	UG 21D	1	1.50	.78	-	-
	UG 594B	2	1.38	1.72	-	Angle
	UG 1185	1	1.52	.78	-	Captivated
RG 8, 213	NE 7002	3	1.32	.78	13	Crimp
	NE 702	1	1.32	.78	-	Twist-on
	NE 7084	2A	1.34	2.14	13	Angle
RG 8X	NE 708	1	1.50	.78	-	-
	NE 710	3	1.25	.72	59	Crimp
RG 9, 214	NE 7010	3	1.32	.78	14	Crimp
RG 9, 214, 225, 393	NE 7030	2A	1.34	2.14	14	Angle-Crimp
RG 11	UG 94A	1	1.83	.78	-	70 Ohm
RG 14, 217	UG 204C	1	1.67	.88	-	-
RG 17, 218	UG 167F	1	2.18	1.31	-	-
RG 55, 58, 141, 142, 223, 303, 400	UG 536B	1	1.40	.78	-	-
	NE 7040	2	1.37	1.21	-	Angle
RG 55, 142, 223, 400	NE 7050	3	1.50	.78	58	Crimp
	NE 7070	2A	1.30	.78	58	Angle-Crimp
RG 58, 141	NE 7082	2A	1.30	1.66	58	Angle- Crimp
	NE 7092	3	1.44	.78	58	Crimp
RG 59, 62, 71, 140, 210	UG 603A	1	1.38	.78	-	-
	NE 7098	1	1.30	.51	-	75 Ohm
RG 59, 62, 210	NE 7094	3	1.49	.78	59	Crimp+Clamp
RG 115A	NE 7096	3	1.52	.78	14	Captivated-Crimp
RG 215	UG 941B	1	2.06	.78	-	-
Belden 9913, 8214, RG8 (11 AWG.) NEMAL 1102	NE 720	1	1.50	.78	-	-
	NE 7022	3	1.44	.78	13	Crimp
	NE 7021	1	1.81	.78	-	Long Bidy-Gold Contact
Belden 8281	NE 7029	1	1.50	.78	-	-
1/2" Superflexible	NE 7060	1	1.50	.78	-	-
1/4 Superflexible	NE 7086	1	1.50	.78	-	-
Ethernet Belden 9880	NE 7004	3	1.50	.78	14	Crimp
Proflex™	NE 700	3	1.25	.72	59	Crimp
Semi-Rigid 141 RG 402	NE 790	1	1.30	.78	-	-
Semi-Rigid 250 RG 401	NE 7090	1	1.30	.78	-	-

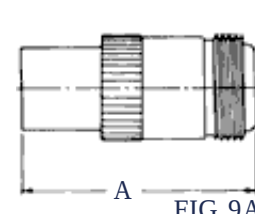
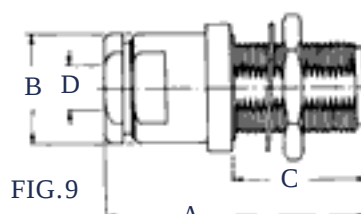
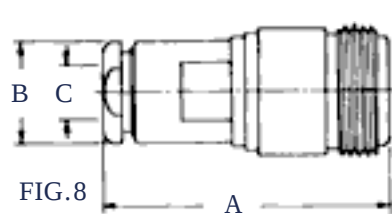
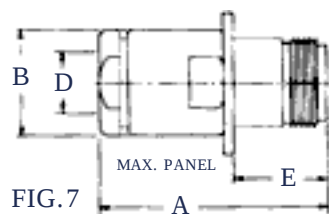
Receptacles

Nemal Part N°	Fig. N°	Dimensions A (In.) B		Notes
NE 730	6	1.10	.78	Male-Panel Mount
NE 755	6A	1.25	.70	Panel Mount Small Flange WW
UG 58A	5	1.12	1.00	Panel Mount
UG 680A	4	1.61	.81	Pressurized Bulkhead Mount

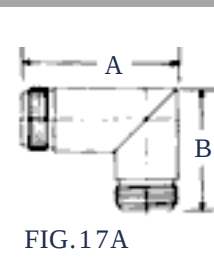
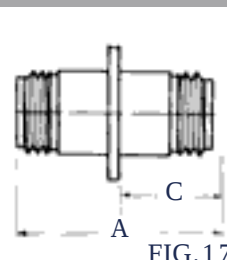
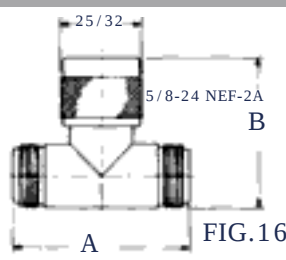
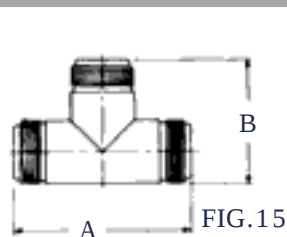
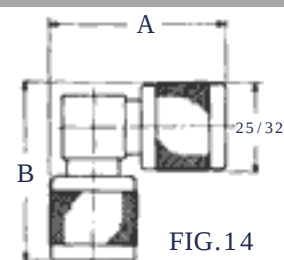
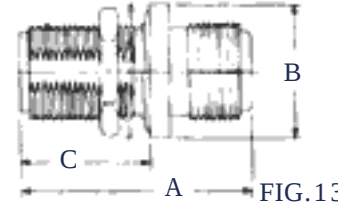
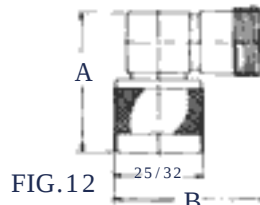
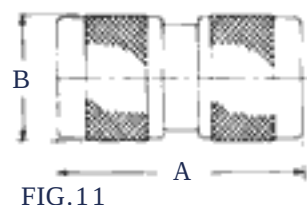
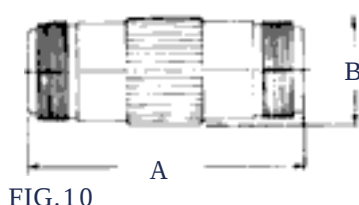
TYPE N SERIES (Continued)

Jacks



Cable Group	Nemal Part Number	Fig. N°	Dimensions A (In.) B		Tooling	Notes
RG 5, 6, 21, 143, 212	UG 20D	8	1.56	.75	-	-
RG 8, 9, 213, 214	UG 23D	8	1.56	.75	-	-
	UG 1186	8	1.56	.75	-	Captived
	UG 22B	7	1.56	1.00	-	Panel Mount
	UG 160C	9	1.75	.88	-	Bulkhead Mount
RG 8, 213	NE 7102	9A	1.40	.63	13	Crimp
	NE 7118	N/S	1.61	1.00	13	Panel Mount Crimp
RG 9, 214	NE 7110	N/S	1.82	.88	14	Bulkhead Mount Crimp
	NE 7114	9A	1.40	.63	14	Crimp
	NE 7116	N/S	1.61	1.00	14	Panel Mount Crimp
RG 11 - 70ohm only	UG 95A	8	1.56	.75	-	70 ohm
RG 58, 141	NE 7106	9A	1.40	.63	58	Crimp
RG 142, 223, 400	NE 7108	N/S	1.75	.88	42	Bulk Mount Crimp
	NE 7120	N/S	1.58	1.00	42	Panel Mount Crimp
RG 115A	NE 7112	9A	1.59	.75	14	Crimp
.141 Semi-Rigid	NE 7195	8	1.56	.75	-	-
	NE 7104	7	1.56	1.00	-	Panel Mount
	NE 7193	9	1.82	.88	-	Bulkhead Mount
RG 174, 179, 188, 316	NE 7135	9	1.82	.88	-	Bulkhead Mount
RG 55, 58, 141, 142, 223, 400	NE 7140	8	1.31	.63	-	-
	UG 556B	9	1.68	.92	-	Bulkhead Mount
	UG 1095A	7	1.42	.66	-	Panel Mount
RG 59, 62	UG 602A	8	1.41	.63	-	-
Belden 9913, 8214, NEMAL 1181F	NE 723	8	1.56	.75	-	-

In Series Adapters



Nemal Part Number	For QPL Requirements, Use P/N	Fig. N°	Dimensions A (In.) B		Notes
NE 7330	* 75 Ohm*	10	1.50	.65	Female-Female 75 Ohm
NE 7320	-	17	1.75	.81	Panel Feedthru
NE 7310	-	17A	1.29	1.29	Female-Female Elbow
NE 750	-	14	1.37	1.37	Male-Male Elbow
UG 27C	M 55339/03-000027	12	1.32	1.37	Male-Female Elbow
UG 28A	M 55339/06-000028	15	1.75	1.22	"T" 3 Female
UG 29B	M 55339/07-000029	10	1.75	.63	Female-Female
UG 30D	M 55339/04-000030	13	1.79	.75	Bulkhead Feedthru
UG 30-75	*75 Ohm*	13	1.50	.75	Bulkhead Feedthru 75 Ohm
UG 57B	M 55339/05-000057	11	1.60	.78	Male-Male
UG 107B	-	16	1.74	1.48	"T" 2 Female-1 Male

TYPE N SERIES (Continued)

Terminations and Caps

Product Category	Nemal Part. N°	Fig. N°	Dimensions A (In.) B		Notes
Cap and Chain	NE 7410	20	.95	.75	Fits Plugs
Cap and Chain	NE 7420	19	.55	.75	Fits Jacks
Termination	TR 50N	18	1.49	.78	50 Ohm, 1/2 W
Termination	TR 75N	18	1.49	.78	75 Ohm, 1/2 W
Termination	TR 50NF	N/S	1.38	.64	50 Ohm-Female

FIG.18

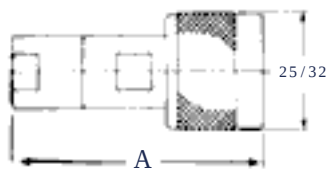


FIG.19

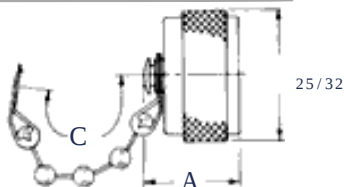
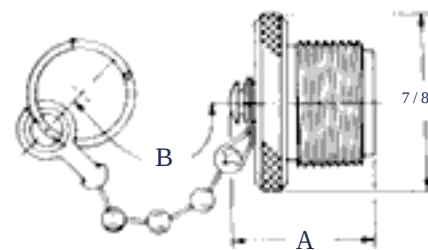


FIG.20



BNC SERIES

Jacks

Cable Group	Nemal Part Number	Fig. N°	Dimensions A (In.) B		Tooling	Notes
RG 6	NE 822	5	1.50	.37	-	Twist-on
	NE 830	4	1.50	.50	28	Crimp
RG 55, 58, 141, 142, 223, 400	UG 89B	1	1.13	.56	-	-
RG 58, 141	NE 8100	4	1.24	.56	58	Crimp
RG 59, 62	NE 8110	4	1.17	.56	59	Crimp
	NE 800	5	1.50	.37	-	Twist-on
	UG 261B	1	1.13	.56	-	-
RG 122, 180	NE 8112	1	1.13	.56	-	-
RG 174, 179, 188	NE 8105	4	.97	.56	74	Crimp
.141 Semi-Rigid RG 402	NE 876	1	1.13	.56	-	-

Bulkhead Mount Jack

Cable Group	Nemal Part Number	Fig. N°	Dimensions A (In.) B		Tooling	Notes
RG 55, 58, 141, 142, 223, 400	UG 909A	2	1.15	.69	-	-
	NE 8167	2	1.15	.69	-	Isolated
RG 55, 142, 223	NE 8155	6	1.30	.69	58	Crimp Contact
RG 58, 141	NE 8130	6	1.55	.63	58	Crimp
RG 59, 62	NE 845	6	1.55	.69	59	Crimp
	UG 910A	2	1.15	.69	-	-
RG 174, 179, 187, 188	NE 8150	2	1.15	.63	-	-
	NE 8158	2	1.06	.75	-	Isolated
	NE 8160	6	1.37	.69	74	Crimp
RG 178, 196	NE 8120	2	1.15	.63	78	-
	NE 8125	6	1.37	.69	78	Crimp
RG 180, 195	NE 8190	6	1.37	.69	80	Crimp
RD 316 (Double Shielded)	NE 8180	6	1.37	.69	74	Crimp

Panel Mount Jacks

Cable Group	Nemal Part N°	Fig. N°	Dimensions A (In.) B	
RG 55, 58, 141, 142, 223, 400	UG 291B	3	1.13	.55
RG 59, 62	UG 262B	3	1.13	.69
RG 174, 179, 188	NE 8170	3	1.15	.69

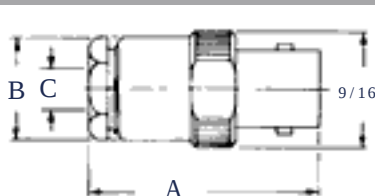


FIG.1

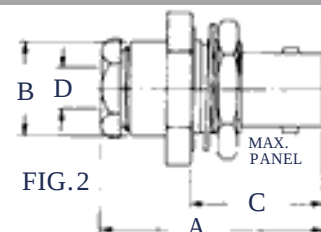


FIG.2

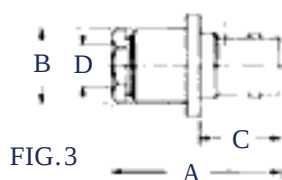


FIG.3

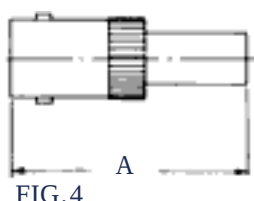


FIG.4

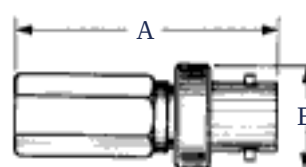


FIG.5

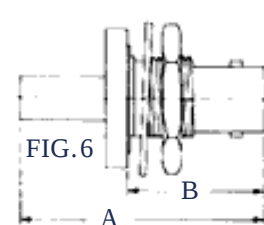


FIG.6

BNC SERIES (Continued)

Plugs

FIG.7

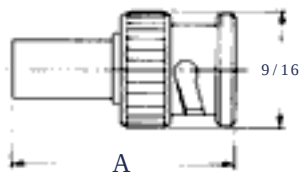
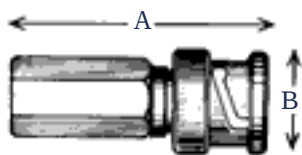


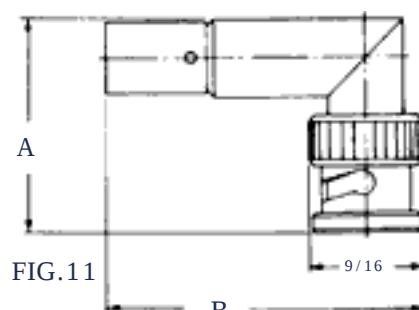
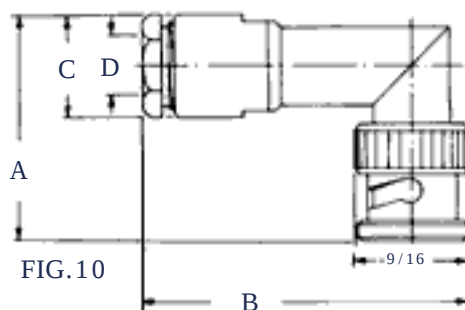
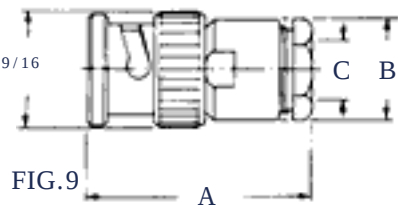
FIG.8



- Frequency Range: 0-10Ghz
- Impedance: 50 Ohms
- Voltage Rating: 500 VRMS
- Dielectric Withstanding Voltage: 1500 VRMS
- Base Metal: Body - Brass
 - Contact - Brass/Beryllium, Copper; Bronze
- Plating: Body - Silver/Nickel
 - Contact - Silver/Gold
- Insulators: Teflon
- Mating: 2 - Stud Bayonet
- Applicable Specifications: MIL C-39012
- Contact Resistance: Center - 1.5 Milliohm
 - Outer - 0.2 Milliohm
- Temperature Range: -55°C to + 199°C
- VSWR: 1.3 (0-4 GHz)

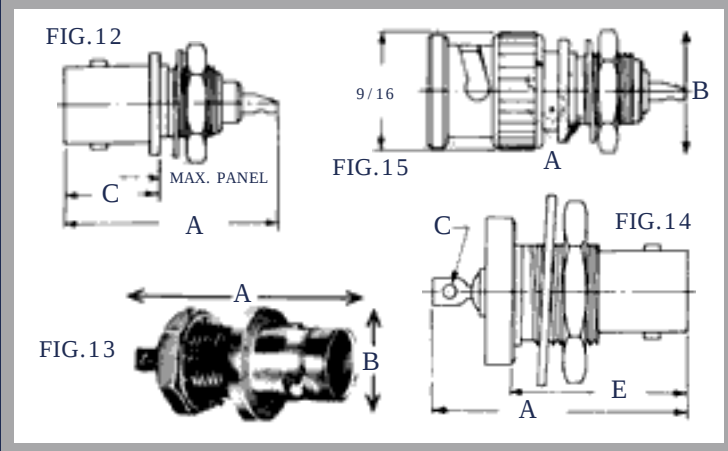
Cable Group	Nemal Part N°	Fig. N°	Dimensions A (In.) B		Tooling	Notes
RG 6 Quad	NE 825	7	1.10	.56	09	Crimp
RG 6 Belden 88281	NE 820	8	1.50	.50	-	Twist-on
	NE 8056	9	1.25	.56	-	-
	NE 840	7	1.10	.50	28	Crimp
Belden 8281 A	NE 842	7	1.09	.56	-	Crimp
RG 8X	NE 850	7	1.10	.50	59	Crimp
RG 8, 9, 11, 213, 214	UG 959A	9	1.66	.75	-	-
RG 55, 58, 141, 142, 223	UG 88C	9	1.06	.56	-	-
	UG 913C	10	1.09	1.61	-	Angle
	NE 880	9	1.08	.56	-	Captivated
RG 58 Plenum	NE 804	7	1.10	.50	58	Crimp
RG 58, 141	NE 8012	11	1.03	1.60	58	Angle-Crimp
	NE 8014	7	1.00	.56	58	Crimp
	NE 8023	8	1.50	.50	-	Twist-on
RG 59 (20GA) 1570, Bel 9259,9265 RG 59, 62	NE 8016	7	1.10	.50	59	Crimp
	NE 8038	8	1.50	.50	-	Twist-on
	NE 8018	11	1.03	1.60	59	Angle Crimp
	NE 8020	7	1.10	.56	59	Crimp
	NE 8022	10	1.09	1.61	-	Angle
	NE 8024	7	1.09	.56	-	Quick Install Taper Grip
	NE 8005	N/S	1.09	1.55	-	Angle Twist-on
	UG 260B	9	1.06	.56	-	-
RG 59, 62 Plenum	NE 806	7	1.10	.50	59	Crimp
	NE 8037	8	1.50	.50	-	Twist-on
RG 122, 180, 195	NE 8028	7	.97	.56	80	Crimp
	NE 8030	9	1.08	.56	-	-
RG 142B, 223	NE 8032	7	1.10	.56	58	Crimp
	NE 8002	11	1.03	1.60	58	Angle-Crimp
RG 174, 179, 187, 188	NE 8034	7	.91	.56	74	Crimp
	NE 8036	9	1.08	.56	-	-
RG 178, 196	NE 8058	9	1.00	.56	-	-
(RGB) Bel 1164A, 8218, VC3148	NE 8042	7	1.10	.56	80	Crimp
	NE 8080	9	1.08	.56	-	-
Belden 8214, 9913, RG 8 11 AWG	NE 860	9	1.66	.75	-	-
Belden 8279, 9209	NE 8046	7	1.10	.56	59	Crimp
Belden 8281, NEMAL 1185	NE 8048	7	1.10	.56	28	Crimp
.141 Semi Rigid RG 402	NE 875	9	1.06	.56	-	-
Proflex	NE 870	7	1.10	.50	59	Crimp
1/4 " Superflexible	NE 8070	9	1.06	.56	-	-

9/16



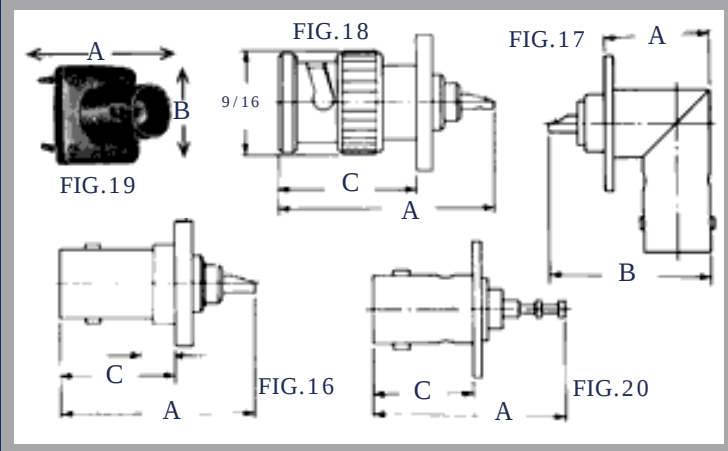
Receptacles - Bulkhead Mount

Nemal Part N°	Fig. N°	Dimensions A (In.) B		Notes
UGB 625B	12	1.06	.50	Hex Flange
UG 657	13	1.30	.50	Pressurized Gasket Seal
UG 911A	14	1.21	.75	Pressurized Front Mount
UG 912A	13	1.21	.50	Pressurized Front Mount
UG 1094	12	1.06	.50	-
NE 8235	12	1.19	.50	Isolated Ground
NE 8210	15	1.19	.50	Male
NE 8240	12	1.06	.50	75 Ohm



Receptacles - Panel and PC Mount

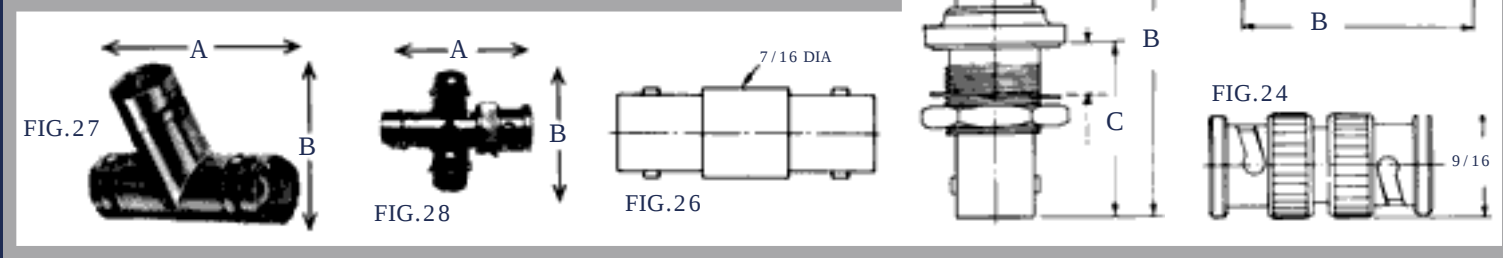
Nemal Part N°	Fig. N°	Dimensions A (In.) B		Notes
UG 185	20	1.06	.75	Turret, Rexolite Insulation
UG 290A	16	1.06	.69	-
UG 535	17	1.09	.75	Angle
UG 1104A	18	1.19	.75	Male
NE 8220	16	1.06	.73	Isolated Ground
NE 8230	19	.78	.69	PC Mount
NE 887	19	.94	.70	PC Mount 75 Ohm
UG 447	16	1.04	.75	-



In Series Adapters

Nemal Part N°	Fig. N°	Dimensions A (In.) B		MIL Spec M 55339/	75 ohm Version	Notes
UG 274A	21	1.28	1.06	17-00274	UG 274-75	"T" 2F-1M
UG 306A	22	.90	1.03	14-00306	UG 306-75	Angle Male-Female
UG 414A	23	1.28	.69	-	-	F-F Panel Mount
UG 491A	24	1.22	.56	15-00491	-	Male-Male
UG 492A	25	1.40	.63	13-00492	UG 492-75	F-F Pressurized*
UG 914	26	1.28	.44	16-00914	UG 914-75	F-F Inline
NE 8310	27	1.28	.63	-	-	"T" 3 Female
NE 8327	25	1.28	.63	-	-	F-F 75 Ohm B/H**
NE 8320	25	1.28	.63	-	NE 8327	F-F Bulkhead**
NE 899	28	1.56	1.25	-	-	Quad 3 (F), 1 (M)
NE 8340	N/S	1.53	.56	-	-	Extender M-F
NE 8350	N/S	1.28	1.43	-	-	J-J-J Panel MT

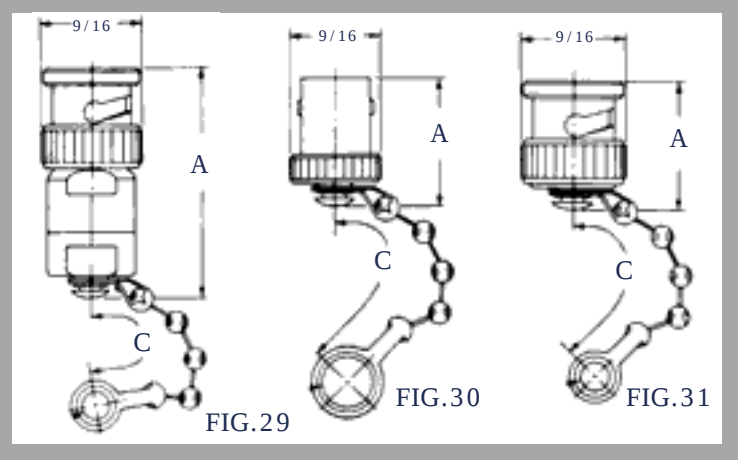
* Bulkhead Mount ** Isolated Ground



BNC SERIES (Continued)

Terminations and Caps

Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
TR 50B	29	1.29	.56	50 Ohm-Term. 1/2 W 5%
TR 50BF	N/S	1.50	.56	50 Ohm-Term.-Female
TR 75B	29	1.29	.56	75 Ohm-Term. 1/2 W 5%
TR 93B	29	1.29	.56	93 Ohm-Term. 1/2 W 5%
CW 123A	31	.67	.56	Cap. - Fits Jacks
CW 282	30	.68	.50	Cap. - Fits Plugs



