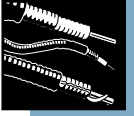




*HELIAX<sup>®</sup>*  
*Coaxial Cables*



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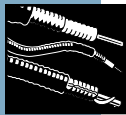
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# Coaxial Cable Selection Guide



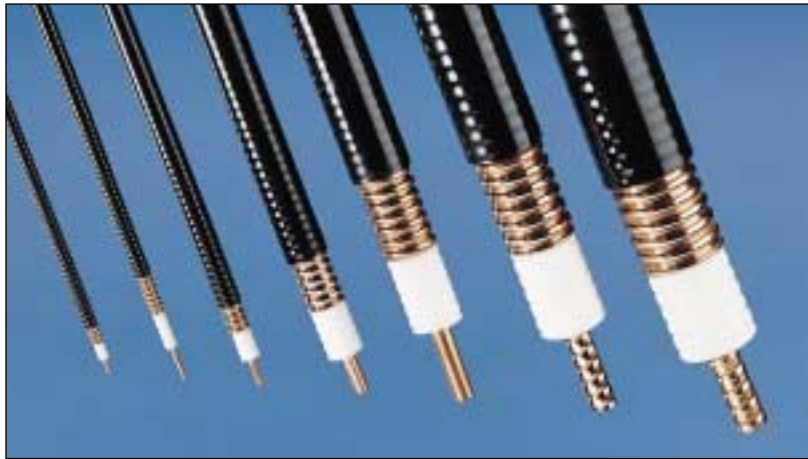
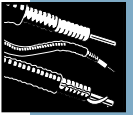
HELIAX® Coaxial Cables

## HELIAX® Coaxial Cable Selection Guide - 50-ohm, Foam Dielectric

Nominal Size Catalog Pages	Superflexible, FSJ Series			Extraflexible, EFX Series	Foam Dielectric, VXL Series
	1/4" 474	3/8" 480	1/2" 485	3/8" 489	7/8" 503
<b>Standard Cables</b>					
Standard Black Jacket	FSJ1-50A	FSJ2-50	FSJ4-50B	EFX2-50	VXL5-50
<b>Fire Retardant Cables</b>					
CATVX, VW-1, IEC 332-1	FSJ1RN-50B	FSJ2RN-50	FSJ4RN-50B	EFX2RN-50	VXL5RN-50
CATV, UL1581, IEC 332-3, IEEE 383	FSJ1RN-50B	FSJ2RN-50	FSJ4RN-50B	EFX2RN-50	VXL5RN-50
CATVR, UL1666 (Riser)	FSJ1RN-50B	FSJ2RN-50	FSJ4RN-50B	EFX2RN-50	VXL5RN-50
<b>Low VSWR Cables, Specially Tested</b>					
Standard Black Jacket	FSJ1P-50A-(**)	FSJ2P-50-(**)	FSJ4P-50B-(**)	EFX2P-50-(**)	VXL5P-50-(**)
<b>Special Application Cables</b>					
Phase Stabilized; Phase Measured	p. 590	p. 590	p. 590	-	-
<b>Characteristics</b>					
Maximum Operating Frequency, MHz	20400	13400	10200	13500	4900
Peak Power Rating, kW	6.4	13.2	15.6	15.6	90
Relative Propagation Velocity, %	84	83	81	85	88
Minimum Bend Radius, in (mm)	1 (25)	1 (25)	1.25 (32)	1.75 (45)	5 (125)
<b>Attenuation, dB/100 ft (dB/100 m) Standard conditions: VSWR 1.0; ambient temperature 20° C (68° F).</b>					
30 MHz	0.973 (3.19)	0.649 (2.13)	0.557 (1.83)	0.584 (1.92)	0.214 (0.702)
100 MHz	1.79 (5.89)	1.20 (3.94)	1.04 (3.41)	1.08 (3.56)	0.397 (1.3)
450 MHz	3.91 (12.8)	2.64 (8.66)	2.31 (7.59)	2.39 (7.83)	0.878 (2.88)
1000 MHz	5.96 (19.6)	4.06 (13.3)	3.60 (11.8)	3.68 (12.1)	1.36 (4.46)
2000 MHz	8.67 (28.5)	5.97 (19.6)	5.37 (17.6)	5.41 (17.8)	2.01 (6.59)
6000 MHz	16.1 (52.7)	11.3 (37.2)	10.5 (34.4)	10.3 (33.8)	-
10000 MHz	21.7 (71.2)	15.5 (50.8)	14.6 (47.9)	14.1 (46.3)	-
<b>Average Power Rating, kW Standard conditions: VSWR 1.0; ambient temperature 40 °C (104° F); inner conductor temperature 100°C (212°F); no solar loading.</b>					
30 MHz	2.28	3.97	5.76	3.99	12.3
100 MHz	1.23	2.14	3.09	2.15	6.62
450 MHz	0.567	0.975	1.38	0.978	2.99
1000 MHz	0.372	0.634	0.889	0.635	1.93
2000 MHz	0.256	0.431	0.598	0.431	1.31
6000 MHz	0.138	0.228	0.307	0.227	-
10000 MHz	0.102	0.166	0.220	0.165	-

\*\* Insert suffix number from specific cable Catalog page. † See specific Catalog page.

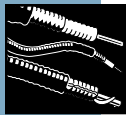
# Coaxial Cable Selection Guide



HELIX® Coaxial Cables

## HELIX® Coaxial Cable Selection Guide - 50-ohm, Foam Dielectric

Foam Dielectric, LDF Series							
1/4" 491	3/8" 493	1/2" 496	5/8" 500	7/8" 506	1-1/4" 513	1-5/8" 520	2-1/4" 524
<b>Standard Cables</b>							
LDF1-50	LDF2-50	LDF4-50A	LDF4.5-50	LDF5-50A	LDF6-50	LDF7-50A	LDF12-50
<b>Fire Retardant Cables</b>							
LDF1RN-50	LDF2RN-50	LDF4RN-50A	LDF4.5RN-50	LDF5RN-50A	LDF6RN-50	LDF7RN-50A	LDF12RN-50
LDF1RN-50	LDF2RN-50	LDF4RN-50A	LDF4.5RN-50	LDF5RN-50A	LDF6RN-50	LDF7RN-50A	LDF12RN-50
LDF1RN-50	LDF2RN-50	LDF4RN-50A	LDF4.5RN-50	LDF5RN-50A	LDF6RN-50	LDF7RN-50A	LDF12RN-50
<b>Low VSWR Cables, Specially Tested</b>							
LDF1P-50-(**)	LDF2P-50-(**)	LDF4P-50A-(**)	LDF4.5P-50-(**)	LDF5P-50A-(**)	LDF6P-50-(**)	LDF7P-50A-(**)	LDF12P-50-(**)
<b>Special Application Cables</b>							
p. 590	p. 590	p. 590	-	p. 590	-	-	-
<b>Characteristics</b>							
15800	13500	8800	6100	5000	3300	2500	2200
12.1	15.6	40	62	91	205	315	425
86	88	88	89	89	89	88	88
3 (76)	3.75 (95)	5 (125)	8 (200)	10 (250)	15 (380)	20 (510)	24 (610)
<b>Attenuation, dB/100 ft (dB/100 m) Standard conditions: VSWR 1.0; ambient temperature 20°C (68°F).</b>							
0.667 (2.19)	0.563 (1.85)	0.357 (1.17)	0.254 (0.834)	0.195 (0.641)	0.135 (0.444)	0.109 (0.356)	0.091 (0.299)
1.23 (4.05)	1.04 (3.42)	0.661 (2.17)	0.473 (1.55)	0.364 (1.19)	0.254 (0.832)	0.205 (0.671)	0.173 (0.566)
2.71 (8.88)	2.29 (7.51)	1.45 (4.75)	1.05 (3.46)	0.808 (2.65)	0.571 (1.87)	0.467 (1.53)	0.400 (1.31)
4.16 (13.6)	3.52 (11.6)	2.22 (7.28)	1.64 (5.38)	1.25 (4.12)	0.897 (2.94)	0.742 (2.43)	0.644 (2.11)
6.10 (20)	5.17 (17)	3.25 (10.7)	2.44 (8.02)	1.86 (6.11)	1.35 (4.43)	1.13 (3.71)	0.994 (3.26)
11.5 (37.7)	9.79 (32.1)	6.11 (20.1)	4.76 (15.6)	-	-	-	-
15.7 (51.5)	13.4 (43.9)	-	-	-	-	-	-
<b>Average Power Rating, kW Standard conditions: VSWR 1.0; ambient temperature 40°C (104°F); inner conductor temperature 100°C (212°F); no solar loading.</b>							
3.32	4.14	6.46	9.57	14.1	22.0	30.9	39.8
1.79	2.24	3.49	5.14	7.56	11.7	16.4	21.0
0.818	1.02	1.59	2.31	3.41	5.22	7.18	9.06
0.533	0.663	1.04	1.48	2.19	3.32	4.52	5.64
0.363	0.451	0.710	0.996	1.48	2.21	2.96	3.65
0.193	0.239	0.378	0.511	-	-	-	-
0.141	0.175	-	-	-	-	-	-



# Coaxial Cable Selection Guide

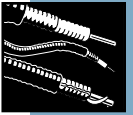


## HELIAX® Coaxial Cable Selection Guide - 50-ohm, Foam and Air Dielectric

Nominal Size Catalog Pages	High Power, High Temp, Superflexible, ETS Series		High Power, High Temp, Superflexible, HST Series
	1/4"	3/8"	1/4"
	477	483	529
<b>Standard Cables</b>			
<b>Fire Retardant Cables</b>			
CATVP, UL910 PLENUM, jacketed	ETS1-50T	ETS2-50T	HST1-50
<b>Special Application Cables</b>			
Phase Stabilized; Phase Measured	p. 591	p. 591	–
<b>Characteristics</b>			
Maximum Operating Frequency, MHz	20000	13400	18000
Peak Power Rating, kW	6.4	13.2	6.4
Relative Propagation Velocity, %	82	83	82
Minimum Bend Radius, in (mm)	1 (25)	1 (25)	1 (25)
<b>Attenuation, dB/100 ft (dB/100 m) Standard conditions: VSWR 1.0; ambient temperature 20° C (68° F).</b>			
30 MHz	0.97 (3.19)	0.653 (2.14)	0.911 (2.99)
100 MHz	1.79 (5.86)	1.22 (3.99)	1.68 (5.51)
450 MHz	3.86 (12.7)	2.71 (8.89)	3.65 (12)
1000 MHz	5.86 (19.2)	4.22 (13.8)	5.57 (18.3)
2000 MHz	8.46 (27.7)	6.28 (20.6)	8.10 (26.6)
6000 MHz	15.4 (50.6)	12.2 (40.1)	15.0 (49.1)
10000 MHz	20.6 (67.5)	17 (55.8)	20.2 (66.2)
<b>Average Power Rating, kW Standard conditions: VSWR 1.0; ambient temperature 40° C (104° F); inner conductor temperature (as noted); no solar loading.</b>			
Inner Conductor Temperature, C° (F°)	200 (392)	200 (392)	250 (482)
30 MHz	5.48	9.89	3.60
100 MHz	2.98	5.31	1.95
450 MHz	1.38	2.38	0.897
1000 MHz	0.909	1.53	0.588
2000 MHz	0.629	1.03	0.405
6000 MHz	0.345	0.529	0.219
10000 MHz	0.259	0.381	0.163

\*\* Insert suffix number from specific cable Catalog page. † See specific Catalog page.

# Coaxial Cable Selection Guide



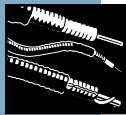
HELIAX® Coaxial Cables

## HELIAX® Coaxial Cable Selection Guide - 50-ohm, Foam and Air Dielectric

High Power, High Temp., Superflexible, HST Series		Plenum, Superflexible, HS-RP Series		
3/8"	1/2"	1/4"	3/8"	1/2"
533	549	527	531	546
<b>Standard Cables</b>				
<b>Fire Retardant Cables</b>				
HST2-50	HST4-50	HS1RP-50A	HS2RP-50	HS4RP-50
-	-	-	-	-
<b>Special Application Cables</b>				
-	-	-	-	-
<b>Characteristics</b>				
13400	10200	10000	13400	10200
13.2	15.6	6.4	13.2	15.6
83	81	84	83	81
1 (25)	1.25 (32)	1 (25)	1 (25)	1.25 (32)
<b>Attenuation, dB/100 ft (dB/100 m) Standard conditions: VSWR 1.0; ambient temperature 20°C (68°F).</b>				
0.667 (2.19)	0.586 (1.92)	0.941 (3.09)	0.650 (2.13)	0.512 (1.68)
1.23 (4.05)	1.09 (3.58)	1.73 (5.69)	1.20 (3.94)	0.947 (3.11)
2.70 (8.85)	2.42 (7.93)	3.75 (12.3)	2.61 (8.56)	2.07 (6.78)
4.13 (13.6)	3.74 (12.3)	5.70 (18.7)	3.98 (13.0)	3.16 (10.4)
6.04 (19.8)	5.55 (18.2)	8.24 (27.0)	5.78 (19.0)	4.62 (15.2)
11.3 (37.2)	10.7 (35.1)	15.1 (49.5)	10.7 (35.1)	8.63 (28.3)
15.4 (50.5)	14.8 (48.6)	20.2 (66.2)	14.4 (47.2)	11.7 (38.4)
<b>Average Power Rating, kW Standard conditions: VSWR 1.0; ambient temperature 40°C (104°F); inner conductor temperature (as noted); no solar loading.</b>				
200 (392)	200 (392)	100 (212)	100 (212)	100 (212)
9.98	15.6	1.56	2.69	3.31
5.40	9.29	0.850	1.46	1.79
2.47	4.19	0.393	0.670	0.821
1.61	2.71	0.259	0.439	0.537
1.10	1.83	0.179	0.302	0.368
0.588	0.947	0.098	0.164	0.197
0.433	0.685	0.073	0.121	0.145

\*\* Insert suffix number from specific cable Catalog page. † See specific Catalog page.





## Coaxial Cable Selection Guide



### HELIAX® Coaxial Cable Selection Guide - 50-ohm, Air Dielectric

Nominal Size Catalog Pages	Air Dielectric, HJ Series				
	1/2" 535	5/8" 552	7/8" 555	1-5/8" 560	2-1/4" 563
<b>Standard Cables</b>					
Standard Black Jacket	HJ4-50	HJ4.5-50	HJ5-50	HJ7-50A	HJ12-50
<b>Fire Retardant Cables</b>					
CATVX, VW-1, IEC 332-1	HJ4RN-50	HJ4.5RN-50	HJ5RN-50	HJ7RN-50A	HJ12RN-50
CATV, UL1581, IEC 332-3, IEEE 383	HJ4RN-50	HJ4.5RN-50	HJ5RN-50	HJ7RN-50A	HJ12RN-50
CATVR, UL1666 (Riser)	HJ4RN-50	HJ4.5RN-50	HJ5RN-50	HJ7RN-50A	HJ12RN-50
CATVP, UL910 PLENUM, jacketed	41690-85	–	HJ5RP-50	HJ7RP-50A	–
<b>Low VSWR Cables, Specially Tested</b>					
Standard Black Jacket	HJ4P-50-(**)	HJ4.5P-50-(**)	HJ5P-50-(**)	HJ7P-50A-(**)	HJ12P-50-(**)
	–	–	–	HJ7SP-50A-(**)	–
Fire Retardant (CATVR), 824-894 MHz, 1.20 VSWR max.	–	–	41690-78	41690-79	–
<b>Special Application Cables</b>					
High Power/High Temperature Phase Stabilized; Phase Measured	p. 591	–	p. 591	27591-101 p. 591	–
<b>Characteristics</b>					
Maximum Operating Frequency, MHz	10900	6600	5200	2700	2300
Peak Power Rating, kW	21	40	90	305	425
Relative Propagation Velocity, %	91.4	92	91.6	92.1	93.1
Minimum Bend Radius, in (mm)	5 (125)	7 (180)	10 (250)	20 (510)	22 (560)
<b>Attenuation, dB/100 ft (dB/100 m) Standard conditions: VSWR 1.0; ambient temperature 20° C (68° F).</b>					
30 MHz	0.442 (1.45)	0.264 (0.867)	0.198 (0.651)	0.109 (0.358)	0.0906 (0.297)
100 MHz	0.821 (2.69)	0.488 (1.60)	0.369 (1.21)	0.203 (1.666)	0.169 (0.555)
450 MHz	1.82 (5.96)	1.07 (3.51)	0.823 (2.70)	0.451 (1.48)	0.378 (1.24)
1000 MHz	2.81 (9.23)	1.64 (5.37)	1.28 (4.20)	0.701 (2.30)	0.589 (1.93)
2000 MHz	4.17 (13.7)	2.40 (7.86)	1.91 (6.26)	1.04 (3.42)	0.880 (2.89)
6000 MHz	8.03 (26.3)	4.49 (14.8)	–	–	–
10000 MHz	11.1 (36.4)	–	–	–	–
<b>Average Power Rating, kW Standard conditions: VSWR 1.0; ambient temperature 40° C (104° F); inner conductor temperature (as noted); no solar loading.</b>					
Inner Conductor Temperature, C° (F°)	100 (212)	100 (212)	100 (212)	100 (212)	100 (212)
30 MHz	4.40	8.94	14.0	30.8	43.1
100 MHz	2.37	4.84	7.53	16.5	23.1
450 MHz	1.07	2.20	3.38	7.44	10.3
1000 MHz	0.690	1.43	2.17	4.79	6.63
2000 MHz	0.466	0.986	1.46	3.22	4.44
6000 MHz	0.242	0.525	–	–	–
10000 MHz	0.175	–	–	–	–

\*\* Insert suffix number from specific cable Catalog page. † See specific Catalog page.

# Coaxial Cable Selection Guide



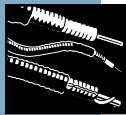
HELIAX® Coaxial Cables

## HELIAX® Coaxial Cable Selection Guide - 50-ohm, Air Dielectric

	Air Dielectric, HJ Series			5" High Power
	3" 566	4" 568	5" 570	5" 572
<b>Standard Cables</b>				
	HJ8-50B	HJ11-50	HJ9-50	HJ9HP-50
<b>Fire Retardant Cables</b>				
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
<b>Low VSWR Cables, Specially Tested</b>				
	42141†	42144†	42142†	-
	209227†	-	-	-
	-	-	-	-
<b>Special Application Cables</b>				
	-	-	-	-
	-	-	-	-
<b>Characteristics</b>				
	1640	1220	960	960
	640	1100	1890	1690
	93.3	92	93.1	96.4
	30 (760)	40 (1015)	50 (1270)	50 (1270)
<b>Attenuation, dB/100 ft (dB/100 m) Standard conditions: VSWR 1.0; ambient temperature 20°C (68°F).</b>				
	0.0732 (0.240)	0.0601 (0.197)	0.0419 (0.138)	0.0381 (0.125)
	0.141 (0.464)	0.114 (0.376)	0.0789 (0.259)	0.0748 (0.245)
	0.340 (1.12)	0.268 (0.879)	0.180 (0.590)	0.186 (0.612)
	0.563 (1.85)	0.434 (1.42)	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
<b>Average Power Rating, kW Standard conditions: VSWR 1.0; ambient temperature 40° C (104° F); inner conductor temperature (as noted); no solar loading.</b>				
	121 (250)	121 (250)	100 (212)	150 (302)
	81.9	123	159	335
	0.141	64.7	84.5	172
	0.340	27.6	37.1	70.8
	10.6	17.1	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

\*\* Insert suffix number from specific cable Catalog page. † See specific Catalog page.





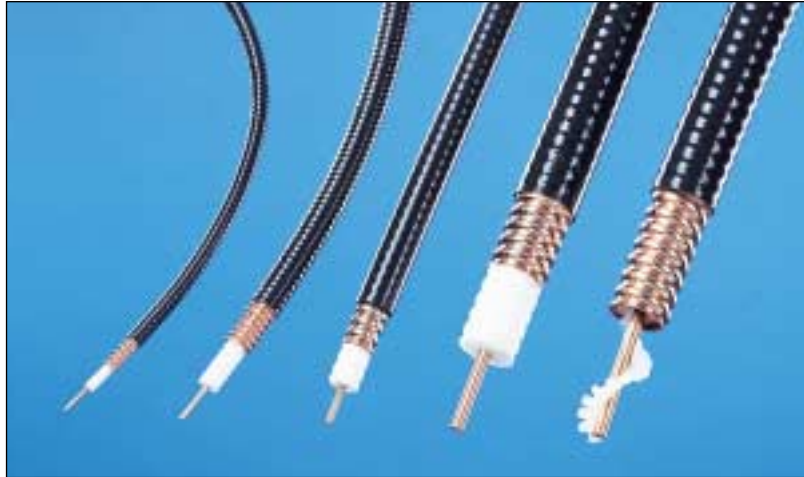
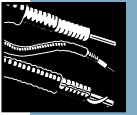
# Coaxial Cable Selection Guide



## HELIAX® Coaxial Cable Selection Guide - 50-ohm, Air Dielectric

	Air Dielectric, High Power HT Series		Air Dielectric, High Power High Temp., HLT Series	Air Dielectric, Plenum HL Series
Nominal Size	1/2"	7/8"	1/2"	1/2"
Catalog Pages	538	558	543	540
<b>Standard Cables</b>				
Standard Black Jacket	-	-	-	-
<b>Fire Retardant Cables</b>				
CATVX, VW-1, IEC 332-1	-	-	-	-
CATV, UL1581, IEC 332-3, IEEE 383	-	-	-	-
CATVR, UL1666 (Riser)	-	-	-	-
CATVP, UL910 PLENUM, jacketed	-	-	HLT4-50T	HL4RP-50
CATVP, UL910 PLENUM, unjacketed	HT4-50	HT5-50	-	-
<b>Special Application Cables</b>				
High Power/High Temperature	HT4-50	HT5-50	HLT4-50T	HL4RP-50
<b>Characteristics</b>				
Maximum Operating Frequency, MHz	10900	5200	4000	6000
Peak Power Rating, kW	21	90	21.4	40.0
Relative Propagation Velocity, %	92	92.5	93	88
Minimum Bend Radius, in (mm)	5 (125)	10 (250)	5 (125)	5(125)
<b>Attenuation, dB/100 ft (dB/100 m) Standard conditions: VSWR 1.0; ambient temperature 20° C (68° F).</b>				
30 MHz	0.468 (1.54)	0.198 (0.651)	0.377 (1.24)	0.389 (1.28)
100 MHz	0.888 (2.91)	0.369 (1.21)	0.718 (2.35)	0.725 (2.38)
450 MHz	2.06 (6.75)	0.823 (2.70)	1.67 (5.48)	1.61 (5.28)
1000 MHz	3.31 (10.9)	1.28 (4.20)	2.7 (8.85)	2.5 (8.19)
2000 MHz	5.10 (16.7)	1.91 (6.26)	4.18 (13.7)	3.71 (12.2)
6000 MHz	10.7 (35.1)	-	-	7.18 (23.6)
10000 MHz	15.5 (50.7)	-	-	-
<b>Average Power Rating, kW Standard conditions: VSWR 1.0; ambient temperature 40° C (104° F); inner conductor temperature 100° C (212° F); no solar loading.</b>				
Inner Conductor Temperature, C° (F°)	200 (392)	200 (392)	200 (392)	100 (212)
30 MHz	11.8	32.7	12.7	6.78
100 MHz	6.21	16.6	6.70	3.64
450 MHz	2.68	6.65	2.88	1.64
1000 MHz	1.67	3.92	1.78	1.06
2000 MHz	1.08	1.51	1.15	0.713
6000 MHz	0.516	-	-	0.368
10000 MHz	0.357	-	-	-

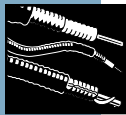
# Coaxial Cable Selection Guide



HELIAX® Coaxial Cables

## HELIAX® Coaxial Cable Selection Guide - 75-ohm, Foam and Air Dielectric

Superflexible, FSJ Series		Foam Dielectric, LDF Series		Air Dielectric, HJ Series
1/4"	1/2"	1/2"	7/8"	7/8"
574	576	578	580	582
<b>Standard Cables</b>				
FSJ1-75	FSJ4-75A	LDF4-75A	LDF5-75	HJ5-75
<b>Fire Retardant Cables</b>				
FSJ1RN-75A	FSJ4RN-75A	LDF4RN-75A	–	HJ5RN-75
FSJ1RN-75A	FSJ4RN-75A	LDF4RN-75A	–	HJ5RN-75
FSJ1RN-75A	FSJ4RN-75A	LDF4RN-75A	–	HJ5RN-75
–	–	–	–	–
–	–	–	–	–
<b>Special Application Cables</b>				
–	–	–	–	–
<b>Characteristics</b>				
22000	11500	10000	5300	5600
6.7	10.0	26	70	60
78	81	88	89	90
1 (25)	1.25 (32)	5 (125)	10 (250)	10 (250)
<b>Attenuation, dB/100 ft (dB/100 m) Standard conditions: VSWR 1.0; ambient temperature 20° C (68° F).</b>				
0.999 (3.28)	0.514 (1.68)	0.333 (1.09)	0.195 (0.639)	0.209 (0.686)
1.86 (6.12)	0.958 (3.14)	0.618 (2.03)	0.366 (1.2)	0.388 (1.27)
4.17 (13.7)	2.14 (7.02)	1.37 (4.5)	0.834 (2.74)	0.850 (2.79)
6.51 (21.4)	3.34 (11)	2.12 (6.97)	1.32 (4.34)	1.29 (4.23)
9.73 (31.9)	4.98 (16.4)	3.15 (10.3)	2.01 (6.6)	1.92 (6.30)
19.1 (62.7)	9.78 (32.1)	6.09 (20)	–	–
26.7 (87.6)	13.6 (44.7)	8.42 (27.6)	–	–
<b>Average Power Rating, kW Standard conditions: VSWR 1.0; ambient temperature 40° C (104° F); inner conductor temperature 100° C (212° F); no solar loading.</b>				
100 (212)	100 (212)	100 (212)	100 (212)	100 (212)
1.06	3.30	3.10	5.65	9.31
0.570	1.77	1.67	3.00	5.01
0.255	0.794	0.753	1.32	2.25
0.163	0.509	0.486	0.832	1.49
0.109	0.341	0.328	0.548	0.977
0.056	0.174	0.170	–	–
0.040	0.125	0.123	–	–



## HELIAX® Coaxial Cable

*Accept No Substitute*

HELIAX® Coaxial Cables



### *Service Guarantee*

At Andrew, we're committed to exceeding our customers' highest expectations by offering the best products backed by the most responsive service in the industry. So whatever our customers need, whenever and wherever they need it, we will deliver.

HELIAX® is the Andrew brand name that stands for the most complete, cost-effective, high performance coaxial cable systems in the world.

For more than 40 years, Andrew Corporation has led the industry in meeting the need for semi-flexible RF transmission line. In land mobile, broadcast, cellular, military, terrestrial microwave, HF, earth station, personal communication, and many other applications, HELIAX coaxial cable products, including air and foam-dielectric cable, are the industry standard of excellence. The unique feature that makes HELIAX coaxial cable the best in the world is a solid copper, corrugated outer conductor which gives it strength, durability, flexibility, and complete shielding. These outstanding coaxial cables are complemented by our compatible connectors, hangers, grounding systems and other installation accessories to form a complete RF transmission line system. This broad range of coaxial cable and cable products means that Andrew can provide the right fit for any application you may have, from a single component to a complete, integrated cable system. It also means that all of your transmission line needs can be met by just one vendor — Andrew.

When you purchase HELIAX coaxial cable from Andrew, you're buying more than just cable. You're buying quality and performance that will save you money over the life of your system investment. You receive:

- *Outstanding Electrical Performance*
- *Long Service Life*
- *Simplified System Planning*
- *Lower Installation Cost*
- *ISO 9001 Certified*

*Here's a closer look at the benefits:*

#### ***Outstanding Electrical Performance***

HELIAX coaxial cable, connectors and accessories are designed to provide optimum electrical performance for a wide range of RF applications. You can be certain that HELIAX coaxial cable systems will perform as you expect with no surprises.

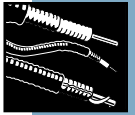
HELIAX connectors are designed exclusively for use with HELIAX coaxial cables to provide excellent electrical performance for the complete transmission line system.

#### **Low Attenuation**

The low attenuation of HELIAX coaxial cable results in highly efficient signal transfer which maximizes overall system performance.

#### **Complete Shielding**

Because HELIAX cable has a solid copper outer conductor, you get continuous RFI/EMI shielding to minimize interference and maximize system security.



### **Low VSWR**

HELIAX feeder cables, LDF4 - LDF7 and VXL series cables, now feature a maximum VSWR of 1.13:1 in the cellular and PCS bands. This specification applies to bulk length cable and includes straight DIN or N-type connectors.

Also available are lower VSWR options, or low VSWR in other frequency bands. Refer to the Low VSWR Specifications tables for each cable type.

### **Excellent Intermodulation Performance**

The solid inner and outer conductors of HELIAX cable virtually eliminate intermodulation generation. Connectors minimize intermodulation by ensuring high contact pressure at the connector to cable interface.

### **High Power Rating**

The low attenuation and excellent heat transfer properties of HELIAX cables combined with temperature stabilized dielectric materials result in safe long term operation at the high average power levels often required for broadcast, military and other transmit applications.

### **Long Service Life**

When it comes to reliability, HELIAX coaxial cables have built-in quality features to protect your investment and provide long term cost-effective performance. Service and maintenance costs are avoided because HELIAX cable systems are designed to last.

All HELIAX coaxial cables are jacketed for direct burial or for corrosive environmental conditions. Standard jacketing material is weather-resistant polyethylene suitable for use in extreme climates. Operational fire retardant CATVX, CATVR and CATVP rated jacketed cables are available to meet safety regulations for indoor installations. The fire retardant cables are UV stabilized and do not require additional UV protection during outdoor storage. See page 631 for information on cable and connector temperature ratings.

### **Strong and Flexible**

HELIAX cable's solid copper, corrugated outer conductor gives it great strength, durability and flexibility. This assures long life as well as ease of installation.

### **Weatherproof and Durable**

HELIAX cable's standard black polyethylene jacketing is weatherproof and ultraviolet stabilized making it suitable for outdoor applications. HELIAX cable is directly buriable and highly resistant to crushing. It is exceptionally corrosion resistant, helping to provide a long term, trouble-free cable system. Many users have been in operation for more than 20 years with the same HELIAX cable.



HELIAX® is the registered trademark under which semi-flexible coaxial cables are sold by Andrew. HELIAX cables, connectors and accessories are proprietary products of Andrew manufactured under patents issued and pending.

### **Reliable**

The availability of HELIAX cable in long, continuous lengths eliminates the need for joints which can affect reliability.

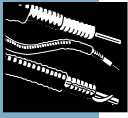
### **Simplified System Planning**

Selecting a HELIAX cable system will make system planning easy and cost-effective. With Andrew, you have the advantage of our outstanding engineering resources and comprehensive product line. Look at the system planning benefits you receive when you purchase HELIAX coaxial cable:

### **One-Stop Shopping**

With Andrew "one-stop" shopping, all of your transmission line needs – quality cable, connectors, accessories and service – are available from one vendor. You avoid the problems of delivery delays, out-of-sequence deliveries, and non-compliant materials which are frequently the result of dealing with multiple vendors. At Andrew, all of our cable components are engineered to work together as a HELIAX cable system.





## HELIAX® Coaxial Cable

*Accept No Substitute*

HELIAX® Coaxial Cables



### **Fast Delivery**

Product availability is critical when you have a weather emergency or last minute design change that could result in downtime and lost revenue. In such situations, we respond quickly to get you on-the-air. Rapid product availability allows Andrew to be a real problem solver for you at installation time. With schedules to meet, you need to avoid delivery delays, contain costs, and get your system operating on time. With HELIAX coaxial cable from Andrew, you can do it.

### **Large Variety of Sizes and Types**

The wide variety of HELIAX cable sizes and types lets you select the best cable for your specific application allowing more cost-effective planning. Optional fire-retardant, non-halogenated jacketing is available to meet safety regulations for indoor installations.

See Cable Selection Guide on pages 442 - 449.

### **Factory Connector Attachment**

For your convenience, HELIAX cables can be ordered cut to length and factory fitted with connectors per your specifications. This service helps you avoid field assembly and testing.

### **Free Software and Product Information**

To help plan your system, Andrew provides a number of helpful software packages. In addition, you can obtain Installation Instruction Bulletins, Special Publications and Product Specifications via Fax-On-Demand and the Andrew web site.

### **Snap-Clean Foam Dielectric**

Snap-Clean foam dielectric sets a new standard for quick, easy connector installation. With a simple twist, the foam dielectric snaps free of the inner conductor, leaving the solid inner conductor ready for connector attachment with no foam or adhesive residue. Additional cleaning and scraping of the cable are not required. This saves time, money and results in superior electrical performance of the cable and connector. Snap-Clean is featured on HELIAX foam cables with a solid inner conductor.

### **Lower Installation Cost**

The HELIAX cable product line helps lower your field installation costs.

### **Long Continuous Lengths**

This simplifies installation and eliminates the cost of splicing. Cable lengths can be conveniently stocked on site and cut to required lengths.

### **Flexibility**

HELIAX cable's corrugated copper outer conductor gives it flexibility which makes shipping, handling and installation easier and more cost-effective than rigid line.

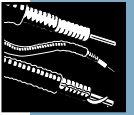
### **Ease of Connector Attachment**

Connectors for HELIAX coaxial cable can be easily attached in the field with standard hand tools. HELIAX connectors provide high resistance to connector pull-off and twist-off as well as excellent electrical contact.

Whatever your transmission line needs may be, HELIAX coaxial cables, connectors and accessories made exclusively by Andrew consistently provide you with outstanding electrical performance, long service life, simplified system planning, and lower installation costs.

### **ISO 9001 Certified**

ISO 9001 is the internationally recognized standard for quality systems. It was designed to provide a thorough, yet flexible model for quality systems design and implementation. Andrew facilities have successfully completed the requirements of ISO 9001, the most stringent portion of the standard. This certification resulted from a consistent quality system that involves everyone in the organization in improving both internal and external quality.



# HELIAX® Coaxial Cable Types

*Foam dielectric (LDF Series)*

*Flexible Feeder (VXL Series)*

*Superflexible foam dielectric (FSJ and ETS Series)*

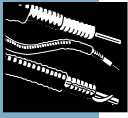
*Extraflexible foam dielectric (EFX Series)*

*Superflexible star dielectric (HS and HST Series)*

*Air dielectric (HL, HT and HJ Series)*

HELIAX® Coaxial Cables





## Superflexible and Extraflexible Cables



### Superflexible and Extraflexible Cables

HELIAX® superflexible and extraflexible cables are designed for ease of installation in tight wiring spaces in shelters, radio rooms, and plenums. These cables are perfect for antenna and equipment room jumpers. Like all HELIAX cables, superflexible cables feature a solid outer conductor for unsurpassed electrical and mechanical performance. A polyethylene foam dielectric offers excellent electrical performance and prevents water migration.

#### Flexibility

Andrew HELIAX superflexible cables are manufactured with deep, helical corrugations in the outer conductor. Extraflexible cables are manufactured with deep, annular corrugations. These exclusive corrugating processes permit Andrew cables and assemblies to be bent on very tight radii, without any degradation in performance. In addition, numerous reverse bends can be made, again without loss in performance.

#### Superior Electrical Performance

HELIAX cables and assemblies offer specifiers and users superior electrical performance in smaller sized cables. HELIAX cables and assemblies provide excellent attenuation and superior power handling and shielding versus comparably sized braided cables.

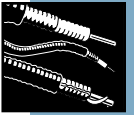
#### Excellent Intermodulation Performance

The solid inner and outer conductors found in all HELIAX cables minimize intermodulation generation. The braided outer conductors and stranded inner conductors that are

common in other cables form numerous contacts in the electrical path, which are sources of intermodulation.

#### Complete Product Range

Andrew now offers a complete range of cables to meet every application and budget requirement. HELIAX superflexible and extraflexible cables are available in a wide range of sizes and constructions for general use, plenum, and flame retardant applications. The HS series cables feature a star-shaped dielectric and superflexible construction. They are for use in plenum applications. The HST superflexible cables are for high power applications. These new cables feature a star-shaped dielectric which offers higher power handling at higher temperatures than any other flexible cable. A wide selection of connectors and factory manufactured assemblies in both standard and custom jumper configurations is available, to complement Andrew cable and make system planning easy and simple.



### New VXL Series of Flexible Feeder Cables

HELIAX® flexible feeder cables are designed for use in difficult areas. They are more flexible than LDF series, while maintaining similar attenuation characteristics. 7/8" VXL5-50 is suitable for use as a one-piece feeder line from radio equipment to antenna, thus eliminating the need for jumper cables.



#### Superior Performance

New VXL series flexible feeder cable uses advanced processing technology to provide a lower cost/higher performance solution that is ideal for wireless applications. System designers and engineers can eliminate the need for jumper cables when VXL5-50, a 7/8" feeder cable, is specified. It is suitable for continuous cable runs from the base station cabinet to the antenna. When used as one-piece feeder line, VXL5-50 requires no jumper cable from feeder to antenna. This eliminates extra connectors, lowering insertion loss, and minimizing installation time. Versatile and flexible, VXL series cable is also suitable for installation in difficult areas such as lift shafts, monopoles, and co-located sites.

#### Lower Site Costs

VXL5, VXL6, and VXL7 cables are lighter weight than standard series cables. The cable's reduced weight and tighter bending radius minimize installation time and lower site costs. Jumper cables are not required with

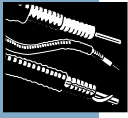
VXL5-50. This means fewer connectors, less weather-proofing, and lower costs. The lighter weight of VXL series cable also reduces shipping costs.

#### Outstanding Electrical Performance

All VXL series cables have a closed-cell, foam polyethylene dielectric that prevents water migration and maintains its characteristics over time. The low-density foam provides low attenuation characteristics similar to LDF series cables. When used as a combined feeder/jumper solution, both system attenuation and system VSWR are optimized.

#### Flexibility

The VXL5 cable exhibits the tight bend radius of a 1/2" jumper. It, therefore, requires no jumpers when used as a main feeder. When the cable is used as a stand-alone jumper, it is the lowest-loss jumper solution in the industry.



## LDF Series Foam Dielectric Cables



### Foam Dielectric Cables

#### *Superior Electrical Performance*

Like the FSJ and EFX cables, LDF cables have a closed-cell, foam-polyethylene dielectric that prevents water migration and maintains its characteristics over time.

LDF cables are designed for low loss. Their lower density foam allows higher velocities and provides lower attenuation than FSJ cables. Attenuation characteristics approach those of air dielectric cables.

#### **Flexibility**

HELIAX foam dielectric cables feature an annularly corrugated outer conductor that provides excellent shielding while offering flexibility.

#### **Complete Product Range**

LDF cables are available in sizes from 1/4" to 2-1/4" to meet application requirements for cellular and personal communications, land mobile radio, earth station antenna jumpers, equipment room and antenna jumpers, CATV, HF communications, VLF, military data links, AM and FM broadcast, terrestrial microwave, and CCTV. Phase stabilized versions are available.

#### **Weatherproof**

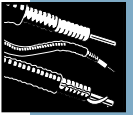
Closed cell dielectric prevents water penetration. Connector O-rings seal out moisture.

#### **Excellent Intermodulation Performance**

Solid inner and outer conductors eliminate IM generated by numerous moving contacts in the current path that are found with stranded inner conductors and braided outer conductors.

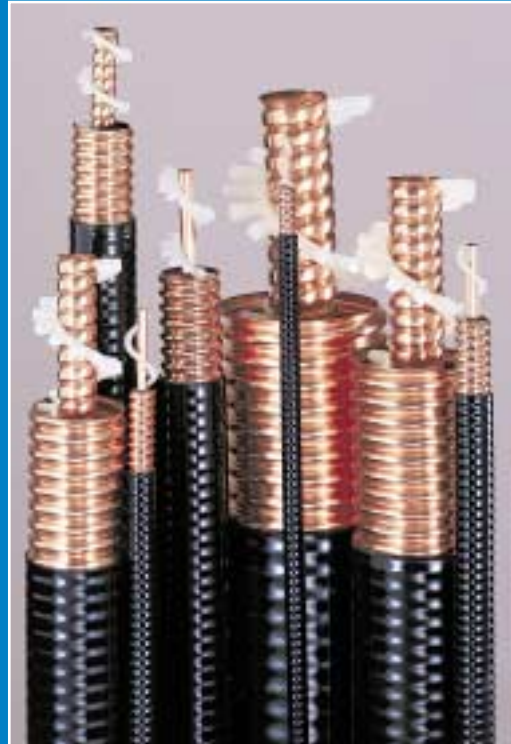
#### **Quick and Easy Connector Attachment**

A range of self flaring connectors are available for easy field attachment requiring no special tools.



## Air Dielectric Cables

HELIX® air dielectric cables from Andrew, available in 1/4" to 5" sizes, are designed to give you the lowest attenuation and highest average power rating. When these cables are equipped with the proper pressurization systems, they may be used in any indoor/outdoor environment. Air cables, if used indoors in a controlled environment, do not require pressurization.



**The HJ air cables** have a polyethylene or polypropylene spacer, and different jacketing materials dependent on fire retardancy requirements. High power HJ series cables use a special fluoropolymer spacer for maximum power handling with excellent attenuation. The cables are ideal for antenna feeder applications such as AM and FM radio, UHF and VHF TV, terrestrial microwave and earth station antenna systems, land mobile and cellular radio, ITFS, MMDS and MDS antenna systems, HF communications, military communications and radar.

**The HL air cables** utilize a polyethylene spiral to space the inner conductor from the outer conductor, and a fluoropolymer jacket to provide fire retardancy. These cables are intended for indoor plenum type applications.

**The HT air cables** use a fluoropolymer spiral to space the inner from the outer, and are unjacketed. These cables are for high temperature and/or high power applications.

### *The Outstanding Features of HELIX® Air-Dielectric Cables are:*

#### **Low Attenuation**

Low loss dielectric materials combined with high conductivity copper conductors result in low attenuation for efficient signal transfer and maximum system performance.

#### **Solid Copper Corrugated Outer Conductor**

Results in low loss, continuous RFI/EMI shielding to minimize interference and maximize system security. Corrugated outer conductor allows for ease of installation.

#### **High Power Handling**

Results from low attenuation and excellent heat transfer characteristics.

#### **Weatherproof/Pressure Tight**

HJ type cables have silicone gasketed connectors with 1/8" NPT pressure inlets. Connectors are designed to be pressure tight for maximum protection against water entry.

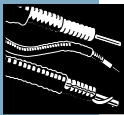
#### **System Integrity**

If a pressurized air-dielectric cable should be damaged, the pressurization system will alarm so that the leak can be corrected before water enters the cable and degrades performance.

#### **Rugged Construction**

HELIX HJ cables are made with the strongest dielectric spacer in the industry, to withstand the stress of installation.

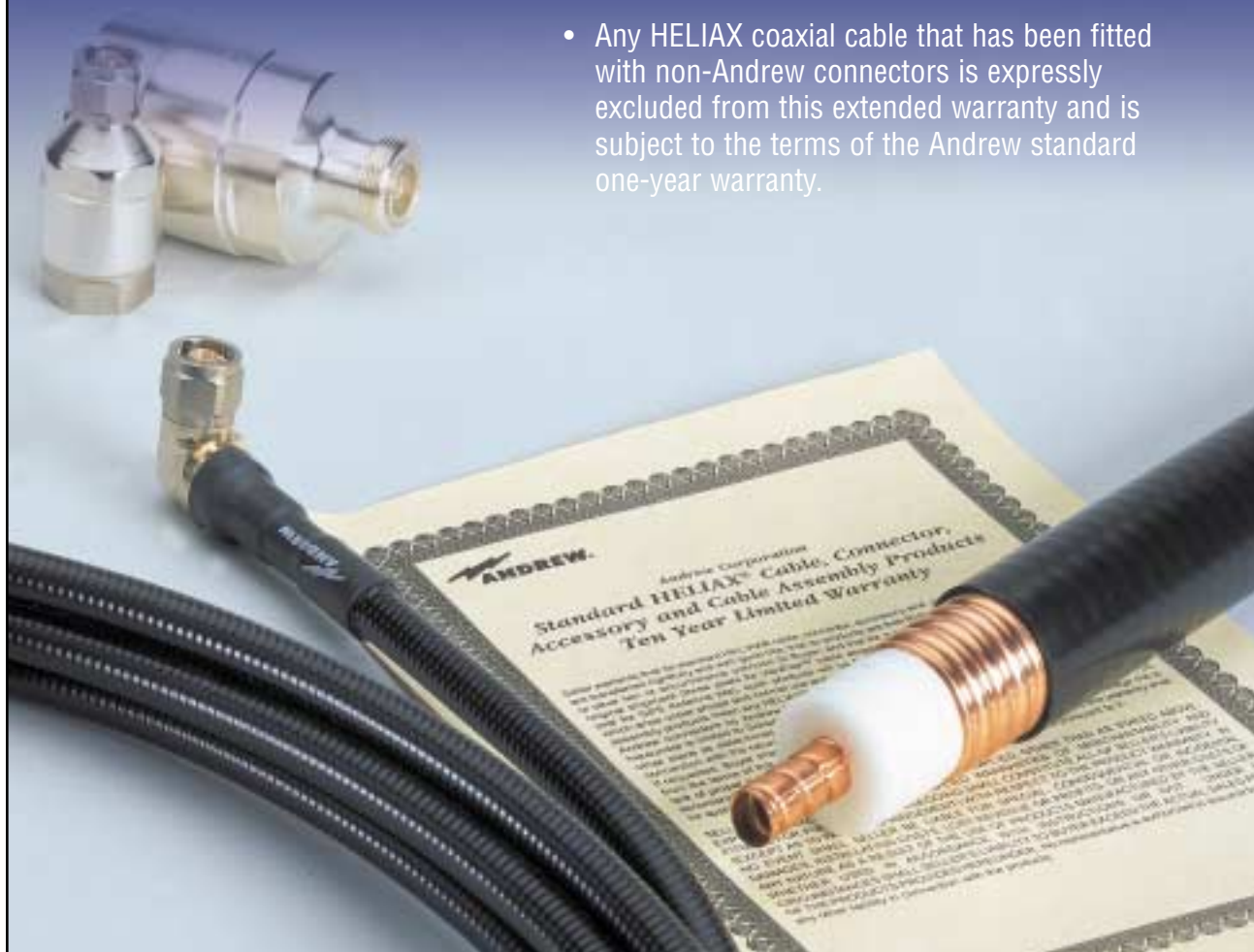




## HELIAX® Cables and Connectors Now with Ten Year Warranty

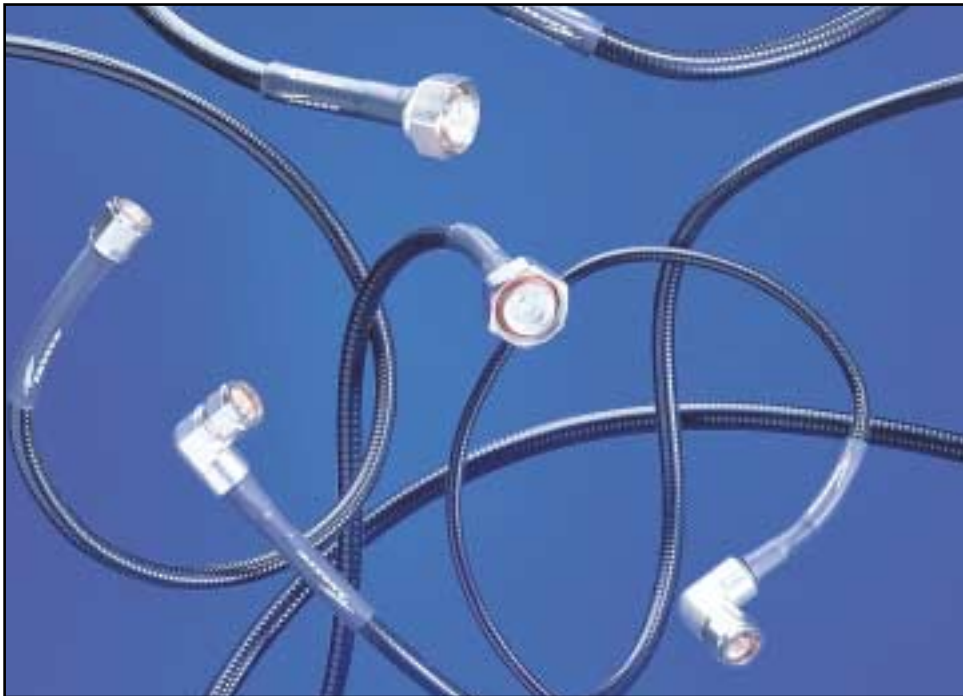
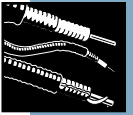
An extended ten-year warranty is now included, at no extra charge, on all new purchases of HELIAX coaxial cable, connectors and cable assemblies. Here are the details of this exclusive warranty:

- Complete coverage against defects in material and workmanship for HELIAX cables, connectors and assemblies.
- When connectors are attached by Andrew or an Andrew certified distributor, the attachment is also covered.
- Any HELIAX coaxial cable that has been fitted with non-Andrew connectors is expressly excluded from this extended warranty and is subject to the terms of the Andrew standard one-year warranty.



# HELIAX® Coaxial Cable...

## Today's Alternative to Braided Cable



HELIAX® Coaxial Cables

### Excellent Intermodulation Performance

HELIAX coaxial cables and connectors minimize intermodulation generation by using solid conductors. Stranded inner conductors and braided outer conductors, used in many other cables, form numerous contacts within the current path which are a source of intermodulation.

### Complete RF Shielding

Unlike braided cables, HELIAX coaxial cables have a solid corrugated copper outer conductor to protect against electromagnetic interference and radio frequency interference (EMI and RFI).

### Phase Stability

HELIAX coaxial cables offer excellent phase stability over temperature variations and with bending. This makes them an excellent choice for phase-critical applications such as delay lines and matched feeders in phased-array antennas.

### Low Attenuation

The continuous outer conductor and low loss polyethylene foam dielectric of HELIAX cables result in much lower losses than comparably sized braided cables.

### High Power Capability

The excellent thermal conductivity and the low attenuation of HELIAX cables provide for higher average power handling capability when compared to comparably sized braided cables.

### Flexibility

HELIAX coaxial cables have excellent flexibility for ease of installation. These cables can be bent on small radii and will withstand repeated bends without degrading performance.

### Weatherproof and Durable for Outdoor Applications

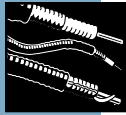
HELIAX coaxial cables are protected with a rugged black polyethylene jacket which provides abrasion resistance and complete environmental protection. Unlike braided cables, they can be used outdoors without the fear of water migration.

### Fire Retardancy

HELIAX coaxial cables are available with special jacketing to meet relevant fire retardance standards. See page 626.



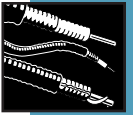




# HELIAX® Coaxial Cable vs Conventional Braided Cables\*

HELIAX® Coaxial Cables

HELIAX Coaxial Cables										
	Standard Superflexible			Extraflexible	LDF Series			Plenum Rated		
Nominal Size	FSJ1-50A	FSJ2-50	FSJ4-50B	EFX2-50	LDF1-50	LDF2-50	LDF4-50A	HS1RP-50	HS2RP-50	HS4RP-50
Impedance, ohms	50	50	50	50	50	50	50	50	50	50
<b>Electrical Characteristics</b>										
Relative Propagation Velocity, %	84	83	81	85	86	88	88	84	83	81
Maximum Operating Frequency, MHz	20400	13400	10200	13500	15800	13500	8800	10000	13400	10200
<b>Attenuation, dB/100 ft (dB/100 m)</b> Standard conditions: VSWR 1.0; ambient temperature 20° C (68° F).										
150 MHz	2.21 (7.25)	1.48 (4.86)	1.28 (4.21)	1.34 (4.39)	1.52 (4.99)	1.29 (4.24)	0.815 (2.67)	2.13 (6.99)	1.48 (4.84)	1.17 (3.83)
450 MHz	3.91 (12.8)	2.64 (8.66)	2.31 (7.59)	2.39 (7.83)	2.71 (8.88)	2.29 (7.51)	1.45 (4.75)	3.75 (12.3)	2.61 (8.56)	2.07 (6.78)
824 MHz	5.38 (17.6)	3.66 (12.0)	3.23 (10.6)	3.31 (10.8)	3.74 (12.3)	3.17 (10.4)	2.00 (6.56)	5.14 (16.9)	3.59 (11.8)	2.85 (9.35)
960 MHz	5.38 (19.1)	3.97 (13.0)	3.52 (11.6)	3.59 (11.8)	4.07 (13.3)	3.44 (11.3)	2.17 (7.12)	5.58 (18.3)	3.89 (12.8)	3.09 (10.2)
1500 MHz	7.41 (24.3)	5.08 (16.7)	4.54 (14.9)	4.60 (15.1)	5.19 (17.0)	4.40 (14.4)	2.77 (9.09)	7.06 (23.2)	4.94 (16.2)	3.94 (12.9)
2000 MHz	8.67 (28.5)	5.97 (19.6)	5.37 (17.6)	5.41 (17.8)	6.1 (20)	5.17 (17)	3.25 (10.7)	8.24 (27.0)	5.78 (19.0)	4.62 (15.2)
4000 MHz	12.8 (41.8)	8.90 (29.2)	8.15 (26.7)	8.08 (26.5)	9.06 (29.7)	7.70 (25.3)	4.82 (15.8)	12.0 (39.5)	8.49 (27.8)	6.8 (22.4)
6000 MHz	16.1 (52.7)	11.3 (37.2)	10.5 (34.4)	10.3 (33.8)	11.5 (37.7)	9.79 (32.1)	6.11 (20.1)	15.1 (49.5)	10.7 (35.1)	8.63 (28.3)
10000 MHz	21.7 (71.2)	15.5 (50.8)	14.6 (47.9)	14.1 (46.3)	15.7 (51.5)	13.4 (43.9)	– (–)	20.2 (66.2)	14.4 (47.2)	11. (38.4)
<b>Average Power Rating, kW</b> Standard conditions: VSWR 1.0; ambient temperature 40° C (104° F); inner conductor temperature 100° C (212° F), except HST Series 200° C (392° F).										
150 MHz	1.00	1.74	2.49	1.74	1.45	1.81	2.83	0.691	1.18	1.46
450 MHz	0.567	0.975	1.38	0.978	0.818	1.02	1.59	0.393	0.670	0.821
824 MHz	0.412	0.704	0.991	0.706	0.592	0.736	1.15	0.286	0.487	0.595
960 MHz	0.380	0.648	0.909	0.649	0.545	0.678	1.06	0.264	0.449	0.549
1500 MHz	0.299	0.507	0.705	0.507	0.426	0.530	0.833	0.209	0.354	0.431
2000 MHz	0.256	0.431	0.597	0.431	0.363	0.451	0.710	0.179	0.302	0.368
4000 MHz	0.174	0.289	0.394	0.289	0.245	0.303	0.479	0.123	0.206	0.249
6000 MHz	0.138	0.228	0.306	0.227	0.193	0.239	0.378	0.098	0.164	0.197
10000 MHz	0.102	0.166	0.220	0.165	0.141	0.175	–	0.073	0.121	0.145
<b>Mechanical Characteristics</b>										
Diameter over jacket										
in	0.29	0.415	0.52	0.45	0.345	0.44	0.63	0.29	0.415	0.518
(mm)	(7.4)	(10.5)	(13.2)	(11.3)	(8.8)	(11.2)	(15.9)	(7.37)	(10.5)	(13.16)
Weight										
lb/ft	0.045	0.078	0.14	0.09	0.06	0.08	0.15	0.063	0.076	0.138
(kg/m)	(0.067)	(0.12)	(0.21)	(0.13)	(0.09)	(0.12)	(0.22)	(0.093)	(0.113)	(0.205)
Min. Bending Radius										
in	1	1	1.25	1.75	3	3.75	5	1	1	1.25
(mm)	(25)	(25)	(32)	(45)	(76)	(95)	(125)	(25)	(25)	(32)



**Conventional Braided Cables**

Standard Superflexible			Conventional Braided Cables						
FSJ1-75	FSJ4-75A	LDF Series LDF4-75A	M17/74	M17/75	Commercial	M17/60	M17/127	M17/2	M17/6
1/4"	1/2"	1/2"	RG-213/U	RG-214/U	Version of	RG-142B/U	RG-393/U	RG-6/U	RG-11/U
75	75	75			RG-213/U				
78	81	88	65.9	65.9	84	69.5	69.5	65.9	65.9
22000	11500	10000	1000	11000	–	12400	11000	3000	1000
2.31 (7.57)	1.19 (3.89)	0.764 (2.51)	2.6 (8.5)	2.9 (9.5)	1.5 (4.9)	4.6 (15.1)	2.7 (8.8)	3.6 (11.8)	2.7 (8.8)
4.17 (13.7)	2.14 (7.02)	1.37 (4.50)	5.0 (16.4)	5.5 (18.0)	2.8 (9.2)	8.4 (27.6)	4.9 (16.1)	6.7 (22.0)	5.1 (16.7)
5.83 (19.1)	2.99 (9.82)	1.91 (6.26)	7.4 (24.3)	7.8 (25.6)	4.0 (13.1)	11.8 (38.7)	7.0 (23.0)	9.6 (31.5)	7.5 (24.6)
6.36 (20.9)	3.26 (10.7)	2.08 (6.81)	8.5 (27.9)	8.6 (28.2)	4.4 (14.4)	13.0 (42.7)	7.6 (24.9)	10.6 (34.8)	8.6 (28.2)
8.22 (27.0)	4.21 (13.8)	2.67 (8.76)	–	11.3 (37.1)	5.8 (19.0)	16.9 (55.4)	10.0 (32.8)	14.0 (45.9)	–
9.73 (31.9)	4.98 (16.4)	3.15 (10.3)	–	13.6 (44.6)	7.0 (23.0)	20.2 (66.3)	11.9 (39.0)	16.9 (55.4)	–
14.8 (48.6)	7.58 (24.9)	4.75 (15.6)	–	21.6 (70.9)	11.1 (36.4)	31.4 (103)	18.5 (60.7)	–	–
19.1 (62.7)	9.78 (32.1)	6.09 (20.0)	–	28.6 (93.8)	14.7 (48.2)	41.1 (135)	24.2 (79.4)	–	–
26.7 (87.6)	13.6 (44.7)	8.42 (27.6)	–	41.4 (136)	–	58.5 (192)	34.5 (113)	–	–
0.460	1.43	1.35	0.91	0.91	1.2	2.1	5.4	0.42	0.57
0.255	0.794	0.753	0.44	0.44	0.58	1.1	2.9	0.19	0.26
0.182	0.568	0.541	0.29	0.29	0.39	0.79	2.0	0.13	0.17
0.167	0.521	0.497	0.26	0.26	0.35	0.73	1.8	0.11	0.15
0.129	0.403	0.387	–	0.19	0.26	0.56	1.4	0.083	–
0.109	0.341	0.328	–	0.16	0.21	0.47	1.2	0.068	–
0.072	0.224	0.218	–	0.096	0.12	0.29	0.76	–	–
0.056	0.174	0.170	–	0.070	0.088	0.22	0.58	–	–
0.040	0.125	0.123	–	0.046	–	0.14	0.40	–	–
0.29 (7.4)	0.52 (13.2)	0.63 (16)	0.405 (10.29)	0.425 (10.79)	0.405 (10.29)	0.195 (4.95)	0.390 (9.91)	0.332 (8.43)	0.405 (10.29)
0.046 (0.068)	0.14 (0.21)	0.14 (0.21)	0.11 (0.164)	0.13 (0.193)	0.089 (0.132)	0.043 (0.064)	0.175 (0.260)	0.082 (0.122)	0.098 (0.146)
1 (25)	1.25 (32)	5 (125)	5 (125)	6 (150)	6 (150)	2 (50)	4 (102)	3 (75)	4.5 (115)

\* Braided cables not supplied by Andrew. Listing is for comparative purposes only.

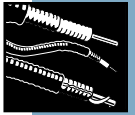
## HELIAX® Connectors



### *Premium Performance Connectors Complement HeliAX Coaxial Cables*

Andrew offers an extensive line of connectors for HeliAX coaxial cables. Used together, HeliAX cables and connectors produce the highest quality transmission line available. HeliAX connectors are designed and manufactured by Andrew. Using HeliAX cable and connectors ensures exceptional electrical and mechanical performance. Only HeliAX connectors are designed to be completely compatible with HeliAX cable. With many interfaces and attachment styles available, you can be sure you will get the characteristics you want and the performance you can rely on.





## *HELIAX Connectors Offer Multiple Design Advantages*

### **Easy Attachment**

HELIAX connectors are designed for fast, accurate installation. Features like pre-set pin depths and self-flaring mechanisms ensure performance and reduce costly installation errors. The connectors can be attached with the most basic hand tools. Attachment time can be reduced, even further, with EASIAx® cable preparation tools. Each connector is shipped with easy to read instructions to assist with installation.

### **Weatherproof Integrity**

HELIAX connectors are designed to ensure system integrity in the harshest of outdoor environments. Our connectors are relied on around the world for their ability to withstand heat, humidity, ice, and rain. We design to the toughest environmental standards, such as IP68, to ensure the connectors are waterproof without additional weatherproofing. We test before and after thermal cycling, shock, and vibration testing. We guarantee that, whatever the environment, you can rely on HELIAX connectors.

### **Low Intermodulation**

HELIAX connectors are designed to keep unwanted intermodulation to a minimum. Andrew is one of a few companies, worldwide, that understands and has the ability to measure intermodulation accurately. Couple this with engineers skilled in minimizing intermodulation and you get connectors with some of the lowest recorded intermodulation levels in the industry. For a more detailed explanation of intermodulation see page 630.

### **Low VSWR**

HELIAX connectors give you unrivalled VSWR performance. They are designed for a minimum mismatch between cable and connector. This is especially important in today's systems where performance expectations are more stringent.

Electrical, mechanical, and environmental testing of all HELIAX connectors ensure lasting performance that can be measured in decades. Data sheets are available on request for all HELIAX connectors.

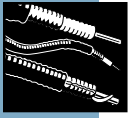
### **Excellent RF Shielding**

Outer conductor attachments clamp or solder 360° around the cable resulting in virtually complete shielding.

HELIAX connectors for air dielectric cables are not interchangeable with those for foam dielectric cables. HS and HST series cables use corresponding FSJ connectors.