BNC SERIES - 75 Ohm - Serial Digital Compatible

Plugs

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 6, Belden 1694A 88281	NE 8010	7	1.08	.56	28	Crimp
	NE 8066	11	1.03	1.60	28	Angle Crimp
RG 59, Belden 8241	NE 8090	7	1.08	.56	59	Crimp
	NE 8054	9	1.06	.56	-	
1570, Belden 1505A 9259	NE 8094	7	1.08	.56	59	Crimp
RG 179 1190, Belden 1164B (RGB), 8218 Belden 8281	NE 8092	7	1.08	.56	80	Crimp
1195, RG 179 Belden 1520A	NE 8096	7	1.08	.56	28	Crimp
	NE 8044	11	1.10	1.60	28	Angle Crimp
AT+T 735A Belden 1506A	NE 8086	7	1.08	.56	74	Crimp
	NE 8084	7	1.08	.56	59	Crimp
	NE 8088	7	1.08	.56	59	Crimp



- Teflon Insulation
- Gold Contact
- Intermatible with Standard 50 ohm BNC

Bulkhead Jacks and Receptacles

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG59	NE 8107	6	1.55	.69	59	Crimp
RG179	NE 885	6	1.37	.69	74	Crimp
	NE 888	2	1.13	.69	-	-
	NE 8240	12	1.06	.50	-	-
	NE 887	19	.94	.70	-	PC Mount

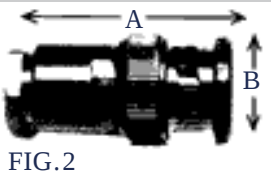
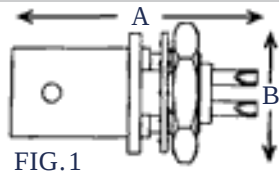
Adapters and Terminations

Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
NE 8327	25	1.28	.63	Bulkhead F -F
NE 8329	21	1.28	1.06	"T" 2F - 1M
NE 8331	22	.90	1.03	Angle M - F
NE 8333	26	1.28	.44	F - F
TR75B-75	29	1.29	.56	1/2W 5% Termination

TWIN BNC SERIES

Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
NE 8262	1	1.03	.50	Bulkhead Receptacle
NE 8062	2	1.16	.56	Plug
NE 8270	N/S	1.28	1.03	"T" J - P - J
NE 8290	N/S	1.28	.88	"T" J - J - J

- Compatible with RG 108 A/U Cables
- Polarized Contact: One Male plus One Female
- U-Groove Clamp



ATTENUATORS

Nemal Part N°	Connector Type
ATTB - *	BNC
ATTN - *	N
ATTS - *	SMA

- Frequency Range: DC-2000 MHz or DC-18 GHz
- Impedance: 50 Omhs (75 Ohm Version Available)
- VSWR (Max): DC-1000 MHz 1.2:1
1000-2000 MHz 1.4:1
- Tolerance: +/- .5db (+/- .8db Above 1000 MHz)
- Power Rating: 1 Watt Average



* Available in 1-20 DB Versions

TNC SERIES

Plugs

- Frequency Range: DC-11 GHz
- Impedance: 50 Ohm
- Voltage Rating: 500 VRMS
- Dielectric Withstanding Voltage: 1500 VRMS
- Base Metal Body: Brass
- Contact: Male - Brass/Beryllium Copper
Female - Beryllium Copper
- Plating: Body - Silver/Nickel
Contact - Gold/Silver
- Insulator: Teflon
- Mating: 7/16-28 Threaded Coupling
- VSWR: 1.3
- Applicable Specification: MIL-C 39012
- Contact Resistance: Center - 2.1 Milliohm
Outer - 0.2 Milliohm
- Durability: 500 Cycles

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 8, 9, 11, 213, 214	NE 6010	1	1.67	.63	-	Lockwire Holes
RG 8X	NE 620	2	1.13	.50	59	Crimp
RG 55, 58, 141, 142, 223	NE 618	1	1.09	.59	-	-
RG 55B, 142B, 223	NE 6020	2	1.10	.59	58	Crimp
RG 58, 141	NE 6030	2	1.10	.59	58	Crimp
RG 59, 62	NE 640	2A	1.50	.50	-	Twist-On
	NE 6090	N/S	1.03	.61	-	Quick Trim
	NE 6040	1	1.09	.59	-	-
	NE 6050	2	1.10	.59	59	Crimp
	NE 650	2A	1.50	.50	-	Twist-On
RG 115A	NE 6025	1	1.67	.63	-	-
RG 174, 179, 188, 316	NE 6060	2	.94	.59	74	Crimp
	NE 6061	1	1.09	.59	-	-
RG 179	NE 6021	1	1.09	.59	-	-
Proflex™	NE 600	2	1.10	.58	59	Crimp
Semi-Rigid .141* RG 402	NE 6091	1	1.09	.59	-	-

Jacks

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 8, 9, 213, 214	NE 6110	3	1.56	.75	-	-
RG 55, 58, 141, 142, 223	NE 6120	3	1.15	.56	-	-
	NE 6144	N/S	1.15	.56	-	Panel Mount
	NE 6150	6A	1.15	.69	-	Bulkhead Mount
	NE 610	4	1.58	.50	58	Crimp
RG 58, 141	NE 645	N/S	1.58	.69	58	Panel Mount Crimp
	NE 6119	6A	1.58	.69	58	Bulkhead Mount Crimp
	NE 660	4	1.38	.63	58	Crimp
	NE 6130	3	1.15	.56	-	-
	NE 6165	N/S	1.50	.50	-	Twist-On
RG 174, 179, 188, 316	NE 6140	N/S	1.12	.68	-	Bulkhead Mount Captivated
Semi-Rigid .085 RG 405	NE 6162	6A	1.58	.69	-	Bulkhead Mount

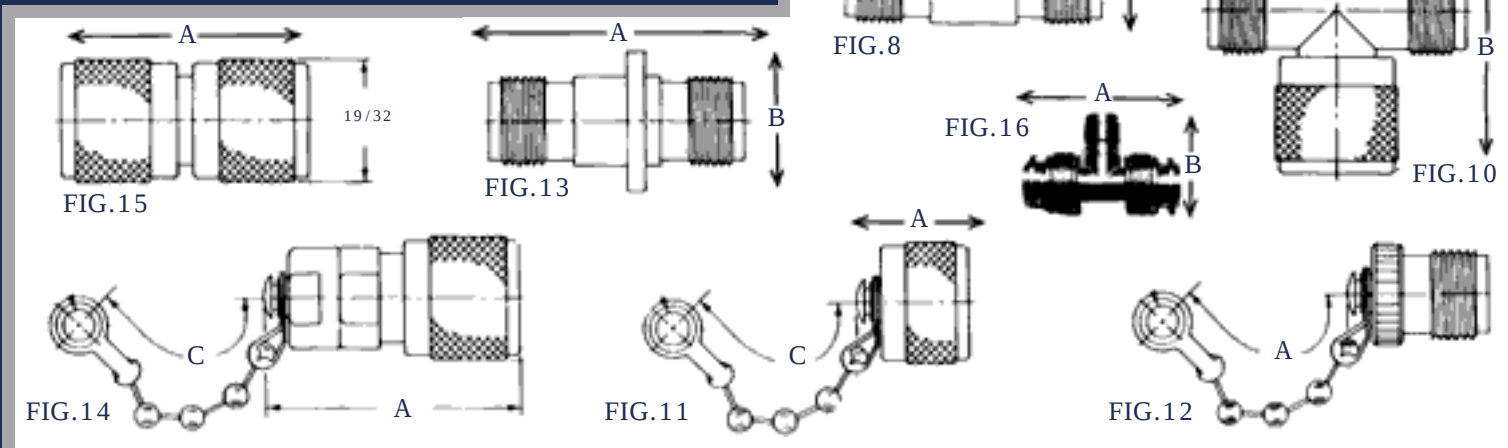
Receptacles

Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
NE 6240	5	1.19	.50	Bulkhead Isolated
NE 6210	5	1.05	.50	Bulkhead Mount
NE 6220	5	1.21	.59	Bulkhead Pressurized
NE 6230	6	1.06	.62	Panel Mount
NE 6235	N/S	.98	.75	PC Mount-Round

TNC SERIES (Continued)

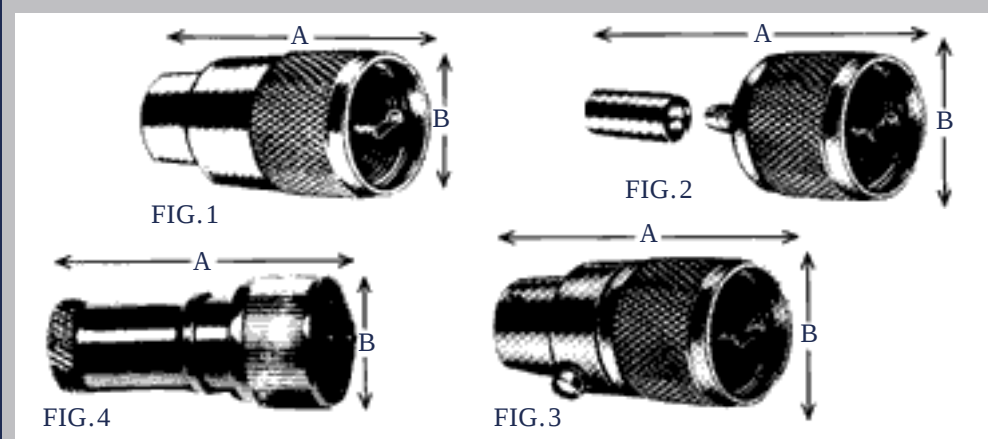
Adapters and Accessories

Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
NE 6410	12	.68	.44	Cap & Chain-Fits Plug
NE 6420	11	.55	.59	Cap & Chain-Fits Jack
NE 6300	8	1.28	.44	Female-Female
NE 6310	7	1.39	.73	Bulk'd F.T. Pressurized
NE 6320	13	1.28	.50	Panel Feedthru
NE 690	9	1.06	1.04	Elbow Male-Female
NE 6330	15	1.26	.59	Male-Male
NE 688	10	1.28	1.11	"T" 2 Female-1 male
NE 6340	7	1.28	.63	Bulkhead F.T. Isolated
NE 692	16	1.50	.89	"T" 2 Male-1 Female
TR 50T	14	1.33	.63	Termination 50 ohm



UHF SERIES

Plugs



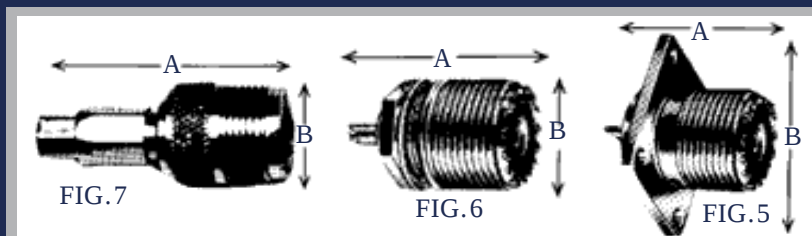
- Frequency Range: DC-500 MHz
- Impedance: Non-Constant
- Voltage Rating: 500V Peak
- Base Metal: Brass/Die Cast Zinc
- Plating: Silver/Nickel
- Insulator: Phenolic/Teflon
- Mating: 5/8-24 Threaded Coupling

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 8, 9, 11, 13, 213, 214, 216	PL 259	1	1.50	.72	-	-
	PL 259T	1	1.50	.72	-	Teflon Insulation
	PL 259TS	1	1.50	.72	-	Silver/Teflon
RG 8, 11, 213	NE 5010	2	1.31	.75	13	Crimp
	NE 5020	2	1.37	.70	13	Teflon-Crimp
RG 8X	NE 500	2	1.62	.72	59	Crimp (3 Pc.)
RG 11	NE 5030	2	1.39	.72	13	Crimp
RG 58, 141	NE 5040	2	1.39	.72	58	Crimp
	NE 5050	2	1.37	.70	58	Teflon-Crimp
	UG 203	3	1.56	.70	-	Set Screw
RG 59, 62	NE 5060	2	1.39	.72	59	Crimp
	NE 530	4	1.63	.70	-	Twist-On
Belden 8281	NE 5070	2	1.37	.70	28	Crimp

UHF SERIES (Continued)

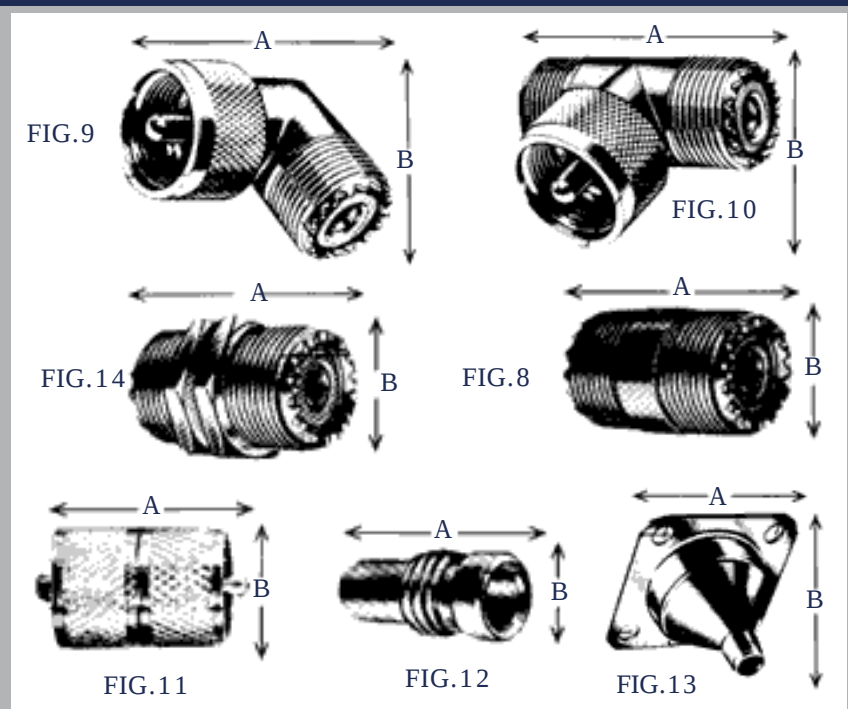
Jacks and Receptacles

Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
NE 540	7	1.50	.64	-	Crimp Jack RG 58
SO 239	5	1.06	1.00	-	Panel Mount
SO 239T	5	1.06	1.00	-	Teflon Insulation
SO 239SH	6	1.06	.75	-	Bulkhead Mount



In Series Adapters and Accessories

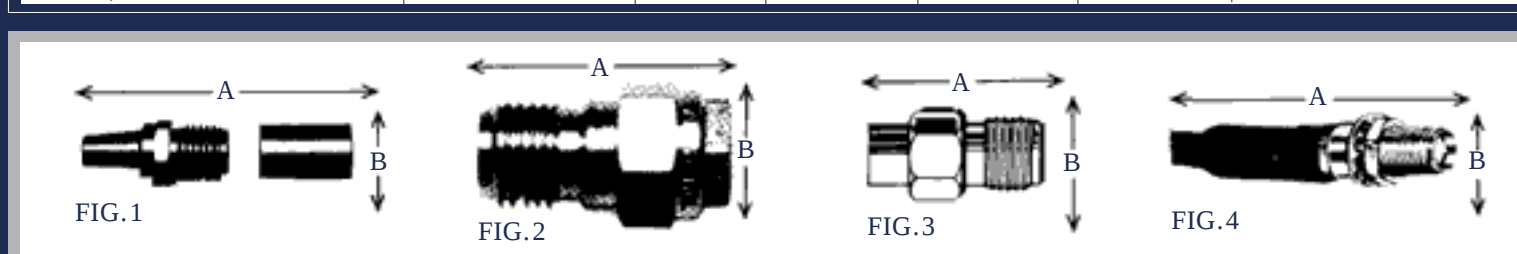
Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
NE 5310	11	1.94	.72	Plug-Plug
M 358	10	1.62	1.20	"T" 2 Jack, 1 Plug
M 359	9	1.82	1.18	Elbow Plug-Jack
M 359T	9	1.82	1.18	Elbow-Teflon
PL 258	8	1.12	.62	Jack-Jack
PL 258T	5	1.12	.62	Teflon Jack-Jack
UG 106	13	.75	.345	Hood RG 8, 213
UG 175	12	1.00	.209	Reducer RG 58
UG 175S	12	1.00	.209	Silverplate
UG 176	12	1.00	.257	Reducer RG 59/62/8x
UG 176S	12	1.00	.257	Silverplate
UG 177	13	.75	.155	Hood RG 58, 141
UG 363	14	2.00	.62	Bulkhead Feedthru



SMA SERIES

Jacks

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 55B, 58, 141A, 142B, 223, 303, 400	NE 245	1	.730	.250	-	-
	NE 2104	4	.750	.500	-	Bulkhead Mount
	NE 2120	2	.960	.250	42	Crimp
	NE 2170	4	.750	.500	42	Bulkhead Mt Crimp
RG 174, 179B, 187A, 188A, 316	NE 235	1	.700	.250	-	-
	NE 2130	2	.950	.250	74	Crimp
	NE 240	4	.750	.500	79	Bulkhead Mount Crimp
	NE 2160	2	.750	.250	-	-
RG 180, 195 Semi-Rigid .085" RG 405	NE 230	3	.641	.250	-	-
	NE 2150	4	.750	.500	-	Bulkhead Mount
	NE 2140	3	.641	.250	-	-
Semi-Rigid .141" RG 402	NE 2135	4	.750	.500	-	Bulkhead Mount
	NE 2102	4	.750	.500	-	Bulkhead Mount

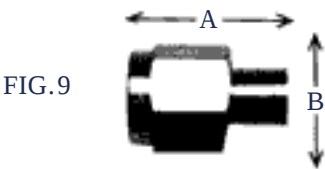
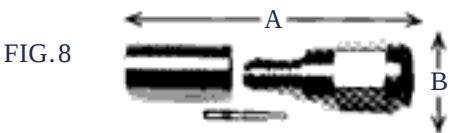
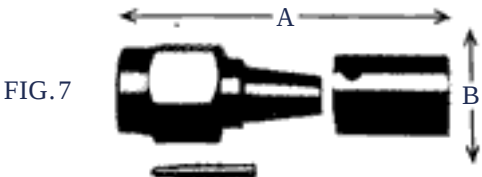
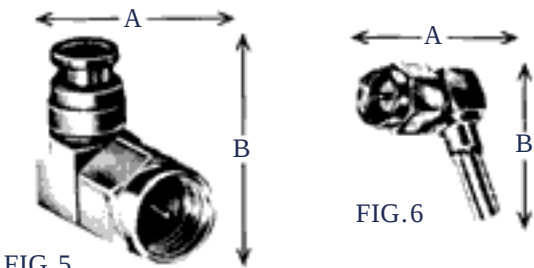


Plugs

- Frequency Range: 0-12.4 GHZ (Available to 26 GHZ)
- Impedance: 50 Ohm Nom.
- Voltage Rating: 375/5000 V Peak
- Dielectric Withstanding Voltage: 750/1000 VRMS
- Base Metal: Body - Stainless Steel
Contact - Beryllium Copper
- Plating: Gold/Passivated
- Insulators: Teflon
- Mating: .250-36 Threaded Coupling
- Applicable Specifications: MIL C-39012
- Contact Resistance: Center - 2.0 Milliohm
Outer - 0.5 Milliohm
- Durability: 500 Cycles Minimum
- Temperature Range: -55°C to + 199°C

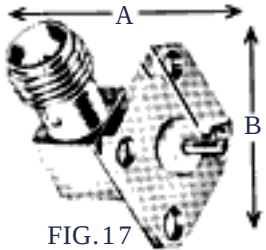
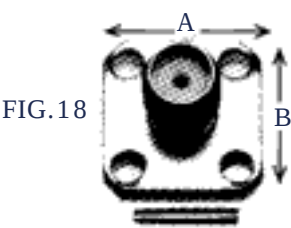
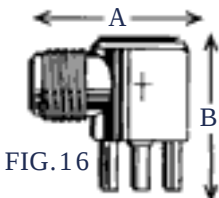
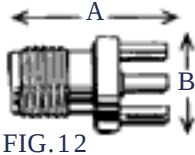
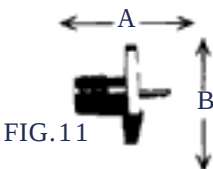
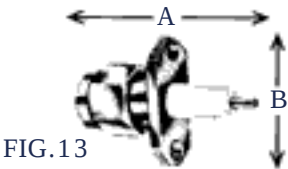
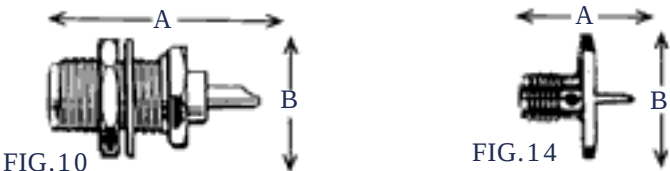
Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 55B, 58, 141A, 142B, 223, 400	NE 210	5	.660	.660	-	Angle
	NE 220	7	.770	.312	-	-
RG 55B, 142B, 223, 400	NE 2010	8	.690	.312	42	Crimp
	NE 260	6	.680	.600	42	Angle Crimp
RG 58, 141	NE 211	6	.680	.600	42	Angle Crimp
	NE 212	8	.990	.210	42	Crimp
RG 174, 179B, 187A, 188A, 316	NE 2050	7	.690	.312	-	-
	NE 2020	8	.690	.312	74	Crimp
	NE 270	6	.670	.600	74	Angle Crimp
	NE 2071	5	.660	.660	-	Angle
	NE 2165	7	.690	.312	-	-
RG 178, 196	NE 200	7	.770	.312	-	-
RG 180, 195	NE 2030	9	.440	.090	85	Crimp
Semi-Rigid .085" RG 405	NE 2060	9	.437	.312	-	**
	NE 2065	5	.680	.420	-	Angle
	NE 225	5	.680	.420	-	Angle
Semi-Rigid .141" RG 402	NE 2070	9	.330	.312	-	**
	NE 2040	9	.520	.310	41	Crimp**
	NE 2075	9	.330	.312	-	-
	NE 205	7	1.000	.440	-	-

** Use center cond. & insulator of cable



Receptacles

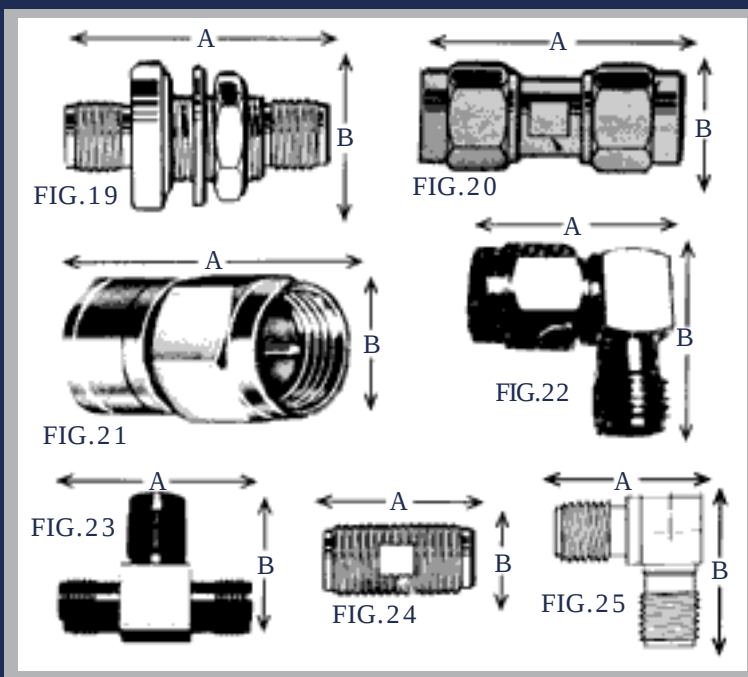
Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
NE 2280	16	.531	.320	PC Mount Angle
NE 2220	10	.690	.380	Bulkhead Mount
NE 2230	13	1.09	.500	Male Panel Mount Wire Wrap
NE 2240	11	.500	.580	Panel Mount
NE 2260	14	.580	.630	Panel Mount 2 Hole Oval
NE 2270	12	.531	.460	PC Mount
NE 215	17	.680	.590	Angle Panel Receptacle
NE 250	15	.670	.250	Bulkhead WW No Flange
NE 255	18	.500	.500	Panel Receptacle Flush Mount



SMA SERIES (Continued)

In Series Adapters and Terminations

Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
NE 2310	20	.810	.312	Plug-Plug
NE 2320	19	1.110	.370	Bulkhead Feedthru
NE 2330	22	.650	.630	Elbow Plug-Jack
NE 2340	24	.500	.250	Jack-Jack
TR 50S	21	.687	.310	Termination 50 Ohm
NE 290	25	.590	.590	Elbow, Jack-Jack
NE 295	23	1.000	.590	"T" 2-Jack, 1-Plug
NE 2397	N/S	.910	.590	"T" 3-Jack
NE 2380	N/S	.590	.590	Elbow Plug-Plug
NE 2477	N/S	.810	.312	Connector Saver P-J

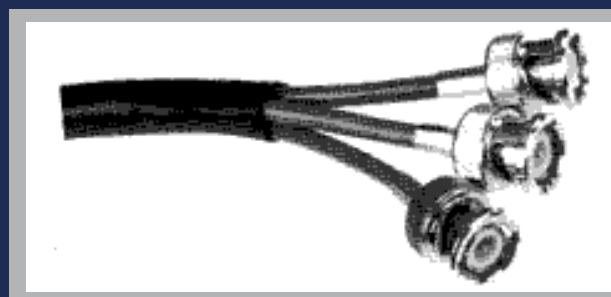


CABLE ASSEMBLIES

Engineered, Built and Tested to Exact Customer Specifications

48-HR. RUSH SERVICE AVAILABLE (MOST ORDERS)

- Design & Engineering
- Cut to Length
- Apply Connectors and/or Terminations
- Apply Required Markings or Labels
- Apply ShrinkTubing or Weatherproofing Materials
- Perform Required Testing
- Coil & Package As Specified



We maintain an extensive inventory of cable & connectors products to eliminate material delays

IN HOUSE TEST LAB AND QUALITY CONTROL TO MIL-STD-I-45208A

- H.P. Network Analyzer for VSWR, Insertion Loss and Phase Testing
- Calibrated Pull Testing
- HiPot Testing to 6 KV
- Conductor and Insulation Resistance Testing
- Tektronix TDR For Time Domain Testing

SELECTED STANDARD ASSEMBLY TYPES

BNC		TYPE N		SMA	
Description	Part N°	Description	Part N°	Description	Part N°
MALE-MALE RG 58	JB 58-L	MALE-MALE RG 8	JN 8-L	MALE-MALE RG 142	JS 142-L
MALE-MALE RG 59	JB 59-L	MALE-MALE RG 8X	JN 8X-L	MALE-MALE RG 174	JS 174-L
MALE-MALE RG 174	JB 174-L	MALE-MALE RG 58	JN 58-L	MALE-MALE RG 179	JS 179-L
MALE-MALE RG 8X	JB 8X-L	MALE-MALE RG 142	JN 142-L	MALE-MALE RG 188	JS 188-L
MALE-MALE RG 142	JB 142-L	MALE-MALE RG 213	JN 213-L	MALE-MALE RG 223	JS 223-L
MALE-MALE RG 213	JB 213-L	MALE-MALE RG 214	JN 214-L	MALE-MALE .141"SR	JS 402-L

* L = Length

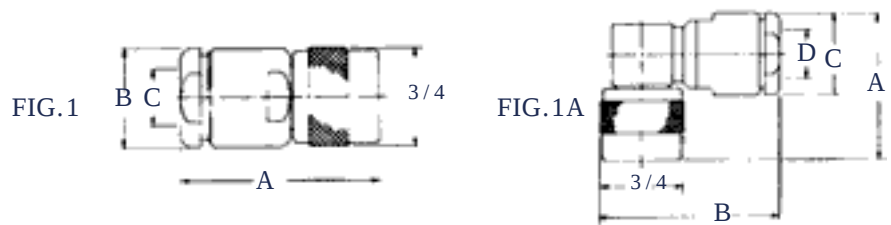
We will custom build assemblies using any combination of cable or connectors.

TYPE C SERIES

Plugs

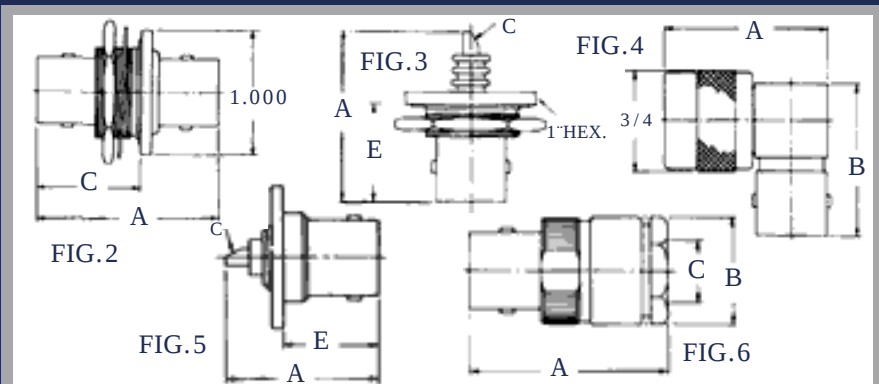
Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
RG 8, 9, 213, 214, 225	UG 573A	1	1.48	.75	-
	UG 628A	1	1.76	.75	High Voltage
	UG 710B	1A	1.35	1.62	Angle
RG 14, 217	UG 707A	1	1.56	.68	-
RG 55, 58, 141, 142, 223	UG 709B	1	1.38	.75	-
RG 59, 62, 210	UG 627A	1	1.34	.75	-
RG 17A, 218	UG 708A	1	2.13	1.31	-

- Frequency Range: 0-10 GHz
- Impedance: 50 Ohm
- Voltage Rating: 1500 V Peak
- Dielectric Withstanding Voltage: 3000VRMS
- Base Metal: Brass
- Plating: Nickel/Silver
- Insulator: Teflon
- Mating: 2 Stud Bayonet
- Temperature Range: -55°C to +199°C
- VSWR: 1.25
- Applicable Specification: MIL-C 39012



Jacks, Receptacles, Adapters

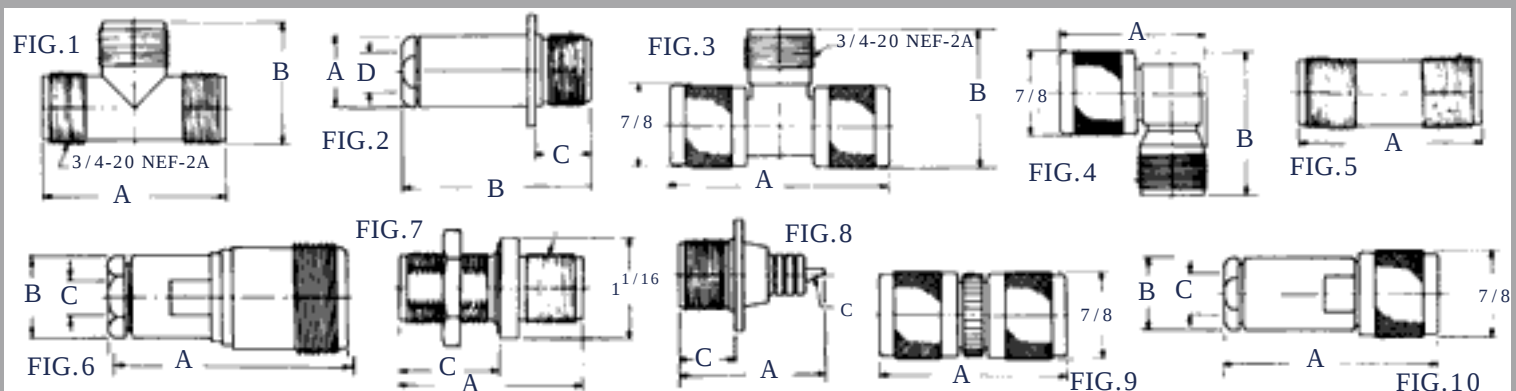
Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
UG 566	N/S	1.52	1.34	"T" J-P-J
UG 567A	4	1.25	1.27	Elbow Jack-Plug
UG 568	5	1.09	1.00	Panel Receptacle
UG 570A	N/S	1.37	1.00	Bulk Jack RG8
UG 572A	6	1.41	.75	Jack RG8/213
UG 634	3	1.31	1.00	HV Blkhd. Recep.
UG 642A	N/S	1.39	.75	Plug-Plug
UG 643	N/S	1.28	.75	Jack-Jack
UG 701A	2	1.56	1.00	Blkhd. Feedthru



TYPE HN SERIES

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
RG 8, 9, 213, 214	UG 59D	10	2.25	.87	Plug-Beryllium Outer Contact
	UG 60E	6	2.03	.75	Straight Jack
	UG 61E	2	2.03	1.20	Panel Jack
RG 14, 217	UG 494	10	2.00	1.00	Plug-Co-Polymer of Styrene Ins.
-	UG 496	8	1.50	1.20	Panel Receptacle
RG 17, 218	UG 495	10	2.60	1.20	Plug-Co-Polymer of Styrene Ins.
-	UG 1019	7	1.97	1.03	Bulkhead Feedthru Jack-Jack
RG 58, 141, 142	NE 3110	10	1.82	.87	Plug
-	NE 974	1	1.97	1.30	"T" Jack-Jack-Jack
-	NE 980	5	2.25	.86	Jack-Jack
-	UG 1109	3	2.25	1.25	"T" Plug-Jack-Plug
-	NE 982	9	2.10	.86	Plug-Plug
-	UG 212A	4	1.53	1.77	Angle Jack-Plug

- Frequency Range: 0-4 GHz
- Impedance: 50Ohm
- Voltage Rating: 1500 V Peak
- Dielectric Withstanding Voltage: 5000 VRMS
- Base Metal: Brass
- Plating: Silver/Nickel
- Insulators: Teflon
- Mating: 3/4-20 Threaded Coupling
- Temperature Range: -55°C to +199°C
- VSWR: 1.3
- Applicable Specification: MIL-C 39012



TYPE F SERIES

RG6 Size Plugs

For use in CATV/SMATV/VIDEO. Nickel/Brass Construction. Low Cost

Nemal Part N°	Fig N°	Crimp Ring Construction	Crimp Length	Tooling
F5612	1	Separate	1/2"	06
F5612A	2	Attached	1/2"	09
F5614	3	Separate	1/4"	06
F5614A	4	Attached	1/4"	06
F56DB*	2	Attached	1/2"	09
F56PL†	2	Attached	1/2"	09
F56TW	6	N/A	N/A	Twist-on
F56WP**	2	Attached	1/2"	09

* Quad Shield † Plenum ** Weatherproof Construction

RG11 Size Plugs

Nemal Part N°	Fig N°	Crimp Ring Construction	Crimp Length	Tooling
F11	5	Separate	1/4"	05
F1112A	2	Attached	1/2"	09

RG59 Size Plugs and Jacks

Nemal Part N°	Fig N°	Crimp Ring Construction	Crimp Length	Tooling
F5912	1	Separate	1/2"	08
F5912A	2	Attached	1/2"	09
F5914	3	Separate	1/4"	08
F5914A	4	Attached	1/4"	06
F59PL*	2	Attached	1/2"	09
F59TW	6	N/A	N/A	Twist-on
F59BJ (Jack)	16	Separate	1/4"	06
F59WP**	2	Attached	1/2"	09

* Plenum ** Weatherproof Construction

In Series Adapters

Nemal Part N°	Fig N°	Notes
F59PO	7	Push-On
F59RA	8	Elbow M-F
F71	9	Male-Male
F81	10	Female-Female

Receptacles

Nemal Part N°	Fig N°	Notes
F61NM	11	Middle Mount
F61NE	12	End Mount
F61PC	13	PC Mount
FNW	14	Nut/Washer

Terminations / Attenuators

Nemal Part N°	Fig N°	Notes
TR75F	15	75 Ohm Term
ATT*	N/S	75 Ohm Atten

*Available in 3, 6, 10, 20, db

Signal Splitters 75 Ohm, 5-900 Mhz

Nemal Part N°	N° Of Outputs	Insertion Loss
SP2	2	3.5 db
SP3	3	6.5 db
SP4	4	7.0 db
SP8	8	10.5 db

*Also available in 2500 MHz version

RG179 Size Plugs

Nemal Part N°	Fig N°	Crimp Ring Construction	Crimp Length	Tooling
F17912A	1	Separate	1/2"	79

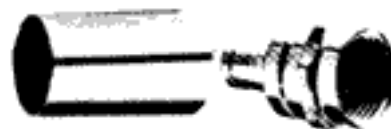


FIG. 1



FIG. 3



FIG. 2



FIG. 16



FIG. 4



FIG. 5



FIG. 6



FIG. 7

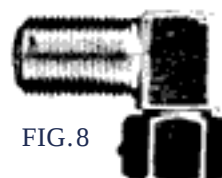


FIG. 8



FIG. 9



FIG. 10



FIG. 11



FIG. 13



FIG. 12



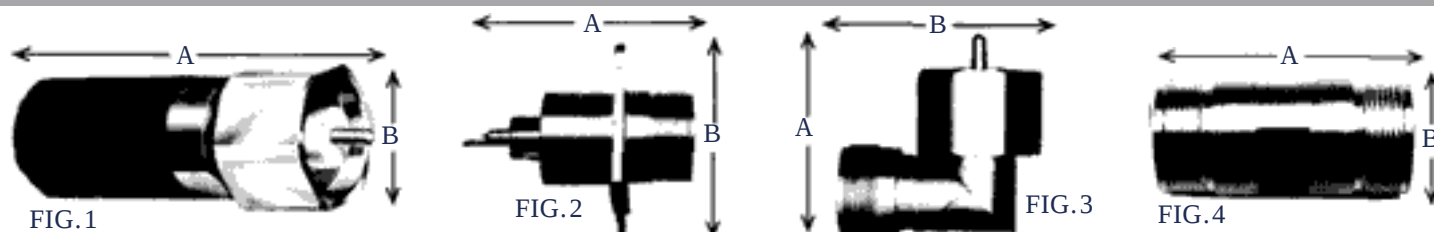
FIG. 14



FIG. 15

TYPE LC

Plugs



Cable Group	Nemal Part N°	Military N°	Fig N°	Dimensions A (In.) B		Notes
RG 17, 218	UG 154	UG 154/U	1	3.06	1.50	Plug - Uses Cable Conductor
	UG 215B	UG 215B/U	4	2.50	1.20	Female-Female
	UG 216B	UG 216B/U	3	2.50	2.25	Elbow Male-Female
	UG 352	UG 352/U	2	2.25	2.00	Panel Receptacle - Rexolite Ins.

- Frequency Range: 0-1 GHz
- Impedance: 50 Ohm
- Voltage Rating: 5000V Peak
- Base Metal: Brass
- Plating: Silver/Nickel
- Insulator: Teflon/Polystyrene
- Mating: 1-1/4-18 Threaded Coupling

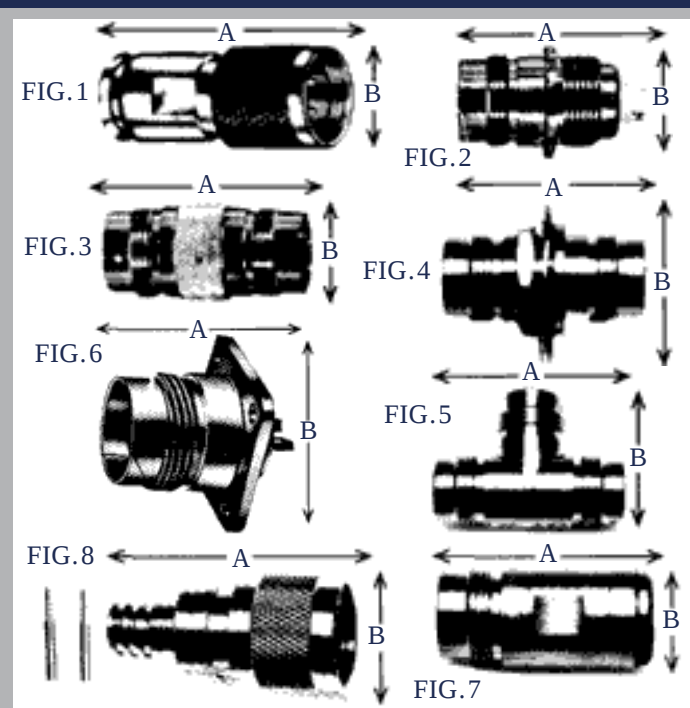
TWINAXIAL SERIES

IBM COMPATIBLE CONNECTORS FOR CABLE STYLES BELDEN 9207 AND 7362211

Nemal Part N°	Fig N°	Dimensions A (In.) B		IBM Style	Notes
TW731P	1	1.77	.75	-	Plug-Plenum Type
TW732T	5	1.70	1.55	6851167	"T" 3 Female
TW734C	2	1.95	.70	7362179	Bulkhead Receptacle
TW735J	7	1.64	.75	-	Jack
TW736M	1	1.77	.87	7362229	Plug
TW738MC	8	2.00	.89	-	Crimp Plug
TW739B	3	1.70	.75	7362230	Female-Female
TR100TW	1	1.50	.75	-	Termination 100 Ohm

UG TYPES FOR USE WITH RG 22B AND RG 108 CABLES

Nemal Part N°	Fig N°	Dimensions A (In.) B		IBM Style	Notes
UG 102	1	1.50	.75	-	Twin UHF Plug RG 22B
UG 103	6	1.03	1.00	-	Twin UHF Panel Receptacle
UG 421B	1	1.75	.87	-	Keyed 90° Plug RG 22B
UG 422	6	1.20	1.00	-	Keyed 90° Panel Receptacle
UG 493A	4	1.63	1.00	-	Keyed 90° Bulkhead Feedthru
NE 300	1	1.75	1.00	-	Keyed 90° Plug RG 108
PL 275	4	2.00	1.25	-	Twin UHF Bulkhead Feedthru



PATCH PLUGS - AUDIO

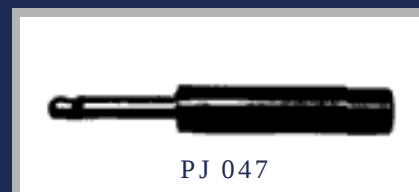
Military Type MIL-P-642A

Nemal Part N°	Style	Number of Conductors	O.D (in)
PJ 047*	M 642/1-*	2	.250
TT 051*	M 642/2-*	3	.250
TT 055*	M 642/4-*	2	.250
TT 068	M 642/5-	3	.206

Broadcast Type

Nemal Part N°	Style	Number of Conductors	O.D (in)
PJ 051*	Long Frame	3	.250
TT 173	Bantam	3	.173

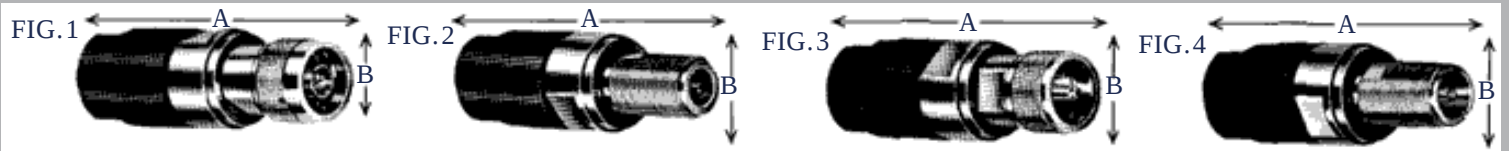
* Specify Red (-2), Black (-1), or Metal (-3) Handle



ALUMINUM HARDLINE CONNECTORS

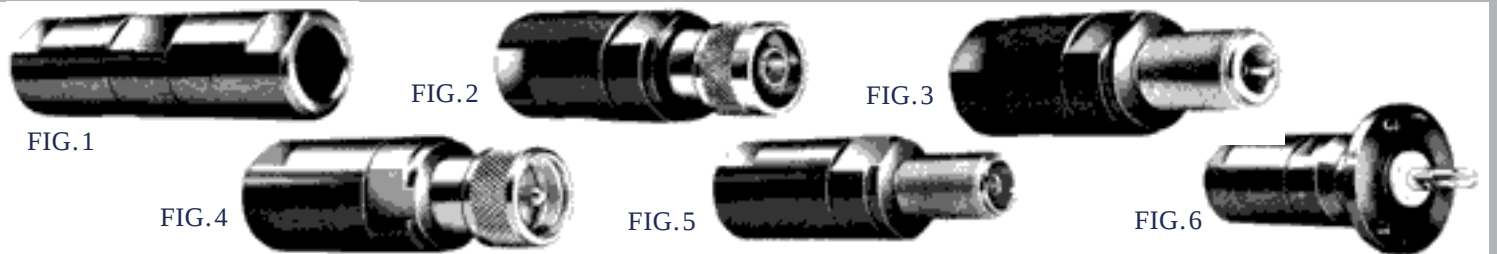
50 Ohm (FXA Cables)

Cable Size	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
1/2"	NM 12AL	1	3.0	1.0	Type N Male
1/2"	NF 12AL	2	3.1	1.0	Type N Female
1/2"	UM 12AL	3	3.0	1.0	UHF Male
1/2"	UF 12AL	4	3.0	1.0	UHF Female
7/8"	NM 78AL	1	4.1	1.4	Type N Male
7/8"	NF 78AL	2	4.1	1.4	Type N Female
7/8"	UM 78AL	3	4.0	1.4	UHF Male
7/8"	UF 78AL	4	4.1	1.4	UHF Female



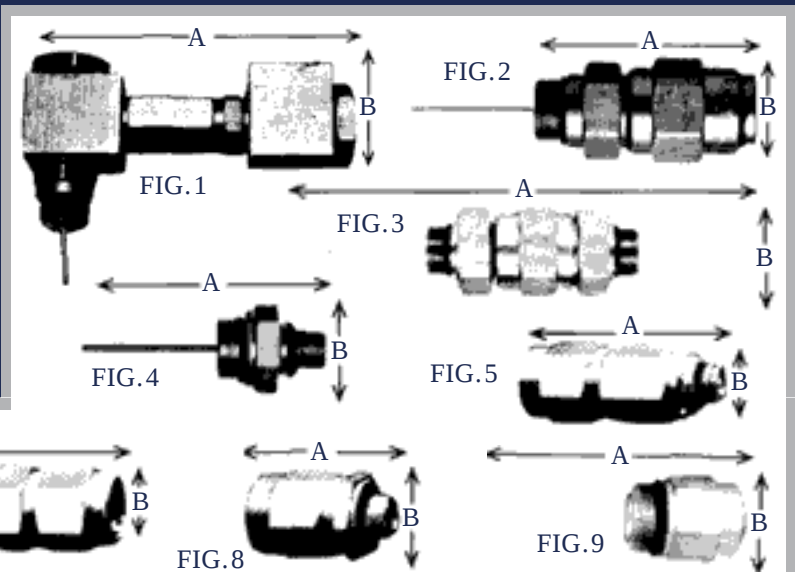
CORRUGATED COPPER CONNECTORS - 50 OHM

Connector Type	FLX 1/4"	FLC 1/2" LDF4	FLX 1/2" Flexible	FLC 7/8" LDF5	FLC 1 1/4"	FLC 1 5/8"
N Male	NM 14FL	NM 12CC	NM 12FL	NM 78CC	NM 114CC	NM 158CC
N Female	NF 14FL	NF 12CC	NF 12FL	NF 78CC	NF 114CC	NF 158CC
UHF Male	-	UM 12CC	-	UM 78CC	-	-
UHF Female	-	UF 12CC	-	UF 78CC	-	-
Splice	-	SPL 12CC	-	SPL 78CC	SPL 114CC	SPL 158CC
EIA Flange 7/8"	-	EIA 12CC	-	EIA 78CC	EIA 114CC	EIA 158CC
SMA Male	SM 14FL	-	-	-	-	-
SMA Female	SF 14FL	-	-	-	-	-
N Male-Low VSWR	NM 14-LV	-	-	-	-	-
LC MALE	-	LC12CC	-	-	-	-



CATV TRUNKLINE CONNECTORS 75 Ohm

Cable Size	Nemal Part N°	Fig N°	Dim. A (In.) B		Notes
.500"	TC 500	8	1.80	.90	Feedthru Connector
.500"	TC 500P	2	2.30	.90	Pin Type Connector
.500"	FTL 500	N/S	3.20	.90	Type F Male
.500"	FTL 500F	5	3.20	.90	Type F Female
.500"	TLS 500	7	4.50	.90	Splice
.500"	TC 500RA	1	4.25	3.37	Angle
-	TCA 70FP	4	2.50	.69	F Jack to Male (Pin Type)
-	TCA 71P	3	5.25	1.00	Male to Male (Pin Type)
.500"	TR 75TL	9	2.50	.69	Terminating 75 Ohm
.500"	NM 500TL	6	4.00	.94	Type N Male



D-SUBMINIATURE (Round Cable)

(Also See FLAT CABLE CONNECTORS)

- Available with 9, 15, 25, 37, and 50 Contacts
- Temperature Range: -55°C to + 120°C
- Wire Size: 20-24 Gauge
- Current Rating: (20 Gauge) 5 Amps
- Voltage Rating: 300 VAC (Sea Level)
- Base Metal:
 - Shell: Steel
 - Male Contact: Copper/Brass Alloy
 - Female Contact: Phosphor/Bronze
- Plating
 - Shell: Cadmium/Tin
 - Contacts: Gold/Nickel
- Insulators: Nylon



FIG.1 - Plug
Soldere Type



FIG.2 - SOCKET
Crimp Type

Plugs

Number of Contacts	Crimp Type (Shell Only) Nema1 Part. N°	Solder Type Nema1 N°
9	DBC9P	DB9P
15	DBC15P	DB15P
25	DBC25P	DB25P
37	DBC37P	DB37P
50	DBC50P	DB50P

Sockets

Number of Contacts	Crimp Type (Shell Only) Nema1 Part. N°	Solder Type Nema1 N°
9	DBC9S	DB9S
15	DBC15S	DB15S
25	DBC25S	DB25S
37	DBC37S	DB37S
50	DBC50S	DB50S

Hoods Use for either Crimp or Solder types

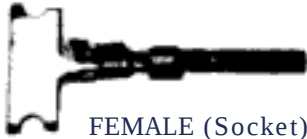
Nema1 Part N°	Number of Contacts	Max. Cable Size (In.)
DB9*	9	.250
DB15*	15	.335
DB25*	25	.375
DB37*	37	.375
DB50*	50	.450

* Use suffix "H" for plastic; "MH" for metal; or "LH" for metalized plastic.

Contacts (For Crimp Type)



MALE (Pin)
DBP



FEMALE (Socket)
DBS

Available Loose or on Reels

Centronics (36-Pin) Connectors

Please contact Sales for information on our complete Cable Assembly design and fabrication facilities.