Differences include:

- *Air dielectric connectors are equipped with gas ports to allow pressurization of the cable.*
- *Most air dielectric connectors are available in both gas barrier and gas pass versions. The gas barrier prevents air flow to the mating connector.*
- *Air dielectric cables have a helical corrugated outer conductor. LDF foam cables have annular corrugations and thus use a different clamping nut to secure the connector to the cable.*
- *Most air dielectric connectors are attached using a snip flare. LDF foam connectors are self flaring.*



## HELIAX® Connectors

# OnePiece™



### *New OnePiece™ Connectors*

- *Installation is fast and reliable*
- *Performance is excellent and dependable*
- *Connectors are completely tested and proven*

New one-piece connectors speed installation, insure attachment consistency, and provide unparalleled protection for your transmission line and system.

#### **Speed and Reliability**

With the combination of the EASIAx® Plus automated prep tools and one-piece connectors, attaching connectors to transmission lines couldn't be easier or more reliable.

The automated prep tool consistently and completely prepares the cable for connector attachment in less than 15 seconds.

With only one piece to the connector, attachment is as easy as sliding the connector on the cable and tightening the back nut. You can be assured that field attachment is consistent and gives you outstanding performance every time!

More importantly, the new one-piece connectors also have outstanding electrical characteristics!

#### **Completely Waterproof, Mated and Unmated**

The new one-piece connector is not only waterproof when mated, it is also waterproof when it is *unmated* and completely submerged in water. This moisture seal provides unparalleled protection from the elements! Exceeds IP66 and IP68 Standards.

#### **New Version 2 Connectors for FSJ4-50B**

The newest connectors for FSJ4-50B have a reduced number of components and incorporate our new "crush-flare" technology. Installation is fast, reliable, and dependable. EASIAx Plus automated cable prep tools are also available for the new version 2 connectors.

#### **New SureFlex™ Connectors**

New SureFlex jumper assemblies incorporate a 360 degree solder attachment on both the inner conductor and the outer conductor. Factory made assemblies remove the risks sometimes encountered with assemblies made in the field. Return loss, insertion loss and intermodulation values are optimized with our new SureFlex assemblies.

#### **Proven**

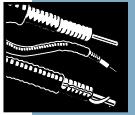
All Andrew components go through a strict qualification process to the toughest Military and International standards before being released. Test procedures are available on the Andrew web site or contact Andrew.

In all ways electrically, mechanically, and environmentally you can be sure with Andrew.

#### **Value**

All of the new designs offer price savings as well as outstanding performance.





## Connector Numbering System

This catalog features a functional, connector type numbering system that installation, purchasing and receiving personnel should find easy to understand. Here are three examples and the functional type number cable, connector, and suffix keys.

Type Number: **L2PNM**

**L2** denotes it is used with LDF2-50 cable  
**PNM** denotes it is a plated N Male

Type Number: **L4PNF**

**L4** denotes it is used with LDF4-50 cable  
**PNF** denotes it is a Plated N Female

Type Number: **F4PDM-C**

**F4** denotes it is used with FSJ4-50B cable  
**PDM** denotes it is a Plated 7-16 DIN Male  
**C** denotes it features a captivated pin

### Cable Keys

<b>E2</b>	EFX2-50	3/8"
<b>F1</b>	FSJ1-50A	1/4"
<b>F2</b>	FSJ2-50	3/8"
<b>F4</b>	FSJ4-50B	1/2"
<b>H4</b>	HJ4-50	1/2"
<b>H4.5</b>	HJ4.5-50	5/8"
<b>H5</b>	HJ5-50	7/8"
<b>H7</b>	HJ7-50A	1-5/8"
<b>H8</b>	HJ8-50B	3"
<b>H11</b>	HJ11-50	4"
<b>H9</b>	HJ9-50	5"
<b>H9HP</b>	HJ9HP-50	5" (High Power)
<b>H12</b>	HJ12-50	2-1/4"
<b>L1</b>	LDF1-50	1/4"
<b>L2</b>	LDF2-50	3/8"
<b>L4</b>	LDF4-50A	1/2"
<b>L4.5</b>	LDF4.5-50	5/8"
<b>L5</b>	LDF5-50A	7/8"
<b>L6</b>	LDF6-50	1-1/4"
<b>L7</b>	LDF7-50A	1-5/8"
<b>L12</b>	LDF12-50	2-1/4"
<b>V5</b>	VXL5-50	7/8"
<b>V6</b>	VXL6-50	1-1/4"
<b>V7</b>	VXL7-50	1-5/8"

### Connector Keys

<b>PNM</b>	Plated N Male
<b>PNR</b>	Plated N Male Right Angle
<b>PNF</b>	Plated N Female
<b>PBM</b>	Plated BNC Male
<b>PSM</b>	Plated SMA Male
<b>PSF</b>	Plated SMA Female
<b>PSR</b>	Plated SMA Male Right Angle
<b>PDM</b>	Plated 7-16 DIN Male

### Connector Keys (Continued)

<b>PDF</b>	Plated 7-16 DIN Female
<b>PDR</b>	Plated 7-16 DIN Male Right Angle
<b>PKM</b>	Plated 4.1-9.5 DIN Male
<b>PKR</b>	Plated 4.1-9.5 DIN Male Right Angle
<b>PTM</b>	Plated TNC Male
<b>PTF</b>	Plated TNC Female
<b>SM</b>	SMA Male
<b>SF</b>	SMA Female
<b>UM</b>	UHF Male
<b>UF</b>	UHF Female
<b>MU</b>	Mini UHF Male
<b>FM</b>	CATV F Male
<b>M</b>	EIA Flange Male
<b>F</b>	EIA Flange Female

### Suffix Keys

<b>HF</b>	High Frequency
<b>BH</b>	Bulkhead
<b>7550</b>	75-Ohm Cable, 50-Ohm Mating Pin
<b>7570</b>	75-Ohm Cable, 70-Ohm Mating Pin
<b>C</b>	Captivated Pin Inner Attachment (solderless)
<b>PM</b>	Panel Mount
<b>PMC</b>	Panel Mount, Captivated Pin
<b>H</b>	Hex Coupling Nut
<b>BHC</b>	Bulkhead, Captivated Pin
<b>PMC</b>	Panel Mount, Captivated Pin
<b>T</b>	Tunable
<b>HC</b>	Hex Coupling Nut, Captivated Pin Inner Contact Attachment
<b>PR</b>	Pressure Port
<b>RC</b>	Ring Flare, Captivated Pin Inner contact Attachment
<b>RPC</b>	One-Piece Connector, Captivated Pin
<b>B</b>	Gas Barrier
<b>P</b>	Gas Pass

## Connector Data

### Coupling Torque for All Type N and 7-16 DIN Connectors

Type N lbf-in (N•m)	7-16 DIN lbf-in (N•m)
15-20 (1.7-2.3)	220-265 (25-30)

### Pin Depth for Type N and 7-16 DIN Connectors

Connector	Pin Depth, in (mm)*
N Male	0.210-0.230 (5.28-5.84)
N Female	0.187-0.207 (4.75-5.26)
7-16 DIN Male	0.058-0.070 (1.47-1.78)
7-16 DIN Female	0.070-0.082 (1.78-2.08)

\* High frequency performance may be enhanced by adjusting pin depth to minimize the gap between male and female connectors.





# HELIAX® Connectors

The pictures below and on pages 467-470 show the various connector interfaces and body styles available for HELIAX® cables. In many cases, a single picture is used to represent several similar connectors. See the connector ordering information charts for details.

## N Males



For FSJ1, FSJ2, FSJ4 Cables



For LDF1, EFX2 Cables



For LDF2, LDF4, HLT4, FSJ4 Cables



For LDF5, LDF6, LDF7 Cables



For HJ4, HT4, HJ5, Cables

## Right Angle N Males



For FSJ1 Cable



For LDF4 Cable



For FSJ4 Cable

## Bulkhead N Females



For FSJ1 Cable



For LDF1, LDF2, LDF4 Cables



For FSJ2, FSJ4 Cables

## N Females



For FSJ2, FSJ4 Cables



For HJ4, HT4, HJ5, HT5, HJ7, HJ12 Cables



For LDF1, LDF2, LDF4, EFX2, HLT4 Cables

## Mini UHF Male



For FSJ1 Cable

## UHF Males



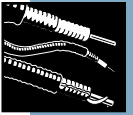
For FSJ1 Cable



For LDF2, EFX2, LDF4, HLT4, FSJ4 Cables



For LDF5, Cable



**UHF Females**



For FSJ1 Cable



For LDF2, EFX2, LDF4, HLT4, FSJ4 Cables



For LDF5 Cable



For HJ4, HT4, HJ5 Cables

**SMA Males**

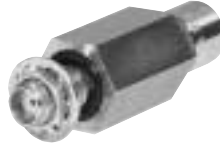


For FSJ1 Cable



For FSJ1 Cable

**SMA Females**



For FSJ1 Cable

**4.1-9.5 DIN Males**



For LDF2, FSJ4 Cables

**Right Angle 7-16 DIN Males**



For LDF2, EFX2 Cables



For FSJ2, FSJ4 Cables



For LDF4, LDF5 Cables

**7-16 DIN Males**



For FSJ1, FSJ4, FSJ2, LDF2 Cables



For LDF4, HLT4 Cables



For LDF5, LDF6, and LDF7 Cables



For LDF5, LDF6, and LDF7 Cables



For LDF7, LDF12 Cables

**7-16 DIN Females**



For FSJ1, FSJ2, FSJ4, LDF2, EFX2 Cables



Bulkhead for FSJ4 Cable



For LDF5 Cable



Panel Mount for FSJ1, FSJ4 Cables



For LDF4, HLT4 Cables



For LDF6, LDF7, LDF12 Cables



# HELIAX® Connectors

## SC Male



For LDF4, FSJ4 Cables

## LC Males



For LDF4, HLT4, LDF5, Cables



For LDF6, LDF7 Cables

## BNC Male



For FSJ1 Cable



For HJ5 Cable

## TNC Males



For FSJ1 Cable



For LDF2, EFX2 Cables

## LC Females



For LDF5, LDF7 Cables



For HJ7, LDF6 Cables

## TNC Females



For FSJ1 Cable



For LDF2, EFX2, LDF4 Cables

## HN Males



For FSJ4 Cable



For LDF4, HLT4, LDF5, Cables

## CATV Type "F" Males



For FSJ1 Cable

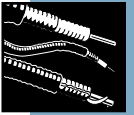


For FSJ4 Cable

## CATV Equipment Housing



For LDF4 Cable



7/8" EIA Flanges



For FSJ4, LDF4, LDF5 Cables



For LDF6, LDF7 Cables



For HJ4, HJ5 Cables



For HJ7, HJ12 Cables

1-5/8" EIA Flanges

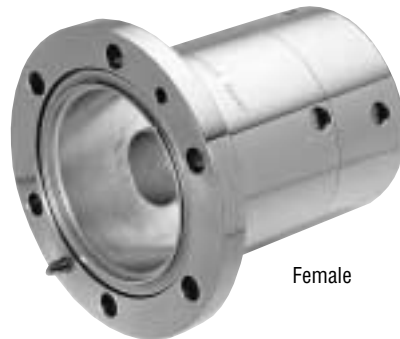


For LDF6, LDF7 Cables



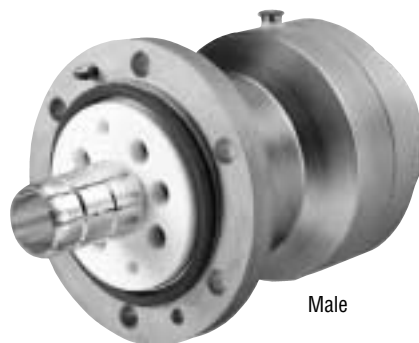
For HJ7, HJ12 Cables

3-1/8" EIA Flanges



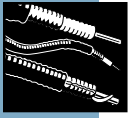
Female

For HJ12, HJ8, HJ11, LDF12 Cables



Male

For HJ8, HJ11 Cables



## HELIAX® Connectors

### 4-1/2" IEC Flanges



For HJ11, H9 Cables



For HJ11, H9 Cables

### "F" Flanges, Male



For LDF4, LDF5 Cables

### 6-1/8" EIA Flanges



For HJ11 Cable



For HJ9, HJ9HP Cables



For LDF6, LDF7 Cables

### Splices



For LDF4, LDF5 Cables



For HJ4, HJ5, HJ7 Cables



For LDF6, LDF7, LDF12 Cables



For HJ8, HJ9, HJ11, HJ12 Cables

### End Terminals



For LDF5 Cable



For HJ4, HT4, HJ5, HT5 Cables



For LDF4 Cable



For HJ7 Cable



## HELIAX® Accessories



Andrew offers the industry's widest range of accessories, which are designed to be compatible with HELIAX cable. Together, HELIAX cables and accessories form a lasting and effective transmission line system. System designers and installation crews can rely on Andrew for high quality, easy to install components and reliable maintenance-free performance.

### *Some of Our Key Accessories Are:*

**Arrestor Plus Surge Protectors.** Lightning surge protectors incorporate quarterwave stub technology. Designed to deliver optimum system performance and reliable equipment protection you can count on, strike after strike. Arrestor Plus is available in the slim profile universal (APM series) or the Integrated versions (APTL series) that attach directly onto LDF series HELIAX cable. Arrestor Plus gas tube arrestors (APG series) give you broadband performance and feature dc pass capability through the center conductor to the active tower top electronics. The unit's removable cap makes periodic maintenance fast and easy.

All versions incorporate silver plated components and high-pressure components throughout to ensure low levels of intermodulation and excellent VSWR performance. Arrestor Plus surge protectors are also fully weatherproof, making them suitable for a variety of outdoor applications.

**Grounding Kits.** All Andrew grounding kits are designed to withstand 99% of all possible lightning strikes for certainty of continued operation. The non-braided, solid copper construction of our grounding kits eliminates corrosion caused by moisture retention and "wicking". The new SureGround™ kits offer even greater installation ease than standard grounding kits. The new grounding kits are factory assembled into one component and feature a pre-formed, clip-on ground strap for easy snap-on installation. A standard weatherproofing kit (tape) is provided with SureGround versions and a weatherproofing boot is supplied with the SureGround™ Plus versions.



**Entry Port Systems.** Andrew offers entry port systems to meet your every need. The ArrestorPort™ II integrates your cable entry and grounding systems into a single integrated system and cuts installation time and component costs. It is designed to work with the Arrestor Plus® Surge Protectors. The new, low cost, SNAP-IN Entry port quickly and easily snaps into a hole in a cabinet or metal plate. It's used in combination with our one-piece entry boot to adapt to your requirements. For traditional installations consider our standard entry port products.

**Hangers.** Stainless steel construction of both the standard and our new Snap-in hangers ensures corrosion resistance and long life. The new Snap-In hangers feature an ergonomic design that provides easy attachment with no hardware required. Our Click-On hanger products are stackable and install in minutes to provide a perfect fit for applications where space is tight. Click-On hangers are manufactured from tough, UV-resistant material and set the standard for durability, simplicity, and cost effectiveness.

**Weatherproofing.** The WeatherShield™ Connection Protection Housing provides you with security against water. WeatherShield easily installs in seconds, to

complete your transmission line system and protect against the environment. WeatherShield provides an additional measure of system protection by providing a water-tight seal around the cable and dampening the vibration that can loosen connector interfaces. The WeatherShield takes just seconds to install. Simply place the WeatherShield around your connection and snap in place. No tapes, heat guns or shrink tubes are required.

**EASIX® Plus Cable Preparation Tools.** Our EASIX Plus Cable Prep tools provide you with all you need to install HELIX connectors on HELIX Cable. EASIX Plus automated tools dramatically reduce cable preparation time and expense while improving overall system performance. Fit the EASIX Plus tool to any standard drill and the tool does the rest. You will be able to fit your connector in about 15 seconds and your connector attachments will be consistent, reliable, and repeatable. For greatest accuracy, when installing connectors, we recommend that you use our pre-set torque wrenches. This will ensure the high quality protection and performance that you expect from Andrew.

## Andrew Factory Made Cable Assemblies



Andrew has cable assembly facilities all over the world to provide you with the best jumper quality and service. Our local assembly locations can provide you with fast delivery, often in 24 hours.

Making assemblies in the field can be difficult and expensive. Proper training, tools and environmental conditions can all impact the cost and quality of a cable assembly. As you know, a poorly made cable assembly can affect system performance.

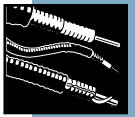
When you specify or purchase a jumper from Andrew, you can rest assured that the product has been manufactured by highly trained individuals utilizing factory automated processes. We are so confident in our quality that we guarantee it!

Check out all the advantages of the Andrew factory made cable assembly program:

- *Fast delivery...When and where you want it*
- *Popular jumpers are in stock for immediate delivery...No waiting*
- *100% testing...Ensures performance*
- *10 year warranty...Cable, connectors, and attachment are guaranteed*
- *Attachment performed by highly trained personnel... We do the job right*
- *Special lengths per your specifications*
- *Select from the wide variety of Andrew cables and connectors... One-stop-shopping simplifies sourcing*
- *Jumpers are available for flame retardant, high power/high temperature, and plenum applications*

HELIAX® coaxial cables are available with connectors attached at one or both ends or with both connectors unattached.

## Ordering Information



To order, please specify the following:

- Specify cable or waveguide Type Number and length in feet or meters.
- For low-VSWR cables and for elliptical waveguides, specify the operating frequency band when requested. VSWR specifications for various frequency bands are presented on the product information pages.  
Frequency band codes, which are included in the identifying Andrew Type Number, are used with most standard bands of low VSWR cable and premium elliptical waveguide. For example, the -59 suffix for EWP52-59 designates a frequency band of 5.925 - 6.425 GHz. Please use these codes, where applicable.
- Specify connector Type Numbers and "attached" or "unattached". When attached connectors on an assembly are different, specify which is "first off" the reel.
- Specify any special requirements:
  - Special marking on packages
  - Packaging requirements (standard, export or special)
  - Special inspection requirements, such as customer, government, certificate of compliance
- Specify mode of shipment (surface, air or ocean) and requested ship date.

Sample orders are illustrated below.

### Sample Orders

	Andrew Type Number	Description	Frequency (where applicable)	Quantity	Length Each	Total Length	Unit or Per Foot Price	Extended Price
<i>Cable, Factory Assembly</i>	LDF5P-50A-18	HELIAX Coaxial Cable Assembly 1850 -1990 MHz		1	290 ft	290 ft		
	L5PDM	Connector, attached, first off		1				
	L5PNM	Connector, attached, last off		1				
<i>Bulk Cable and Connectors</i>	LDF5-50A	HELIAX Coaxial Cable		2	700 ft	1400 ft		
	L5PNM	Connector, unattached		8				
<i>Cable with One Attached Connector</i>	LDF5-50A	HELIAX Coaxial Cable		1	310 ft	310 ft		
	L5PNM	Connector, attached, first off		1				
	L5PNM	Connector, unattached		1				
<i>Elliptical Waveguide Factory Assembly</i>	EWP52-59	Elliptical Waveguide 5.925 - 6.425 GHz		1	290 ft	290 ft		
	252DET	Connector, attached, first off		1				
	152DET	Connector, attached, last off		1				
<i>Bulk Elliptical Waveguide and Connectors</i>	EWP52-59	Elliptical Waveguide 5.925 - 6.425 GHz		2	700 ft	1400 ft		
	252DET	Connector, unattached		8				
<i>Elliptical Waveguide with One Attached Connector</i>	EWP52-59	Elliptical Waveguide 5.925 - 6.425 GHz		1	310 ft	310 ft		
	252DET	Connector, attached, first off		1				
	152DET	Connector, unattached		1				

\*For cables and waveguides, specify whether connectors should be factory attached or shipped loose. When attached connectors on an assembly are different, specify which is first off the reel. For microwave antennas, specify any desired options.

Special marking on packages: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Packing requirements:  Standard  Export  
 Special (specify) \_\_\_\_\_  
 \_\_\_\_\_

Ship by:  Surface  Air  Ocean  
 Requested Carrier \_\_\_\_\_  
 (If none specified, we will use the most economical method)

Requested ship date: \_\_\_\_\_  
 OK to ship early?  
 Yes  No Partial OK?  Yes  No

Shipping charges:  Collect  Prepay and bill  Quoted fixed freight amount  
 Sales:  Applicable  Not Applicable  
 Resale no. \_\_\_\_\_

Specify special inspection requirements, such as customer, government, certificate of compliance.





## 1/4" Superflexible Foam Dielectric, FSJ Series – 50-ohm



### FSJ1-50A

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Superflexible Cable</b>	
1/4" Standard Cable, Standard Jacket	<b>FSJ1-50A</b>
<b>Fire Retardant Cables</b>	
1/4" Fire Retardant Jacket (CATVX)	<b>FSJ1RN-50B</b>
1/4" Fire Retardant Jacket (CATVR)	<b>FSJ1RN-50B</b>
<b>Low VSWR and Specialized Cables</b>	
1/4" Low VSWR, specify operating band	<b>FSJ1P-50A(**)</b>
Phase Stabilized and Phase Measured Cable	See page 590
<b>Jumper Cable Assemblies – See page 584</b>	

\*\* Insert suffix number from "Low VSWR Specifications" table, page 476.

#### Characteristics

Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	20.4
Velocity, percent	84
Peak Power Rating, kW	6.4
dc Resistance, ohms/1000 ft (1000 m)	
Inner	3.0 (9.8)
Outer	2.0 (6.5)
dc Breakdown, volts	1600
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	24.2 (79.4)
Inductance, µH/ft (m)	0.061 (0.200)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Cu-Clad Al
Diameter over Jacket, standard jacket, in (mm)	0.29 (7.4)
Diameter over Jacket, fire-retardant jacket, in (mm)	0.29 (7.4)
Diameter Copper Outer Conductor, in (mm)	0.25 (6.4)
Diameter Inner Conductor, in (mm)	0.075 (1.9)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum (typical)	15 (20)
Bending Moment, lb-ft (N•m)	0.8 (1.1)
Cable Weight, lb/ft (kg/m)	0.045 (0.067)
Tensile Strength, lb (kg)	150 (68)
Flat Plate Crush Strength, lb/in (kg/mm)	100 (1.8)

#### Attenuation and Average Power

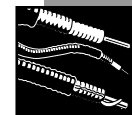
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.124	0.407	6.40
1	0.176	0.577	6.40
1.5	0.215	0.707	6.40
2	0.249	0.816	6.40
10	0.559	1.83	3.97
20	0.792	2.60	2.80
30	0.973	3.19	2.28
50	1.26	4.14	1.76
88	1.68	5.52	1.32
100	1.79	5.89	1.23
108	1.87	6.13	1.19
150	2.21	7.25	1.00
174	2.39	7.82	0.929
200	2.56	8.41	0.865
300	3.16	10.4	0.701
400	3.67	12.1	0.603
450	3.91	12.8	0.567
500	4.13	13.5	0.537
512	4.18	13.7	0.530
600	4.54	14.9	0.488
700	4.93	16.2	0.450
800	5.29	17.4	0.419
824	5.38	17.6	0.412
894	5.61	18.4	0.395
960	5.83	19.1	0.380
1000	5.96	19.6	0.372
1250	6.72	22.0	0.330
1500	7.41	24.3	0.299
1700	7.94	26.0	0.279
1800	8.19	26.9	0.271
2000	8.67	28.5	0.256
2100	8.91	29.2	0.249
2200	9.14	30.0	0.243
2300	9.37	30.7	0.237
3000	10.9	35.6	0.204
3400	11.6	38.2	0.191
4000	12.8	41.8	0.174
5000	14.5	47.5	0.153
6000	16.1	52.7	0.138
8000	19.0	62.4	0.117
10000	21.7	71.2	0.102
12000	24.2	79.4	0.092
14000	26.6	87.2	0.084
16000	28.8	94.6	0.077
18000	31.0	101.7	0.072
19000	32.1	105.2	0.069
20000	33.1	108.6	0.067
20400	33.5	110.0	0.066

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F); no solar loading.





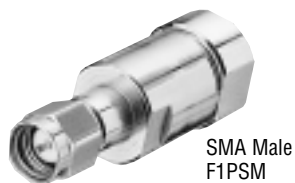
N Male  
F1PNMV2-H



N Male  
Right Angle  
F1PNR-HC



N Female  
Bulkhead  
F1PNF-BH



SMA Male  
F1PSM



SMA Male  
Right Angle  
F1PSR



SMA Female  
Bulkhead  
F1PSF



BNC Male  
F1PBM



TNC Male  
F1PTM-HF



UHF Male  
41SP

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F1PNMV2-H</b>	Solder	Self-Clamping	SG	2.1 (53)	0.95 (24.1)
N Male	High Freq.	<b>F1PNM-HF</b>	Solder	Tab Flare	SG	1.3 (33)	0.81 (20.5)
N Male	Right Angle Hex Head	<b>F1PNR-HC</b>	Captivated	Self-Clamping	SG	1.7/1.3 (43/33)	0.95 (24.1)
N Female	Bulkhead	<b>F1PNF</b>	Solder	Self-Clamping	SG	2.2 (55.2)	0.58 (14.8)
N Female		<b>F1PNF-BH</b>	Solder	Self-Clamping	SG	2.3 (58)	0.94 (23.9)
BNC Male		<b>F1PBM</b>	Solder	Self-Clamping	SS	2.0 (50)	0.69 (17.5)
UHF Male		<b>41SP</b>	Solder	Solder	BB	1.8 (46)	0.77 (19.6)
UHF Female		<b>41U</b>	Solder	Solder	BS	2.1 (53)	0.77 (19.6)
SMA Male	Up to 6 GHz	<b>F1PSM</b>	Solder	Self-Clamping	PG	1.7 (43)	0.49 (12.5)
SMA Male	Right Angle	<b>F1PSR</b>	Solder	Self-Clamping	PG	1.6/0.75 (41/19)	0.50 (12.7)
SMA Female	Up to 6 GHz, Bulkhead	<b>F1PSF</b>	Solder	Self-Clamping	PG	1.7 (43)	0.49 (12.5)
SMA Male	Up to 18 GHz	<b>41EWS</b>	Solder	Tab Flare	G	0.94 (23.9)	0.40 (10.2)
TNC Male	11 GHz and Below	<b>F1PTM</b>	Solder	Self-Clamping	SG	1.68 (43)	0.57 (14.5)
TNC Female	Bulkhead	<b>41AENT</b>	Captivated	Tab Flare	NG	1.5 (38)	0.70 (17.8)
TNC Male	Hi Freq, Above 11 GHz	<b>F1PTM-HF</b>	Captivated	Tab Flare	NG	1.9 (48.8)	0.70 (17.8)
Mini-UHF Male		<b>F1MU</b>	Captivated	Crimp	NS	1.53 (39)	0.47 (11.9)
7-16 DIN Male		<b>F1PDM</b>	Solder	Self-Clamping	SS	1.82 (46.3)	1.25 (31.75)
7-16 DIN Female		<b>F1PDF</b>	Solder	Self-Clamping	SS	1.85 (47)	0.551 (14)
7-16 DIN Female	Panel Mount	<b>F1PDF-PM</b>	Solder	Self-Clamping	SS	1.85 (47)	1.26 (32)
7-16 DIN Female	Bulkhead	<b>F1PDF-BH</b>	Solder	Self Clamping	SS	1.85 (47)	1.62 (41)

\* Stainless steel body

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, NG - Nickel Plated Body and Gold Plated Pin, NS - Nickel Plated Body and Silver Plated Pin, PG - Passivated Body and Gold Plated Pin+A135, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin, G - Stainless Steel Body and Gold Plated Pin.

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.





## Low VSWR Specifications, Type FSJ1P-50A-( )

Frequency Band, GHz	Type No.	Using Connector Type No.**	Assembly VSWR, Maximum (R.L., dB)		
			to 10 ft (3 m)	10-20 ft (3-6 m)	20-200 ft (6-60 m)
0.01- 2.3*	<b>FSJ1P-50A-1A</b>	N Male	1.07 (29.4)	1.13 (24.3)	1.27 (18.5)
		N Male†	1.12 (24.9)	1.15 (23.1)	1.35 (16.5)
		N Female	1.15 (23.1)	1.20 (20.8)	1.40 (15.6)
		Right Angle N Male	1.31 (17.4)	1.35 (16.5)	1.40 (15.6)
		SMA Male	1.12 (24.9)	1.25 (19.1)	1.35 (16.5)
		Right Angle SMA Male	1.30 (17.7)	1.30 (17.7)	1.40 (15.6)
		SMA Female	1.12 (24.9)	1.25 (19.1)	1.35 (16.5)
		TNC Male	1.15 (23.1)	1.20 (20.8)	1.40 (15.6)
		7-16 DIN Male	1.12 (24.9)	1.18 (21.6)	1.40 (15.6)
		7-16 DIN Female	1.17 (22.1)	1.22 (20.1)	1.40 (15.6)
0.01- 4.2*	<b>FSJ1P-50A-2A</b>	N Male	1.15 (23.1)	1.18 (21.6)	1.31 (17.4)
		N Female†	1.40 (15.6)	1.45 (14.7)	1.50 (14.0)
		Right Angle N Male	1.38 (16.0)	1.40 (15.6)	1.50 (14.0)
		SMA Male	1.17 (22.1)	1.40 (15.6)	1.45 (14.7)
		Right Angle SMA Male	1.40 (15.6)	1.45 (14.7)	1.50 (14.0)
		SMA Female	1.17 (22.1)	1.40 (15.6)	1.45 (14.7)
		TNC Male	1.30 (17.7)	1.35 (16.5)	1.45 (14.7)
		7-16 DIN Male	1.25 (19.1)	1.30 (17.7)	1.45 (14.7)
		7-16 DIN Female	1.25 (19.1)	1.30 (17.7)	1.45 (14.7)
0.01-10.2*	<b>FSJ1P-50A-3A</b>	N Male	1.40 (15.6)	1.45 (14.7)	1.50 (14.0)
		SMA Male	1.35 (16.5)	1.40 (15.6)	1.45 (14.7)
		SMA Female	1.40 (15.6)	1.45 (14.7)	1.50 (14.0)
		TNC Male	1.45 (14.7)	1.50 (14.0)	1.63 (12.4)
0.01-18.0*	<b>FSJ1P-50A-4A</b>	N Male	1.55 (13.3)	1.55 (13.3)	1.63 (12.4)
		SMA Male	1.50 (14.0)	1.55 (13.3)	1.55 (13.3)
		SMA Female	1.50 (14.0)	1.55 (13.3)	1.55 (13.3)
0.806-0.960	<b>FSJ1P-50A-40</b>	N	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
0.806-0.960 and 1.7- 2.2	<b>FSJ1P-50A-42</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
1.7- 2.2	<b>FSJ1P-50A-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)

\* Specify frequency band. \*\* Connectors ordered separately. VSWR values apply to straight connectors only (except where noted otherwise), are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed. † High frequency version.