CE 36P
Plug



CE 36S
Socket

MINIATURE UHF SERIES

Cable Group	Nemal Part N ^o	Fig N ^o	Dimensions A (In.) B		Tooling	Notes
- Plugs -						
RG 58	NE 400	1	1.14	.46	01	Crimp
RG 59	NE 410	1	1.22	.46	02	Crimp
- Jacks -						
RG 58	NE 420	2	1.19	.38	01	Crimp
RG 59	NE 430	2	1.30	.38	02	Crimp
Receptacle	NE 440	3	.93	.63	-	Panel Mount

- Frequency Range: DC - 2 Ghz
- Voltage Rating: 335 Volt Peak
- Dielectric Withstanding Voltage: 1000 VRMS
- Base Metal: Brass/Zinc
- Plating: Nickel/Tin/Silver
- Insulators: Teflon/Polypropylene
- Mating: 3/8-24 UNEF-2B Threaded Coupling
- Temperature Range: -55°C to +85°C
- VSWR: Less than 1.25
- Durability: 500 Cycles

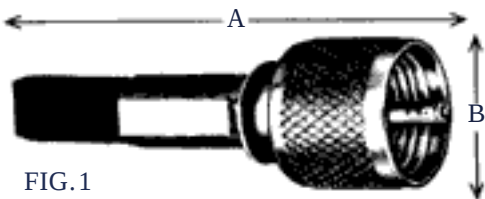


FIG.1

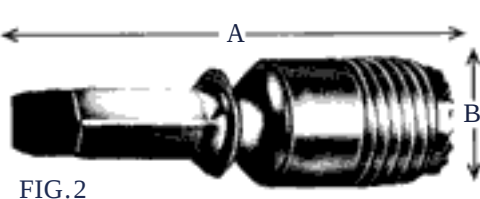


FIG.2

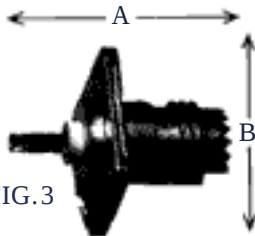


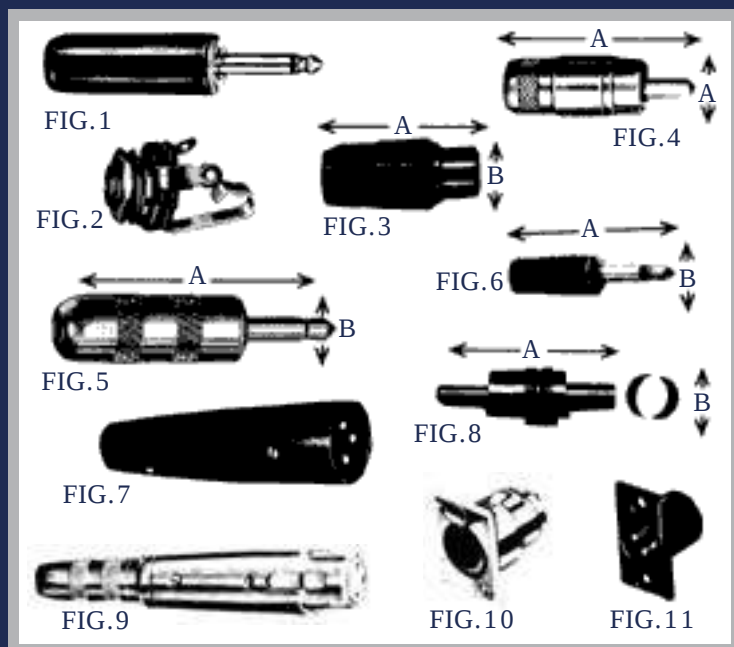
FIG.3

AUDIO CONNECTORS AND ADAPTERS

Audio Connectors

Nemal Part N°	Style	Fig. N°
14-2P*	1/4" Plug 2 Cond.	1
14-2BR	1/4" Receptacle 2 Cond.	2
14-3P*	1/4" Plug 3 Conductor	1
25-1P*	Micro 2.5MM Plug	6
35-1P*	Mini 3.5MM Plug	5
25-1PS*	Micro 2.5MM Plug-Stereo	6
35-1PS*	Mini 3.5MM Plug-Stereo	5
RCA 2	Phono Plug-Molded	4
RCA 4	Phono PC Mount	N/S
RCA 7	Phono Jack-Molded	3
RCA 8	Phono Plug Shielded (metal)	4
RCA 9	Phono Jack Shielded (metal)	3
RCA 59C	Phono Plug-Crimp Type	8
XLR (+) CF	(+) Pin Bulkhead Recept. (F)	10
XLR (+) CM	(+) Pin Bulkhead Recept. (M)	11
XLR 3F	3-Pin Microphone Jack	9
XLR 3M	3-Pin Microphone Plug	7
XLR (+) F	(+) Pin Microphone Jack	9
XLR (+) M	(+) Pin Microphone Plug	7
XLR 371M	XLR 3-Pin Plug-Plug	N/S
XLR 381F	XLR 3-Pin Jack-Jack	N/S

*Add "M" for shielded metal version
(+) Available in 4, 5, 6, and 7 pin versions



37 PIN AUDIO CONNECTOR

- Indoor/Outdoor Use - Solder Contacts Standard

Male - P/N FK37 -22C
Female - P/N FK37 -21C
Male Chassis - FK37 -22R
Female Chassis - FK37 -21R



Audio Adapters

Nemal Part N°	Description	Fig. N°
NE 3530	XLR(F) to 1/4" 3 cond plug	1
NE 3540	XLR(M) to 1/4" 3 cond plug	2
NE 3550	2.5mm (micro) plug to 3.5mm (mini) plug	3
NE 3560	XLR(F) to RCA phono plug	4
NE 3580	XLR(M) to RCA phono plug	5
NE 3600	Impedance transformer XLR(F) to 1/4" plug	1
NE 3610	XLR(M) to 1/4" 3 cond jack	6
NE 3620	1/4" 3 cond jack to microphone (screw) conn.	7
NE 3650	XLR(F) to 1/4" 3 cond jack	8
NE 9120	RCA phono jack to mini plug	9
NE 9140	1/4" jack to mini plug	10



DIN 7/16" CONNECTOR

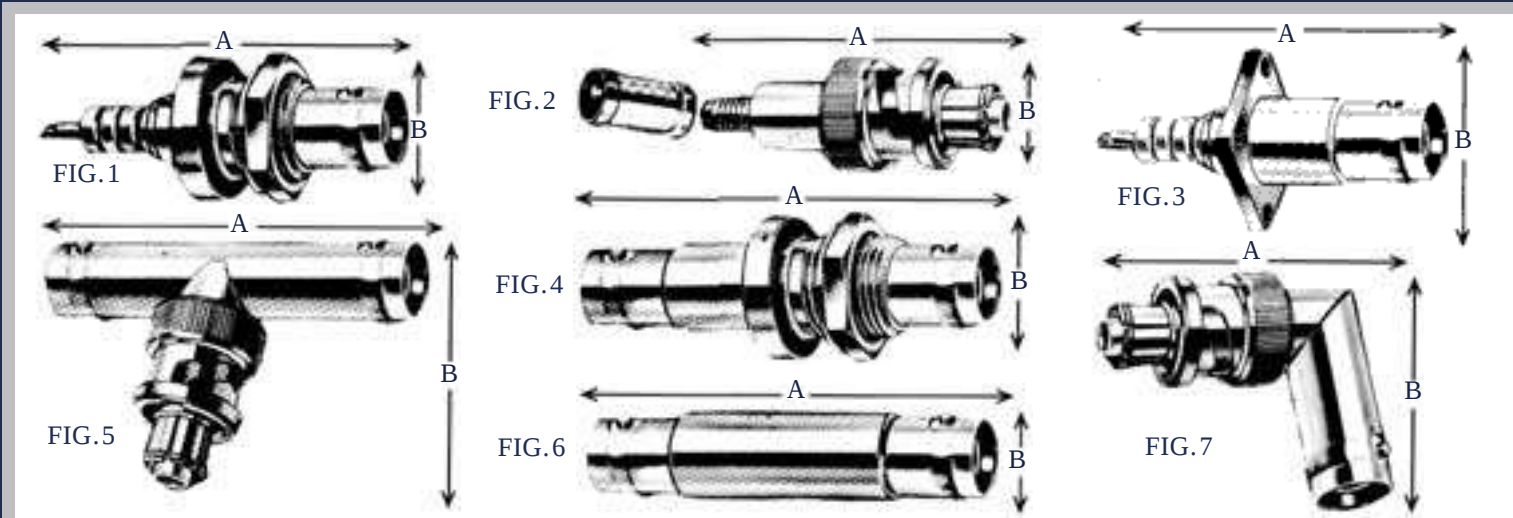
Cable Group	Nemal Part N°	Description	Dimensions A (In.) B	
RG 8, 213, 214	NE 7600	Plug	1.53	1.25
	NE 7610	Jack	1.96	.87
	NE 7620	Panel Jack	2.00	1.25
RG 393	NE 7630	Plug	1.53	1.25
-	NE 7640	Panel Receptacle	1.20	1.25

- Frequency Range: DC - 7.5 GHz
- Impedance: 50 Ohms
- Voltage Rating: 2700 VRMS



HIGH VOLTAGE CONNECTORS

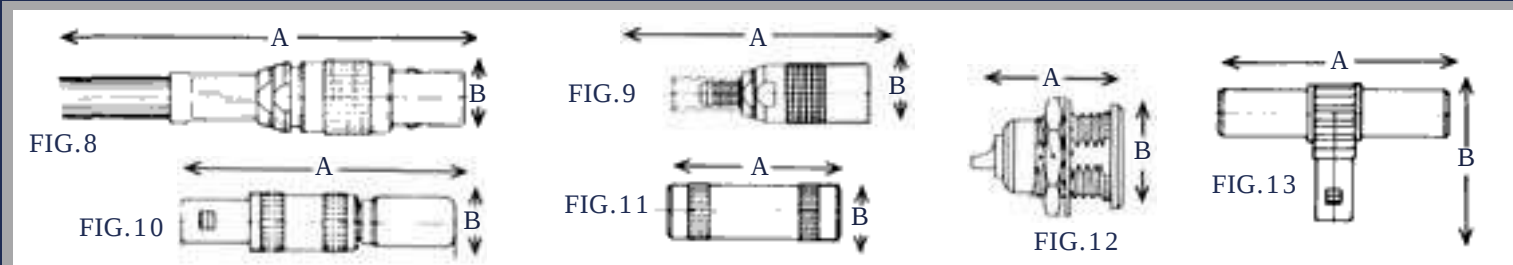
SHV Series



Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
-	NE 1200	1	1.79	.69	-	Bulkhead Receptacle
RG 59, 62	NE 1030	2	1.83	.56	61	Crimp Plug
RG 58	NE 1040	2	1.83	.56	57	Crimp Plug
-	NE 1210	3	1.79	.69	-	Panel Receptacle
-	NE 1300	4	1.99	.69	-	Panel Fd.thru P-P
-	NE 1310	5	1.10	1.39	-	"T" P-J-P
-	NE 1320	6	1.99	.44	-	Plug-Plug
-	NE 1330	7	1.59	1.39	-	Elbow J-P

- Voltage Rating: Operating Test
3,500 VAC 5,000 VAC
5,000 VDC 10,000 VDC
- Base Metal:
Body & Male Contact - Brass
Female Contact - Beryllium Copper
- Plating:
Body - Nickel
Contacts - Gold
- Insulator: Teflon
- Mating: Bayonet - 2 Stud

Miniature Series Quick Lock



Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 58	NE 1060	8	1.44	.27	56	Crimp Plug
RG 174, 188A, 316	NE 1100	9	1.33	.27	79	Jack - Crimp - WP
-	NE 1070	8	1.37	.27	79	Crimp Plug - WP
-	NE 1220	12	.61	.40	-	Bulkhead Receptacle
-	NE 1340	13	1.19	.82	-	"T" Jack-Plug-Jack
-	NE 1350	11	.82	.25	-	Jack-Jack
-	NE 1400	10	1.19	.28	-	Termin. 50 Ohm
-	NE 1410	N/S	2.18	.38	-	Att. 6db 50 Ohm 2W

- Impedance: 50 Ohm Nom.
- Dielectric Withstanding Voltage:
1500 VRMS - 1 Min. 60 Hz
- Insulation Resistance: 5000 Megohm Min.
- Contact Resistance: 6 Milliohms Max @ 1 Amp
- Base Metal: Body & Male Contact - Brass
Female Contact - Beryllium Copper
Crimp Sleeve - Bronze
- Plating: Body - Nickel
Contacts - Gold
- Insulator: Teflon

Precision Delay Lines

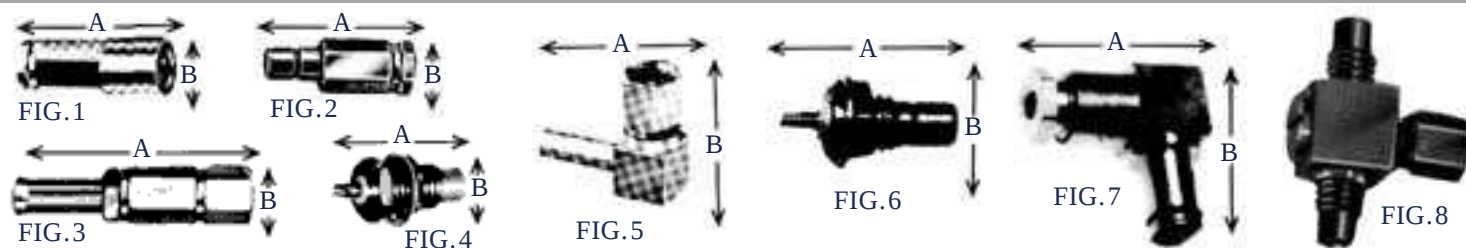
Miniature Series quick lock connectors installed on RG 174 or RG 316

* Tolerance to .1 NS - certified testing

* Manufactured to your requirements - no minimum



SMB (Push-on) and SMC (Screw-on) SERIES



Cable Group	Nemal Part N°	Type	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 58	NE 2755	SMB	N/S	.88	.25	-	Jack - Bulkhead Mount
RG 174, 179, 188, 316	NE 2770	SMB	1	.59	.19	*	Plug - Crimp
	NE 2775	SMB	2	.55	.14	*	Jack - Crimp
	NE 275	SMC	5	.52	.60	*	Female Plug Angle Crimp
	UG 1465	SMC	1	.84	.25	-	Female Plug
	NE 2740	SMC	1	.59	.19	*	Female Plug - Crimp
	NE 2735	SMC	N/S	.59	.19	*	Male Jack - Crimp
	NE 2730	SMB	N/S	.52	.60	-	Female Plug Angle Crimp
	NE 2184	SMB	N/S	.59	.73	-	Angle Bulkhead Jack
RG 178, 196	NE 2725	SMB	7	.56	.19	-	Angle Jack
RG 179	NE 280	SMB	3	1.10	.36	*	Plug 75 Ohm - Crimp
RG 180, 195	NE 282	SMB	3	1.10	.36	*	Plug - Crimp
	NE 2720	SMB	6	.58	.25	-	Bulkhead Receptacle
	UG 1619	SMC	4	.62	.23	-	Bulkhead Receptacle
	NE 2283	SMC	4	.62	.23	-	75 Ohm Blkhd. Receptacle
	NE 2285	SMB	N/S	.64	.52	-	Angle PC Rec. 75 Ohm
	NE 2750	SMB	N/S	.80	.26	-	Jack - Jack Adaptor
	NE 2810	SMB	8	.86	.64	-	"T" Jack-Plug-Jack
	NE 2820	SMB	N/S	.86	.66	-	"T" Jack-Plug Jack
	NE 2830	SMC	N/S	.59	.25	-	Termination 50 Ohm

- Frequency Range: DC-10 GHz
- Impedance: 50 / 75 Ohm
- Voltage Rating: 500 V Peak
- Dielectric Withstanding Voltage: 750 VRMS
- Contact Resistance: 2.5 Milliohm
- Base Metal:
 - Body: Brass
 - Contact: BECu
- Plating:
 - Body: Nickel
 - Contact: Gold
- Insulator: Teflon
- VSWR: 1.35 (04 GHz)
- Applicable Specifications:
 - MIL-C-39012
- Temperature Range: -65°C to +165°C

* Contact Sales

* 500 Ohm Unless Otherwise Specified

MB SERIES

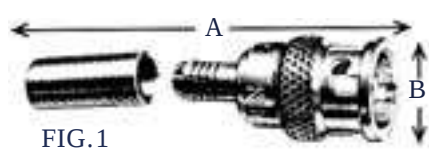


FIG. 2

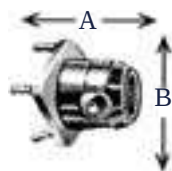
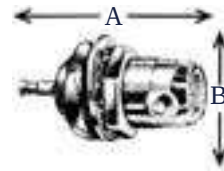


FIG. 3



Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 58, 141	NE 3000	1	1.05	.38	56	Crimp Plug
-	NE 3200	2	.58	.44	-	PC Mount Receptacle
-	NE 3210	3	.69	.41	-	Bulkhead Mt. Receptacle

- Frequency Range: DC - 500 MHz
- Impedance: Non-Constant
- Voltage Rating: 500 V Peak
- Base Metal: Brass (Beryllium Copper Female Contact)
- Plating: Nickel/Silver
- Insulator: Teflon/Nylon
- Mating: 2 Stud Bayonet

MILITARY SERIES (MS)

Available in All Current Specifications / Flight-Rated, if Required

5-10 Pin MIL-C-10544 and MIL-C-55116 Connectors

Nemal Part N°	Military Spec.	Fig. N°	Description
U 77	MIL-C-10544	1	10 Pin Audio Plug
U 79	MIL-C-10544	2	10 Pin Audio Bulkhead Receptacle
U 183	MIL-C-55116	3	5 Pin Audio Bulkhead Receptacle
U 228	MIL-C-55116	N/S	5 Pin Audio Jack
U 229	MIL-C-55116	4	5 Pin Audio Plug
U 290	MIL-C-55243	N/S	12 Pin Audio Jack
U 393	MIL-C-55243	N/S	12 Pin Audio Angle Plug



FIG. 1



FIG. 2



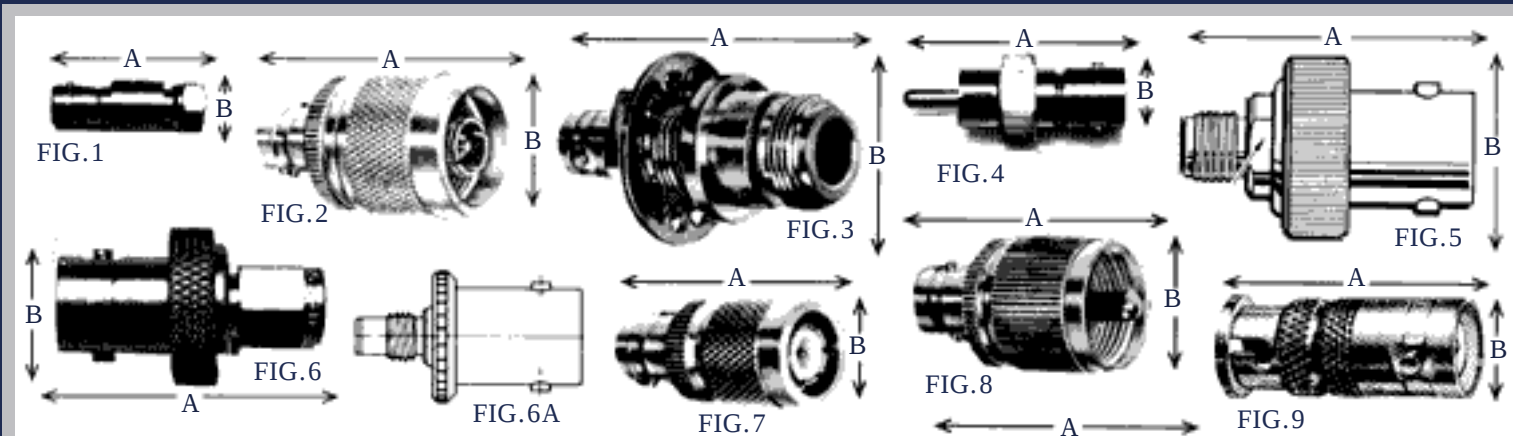
FIG. 4



FIG. 3

INTERSERIES ADAPTERS

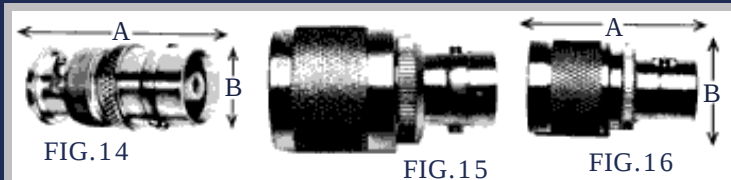
BNC Jack



To:	Nemal Part N°	Fig N°	Dimensions A (In.) B		For QPL Version Use
C Plug	UG 636A	12	1.23	.50	M55339/22-00636
F Plug	NE 920	1	1.50	.47	
HN Plug	UG 309	N/S	1.50	.84	
High Voltage Plug	NE 9000	11	1.40	.56	
MB Plug	NE 940	9	.94	.56	
Mini UHF Plug	NE 952	10	1.19	.45	
N Jack	NE 9100	N/S	1.14	.75	
N Jack (Chas Mt)	UG 606	3	1.75	.81	M55339/25-00606
N Plug	UG 201A	2	1.32	.79	M55339/20-00201
RCA Plug	NE 918	4	1.40	.44	
SMA Jack	NE 9020	5	.98	.59	
SMA Jack	NE 936	N/S	1.20	.59	(Bulkhead Mount)
SMA Plug	NE 9030	6	1.16	.56	
SMC Jack	NE 9490	6A	.93	.53	
SMC Plug	NE 984	N/S	1.25	.71	(Bulkhead Mount)
SMB Jack-75 Ohm	NE 978	13A	1.12	.69	
N Jack-Jack	NE 9040	13	1.75	1.75	(Bulkhead Mount)
TNC Plug	NE 934	7	1.25	.63	
UHF Plug	UG 273	8	1.33	.63	

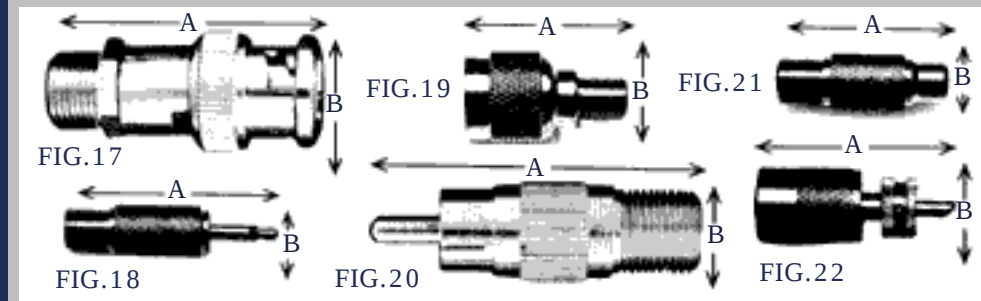
C Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B		For QPL Version Use
BNC Plug	UG 635	14	1.28	.59	M55339/23-00635
HN Plug	UG 702	15	1.50	.84	
N Plug	UG 564	16	1.38	.78	M55339/21-00564
UHF Plug	UG 637	15	1.38	.81	



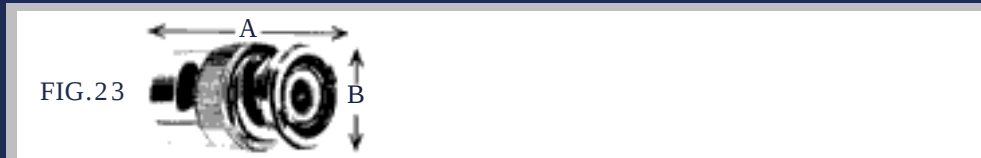
F Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
BNC Plug	NE 912	17	1.30	.57
Mini (3.5 mm) Plug	NE 960	18	1.80	.43
N Plug	NE 910	19	1.30	.75
RCA Plug	NE 916	20	1.50	.43
RCA Jack	NE 930	21	1.30	.43
UHF Plug	NE 914	22	1.50	.71



Miniature High Voltage Jack

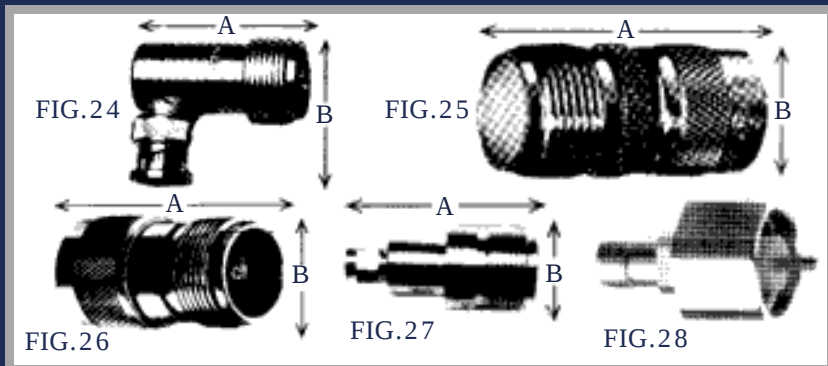
To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
BNC Plug	NE 9060	23	.93	.56



INTERSERIES ADAPTERS (Continued)

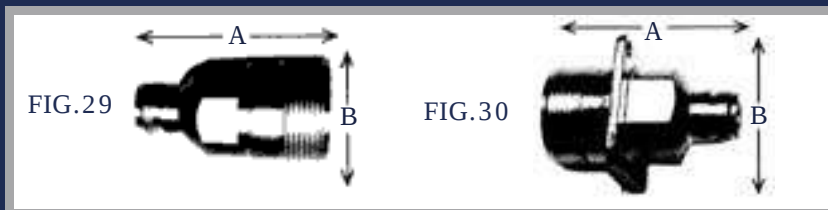
HN Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
BNC Plug	UG 559B	24	1.50	1.25	Angle
C Plug	UG 703A	25	1.45	.75	-
LC Plug	UG 497A	28	2.83	1.50	-
N Plug	UG 1108	26	1.51	.78	-
SMA Plug	NE 964	27	1.69	.76	Gold Contacts



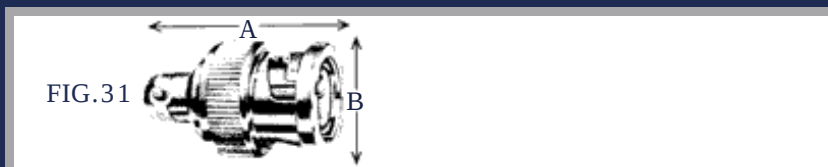
LC Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
N Jack	UG 270A	29	2.25	1.19	-
N Jack	UG 271A	30	2.25	1.50	Panel Mount
HN Jack	UG 259A	N/S	2.25	1.25	Panel Mount



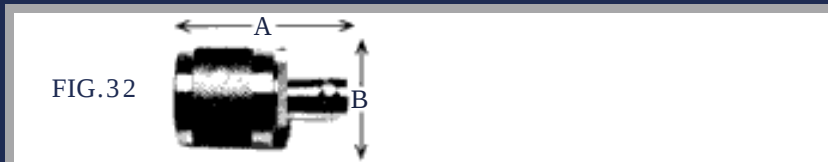
MB Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
BNC Plugs	NE 9070	31	1.00	.56



MHV Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
HN Plug	NE 972	32	1.50	.89



Mini UHF Jack

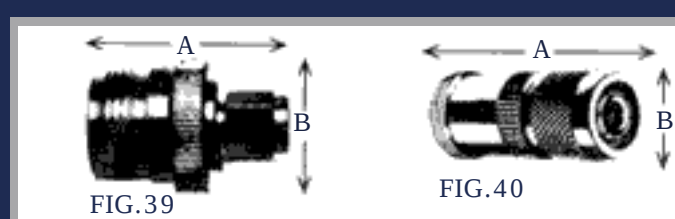
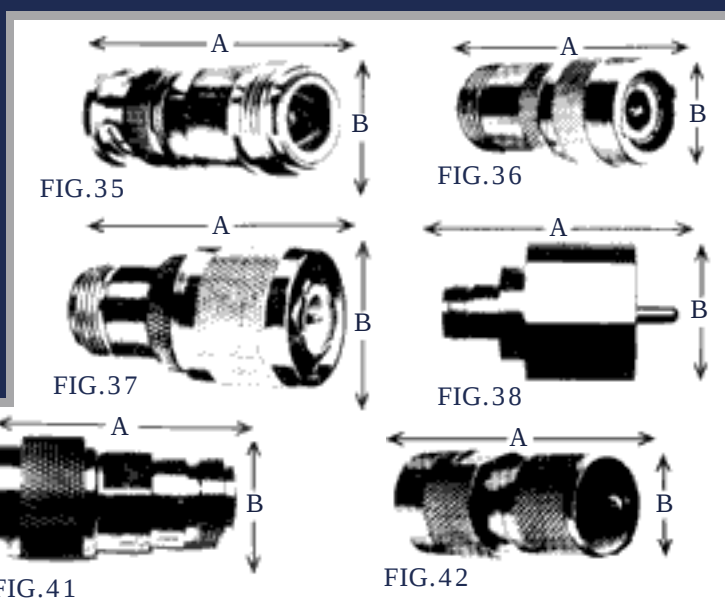
To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
UHF Plug	NE 948	34	1.25	.71
BNC Plug	NE 950	33	1.20	.57
N Plug	NE 9005	33A	1.25	.88



N Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B		For QPL Version Use
BNC Plug	UG 349A	35	1.56	.63	M 55339/49-00349
BNC Plug	UG 349A-75	35	1.56	.63	* 75 Ohm *
C Plug	UG 565	36	1.54	.75	M 55339/19-00565
HN Plug	NE 9080	37	1.58	.88	-
LC Plug	UG 999A	38	2.55	1.00	-
SC Plug	NE 9200	41	1.69	.78	-
SMA Plug	NE 9090*	39	1.04	.67	-
SMB Jack	NE 9430	N/S	1.20	.63	-
TNC Jack	NE 970	N/S	1.39	.44	-
TNC Jack	NE 9110	40	1.56	.63	-
UHF Plug	UG 83B	42	1.75	.75	-

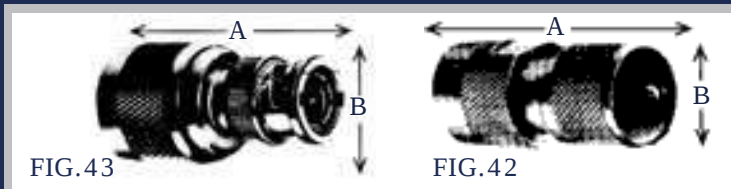
* For Panel Mount Use NE 9095



INTERSERIES ADAPTERS (Continued)

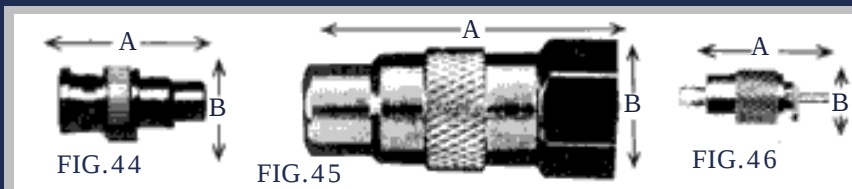
N Plug

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B		For QPL Version Use
BNC Plug	UG 1034	43	1.50	.79	M 55339/18-01034
SMB Jack	NE 986	N/S	1.26	.83	-
TNC Plug	NE 9380	N/S	1.49	.79	-
UHF Plug	UG 318	42	1.75	.75	-



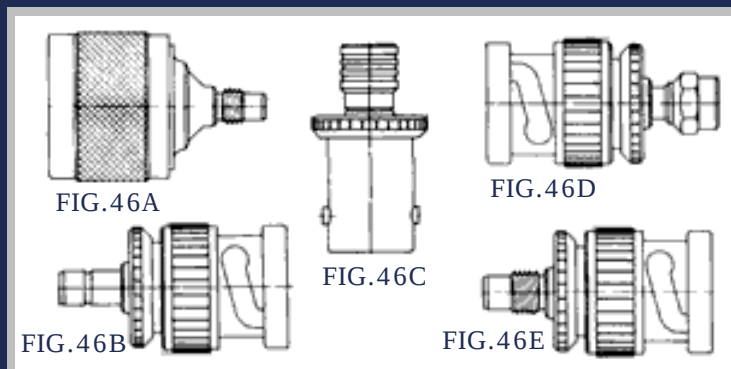
RCA Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
BNC Plug	NE 922	44	1.30	.57
F Plug	NE 924	45	1.30	.47
UHF Plug	NE 932	46	1.85	.71



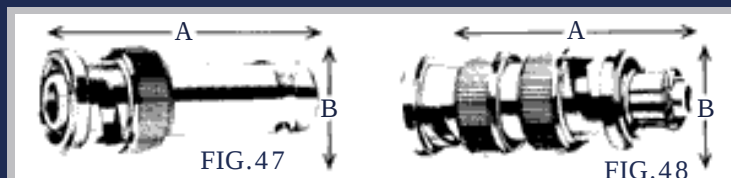
SMB/SMC

From:	To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
SMB Jack	BNC Plug	NE 9410	46B	1.02	.57
SMB Jack	BNC Jack	NE 9420	N/S	.93	.53
SMB Plug	BNC Jack	NE 9440	46C	.93	.53
SMB Plug	BNC Plug	NE 9415	N/S	1.04	.57
SMB Plug	SMA Plug	NE 9460	N/S	.88	.31
SMB Jack	SMA Plug	NE 9470	N/S	.81	.31
SMB Jack	SMA Jack	NE 9480	N/S	.71	.25
SMB Plug	SMA Jack	NE 9425	N/S	.75	.25
SMC Jack	N Plug	NE 9485	46A	1.20	.81
SMC Jack	BNC Plug	NE 9450	46E	1.02	.57
SMC Plug	BNC Plug	NE 9495	46D	1.04	.57



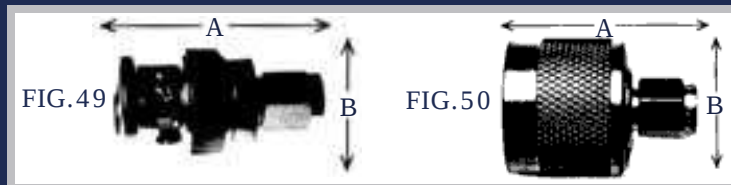
SHV

From:	To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
SHV (P)	MHV Plug	NE 9150	48	1.64	.56
SHV (J)	MHV Plug	NE 9130	47	1.61	.56



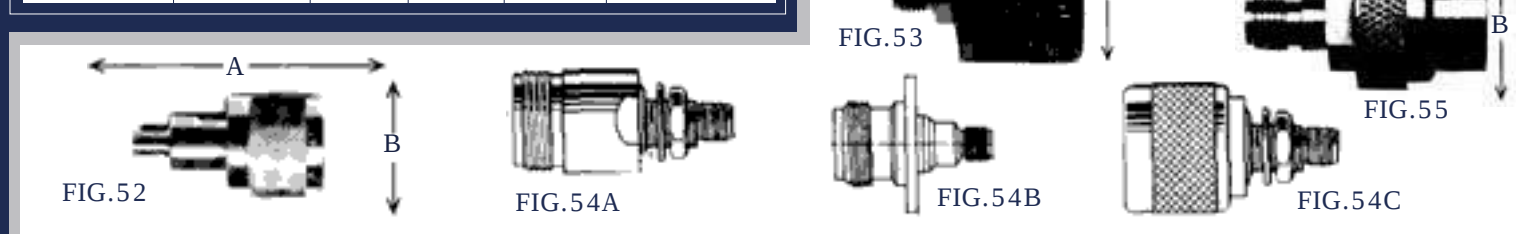
SMA Plug

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
BNC Plug	NE 9250	49	1.09	.56
N Plug	NE 9270	50	1.08	.79
TNC Plug	NE 938	N/S	1.04	.56



SMA Jack

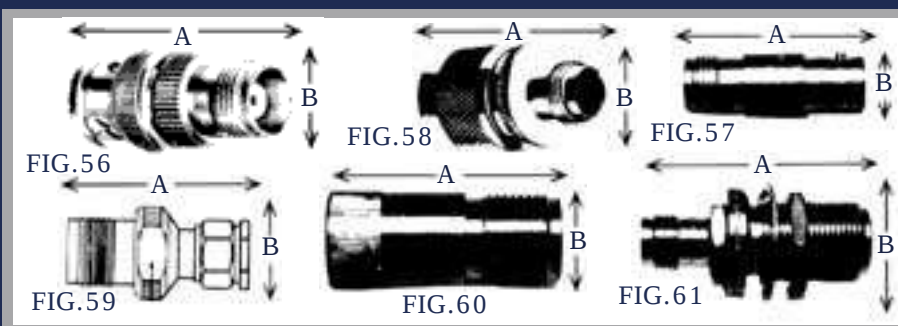
To:	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
BNC Plug	NE 9170	51	1.06	.56	
HN Plug	NE 962	52	1.75	.89	Gold Contact
N Plug	NE 9190	53	1.04	.81	
N Jack	NE 9210	54	1.00	.67	
N Jack	NE 9370	54A	1.59	.67	Bulkhead Mt.
N Jack	NE 9361	54B	1.14	1.00	Panel Mt.
N Plug	NE 9360	54C	1.47	.80	Bulkhead Mt.
TNC Plug	NE 9230	55	1.04	.59	
TNC Jack	NE 9075	N/S	1.00	.69	Panel Mt.



INTERSERIES ADAPTERS (Continued)

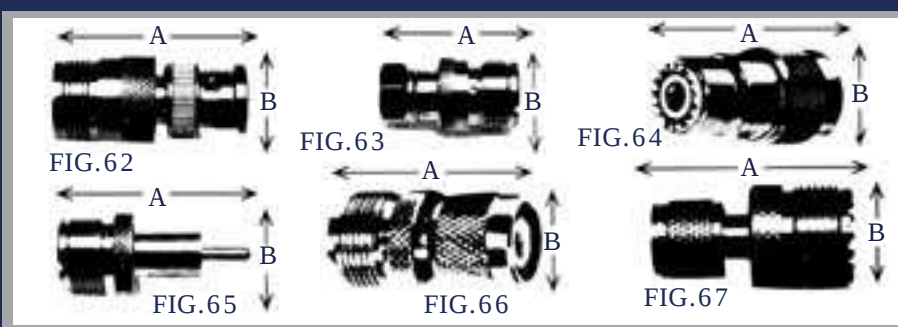
TNC Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
BNC Jack	NE 9290	57	1.28	.44
BNC Plug	NE 9310	56	1.25	.44
N Plug	NE 9330	58	1.31	.78
SMA Plug	NE 9350	59	1.16	.56
Mini UHF Plug	NE 954	60	1.20	.57
N Jack Bulk. Mt.	NE 976	61	1.75	.81
UHF Plug	NE 9046	N/S	1.20	.71



UHF Jack

To:	Nemal Part N°	Fig N°	Dimensions A (In.) B	
BNC Plug	UG 255	62	1.46	.63
F Plug	NE 928	63	1.20	.61
N Plug	UG 146A	64	1.64	.81
RCA Plug	NE 926	65	1.60	.63
TNC Plug	NE 956	66	1.30	.59
Mini UHF Plug	NE 958	67	-	-



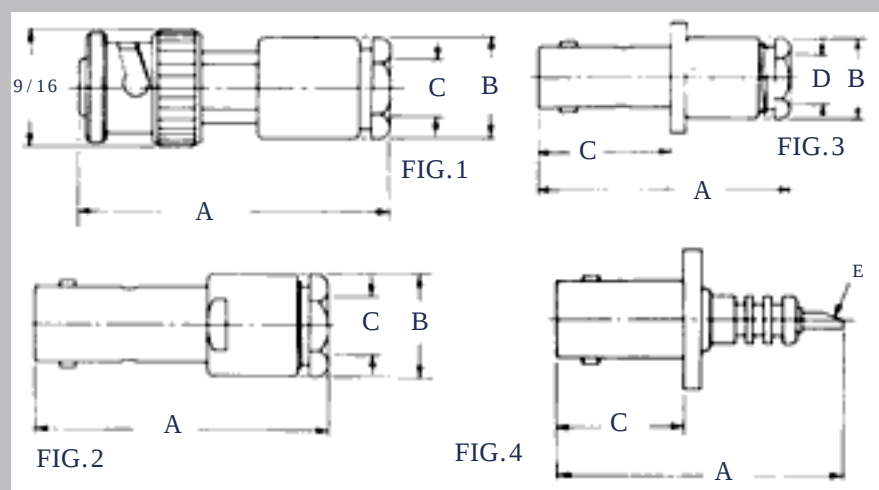
APC-7

To:	Nemal Part N°	Dimensions A (In.) B	
N Jack	NE 9700	1.60	.87
N Plug	NE 9710	1.87	.87
SMA Jack	NE 9720	1.31	.87
SMA Plug	NE 9730	1.39	.87
TNC Jack	NE 9740	1.40	.87



MHV SERIES

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Tooling	Notes
RG 58, 141	NE 1010	N/S	1.50	.56	Crimp Plug	58
RG 59, 62, 210	NE 1020	N/S	1.50	.56	Crimp Plug	59
-	UG 931	4	1.34	.69	Panel Recept.	-
RG 59, 62, 71, 210	UG 932A	1	1.54	.56	Plug	-
	UG 961A	3	1.48	.77	Panel Jack	-
	UG 1016A	2	1.47	.50	Jack	-
RG 58, 142, 223	NE 1015	1	1.54	.56	Plug	-
-	NE 1080	4	1.06	.62	Bulkhead Rec.	-
-	NE 1050	N/S	1.50	.69	J-J Panel Mt.	-



- Frequency Range: DC-50 MHz
- Impedance: Non-Constant
- Voltage Rating: 5000 V Peak
- Current Rating: 5 Amp. Max.
- Base Metal:
 - Body: Brass
 - Contact: M-Brass, F-Beryllium Copper
- Plating: Silver / Nickel
- Insulator: Teflon
- Temperature Range: -55°C to +199°C
- Mating: 2 Stud Bayonet

TRIAXIAL - 50 Ohm

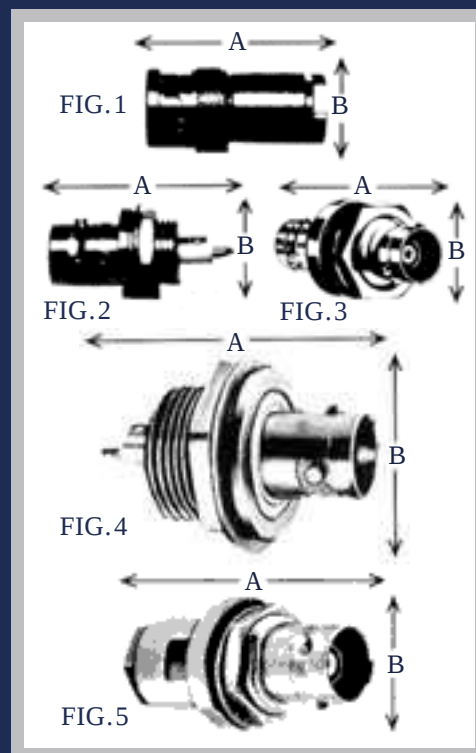
Bayonet Construction - 2 Stud BNC Type

Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
RG 58 Triax	NE 882	1	1.50	.56	Plug-Triaxial Cable
RG 108, 1940	NE 884	1	1.48	.56	Plug-Twinaxial
	NE 896	2	1.25	.47	Bulkhead Receptacle
	NE 8900	3	1.48	.75	J - J Bulkhead Mount
	NE 8910	N/S	1.25	1.06	"T" Jack-Plug-Jack
	NE 8940	N/S	1.25	1.06	Angle Jack-Plug
	NE 8960	N/S	1.25	.45	Jack-Jack

Bayonet Construction - 3 Stud BNC Type

Cable Size	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
RG 22B	NE 877	1	1.87	.75	Plug Twinaxial Cable
RG 58, Triax	NE 878	1	1.25	.57	Plug Triaxial Cable
RG 108, 1940	NE 889	1	1.25	.57	Plug Twinaxial Cable
M17/176-00002	NE 879	1	1.25	.57	Plug Twinaxial Cable
.120 o.D., 1729	NE 890	1	1.25	.57	Plug Triaxial Cable
.150 O.D. Twinax	NE 8930	N/S	1.40	.57	Jack Twinaxial Cable
RG 108, 1940	NE 897	5	1.32	.80	Bulkhead Jack Twinax
-	NE 886	2	1.10	.47	Bulkhead Receptacle
-	NE 892	4	1.37	.87	Blkhd. Recept. Isolated
-	NE 8950	N/S	1.29	.45	Jack - Jack
-	NE 894	3	1.48	.75	Jack - Jack Bulkhead
-	NE 898	N/S	1.25	1.06	"T" Jack - Plug - Jack

* Contact Sales for tooling requirements

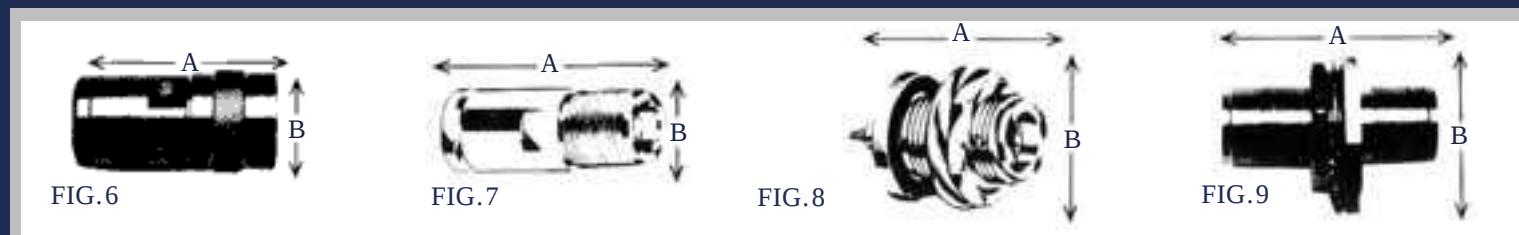


Threaded - 5000 Volt Rating

Construction	Cable Group	Nemal Part N°	Fig N°	Dimensions A (In.) B		Notes
11/16" - 24	RG 58 Triax	NE 8706	6	1.66	.78	Plug-Triax Cable
11/16" - 24	RG 58 Triax	NE 8702	7	1.75	.75	Jack-Triax Cable
11/16" - 24	-	NE 8704	8	1.28	1.00	Blkhd. Receptacle
11/16" - 24	-	NE 8708	9	1.75	.94	Bulkhead Feedthru

- Contact Sales for information on MIL-STD-1553 Data bus and Triaxial camera connectors

- Base Metal: Body & Male
Center Contact - Brass
Female & Intermediate
Contacts - Beryllium Copper
- Plating: Body - Nickel / Silver
Contacts - Silver / Gold
- Insulator: Teflon



FIBER OPTIC CONNECTORS

ST Ceramic*

Fiber Type	Nemal Part. N°
Single - Mode	FO 953-102
Multi - Mode	FO 953-101



- Fiber Size: 125 Micron
- Coupling: Bayonet
- Termination: Epoxy / Polish
- Insertion Loss: < .15 db
- Temperature Range: -20°C to +70°C
- Cable Size: 4.4mm Max OD

* Also Available in Stainless Steel, SMA, FC, And SC

COAXIAL CABLE SPECIFICATIONS

RG/U Type	Spec	Nemal Part N°	Center Conductor	Dielectric	Velocity (%)	Shielding	Jacket O.D. (In.)	Weight Lbs/M	Nominal Impedance (Ohms)	Nominal Capacitance (PF/FT)	Maximum Voltage (Volts/RMS)	Operating Temperature (°C)
6	Nemal	1000	18 BC	FP	78	Al. Foil + 95% TC	PVC .270	32	75.0	17.3	400	-40 to +80
6	Nemal	1001	18 CCS	FP	78	Al. Foil + 40% Al.	PVC .275	29	75.0	16.5	400	-40 to +80
6	Siamese	1004	18 CCS	FP	78	Al. Foil. + 40% Al.	PVC .275 + .595	59	75.0	16.5	400	-40 to +80
6	Nemal	1007	18 CCS	FP	78	Al. Foil. + 60% Al.	PVC .275	29	75.0	16.5	400	-40 to +80
6	Messenger	1020	18 CCS	FP	78	Al. Foil. + 60% Al.	PVC .275 x .430	41	75.0	16.5	400	-40 to +80
6	Flooded	1010	18 CCS	FP	78	Al. Foil. + 40% A	PVC .275	28	75.0	16.5	400	-40 to +80
6	Quad	1030	18CCS	FP	78	Foil-Braid Foi Braid	PVC .300	34	75.0	16.5	400	-40 to +80
6A	Nemal	1005	21 CCS	PE	66	(2) BC 95%	PVC .336	70	75.0	20.5	2400	-40 to +80
8	Jan C - 17	1100	13 BC (7 x 21)	PE	66	BC 95%	PVC .405	106	52.0	29.5	4000	-40 to +80
8	Nemal	1102	11 BC (19 x 24)	FP	78	BC 95%	PVC .405	107	50.0	26.0	600	-40 to +80
8X	Nemal	1110	16 BC (19 x 28)	FP	78	BC 95%	PVC .242	35	50.0	28.0	300	-40 to +80
11	Jan C - 17	1200	18 TC (7 x 26)	PE	66	BC 95%	PVC .405	96	75.0	20.5	4000	-40 to +80
11	Nemal	1201	14 BC	FP	78	BC 95%	PVC. 405	92	75.0	17.3	600	-40 to +80
11	Messenger	1202	14 CCS	FP	78	Al. Foil + 40% Al.	PVC .405 x .631	89	75.0	16.5	600	-40 to +80
11	Flooded	1210	14 CCS	FP	78	Al. Foil + 40% Al.	PVC .405	62	75.0	16.5	600	-40 to +80
11A	Mil C - 17D	1205	18 TC (7 x 26)	PE	66	BC 95%	NCV .405	96	75.0	20.6	5000	-40 to +80
14A	-	See RG 217		-	-	-	-	-	-	-	-	-
17	-	See RG 218		-	-	-	-	-	-	-	-	-
55A	-	See RG 223		-	-	-	-	-	-	-	-	-
55B	Jan C - 17	1401	20 SC	PE	66	(2) TC 95%	PE .206	33	53.5	28.5	1900	-55 to +80
58	Jan C - 17	1410	20 BC	PE	66	TC 95%	PVC .195	29	53.5	28.5	1900	-40 to +80
58	Nemal	1412	20 BC	FP	78	BC 95%	PVC .195	29	50.0	26.0	2000	-40 to +80
58 QLP	M17/28-RG 58	1475	.0355TC 19 x .0072	PE	66	TC 95%	NCV .195	26	50.0	30.8	1900	-40 to +85
58A	Jan C - 17	1420	20 TC (19 x 32)	PE	66	TC 95%	PVC .195	29	52.0	28.5	1900	-40 to +80
58A	Nemal	1421	20 TC (19 x 32)	FP	78	TC 95%	PVC .195	23	50.0	26.0	200	-40 to +80
58C	Jan C - 17	1425	20 TC (19 x 32)	PE	66	TC 95%	NCV .195	29	50.0	30.8	1900	-40 to +80
59	Jan C - 17	1500	22 CCS	PE	66	BC 95%	PVC .242	37	73.0	21.0	2300	-40 to +80
59	Nemal	1502	22 CCS	FP	78	BC 70%	PVC .242	30	78.0	16.3	300	-40 to +80
59	Nemal	1504	20 CCS	FP	78	Al. Foil + 40% Al.	PVC .238	23	75.0	16.5	300	-40 to +80
59	Flooded	1506	20 CCS	FP	78	Al. Foil + 40% Al.	PVC .238	22	75.0	16.5	300	-40 to +80
59	Nemal	1508	20 CCS	FP	78	Al. Foil + 60% Al.	PVC .238	23	75.0	16.5	300	-40 to +80
59	Nemal	1510	22 BC (7 x 30)	FP	78	BC 95%	PVC .242	27	75.0	17.3	300	-40 to +80
59	Nemal	1512	20 CCS	FP	78	BC 95%	PVC. 238	26	75.0	16.5	300	-40 to +80
59	Siamese	1530	20 CCS	FP	78	Al Foil + 40% Al.	PVC .238 x .521	46	75.0	16.5	300	-40 to +80

Some of these cables available in new NEC Codes.

COAXIAL CABLE SPECIFICATIONS (Continued)

RG/U Type	Spec	Nemal Part N ^o	Center Conductor	Dielectric	Velocity (%)	Shielding	Jacket O.D. (In.)	Weight Lbs/M	Nominal Impedance (Ohms)	Nominal Capacitance (PF/FT)	Maximum Voltage (Volts/RMS)	Operating Temperature (°C)
59	Messenger	1540	20 CCS	FP	78	Al. Foil + 40% Al.	PVC .238 x .393	35	75.0	16.5	300	-40 to +80
59	Siamese Flooded	1550	20 CCS	FP	78	Al. Foil + 40% Al.	PVC .238 x .521	45	75.0	16.5	300	-40 to +80
59	Wang Siamese	1560	.023 CCS	PE	66	BC 95%	PVC .238 x .478	75	75.0	20.5	2300	-40 to +80
59B	Mil C - 17D	1520	.023 CCS	PE	66	BC 95%	NCV .242	34	75.0	20.6	2300	-40 to +80
59 QLP	M17/29-RG59	1575	.0226 CCS	PE	66	BC 95%	NCV .242	35	75.0	20.6	2300	-40 to +85
62A	Mil C - 17D	1600	22 CCS	ASP	84	BC 95%	NCV .242	38	93.0	13.5	750	-40 to +80
71	Mil C - 17D	1620	22 CCS	ASP	84	(2) TC 95%	PVC .250	46	93.0	13.5	750	-40 to +80
115A	Mil C - 17D	1700	.0840 (7 x .28) SC	PTFE TAPE	69	(2) SC 95%	FG .415	180	50.0	29.4	5000	-55 to +250
122	Mil C - 17D	1460	.030 (7 x .005) TC	PE	66	TC 95%	NCV .160	16	50.0	29.4	1900	-40 to +80
141A	Mil C - 17D	1715	.039 SCCS	PTFE	69	SC 95%	FG .190	36	50.0	29.4	1900	-55 to +250
142B	Mil C - 17D	1705	.039 SCCS	PTFE	69	(2) SC 95%	FEP .195	50	50.0	29.4	1900	-55 to +200
174	Mil C - 17D	1450	.0189 CCS (7 x .0063)	PE	66	TC 95%	PVC .100	8	50.0	30.8	1500	-40 to +80
174 QLP	M17/119-RG 174	1451	.0189 (7 x .0063)	PE	66	TC 95%	NCV .110	9	50.0	30.8	1500	-40 to +85
178B	Mil C - 17D	1710	30 SCCS (7 x 38)	PTFE	69	SC 95%	FEP .072	5	50.0	29.4	1000	-40 to +80
179B	Mil C - 17D	1712	30 SCCS (7 x 38)	PTFE	69	SC 95%	FEP .100	10	75.0	19.5	1200	-55 to +200
180B	Mil C - 17D	1714	30 SCCS (7 x 38)	PTFE	69	SC 95%	FEP .145	19	95.0	15.4	1500	-55 to +200
188A	Mil C - 17D	1720	26 SCCS (7 x .0067)	PTFE	69	SC 95%	PTFE .110	11	50.0	29.4	1200	-55 to +250
195A	Mil C - 17D	1780	.0120 SCCS (7/.004)	PTFE	69	SC 95%	PFA .145	20	95.0	15.4	1500	-65 to +260
196A	Mil C - 17D	1725	30 SCCS (7x 38)	PTFE	69	SC 95%	PTFE .080	6	50.0	29.4	1000	-55 to +250
213	Mil C - 17D	1130	BC (7 x 38)	PE	66	BC 95%	NCV .405	99	50.0	30.8	5000	-40 to +80
214	Mil C - 17D	1140	SC (7 x 38)	PE	66	(2) SC 95%	NCV .425	126	50.0	30.8	5000	-40 to +80
214	Nemal	1150	TC (7 x .0296)	PE	66	(2) TC 95%	NCV .425	126	50.0	30.8	5000	-40 to +80
214 QLP	M17/75-RG 214	1141	.0888 (7 x .0296)	PE	66	(2) SC 95%	NCV .425	126	50.0	30.8	5000	-40 to +85
217	Mil C - 17D	1310	.106 BC	PE	66	(2) BC 95%	NCV .545	201	50.0	30.8	7000	-40 to +80
218	Mil C - 17D	1800	.195 BC	PE	66	BC 95%	NCV .870	460	50.0	30.8	11000	-40 to +80
223	Mil C - 17D	1470	.035 SC	PE	66	(2) SC 95%	NCV .216	34	50.0	30.8	1900	-40 to +80
223 QLP	M17/84-RG 223	1471	.035 SC	PE	66	(2) SC 95%	NCV .212	35	50.0	30.8	1900	-40 to +85
225	Mil C - 17D	1760	.0936 SC (7 x .0312)	PTFE	69	(2) SC 95%	FG .430	180	50.0	29.4	5000	-55 to +250
302	Mil C - 17D	1775	.025 SCCS	PTFE	69	SC 95%	FEP .201	31	75.0	19.5	2300	-55 to +250
303	Mil C - 17D	1765	.039 SCCS	PTFE	69	SC 95%	FEP .170	30	50.0	29.4	1900	-55 to +200
316	Mil C - 17D	1730	26 SCCS (7 x .0067)	PTFE	69	SC 95%	FEP .102	12	50.0	29.4	1200	-55 to +200
316 TC	Nemal	1731	26 SCCS (7 x .0067)	PTFE	69	TC 95%	FEP .102	12	50.0	29.4	1200	-55 to +200
393	Mil C - 17D	1770	.0936 SC (7 x .0312)	PTFE	69	(2) SC 95%	FEP .390	165	50.0	29.4	5000	-55 to +200

Some of these cables available in new NEC Codes.