### Accessories

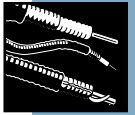
Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>F1SGRIP</b>
Support clamp kit of 10	<b>F1SGRIP-1IK</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616

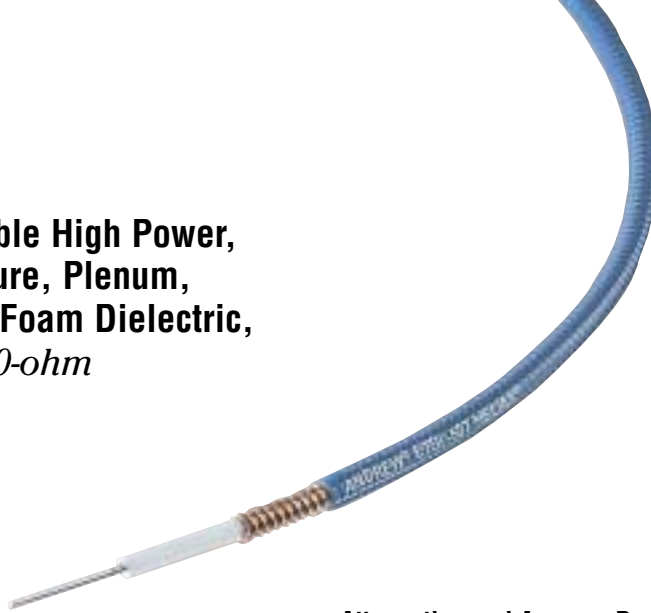
Standard Grounding Kit	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink™ Weatherproofing Kit</b>	
5/8" Coax to 1/4" Coax	<b>241475-13</b>
7/8" Coax to 1/4" Coax	<b>241475-12</b>
1-1/4" or 1-5/8" Coax to 1/4" Coax	<b>241475-11</b>
1/4" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-10</b>
1/4" to 2" Omni/Panel base Type N or DIN	<b>241548-11</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIX® Cutting Tool FSJ1/FSJ4	<b>207865</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>

Cold Shrink is a trademark of Minnesota Mining and Manufacturing Co.



# 1/4" Superflexible High Power, High Temperature, Plenum, Fluoropolymer Foam Dielectric, ETS Series – 50-ohm



## ETS1-50T

Description	Type No.
-------------	----------

### Cable Ordering Information

High Power, Plenum Cables	
1/4" Fire Retardant Jacket (CATVP, UL910)	ETS1-50T
1/4" Unjacketed, Fire Retardant (CATVP, UL910)	ETS1-50
Jumper Cable Assemblies – See page 584	

### Characteristics

Electrical	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	20.0
Velocity, percent	82
Peak Power Rating, kW	6.4
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.9 (6.2)
Outer	2.0 (6.5)
dc Breakdown, volts	1600
Jacket Spark, volts RMS	4000
Capacitance, pF/ft (pf/m)	24.6 (80.6)
Inductance, μH/ft (μH/m)	0.063 (0.205)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Silver plated copper
Diameter over Jacket, in (mm)	0.29 (7.4)
Diameter over Copper Outer Conductor, in (mm)	0.25 (6.4)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum (typical)	15 (20)
Bending Moment, lb-ft (N•m)	0.6 (0.8)
Cable Weight, lb/ft (kg/m)	0.066 (0.098)
Tensile Strength, lb (kg)	150 (68)
Flat Plate Crush Strength, lb/in (kg/mm)	100 (1.8)

### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	ETS1-50T <sup>1</sup>	ETS1-50 <sup>2</sup>
			Avg. Power kW	Avg. Power kW
0.5	0.124	0.408	6.40	6.40
1	0.176	0.577	6.40	6.40
1.5	0.216	0.707	6.40	6.40
2	0.249	0.817	6.40	6.40
10	0.56	1.83	6.40	6.40
20	0.79	2.60	6.40	6.40
30	0.97	3.19	5.48	6.13
50	1.26	4.12	4.23	4.73
88	1.67	5.49	3.18	3.55
100	1.79	5.86	2.98	3.33
108	1.86	6.09	2.86	3.20
150	2.20	7.21	2.42	2.71
174	2.37	7.77	2.25	2.51
200	2.54	8.35	2.09	2.34
300	3.13	10.3	1.70	1.90
400	3.63	11.9	1.46	1.64
450	3.86	12.7	1.38	1.54
500	4.08	13.4	1.30	1.46
512	4.13	13.5	1.29	1.44
600	4.48	14.7	1.19	1.33
700	4.86	15.9	1.10	1.22
800	5.21	17.1	1.02	1.14
824	5.29	17.4	1.01	1.12
894	5.52	18.1	0.964	1.08
960	5.73	18.8	0.928	1.04
1000	5.86	19.2	0.909	1.02
1250	6.59	21.6	0.808	0.904
1500	7.25	23.8	0.733	0.82
1700	7.75	25.4	0.686	0.768
1800	7.99	26.2	0.666	0.745
2000	8.46	27.7	0.629	0.704
2100	8.68	28.5	0.613	0.686
2200	8.90	29.2	0.598	0.669
2300	9.12	29.9	0.584	0.653
3000	10.5	34.5	0.506	0.566
3400	11.3	37.0	0.472	0.529
4000	12.3	40.4	0.432	0.484
5000	13.9	45.7	0.382	0.428
6000	15.4	50.6	0.345	0.386
8000	18.1	59.5	0.294	0.329
10000	20.6	67.5	0.259	0.289
12000	22.9	75.0	0.233	0.261
14000	25.0	82.0	0.213	0.238
16000	27.0	88.7	0.197	0.220
18000	29.0	95.1	0.184	0.206
19000	29.9	98.2	0.178	0.199
20000	30.9	101.3	0.173	0.193

**Standard Conditions:** For Attenuation: VSWR 1.0, ambient temperature 20°C (68°F).

1. For Average Power, Type ETS1-50T (jacketed): VSWR 1.0 ambient temperature 40°C (104°F), inner conductor temperature 200°C (392°F).
2. For Average Power, Type ETS1-50 (unjacketed): VSWR 1.0 ambient temperature 40°C (104°F), inner conductor temperature 250°C (482°F); no solar loading.



N Male  
F1PNMV2-H



N Male  
Right Angle  
F1PNR-HC



N Female  
Bulkhead  
F1PNF-BH



SMA Male  
F1PSM



SMA Male  
Right Angle  
F1PSR



SMA Female  
Bulkhead  
F1PSF



BNC Male  
F1PBM



TNC Male  
F1PTM-HF



UHF Male  
41SP

## Connectors

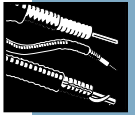
Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F1PNMV2-H</b>	Solder	Self-Clamping	SG	2.1 (53)	0.95 (24.1)
N Male	High Freq.	<b>F1PNM-HF</b>	Solder	Tab Flare	SG	1.3 (33)	0.81 (20.5)
N Male	Hex Head Right Angle	<b>F1PNR-HC</b>	Captivated	Self-Clamping	SG	1.7/1.3 (43/33)	0.95 (24.1)
N Female		<b>F1PNF</b>	Solder	Self-Flare	SG	2.2 (55.2)	0.58 (14.8)
N Female	Bulkhead	<b>F1PNF-BH</b>	Solder	Self-Clamping	SG	2.3 (58)	0.94 (23.9)
BNC Male		<b>F1PBM</b>	Solder	Self-Clamping	SS	2.0 (50)	0.69 (17.5)
UHF Male		<b>41SP</b>	Solder	Solder	BB	1.8 (46)	0.77 (19.6)
UHF Female		<b>41U</b>	Solder	Solder	BS	2.1 (53)	0.77 (19.6)
SMA Male	Up to 6 GHz	<b>F1PSM</b>	Solder	Self-Clamping	PG	1.7 (43)	0.49 (12.5)
SMA Male	Right Angle	<b>F1PSR</b>	Solder	Self-Clamping	PG	1.6/0.75 (41/19)	0.50 (12.7)
SMA Female	Up to 6 GHz, Bulkhead	<b>F1PSF</b>	Solder	Self-Clamping	PG	1.7 (43)	0.49 (12.5)
SMA Male	Up to 18 GHz	<b>41EWS</b>	Solder	Tab Flare	G	0.94 (23.9)	0.40 (10.2)
SMA Female	Up to 18 GHz	<b>41ENS</b>	Solder	Tab Flare	G	1.00 (25.4)	0.40 (10.2)
TNC Male	11 GHz and Below	<b>F1PTM</b>	Solder	Self-Clamping	SG	1.68 (43)	0.57 (14.5)
TNC Female	Bulkhead	<b>41AENT</b>	Captivated	Tab Flare	NG	1.5 (38)	0.70 (17.8)
TNC Male	Hi Freq, Above 11 GHz	<b>F1PTM-HF</b>	Captivated	Tab Flare	NG	1.9 (48.8)	0.70 (17.8)
Mini-UHF Male		<b>F1MU</b>	Captivated	Crimp	NS	1.53 (39)	0.47 (11.9)
7-16 DIN Male		<b>F1PDM</b>	Solder	Self-Clamping	SS	1.82 (46.3)	1.25 (31.75)
7-16 DIN Female		<b>F1PDF</b>	Solder	Self-Clamping	SS	1.85 (47)	0.551 (14)
7-16 DIN Female	Panel Mount	<b>F1PDF-PM</b>	Solder	Self-Clamping	SS	1.85 (47)	1.26 (32)
7-16 DIN Female	Bulkhead	<b>F1PDF-BH</b>	Solder	Self Clamping	SS	1.85 (47)	1.62 (41)

\* Stainless steel body

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, NG - Nickel Plated Body and Gold Plated Pin, NS- Nickel Plated Body and Silver Plated Pin, PG - Passivated Body and Gold Plated Pin+A135, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin, G - Stainless Steel Body and Gold Plated Pin.

**Connector Accessories** – See page 624.

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
5/8" Coax to 1/4" Coax	<b>241475-13</b>
7/8" Coax to 1/4" Coax	<b>241475-12</b>
1-1/4" or 1-5/8" Coax to 1/4" Coax	<b>241475-11</b>
1/4" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-10</b>
1/4" to 2" Omni/Panel base Type N or DIN	<b>241548-11</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIA <sup>®</sup> Cutting Tool FSJ1/FSJ4	<b>207865</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 3/8" Superflexible Foam Dielectric, FSJ Series – 50-ohm



### FSJ2-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Superflexible Cable</b>	
3/8" Standard Cable, Standard Jacket	<b>FSJ2-50</b>
<b>Fire Retardant Cables</b>	
3/8" Fire Retardant Jacket (CATVX)	<b>FSJ2RN-50</b>
3/8" Fire Retardant Jacket (CATVR)	<b>FSJ2RN-50</b>
<b>Low VSWR and Specialized Cables</b>	
3/8" Low VSWR, specify operating band	<b>FSJ2P-50-(**)</b>
Phase Stabilized and Phase Measured Cable	See page 590
<b>Jumper Cable Assemblies</b> – See page 584	
** Insert suffix number from "Low VSWR Specifications" table, page 481	
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	13.4
Velocity, percent	83
Peak Power Rating, kW	13.2
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.29 (4.23)
Outer	1.52 (4.99)
dc Breakdown, volts	2300
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	24.3 (79.7)
Inductance, µH/ft (m)	0.061 (0.200)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, standard jacket, in (mm)	0.415 (10.5)
Diameter over Jacket, fire-retardant jacket, in (mm)	0.425 (10.8)
Diameter over Copper Outer Conductor, in (mm)	0.375 (9.5)
Diameter Inner Conductor, in (mm)	0.110 (2.8)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum (typical)	20 (50)
Bending Moment, lb-ft (N•m)	1.7 (2.3)
Cable Weight, lb/ft. (kg/m)	0.078 (0.12)
Tensile Strength, lb (kg)	210 (95)
Flat Plate Crush Strength, lb/in (kg/mm)	100 (1.8)

### Attenuation and Average Power Ratings

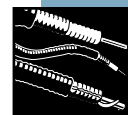
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.082	0.270	13.2
1	0.117	0.383	13.2
1.5	0.143	0.469	13.2
2	0.165	0.542	13.2
10	0.372	1.22	6.92
20	0.528	1.73	4.87
30	0.649	2.13	3.97
50	0.842	2.76	3.06
88	1.13	3.69	2.29
100	1.20	3.94	2.14
108	1.25	4.10	2.06
150	1.48	4.86	1.74
174	1.60	5.25	1.61
200	1.72	5.65	1.49
300	2.13	6.99	1.21
400	2.48	8.14	1.04
450	2.64	8.66	0.975
500	2.79	9.17	0.921
512	2.83	9.28	0.910
600	3.08	10.1	0.836
700	3.35	11.0	0.769
800	3.60	11.8	0.715
824	3.66	12.0	0.704
894	3.82	12.5	0.673
960	3.97	13.0	0.648
1000	4.06	13.3	0.634
1250	4.59	15.1	0.580
1500	5.08	16.7	0.507
1700	5.45	17.9	0.472
1800	5.63	18.5	0.457
2000	5.97	19.6	0.431
2100	6.14	20.1	0.419
2200	6.30	20.7	0.409
2300	6.47	21.2	0.398
3000	7.53	24.7	0.342
3400	8.09	26.6	0.318
4000	8.90	29.2	0.289
5000	10.2	33.3	0.254
6000	11.3	37.2	0.228
8000	13.5	44.3	0.191
10000	15.5	50.8	0.166
12000	17.4	57.0	0.148
13400	18.6	61.1	0.138

#### Standard Conditions:

For attenuation, VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.





N Male  
F2PNM-H



7-16 DIN Female  
F2PDF



7-16 DIN Male  
F2PDM-C



N Female  
F2PNF



7-16 DIN Male  
Right Angle  
F2PDR-C

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F2PNM-H</b>	Solder	Self-Flare	SG	1.9 (48)	0.94 (23)
N Male	Hex Head	<b>F2PNM-HC</b>	Captivated	Self-Flare	SG	1.9 (48)	0.94 (23)
N Female		<b>F2PNF</b>	Solder	Self-Flare	SG	2.1 (53)	0.67 (17)
N Female		<b>F2PNF-C</b>	Captivated	Self-Flare	SG	2.1 (53)	0.64 (16)
N Female	Bulkhead	<b>F2PNF-BH</b>	Solder	Self-Flare	SG	2.1 (53)	0.95 (24)
7-16 DIN Male		<b>F2PDM</b>	Solder	Self-Flare	SS	2.2 (57)	1.4 (36)
7-16 DIN Male		<b>F2PDM-C</b>	Captivated	Self-Flare	SS	2.1 (53)	1.4 (36)
7-16 DIN Female		<b>F2PDF</b>	Solder	Self-Flare	SS	2.2 (56)	1.1 (28)
7-16 DIN Female		<b>F2PDF-C</b>	Captivated	Self-Flare	SS	2.1 (51.6)	0.79 (20)
7-16 DIN Female	Panel Mount	<b>F2PDF-PM</b>	Solder	Self-Flare	SS	2.2 (56)	1.1 (28)
7-16 DIN Male	Right Angle	<b>F2PDR-C</b>	Captivated	Self-Flare	SS	1.7/1.3 (43/34)	1.4 (36)

**Plating Codes:** SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin, BS - Brass Body and Silver Plated Pin.

## Low VSWR Specifications, Type FSJ2P-50-( )

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)		
			to 10 ft (3 m)	10-20 ft (3-6 m)	20-200 ft (6-60 m)
0.806-0.960	<b>FSJ2P-50-40</b>	N	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
0.806-0.960 and 1.7- 2.2	<b>FSJ2P-50-42</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
1.7- 2.2	<b>FSJ2P-50-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
Up to 2.3 *	<b>FSJ2P-50-1</b>	N Male	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)
Up to 5.0 *	<b>FSJ2P-50-2</b>	N Male	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)
Up to 8.5 *	<b>FSJ2P-50-3</b>	N Male	1.40 (15.6)	1.40 (15.6)	1.40 (15.6)
Up to 13.4 *	<b>FSJ2P-50-4</b>	N Male	1.50 (14.0)	1.50 (14.0)	1.50 (14.0)

\* Specify operating band. \*\* Connectors ordered separately.

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

**Connector Accessories** – See page 624

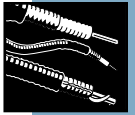
**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>F2SGRIP</b>
Support clamp kit of 10	<b>F2SGRIP-2IK</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
3/8" Coax to 3/8" Coax with N Connector	<b>241475-10</b>
5/8" Coax to 3/8" Coax	<b>241475-13</b>
7/8" Coax to 3/8" Coax	<b>241475-9</b>
1-1/4" or 1-5/8" Coax to 3/8" Coax	<b>241475-5A</b>
2-1/4" Coax to 3/8" Coax	<b>241475-8</b>
3/8" Coax to 1-1/2" Omni Panel Base type N or DIN	<b>241548-8</b>
3/8" to 2" Omni Panel Base type N or DIN	<b>241548-9</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-19</b>
5" Boots – One Hole:	<b>48939A-16</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIX® Cutting Tool FSJ2/FSJ4	<b>241372</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



# 3/8" Superflexible High Power, High Temperature, Expanded PTFE Foam Dielectric, ETS Series – 50-ohm



## ETS2-50T

Description	Type No.
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### Cable Ordering Information

High Power, Plenum Cables	
3/8" Fire Retardant Jacket (CATVP)	<b>ETS2-50T</b>
3/8" Unjacketed, Fire Retardant (CATVP)	<b>ETS2-50</b>

### Characteristics

Electrical	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	13.4
Velocity, percent	83
Peak Power Rating, kW	13.2
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.29 (4.23)
Outer	1.52 (4.99)
dc Breakdown, volts	2300
Jacket Spark, volts RMS	4000
Capacitance, pF/ft (m)	24.3 (79.7)
Inductance, µH/ft (m)	0.061 (0.200)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Silver Plated, Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.415 (10.5)
Diameter over Copper Outer Conductor, in (mm)	0.375 (9.5)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum (typical)	20 (50)
Bending Moment, lb-ft (N•m)	1.7 (2.3)
Cable Weight, lb/ft. (kg/m)	0.087 (0.13)
Tensile Strength, lb (kg)	210 (95)
Flat Plate Crush Strength, lb/in (kg/mm)	100 (1.8)

### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	ETS2-50T <sup>1</sup> Avg. Power kW	ETS2-50 <sup>2</sup> Avg. Power kW
0.5	0.083	0.271	13.2	13.2
1	0.117	0.383	13.2	13.2
1.5	0.143	0.470	13.2	13.2
2	0.166	0.543	13.2	13.2
10	0.373	1.22	13.2	13.2
20	0.531	1.74	12.2	13.2
30	0.653	2.14	9.89	11.3
50	0.849	2.79	7.61	8.67
88	1.14	3.73	5.68	6.47
100	1.22	3.99	5.31	6.05
108	1.27	4.16	5.10	5.82
150	1.51	4.94	4.29	4.89
174	1.63	5.34	3.97	4.52
200	1.75	5.75	3.69	4.20
300	2.18	7.14	2.97	3.39
400	2.54	8.34	2.54	2.90
450	2.71	8.89	2.39	2.72
500	2.87	9.41	2.25	2.57
512	2.91	9.54	2.22	2.53
600	3.17	10.4	2.04	2.32
700	3.45	11.3	1.87	2.13
800	3.72	12.2	1.74	1.98
824	3.78	12.4	1.71	1.95
894	3.96	13.0	1.63	1.86
960	4.12	13.5	1.57	1.79
1000	4.22	13.8	1.53	1.75
1250	4.78	15.7	1.35	1.54
1500	5.31	17.4	1.22	1.39
1700	5.71	18.7	1.13	1.29
1800	5.90	19.4	1.10	1.25
2000	6.28	20.6	1.03	1.17
2100	6.46	21.2	1.00	1.14
2200	6.64	21.8	0.975	1.11
2300	6.81	22.4	0.950	1.08
3000	7.98	26.2	0.811	0.924
3400	8.61	28.2	0.752	0.847
4000	9.50	31.2	0.681	0.776
5000	10.9	35.8	0.593	0.676
6000	12.2	40.1	0.529	0.603
8000	14.7	48.2	0.441	0.502
10000	17.0	55.8	0.381	0.434
12000	19.2	62.9	0.338	0.385
13400	20.7	67.8	0.314	0.358

**Standard Conditions:** For Attenuation: VSWR 1.0, ambient temperature 20°C (68°F).

1. For Average Power, Type ETS2-50T (jacketed): VSWR 1.0 ambient temperature 40°C (104°F), inner conductor temperature 200°C (392°F).

2. For Average Power, Type ETS2-50 (unjacketed): VSWR 1.0 ambient temperature 40°C (104°F), inner conductor temperature 250°C (482°F); no solar loading.



N Male  
F2PNM-H



7-16 DIN Female  
F2PDF



7-16 DIN Male  
F2PDM-C



N Female  
F2PNF



7-16 DIN Male  
Right Angle – F2PDR-C

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F2PNM-H</b>	Solder	Self-Flare	SG	1.9 (48)	0.94 (23)
N Male	Hex Head	<b>F2PNM-HC</b>	Captivated	Self-Flare	SG	1.9 (48)	0.94 (23)
N Female		<b>F2PNF</b>	Solder	Self-Flare	SG	2.1 (53)	0.67 (17)
N Female		<b>F2PNF-C</b>	Captivated	Self-Flare	SG	2.1 (53)	0.64 (16)
N Female	Bulkhead	<b>F2PNF-BH</b>	Solder	Self-Flare	SG	2.1 (53)	0.95 (24)
7-16 DIN Male		<b>F2PDM</b>	Solder	Self-Flare	SS	2.2 (57)	1.4 (36)
7-16 DIN Male		<b>F2PDM-C</b>	Captivated	Self-Flare	SS	2.1 (53)	1.4 (36)
7-16 DIN Female		<b>F2PDF</b>	Solder	Self-Flare	SS	2.2 (56)	1.1 (28)
7-16 DIN Female		<b>F2PDF-C</b>	Captivated	Self-Flare	SS	2.1 (51.6)	0.79 (20)
7-16 DIN Female	Panel Mt.	<b>F2PDF-PM</b>	Solder	Self-Flare	SS	2.2 (56)	1.1 (28)
7-16 DIN Male	Right Angle	<b>F2PDR-C</b>	Captivated	Self-Flare	SS	1.7/1.3 (43/34)	1.4 (36)

**Plating Codes:** SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin, BS - Brass Body and Silver Plated Pin.

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616

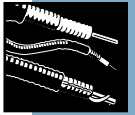
### Standard Grounding Kit

Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-19</b>
5" Boots – One Hole:	<b>48939A-16</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIA <sup>®</sup> Cutting Tool FSJ2/FSJ4	<b>241372</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



# 1/2" Superflexible Foam Dielectric, FSJ Series – 50-ohm



## FSJ4-50B

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Superflexible Cable</b>	
1/2" Standard Cable, Standard Jacket	<b>FSJ4-50B</b>
<b>Fire Retardant Cables</b>	
1/2" Fire Retardant Jacket (CATVX)	<b>FSJ4RN-50B</b>
1/2" Fire Retardant Jacket (CATVR)	<b>FSJ4RN-50B</b>
<b>Low VSWR and Specialized Cables</b>	
1/2" Low VSWR, specify operating band	<b>FSJ4P-50-(**)</b>
Phase Stabilized and Phase Measured Cable	See page 590
<b>Jumper Cable Assemblies</b> – See page 584	
** Insert suffix number from "Low VSWR Specifications" table, page 487	
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	10.2
Velocity, percent	81
Peak Power Rating, kW	15.6
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.82 (2.69)
Outer	1.00 (3.28)
dc Breakdown, volts	2500
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	25.2 (82.7)
Inductance, µH/ft (m)	0.0625 (0.205)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, standard jacket, in (mm)	0.52 (13.2)
Diameter over Jacket, fire-retardant jacket, in (mm)	0.53 (13.5)
Diameter over Copper Outer Conductor, in (mm)	0.48 (12.2)
Diameter Inner Conductor, in (mm)	0.142 (3.6)
Minimum Bending Radius, in (mm)	1.25 (32)
Number of Bends, minimum (typical)	20 (50)
Bending Moment, lb-ft (N•m)	2.0 (2.7)
Cable Weight, lb/ft. (kg/m)	0.14 (0.21)
Tensile Strength, lb (kg)	175 (80)
Flat Plate Crush Strength, lb/in (kg/mm)	110 (1.9)

### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.070	0.231	15.6
1	0.100	0.327	15.6
1.5	0.122	0.401	15.6
2	0.141	0.463	15.6
10	0.318	1.04	10.1
20	0.453	1.49	7.07
30	0.557	1.83	5.75
50	0.724	2.38	4.42
88	0.971	3.19	3.30
100	1.04	3.41	3.08
108	1.08	3.55	2.96
150	1.28	4.21	2.49
174	1.39	4.56	2.30
200	1.50	4.91	2.14
300	1.86	6.09	1.72
400	2.17	7.12	1.48
450	2.31	7.59	1.38
500	2.45	8.04	1.31
512	2.48	8.15	1.29
600	2.71	8.89	1.18
700	2.95	9.68	1.09
800	3.18	10.4	1.01
824	3.23	10.6	0.991
894	3.38	11.1	0.947
960	3.52	11.6	0.909
1000	3.60	11.8	0.889
1250	4.09	13.4	0.783
1500	4.54	14.9	0.705
1700	4.88	16.0	0.656
1800	5.05	16.6	0.634
2000	5.37	17.6	0.597
2100	5.53	18.1	0.580
2200	5.68	18.6	0.564
2300	5.83	19.1	0.549
3000	6.84	22.4	0.469
3400	7.38	24.2	0.435
4000	8.15	26.7	0.394
5000	9.35	30.7	0.343
6000	10.5	34.4	0.306
8000	12.6	41.4	0.254
10000	14.6	47.9	0.220
10200	14.8	48.5	0.217

#### Standard Conditions:

For attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.





N Male  
F4PNMV2-H



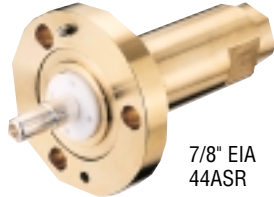
N Female  
Bulkhead  
F4PNF-BH



UHF Male  
44ASP



N Male  
Right Angle  
F4PNR-H



7/8" EIA  
44ASR



7-16 DIN Female  
F4PDF-C



7-16 DIN Male  
F4PDMV2-C

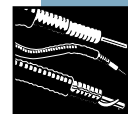
### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F4PNMV2-H</b>	Solder	Crush-Flare	SG	2.13 (54.0)	0.94 (23.8)
N Male	Hex Head	<b>F4PNMV2-HC</b>	Captivated	Crush-Flare	SG	2.13 (54.0)	0.94 (23.8)
N Male	Rt Angle, Hex Hd	<b>F4PNR-H</b>	Solder	Tab-Flare	SG	3.3/1.5 (84/38)	0.86 (21.8)
N Male		<b>F4PNR-HC</b>	Captivated	Crush-Flare	SG	2.8 (71.9)/1.6 (41.5)	1 (25.7)
N Female	–	<b>F4PNF</b>	Solder	Self-Flare	SG	2.3 (53.3)	0.88 (22.4)
N Female	–	<b>F4PNF-C</b>	Captivated	Self-Flare	SG	2.3 (53.3)	0.88 (22.4)
N Female	Bulkhead	<b>F4PNF-BH</b>	Solder	Self-Flare	SG	2.3 (53.3)	0.95 (24.1)
4.1/9.5 DIN Male	–	<b>F4PKM-C</b>	Captivated	Self-Flare	SS	2.0 (50)	0.95 (24.1)
4.1/9.5 DIN Male	Rt Angle, Outdoor Use	<b>F4PKR-C</b>	Captivated	Self-Flare	SS	2.3/1.5 (57/38)	0.95 (24.1)
7-16 DIN Male	–	<b>F4PDMV2-C</b>	Captivated	Crush Flare	SS	1.98 (50.2)	1.05 (26.7)
7-16 DIN Male	–	<b>F4PDMV2</b>	Solder	Crush Flare	SS	2.10 (53.4)	1.05 (26.7)
7-16 DIN Male	Right Angle	<b>F4PDR</b>	Solder	Self-Flare	SS	2.4-1.8 (61/46)	1.4 (35.6)
7-16 DIN Male	Right Angle	<b>F4PDR-C</b>	Captivated	Self-Flare	SS	2.1/2.0 (53/50)	1.4 (35.6)
7-16 DIN Female	–	<b>F4PDF-C</b>	Captivated	Self-Flare	SS	2.0 (50)	1.1 (27.9)
7-16 DIN Female	–	<b>F4PDF</b>	Solder	Self-Flare	SS	2.0 (50)	1.1 (27.9)
7-16 DIN Female	Bulkhead	<b>F4PDF-BH</b>	Solder	Self-Flare	SS	2.01 (51.1)	1.50 (38)
7-16 DIN Female	Panel Mount	<b>F4PDF-PM</b>	Solder	Self-Flare	SS	2.01 (51.1)	1.26 (32)
7-16 DIN Female	Bulkhead	<b>F4PDF-BHC</b>	Captivated	Self-Flare	SS	2.0 (50)	1.8 (45.7)
7-16 DIN Female	Panel Mount	<b>F4PDF-PMC</b>	Captivated	Self-Flare	SS	2.0 (50)	1.3 (33)
7/8" EIA Flange	–	<b>44ASR</b>	Solder	Tab-Flare	BS	3.3 (84)	1.4 (35.6)
UHF Male	–	<b>44ASP</b>	Solder	Tab-Flare	BS	2.1 (53)	0.84 (21.3)
UHF Female	–	<b>44ASU</b>	Solder	Tab-Flare	BS	2.3 (58)	0.84 (21.3)
HN Male	–	<b>44ASJ</b>	Solder	Tab-Flare	BB	2.4 (61)	0.84 (21.3)
SC Male	–	<b>44SPCW</b>	Solder	Tab-Flare	SG	2.7 (69)	0.88 (22.4)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



### Low VSWR Specifications, Type FSJ4P-50B-( )

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)			
			0-10 ft (0-3 m)	10-20 ft (3-6 m)	20-100 ft (6-30 m)	Above 100 ft (Above 30 m)
0.01-2.3*	<b>FSJ4P-50B-1</b>	N Male	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.15 (23.1)
		N Female	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		7-16 DIN Male	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		7-16 DIN Female	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		Rt. Angle N Male	1.15 (23.1)	1.18 (21.6)	1.30 (17.7)	1.50 (14.0)
0.01-4.2*	<b>FSJ4P-50B-2</b>	N Male	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		N Female	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.30 (17.7)
		7-16 DIN Male	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.30 (17.7)
		7-16 DIN Female	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.30 (17.7)
		Rt. Angle N Male	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)	1.50 (14.0)
0.01-7.1*	<b>FSJ4P-50B-3</b>	N Male	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
		N Female	1.35 (16.5)	1.35 (16.5)	1.40 (15.6)	1.50 (14.0)
		7-16 DIN Male	1.35 (16.5)	1.35 (16.5)	1.40 (15.6)	1.50 (14.0)
		7-16 DIN Female	1.35 (16.5)	1.35 (16.5)	1.40 (15.6)	1.50 (14.0)
0.806-0.960	<b>FSJ4P-50B-40</b>	N	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	-
		7-16 DIN	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	-
0.806-0.960 and 1.7- 2.2	<b>FSJ4P-50B-42</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	-
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	-
1.7- 2.2	<b>FSJ4P-50B-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	-
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	-
0.3-1.7*	<b>FSJ4P-50B-6</b>	N Male	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		N Female	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		7-16 DIN Male	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		7-16 DIN Female	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		Rt. Angle N Male	1.20 (20.8)	1.20 (20.8)	1.30 (17.7)	1.40 (15.6)
1.7-2.7	<b>FSJ4P-50B-7</b>	N Male	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		N Female	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		7-16 DIN Male	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		7-16 DIN Female	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)
		Rt. Angle N Male	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
4.0-8.0*	<b>FSJ4P-50B-8</b>	N Male	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)	1.40 (15.6)
		N Female	1.50 (14.0)	1.50 (14.0)	1.50 (14.0)	1.40 (15.6)
		7-16 DIN Male	1.50 (14.0)	1.50 (14.0)	1.50 (14.0)	1.40 (15.6)
		7-16 DIN Female	1.50 (14.0)	1.50 (14.0)	1.50 (14.0)	1.40 (15.6)

\* Specify operating band. \*\* Connectors ordered separately.