COAXIAL CABLE SPECIFICATIONS (Continued)

RG/U Type	Spec	Nemal Part N°	Center Conductor	Dielectric	Velocity (%)	Shielding	Jacket O.D. (In.)	Weight Lbs/M	Nominal Impedance (Ohms)	Nominal Capacitance (PF/FT)	Maximum Voltage (Volts/RMS)	Operating Temperature (C°)
400	Mil C - 17D	1707	.385 SC (19 x .0077)	PTFE	69	(2) SC 95%	FEP .195	50	50.0	29.4	1900	-55 to +200
-	Nemal	1180	.108 BC	ASP	89	Al. Foil + 88% TC	PVC .405	97	50.0	24.0	600	-40 to +80
-	Nemal	1185	20 BC	PE	66	(2) TC 96%	PE .304	73	75.0	21.0	2900	-55 to +80
-	Nemal	1190	26 (7/34)	FP	78	Al. Foil + 95% TC	PVC .148	16	75.0	17.3	600	-40 to +80
-	Nemal	1195	30 (7/38)	FP	78	Al. Foil + 90% TC	PVC .100	6	75.0	17.3	300	-40 to +80
-	Nemal	1181F	19/0234 BC	ASP	84	Al. Foil + 88% TC	PVC .405	100	50.0	24.0	2100	-40 to +80

Some of these cables available in new NEC Codes. *TEFLON - Dupont Trademark
TPR Thermoplastic Rubber -60°C to 80°C

COAXIAL CABLE (MATERIALS USED)

Conductors

AL - Aluminium
BC - Bare Copper
SCA - Silver Copper Alloy
SC - Silver Copper
CCS - Copper Covered Steel
TC - Tinned Copper
SCCS - Silver Copper Covered Steel

Dielectrics

	Velocity (%)	Dielectric Constant	Temperature Range
ASP (Air Spaced Polyethylene)	84.0	2.3	-40°C to +80°C
FLP (Fluoropolymer)	78.0	1.5	-75°C to +200°C
*FEP (Fluorinated Ethylene Propylene)	69.0	2.1	-70°C to +200°C
FP (Foamed Polyethylene)	78.0	1.4 - 2.1	-65°C to +80°C
PE (Polyethylene)	65.9	2.3	-65°C to +80°C
*PTFE (Polytetrafluoroethylene)	69.0	2.1	-250°C to +250°C

Jackets

	Temperature Range
*FEP (Fluorinated Ethylene Propylene)	-70°C to +200°C
FG (Fiberglass/ Silicone Braid)	-70°C to +250°C
HYP (Hypalon)	-20°C to +90°C
NCV (Non-contaminating PVC - Type 2A)	-50°C to +105°C
PE (Polyethylene)	-55°C to +85°C
PFA (Perflouralkoxy)	-75°C to +260°C
*PTFE (Polytetrafluoroethylene)	-250°C to +250°C
PUR (Polyurethane)	-100°C to +125°C
PVC (Polyvinylchloride - Type 1)	-50°C to +105°C
TPR (Thermoplastic Rubber)	-60°C to +80°C

* Varies with compound. Please contact Sales Department for information on our Complete Cable Assembly Design and Fabrication facilities.

SATELLITE CONTROL CABLE

- Stranded Copper Conductors
- Tinned Copper Drain Wires



Construction	Nemal Part N°	Conductors	Composition		
			Coaxial Members	Actuators Wires	Control Wires
Round	SCC 5	2 coaxial plus 8 cond. and 2 drain wires	2 - RG6 18 Ga. solid copper 95% copper braid	2 - 12 Ga. 3 - 22 Ga. plus foil shield and drain	3 -18 Ga. plus foil shield and drain
Flat	FSC26	2 coaxial plus 7 and 2 drain wires	2 - RG6 foil and brain	2 - 14 Ga. 3 - 22 Ga. plus foil shield and drain	2 - 18 Ga. plus foil shield and drain

COAXIAL CABLE PERFORMANCE SPECIFICATIONS

RG/U	Nemal Part N°	Nominal Loss Characteristics db Per 100 Ft.					Maximum Power Rating Input Power (Watts)			
		10 MHz	50 MHz	100 MHz	400 MHz	3000 MHz	10 MHz	50 MHz	100 MHz	3000 MHz
6	1000, 1001, 1004, 1007	.90	1.32	1.90	3.80	17.00	*	*	*	*
6	1008, 1010, 1030	.90	1.32	1.90	3.80	17.00	*	*	*	*
6A	1005	1.00	2.00	2.90	5.30	18.00	*	*	*	*
8	1100	.66	1.50	2.20	4.60	19.00	3700	1300	850	95
8	1101, 1102	.55	1.20	1.80	3.70	17.00	*	*	*	*
8X	1110	1.10	2.50	3.70	8.00	32.00	1000	380	240	32
9B	See RG 214	-	-	-	-	-	-	-	-	-
11	1200	.66	1.50	2.20	4.60	19.00	2500	1000	650	70
11	1201, 1202, 1210	.45	1.00	1.50	3.20	N/A	*	*	*	*
11A	1205	.66	1.50	2.20	4.60	19.00	2500	1000	650	70
14A	See RG 217	-	-	-	-	-	-	-	-	-
17	See RG 218	-	-	-	-	-	-	-	-	-
22B	1920	1.20	2.80	4.20	9.50	N/A	1700	650	430	50
55A	See RG 223	-	-	-	-	-	-	-	-	-
55B	1401	1.35	3.00	4.30	8.80	36.00	800	310	205	28
58	1410, 1735	1.40	3.00	4.50	9.50	38.00	730	280	180	25
58	1412	1.10	2.80	3.60	8.90	35.00	*	*	*	*
58A	1420	1.40	3.30	4.90	11.00	41.00	650	255	170	22
58A	1421	1.25	3.00	4.50	10.00	37.00	*	*	*	*
58C	1425, 1415	1.40	3.30	4.90	11.00	41.00	650	255	170	22
RG 59	1500, 1520, 1560, 1575	1.10	2.30	3.30	6.70	25.50	1300	480	310	40
RG 59	1502	1.05	2.20	3.00	6.60	25.00	*	*	*	*
RG 59	1504, 1506, 1508, 1530 1540, 1550, 1740, 1750	.85	1.75	2.45	4.75	20.00	*	*	*	*
RG 59	1510, 1512	.80	1.80	2.60	5.60	23.00	*	*	*	*
62A	1600, 1745	.90	1.90	2.80	5.20	18.40	1300	480	310	40
71	1620	.90	1.90	2.80	5.20	18.40	1300	480	310	40
108A	1910	2.30	5.20	7.50	16.00	54.00	340	145	100	15
115A	1700	.60	1.40	2.10	4.50	14.00	25000	9500	6300	880
122	1460	1.60	4.40	6.90	16.60	57.20	540	205	140	18
141A	1715	1.20	2.70	3.90	8.00	26.00	9000	3500	2400	350
142B	1705	1.20	2.70	3.90	8.00	26.00	9000	3500	2400	350
174	1450, 1451	3.80	6.50	8.90	17.50	64.30	170	72	50	7
178A	1710	5.30	10.00	13.30	27.50	78.00	710	340	240	41
179B	1712	5.00	7.90	9.80	15.80	43.00	1600	780	570	110
180B	1714	3.10	4.20	5.10	10.40	36.00	2500	1100	800	135
188A	1720	3.80	7.90	11.50	20.00	58.00	1250	600	450	80
195A	1780	3.10	4.20	5.10	10.40	36.00	2500	1100	800	135
196A	1725	5.30	10.00	13.30	27.50	78.00	710	340	240	41
213	1130	.66	1.50	2.20	4.80	19.00	3700	1300	850	95
214	1140, 1141, 1150	.66	1.50	2.20	4.60	19.00	3700	1300	850	95
217	1310	.41	1.00	1.40	3.10	13.00	6000	2000	1200	120
218	1800	.23	.56	.81	1.90	9.00	18000	5400	3200	240
223	1470, 1471	1.35	3.00	4.30	8.80	36.00	800	310	205	28
225	1760	.60	1.40	2.10	4.50	14.00	25000	9500	6300	880
303	1765	1.20	2.70	3.90	8.00	26.00	9000	3500	2400	350
316	1730, 1731	3.80	7.90	11.50	20.00	58.00	1250	600	450	80
393	1770	.60	1.40	2.10	4.50	14.00	25000	9500	6300	880
400	1707	1.20	2.70	3.90	8.00	26.00	9000	3500	2400	350
Mini	1190	1.80	4.20	5.50	10.10	N/A	-	-	-	-
Video	1185	.78	2.20	2.50	5.50	N/A	-	-	-	-
8 Type	1180 (Low Loss)	.40	.90	1.40	2.60	9.50	3500	1500	1000	110
8 Flex Type	1181F	.43	.98	1.50	2.80	10.10	3500	1500	1000	110
Triax RG11	1820	.70	1.00	1.50	3.30	N/A	3200	1700	750	N/A
Triax RG58	1830	1.70	3.30	4.90	12.00	N/A	800	420	220	N/A
Triax RG59	1840	1.20	1.80	2.60	5.60	N/A	1300	700	360	N/A
Twinax	1930, 1940	1.70	3.60	5.00	9.60	-	-	-	-	-
Twinax	1795	4.50	-	-	-	-	-	-	-	-
Twinax	1900, 1950	1.10	2.50	4.10	10.20	N/A	-	-	-	-

* Foam Dielectric Cables have approximately 35-50% less power handling capability than similar Polyethylene Dielectric Cables. All ratings are subject to variation with VSWR, ambient temperatures, and altitude.

SEMI-RIGID CABLE

O.D. (In.)	Impedance	Nemal Part N°	Military N°	Weight Lbs/M	Maximum Oper. Voltage (RMS)	Center Conductor	Notes
.086"	50	SR 086	M17/133-RG 405	15.3	1500	.0201 SCCS	Swept 500 MHz-20GHz
.085"	50	SR 085C	Conformable	20.0	1500	.0201 SCCS	Swept 500 MHz-20GHz
.087"	75	SR 085C-75	Conformable	13.0	1500	.0113 SCCS	Swept 500 MHz-20GHz
.141"	50	SR 141	M17/133-RG 402	34.3	1900	.0362 SCCS	Swept 500 MHz-20GHz
.141"	50	SR 141C	Conformable	27.0	1900	.0365 SCCS	Swept 500 MHz-18GHz
.250"	50	SR 250	M17/129-RG 401	105	3000	.0641 SCCS	Swept 500 MHz-18GHz

Operating Temp. Range: -40 to +125°C

Dielectric: PTFE

Capacitance: PF/FT 29.4



TRIAXIAL CABLE



Type	Nemal Part N°	Center Conductor	Dielectric	Velocity (%)	Shielding	Jacket O.D. (In.)	Weight Lbs/M	Nominal Impedance (Ohms)	Nominal Capacitance (PF/FT)	Maximum Voltage (Volts/RMS)	Conn Group
RG 11	1810	14 BC	FP	78	(2) BC 96%	PE .475	150	75.0	17.3	300	70
RG 11	1820	14 BC (19 x 27)	FP	78	(2) BC 96%	TPR .520	150	75.0	17.3	300	74
RG 11	1825	14 BC (19 x 27)	FP	78	(2) BC 96%	PVC .520	146	75.0	17.3	300	74
RG 58	1830	20 TC (7 x 28)	PE	66	(2) TC 96%	PVC .240	40	50.0	30.8	2000	-
RG 59	1840	20 CCS (.032)	FP	78	(2) BC 96%	PE .315	55	75.0	17.3	300	76
RG 59	1835	20 BC (.033)	FP	78	(2) BC 96%	TPR .360	86	75.0	17.3	300	73
	1729	30 SC (7 x 38)	FEP	63	(2) SC 96%	FEP .120	15	50.0	28.9	900	-

TWINAXIAL CABLE



Type	Nemal Part N°	Center Conductor	Dielectric	Velocity (%)	Shielding	Jacket O.D. (In.)	Weight Lbs/M	Nominal Impedance (Ohms)	Nominal Capacitance (PF/FT)	Maximum Voltage (Volts/RMS)	Operating Temp. (°C)
-	1930	(2) 25 TC (7 x 33)	PE	66	100% Foil /DR	PVC .240	26	124.0	12.2	300	-40°C to +60°C
Data Bus MIL-STD 1553	1795 QPL M 17/176 0002	(2) 24 SCA (19 x 36)	TFE	63	SC 93%	PFA .129	18	77.0	24.0	1000	-55°C to +200°C
IBM 7362211	1900	(2) TC/BC (7 x 28) 20	PE	66	TC 95%	PVC .330	72	100.0	15.5	1000	-40°C to +80°C
RG 22B/U	1920	(2) TC/BC (7 x .0152)	PE	66	TC 95%	NCV .420	151	95.0	16.0	1000	-40°C to +80°C
RG 108A/U	1910	(2) TC (7 x .0126)	PE	66	TC 95%	NCV .235	32	78.0	19.6	1000	-40°C to +80°C
-	1940	2 TC (7 x 38)	PE	66	TC 95%	PVC .244	40	78.0	19.7	300	-40°C to +60°C

BROADCAST PRODUCTS AND PATCH PANELS

* AVAILABLE IN A WIDE VARIETY OF CONFIGURATIONS FOR AUDIO, VIDEO, AND DATA APPLICATIONS



Patch Panels * Feed Thru Panels - Isolated Ground

Nemal Part N°	Connector Type	N° of Pos.	N° of Rows	Panel Height	Panel Length
PAN 220B	BNC	20	1	1 3/4"	19"
PAN 40B	BNC	40	2	3 1/2"	19"
PAN 20B 75	75 OHM BNC	20	1	1 3/4"	19"
PAN 40B 75	75 OHM BNC	40	2	3 1/2"	19"

-Also Available in other connector types.

Video Patch Panels - NTSC

Nemal Part N°	Connector Type	N° of Pos.	N° of Rows	Panel Height	Panel Length
PAN 4858V	.090 Pin	48	2	3 1/2"	19"
PAN 4858V-70	.070 Pin	48	2	3 1/2"	19"

-These panels feature dual, self-normalled, terminating video jacks with standard BNC input connectors.

-Serial Digital compatible.

Triaxial Video Connectors

Cable Group	Cable Types	Cable OD (In)	Plug P/N	Plug P/N	Retro Fit Kit Plug Jack	
70	Belden 8233 Nemal 1810	.475	KP7705-1	KP7703-1	KP7708-1	KP7708-4
73	Belden 9267 NEmal 1835	.360	KP7705-2	KP7703-2	KP7708-2	KP7708-5
74	Belden 9232 Nemal 1820	.520	KP7705-3	KP7703-3	KP7708-3	KP7708-6
76	Belden 8232	.315	KP8010-76	KP8020-76	KP010-076	KP020-076

Contact Sales for assembly information.

Video Patch Plugs

NE 8650	.070 Pin	Crimp	RG 59
NE 8660	.090 Pin	Crimp	RG 59

Receptacles and Adapters

Part N°	Description	Mounting Hole
KP7704-6	Male Receptacle	1" D
KP 7704-2	Female Receptacle	1" D
KP7709-6	Male - Male	-
KP7709-1	Female - Female	-
KP7709-3	Female - Female Bulkhead	1.25" D

FIG.1
PLUG



FIG.2
JACK



FIG.3
MALE
RECEPT



FIG.4
FEMALE
RECEPT



FIG.5
F-F ADAPTER
B/H



FIG.6
F-F ADAPTER



Video Patch Cables (.090 PIN)

(Also Available with .070 PIN)

Nemal Part N°	Length
JP9259-3W	36"
JP9259-4W	48"
JP9259-5W	60"

* Specify boot colors:
black, brown, red,
orange, yellow, green,
blue, violet, gray, white.

Video Patch Jacks

Nemal Part N°	Pin Size (Inches)	Termination
NE 8710	.090	No
NE 8720	.070	No
NE 8730	.090	75 Ohm



Nemal Part N°	Pin Size (Inches)	Termination	Normal Through
NE 8700	.070	No	Yes
NE 8712	.090	75 Ohm	Yes
NE 8714	.090	No	Yes



Audio Patch Jacks

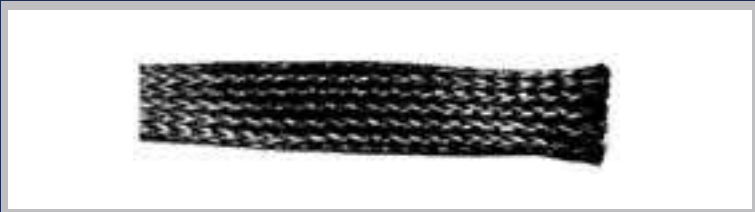
Nemal Part N°	N° of Cond.	Plug Size	Circuit	Type	MIL-P-641
AJ 123	2	.250	No Contacts	Single	/2-8
AJ 238	3	.250	No Contacts	Single	/3-1
AJ 239	3	.250	2 Normal CL	Single	/3-2
AJ 246	3	.207	No Contacts	Single	
AJ 482	3	.250	4 Normal CL	Dual	



* Serial digital compatible
* 100.000 cycle rated

BRAID - TINNED COPPER

Nemal Part N°	Nominal Flat Width (In.)	Stranding	Nominal Circ. Mils	AWG Size
GS 12	1/2	384 x 36	9600	10
GS 38	3/8	288 x 36	7200	12
GS 200	1-1/2	528 x 30	52.800	3
GS 316	3/16	120 x 36	3000	15
GS 332	3/32	64 x 36	1600	18



Also available in Silver Coated Copper and Bare Copper.

CABLE TIES

See Application Tooling Section for Hand Tensioning Tools

FIG.1 - STANDARD

FIG.2 - U/V BLACK

FIG.3 - MOUNTING HOLE

MB 4A
4 - Way
Mounting Base

Nemal Part N°	Military Ref.	Minimum Tensile Strength	Maximum Bundle Dia. (In.)	Length (In.)	Width (In.)	Notes
CAT 4	MS 3367-4	18 Lbs.	3/4	4	.10	
CAT 4 ID	MS 3368-5-E	18 Lbs.	3/4	4	.10	Ident Tag
CAT 5	MS 3367-4	18 Lbs.	1-1/4	5	.10	
CAT 8	MS 3367-1	40 Lbs.	2	8	.15	
CAT 11	MS 3367-7	40 Lbs.	3	11	.18	
CAT 14	MS 3367-2	40 Lbs.	4	14	.15	
CATH 8	-	50 Lbs.	2	8	.15	Mount Hole
CATH 15	-	120 Lbs.	4	15	.30	Mount Hole
CAT 33B	-	175 Lbs.	10	33	.35	UV Res.

- Military Specification:
MIL-S-23190D, Type 1, Class 1
- Standard Material:
Natural nylon (85°C)
For Ultraviolet Resistant black (Head Stabilized) add
“B” Suffix to Part N°
Available with Mounting Hole

AUDIO (ZIP) CABLES

Nemal Part N°	Conductor Size	Conductor I.D. Stranding	Insulation Thick. (In.)	NOM O.D. (In.)
2C10Z	10 Ga.	105/30	.030	.225 x .480
2C12Z	12 Ga.	65/30	.030	.160 x .335
2C14Z	14 Ga.	41/30	.025	.120 x .230
2C16Z	16 Ga.	26/30	.025	.112 x .210
2C18Z	18 Ga.	16/30	.025	.100 x .187
2C20Z	20 Ga.	10/30	.020	.085 x .160
2C22Z	22 Ga.	7/30	.020	.070 x .145
2C24Z	24 Ga.	7/32	.015	.061 x .125

- One Conductor - Tinned Copper
- One Conductor - Bare Copper
- Clear PVC Insulation - 20°C to +60°C
- Suggested Working Voltage - 300V

AUDIO SNAKE CABLE

- Single Pair
- Reduced Diameter
 - 22 ga stranded (7 x 30) TC
 - Overall foil shield & tinned copper drain wire
 - PVC jacket available in 10 colors
 - Color Code: Red, Black
 - Foil bonds to jacket for ease of stripping UL CL2 75°C
 - Nominal OD .135
 - Colors: Black, Red, White, Green, Brown, Blue, Orange, Yellow, Purple, Gray

Braided Version: Part N° 2201B
(Extra flexible jacket - Non UL)

Part N° 2201A

AUDIO SNAKE CABLE (Continued)

Nemal Part N°	Number of Pairs	Nominal OD (In.)
SN0222 UL	2	.195 x .330
SN0322 UL	3	.360
SN0422 UL	4	.390
SN0622 UL	6	.460
SN0922 UL	9	.570
SN1222 UL	12	.620
SN1622 UL	16	.710
SN2022 UL	20	.790
SN2422 UL	24	.875
SN2822 UL	28	.940
SN3222 UL	32	.980

UL-CM Rated

- Conductors: 22 AWG (7/30) Tinned Copper
- PE insulated red & black
- Each pair with 100% foil shield and 22 AWG stranded tinned copper drain wire, easy strip jacket, each pair numbered & color coded, overall foil shield, and drain, black PVC jacket.



Nemal Part N°	Number of Pairs	Nominal OD (In.)
SN0222	2	.195 x .330
SN0322	3	.365
SN0422	4	.410
SN0622	6	.495
SN0922	9	.645
SN1222	12	.695
SN1622	16	.750
SN2022	20	.825
SN2422	24	.925
SN2822	28	.985
SN3222	32	1.100

Extra Flexible Version

- Conductors: 22 AWG (7/30)
- tinned copper, PE insulated red & black.
- Each pair with 100% foil shield and 22 AWG stranded tinned copper drain wire, easy strip flex jacket, each pair numbered or color coded, overall flexible black, TPR jacket.

ROTOR CABLES

Nemal Part N°	Number of Conductors	Nominal OD (In.)
8C 1822	2-18 Ga. + 6-22 Ga.	.260
8C 1620	2-16 Ga. + 6-20 Ga.	.280
8C 1618	2-16 Ga. + 6-18 Ga.	.345

- Tinned Copper Conductors
- PVC Insulation
- Gray PVC jacket



AMATEUR RADIO COMPOSITE CABLES / HAMCABLE™

Nemal Part N°	Coax Type	Rotor Cable
HC 100	RG8 Foam	8C1822
HC 110	RG8 Poly	8C1822
HC 140	RG213	8C1822
HC 150	RG213	8C1620
HC 160	Belden 9913	8C1620

- Coaxial and Rotor Cable under a common jacket
- Extra weather resistant oval construction



ANTENNA WIRE - BARE COPPER

Nemal Part N°	Wire Size AWG	Stranding	Nominal O.D. (In.)
AW 10	10	Solid	.102
AW 10S	10	7 x 18	.115
AW 12S	12	7 x 20	.090
AW 14S	14	7 x 22	.076



MULTICONDUCTOR CABLE

Unshielded 60°C (also available in 105°C)

(UL) CL2 or CL3

Color Code Chart 1

Nemal Part N°	Conductor Size	Number of Conductors	Conductor Stranding	NOM. O.D. (In.)
2C12	12 Ga.	2	19/25	.375
2C14	14 Ga.	2	19/27	.335
2C16	16 Ga.	2	19/29	.265
2C18	18 Ga.	2	16/30	.230
2C20	20 Ga.	2	7/28	.200
3C18	18 Ga.	3	16/30	.245
3C20	20 Ga.	3	7/28	.210
3C22	22 Ga.	3	7/30	.170
4C18	18 Ga.	4	16/30	.265
4C20	20 Ga.	4	7/28	.230
4C22	22 Ga.	4	7/30	.180
5C20	20 Ga.	5	7/28	.256
5C22	22 Ga.	5	7/30	.195
6C14	14 Ga.	6	19/27	.575
6C18	18 Ga.	6	16/30	.305
6C22	22 Ga.	6	7/30	.210
7C18	18 Ga.	7	16/30	.324
7C22	22 Ga.	7	7/30	.210
8C18	18 Ga.	8	16/30	.355
8C22	22 Ga.	8	7/30	.230
10C18	18 Ga.	10	16/30	.395
10C22	22 Ga.	10	7/30	.265
12C18	18 Ga.	12	16/30	.640
12C22	22 Ga.	12	7/30	.270
15C22	22 Ga.	12	7/30	.290
25C22	22 Ga.	25	7/30	.365

** For fluoropolymer jacketed version please refer to Plenum Cable section.

* Black jacket.