VSWR values apply to straight connectors only (except where noted otherwise), are guaranteed for factory fit assemblies and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>43211A</b>
<b>Snap-in Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706A-1</b>
<b>Support/Hoisting Grip.</b> Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>F4SGRIP</b>
Support clamp kit of 10	<b>F4SGRIP-4IK</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>Standard Grounding Kits</b>	
Factory attached one-hole lug 24"	<b>204989-1</b>
Factory attached two-hole lug 24"	<b>241088-1</b>
Field attached one-hole lug 36"	<b>204989-21</b>
Field attached two-hole lug 36"	<b>241088-6</b>

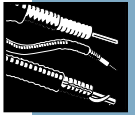
Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>WeatherShield™ Connector Protection Housing</b>	
LDF5 to FSJ4	<b>WS-L5F4</b>
LDF6 to FSJ4	<b>WS-L6F4</b>
LDF7 to FSJ4	<b>WS-L7F4</b>
<b>Cold Shrink Weatherproofing Kit</b>	
1/2" Coax N Connector to 1/2" Coax N Connector	<b>241474-4</b>
5/8" Coax to 1/2" Coax	<b>241475-13</b>
7/8" Coax to 1/2" Coax	<b>241475-9</b>
1-1/4" or 1-5/8" Coax to 1/2" Coax	<b>241475-5A</b>
2-1/4" Coax to 1/2" Coax	<b>241475-8</b>
1/2" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-8</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>

### Entry Systems – For entry systems offerings see pages 619-620

Standard Cable Entry Boots	4" Boots	5" Boots
One Hole:	<b>204679A-5</b>	<b>48939A-6</b>
Three Hole:	<b>204679A-7</b>	<b>48939A-8</b>
Four Hole	<b>204679A-16</b>	<b>48939A-17</b>

### Tools – for additional tool offerings see pages 620-623

EASIX® Plus Automated Cable Prep Tool (V2 connectors only)	<b>CPT-F4B</b>
EASIX® Cutting Tool FSJ4/FSJ1	<b>207865</b>
EASIX® Cutting Tool FSJ4/FSJ2	<b>241372</b>
Cable Flare Tool	<b>224363</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 3/8" Extraflexible Foam Dielectric, EFX Series – 50-ohm



### EFX2-50

Description	Type No.
-------------	----------

#### Cable Ordering Information

Extraflexible Cable	
3/8" Extraflexible Cable, Standard Jacket	<b>EFX2-50</b>
Fire Retardant Cables	
3/8" Fire Retardant Jacket (CATVX)	<b>EFX2RN-50</b>
3/8" Fire Retardant Jacket (CATVR)	<b>EFX2RN-50</b>
Low VSWR Cables	
	<b>EFX2P-50-(**)</b>
Jumper Cable Assemblies – See page 584	

\*\* Insert suffix number from "Low VSWR Specifications" table, page 490

#### Characteristics

Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	13.5
Velocity, percent	85
Peak Power Rating, kW	15.6
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.1 (3.6)
Outer	0.92 (3.0)
dc Breakdown, volts	2500
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	24.1 (79.0)
Inductance, µH/ft (m)	0.06 (0.20)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.45 (11.3)
Diameter over Copper Outer Conductor, in (mm)	0.38 (9.7)
Minimum Bending Radius, in (mm)	1.75 (45)
Number of Bends, minimum (typical)	15
Bending Moment, lb-ft (N•m)	1.7 (2.3)
Cable Weight, lb/ft (kg/m)	0.09 (0.13)
Tensile Strength, lb (kg)	175 (79)
Flat Plate Crush Strength, lb/in (kg/mm)	120 (2.1)

#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.074	0.244	15.6
1	0.105	0.345	15.6
1.5	0.129	0.423	15.6
2	0.149	0.488	15.6
10	0.335	1.10	6.97
20	0.476	1.56	4.90
30	0.584	1.92	3.99
50	0.759	2.49	3.07
88	1.01	3.33	2.30
100	1.08	3.56	2.15
108	1.13	3.70	2.07
150	1.34	4.39	1.74
174	1.44	4.74	1.61
200	1.55	5.10	1.50
300	1.92	6.31	1.21
400	2.24	7.35	1.04
450	2.39	7.83	0.978
500	2.52	8.28	0.924
512	2.56	8.39	0.913
600	2.78	9.13	0.838
700	3.03	9.93	0.771
800	3.25	10.7	0.717
824	3.31	10.8	0.706
894	3.46	11.3	0.675
960	3.59	11.8	0.649
1000	3.68	12.1	0.635
1250	4.16	13.6	0.561
1500	4.60	15.1	0.507
1700	4.94	16.2	0.473
1800	5.10	16.7	0.458
2000	5.41	17.8	0.431
2100	5.57	18.3	0.419
2200	5.71	18.7	0.408
2300	5.86	19.2	0.398
3000	6.83	22.4	0.342
3400	7.35	24.1	0.318
4000	8.08	26.5	0.289
5000	9.23	30.3	0.253
6000	10.3	33.8	0.227
8000	12.3	40.3	0.190
10000	14.1	46.3	0.165
12000	15.9	52.0	0.147
13500	17.1	56.1	0.137

#### Standard Conditions:

For attenuation, VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



E2PNM-H  
N Male



E2PNR-HC  
N Male Right Angle

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>E2PNM-H</b>	Solder	Self-Flare	SG	2.0 (52)	0.94 (23.9)
N Male		<b>E2PNM-HC</b>	Captivated	Self-Flare	SG	2.16 (54.8)/0.89 (17.6)	0.89 (17.6)
N Male	Right Angle	<b>E2PNR-HC</b>	Captivated	Self-Flare	SG	2.4/1.5 (60.4/37.7)	0.91 (23.1)
N Female	–	<b>E2PNF-C</b>	Captivated	Self-Flare	SG	–	–
N Female	–	<b>E2PNF</b>	Solder	Self-Flare	SG	2.4 (61)	0.69 (17.6)
N Female	Bulkhead	<b>E2PNF-BH</b>	Solder	Self-Flare	SG	2.5 (63.7)	0.86 (21.4)
7-16 DIN Male	–	<b>E2PDM-C</b>	Captivated	Self-Flare	SS	2.1 (53)	1.41 (35.9)
7-16 DIN Male	Right Angle	<b>E2PDR-C</b>	Captivated	Self-Flare	SS	2.9 (74.4)/45.5 (1.8)	1.4 (35.9)
7-16 DIN Female	–	<b>E2PDF-C</b>	Captivated	Self-Flare	SS	2.1 (53)	1.10 (27.9)
TNC Male	–	<b>E2PTM</b>	Solder	Self-Flare	SG	2.2 (56)	0.63 (16.1)
TNC Female	–	<b>E2PTF</b>	Solder	Self-Flare	NG	1.9 (49)	0.63 (16.1)
UHF Male	–	<b>E2UM</b>	Solder	Self-Flare	BB	2.2 (56)	0.77 (19.6)
UHF Female	–	<b>E2UF</b>	Solder	Self-Flare	BS	2.1 (53)	0.68 (17.3)
SMA Male	–	<b>E2SM</b>	Solder	Self-Flare	BG	2.2 (56)	0.68 (17.3)

**Plating Codes:** BG - Brass Body and Gold Plated Pin, BS - Brass Body and Silver Plated Pin, NG - Nickel Plated Body and Gold Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

## Low VSWR Specifications, Type EFX2P-50-( )

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)	
			0-10 ft (0-3 m)	10-20 ft (3-6 m)
0.806-0.960	<b>EFX2P-50-40</b>	N	1.08 (28.3)	1.10 (26.4)
		7-16 DIN	1.08 (28.3)	1.10 (26.4)
0.806-0.960 and 1.7- 2.2	<b>EFX2P-50-42</b>	N	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)
1.7- 2.2	<b>EFX2P-50-41</b>	N	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)

\*\*Connectors ordered separately. VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>E2SGRIP</b>
Support clamp kit of 10	<b>E2SGRIP-2IK</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

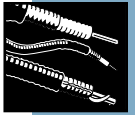
Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
3/8" Coax to 3/8" Coax with N Connector	<b>241475-10</b>
5/8" Coax to 3/8" Coax	<b>241475-13</b>
7/8" Coax to 3/8" Coax	<b>241475-9</b>
1-1/4" or 1-5/8" Coax to 3/8" Coax	<b>241475-5A</b>
2 1/4" Coax to 3/8" Coax	<b>241475-8</b>
3/8" Coax to 1-1/2" Omni Panel Base type N or DIN	<b>241548-8</b>
3/8" Coax to 2" Omni Panel Base type N or DIN	<b>241548-9</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-19</b>
5" Boots – One Hole:	<b>48939A-16</b>

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIX® Plus Automated Cable Prep Tool for:	
DIN Connectors	<b>CPT-E2L2DIN</b>
N Connectors	<b>CPT-E2L2N</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>





## 1/4" Foam Dielectric, LDF Series – 50-ohm



### LDF1-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
1/4" Standard Cable, Standard Jacket	<b>LDF1-50</b>
<b>Fire Retardant Cables</b>	
1/4" Fire Retardant Jacket (CATVX)	<b>LDF1RN-50</b>
1/4" Fire Retardant Jacket (CATVR)	<b>LDF1RN-50</b>
<b>Jumper Cable Assemblies</b> – See page 584	

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	15.8
Velocity, percent	86
Peak Power Rating, kW	12.1
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.57 (5.15)
Outer	1.02 (3.33)
dc Breakdown, volts	2200
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	23.4 (76.8)
Inductance, µH/ft (m)	0.059 (0.19)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.345 (8.8)
Diameter over Copper Outer Conductor, in (mm)	0.31 (7.7)
Diameter Inner Conductor, in (mm)	0.102 (2.6)
Minimum Bending Radius, in (mm)	3.0 (76)
Number of Bends, minimum (typical)	15 (30)
Bending Moment, lb-ft (N•m)	0.98 (1.33)
Cable Weight, lb/ft (kg/m)	0.06 (0.09)
Tensile Strength, lb (kg)	200 (91)
Flat Plate Crush Strength, lb/in (kg/mm)	80 (1.4)

#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.085	0.278	12.1
1	0.120	0.394	12.1
1.5	0.147	0.483	12.1
2	0.170	0.558	12.1
10	0.382	1.25	5.79
20	0.543	1.78	4.08
30	0.667	2.19	3.32
50	0.865	2.84	2.56
88	1.16	3.79	1.92
100	1.23	4.05	1.79
108	1.28	4.21	1.72
150	1.52	4.99	1.45
174	1.64	5.39	1.35
200	1.77	5.80	1.25
300	2.18	7.17	1.01
400	2.54	8.34	0.871
450	2.71	8.88	0.818
500	2.86	9.39	0.773
512	2.90	9.51	0.764
600	3.15	10.4	0.702
700	3.43	11.2	0.646
800	3.68	12.1	0.601
824	3.74	12.3	0.592
894	3.91	12.8	0.566
960	4.07	13.3	0.545
1000	4.16	13.6	0.533
1250	4.70	15.4	0.471
1500	5.19	17.0	0.426
1700	5.57	18.3	0.398
1800	5.75	18.9	0.385
2000	6.10	20.0	0.363
2100	6.27	20.6	0.353
2200	6.43	21.1	0.344
2300	6.60	21.6	0.336
3000	7.67	25.2	0.289
3400	8.24	27.0	0.269
4000	9.06	29.7	0.245
5000	10.3	33.9	0.215
6000	11.5	37.7	0.193
8000	13.7	44.9	0.162
10000	15.7	51.5	0.141
12000	17.6	57.7	0.126
14000	19.4	63.5	0.114
15800	20.9	68.6	0.106

#### Standard Conditions:

For attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

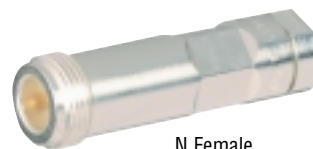
For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
L1PNR-HC



N Male  
L1PNM-H



N Female  
L1PNF

### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>L1PNM-H</b>	Solder	Self-Flare	SG	1.9 (49)	0.94 (23.9)
N Male	Hex Head	<b>L1PNM-HC</b>	Captivated	Self-Flare	SS	2 (52)	0.89 (17.6)
N Male	Right Angle	<b>L1PNR-HC</b>	Captivated	Self-Flare	SG	2.3/1.3 (58.3/32.7)	0.91 (23.1)
N Female		<b>L1PNF</b>	Solder	Self-Flare	SG	2.1 (52)	0.62 (15.7)
N Female		<b>L1PNF-C</b>	Captivated	Self-Flare	SG	—	—
N Female	Bulkhead	<b>L1PNF-BH</b>	Solder	Self-Flare	SG	2.1 (52)	0.88 (22.4)

**Plating Codes:** SG - Silver Plated Body and Gold Plated Pin

### Low VSWR Specifications, Type LDF1P-50-( )

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)	
			0-10 ft (0-3 m)	10-20 ft (3-6 m)
0.806-0.960	<b>LDF1P-50-40</b>	N 7-16 DIN	1.08 (28.3)	1.10 (26.4)
			1.08 (28.3)	1.10 (26.4)
0.806-0.960 and 1.7- 2.2	<b>LDF1P-50-42</b>	N 7-16 DIN	1.10 (26.4)	1.10 (26.4)
			1.10 (26.4)	1.10 (26.4)
1.7- 2.2	<b>LDF1P-50-41</b>	N 7-16 DIN	1.10 (26.4)	1.10 (26.4)
			1.10 (26.4)	1.10 (26.4)

\*\*Connectors ordered separately. VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

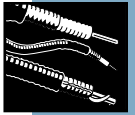
### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L1SGRIP</b>
Support clamp kit of 10	<b>L1SGRIP-11K</b>

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

Description	Type No.
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
5/8" Coax to 1/4" Coax	<b>241475-13</b>
7/8" Coax to 1/4" Coax	<b>241475-12</b>
1-1/4" or 1-5/8" Coax to 1/4" Coax	<b>241475-11</b>
1/4" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-10</b>
1/4" to 2" Omni/Panel base Type N or DIN	<b>241548-11</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIX® Plus Automated Cable Prep Tool	<b>CPT-L1</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 3/8" Foam Dielectric, LDF Series – 50-ohm



HELIAx<sup>®</sup> Coaxial Cables

### LDF2-50

Description	Type No.
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#### Cable Ordering Information

Standard Cable	
3/8" Standard Cable, Standard Jacket	<b>LDF2-50</b>
Fire Retardant Cables	
3/8" Fire Retardant Jacket (CATVX)	<b>LDF2RN-50</b>
3/8" Fire Retardant Jacket (CATVR)	<b>LDF2RN-50</b>
Low VSWR and Specialized Cables	
3/8" Low VSWR, specify operating band	<b>LDF2P-50-(**)</b>
Phase Stabilized and Phase Measured Cable	See page 590
<b>Jumper Cable Assemblies</b> – See page 584	

\*\* Insert suffix number from "Low VSWR Specifications" table, page 495

#### Characteristics

Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	13.5
Velocity, percent	88
Peak Power Rating, kW	15.6
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.06 (3.48)
Outer	0.87 (2.85)
dc Breakdown, volts	2500
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	23.0 (75.5)
Inductance, µH/ft (m)	0.058 (0.19)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.44 (11)
Diameter over Copper Outer Conductor, in (mm)	0.38 (9.7)
Diameter Inner Conductor, in (mm)	0.122 (3.1)
Minimum Bending Radius, in (mm)	3.75 (95)
Number of Bends, minimum (typical)	15 (60)
Bending Moment, lb-ft (N•m)	1.4 (1.9)
Cable Weight, lb/ft (kg/m)	0.08 (0.12)
Tensile Strength, lb (kg)	250 (113)
Flat Plate Crush Strength, lb/in (kg/mm)	110 (2.0)

#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.072	0.235	15.6
1	0.101	0.332	15.6
1.5	0.124	0.407	15.6
2	0.143	0.471	15.6
10	0.323	1.06	7.23
20	0.458	1.50	5.09
30	0.563	1.85	4.14
50	0.730	2.40	3.19
88	0.976	3.20	2.39
100	1.04	3.42	2.24
108	1.08	3.56	2.15
150	1.29	4.22	1.81
174	1.39	4.56	1.68
200	1.49	4.90	1.56
300	1.85	6.06	1.26
400	2.15	7.06	1.08
450	2.29	7.51	1.02
500	2.42	7.95	0.963
512	2.45	8.05	0.951
600	2.67	8.76	0.874
700	2.90	9.52	0.804
800	3.12	10.2	0.748
824	3.17	10.4	0.736
894	3.31	10.9	0.704
960	3.44	11.3	0.678
1000	3.52	11.6	0.663
1250	3.98	13.1	0.586
1500	4.40	14.4	0.530
1700	4.72	15.5	0.494
1800	4.87	16.0	0.479
2000	5.17	17.0	0.451
2100	5.32	17.4	0.439
2200	5.46	17.9	0.428
2300	5.60	18.4	0.417
3000	6.52	21.4	0.358
3400	7.00	23.0	0.333
4000	7.70	25.3	0.303
5000	8.78	28.8	0.266
6000	9.79	32.1	0.239
8000	11.7	38.2	0.200
10000	13.4	43.9	0.175
12000	15.0	49.2	0.156
13500	16.2	53.0	0.145

#### Standard Conditions:

For attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
L2PNM-H



N Female  
L2PNF



7-16 DIN Male  
L2PDM-C



UHF Male  
L42P



TNC Male  
L2PTM



SMA Male  
L42WS

### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>L2PNM-H</b>	Solder	Self-Flare	SG	2.1 (53)	0.94 (23.9)
N Male	Hex Head	<b>L2PNM-HC</b>	Captivated	Self-Flare	SG	2.1 (53)	0.94 (23.9)
N Female	–	<b>L2PNF</b>	Solder	Self-Flare	SG	2.4 (61)	0.63 (16.0)
N Female	Bulk Head	<b>L2PNF-BH</b>	Solder	Self-Flare	SG	2.4 (61)	0.88 (22.4)
4.1/9.5 DIN	–	<b>L2PKM-C</b>	Captivated	Self-Flare	SS	1.9 (48)	0.95 (24.1)
4.1/9.5 DIN	–	<b>L2PKM</b>	Solder	Self-Flare	SS	1.9 (48)	0.95 (24.1)
4.1/9.5 DIN	Right Angle	<b>L2PKR-C</b>	Captivated	Self-Flare	SS	2.0/1.5 (50/38)	0.95 (24.1)
7-16 DIN Male	–	<b>L2PDM-C</b>	Captivated	Self-Flare	SS	1.9 (48)	1.1 (27.9)
7-16 DIN Female	–	<b>L2PDF-C</b>	Captivated	Self-Flare	SS	1.9 (48)	1.4 (35.6)
7-16 DIN Female	Panel Mount	<b>L2PDF-PMC</b>	Captivated	Self-Flare	SS	1.9 (48)	1.25 (31.8)
UHF Male	–	<b>L42P</b>	Solder	Self-Flare	BB	2.3 (58)	0.68 (17.3)
UHF Female	–	<b>L42U</b>	Solder	Self-Flare	BB	2.3 (58)	0.91 (23.1)
SMA Male	–	<b>L42WS</b>	Solder	Self-Flare	BG	2.2 (56)	0.68 (17.3)
TNC Male	–	<b>L42EWT</b>	Solder	Self-Flare	NG	2.1 (53)	0.68 (17.3)
TNC Female	–	<b>L42ENT</b>	Solder	Self-Flare	NG	1.9 (48)	0.68 (17.3)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, NG - Nickel Plated Body and Gold Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



### Low VSWR Specifications, Type LDF2P-50-( )

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)	
			0-10 ft (0-3 m)	10-20 ft (3-6 m)
0.806-0.960	LDF2P-50-40	N	1.08 (28.3)	1.10 (26.4)
		7-16 DIN	1.08 (28.3)	1.10 (26.4)
0.806-0.960 and 1.7- 2.2	LDF2P-50-42	N	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)
1.7- 2.2	LDF2P-50-41	N	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)
Up to 2.3 *	LDF2P-50-1	N Male	1.15 (23.1)	1.20 (20.8)
		N Female	1.15 (23.1)	1.25 (19.9)
		TNC Male	1.20 (20.8)	1.30 (17.7)
Up to 4.2 *	LDF2P-50-2	N Male	1.20 (20.8)	1.35 (16.6)
		N Female	1.35 (16.6)	1.45 (14.7)
Up to 8.5 *	LDF2P-50-3	N Male	1.25 (19.9)	1.35 (16.6)
Up to 13.5 *	LDF2P-50-4	N Male: L2PNM	1.30 (17.7)	1.35 (16.6)

\* Specify operating band. \*\* Connectors ordered separately.

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties, Black, 8 inch. Indoor Use</b>	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L2SGRIP</b>
Support clamp kit of 10	<b>L2SGRIP-2IK</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
3/8" Coax to 3/8" Coax with N Connector	<b>241475-10</b>
5/8" Coax to 3/8" Coax	<b>241475-13</b>
7/8" Coax to 3/8" Coax	<b>241475-9</b>
1-1/4" or 1-5/8" Coax to 3/8" Coax	<b>241475-5A</b>
2 1/4" Coax to 3/8" Coax	<b>241475-8</b>
3/8" Coax to 1-1/2" Omni Panel Base type N or DIN	<b>241548-8</b>
3/8" Coax to 2" Omni Panel Base type N or DIN	<b>241548-9</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-19</b>
5" Boots – One Hole:	<b>48939A-16</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIA <sup>®</sup> Plus Automated Cable Prep Tool for:	
DIN Connectors	<b>CPT-E2L2DIN</b>
N Connectors	<b>CPT-E2L2N</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>





## 1/2" Foam Dielectric, LDF Series – 50-ohm



### LDF4-50A

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
1/2" Standard Cable, Standard Jacket	<b>LDF4-50A</b>
<b>Fire Retardant Cables</b>	
1/2" Fire Retardant Jacket (CATVX)	<b>LDF4RN-50A</b>
1/2" Fire Retardant Jacket (CATVR)	<b>LDF4RN-50A</b>
<b>Low VSWR and Specialized Cables</b>	
1/2" Low VSWR, specify operating band	<b>LDF4P-50A-(**)</b>
Phase Stabilized and Phase Measured Cable	See page 590
<b>Jumper Cable Assemblies</b> – See page 584	
** Insert suffix number from "Low VSWR Specifications" table, page 498	
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	8.8
Velocity, percent	88
Peak Power Rating, kW	40
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.45 (1.48)
Outer	0.58 (1.90)
dc Breakdown, volts	4000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	23.1 (75.8)
Inductance, µH/ft (m)	0.058 (0.19)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.63 (16)
Diameter over Copper Outer Conductor, in (mm)	0.55 (14)
Diameter Inner Conductor, in (mm)	0.189 (4.6)
Nominal Inside Transverse Dimensions, cm	1.11
Minimum Bending Radius, in (mm)	5 (125)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (N•m)	2.8 (3.8)
Cable Weight, lb/ft (kg/m)	0.15 (0.22)
Tensile Strength, lb (kg)	250 (113)
Flat Plate Crush Strength, lb/in (kg/mm)	110 (2.0)

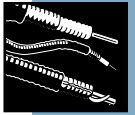
### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.045	0.149	40.0
1	0.064	0.211	35.8
1.5	0.079	0.259	29.2
2	0.091	0.299	25.3
10	0.205	0.672	11.3
20	0.291	0.954	7.93
30	0.357	1.17	6.46
50	0.463	1.52	4.98
88	0.619	2.03	3.73
100	0.661	2.17	3.49
108	0.688	2.26	3.36
150	0.815	2.67	2.83
174	0.880	2.89	2.62
200	0.946	3.10	2.44
300	1.17	3.83	1.97
400	1.36	4.46	1.70
450	1.45	4.75	1.59
500	1.53	5.02	1.51
512	1.55	5.08	1.49
600	1.69	5.53	1.37
700	1.83	6.01	1.26
800	1.97	6.46	1.17
824	2.00	6.56	1.15
894	2.09	6.85	1.10
960	2.17	7.12	1.06
1000	2.22	7.28	1.04
1250	2.51	8.23	0.921
1500	2.77	9.09	0.833
1700	2.97	9.74	0.777
1800	3.07	10.1	0.753
2000	3.25	10.7	0.710
2100	3.34	11.0	0.691
2200	3.43	11.2	0.673
2300	3.52	11.5	0.657
3000	4.09	13.4	0.565
3400	4.39	14.4	0.526
4000	4.82	15.8	0.479
5000	5.49	18.0	0.421
6000	6.11	20.1	0.378
8000	7.26	23.8	0.318
8800	7.69	25.2	0.300

**Standard Conditions:**

For attenuation, VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
L4PNM-RC



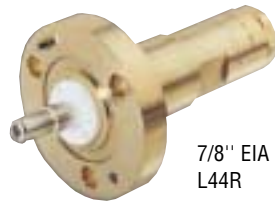
N Female  
L4PNF-RC



7-16 DIN Male  
L4PDM-RC



7-16 DIN Female  
L4PDF-RC



7/8" EIA Flange  
L44R



UHF Male  
L44P

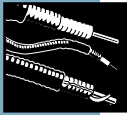
## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>L4PNM-H</b>	Solder	Self-Flare	SG	2.6 (66)	0.95 (24.1)
N Male	RingFlare	<b>L4PNM-RC</b>	Captivated	RingFlare	SG	3.0 (75.7)	0.86 (21.8)
N Male	Right Angle, Hex	<b>L4PNR-H</b>	Solder	Self-Flare	SG	3.2/1.5 (81/38)	0.95 (24.1)
N Male	Right Angle, Hex	<b>L4PNR-HC</b>	Captivated	Self-Flare	SG	3.2/1.5 (81/38)	0.91 (23.1)
N Female	–	<b>L4PNF</b>	Solder	Self-Flare	SG	2.6 (66)	0.94 (23.9)
N Female	Bulk Head	<b>L4PNF-BH</b>	Solder	Self-Flare	SG	2.6 (66)	0.96 (24.4)
N Female	Panel Mount	<b>L4PNF-PM</b>	Solder	Self-Flare	SG	2.6 (66)	1.0 (25.4)
N Female	RingFlare	<b>L4PNF-RC</b>	Captivated	RingFlare	SG	2.8 (71)	0.86 (21.8)
7-16 DIN Male	–	<b>L4PDM</b>	Solder	Self-Flare	SS	2.6 (66)	1.4 (35.6)
7-16 DIN Male	Right Angle	<b>L4PDR</b>	Solder	Self-Flare	SS	1.8/2.8 (46/72)	1.41 (35.9)
7-16 DIN Male	Right Angle	<b>L4PDR-C</b>	Captivated	Self-Flare	SS	1.8/2.8 (46/72)	1.41 (35.9)
7-16 DIN Male	RingFlare	<b>L4PDM-RC</b>	Captivated	Ring-Flare	SS	2.64 (67.1)	0.86 (21.8)
7-16 DIN Female	–	<b>L4PDF</b>	Solder	Self-Flare	SS	2.7 (69)	1.1 (27.9)
7-16 DIN Female	Bulk Head	<b>L4PDF-BH</b>	Solder	Self-Flare	SS	2.73 (69.4)	1.62 (41.1)
7-16 DIN Female	Bulk Head	<b>L4PDF-BHC</b>	Captivated	Self-Flare	SS	2.9 (74)	1.63 (41.4)
7-16 DIN Female	Panel Mount	<b>L4PDF-PM</b>	Solder	Self-Flare	SS	2.7 (69)	1.2 (29.4)
7-16 DIN Female	RingFlare	<b>L4PDF-RC</b>	Captivated	RingFlare	SS	2.8 (71)	0.86 (21.8)
7/8" EIA Flange	–	<b>L44R</b>	Solder	Self-Flare	BB	3.2 (81)	2.25 (57.2)
7/8" EIA Flange	Right Angle	<b>124990-1</b>	Solder	Self-Flare	BB	2.3/1.6 (58/41)	2.25 (57.2)
F Flange Male	–	<b>L44F</b>	Solder	Self-Flare	BB	2.3 (58)	2.25 (57.2)
F Flange Female	–	<b>209865</b>	Solder	Self-Flare	BS	2.3 (58)	2.25 (57.2)
UHF Male	–	<b>L44P</b>	Solder	Self-Flare	BB	2.3 (58)	0.91 (23.1)
UHF Female	–	<b>L44U</b>	Solder	Self-Flare	BS	2.3 (58)	0.91 (23.1)
HN Male	–	<b>L44J</b>	Solder	Self-Flare	BB	2.5 (64)	0.91 (23.1)
LC Male	–	<b>L44M</b>	Solder	Self-Flare	BB	3.6 (91)	0.91 (23.1)
TNC Female	–	<b>L44NT</b>	Solder	Self-Flare	BB	2.8 (71)	0.94 (23.9)
End Terminal	–	<b>L44T</b>	Solder	Self-Flare	BB	4.0 (102)	0.91 (23.1)
Splice	–	<b>L44Z</b>	Solder	Self-Flare	BB	3.2 (81)	1.1 (27.9)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



### Standard VSWR Specifications

Frequency Band, GHz	Type No.	Assembly VSWR, Maximum (R.L., dB)				
		1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960 and 1.7-2.0	<b>LDF4-50A</b>	1.09 (27.3)*	1.11 (25.7)*	1.13 (24.3)*	1.13 (24.3)*	1.13 (24.3)**
	<b>LDF4RN-50A</b>	1.09 (27.3)*	1.11 (25.7)*	1.13 (24.3)*	1.13 (24.3)*	1.13 (24.3)**

\* Expected typical values based on guaranteed 1.13 VSWR for bulk cable and Type N or DIN straight connectors. If guaranteed values are required, contact Andrew.

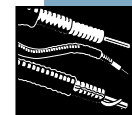
\*\* 1.13 VSWR guaranteed for bulk standard cable lengths 500 ft and above.