- Tinned Copper Conductors
- Gray PVC Jacket
- PVC Insulation



Shielded 75°C (Also See Plenum Cable and Data Transmission Cable)

(UL) CL2 or CL3

Color Code Chart 2

Nemal Part N°	Conductor Size	Number of Conductors	Conductor Stranding	NOM. O.D. (In.)
2C12S	12 Ga.	2	19/25	.410
2C14S	14 Ga.	2	19/27	.350
2C16S	16 Ga.	2	19/29	.310
2C18S	18 Ga.	2	16/30	.225
2C20S	20 Ga.	2	7/28	.205
2201A	22 Ga.	2	7/30	.160
3C18S	18 Ga.	3	16/30	.240
3C20S	20 Ga.	3	7/28	.205
3C22S	22 Ga.	3	7/30	.170
3PR26S	26 Ga.	6	7/34	.215
4C18S	18 Ga.	4	16/30	.270
4C22S	22 Ga.	4	7/30	.195
8C18S	18 Ga.	8	16/30	.450
15C22S	22 Ga.	15	7/30	.310
40C24S	24 Ga.	40	7/32	.390
50C22S	22 Ga.	50	7/30	.534

- Tinned Copper Conductors
- Gray PVC Jacket
- PE Insulation
- 100% Foil Shield plus
- Tinned Copper
- Drain Wire



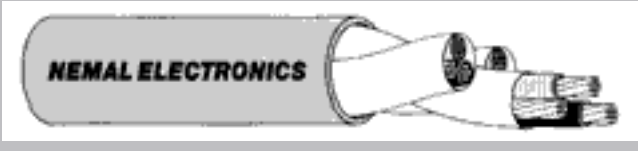
MULTI-CONDUCTOR CABLE (Continued)

Paired - Each Pair Shielded (Also See Plenum Cable and Data Transmission Cable)

(UL) CL2

Nemal Part N°	Conductor Size	Number of Conductors	Conductor Stranding	NOM. O.D. (In.)
2PR22IS	22	(2 Pr.) 4 + 1 Drain	7/30	.206
3PR22IS	22	(3 Pr.) 6 + 3 Drain	7/30	.295
6PR22IS	22	(6 Pr.) 12 + 6 Drain	7/30	.375
12PR22IS	22	(12 Pr.) 24 + 12 Drain	7/30	.465
15PR22IS	22	(15 Pr.) 30 + 15 Drain	7/30	.565
19PR22IS	22	(19 Pr.) 38 + 19 Drain	7/30	.620
27PR22IS	22	(27 Pr.) 54 + 27 Drain	7/30	.680

- Gray PVC Jacket 75°C
- Color Coded Polyethylene Insulation
- Nom DCR: 16 ohms/m Conductor
14 ohms/m Shield



ALARM CABLE

Fire Alarm Cable

(UL) FPL

Nemal Part N°	Conductor Size	Number of Conductors	NOM. O.D. (In.)
2C18FAL	18 Ga.	2	.210
4C18FAL	18 Ga.	4	.253
8C18FAL	18 Ga.	8	.345
2C16FAL	16 Ga.	2	.170
4C16FAL	16 Ga.	4	.220

- Solid Bare Copper Conductors
- PVC Insulation
- 75°C Red PVC Jacket



Burglar Alarm Cable - Unjacketed - 1 Twisted Pair

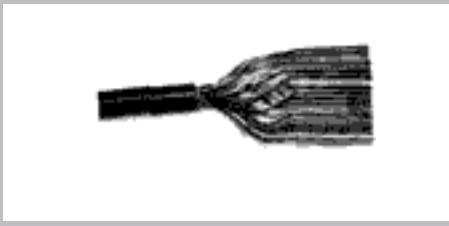
Nemal Part N°	Conductor Size	Conductor Stranding	Listing	Color Availability
1PR22AL1	22 Ga.	7 x 30	UL	Brown, White



ROUND AND FLAT CABLE

Nemal Part N°	Number of Pairs	NOMINAL OD (Round) in.
RF2813	13	.345
RF2817	17	.380
RF2820	20	.400
RF2825	25	.440
RF2830	30	.470
RF2832	32	.480

- Conductor spacing: .050
- Distance Between Flats: 18"
- Length of Flats: 2"
- NOM Capacitance (1 mhz): 12.8 pf/ft.
- Conductor DCR: 65.8 ohms/1000 ft.
- Temperature range: -20° to +105°C
- Note: Terminates to standard IDC



ELECTRICAL CORDAGE

Nemal Part N°	Number of Conductors	Conductor Size (Gauge)	Conductor Stranding	Conductor Rating (Amps.)	Nominal OD (In.)
3C 6SO	3	6	133/27	55	.865
3C 8SO	3	8	133/29	40	.725
3C 10SO	3	10	105/30	30	.660
4C 6SO	4	6	133/27	45	.900
4C 8SO	4	8	133/29	35	.780
4C 10SO	4	10	105/30	25	.710

- Oil Resistant Neoprene Jacket
- UL/CSA Listed
- Type SO - 600 Volt Rating
- Temperature Range: -37°C to +60°C



DIESEL LOCOMOTIVE CABLE

-90° Dry/75° Wet Hypalon Jacket - AAR 589

Nemal Part N°	Number of Conductors	Conductor Size (Gauge)	Conductor Stranding	Conductor Rating (Amps.)	Nominal O.D. (In.)
DL2H	1	2 Ga.	150-strand	1 KV	.465



PLENUM CABLES - UL Listed CL2P or CMP

Multi-Conductor-Unshielded

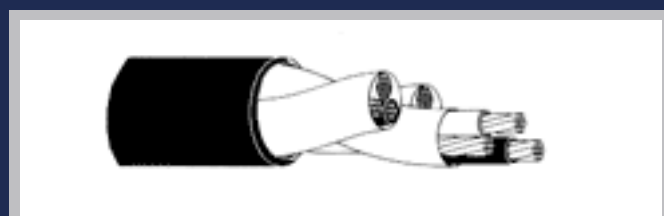
Nemal Part N°	Conductor Size	Number of Conductors	Conductor Stranding	Nominal O.D. (In.)
2C18P7	18	2	16/30	.177
2C22P7	22	2	7/30	.141
4C18P7	18	4	16/30	.199
4C22P7	22	4	7/30	.160
8C22P7	22	8	7/30	.185

- Classified for use in Air Plenum, Non-Conduit
- 150 Volt Rating
- Insulation: Fluoropolymer
- Jacketing: Fluoropolymer



Multi-Conductor-Foil Shielded + Drain

Nemal Part N°	Conductor Size	Number of Conductors	Conductor Stranding	Nominal O.D. (In.)
2C16P7S	16	2	26/30	.185
2C18P7S	18	2	16/30	.179
2C22P7S	22	2	7/30	.142
4C18P7S	18	4	16/30	.206
4C22P7S	22	4	7/30	.162



Paired - Each Pair Foil Shielded

Nemal Part N°	Conductor Size	Number of Conductors	Conductor Stranding	Nominal O.D. (In.)
2PR22ISP7	22	4 + 2 Drain	7/30	.195
3PR22ISP7	22	6 + 3 Drain	7/30	.230

Low Capacitance - Paired - Foil Shielded + Drain 15 PF/FT

Nemal Part N°	Conductor Size	Number of Conductors	Conductor Stranding	Nominal O.D. (In.)
LC224P7	24	4 (2 Pair)	7/32	.148
LC324P7	24	6 (3 Pair)	7/32	.196
LC424P7	24	8 (4 Pair)	7/32	.211
LC624P7	24	12 (6 Pair)	7/32	.244
LC25C24P7	24	25 (12 1/2 Pair)	7/32	.317

Coaxial and Twinaxial

Nemal Part N°	Type	Center Conductor	Dielectric	Shielding	Nominal Impedance (Ohms)	Maximum Capacitance PF/FT	Nominal O.D. (In.)
* 1735	RG 58	20 Ga. Solid BC	.085 FLP	90% TC	50	30.4	.135
* 1740	RG 59	.0226 Solid CCS	.126 FLP	95% BC	75	20.0	.190
1745	RG 62	.0253 Solid CCS	.146 FLP	90% BC	93	14.5	.210
1750	Dual RG 59	.0226 Solid CCS	.126 FLP	95% TC	75	20.0	.206 x .420
1755	RG 6	.040 Solid CCS	.185 FLP	Foil + 60% AL	75	16.7	.260
1757	RG 11	.064 Solid CCS	.285 FLP	Foil + 60% AL	75	16.3	.360
1950	Twinax (IBM)	(2) 7/28 TC/BC	.210 FLP	95% TC	100	16.0	.288

* Also Available With Stranded Center Conductor

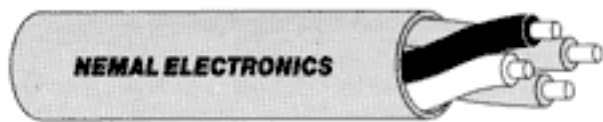
NEC 725, CLASS 2 PLENUM



PLENUM CABLES (Continued)

NEC 760-4 (d) - FPLP

NEC 800 - CMP



Available 12 thru 22 Gauge Shielded or unshielded



Nemal Part N°	Cond. Size	Number of Conductors	Nom. O.D. (In.)
4C22P81	22 Ga.	4	.107
3PR24P81	24 Ga.	6 (3 Pairs)	.137
4PR24P81	24 Ga.	8 (4 Pairs)	.150
25PR24P81	24 Ga.	50 (25 Pairs)	.342

FIRE PROTECTIVE SIGNALING CABLE

- Conductor: Soft bare Copper (Solid)
- ** Insulation: Fluoropolymer Compound
- Shielding: Aluminum Foil with Tinned Copper Drain Wire
- ** Jacketing: Fluoropolymer Compound

COMMUNICATION CIRCUITS - TELEPHONE

Solid Bare Copper Conductors

HEAT SHRINK TUBING



Nemal Part N°	Pre-Shrink Min. I.D. (In.)	Recovered I.D. After Shrink (In.)	Recovered (in.) Nom. Wall Thickness	MIL-I-23053B /5-1
HS364	.046	.023	.016	101
HS116	.063	.031	.017	102
HS332	.093	.046	.020	103
HS18	.125	.062	.020	104
HS316	.187	.093	.020	105
HS14	.250	.125	.025	106
HS14AD	.250	.083	.047	Meltable Adhesive
HS38	.375	.187	.025	107
HS12	.500	.250	.025	108
HS12AD	.500	.167	.055	Meltable Adhesive
HS34	.750	.375	.030	109
HS34AD	.750	.250	.065	Meltable Adhesive
HS01	1.000	.500	.035	110
HS1100	1.100	.370	.080	Meltable Adhesive
HS112	1.500	.750	.040	-
HS1700	1.700	.560	.080	Meltable Adhesive

COLOR CODE:

Black: 0 White: 9 Clear: C
Red: 2 Yellow: 4 Blue: 6

- Irradiated Polyolefin
- 2:1 Shrink Ratio 93:1 Ratio-Adhesive Type)
- Conforms to MIL-I-23053B/5
- UL/CSA Listed E-79378
- Available on 1000-foot spools or in 4-foot lengths
- Custom Print Available
- Operating Temperature Range: -55°C to +135°C

* Also available in Teflon; Semirigid, Extra Flexible Kynar Neoprene; PVC EPR and Tefzel

**USE HEATGUN
MODEL HG1
FOR ALL TUBING SIZE.**

MICROPHONE CABLES

Nemal Part N°	Conductor Material	N° of Conductors and Stranding	Insulation	Braid	Jacket Type and Thickness (In.)	Nominal O.D. (In.)	Nominal Capac.	Suggested Voltage
MC 424P	Bare Copper	(2/4) 24 Ga.* 42 x 40	OLEFIN	TC 96%	TPR .040	.245	39 pf/ft	100
MC 220R	Tinned Copper (2)	20 Ga. 19 x 32	OLEFIN	TC 85%	TPR .040	.262	30 pf/ft	300
MC 224R	Tinned Copper	(2) 24 Ga. 42 x 40	OLEFIN	TC 85%	TPR .035	.220	36 pf/ft	300
MC 222R	Tinned Copper	(2) 22 Ga. 19 x 34	OLEFIN	TC 85%	TPR .035	.245	20 pf/ft	300
MC 320R	Tinned Copper (3)	20 Ga. 19 x 32	OLEFIN	TC 85%	TPR .044	.272	30 pf/ft	300
MC 218R	Tinned Copper	(2) 18 Ga. 16 x 30	OLEFIN	TC 85%	TPR .045	.290	40 pf/ft	300

* Extra flexible - Available in 12 Colors - Use 4 conductors as 2 to reduce crosstalk



- OLEFIN Insulation
- Extra flexible TPR Jacket
- Low Impedance

Color Code: Black, Red, White, Green

HOOK-UP WIRE

High-Voltage GTO - 15 15,000 V, 60°C

Nemal Part N°	Conductor Size	Conductor Stranding	Insulation Thickness (In.)	Nominal O.D. (In.)
GTO-15	14	19 x 27	.065	.265

UL Style 1007 - Stranded

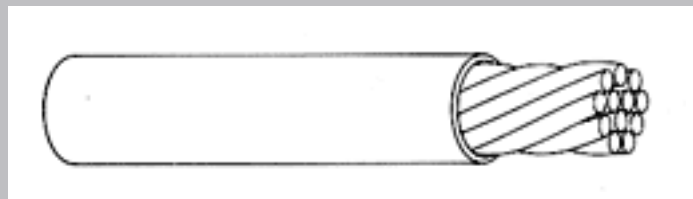
Nemal Part N°	Conductor Size	Conductor Stranding	Insulation Thickness (In.)	Nominal O.D. (In.)
HWO716	16	26 x 30	.016	.092
HWO718	18	16 x 30	.016	.079
HWO720	20	7 x 28	.016	.069
HWO722	22	7 x 30	.016	.062
HWO724	24	7 x 32	.016	.056

COLOR CODE:

1 - Brown	6 - Blue
2 - Red	7 - Violet
3 - Orange	8 - Gray
4 - Yellow	9 - White
5 - Green	10 - Black

- Tinned Copper Conductor
- PVC Insulation
- -10°C to +80°C Rated
- 300 Volt (Please call for other UL style Numbers)

Military / Aircraft



- MIL-W-22759/16
- Tin Plated Copper Conductor
 - Extruded Tefzel® (ETFE)
 - 600 Volt - 150°

Contact Sales Department for specifications.
Available with a wide variety of insulation types.

High Temperature - Teflon® Insulated

Nemal Part N°	Conductor Size	Conductor Stranding	Insulation Thickness (In.)	Nominal O.D. (In.)
HW7816	16	19 x 29	.012	.080
HW7818	18	16 x 30	.010	.069
HW7820*	20	7 x 28 or 19 x 32	.010	.058
HW7822*	22	7 x 30 or 19 x 34	.010	.050
HW7824*	24	7 x 32 or 19 x 36	.010	.044

* Specify 7 or 9 Strand.

TYPE E - MIL-W-16878/4

- 600 Volt
- Rated 200°C
- Stranded Silver Coated Copper Conductor

Irradiated PVC

Nemal Part N°	Conductor Size	Conductor Stranding	Insulation Thickness (In.)	Nominal O.D. (In.)
HW2916	16	19 x 29	.010	.081
HW2918	18	16 x 30	.010	.072
HW2920	20	7 x 28	.010	.060
HW2922	22	7 x 30	.010	.053
HW2924	24	7 x 32	.010	.046

- UL Style 1429
- 150 Volt, 80°C
- Tinned Copper Conductor

TELEPHONE CABLE

Nemal Part N°	Conductor Size	Number of Conductor	Nominal O.D. (In.)	Notes
4C22TL	22 Ga.	4	.135	Station Wire
3PR24TL	24 Ga.	6 (3 Pair)	.175	-
4PR24TL	24 Ga.	8 (4 Pair)	.183	-
6PR24TL	24 Ga.	12 (6 Pair)	.230	-
12PR24TL	24 Ga.	24 (12 Pair)	.285	-
25PR24TL	24 Ga.	50 (25 Pair)	.410	-
2C18TLD	18 Ga.	2	.140 x .275	Outdoor Drop Black
4C28FTL	28 Ga.	4	.095 x .220	Flat Satin - Modular
6C28FTL	28 Ga.	6	.110 x .260	Flat Satin - Modular
8C28FTL	28 Ga.	8	.115 x .350	Flat Satin - Modular
12PR24TLF	24 Ga.	24	.500	Dir. Burial-Flooded - Black
50PR24TL	24 Ga.	100 (50 Pair)	.570	-

Many of these cables available in new NEC Codes.



- Conductors: Solid Bare Copper
- Insulation: Semi-Rigid PVC
- Jacket: Gray/Beige PVC .020

Please contact Sales for information on Drop Cables, Riser Cables, Filled or Armored Cables and other constructions not shown.

BROADCAST CABLES

Precision Video / Serial Digital Applications 75 ohms



Nemal Part N°	Center Conductor	Diel	Vel%	Shielding	Jacket	WT LBS/M	CAP PF/FT	Attenuation DB/100 Ft. - MHZ			
								1	10	100	500
1185	20 BC	PE	66	(2) TC 96%	.304 PE	73	21.0	.25	.78	2.50	6.00
1190	26 (7/34)	FP	78	Foil + 93% TC	.148 PVC	16	17.3	.60	1.80	5.50	11.50
1195	30 (7/38)	FP	78	Foil + 90% TC	.100 PVC	6	17.3	.80	2.20	8.20	17.20
1570	20 BC	FP	82	Foil + 95% TC	.242 PVC	34	16.5	.30	.90	2.50	5.30
1580	18 BC	FP	82	Foil + 95% TC	.275 PVC	45	16.3	.25	.75	2.00	4.50

Precision Audio / Serial Digital Applications

24 AWG - 7/32 Conductor

110 ohm AES/EBU



Nemal Part N°	N° of Pairs	Insulation	Shielding	Drain Wire	NOM Cap PF/FT	Jacket	Wt Lbs / M
LC 124B	1	OLEFIN	Foil + 95% TC Braid	24 (7/32) TC	12.5	PVC .230	26
LC 224B	2	OLEFIN	O/A Foil + 95% TC Braid	24 (7/32) TC	12.5	PVC .350	39

SVHS Cable / Dual Coax (Zip) Construction

P/N 1160 OD:. 110" x .230"

Impedance: 75 ohm Cap 17.3 pf/ft.



Composite Broadcast / ENG / RGB Cables

Nemal Part N°	# Of Pairs Audio	Audio Inner Jackets	Part Number
1-1570	2	Yes	BC152PJ
1-1570	3	No	BC153P
1-1570	3	Yes	BC153PJ
2-1570	3	No	BC253P
2-1570	3	Yes	BC253PJ
2-1570	4	Yes	BC254PJ
2-1570	3	No	BC253PF *Flat 3 leg version
2-1570	5	No	BC255P
1-RG59	1	No	BC591P
1-RG59	3	No	BC593P
1-1190	3	No	BC113P
2-1190	3	Yes	BC213PJ
2-1190	4	Yes	BC214PJ
3-1190	-	-	VC3148 (RGB)
4-1190	-	-	VC4148 (RGB + Sync)
5-1190	-	-	VC5148

- Available in bulk, on reels, or fully terminated

- Choice of video cable: (See Specifications above)

1. 1570 precision (RG59 size)
2. RG59
3. 1190 miniature precision
4. 1195 micro precision

- Choice of audio pairs (22 AWG, Foil shield & drain)

1. with color coded inner jackets
2. without inner jackets

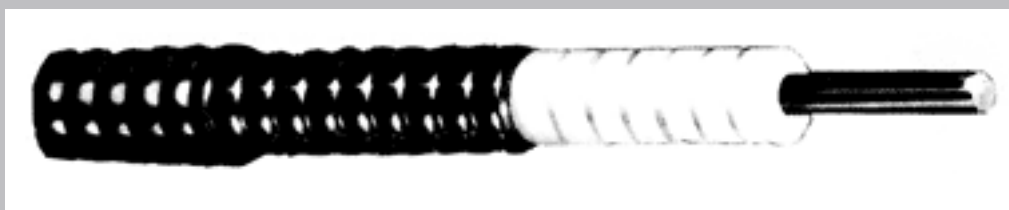
- Flexible blue outer jacket

other colors on request



CORRUGATED COPPER TRANSMISSION LINE

- Velocity of Propagation: 88%
- Jacket: Black Polyethylene
- Dielectric: Foamed Polyethylene
- Outer Conductor: Annular Corrugated Copper
- Impedance: 50 Ohm
- Temperature Range: To -40°C (dependent on power level)

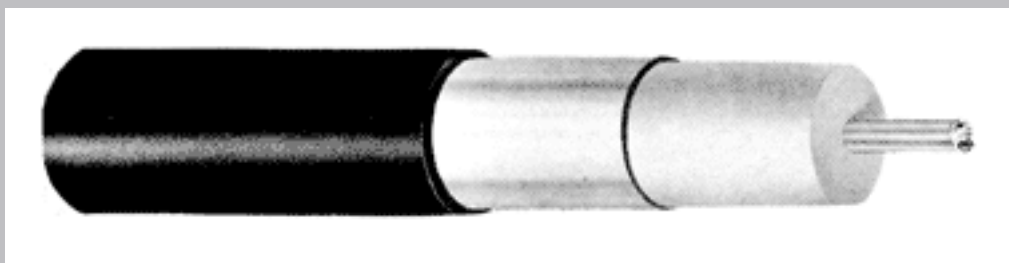


Nemal Part N°	Nominal Size (Inches)	Max. Oper. Freq. (GHz)	Nom. O.D. (Inches)	Min. Bend Radius (In)	Avg. Power (400 MHz)	CAP PF/FT	Attenuation db/100 Ft. - MHz			Center Conductor
							30	400	1000	
+FLC 12	1/2	8.0	.640	5	1.3 KW	23.5	.37	1.40	2.30	Solid Copper
FLC 78	7/8	5.0	1.124	10	2.8 KW	23.7	.20	.78	1.37	Copper Tube
FLC 158	1-5/8	2.7	2.015	20	5.2 KW	23.5	.12	.48	.87	Copper Tube
*FLX 12	1/2	10.2	.530	1.25	.98 KW	25.9	.56	2.18	3.58	Copper Clad
*FLX 14	1/4	20.4	.300	1.0	.33	24.2	.98	3.70	6.00	Copper Clad

*Available in 75 Ohm version *Extra flexible construction

ALUMINUM HARDLINE (50 OHM)

- Velocity of Propagation: 81%
- Jacket: Black Polyethylene
- Cutoff Frequency: FXA12-10GHZ
FXA78-5.6GHZ
- *Center Conductor: Copper Clad Aluminum
- Dielectric: Foamed Polyethylene
- Outer Conductor: Smooth Aluminum Tube
- Temperature Range: To -40°C (dependent on power level)

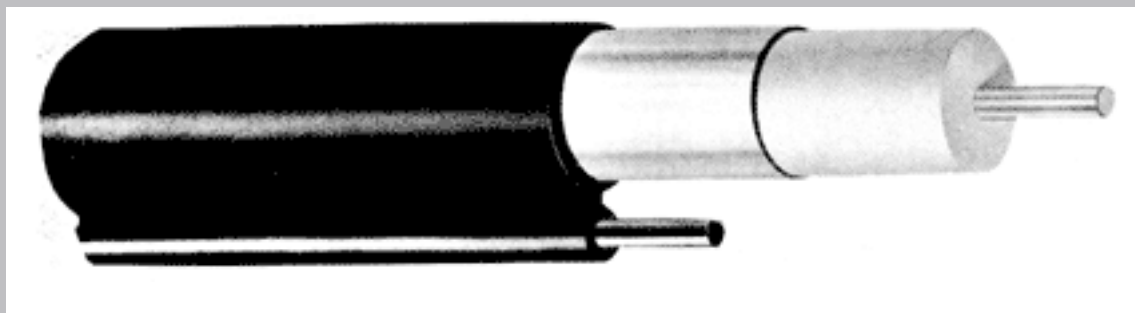


Nemal Part N°	Nominal Size (In.)	Center Cond. O.D.	Nom O.D. (In.)	Average Power (40°C 30 MHz)	Min. Bend Radius (In.)	Attenuation db/100 Ft. - MHz		
						30	400	1000
FXA 12	1/2	.162 in.	.600	3.78 KW	5	.48	2.0	3.7
FXA 78	7/8	.288 in.	1.000	9.03 KW	9	.28	1.3	2.5

* For Solid Copper Center Conductor use RG 331 (1/2") and RG 333 (7/8")

CATV TRUNKLINE (75 OHM)

- Jacket: Black Polyethylene
- * Center Conductor: Copper Clad Aluminum
- Dielectric: Foamed Polyethylene
- Outer Conductor: Smooth Aluminum Tube
- Temperature Range: To -40°C (dependent on power level)



Nemal Part N°	Nominal Size (In.)	Center Cond. O.D.	Nom O.D. (In.)	Maximum Pull Force	Min. Bend radius (In.)	Attenuation db/100 Ft. - 68°F MHZ		
						50	216	600
Flooded Cables (suitable for direct burial)								
TL412F	.412	.088	.480	180 Lbs.	2.5	.62	1.3	2.2
TL500F	.500	.109	.570	240 Lbs.	3.5	.51	1.1	1.9
Aerial Cables (.109 In., Galvanized Steel Messenger)								
TL412M	.412	.088	.480	540 Lbs.	3.0	.62	1.3	2.2
TL500M	.500	.109	.580	540 Lbs.	4.0	.51	1.1	1.9

FLAT CABLE

Nemal Part N°	Number of Conductors	Width (NOM.) (In.)
FC 2825	25	1.25
FC 2836	36	1.80
FC 2840	40	2.00
FC 2850	50	2.50
FC 2860	60	3.00

- .050 pitch
- .035" thickness
- 28 Ga. stranded conductors (7 x 36) tinned copper
- Gray PVC insulation with red polarity stripe
- Voltage Rating: 300 VRMS
- Dielectric Withstanding Voltage: 2000 VRMS
- Propagation Delay: 1.40 ns/ft. (GSG)
- Insulation Resistance: 1000 megohm
- Characteristic Impedance: GS-150 ohm - GSG-105 ohm
- Nominal Capacitance: GS-10 pf/ft. - GSG 15 pf/ft. (1 MHz)

* Also Available in Twisted Pair, Rainbow, Shielded, and "Round and Flat" Constructions.

FLAT CABLE CONNECTORS

IDC / D SUBMINIATURE / CENTRONICS

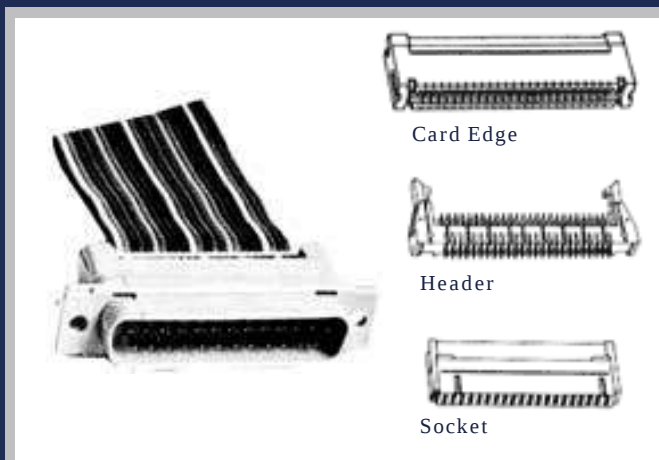
- For .050 pitch cable
- Temperature Range: -55°C to 105°C
- Current Rating: 1A DC
- Voltage Rating: 250 V AC
- Contact Resistance: 10 Megohm Max.