### Low VSWR Specifications, Type LDF4P-50A- ( )

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)				
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960	<b>LDF4P-50A-40</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
0.806-0.960 and 1.7-2.2	<b>LDF4P-50A-42</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
1.427-1.535	<b>LDF4P-50A-4</b>	N	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		F Flange, 7/8" EIA	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		SC Male, TNC Female	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		LC Male	1.35 (16.5)	1.35 (16.5)	1.32 (17.2)	1.30 (17.7)	1.30 (17.7)
		Right Angle N Male	1.35 (16.5)	1.35 (16.5)	1.32 (17.2)	1.30 (17.7)	1.30 (17.7)
1.6-2.3	<b>LDF4P-50A-10</b>	N	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)
		F Flange	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)
		F Flange Female	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		SC Male	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		Right Angle N Male	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
		TNC Female	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
		LC Male	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
1.7-2.2	<b>LDF4P-50A-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
0.940-2.7	<b>LDF4P-50A-3</b>	N	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.20 (20.8)
		F Flange, 7/8" EIA	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.20 (20.8)
		7-16 DIN Male	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.20 (20.8)
		7-16 DIN Female	1.20 (20.8)	1.20 (20.8)	1.22 (20.1)	1.22 (20.1)	1.22 (20.1)
		SC Male	1.20 (20.8)	1.20 (20.8)	1.22 (20.1)	1.22 (20.1)	1.22 (20.1)
		LC Male	1.40 (15.6)	1.40 (15.6)	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)
		Right Angle N Male	1.40 (15.6)	1.40 (15.6)	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)
		TNC Female	1.40 (15.6)	1.40 (15.6)	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)
0.01-0.806	<b>LDF4P-50A-6</b>	N Male	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)
		7/8" EIA	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)
		7-16 DIN	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)
		SC Male	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)
		LC Male, TNC Female	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.30 (17.7)	1.30 (17.7)
		Right Angle N Male	1.25 (19.1)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.32 (17.2)
0.01-2.7*	<b>LDF4P-50A-7</b>	N Male	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.25 (19.1)
		N Female	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)
		7/8" EIA	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.25 (19.1)
		7-16 DIN	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)
		SC Male	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
		Right Angle N Male	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
		TNC Female	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
		LC Male	1.35 (16.5)	1.32 (17.2)	1.32 (17.2)	1.32 (17.2)	1.32 (17.2)
3.6-6.5*	<b>LDF4P-50A-5</b>	N Male	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)
		7/8" EIA	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)
		SC Male	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
0.1-4.2*	<b>LDF4P-50A-8</b>	N Male	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)
		7-16 DIN Male	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)
		SC Male	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
		TNC Female	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
0.1-8.4*	<b>LDF4P-50A-9</b>	N Male	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)
		N Female	1.40 (15.6)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)

\* Specify operating band. \*\* Connectors ordered separately.

VSWR values apply to straight connectors only (except when noted otherwise), are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>43211A</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706-1</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft	<b>L4CLICK</b>
Mounting Hardware see page 605	
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip.</b> Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L4SGRIP</b>
Support clamp kit of 10	<b>L4SGRIP-4IK</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>

Description	Type No.	
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616		
<b>SureGround Grounding Kit</b> with standard weatherproofing		
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL4-06B1</b>	
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL4-06B2</b>	
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL4-15B4</b>	
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot		
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL4-06B1</b>	
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL4-06B2</b>	
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL4-15B4</b>	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618		
<b>WeatherShield™ Connector Protection Housing</b>		
LDF5 to LDF4	<b>WS-L5L4</b>	
LDF6 to LDF4	<b>WS-L6L4</b>	
LDF7 to LDF4	<b>WS-L7L4</b>	
<b>Cold Shrink Weatherproofing Kit</b>		
1/2" Coax N Connector to 1/2" Coax N Connector	<b>241474-4</b>	
5/8" Coax to 1/2" Coax	<b>242475-13</b>	
7/8" Coax to 1/2" Coax	<b>241475-9</b>	
1-1/4" or 1-5/8" Coax to 1/2" Coax	<b>241475-5A</b>	
2 1/4" Coax to 1/2" Coax	<b>241475-8</b>	
1/2" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-8</b>	
1/2" to 2" Omni/Panel base Type N or DIN	<b>241548-9</b>	
1/2" LDF4 to Antenna Type N interface	<b>241548-4</b>	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619-620		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-5</b>	<b>48939A-6</b>
Three Hole:	<b>204679A-7</b>	<b>48939A-8</b>
Four Hole	<b>204679A-16</b>	<b>48939A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623		
EASIAx® Plus Automated Cable Prep Tool	<b>CPT-L4ARC</b>	
EASIAx® Cutting Tool	<b>207866</b>	
Cable Flare Tool	<b>224363</b>	
DIN Connector Coupling Torque Wrench	<b>244377</b>	
N Connector Coupling Torque Wrench	<b>244379</b>	



## 5/8" Foam Dielectric, LDF Series – 50-ohm

### LDF4.5-50

Description	Type No.
-------------	----------

#### Cable Ordering Information

<b>Standard Cable</b>	
5/8" Standard Cable, Standard Jacket	<b>LDF4.5-50</b>
<b>Fire Retardant Cables</b>	
5/8" Fire Retardant Jacket (CATVX)	<b>LDF4.5RN-50</b>
5/8" Fire Retardant Jacket (CATVR)	<b>LDF4.5RN-50</b>
<b>Low VSWR and Specialized Cables</b>	
5/8" Low VSWR, specify operating band	<b>LDF4.5P-50-(**)</b>

\*\* Insert suffix number from "Low VSWR Specifications" table, page 501.

#### Characteristics

Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	6.1
Velocity, percent	89
Peak Power Rating, kW	62
dc resistance, ohms/1000 ft (1000 m)	
Inner	0.15 (0.49)
Outer	0.42 (1.37)
dc Breakdown, volts	5000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	23.2 (76.1)
Inductance, µH/ft (m)	0.057 (0.187)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.865 (21.97)
Diameter over Copper Outer Conductor, in (mm)	0.777 (19.74)
Diameter Inner Conductor, in (mm)	0.277 (7.04)
Minimum Bending Radius, in (mm)	8 (200)
Number of Bends, minimum (typical)	15 (40)
Bending Moment, lb-ft (N•m)	2.8 (3.8)
Cable Weight, lb/ft (kg/m)	0.27 (0.402)
Tensile Strength, lb (kg)	800 (363)
Flat Plate Crush Strength, lb/in (kg/mm)	70 (1.3)

#### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.032	0.105	62.0
1	0.045	0.149	53.5
1.5	0.056	0.183	43.6
2	0.064	0.211	37.7
10	0.145	0.476	16.7
20	0.207	0.678	11.8
30	0.254	0.834	9.57
50	0.330	1.08	7.36
88	0.443	1.45	5.49
100	0.473	1.55	5.14
108	0.493	1.62	4.93
150	0.586	1.92	4.15
174	0.633	2.08	3.84
200	0.682	2.24	3.57
300	0.847	2.78	2.87
400	0.989	3.24	2.46
450	1.05	3.46	2.31
500	1.12	3.66	2.18
512	1.13	3.71	2.15
600	1.23	4.05	1.97
700	1.34	4.41	1.81
800	1.45	4.75	1.68
824	1.47	4.83	1.65
894	1.54	5.05	1.58
960	1.60	5.26	1.52
1000	1.64	5.38	1.48
1250	1.86	6.11	1.31
1500	2.07	6.78	1.18
1700	2.22	7.29	1.10
1800	2.30	7.54	1.06
2000	2.44	8.02	0.996
2100	2.51	8.25	0.968
2200	2.58	8.48	0.942
2300	2.65	8.70	0.918
3000	3.11	10.2	0.783
3400	3.35	11.0	0.726
4000	3.70	12.1	0.658
5000	4.25	13.9	0.573
6000	4.76	15.6	0.511
6100	4.81	15.8	0.506

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F); no solar loading.





N Male  
L4.5PNM-RC



N Female  
L4.5PNF-RC



7-16 DIN Male  
L4.5PDM-RC



7-16 DIN Female  
L4.5PDF-RC

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Ring Flare	<b>L4.5PNM-RC</b>	Captivated	Self Flare	SG	3.2 (81.5)	1.42 (36)
N Female	Ring Flare	<b>L4.5PNF-RC</b>	Captivated	Self Flare	SG	3.0 (76)	1.32 (33.5)
7-16 DIN Male	Ring Flare	<b>L4.5PDM-RC</b>	Captivated	Self Flare	SS	3.1 (78)	1.17 (29.8)
7-16 DIN Female	Ring Flare	<b>L4.5PDF-RC</b>	Captivated	Self Flare	SS	3.25 (82)	1.17 (29.8)

**Plating Codes:** SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624.

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

## Standard VSWR Specifications

Frequency Band, GHz	Type Number	Assembly VSWR, Maximum (R.L., dB)				
		1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960 and 1.7-2.0	<b>LDF4.5-50</b> <b>LDF4.5RN-50</b>	1.12 (24.9)*	1.13 (24.3)*	1.13 (24.3)*	1.13 (24.3)*	1.13 (24.3)**

\* Expected typical values based on guaranteed 1.13 VSWR for bulk cable and Type N or DIN straight connectors. If guaranteed values are required, contact Andrew.

\*\* 1.13 VSWR guaranteed for bulk standard cable lengths 500 ft and above.

## Low VSWR Specifications, Type LDF4.5P-50-( )

Frequency Band, GHz	Type Number	Using Connector Type*	Assembly VSWR, Maximum (R.L., dB)				
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960	<b>LDF4.5P-50-40</b>	N	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)	1.10 (26.4)
1.7-2.2	<b>LDF4.5P-50-41</b>	7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
0.806-0.960 and 1.7-2.2	<b>LDF4.5P-50-42</b>	7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)

\* Connectors ordered separately

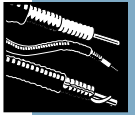
VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>42396A-9</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706A-6</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft	<b>L45CLICK</b>
Mounting Hardware see page 605	
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L45SGRIP</b>
Support clamp kit of 10	<b>L45SGRIP-4IK</b>
<b>Standard Hoisting Grip</b>	<b>29958</b>

Description	Type No.
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>SureGround Grounding Kit</b> with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL45-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL45-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL45-15B4</b>
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL45-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL45-06B2</b>
Field attached one-hole lug, 600 mm (24") lead	<b>SGPL45-06B3</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL45-15B4</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
5/8" Coax to 1/4", 3/8" or 1/2" Coax	<b>241475-13</b>
5/8" Coax to 5/8" Coax	<b>241474-7</b>
5/8" Coax to Antenna Type N or DIN interface	<b>241548-7</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-13</b> <b>48939A-14</b>
Three Hole:	<b>204679A-14</b> <b>48939A-15</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIAx® Plus Automated Cable Prep Tool	<b>CPT-L45</b>
5/8" Connector Torque Wrench	<b>244376</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 7/8" Flexible Feeder, Foam Dielectric VXL Series – 50-ohm



### VXL5-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
7/8" Standard Cable, Standard Jacket	VXL5-50
<b>Fire Retardant Cable</b>	
7/8" Fire Retardant Jacket (CATVR)	VXL5RN-50
<b>Low VSWR Cables</b>	
7/8" Low VSWR, specify operating band	VXL5P-50-(**)
<b>Jumper Cable Assemblies</b> - See page 584	
**Insert suffix number from "Low VSWR Specifications" table, page 504	
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	4.9
Velocity, percent	88
Peak Power Rating, kW	90
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.82 (2.70)
Outer	0.36 (1.19)
dc Breakdown, volts	6000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	22.6 (74.2)
Inductance, µH/ft (m)	0.06 (0.197)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper Tube
Diameter over Jacket, in (mm)	1.08 (27.5)
Diameter over Copper Outer Conductor, in (mm)	0.98 (24.9)
Diameter Inner Conductor, in (mm)	0.371 (9.42)
Minimum Bending Radius, in (mm)	5 (125)
Number of Bends, minimum (typical)	15 (40)
Bending Moment, lb-ft (N•m)	12 (16.3)
Cable Weight, lb/ft (kg/m)	0.29 (0.43)
Tensile Strength, lb (kg)	225 (102)
Flat Plate Crush Strength, lb/in (kg/mm)	80 (1.4)

### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.027	0.089	90.0
1	0.038	0.126	68.5
1.5	0.047	0.154	55.9
2	0.054	0.178	48.4
10	0.122	0.402	21.5
20	0.174	0.571	15.1
30	0.214	0.702	12.3
50	0.278	0.911	9.47
88	0.372	1.22	7.07
100	0.397	1.30	6.62
108	0.413	1.36	6.36
150	0.491	1.61	5.36
174	0.530	1.74	4.96
200	0.571	1.87	4.61
300	0.707	2.32	3.72
400	0.825	2.71	3.19
450	0.878	2.88	2.99
500	0.930	3.05	2.83
512	0.942	3.09	2.79
600	1.03	3.37	2.56
700	1.12	3.66	2.36
800	1.20	3.94	2.19
824	1.22	4.01	2.16
894	1.28	4.19	2.06
960	1.33	4.36	1.98
1000	1.36	4.46	1.94
1250	1.54	5.05	1.71
1500	1.71	5.60	1.54
1700	1.83	6.01	1.44
1800	1.89	6.21	1.39
2000	2.01	6.59	1.31
2100	2.07	6.78	1.27
2200	2.12	6.97	1.24
2300	2.18	7.15	1.21
3000	2.54	8.35	1.04
3400	2.74	8.99	0.961
4000	3.02	9.90	0.873
4900	3.41	11.2	0.772

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
V5PNM-RPC



N Female  
V5PNF-RPC



7-16 DIN Male  
V5PDM-RPC



7-16 DIN Female  
V5PDF-RPC

### Connectors

Interface	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male One-Piece	<b>V5PNM-RPC</b>	Captivated	Self-Flare	SG	2.9 (74)	1.46 (37.2)
N Female One-Piece	<b>V5PNF-RPC</b>	Captivated	Self-Flare	SG	2.7 (69)	1.46 (37.2)
7-16 DIN Male One-Piece	<b>V5PDM-RPC</b>	Captivated	Self-Flare	SS	2.7 (69)	1.46 (37.2)
7-16 DIN Female One-Piece	<b>V5PDF-RPC</b>	Captivated	Self-Flare	SS	2.33 (59)	1.46 (37.2)
7/8" EIA Flange	<b>V5E78</b>	Captivated	Self-Tapping	BB	3.38 (86)	2.27 (56.7)

Plating Codes: BB - Brass Body and Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

### Standard VSWR Specifications

Frequency Band, GHz	Type Number	Assembly VSWR, Maximum (R.L., dB)				
		1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960 and 1.7-2.0	<b>VXL5-50</b>	1.09 (27.3)*	1.10 (26.4)*	1.12 (24.9)*	1.13 (24.3)*	1.13 (24.3)**
	<b>VXL5RN-50</b>	1.09 (27.3)*	1.10 (26.4)*	1.12 (24.9)*	1.13 (24.3)*	1.13 (24.3)**

\* Expected typical values based on guaranteed 1.13 VSWR for bulk cable and Type N or DIN straight connectors. If guaranteed values are required, contact Andrew.

\*\* 1.13 VSWR guaranteed for bulk standard cable lengths 500 ft and above.

### Low VSWR Specifications, Type VXL5P-50-( )

Frequency Band, GHz	Type Number	Using Connector Type*	Assembly VSWR, Maximum (R.L., dB)				
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960	<b>VXL5P-50-40</b>	N	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)	1.10 (26.4)
0.806-0.960 and 1.7-2.2	<b>VXL5P-50-42</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
1.7-2.2	<b>VXL5P-50-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)

\* Connectors ordered separately

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>42396A-5</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-in Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706A-2</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft	<b>L5CLICK</b>
Mounting Hardware see page 605	
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L5SGRIP</b>
Support clamp kit of 10	<b>L5SGRIP-5IK</b>
<b>Standard Hoisting Grip</b>	<b>19256B</b>

Description	Type No.	
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616		
<b>SureGround Grounding Kit</b> with standard weatherproofing		
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL5-06B1</b>	
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL5-06B2</b>	
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL5-15B4</b>	
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot		
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL5-06B1</b>	
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL5-06B2</b>	
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL5-15B4</b>	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618		
<b>WeatherShield™ Connector Protection Housing</b>		
VXL5 to LDF4	<b>WS-L5L4</b>	
VXL5 to FSJ4	<b>WS-L5F4</b>	
<b>Cold Shrink Weatherproofing Kit</b>		
7/8" Coax to 7/8" Coax N Connectors	<b>241474-5</b>	
1-5/8" Coax to 7/8" Coax N Connectors	<b>241475-3</b>	
7/8" Coax to 1/4" Coax	<b>241475-12</b>	
7/8" Coax to 3/8" or 1/2" Coax	<b>241475-9</b>	
7/8" Coax to Antenna Type N or DIN interface	<b>241548-5</b>	
7/8" to APTL5 Arrestors	<b>241474-5</b>	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619-620		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-2</b>	<b>48939A-1</b>
Two Hole:	<b>204679A-18</b>	–
Three Hole:	<b>204679A-15</b>	<b>48939A-2</b>
<b>Tools</b> – for additional tool offerings see pages 620-623		
EASIAx® Plus Automated Cable Prep Tool	<b>CPTL5A</b>	
EASIAx® Cutting Tool	<b>222951</b>	
Cable Flaring Tool	<b>224368</b>	
7/8" Connector Torque Wrench	<b>244378</b>	
DIN Connector Coupling Torque Wrench	<b>244377</b>	
N Connector Coupling Torque Wrench	<b>244379</b>	





## 7/8" Foam Dielectric, LDF Series – 50-ohm

### LDF5-50A

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
7/8" Standard Cable, Standard Jacket	<b>LDF5-50A</b>
<b>Fire Retardant Cable</b>	
7/8" Fire Retardant Jacket (CATVR)	<b>LDF5RN-50A</b>
<b>Low VSWR and Specialized Cables</b>	
7/8" Low VSWR, specify operating band	<b>LDF5P-50A-(**)</b>

\*\* Insert suffix number from "Low VSWR Specifications" table, page 508.

#### Characteristics

Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	5.0
Velocity, percent	89
Peak Power Rating, kW	91
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.32 (1.05)
Outer	0.36 (1.18)
dc Breakdown, volts	6000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	22.8 (75.0)
Inductance, μH/ft (m)	0.057 (0.187)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	1.09 (28)
Diameter over Copper Outer Conductor, in (mm)	0.98 (24.9)
Diameter Inner Conductor, in (mm)	0.355 (9.0)
Nominal Inside Transverse Dimensions, cm	2.11
Minimum Bending Radius, in (mm)	10 (250)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (N•m)	12 (16.3)
Cable Weight, lb/ft (kg/m)	0.33 (0.49)
Tensile Strength, lb (kg)	325 (147)
Flat Plate Crush Strength, lb/in (kg/mm)	80 (1.4)

\* A 75-ohm 7/8" diameter cable is available. Contact Andrew for further information.

#### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.025	0.081	91.0
1	0.035	0.115	78.6
1.5	0.043	0.141	64.1
2	0.050	0.163	55.5
10	0.112	0.366	24.6
20	0.159	0.521	17.3
30	0.195	0.641	14.1
50	0.254	0.833	10.8
88	0.340	1.12	8.08
100	0.364	1.19	7.56
108	0.378	1.24	7.26
150	0.449	1.47	6.12
174	0.486	1.59	5.66
200	0.523	1.72	5.26
300	0.649	2.13	4.24
400	0.758	2.49	3.63
450	0.808	2.65	3.41
500	0.855	2.81	3.22
512	0.866	2.84	3.17
600	0.945	3.10	2.91
700	1.03	3.37	2.67
800	1.11	3.63	2.48
824	1.13	3.69	2.44
894	1.18	3.87	2.34
960	1.23	4.02	2.24
1000	1.25	4.12	2.19
1250	1.42	4.67	1.93
1500	1.58	5.18	1.74
1700	1.70	5.56	1.62
1800	1.75	5.75	1.57
2000	1.86	6.11	1.48
2100	1.92	6.29	1.44
2200	1.97	6.46	1.40
2300	2.02	6.63	1.36
3000	2.37	7.76	1.16
3400	2.55	8.37	1.08
4000	2.81	9.23	0.978
5000	3.23	10.6	0.853

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F); no solar loading.



7-16 DIN Female  
L5PDF-RPC



7-16 DIN Male  
L5PDM-RPC



N Male  
L5PNM-RPC



N Female  
L5PNF-RPC



7/8" EIA Flange  
L45R



F Flange Male  
L45F

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	OnePiece	<b>L5PNM-RPC</b>	Captivated	Self-Flare	SG	2.9 (74)	1.46 (37.2)
N Male	RingFlare	<b>L5PNM-RC</b>	Captivated	Self-Flare	SG	3.0 (76)	1.35 (34.3)
N Female	OnePiece	<b>L5PNF-RPC</b>	Captivated	Self-Flare	SG	2.7 (69)	1.46 (37.2)
N Female	RingFlare	<b>L5PNF-RC</b>	Captivated	Self-Flare	SG	2.9 (74)	1.35 (34.3)
7-16 DIN Male	OnePiece	<b>L5PDM-RPC</b>	Captivated	Self-Flare	SS	2.7 (69)	1.46 (37.2)
7-16 DIN Male	RingFlare	<b>L5PDM-RC</b>	Captivated	Self-Flare	SS	3.1 (79)	1.34 (34.0)
7-16 DIN Female	OnePiece	<b>L5PDF-RPC</b>	Captivated	Self-Flare	SS	2.33 (59.1)	1.46 (37.2)
7-16 DIN Female	RingFlare	<b>L5PDF-RC</b>	Captivated	RingFlare	SS	2.9 (74)	1.36 (34.5)
7-16 DIN Female	Panel Mount	<b>L5PDF-PM</b>	Self-Tapping	Self-Flare	SS	2.7 (69)	1.35 (34.4)
7-16 DIN Female	Bulkhead	<b>L5PDF-BH</b>	Self-Tapping	Self-Flare	SS	2.7 (69)	1.9 (48.3)
7-16 DIN Male	Right Angle	<b>L5PDR</b>	Self-Tapping	Self-Flare	SS	3.3/2.5 (85/64)	1.4 (35.6)
7/8" EIA Flange	-	<b>L45R</b>	Self-Tapping	Self-Flare	BB	3.3 (84)	2.25 (57)
7/8" EIA Flange	Right Angle	<b>124800-1</b>	Self-Tapping	Self-Flare	BB	3.9/1.3 (99/33)	2.25 (57)
F Flange Male	-	<b>L45F</b>	Self-Tapping	Self-Flare	BB	1.8 (46)	2.25 (57)
F Flange Female	-	<b>48041</b>	Self-Tapping	Self-Flare	BB	1.8 (46)	2.25 (57)
Splice	-	<b>L45Z</b>	Self-Tapping	Self-Flare	BB	3.3 (84)	1.5 (38)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624



### Standard VSWR Specifications

Frequency Band, GHz	Type Number	Assembly VSWR, Maximum (R.L., dB)				
		1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960	<b>LDF5-50A</b>	1.09 (27.3)*	1.10 (26.4)*	1.11 (25.7)*	1.13 (24.3)*	1.13 (24.3)**
and 1.7-2.0	<b>LDF5RN-50A</b>	1.09 (27.3)*	1.10 (26.4)*	1.11 (25.7)*	1.13 (24.3)*	1.13 (24.3)**

\* Expected typical values based on guaranteed 1.13 VSWR for bulk cable and Type N or DIN straight connectors. If guaranteed values are required, contact Andrew.

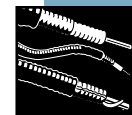
\*\* 1.13 VSWR guaranteed for bulk standard cable lengths 500 ft and above.

### Low VSWR Specifications, Type LDF5P-50A-( )

Frequency Band, GHz	Type Number	Using Connector Type*	Assembly VSWR, Maximum (R.L., dB)				
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.780-0.960	<b>LDF5P-50A-10A</b>	N	1.07 (29.4)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.07 (29.4)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
0.824-0.960	<b>LDF5P-50A-40</b>	N	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)
		7-16 DIN	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)
0.806-0.960 and 1.7-2.2	<b>LDF5P-50A-42</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
0.01-1.0*	<b>LDF5P-50A-5A</b>	N	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)
		7/8" EIA	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)
		LC	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)
1.38-1.540	<b>LDF5P-50A-11A</b>	N	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		7/8" EIA	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		F Flange	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
1.7-2.2	<b>LDF5P-50A-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
1.60-2.3	<b>LDF5P-50A-12A</b>	N Male	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		N Female	1.12 (24.9)	1.12 (24.9)	1.12 (24.9)	1.12 (24.9)	1.12 (24.9)
		7/8" EIA	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		F Flange	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
2.3-2.7	<b>LDF5P-50A-13A</b>	N Male	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		N Female	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.18 (21.6)	1.18 (21.6)
		7/8" EIA	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		F Flange	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
1.7-4.2	<b>LDF5P-50A-7A</b>	N Male	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		N Female	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
		7/8" EIA	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
		7-16 DIN Male	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		7-16 DIN Female	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
0.01-4.2*	<b>LDF5P-50A-14A</b>	N Male	1.10 (26.4)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		N Female	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		7/8" EIA	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN Male	1.10 (26.4)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN Female	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		LC	1.25 (19.1)	1.30 (17.7)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
0.01-5.0*	<b>LDF5P-50A-15A</b>	N	1.15 (23.1)	1.20 (20.8)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
		7/8" EIA	1.30 (17.7)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN Male	1.15 (23.1)	1.20 (20.8)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN Female	1.30 (17.7)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)

\* Connectors ordered separately

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>42396A-5</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For prepunched 3/4" (19 mm) holes on tower member or adapters. Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706A-2</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft	<b>L5CLICK</b>
Mounting Hardware see page 605	
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip.</b> Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L5SGRIP</b>
Support clamp kit of 10	<b>L5SGRIP-5IK</b>
<b>Standard Hoisting Grip</b>	<b>19256B</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>SureGround Grounding Kit</b> with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL5-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL5-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL5-15B4</b>
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL5-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL5-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL5-15B4</b>
<b>Arrestor Plus Integrated T-Series Arrestors</b> – see page 614	
Bulkhead N Female	<b>APTL5-BNF-(*)</b>
Bulkhead 7-16 DIN Female	<b>APTL5-BDF-(*)</b>

\*Frequency band. See page 614.

Description	Type No.	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618		
<b>WeatherShield™ Connector Protection Housing</b>		
LDF5 to LDF4	<b>WS-L5L4</b>	
LDF5 to FSJ4	<b>WS-L5F4</b>	
<b>Cold Shrink Weatherproofing Kit</b>		
7/8" Coax to 7/8" Coax N Connectors	<b>241474-5</b>	
1-5/8" Coax to 7/8" Coax N Connectors	<b>241475-3</b>	
7/8" Coax to 1/4" Coax	<b>241475-12</b>	
7/8" Coax to 3/8" or 1/2" Coax	<b>241475-9</b>	
7/8" Coax to Antenna Type N or DIN interface	<b>241548-5</b>	
7/8" to APTL5 Arrestors	<b>241474-5</b>	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619-620		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-2</b>	<b>48939A-1</b>
Two Hole:	<b>204679A-18</b>	–
Three Hole:	<b>204679A-15</b>	<b>48939A-2</b>
<b>Tools</b> – for additional tool offerings see pages 620-623		
EASIAx® Plus Automated Cable Prep Tool	<b>CPTL5A</b>	
EASIAx® Cutting Tool	<b>222951</b>	
Cable Flaring Tool	<b>224368</b>	
7/8" Connector Torque Wrench	<b>244378</b>	
DIN Connector Coupling Torque Wrench	<b>244377</b>	
N Connector Coupling Torque Wrench	<b>244379</b>	



## 1-1/4" Flexible Feeder, Foam Dielectric VXL Series - 50-ohm



### VXL6-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
1-1/4" Standard Cable, Standard Jacket	<b>VXL6-50</b>
<b>Fire Retardant Cable</b>	
1-1/4" Fire Retardant Jacket (CATVR)	<b>VXL6RN-50</b>
<b>Low VSWR and Specialized Cables</b>	
1-1/4" Low VSWR, specify operating band	<b>VXL6P-50-(**)</b>

\*\* Insert suffix number from "Low VSWR Specifications" table, page 511

#### Characteristics

Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	3.3
Velocity, percent	88
Peak Power Rating, kW	180
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.54 (1.77)
Outer	0.25 (0.82)
dc Breakdown, volts	8500
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	22.6 (74.2)
Inductance, µH/ft (m)	0.05 (0.194)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper Tube
Diameter over Jacket, in (mm)	1.55 (39.4)
Diameter over Copper Outer Conductor, in (mm)	1.41 (35.8)
Diameter Inner Conductor, in (mm)	0.536 (13.6)
Minimum Bending Radius, in (mm)	8 (200)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (Nim)	22 (30.4)
Cable Weight, lb/ft (kg/m)	0.5 (0.74)
Tensile Strength, lb (kg)	400 (181)
Flat Plate Crush Strength, lb/in (kg/mm)	75 (1.3)

#### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power kW
0.5	0.018	0.060	154.35
1	0.026	0.085	108.94
1.5	0.032	0.104	88.83
2	0.037	0.121	76.84
10	0.083	0.273	34.00
20	0.119	0.389	23.85
30	0.146	0.479	19.36
50	0.190	0.625	14.86
88	0.256	0.840	11.05
100	0.274	0.899	10.33
108	0.285	0.936	9.9
150	0.340	1.12	8.32
174	0.368	1.21	7.69
200	0.397	1.30	7.13
300	0.495	1.62	5.72
400	0.580	1.90	4.88
450	0.619	2.03	4.57
500	0.657	2.15	4.31
512	0.666	2.18	4.25
600	0.728	2.39	3.89
700	0.795	2.61	3.56
800	0.858	2.81	3.30
824	0.872	2.86	3.25
894	0.914	3.00	3.10
960	0.953	3.13	2.97
1000	0.976	3.20	2.90
1250	1.11	3.65	2.55
1500	1.24	4.07	2.29
1700	1.34	4.38	2.12
1800	1.38	4.54	2.05
2000	1.47	4.83	1.92
2100	1.52	4.98	1.87
2200	1.56	5.12	1.81
2300	1.61	5.27	1.76
3000	1.89	6.21	1.50
3300	2.01	6.59	1.41

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F). For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.





N Male  
V6PNM-RPC



N Female  
V6PNF-RPC



7-16 DIN Male  
V6PDM-RPC



7-16 DIN Female  
V6PDF-RPC

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	OnePiece	<b>V6PNM-RPC</b>	Captivated	Self-Flare	SG	3.3 (84)	2.03 (51.6)
N Female	OnePiece	<b>V6PNF-RPC</b>	Captivated	Self-Flare	SG	4.0 (102)	2.03 (51.6)
7-16 DIN Male	OnePiece	<b>V6PDM-RPC</b>	Captivated	Self-Flare	SS	3.6 (91)	2.03 (51.6)
7-16 DIN Female	OnePiece	<b>V6PDF-RPC</b>	Captivated	Self-Flare	SS	3.5 (89)	2.03 (51.6)

**Plating Codes:** SG - Silver Plated Body and Gold Plated Pin. SS - Silver Plated Body and Pin.

**Connector Accessories** - See page 624

## Standard VSWR Specifications

Frequency Band, GHz	Type No.	Assembly VSWR, Maximum (R.L., dB)				
		1-25 ft (3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150m)	Above 500 ft (150 m)
0.806-0.960 and 1.7-2.0	<b>VXL6-50</b> <b>VXL6RN-50</b>	1.10 (26.4)*	1.11 (25.7)*	1.12 (24.9)*	1.13 (24.3)*	1.13 (24.3)**

\* Expected typical values based on guaranteed 1.13 VSWR for bulk cable and Type N or DIN straight connectors. If guaranteed values are required, contact Andrew.

\*\* 1.13 VSWR guaranteed for bulk standard cable lengths 500 ft and above.

## Low VSWR Specifications, Type VXL6P-50-( )

Frequency Band, GHz	Type No.	Using Connector Type*	Assembly VSWR, Maximum (R.L., dB)				
			1 to 25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960	<b>VXL6P-50-40</b>	N	1.08 (28.3)	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)
		7-16 DIN	1.08 (28.3)	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)
0.806-0.960 and 1.7-2.2	<b>VXL6P-50-42</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
1.7-2.2	<b>VXL6P-50-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)

\* Connectors ordered separately.

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>42396A-1</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706-3</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft Mounting Hardware see page 605	<b>L6CLICK</b>
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip.</b> Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L6SGRIP</b>
Support clamp kit of 10	<b>L6SGRIP-6IK</b>
<b>Standard Hoisting Grip</b>	<b>29961</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616

**SureGround Grounding Kit** with standard weatherproofing

Factory attached one-hole lug, 600 mm (24") lead	<b>SGL6-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL6-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL6-15B4</b>

**SureGround Plus Grounding Kit** with weatherproofing boot

Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL6-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL6-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL6-15B4</b>

Description	Type No.	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618		
<b>WeatherShield™ Connector Protection Housing</b>		
VXL6 to LDF4	<b>WS-L6L4</b>	
VXL6 to FSJ4	<b>WS-L6F4</b>	
<b>Cold Shrink Weatherproofing Kit</b>		
1-1/4" Coax to 1-1/4" Coax N Connectors	<b>241474-6</b>	
1-1/4" Coax to 1/4" Coax	<b>241475-11</b>	
1-1/4" Coax to 3/8" or 1/2" Coax	<b>241475-5A</b>	
1-1/4" to APTL6 Arrestors	<b>241474-6</b>	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619-620		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-3</b>	<b>48939A-2</b>
<b>Tools</b> – for additional tool offerings see pages 620-623		
EASIX <sup>®</sup> Plus Automated Cable Prep Tool	<b>CPTL6</b>	
1-1/4" Connector Torque Wrench	<b>244375</b>	
DIN Connector Coupling Torque Wrench	<b>244377</b>	
N Connector Coupling Torque Wrench	<b>244379</b>	



## 1-1/4" Foam Dielectric, LDF Series – 50-ohm

### LDF6-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
1-1/4" Standard Cable, Standard Jacket	<b>LDF6-50</b>
<b>Fire Retardant Cable</b>	
1-1/4" Fire Retardant Jacket (CATVR)	<b>LDF6RN-50</b>
<b>Low VSWR and Specialized Cables</b>	
1-1/4" Low VSWR, specify operating band	<b>LDF6P-50-(**)</b>

\*\* Insert suffix number from "Low VSWR Specifications" table, page 515

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	3.3
Velocity, percent	89
Peak Power Rating, kW	205
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.22 (0.72)
Outer	0.19 (0.62)
dc Breakdown, volts	9000
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	22.9 (75.1)
Inductance, µH/ft (m)	0.056 (0.184)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	1.55 (39.4)
Diameter over Copper Outer Conductor, in (mm)	1.41 (35.8)
Diameter Inner Conductor, in (mm)	0.516 (13.1)
Nominal Inside Transverse Dimensions, cm	3.11
Minimum Bending Radius, in (mm)	15 (380)
Number of Bends, minimum (typical)	15 (40)
Bending Moment, lb-ft (N•m)	36 (49)
Cable Weight, lb/ft (kg/m)	0.63 (0.94)
Tensile Strength, lb (kg)	1300 (590)
Flat Plate Crush Strength, lb/in (kg/mm)	125 (2.2)

#### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.017	0.056	175.0
1	0.024	0.079	123.0
1.5	0.030	0.097	101.0
2	0.034	0.112	87.1
10	0.077	0.253	38.6
20	0.110	0.361	27.1
30	0.135	0.444	22.0
50	0.176	0.579	16.9
88	0.237	0.778	12.6
100	0.254	0.832	11.7
108	0.264	0.867	11.3
150	0.314	1.03	9.47
174	0.340	1.12	8.75
200	0.367	1.20	8.12
300	0.457	1.50	6.52
400	0.535	1.76	5.57
450	0.571	1.87	5.22
500	0.606	1.99	4.92
512	0.614	2.01	4.86
600	0.671	2.20	4.44
700	0.732	2.40	4.07
800	0.789	2.59	3.78
824	0.803	2.63	3.71
894	0.841	2.76	3.54
960	0.876	2.87	3.40
1000	0.897	2.94	3.32
1250	1.02	3.35	2.92
1500	1.14	3.73	2.62
1700	1.22	4.02	2.43
1800	1.27	4.16	2.35
2000	1.35	4.43	2.21
2100	1.39	4.56	2.14
2200	1.43	4.69	2.08
2300	1.47	4.82	2.03
3000	1.73	5.68	1.72
3300	1.84	6.02	1.62

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F); no solar loading.



**Connectors**

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	OnePiece	<b>L6PNM-RPC</b>	Captivated	Self-Flare	SG	3.8 (96)	2.03 (51.6)
N Female	OnePiece	<b>L6PNF-RPC</b>	Captivated	Self-Flare	SG	3.1 (79)	2.03 (51.6)
N Female	RingFlare	<b>L6PNF-RC</b>	Captivated	Self-Flare	SG	3.4 (86)	2.0 (50.8)
7-16 DIN Male	OnePiece	<b>L6PDM-RPC</b>	Captivated	Self-Flare	SS	3.4 (86)	2.03 (51.6)
7-16 DIN Female	OnePiece	<b>L6PDF-RPC</b>	Captivated	Self-Flare	SS	3.4 (86)	2.03 (51.6)
7-16 DIN Female	Bulkhead	<b>L6PDF-BH</b>	Self-Tapping	Self-Flare	SS	4.1 (104)	2.0 (50.8)
7-16 DIN Female	RingFlare	<b>L6PDF-RC</b>	Captivated	Self-Flare	SS	3.2 (81)	2.0 (50.8)
7/8" EIA Flange	—	<b>L46S</b>	Self-Tapping	Self-Flare	BB	4.6 (117)	2.25 (57)
1-5/8" EIA Flange	—	<b>L46R</b>	Self-Tapping	Self-Flare	BB	5.1 (130)	3.5 (89)
F Flange Male	—	<b>L46F</b>	Self-Tapping	Self-Flare	BB	4.0 (102)	2.25 (57)
Splice	—	<b>L46Z</b>	Self-Tapping	Self-Flare	BB	3.0 (76)	2.0 (50.8)

**Plating Codes:** BB - Brass Body and Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

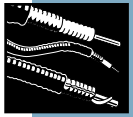
**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

**Standard VSWR Specifications**

Frequency Band, GHz	Type Number	Assembly VSWR, Maximum (R.L., dB)				
		1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150m)	Above 500 ft (150 m)
0.806-0.960 and 1.7-2.0	<b>LDF6-50</b>	1.10 (26.4)*	1.11 (25.7)*	1.12 (24.97)*	1.13 (24.3)*	1.13 (24.3)**
	<b>LDF6RN-50</b>	1.10 (26.4)*	1.11 (25.7)*	1.12 (24.97)*	1.13 (24.3)*	1.13 (24.3)**

\* Expected typical values based on guaranteed 1.13 VSWR for bulk cable and Type N or DIN straight connectors. If guaranteed values are required, contact Andrew.

\*\* 1.13 VSWR guaranteed for bulk standard cable lengths 500 ft and above.



**Low VSWR Specifications, Type LDF6P-50-( )**

Frequency Band, GHz	Type Number	Using Connector Type*	Assembly VSWR, Maximum (R.L., dB)				Above 500 ft (150 m)		
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)			
0.806-0.960	LDF6P-50-40	N	1.07 (29.4)	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)		
		7-16 DIN	1.07 (29.4)	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)		
0.806-0.960 and 1.7-2.2	LDF6P-50-42	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)		
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)		
1.427-1.535	LDF6P-50-4A	7/8" EIA	1.06 (30.7)	1.08 (28.3)	1.10 (26.4)	1.17 (22.1)	1.20 (20.8)		
		N Male	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
		"F" Flange	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		7-16 DIN Male	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)		
		7-16 DIN Female	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)		
		N Female	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		LC Male	1.20 (20.8)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.30 (17.7)		
		LC Female	1.20 (20.8)	1.25 (19.1)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)		
		1-5/8" EIA	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)		
		1.7-2.2	LDF6P-50-41	N	1.09 (27.3)	1.09 (27.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
7-16 DIN	1.09 (27.3)			1.09 (27.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)		
1.7-2.11	LDF6P-50-6A	7/8" EIA	1.06 (30.7)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)		
		N Male	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
		"F" Flange	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)		
		7-16 DIN Male	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)		
		7-16 DIN Female	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
		N Female	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)		
		LC	1.20 (20.8)	1.22 (20.1)	1.24 (19.3)	1.25 (19.1)	1.25 (19.1)		
		1-5/8" EIA	1.10 (26.4)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.20 (20.8)		
		1.85-2.2	LDF6P-50-7A	7/8" EIA	1.06 (30.7)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)
				N Male	1.06 (30.7)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)
"F" Flange	1.08 (28.3)			1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
7-16 DIN Male	1.08 (28.3)			1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
7-16 DIN Female	1.06 (30.7)			1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)		
N Female: L6PNF	1.08 (28.3)			1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
LC	1.20 (20.8)			1.22 (20.1)	1.24 (19.3)	1.25 (19.1)	1.25 (19.1)		
1-5/8" EIA	1.10 (26.4)			1.12 (24.9)	1.14 (23.7)	1.18 (21.6)	1.20 (20.8)*		
1.9-2.3	LDF6P-50-8A			7/8" EIA	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)
				N Male	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		"F" Flange	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)		
		7-16 DIN Male	1.12 (24.9)	1.22 (20.1)	1.24 (19.3)	1.25 (19.1)	1.25 (19.1)		
		7-16 DIN Female	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)		
		N Female	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.25 (19.1)	1.25 (19.1)		
		LC Male	1.20 (20.8)	1.22 (20.1)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)		
		LC Female	1.20 (20.8)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.35 (16.6)		
		1-5/8" EIA	1.20 (20.8)	1.22 (20.1)	1.24 (19.4)	1.25 (19.1)	1.25 (19.1)		
		2.3-2.7	LDF6P-50-9A	7/8" EIA	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)
N Male	1.08 (28.3)			1.10 (26.4)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)		
"F" Flange	1.10 (26.4)			1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
7-16 DIN Male	1.10 (26.4)			1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
7-16 DIN Female	1.08 (28.3)			1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)		
N Female	1.10 (26.4)			1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
LC Female	1.30 (17.7)			1.30 (17.7)	1.32 (17.2)	1.35 (16.6)	1.35 (16.6)		
LC Male	1.20 (20.8)			1.22 (20.1)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)		
1-5/8" EIA	1.20 (20.8)			1.20 (20.8)	1.22 (20.1)	1.25 (19.1)	1.25 (19.1)		
0.010-2.7*	LDF6P-50-10A			7/8" EIA	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	2.10 (9.0)	2.10 (9.0)
		N	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	2.10 (9.0)	2.10 (9.0)		
		"F" Flange	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	2.10 (9.0)	2.10 (9.0)		
		7-16 DIN	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	1.80 (10.9)	2.10 (9.0)		
		LC Female	1.30 (17.7)	1.35 (16.6)	1.40 (15.6)	1.80 (10.9)	2.10 (9.0)		
		LC Male	1.20 (20.8)	1.25 (19.1)	1.35 (16.6)	1.80 (10.9)	2.10 (9.0)		
		1-5/8" EIA	1.20 (20.8)	1.30 (17.7)	1.35 (16.6)	1.80 (10.9)	2.10 (9.0)		
0.010-3.3*	LDF6P-50-11A	7/8" EIA	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	1.80 (10.9)	2.10 (9.0)		
		N Male	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	2.10 (9.0)	2.10 (9.0)		
		"F" Flange	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	1.80 (10.9)	2.10 (9.0)		
		7-16 DIN	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	1.80 (10.9)	2.10 (9.0)		
		N Female	1.10 (26.4)	1.20 (20.8)	1.35 (16.6)	2.10 (9.0)	2.10 (9.0)		
		LC	1.30 (17.7)	1.40 (15.6)	1.50 (14.0)	1.80 (10.9)	2.10 (9.0)		

\* Connectors ordered separately

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



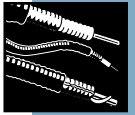


### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>42396A-1</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706-3</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft	<b>L6CLICK</b>
Mounting Hardware see page 605	
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip.</b> Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L6SGRIP</b>
Support clamp kit of 10	<b>L6SGRIP-6IK</b>
<b>Standard Hoisting Grip</b>	<b>29961</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>SureGround Grounding Kit</b> with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL6-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL6-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL6-15B4</b>
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL6-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL6-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL6-15B4</b>
<b>Arrestor Plus Integrated T-Series Arrestors</b> – see page 614	
Bulkhead N Female	<b>APTL6-BNF-(* )</b>
Bulkhead 7-16 DIN Female	<b>APTL6-BDF-(* )</b>

\* Frequency band. See page 614

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>WeatherShield™ Connector Protection Housing</b>	
LDF6 to LDF4	<b>WS-L6L4</b>
LDF6 to FSJ4	<b>WS-L6F4</b>
<b>Cold Shrink Weatherproofing Kit</b>	
1-1/4" Coax to 1-1/4" Coax N Connectors	<b>241474-6</b>
1-1/4" Coax to 1/4" Coax	<b>241475-11</b>
1-1/4" Coax to 3/8" or 1/2" Coax	<b>241475-5A</b>
1-1/4" to APTL6 Arrestors	<b>241474-6</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-3</b> <b>48939A-2</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIX <sup>®</sup> Plus Automated Cable Prep Tool	<b>CPTL6</b>
1-1/4" Connector Torque Wrench	<b>244375</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



# 1-5/8" Flexible Feeder, Foam Dielectric VXL Series - 50-ohm



HELIAX® Coaxial Cables

## VXL7-50

Description	Type No.
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### Cable Ordering Information

Standard Cable	
1-5/8" Standard Cable, Standard Jacket	<b>VXL7-50</b>
Fire Retardant Cable	
1-5/8" Fire Retardant Jacket (CATVR)	<b>VXL7RN-50</b>
Low VSWR and Specialized Cables	
1-5/8" Low VSWR, specify operating band	<b>VXL7P-50-(**)</b>

\*\* Insert suffix number from "Low VSWR Specifications" table, page 518

### Characteristics

Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	2.5
Velocity, percent	88
Peak Power Rating, kW	275
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.42 (1.39)
Outer	0.16 (0.52)
dc Breakdown, volts	10500
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	22.5 (73.8)
Inductance, µH/ft (m)	0.05 (0.194)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper Tube
Diameter over Jacket, in (mm)	1.98 (50)
Diameter over Copper Outer Conductor, in (mm)	1.825 (46.3)
Diameter Inner Conductor, in (mm)	0.688 (17.5)
Minimum Bending Radius, in (mm)	15 (375)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (Nim)	35 (48.4)
Cable Weight, lb/ft (kg/m)	0.75 (1.12)
Tensile Strength, lb (kg)	550 (249)
Flat Plate Crush Strength, lb/in (kg/mm)	110 (2.0)

### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.014	0.044	247.0
1	0.019	0.063	175.0
1.5	0.024	0.077	142.0
2	0.027	0.089	123.0
10	0.062	0.202	54.3
20	0.088	0.289	38.1
30	0.109	0.356	30.9
50	0.142	0.465	23.6
88	0.191	0.627	17.5
100	0.205	0.671	16.4
108	0.213	0.699	15.7
150	0.254	0.834	13.2
174	0.276	0.904	12.2
200	0.297	0.976	11.3
300	0.372	1.22	9.01
400	0.437	1.43	7.67
450	0.467	1.53	7.18
500	0.496	1.63	6.76
512	0.503	1.65	6.67
600	0.550	1.81	6.09
700	0.602	1.97	5.57
800	0.650	2.13	5.15
824	0.662	2.17	5.06
894	0.694	2.28	4.83
960	0.724	2.38	4.63
1000	0.742	2.43	4.52
1250	0.848	2.78	3.95
1500	0.947	3.11	3.54
1700	1.02	3.35	3.28
2000	1.13	3.71	2.96
2300	1.23	4.05	2.72
2500	1.30	4.27	2.58

#### Standard Conditions:

For Attenuation. VSWR 1.0 ambient temperature 20°C (68°F). For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
V7PNM-RPC



N Female  
V7PNF-RPC



7-16 DIN Female  
V7PDF-RPC



7-16 DIN Male  
V7PDM-RPC

### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	OnePiece	<b>V7PNM-RPC</b>	Captivated	Self-Flare	SG	4.6 (117)	2.47 (62.7)
N Female	OnePiece	<b>V7PNF-RPC</b>	Captivated	Self-Flare	SG	4.7 (119)	2.47 (62.7)
7-16 DIN Male	OnePiece	<b>V7PDM-RPC</b>	Captivated	Self-Flare	SS	4.3 (109)	2.46 (62.5)
7-16 DIN Female	OnePiece	<b>V7PDF-RPC</b>	Captivated	Self-Flare	SS	4.3 (109)	2.46 (62.5)

**Plating Codes:** SG - Silver Plated Body and Gold Plated Pin. SS - Silver Plated Body and Pin.

**Connector Accessories** - See page 624

### Standard VSWR Specifications

Frequency Band, GHz	Type No.	Assembly VSWR, Maximum (R.L., dB)				
		1-25 ft (3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960 and 1.7-2.0	<b>VXL7-50</b>	1.10 (26.4)*	1.10 (26.4)*	1.12 (24.9)*	1.13 (24.3)*	1.13 (24.3)**
	<b>VXL7RN-50</b>	1.10 (26.4)*	1.10 (26.4)*	1.12 (24.9)*	1.13 (24.3)*	1.13 (24.3)**

\* Expected typical values based on guaranteed 1.13 VSWR for bulk cable and Type N or DIN straight connectors. If guaranteed values are required, contact Andrew.

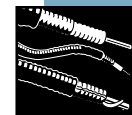
\*\* 1.13 VSWR guaranteed for bulk standard cable lengths 500 ft and above.

### Low VSWR Specifications, Type VXL7P-50-( )

Frequency Band, GHz	Type No.	Using Connector Type*	Assembly VSWR, Maximum (R.L., dB)				
			1 to 25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960	<b>VXL7P-50-40</b>	N	1.07 (29.4)	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)
		7-16 DIN	1.07 (29.4)	1.08 (28.3)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)
0.806-0.960 and 1.7-2.2	<b>VXL7P-50-42</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
1.7-2.2	<b>VXL7P-50-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)

\* Connectors ordered separately.

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>42396A-2</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706-4</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft Mounting Hardware see page 605	<b>L7CLICK</b>
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L7SGRIP</b>
Support clamp kit of 10	<b>L7SGRIP-71K</b>
<b>Standard Hoisting Grip</b>	<b>24312A</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616

<b>SureGround Grounding Kit</b> with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL7-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL7-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL7-15B4</b>
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL7-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL7-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL7-15B4</b>

Description	Type No.	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618		
<b>WeatherShield™ Connector Protection Housing</b>		
VXL7 to LDF4	<b>WS-L7L4</b>	
VXL7 to FSJ4	<b>WS-L7F4</b>	
<b>Cold Shrink Weatherproofing Kit</b>		
1-5/8" Coax to 1-1/4" Coax N Connectors	<b>241474-6</b>	
1-5/8" Coax to 1/4" Coax	<b>241475-11</b>	
1-5/8" Coax to 3/8" or 1/2" Coax	<b>241475-5A</b>	
1-5/8" to APTL7 Arrestors	<b>241474-6</b>	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619-620		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-4</b>	<b>48939A-4</b>
<b>Tools</b> – for additional tool offerings see pages 620-623		
EASIA <sup>®</sup> Plus Automated Cable Prep Tool	<b>CPTL7</b>	
1-5/8" Connector Torque Wrench	<b>244374</b>	
DIN Connector Coupling Torque Wrench	<b>244377</b>	
N Connector Coupling Torque Wrench	<b>244379</b>	



## 1-5/8" Foam Dielectric, LDF Series – 50-ohm

### LDF7-50A

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
1-5/8" Standard Cable, Standard Jacket	<b>LDF7-50A</b>
<b>Fire Retardant Cable</b>	
1-5/8" Fire Retardant Jacket (CATVR)	<b>LDF7RN-50A</b>
<b>Low VSWR and Specialized Cables</b>	
1-5/8" Low VSWR, specify operating band	<b>LDF7P-50A-(**)</b>

\*\* Insert suffix number from "Low VSWR Specifications" table, page 522.

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	2.5
Velocity, percent	88
Peak Power Rating, kW	315
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.25 (0.83)
Outer	0.16 (0.52)
dc Breakdown, volts	11000
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	23.1 (75.8)
Inductance, μH/ft (m)	0.058 (0.190)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper Tube
Diameter over Jacket, in (mm)	1.98 (50)
Diameter over Copper Outer Conductor, in (mm)	1.825 (46.3)
Diameter Inner Conductor, in (mm)	0.681 (17.3)
Nominal Inside Transverse Dimensions, cm	4.05
Minimum Bending Radius, in (mm)	20 (510)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (N•m)	40 (54.2)
Cable Weight, lb/ft (kg/m)	0.82 (1.2)
Tensile Strength, lb (kg)	800 (363)
Flat Plate Crush Strength, lb/in (kg/mm)	120 (2.1)

#### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.014	0.044	247.0
1	0.019	0.063	175.0
1.5	0.024	0.077	142.0
2	0.027	0.089	123.0
10	0.062	0.202	54.3
20	0.088	0.289	38.1
30	0.109	0.356	30.9
50	0.142	0.465	23.6
88	0.191	0.627	17.5
100	0.205	0.671	16.4
108	0.213	0.699	15.7
150	0.254	0.834	13.2
174	0.276	0.904	12.2
200	0.297	0.976	11.3
300	0.372	1.22	9.01
400	0.437	1.43	7.67
450	0.467	1.53	7.18
500	0.496	1.63	6.76
512	0.503	1.65	6.67
600	0.550	1.81	6.09
700	0.602	1.97	5.57
800	0.650	2.13	5.15
824	0.662	2.17	5.06
894	0.694	2.28	4.83
960	0.724	2.38	4.63
1000	0.742	2.43	4.52
1250	0.848	2.78	3.95
1500	0.947	3.11	3.54
1700	1.02	3.35	3.28
2000	1.13	3.71	2.96
2300	1.23	4.05	2.72
2500	1.30	4.27	2.58

#### Standard Conditions:

For Attenuation, VSWR 1.0, ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.





N Male  
L7PNM-RPC

N Female  
L7PNF-RPC

7-16 DIN Female  
L7PDF-RPC

7-16 DIN Male  
L7PDM-RPC

1-5/8" EIA Flange  
L47R

7/8" EIA Flange  
L47S

F Flange Male  
L47F

### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	OnePiece	<b>L7PNM-RPC</b>	Captivated	Self-Flare	SS	4.4 (112)	2.47 (62.7)
N Female	OnePiece	<b>L7PNF-RPC</b>	Captivated	Self-Flare	SG	4.5 (114)	2.47 (62.7)
N Female	RingFlare	<b>L7PNF-RC</b>	Captivated	Self-Flare	SG	4.2 (107)	2.36 (59.9)
7-16 DIN Male	OnePiece	<b>L7PDM-RPC</b>	Captivated	Self-Flare	SS	4.2 (107)	2.46 (62.5)
7-16 DIN Female	OnePiece	<b>L7PDF-RPC</b>	Captivated	Self-Flare	SS	4.1 (104)	2.45 (62.2)
7-16 DIN Female	RingFlare	<b>L7PDF-RC</b>	Captivated	Self-Flare	SS	3.4 (86)	2.36 (59.9)
7/8" EIA Flange	–	<b>L47S</b>	Tab Flare	Self-Flare	BB	5.1 (130)	2.25 (57)
1-5/8" EIA Flange	–	<b>L47R</b>	Tab Flare	Self-Flare	BB	5.1 (130)	3.5 (89)
F Flange Flange Male	–	<b>L47F</b>	Tab Flare	Self-Flare	BB	5.9 (150)	2.25 (57)
F Flange Flange Female	–	<b>201942</b>	Tab Flare	Self-Flare	BB	5.5 (140)	2.25 (57)
Splice	–	<b>L47Z</b>	Tab Flare	Self-Flare	BB	5.1 (130)	2.9 (74)

**Plating Codes:** BB - Brass Body and Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

### Standard VSWR Specifications

Frequency Band, GHz	Type Number	Assembly VSWR, Maximum (R.L., dB)				
		1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960	<b>LDF7-50A</b>	1.10 (26.4)*	1.10 (26.4)*	1.12 (24.97)*	1.13 (24.3)*	1.13 (24.3)**
and 1.7-2.0	<b>LDF7RN-50A</b>	1.10 (26.4)*	1.10 (26.4)*	1.12 (24.97)*	1.13 (24.3)*	1.13 (24.3)**

\* Expected typical values based on guaranteed 1.13 VSWR for bulk cable and Type N or DIN straight connectors. If guaranteed values are required, contact Andrew.

\*\* 1.13 VSWR guaranteed for bulk standard cable lengths 500 ft and above.



**Low VSWR Specifications, Type LDF7P-50A-( )**

Frequency Band, GHz	Type Number	Using Connector Type*	Assembly VSWR, Maximum (R.L., dB)						
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)		
0.780-0.960	<b>LDF7P-50A-13A</b>	N	1.07 (29.4)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)		
		7-16 DIN Male	1.07 (29.4)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)		
		7-16 DIN Female	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.12 (24.9)		
0.806-0.960	<b>LDF7P-50A-40</b>	N	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)		
		7-16 DIN	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)		
0.800-0.960 and 1.85-1.99	<b>LDF7P-50A-17A</b>	N	1.09 (27.3)	1.09 (27.3)	1.10 (26.4)	1.12 (24.9)	1.12 (24.9)		
		7-16 DIN	1.09 (27.3)	1.09 (27.3)	1.10 (26.4)	1.12 (24.9)	1.12 (24.9)		
0.806-0.960 and 1.7-2.2	<b>LDF7P-50A-42</b>	N:	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)		
		7-16 DIN	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)		
1.427-1.535	<b>LDF7P-50A-4A</b>	N	1.06 (30.7)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)		
		7-16 DIN Male	1.06 (30.7)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)		
		N Female Bulkhead	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)		
		7/8" EIA	1.06 (30.7)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)		
		"F" Flange Female	1.10 (26.4)	1.18 (21.6)	1.20 (20.8)	1.22 (20.1)	1.25 (19.1)		
		7-16 DIN Female	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)		
		LC Female	1.10 (26.4)	1.12 (24.9)	1.18 (21.6)	1.20 (20.8)	1.22 (20.1)		
		1-5/8" EIA	1.10 (26.4)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.22 (20.1)		
		"F" Flange Male	1.20 (20.8)	1.22 (20.1)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)		
		LC Male	1.30 (17.7)	1.32 (17.2)	1.35 (16.5)	1.38 (15.9)	1.40 (15.6)		
		1.7-2.2	<b>LDF7P-50A-41</b>	N	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
7-16 DIN	1.10 (26.4)			1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)		
1.7-2.11	<b>LDF7P-50A-6A</b>	N	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
		7-16 DIN Male	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)		
		N Female Bulkhead	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		7/8" EIA	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
		"F" Flange Female	1.30 (17.7)	1.32 (17.2)	1.35 (16.5)	1.38 (15.9)	1.40 (15.6)		
		7-16 DIN Female	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		LC Female	1.20 (20.8)	1.22 (20.1)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)		
		1-5/8" EIA	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		"F" Flange Male	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.25 (19.1)		
		1.85-2.11	<b>LDF7P-50A-7A</b>	N	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
				7-16 DIN Male	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.20 (20.8)
N Female Bulkhead	1.10 (26.4)			1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
7/8" EIA	1.08 (28.3)			1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
"F" Flange Female	1.20 (20.8)			1.22 (20.1)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)		
7-16 DIN Female	1.10 (26.4)			1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
LC Female	1.30 (17.7)			1.32 (17.2)	1.35 (16.5)	1.38 (15.9)	1.40 (15.6)		
1-5/8" EIA	1.10 (26.4)			1.12 (24.9)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
"F" Flange Male	1.12 (24.9)			1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.25 (19.1)		
1.9-2.3	<b>LDF7P-50A-8A</b>			N	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
				7-16 DIN Male	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
		N Female Bulkhead	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.32 (17.2)	1.35 (16.5)		
		7/8" EIA	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
		"F" Flange Female	1.30 (17.7)	1.35 (16.5)	1.40 (15.6)	1.45 (14.8)	1.50 (14.0)		
		7-16 DIN Female	1.20 (20.8)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.35 (16.5)		
		LC Female	1.25 (19.1)	1.30 (17.7)	1.35 (16.5)	1.40 (15.6)	1.40 (15.6)		
		1-5/8" EIA	1.20 (20.8)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.35 (16.5)		
		"F" Flange Male	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)		
		2.1-2.2	<b>LDF7P-50A-9A</b>	N	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
				7-16 DIN Male	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
N Female Bulkhead	1.25 (19.1)			1.28 (18.2)	1.30 (17.7)	1.32 (17.2)	1.35 (16.5)		
7/8" EIA	1.08 (28.3)			1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
"F" Flange Female	1.30 (17.7)			1.35 (16.5)	1.40 (15.6)	1.45 (14.8)	1.50 (14.0)		
7-16 DIN Female	1.20 (20.8)			1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.35 (16.5)		
LC Female	1.25 (19.1)			1.30 (17.7)	1.35 (16.5)	1.40 (15.6)	1.40 (15.6)		
1-5/8" EIA	1.15 (23.1)			1.20 (20.8)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)		
"F" Flange Male	1.20 (20.8)			1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.35 (16.5)		
0.01-2.5*	<b>LDF7P-50A-10A</b>			N	1.10 (26.4)	1.20 (20.8)	1.30 (17.7)	1.55 (13.3)	1.65 (12.2)
				7-16 DIN Male	1.10 (26.4)	1.20 (20.8)	1.30 (17.7)	1.60 (12.7)	1.65 (12.2)
		7/8" EIA	1.10 (26.4)	1.20 (20.8)	1.30 (17.7)	1.55 (13.3)	1.65 (12.2)		
		7-16 DIN Female	1.15 (23.1)	1.25 (19.1)	1.35 (16.5)	1.65 (12.2)	1.75 (11.3)		
		1-5/8" EIA	1.15 (23.1)	1.25 (19.1)	1.35 (16.5)	1.65 (12.2)	1.75 (11.3)		
		"F" Flange Male	1.10 (26.4)	1.20 (20.8)	1.30 (17.7)	1.55 (13.3)	1.65 (12.2)		

\* Connectors ordered separately

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>42396A-2</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Snap-in Hangers Kit</b> of 10. For prepunched 3/4" (19 mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706-4</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft	<b>L7CLICK</b>
Mounting Hardware see page 605	
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L7SGRIP</b>
Support clamp kit of 10	<b>L7SGRIP-7IK</b>
<b>Standard Hoisting Grip</b>	<b>24312</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>SureGround Grounding Kit</b> with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL7-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL7-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL7-15B4</b>
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL7-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL7-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL7-15B4</b>
<b>Arrestor Plus Integrated T-Series Arrestors</b> – see page 614	
Bulkhead N Female	<b>APTL7-BNF-(* )</b>
Bulkhead 7-16 DIN Female	<b>APTL7-BDF-(* )</b>

\* Frequency band. See page 614.