- Insulation Resistance: 1000 Megohm Min. @ 500 V DC
- Dielectric Withstanding Voltage: 500 V AC - 1 Min.
- Insertion Force: 10 Kg Max.
- Withdrawal Force: .75 Kg Min.
- Materials: Housing: PBT (UL94V-O)
- Contacts: Phosphor-Bronze-Gold Plated

Number of Positions	Nemal Part Number		Strain Relief	Dimensions	
	Plug	Socket		A (In.)	B
9	FCD 9P	FCD 9S	FCD 9SR	1.22	.49
15	FCD 15P	FCD 15S	FCD 15SR	1.54	.49
25	FCD 25P	FCD 25S	FCD 25SR	2.08	.49
36	FCD 36P	FCD 36S	FCD 36SR	2.67	.59
37	FCD 37P	FCD 37S	FCD 37SR	2.73	.49

Number of Positions	Card Edge Connectors	Nemal Part Number*	
		Header Connectors	Socket Connectors
20	IDC20CE	IDC20H	IDC20S
26	IDC26CE	IDC26H	IDC26S
34	IDC34CE	IDC34H	IDC34S
50	IDC50CE	IDC50H	IDC50S
60	IDC60CE	IDC60H	IDC60S

* MIL-C-83503 Compatible



DATA TRANSMISSION CABLE

Low Capacitance Cables



Nemal Part Number	Number of Pairs	Jacket Thickness (In.)	NOM O.D. (Inches)
LC2PR24S	2	.035	.247
LC3PR24S	3	.035	.285
LC4PR24S	4	.035	.325
LC6PR24S	6	.035	.350
LC25C24S	12-1/2	.035	.460

Please contact Sales Dept. for Plenum Versions of these cables

- Conductors: Stranded Tinned Copper, 24AWG (7/32)
- Capacitance: 15 pf/ft. Nom.
- Jacket: Gray PVC
- Approval: UL CL2 or CM
- Overall Aluminum Foil Shield
- Drain Wire: Stranded Tinned Copper (7/32)

DATA TRANSMISSION CABLE (Continued)

Lan / Ethernet® Cables

Nemal Part N°	Spec.	Nominal O.D. (In.)	Meets IEEE	Description
1961	IBM Type 1	.320 x .465	802.5	2PR 22 Ga. Ind. Shield O/A Braid
1962	IBM Type 2	.550	802.5	6PR 22 Ga. 2-DGM 4-VGM
1963	Trunk	.405	802.3	Trunk Coax Dual Foil/Braid 10 Base 5
1964	DEC Thin Net	.182	802.3	PRrecision RG 58 10 Base 2

Please contact Sales Department for Plenum Versions of these cables

UTP Level 5 Cable (Unshielded Twisted Pair)

Nemal Part N°	N° of Pairs	UL Style	O.D. (In.)	Nom. Cap
4PR24UTP5	4	CM	.215	15
4PR24PL5	4	CMP (Plenum)	.245	15

- 24 AWG Solid Bare Copper
- Verified to EIA/TIA 568 Category 5
- Use RJ45 Connector Type TP8L5 (10 Base T)



APPLICATION TOOLING

Crimping Tools - RF Coaxial Connectors

Tool Selection Chart

Tooling Group	Die Part N° (Fits CT2000R)	Tool N° (Fixed Die)
05	-	CTF5/CT 6270
06	-	CTF4/CT 6270/CT 3150
08	-	CTF5/CT 6270/CT 3150
09	-	CTF4/CT 6270/CT 3150
11	-	CTF11
13	CTD 213	*CTF 3150/CT 6270
14	CTD 214	CT 6270
23	CTD 923	*CT 6270
26	CTD 926	*CT 6270/*CT 3150
28	CTD 828	*CT 3600/CT 6270
41	CTD 141	*CT 6270
42	CTD 142	CT 3155
56	CTD 056	*CT 6270
57	CTD 057	*CT 6270
58	CTD 058	CT 3500/CT 6270/CT
59	CTD 059	CT 3500/CT 6270
61	CTD 061	-
74	CTD 174	CT 6270/CT 3155
79	CTD 179	*CT 6270
80	CTD 180	CT 6270
85	CTD 085	-

* Crimps Braid Only



APPLICATION TOOLING (Continued)

Crimping Tools - RF Coaxial Connectors (Continued)

Tool Specifications

Nemal Part N°	Fits Group	Hex Sizes		Fig N°	Notes
		Braid	(In.) Contact		
CT 3150	06*, 08*, 09*, 13*	.2621/.3241/.382	-	1	Ratchet - REL
CT 3155	42, 58, 74	.128/.115/.178/.213	.042/.068	1	Ratchet - REL
CT 3500	58, 59	.213/.255	.069/.100	1	Ratchet - REL
CT 3600	59, 06, 28	.255/.324	.069/.100	1	Ratchet - REL
CT 3700	58, 59, 74, 80	.78/.213/.255	.052/.068/.100	8	Ratchet - REL
CT 6270	13, 14, 28, 58,	.128/.178/.384/.429	.068/.098	2	-
CT 6270B	59, 74, 80	.213/.255/.324		3	Bench Mt.
CT 6270R				2	Ratchet - REL
CT 2000R	Uses Interchangeable Dies - See Tool Selection Chart			4	Ratchet - REL

FIG.1
CT 3600

FIG.2
CT 6270

FIG.3
CT 6270B

FIG.4
CT2000R

FIG.8

Crimping Tools

Type F

Nemal Part N°	Fits Groups	Hex Sizes	Fig N°
CTF4	06, 09	.324/.380	5
CTF5	05, 08	.260/.420	6
CTF11	11	.475/.096	5

FIG.5

FIG.6

D Subminiature

Nemal Part N°	Fits Wire Sizes	Fig N°
CT1601	22-24 Ga.	8
CT2320*	20-30 Ga.	7

FIG.8

FIG.7

* Pin holder, locator, Full Ratchet

Stripping Tools

Nemal Part N°	Application	Fig. N°
CT 1205	Rotary .100"- .300" Jacket & Dielectric	9
CT 1208	Rotary .100"- .300" Jacket, Dielectric & Braid	9
CT 1820	Rotary Jacket Stripper .175-1.00	10
CT 1115	Wire Stripper 16-30 Ga.	12
ST 1100	RG11 - Jacket, Braid, Dielectric	9
ST 5960	RG59 & RG6 Jacket, Braid, Dielectric	9
ST 2590*	RG59/8281 Jacket & Dielectric	11
ST 3590*	RG59 Jacket, Dielectric, Braid	11
ST 3580*	RG58/62 Jacket, Dielectric, Braid	11
ST 3820*	Belden 8281 Jacket, Dielectric, Braid	11

* Series stripping tools offer a quick and effective means of stripping coaxial cables. Each tool is factory pre-set and requires no adjustment other than moving the blade to a fresh cutting surface when it becomes dull (approx. 2,000 strips).



FIG. 9



FIG.10



FIG.12



FIG.11

APPLICATION TOOLING (Continued)

Insertion Tool

D Subminiature

Nemal Part N°	Fig N°
CT 250	13

Coring Tools (75 Ohm Trunkline) (Prepares cable for connector installation)

Nemal Part N°	Application	Fig N°
CST500	.500" Coring/Stripping	14

Cable Tie Installation

Pistol Grip - Applies proper tension to cable tie and cuts flush

Nemal Part N°	Tie Sizes	Military Reference	Fig. N°
CT100CAT	CAT4-CAT14	MS90387	15

Crimping Tools - Terminal

Nemal Part N°	Application	Wire Sizes	Fig. N°
CT 1100	Cuts, Strips wire, crimps insulated, non-insulated terminals	10-22 Ga.	16
CT 1110	Crimps insulated terminals ratchet	10-22 Ga.	8

Stripping/Crimping Tools - Telephone

Nemal Part N°	Application	Cable Sizes	Fig. N°
CT 1746	Cuts, strips, crimps flat satin telephone cables to modular plugs	4-6 conductor	17
CT 1780		8 conductor	17
CT 1744		4 conductor Handset only	17



FIG.13

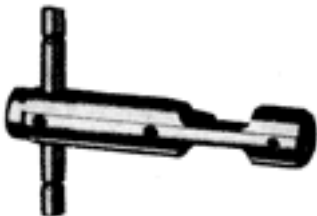


FIG.14

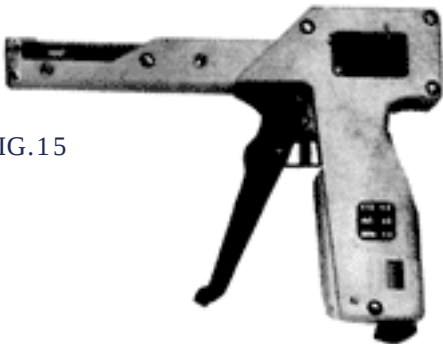


FIG.15

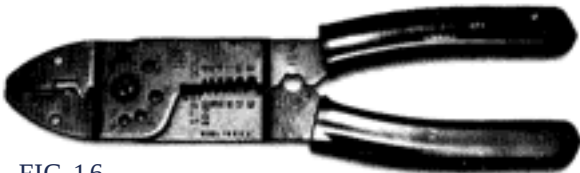


FIG.16



FIG.17

STRAIN RELIEF BOOTS (Fits Over Most Crimp Connectors)

Fits Cable	Nemal Part N°
RG 58	SRB58
RG 59	SRB59

COLORS: Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White, Black

FIG.43-1

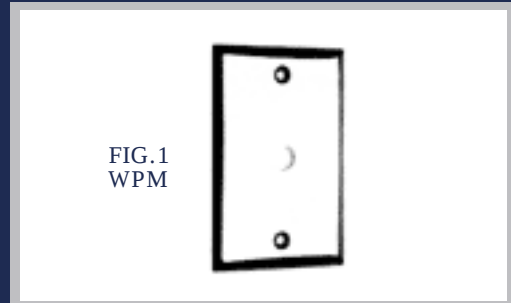


INSTALLATION ACCESSORIES

Wallplates

Nemal Part N°	Number of Holes	Hole Size (In.)	Material
WP1	1	3/8	Plastic
WP2	2	3/8	Plastic
WP232	1	DB25	Stainless
WP232D	2	DB25	Stainless
WPM	1	1/2	Stainless
WPM2	2	1/2	Stainless
WPM34	1	3/4	Stainless
WPM234	2	3/4	Stainless
*WP1K	1	RJ11	Plastic

* Use RJ45K-8 Pos Keystone Jack



Data Baluns

Input	Output	Nemal Part N°
Twisted Pair + RJ11	BNC Male	BAL100M
	BNC Female	BAL110F
	Twinax Male	BAL200T



CAMERA CABLE - MULTICORE

Also see Triaxial Video Cable. For use with Sony, Hitachi, Panasonic, JVC and Ikegami

Cable Type	Nemal Part N°	Connector Type (Pins)	OD (In.)	N° of Coax
CCJ	CC1000	10/14	.375	5
CCQ-AR	CC1400	14	.425	2
CCQ-AM	CC2600	26/14	.425	5
CCQ-BRS	CC2610	26/14	.490	8
CCZ-A/M	CC2620	26	.490	8

Connectors

N° of Pins	Male	Female
10	CC10P	CC10F
14	CC14P	CC14F
26	CC26P	CC26F



Please call for information on Camera Cable Assemblies. RUSH SERVICE, and Repair service Available.

RIGID TRANSMISSION LINE (50 OHM)

- * High Conductivity Hard Drawn Copper.
- * Precision machined Pin Type Teflon Insulators.

Description	1 5/8"	3 1/8"
20 Ft. Section - No Flange	RL 15-20	RL 31-20
Hardware	RL 15HA	RL 31HA
O-Ring	RL 15OR	RL 31OR
90° Mitre-No Flange	RL 159M	RL 319M
90° Mitre	RL 159MF	RL 319MF
Coupling - No Flange	RL 15CO	RL 31CO
Anchor Connector	RL 15AC	RL 31AC
Taper Adaptor 1 5/8" - 7/8"	P/N RL 1578TA	
Taper Adaptor 3 1/8" - 1 5/8"	P/N RL 3115TA	



Part N°	Page	Part N°	Page	Part N°	Page	Part N°	Page	Part N°	Page	Part N°	Page	Part N°	Page	Part N°	Page
1000.....	27	1775.....	28	4PR24P81.....	38	LC124SB.....	40	NE2720.....	21	NE7000.....	3	NE8094.....	8	NE9075.....	24
1001.....	27	1780.....	28	4PR24PL5.....	43	LC122CC.....	17	NE2725.....	21	NE7002.....	3	NE8096.....	8	NE9080.....	23
1004.....	27	1795.....	31	4PR24TL.....	39	LC224P7.....	37	NE2730.....	21	NE7004.....	3	NE8100.....	5	NE9090.....	23
1005.....	27	1800.....	28	4PR24UTP5.....	43	LC224SB.....	40	NE2735.....	21	NE7010.....	3	NE8105.....	5	NE9100.....	22
1007.....	27	1810.....	31	50C22S.....	35	LC25C24P7.....	37	NE2740.....	21	NE702.....	3	NE8107.....	8	NE9100.....	22
1010.....	27	1820.....	31	50PR24TL.....	39	LC25C24S.....	42	NE275.....	21	NE7021.....	3	NE8110.....	5	NE9110.....	23
1020.....	27	1825.....	31	5C20.....	35	LC2PR24S.....	42	NE2750.....	21	NE7022.....	3	NE8112.....	5	NE912.....	22
1030.....	27	1830.....	31	5C22.....	35	LC324P7.....	37	NE2755.....	21	NE7029.....	3	NE8120.....	5	NE9120.....	19
10C18.....	35	1835.....	31	6C14.....	35	LC3PR24S.....	42	NE2770.....	21	NE7030.....	3	NE8125.....	5	NE9130.....	24
10C22.....	35	1840.....	31	6C18.....	35	LC424P7.....	37	NE2775.....	21	NE7040.....	3	NE8130.....	5	NE914.....	22
1100.....	27	1900.....	31	6C22.....	35	LC4PR24S.....	42	NE280.....	21	NE7050.....	3	NE8150.....	5	NE9140.....	19
1102.....	27	1910.....	31	6C28FTL.....	39	LC624P7.....	37	NE2810.....	21	NE7060.....	3	NE8155.....	5	NE9150.....	24
1110.....	27	1920.....	31	6PR22IS.....	36	LC6PR24S.....	42	NE282.....	21	NE7070.....	3	NE8158.....	5	NE916.....	22
1130.....	28	1930.....	31	6PR24TL.....	39	M358.....	11	NE2820.....	21	NE708.....	3	NE8160.....	5	NE9170.....	24
1140.....	28	1940.....	31	7C18.....	35	M359*.....	11	NE2830.....	21	NE7082.....	3	NE8167.....	5	NE918.....	22
1141.....	28	1950.....	37	7C22.....	35	MB4A.....	33	NE290.....	13	NE7084.....	3	NE8170.....	5	NE9190.....	24
1150.....	28	1961.....	43	8C1618.....	34	MC*.....	38	NE295.....	13	NE7086.....	3	NE8180.....	5	NE920.....	22
1160.....	40	1962.....	43	8C1620.....	34	NE1010.....	26	NE300.....	16	NE7090.....	3	NE8190.....	5	NE9200.....	23
1180.....	29	1963.....	43	8C18.....	35	NE1015.....	26	NE3000.....	21	NE7092.....	3	NE820.....	6	NE9210.....	24
1181F.....	29	1964.....	43	8C1822.....	34	NE1020.....	26	NE3110.....	14	NE7094.....	3	NE8210.....	7	NE922.....	24
1185.....	29	19PR22IS.....	36	8C18FAL.....	36	NE1030.....	20	NE3200.....	21	NE7096.....	3	NE822.....	5	NE9230.....	24
1190.....	29	1PR22AL1.....	36	8C18S.....	35	NE1040.....	20	NE3210.....	21	NE7098.....	3	NE8220.....	7	NE924.....	24
1195.....	40	2201A.....	33	8C22.....	35	NE1050.....	26	NE3530.....	19	NE710.....	3	NE8230.....	7	NE9250.....	24
1200.....	27	2201B.....	33	8C22P7.....	37	NE1060.....	20	NE3540.....	19	NE7102.....	4	NE8235.....	7	NE926.....	25
1201.....	27	25-1P*.....	19	8C28FTL.....	39	NE1070.....	20	NE3550.....	19	NE7104.....	4	NE8240.....	8	NE9270.....	24
1202.....	27	25C22.....	35	AJ*.....	32	NE1080.....	26	NE3560.....	19	NE7106.....	4	NE825.....	6	NE928.....	25
1205.....	27	25PR24P81.....	38	ATT*.....	15	NE1100.....	20	NE3580.....	19	NE7108.....	4	NE8262.....	26	NE9290.....	25
1210.....	27	25PR24TL.....	39	ATTB*.....	8	NE1200.....	20	NE3600.....	19	NE7110.....	4	NE8270.....	8	NE930.....	22
12C18.....	35	27PR22IS.....	36	ATTN*.....	8	NE1210.....	20	NE3610.....	19	NE7112.....	4	NE8290.....	8	NE9310.....	25
12C22.....	35	2C102.....	33	ATTS*.....	8	NE1220.....	20	NE3620.....	19	NE7114.....	4	NE830.....	5	NE932.....	24
12PR22IS.....	36	2C12.....	35	AW*.....	34	NE1300.....	20	NE3650.....	19	NE7116.....	4	NE8310.....	7	NE9330.....	25
12PR24TL.....	39	2C12S.....	35	BAL*.....	46	NE1310.....	20	NE400.....	18	NE7118.....	4	NE8320.....	7	NE934.....	22
12PR24TLF.....	39	2C12Z.....	33	BC*.....	40	NE1320.....	20	NE410.....	18	NE7120.....	4	NE8327.....	8	NE9350.....	25
1310.....	28	2C14.....	35	CAT*.....	33	NE1330.....	20	NE420.....	18	NE7135.....	4	NE8329.....	8	NE936.....	22
14-2BR.....	19	2C14S.....	35	CC*.....	46	NE1340.....	20	NE430.....	18	NE7140.....	4	NE8331.....	8	NE9360.....	24
14-2P.....	19	2C14Z.....	33	CST500.....	45	NE1350.....	20	NE440.....	18	NE7193.....	4	NE8333.....	8	NE9361.....	24
14-3P.....	19	2C16.....	35	CT100CAT.....	45	NE1400.....	20	NE500.....	10	NE7195.....	4	NE8340.....	7	NE9370.....	24
1401.....	27	2C16FAL.....	36	CT1100.....	45	NE1410.....	20	NE5010.....	10	NE720.....	3	NE8350.....	7	NE938.....	24
1410.....	27	2C16P7S.....	37	CT1110.....	45	NE2000.....	12	NE5020.....	10	NE723.....	4	NE840.....	6	NE9380.....	24
1412.....	27	2C16S.....	35	CT1115.....	44	NE2010.....	12	NE5030.....	10	NE730.....	3	NE842.....	6	NE940.....	22
1420.....	27	2C16Z.....	33	CT1205.....	44	NE2020.....	12	NE5040.....	10	NE7310.....	4	NE845.....	5	NE9410.....	24
1421.....	27	2C18.....	35	CT1208.....	44	NE2030.....	12	NE5050.....	10	NE7320.....	4	NE850.....	5	NE9415.....	24
1425.....	27	2C18FAL.....	36	CT1601.....	44	NE2040.....	12	NE5060.....	10	NE7330.....	4	NE860.....	6	NE9420.....	24
1450.....	28	2C18P7.....	37	CT1744.....	45	NE205.....	12	NE5070.....	10	NE7410.....	5	NE8650.....	32	NE9425.....	24
1451.....	28	2C18P7S.....	37	CT1746.....	45	NE2050.....	12	NE530.....	10	NE7420.....	5	NE8660.....	32	NE9430.....	23
1460.....	28	2C18S.....	35	CT1780.....	45	NE2060.....	12	NE5310.....	11	NE750.....	4	NE870.....	6	NE9440.....	24
1470.....	28	2C18TLD.....	39	CT1820.....	44	NE2065.....	12	NE540.....	11	NE755.....	3	NE8700.....	32	NE9450.....	24
1471.....	28	2C18Z.....	33	CT2000R.....	44	NE2070.....	12	NE600.....	9	NE7600.....	19	NE8702.....	26	NE9460.....	24
1475.....	27	2C20.....	35	CT2320.....	44	NE2071.....	12	NE6010.....	9	NE7610.....	19	NE8704.....	26	NE9470.....	24
1500.....	27	2C20S.....	35	CT250.....	45	NE2075.....	12	NE6020.....	9	NE7620.....	19	NE8706.....	26	NE948.....	23
1502.....	27	2C20Z.....	33	CT3150.....	44	NE210.....	12	NE6021.....	9	NE7630.....	19	NE8708.....	26	NE9480.....	24
1504.....	27	2C22P7.....	37	CT3155.....	44	NE2102.....	11	NE6025.....	9	NE7640.....	19	NE8710.....	32	NE9485.....	24
1506.....	27	2C22P7S.....	37	CT3500.....	44	NE2104.....	11	NE6030.....	9	NE790.....	3	NE8712.....	32	NE9490.....	22
1508.....	27	2C22Z.....	33	CT3600.....	44	NE211.....	12	NE6040.....	9	NE800.....	5	NE8714.....	32	NE9495.....	24
1510.....	27	2C24Z.....	33	CT3700.....	44	NE212.....	12	NE6050.....	9	NE8002.....	6	NE8720.....	32	NE950.....	23
1512.....	27	2PR22IS.....	36	CT6270*.....	44	NE2120.....	11	NE6060.....	9	NE8005.....	6	NE8730.....	32	NE952.....	22
1520.....	28	2PR22ISP7.....	37	CTF*.....	44	NE2130.....	11	NE6061.....	9	NE8010.....	8	NE875.....	6	NE954.....	25
1530.....	27	35-1P*.....	19	CW123A.....	8	NE2135.....	11	NE6090.....	9	NE8012.....	6	NE876.....	5	NE956.....	25
1540.....	28	3C10SO.....	36	CW282.....	8	NE2140.....	11	NE6091.....	9	NE8014.....	6	NE877.....	26	NE958.....	25
1550.....	28	3C18.....	35	DB*.....	18	NE215.....	12	NE610.....	9	NE8016.....	6	NE878.....	26	NE960.....	22
1560.....	28	3C18S.....	35	DBC*.....	18	NE2150.....	11	NE6110.....	9	NE8018.....	6	NE879.....	26	NE962.....	24
1570.....	40	3C20.....	35	DL2H.....	37	NE2160.....	11	NE6119.....	9	NE8020.....	6	NE880.....	6	NE964.....	23
1575.....	28	3C20S.....	35	F11*.....	15	NE2165.....	11	NE6120.....	9	NE8022.....	6	NE882.....	26	NE970.....	23
1580.....	40	3C22.....	35	F56*.....	15	NE2170.....	11	NE6130.....	9	NE8023.....	6	NE884.....	26	NE9700.....	25
15C22.....	35	3C22S.....	35	F59*.....	15	NE2184.....	21	NE6140.....	9	NE8024.....	6	NE885.....	8	NE9710.....	25
15C22S.....	35	3C6SO.....	36	F61*.....	15	NE220.....	12	NE6144.....	9	NE8028.....	6	NE886.....	26	NE972.....	23
15PR22IS.....	36	3C8SO.....	36	F71.....	15	NE2220.....	12	NE6150.....	9	NE8030.....	6	NE887.....	8	NE9720.....	25
1600.....	28	3PR22IS.....	36	F81.....	15	NE2230.....	12	NE6162.....	9	NE8032.....	6	NE888.....	8	NE9730.....	25
1620.....	28	3PR22ISP7.....	37	FC*.....	42	NE2240.....	12	NE6165.....	9	NE8034.....	6	NE889.....	26	NE974.....	14
1700.....	28	3PR24P81.....	38	FCD*.....	42	NE225.....	12	NE618.....	9	NE8036.....	6	NE890.....	26	NE9740.....	25
1705.....	28	3PR24TL.....	39	FK37*.....	19	NE2260.....	12	NE620.....	9	NE8037.....	6	NE8900.....	26	NE976.....	25
1707.....	29	3PR26S.....	35	FLC*.....	41	NE2270.....	12	NE6210.....	9	NE8038.....	6	NE8910.....	26	NE978.....	22
1710.....	28	40C24S.....	35	FLX*.....	41	NE2280.....	12	NE6220.....	9	NE804.....	6	NE892.....	26	NE980.....	14
1712.....	28	4C110SO.....	36	FNW.....	15	NE2283.....	21	NE6230.....	9	NE8042.....	6	NE8930.....	26	NE982.....	14
1714.....	28	4C16FAL.....	36	FO*.....	26	NE2285.....	21	NE6235.....	9	NE8044.....	8	NE894.....	26	NE984.....	22
1715.....	28	4C18.....	35	FSC26.....	29	NE230.....	11	NE6240.....	9	NE8046.....	6	NE8940.....	26	NE986.....	24
1720.....	28	4C18FAL.....	36	FTL*.....	17	NE2310.....	13	NE6300.....	10	NE8048.....	6	NE8950.....	26	NF*.....	17
1725.....	28	4C18P7.....	37	FXA*.....	41	NE2320.....	13	NE6310.....	10	NE8054.....	8	NE896.....	26	NM*.....	17
1729.....	31	4C18P7S.....	37	GS*.....	33	NE2330.....	13	NE6320.....	10	NE8056.....	6	NE8960.....	26	PAN*.....	32
1730.....	28	4C18S.....	35	GTO-15.....	39	NE2340.....	13	NE6330.....	10	NE8058.....	6	NE897.....	26	PJ*.....	16
1731.....	28	4C20.....	35	HC*.....	34	NE235.....	11	NE6340.....	10	NE806.....	6	NE898.....	26	PL258.....	11
1735.....	37	4C22.....	35	HG-1.....	38	NE2380.....	13	NE640.....	10	NE8062.....	26	NE899.....	7	PL258T.....	11
1740.....	37	4C22P7.....	37	HS*.....	38	NE2397.....	13	NE6410.....	10	NE8066.....	8	NE9000.....	22	PL259.....	10
1745.....	37	4C22P7S.....	37	HW*.....	39	NE240.....	11	NE6420.....	10	NE8070.....	6	NE9005.....	23	PL259T.....	10
1750.....	37	4C22P81.....	38	IDC*.....	42	NE245.....	11	NE645.....	9	NE8080.....	6	NE9020.....	22	PL259TS.....	10
1755.....	37	4C22S.....	35	JB*.....	13	NE2477.....	13	NE650.....	9	NE8084.....	8	NE9030.....			