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>WeatherShield™ Connector Protection Housing</b>	
LDF7 to LDF4	<b>WS-L7L4</b>
LDF7 to FSJ4	<b>WS-L7F4</b>
<b>Cold Shrink Weatherproofing Kit</b>	
1-5/8" Coax to 1-5/8" Coax N Connectors	<b>241474-6</b>
1-5/8" Coax to 1/4" Coax	<b>241475-11</b>
1-5/8" Coax to 3/8" or 1/2" Coax	<b>241475-5A</b>
1-5/8" to APTL7 Arrestors	<b>241474-6</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-4</b> <b>48939A-4</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIA <sup>®</sup> Plus Automated Cable Prep Tool	<b>CPTL7</b>
1-5/8" Connector Torque Wrench	<b>244374</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 2-1/4" Foam Dielectric, LDF Series – 50-ohm

### LDF12-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
2-1/4" Standard Cable, Standard Jacket	<b>LDF12-50</b>
<b>Fire Retardant Cable</b>	
2-1/4" Fire Retardant Jacket (CATVR)	<b>LDF12RN-50</b>
<b>Low VSWR Cable</b>	
2-1/4" Low VSWR, specify operating band	<b>LDF12P-50-(**)</b>

\*\* Insert suffix number from "Low VSWR Specifications" table, page 525.

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	2.2
Velocity, percent	88
Peak Power Rating, kW	425
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.21 (0.68)
Outer	0.09 (0.29)
dc Breakdown, volts	13000
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	22.7 (74.6)
Inductance, μH/ft (m)	0.058 (0.189)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper Tube
Diameter over Jacket, in (mm)	2.35 (60)
Diameter over Copper Outer Conductor, in (mm)	2.2 (55.9)
Diameter Inner Conductor, in (mm)	0.835 (21.2)
Minimum Bending Radius, in (mm)	22 (560)
One-Time Bending Radius, in (mm)	9.5 (240)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (N•m)	70 (95)
Cable Weight, lb/ft (kg/m)	1.22 (1.82)
Tensile Strength, lb (kg)	1500 (681)
Flat Plate Crush Strength, lb/in (kg/mm)	150 (2.7)

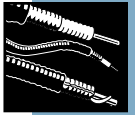
#### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.011	0.037	321.0
1	0.016	0.052	227.0
1.5	0.020	0.064	185.0
2	0.023	0.074	160.0
10	0.052	0.169	70.3
20	0.074	0.242	49.2
30	0.091	0.299	39.8
50	0.119	0.391	30.4
88	0.161	0.529	22.5
100	0.173	0.566	21.0
108	0.180	0.591	20.1
150	0.215	0.707	16.8
174	0.234	0.767	15.5
200	0.253	0.829	14.4
300	0.317	1.04	11.4
400	0.374	1.23	9.7
450	0.400	1.31	9.06
500	0.426	1.40	8.52
512	0.432	1.42	8.40
600	0.474	1.55	7.66
700	0.519	1.70	6.99
800	0.562	1.84	6.45
824	0.572	1.88	6.34
894	0.601	1.97	6.03
960	0.628	2.06	5.78
1000	0.644	2.11	5.64
1250	0.739	2.42	4.91
1500	0.828	2.72	4.38
1700	0.896	2.94	4.05
1800	0.929	3.05	3.91
2000	0.994	3.26	3.65
2100	1.03	3.37	3.54
2200	1.06	3.47	3.43

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F); no solar loading.



7-16 DIN Female  
L12PDF



3-1/8" EIA Flange  
L12FB-302

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Female	–	<b>L12PNF</b>	Self-Tapping	Self-Flare	SS	5.1 (130)	2.75 (69.9)
7-16 DIN Male	–	<b>L12PDM</b>	Self-Tapping	Self-Flare	SS	5.8 (147)	2.75 (69.9)
7-16 DIN Female	–	<b>L12PDF</b>	Self-Tapping	Self-Flare	SS	5.5 (139)	2.75 (69.9)
3 1/8" EIA Flange	Gas Pass	<b>L12FP-302</b>	Self-Tapping	Self-Flare	BS	7.6 (192)	5.19 (131.8)
3 1/8" EIA Flange	Gas Barrier	<b>L12FB-302</b>	Self-Tapping	Self-Flare	BS	7.6 (192)	5.19 (131.8)
Splice	–	<b>L12Z</b>	Self-Tapping	Self-Flare	BB	5.8 (147)	3.00 (76.2)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

## Low VSWR Specifications, Type LDF12P-50A-( )

Frequency Band, GHz	Type Number	Using Connector Type*	Assembly VSWR, Maximum (R.L., dB)				
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.806-0.960	<b>LDF12P-50-1</b>	N Female	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN Female	1.08 (28.3)	1.09 (27.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
0.806-0.96 and 1.7-2.2	<b>LDF12P-50-2</b>	N Female	1.13 (24.2)	1.14 (23.7)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN Female	1.13 (24.2)	1.14 (23.7)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)
1.7-1.9	<b>LDF12P-50-3</b>	N Female	1.13 (24.2)	1.13 (24.2)	1.14 (23.7)	1.14 (23.7)	1.15 (23.1)
		7-16 DIN Female	1.13 (24.2)	1.13 (24.2)	1.14 (23.7)	1.14 (23.7)	1.15 (23.1)

\* Connectors ordered separately

VSWR values apply to straight connectors only, are guaranteed for factory fit assemblies, and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.





### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>42396A-4</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-in Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters. Standard tower configuration spacing is 3-4 feet. (1-1.2m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>206706-5</b>
<b>Support/Hoisting Grip.</b> Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L12SGRIP</b>
Support clamp kit of 10	<b>L12SGRIP-12IK</b>
<b>Standard Hoisting Grip</b>	<b>31535</b>

### Grounding and Surge Protection – for additional grounding kits and our surge protection offerings, see pages 609-616

<b>SureGround Grounding Kit</b> with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL12-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL12-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL12-15B4</b>
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL12-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL12-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL12-15B4</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
2-1/4" Coax - to 3/8" or 1/2" Coax	<b>241475-8</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
Standard Cable Entry Boots	
4" Boots – One Hole:	<b>204679A-8</b>
5" Boots – One Hole:	<b>48939A-9</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
LDF12 Connector Torque Wrench	<b>244373</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 1/4" Air Dielectric, Plenum Rated (CATVP), HS Series – 50-ohm



### HS1RP-50A

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Plenum Cable</b>	
1/4" Fire Retardant Cable, 1/4" Fire Retardant Jacket (CATVP)	<b>HS1RP-50A</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	10
Velocity, percent	84
Peak Power Rating, kW	6.4
dc Resistance, ohms/1000 ft (1000 m)	
Inner	2.1 (6.8)
Outer	2.0 (6.5)
dc Breakdown, volts	1600
Jacket Spark, volts RMS	4000
Capacitance, pF/ft (m)	23.8 (78.0)
Inductance, µH/ft (m)	0.061 (0.202)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	0.29 (7.4)
Diameter over Copper Outer Conductor, in (mm)	0.25 (6.4)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum (typical)	15 (20)
Bending Moment, lb-ft (N•m)	1.9 (2.6)
Cable Weight, lb/ft (kg/m)	0.063 (45)
Tensile Strength, lb (kg)	100 (45)
Flat Plate Crush Strength, lb/in (kg/mm)	80 (1.4)

### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.120	0.395	6.40
1	0.170	0.559	6.40
1.5	0.209	0.685	6.40
2	0.241	0.792	6.10
10	0.541	1.78	2.72
20	0.767	2.52	1.92
30	0.941	3.09	1.56
50	1.22	4.00	1.21
88	1.62	5.33	0.907
100	1.73	5.69	0.850
108	1.80	5.91	0.817
150	2.13	6.99	0.691
174	2.30	7.54	0.640
200	2.47	8.10	0.596
300	3.04	9.98	0.484
400	3.53	11.6	0.417
450	3.75	12.3	0.393
500	3.96	13.0	0.372
512	4.01	13.2	0.367
600	4.36	14.3	0.338
700	4.72	15.5	0.312
800	5.07	16.6	0.291
824	5.14	16.9	0.286
894	5.37	17.6	0.274
960	5.58	18.3	0.264
1000	5.70	18.7	0.259
1250	6.41	21.0	0.230
1500	7.06	23.2	0.209
1700	7.55	24.8	0.195
1800	7.79	25.5	0.189
2000	8.24	27.0	0.179
2100	8.46	27.8	0.174
2200	8.68	28.5	0.170
2300	8.89	29.2	0.166
3000	10.3	33.7	0.144
3400	11.0	36.1	0.134
4000	12.0	39.5	0.123
5000	13.6	44.7	0.108
6000	15.1	49.5	0.098
8000	17.7	58.2	0.083
10000	20.2	66.2	0.073

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F); no solar loading.



**Connectors**

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F1PNMV2-H</b>	Solder	Self-Clamping	SG	2.1 (53)	0.95 (24.1)
N Male	High Freq.	<b>F1PNM-HF</b>	Solder	Tab Flare	SG	1.3 (33)	0.81 (20.5)
N Male	Right Angle Hex Head	<b>F1PNR-HC</b>	Captivated	Self-Clamping	SG	1.7/1.3 (43/33)	0.95 (24.1)
N Female		<b>F1PNF</b>	Solder	Self-Flare	SG	2.2 (55.2)	0.58 (14.8)
N Female	Bulkhead	<b>F1PNF-BH</b>	Solder	Self-Clamping	SG	2.3 (58)	0.94 (23.9)
BNC Male	-	<b>F1PBM</b>	Solder	Self-Clamping	SS	2.0 (50)	0.69 (17.5)
UHF Male	-	<b>41SP</b>	Solder	Solder	BB	1.8 (46)	0.77 (19.6)
UHF Female	-	<b>41U</b>	Solder	Solder	BS	2.1 (53)	0.77 (19.6)
SMA Male	Up to 6 GHz	<b>F1PSM</b>	Solder	Self-Clamping	PG	1.7 (43)	0.49 (12.5)
SMA Male	Right Angle	<b>F1PSR</b>	Solder	Self-Clamping	PG	1.6/0.75 (41/19)	0.50 (12.7)
SMA Female	Up to 6 GHz, Bulkhead	<b>F1PSF</b>	Solder	Self-Clamping	PG	1.7 (43)	0.49 (12.5)
SMA Male	Up to 18 GHz	<b>41EWS</b>	Solder	Tab Flare	G	0.94 (23.9)	0.40 (10.2)
SMA Female	Up to 18 GHz	<b>41ENS</b>	Solder	Tab Flare	G	1.00 (25.4)	0.40 (10.2)
TNC Male	11 GHz and Below	<b>F1PTM</b>	Solder	Self-Clamping	SG	1.68 (43)	0.57 (14.5)
TNC Female	Bulkhead	<b>41AENT</b>	Captivated	Tab Flare	NG	1.5 (38)	0.70 (17.8)
TNC Male	Hi Freq, Above 11 GHz	<b>F1PTM-HF</b>	Captivated	Tab Flare	NG	1.9 (48.8)	0.70 (17.8)
Mini-UHF Male	-	<b>F1MU</b>	Captivated	Crimp	NS	1.53 (39)	0.47 (11.9)
7-16 DIN Male	-	<b>F1PDM</b>	Solder	Self-Clamping	SS	1.82 (46.3)	1.25 (31.75)
7-16 DIN Female	-	<b>F1PDF</b>	Solder	Self-Clamping	SS	1.85 (47)	0.551 (14)
7-16 DIN Female	Panel Mount	<b>F1PDF-PM</b>	Solder	Self-Clamping	SS	1.85 (47)	1.26 (32)
7-16 DIN Female	Bulkhead	<b>F1PDF-BH</b>	Solder	Self Clamping	SS	1.85 (47)	1.62 (41)

\* Stainless steel body **Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, NG - Nickel Plated Body and Gold Plated Pin, NS- Nickel Plated Body and Silver Plated Pin, PG - Passivated Body and Gold Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin, G - Stainless Steel Body and Gold Plated Pin.

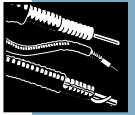
**Connector Accessories – See page 624**

**Factory Attached Connectors –** For factory made cable assemblies and jumper cables, see pages 584-587.

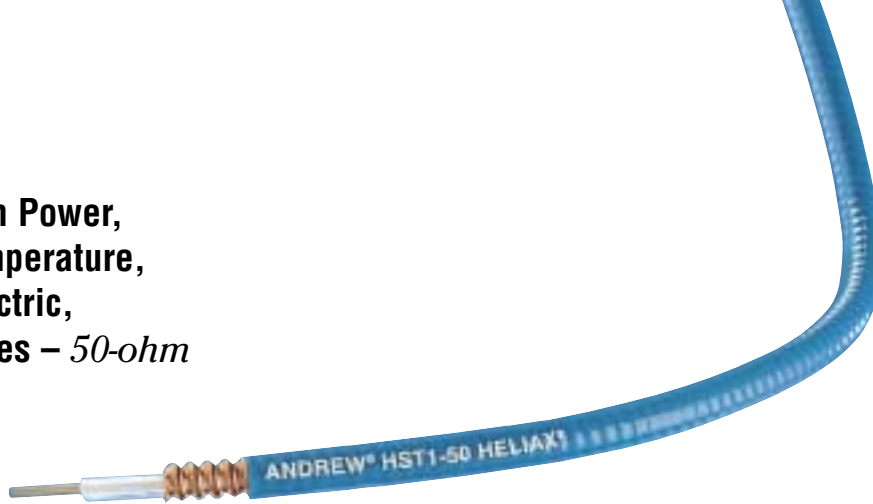
**Accessories**

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>

Description	Type No.
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
5/8" Coax to 1/4" Coax	<b>241475-13</b>
7/8" Coax to 1/4" Coax	<b>241475-12</b>
1-1/4" or 1-5/8" Coax to 1/4" Coax	<b>241475-11</b>
1/4" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-10</b>
1/4" to 2" Omni/Panel base Type N or DIN	<b>241548-11</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623	
EASIX® Cutting Tool FSJ1/FSJ4/HS1	<b>207865</b>
N Connector Coupling Torque Wrench	<b>244379</b>



**1/4" High Power,  
High Temperature,  
Air Dielectric,  
HST Series – 50-ohm**



HELIAX® Coaxial Cables

## HST1-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>High Power, High Temperature Cable</b>	
1/4" Cable	<b>HST1-50</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	18
Velocity, percent	82
Peak Power Rating, kW	6.4
dc Resistance, ohms/1000 ft (1000 m)	
Inner	2.05 (6.71)
Outer	2.0 (6.5)
dc Breakdown, volts	1600
Jacket Spark, volts RMS	4000
Capacitance, pF/ft (m)	25.1 (82.4)
Inductance, µH/ft (m)	0.061 (0.202)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Silver Plated Copper
Diameter over Jacket, in (mm)	0.29 (7.4)
Diameter over Copper Outer Conductor, in (mm)	0.25 (6.4)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum (typical)	15 (20)
Bending Moment, lb-ft (N•m)	1.7 (2.3)
Cable Weight, lb/ft (kg/m)	0.057 (0.085)
Tensile Strength, lb (kg)	100 (45)
Flat Plate Crush Strength, lb/in (kg/mm)	80 (1.4)

### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.116	0.382	6.40
1	0.165	0.540	6.40
1.5	0.202	0.662	6.40
2	0.233	0.764	6.40
10	0.523	1.72	6.26
20	0.742	2.43	4.41
30	0.911	2.99	3.60
50	1.18	3.87	2.77
88	1.57	5.16	2.08
100	1.68	5.51	1.95
108	1.75	5.73	1.87
150	2.07	6.78	1.58
174	2.23	7.32	1.47
200	2.40	7.87	1.37
300	2.96	9.70	1.11
400	3.43	11.3	0.954
450	3.65	12.0	0.897
500	3.86	12.7	0.849
512	3.91	12.8	0.838
600	4.25	13.9	0.771
700	4.61	15.1	0.711
800	4.95	16.2	0.662
824	5.02	16.5	0.652
894	5.25	17.2	0.624
960	5.45	17.9	0.601
1000	5.57	18.3	0.588
1250	6.28	20.6	0.522
1500	6.92	22.7	0.473
1700	7.41	24.3	0.442
1800	7.64	25.1	0.429
2000	8.10	26.6	0.405
2100	8.31	27.3	0.394
2200	8.53	28.0	0.384
2300	8.74	28.7	0.375
3000	10.1	33.2	0.324
3400	10.9	35.6	0.302
4000	11.9	39.0	0.276
5000	13.5	44.3	0.243
6000	15.0	49.1	0.219
8000	17.7	58.0	0.185
10000	20.2	66.2	0.163
12000	22.5	73.8	0.146
14000	24.7	81.0	0.133
16000	26.8	87.8	0.123
18000	28.8	94.4	0.114

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 200°C (392°F); no solar loading.



**Connectors**

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F1PNMV2-H</b>	Solder	Self-Clamping	SG	2.1 (53)	0.95 (24.1)
N Male	High Freq.	<b>F1PNM-HF</b>	Solder	Tab Flare	SG	1.3 (33)	0.81 (20.5)
N Male	Right Angle Hex Head	<b>F1PNR-HC</b>	Captivated	Self-Clamping	SG	1.7/1.3 (43/33)	0.95 (24.1)
N Female		<b>F1PNF</b>	Solder	Self-Flare	SG	2.2 (55.2)	0.58 (14.8)
N Female	Bulkhead	<b>F1PNF-BH</b>	Solder	Self-Clamping	SG	2.3 (58)	0.94 (23.9)
BNC Male	-	<b>F1PBM</b>	Solder	Self-Clamping	SS	2.0 (50)	0.69 (17.5)
UHF Male	-	<b>41SP</b>	Solder	Solder	BB	1.8 (46)	0.77 (19.6)
UHF Female	-	<b>41U</b>	Solder	Solder	BS	2.1 (53)	0.77 (19.6)
SMA Male	Up to 6 GHz	<b>F1PSM</b>	Solder	Self-Clamping	PG	1.7 (43)	0.49 (12.5)
SMA Male	Right Angle	<b>F1PSR</b>	Solder	Self-Clamping	PG	1.6/0.75 (41/19)	0.50 (12.7)
SMA Female	Up to 6 GHz, Bulkhead	<b>F1PSF</b>	Solder	Self-Clamping	PG	1.7 (43)	0.49 (12.5)
SMA Male	Up to 18 GHz	<b>41EWS</b>	Solder	Tab Flare	G	0.94 (23.9)	0.40 (10.2)
SMA Female	Up to 18 GHz	<b>41ENS</b>	Solder	Tab Flare	G	1.00 (25.4)	0.40 (10.2)
TNC Male	11 GHz and Below	<b>F1PTM</b>	Solder	Self-Clamping	SG	1.68 (43)	0.57 (14.5)
TNC Female	Bulkhead	<b>41AENT</b>	Captivated	Tab Flare	NG	1.5 (38)	0.70 (17.8)
TNC Male	Hi Freq, Above 11 GHz	<b>F1PTM-HF</b>	Captivated	Tab Flare	NG	1.9 (48.8)	0.70 (17.8)
Mini-UHF Male	-	<b>F1MU</b>	Captivated	Crimp	NS	1.53 (39)	0.47 (11.9)
7-16 DIN Male	-	<b>F1PDM</b>	Solder	Self-Clamping	SS	1.82 (46.3)	1.25 (31.75)
7-16 DIN Female	-	<b>F1PDF</b>	Solder	Self-Clamping	SS	1.85 (47)	0.551 (14)
7-16 DIN Female	Panel Mount	<b>F1PDF-PM</b>	Solder	Self-Clamping	SS	1.85 (47)	1.26 (32)
7-16 DIN Female	Bulkhead	<b>F1PDF-BH</b>	Solder	Self Clamping	SS	1.85 (47)	1.62 (41)

\* Stainless steel body **Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, NG - Nickel Plated Body and Gold Plated Pin, NS - Nickel Plated Body and Silver Plated Pin, PG - Passivated Body and Gold Plated Pin+A135, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin, G - Stainless Steel Body and Gold Plated Pin.

**Connector Accessories – See page 624**

**Factory Attached Connectors –** For factory made cable assemblies and jumper cables, see pages 584-587.

**Accessories**

Description	Type No.
<b>Hangers –</b> For more hangers, adapters and mounting hardware see pages 599-607	
<b>Insulated Hanger,</b> single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598	<b>11662-3</b>
<b>Angle Adapter,</b> for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties,</b> Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>

Description	Type No.
<b>Grounding and Surge Protection –</b> for additional grounding kits and our surge protection offerings, see pages 609-616	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>
<b>Weatherproofing –</b> for additional weatherproofing information see pages 617-618	
<b>Cold Shrink Weatherproofing Kit</b>	
5/8" Coax to 1/4" Coax	<b>241475-13</b>
7/8" Coax to 1/4" Coax	<b>241475-12</b>
1-1/4" or 1-5/8" Coax to 1/4" Coax	<b>241475-11</b>
1/4" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-10</b>
1/4" to 2" Omni/Panel base Type N or DIN	<b>241548-11</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems –</b> For entry systems offerings see pages 619-620	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-17</b>
<b>Tools –</b> for additional tool offerings see pages 620-623	
EASIAx® Cutting Tool FSJ1/FSJ4/HST1	<b>207865</b>
N Connector Coupling Torque Wrench	<b>244379</b>





## 3/8" Air Dielectric, Plenum Rated (CATVP), HS Series – 50-ohm



### HS2RP-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Plenum Cable</b>	
3/8" Fire Retardant Cable	<b>HS2RP-50</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	13.4
Velocity, percent	83
Peak Power Rating, kW	13.2
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.41 (4.64)
Outer	1.52 (4.99)
dc Breakdown, volts	2300
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	23.61 (77.47)
Inductance, µH/ft (m)	0.064 (0.208)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.415 (10.5)
Diameter over Copper Outer Conductor, in (mm)	0.375 (9.5)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum	20 (50)
Bending Moment, lb-ft (N•m)	1.8 (2.45)
Cable Weight, lb/ft. (kg/m)	0.076 (0.113)
Tensile Strength, lb (kg)	210 (95)
Flat Plate Crush Strength, lb/in (kg/mm)	100 (1.8)

### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.083	0.273	13.2
1	0.118	0.386	13.2
1.5	0.144	0.473	12.1
2	0.166	0.546	10.5
10	0.374	1.23	4.67
20	0.530	1.74	3.30
30	0.650	2.13	2.69
50	0.843	2.76	2.07
88	1.12	3.69	1.55
100	1.20	3.94	1.46
108	1.25	4.09	1.40
150	1.48	4.84	1.18
174	1.59	5.23	1.10
200	1.71	5.62	1.02
300	2.11	6.93	0.827
400	2.45	8.05	0.712
450	2.61	8.56	0.670
500	2.76	9.04	0.634
512	2.79	9.16	0.626
600	3.03	9.95	0.576
700	3.29	10.8	0.531
800	3.53	11.6	0.495
824	3.59	11.8	0.487
894	3.75	12.3	0.466
960	3.89	12.8	0.449
1000	3.98	13.0	0.439
1250	4.48	14.7	0.390
1500	4.94	16.2	0.354
1700	5.29	17.4	0.330
1800	5.46	17.9	0.320
2000	5.78	19.0	0.302
2100	5.94	19.5	0.294
2200	6.09	20.0	0.287
2300	6.24	20.5	0.280
3000	7.23	23.7	0.242
3400	7.75	25.4	0.226
4000	8.49	27.8	0.206
5000	9.63	31.6	0.182
6000	10.7	35.1	0.164
8000	12.6	41.4	0.138
10000	14.4	47.2	0.121
12000	16.1	52.7	0.109
13400	17.2	56.3	0.102

#### Standard Conditions:

For attenuation, VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
F2PNM-H



7-16 DIN Female  
F2PDF



7-16 DIN Male  
F2PDM-C



N Female  
F2PNF



7-16 DIN Male  
Right Angle  
F2PDR-C

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F2PNM-H</b>	Solder	Self-Flare	SG	1.9 (48)	0.94 (23)
N Male	Hex Head	<b>F2PNM-HC</b>	Captivated	Self-Flare	SG	1.9 (48)	0.94 (23)
N Female		<b>F2PNF</b>	Solder	Self-Flare	SG	2.1 (53)	0.67 (17)
N Female		<b>F2PNF-C</b>	Captivated	Self-Flare	SG	2.1 (53)	0.64 (16)
N Female	Bulkhead	<b>F2PNF-BH</b>	Solder	Self-Flare	SG	2.1 (53)	0.95 (24)
7-16 DIN Male		<b>F2PDM</b>	Solder	Self-Flare	SS	2.2 (57)	1.4 (36)
7-16 DIN Male		<b>F2PDM-C</b>	Captivated	Self-Flare	SS	2.1 (53)	1.4 (36)
7-16 DIN Female		<b>F2PDF</b>	Solder	Self-Flare	SS	2.2 (56)	1.1 (28)
7-16 DIN Female		<b>F2PDF-C</b>	Captivated	Self-Flare	SS	2.1 (51.6)	0.79 (20)
7-16 DIN Female	Panel Mt.	<b>F2PDF-PM</b>	Solder	Self-Flare	SS	2.2 (56)	1.1 (28)
7-16 DIN Male	Right Angle	<b>F2PDR-C</b>	Captivated	Self-Flare	SS	1.7/1.3 (43/34)	1.4 (36)

**Plating Codes:** SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin, BS - Brass Body and Silver Plated Pin.

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

## Accessories

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620.	
<b>Standard Cable Entry Boots</b>	
4" Boots – One Hole:	<b>204679A-19</b>
5" Boots – Three Hole:	<b>48939A-16</b>
<b>Tools</b> – for additional tool offerings see pages 620-623.	
EASIX® Cutting Tool FSJ2/FSJ4	<b>241372</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 3/8" High Power, High Temperature Plenum Rated, Air Dielectric, HST Series – 50-ohm



### HST2-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>High Power, High Temperature, Plenum Cable</b>	
3/8" Cable	<b>HST2-50</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	13.4
Velocity, percent	83
Peak Power Rating, kW	13.2
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.41 (4.64)
Outer	1.52 (4.99)
dc Breakdown, volts	2300
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	23.61 (77.47)
Inductance, µH/ft (m)	0.064 (0.208)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Silver Plated, Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.415 (10.5)
Diameter over Copper Outer Conductor, in (mm)	0.375 (9.5)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum	20 (50)
Bending Moment, lb-ft (N•m)	1.8 (2.45)
Cable Weight, lb/ft. (kg/m)	0.094 (0.140)
Tensile Strength, lb (kg)	210 (95)
Flat Plate Crush Strength, lb/in (kg/mm)	100 (1.8)

### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.085	0.279	13.2
1	0.120	0.395	13.2
1.5	0.147	0.484	13.2
2	0.170	0.559	13.2
10	0.383	1.26	13.2
20	0.543	1.78	12.3
30	0.667	2.19	9.98
50	0.865	2.84	7.70
88	1.16	3.79	5.76
100	1.23	4.05	5.40
108	1.28	4.21	5.19
150	1.52	4.99	4.38
174	1.64	5.39	4.06
200	1.76	5.79	3.77
300	2.18	7.15	3.06
400	2.54	8.32	2.63
450	2.70	8.85	2.47
500	2.85	9.36	2.34
512	2.89	9.48	2.31
600	3.14	10.3	2.12
700	3.41	11.2	1.95
800	3.66	12.0	1.82
824	3.72	12.2	1.79
894	3.89	12.8	1.71
960	4.04	13.3	1.65
1000	4.13	13.6	1.61
1250	4.67	15.3	1.43
1500	5.16	16.9	1.29
1700	5.52	18.1	1.21
1800	5.70	18.7	1.17
2000	6.04	19.8	1.10
2100	6.21	20.4	1.07
2200	6.37	20.9	1.05
2300	6.53	21.4	1.02
3000	7.59	24.9	0.878
3400	8.15	26.7	0.818
4000	8.95	29.4	0.745
5000	10.2	33.4	0.655
6000	11.3	37.2	0.588
8000	13.4	44.1	0.496
10000	15.4	50.5	0.433
12000	17.2	56.5	0.387
13400	18.4	60.5	0.362

#### Standard Conditions:

For attenuation, VSWR 1.0, ambient temperature 20°C (68°F).  
For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner  
conductor temperature 200°C (392°F), no solar loading.



N Male  
F2PNM-H



7-16 DIN Female  
F2PDF



7-16 DIN Male  
F2PDM-C



N Female  
F2PNF



7-16 DIN Male  
Right Angle  
F2PDR-C

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F2PNM-H</b>	Solder	Self-Flare	SG	1.9 (48)	0.94 (23)
N Male	Hex Head	<b>F2PNM-HC</b>	Captivated	Self-Flare	SG	1.9 (48)	0.94 (23)
N Female		<b>F2PNF</b>	Solder	Self-Flare	SG	2.1 (53)	0.67 (17)
N Female		<b>F2PNF-C</b>	Captivated	Self-Flare	SG	2.1 (53)	0.64 (16)
N Female	Bulkhead	<b>F2PNF-BH</b>	Solder	Self-Flare	SG	2.1 (53)	0.95 (24)
7-16 DIN Male		<b>F2PDM</b>	Solder	Self-Flare	SS	2.2 (57)	1.4 (36)
7-16 DIN Male		<b>F2PDM-C</b>	Captivated	Self-Flare	SS	2.1 (53)	1.4 (36)
7-16 DIN Female		<b>F2PDF</b>	Solder	Self-Flare	SS	2.2 (56)	1.1 (28)
7-16 DIN Female		<b>F2PDF-C</b>	Captivated	Self-Flare	SS	2.1 (51.6)	0.79 (20)
7-16 DIN Female	Panel Mt.	<b>F2PDF-PM</b>	Solder	Self-Flare	SS	2.2 (56)	1.1 (28)
7-16 DIN Male	Right Angle	<b>F2PDR-C</b>	Captivated	Self-Flare	SS	1.7/1.3 (43/34)	1.4 (36)

**Plating Codes:** SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin, BS - Brass Body and Silver Plated Pin.

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616.

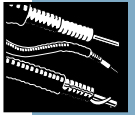
Standard Grounding Kit	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.

## Accessories

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620.	
Standard Cable Entry Boots	
4" Boots – One Hole:	<b>204679A-19</b>
5" Boots – Three Hole:	<b>48939A-16</b>
<b>Tools</b> – for additional tool offerings see pages 620-623.	
EASIX <sup>®</sup> Cutting Tool FSJ2/FSJ4	<b>241372</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 1/2" Air Dielectric, HJ Series – 50-ohm



### HJ4-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard and Fire Retardant Cables</b>	
1/2" Standard Cable, Standard Jacket	<b>HJ4-50</b>
1/2" Fire Retardant Jacket (CATVR)	<b>HJ4RN-50</b>
<b>Low VSWR and Specialized Cables</b>	
1/2" Low VSWR, specify operating band	<b>HJ4P-50-(**)</b>
Cable for Cellular, standard jacket 824-960 MHz, 1.20 VSWR, max.	<b>HJ4P-50-5</b>

\*\* Insert suffix number from "Low VSWR Specifications" table, page 537.

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	10.9
Velocity, percent	91.4
Peak Power Rating, kW	21.0
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.45 (1.48)
Outer	0.40 (1.31)
dc Breakdown, volts	2900
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	22.2 (73.0)
Inductance, µH/ft (m)	0.056 (0.182)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	0.58 (14.7)
Diameter over Copper Outer Conductor, in (mm)	0.50 (12.7)
Diameter Inner Conductor, in (mm)	0.165 (4.2)
Nominal Inside Transverse Dimensions, cm	0.90
Minimum Bending Radius, in (mm)	5 (125)
Number of Bends, minimum (typical)	15 (20)
Bending Moment, lb-ft (N•m)	8 (10.9)
Cable Weight, lb/ft (kg/m)	0.25 (0.37)
Tensile Strength, lb (kg)	700 (320)
Flat Plate Crush, lb/in (kg/mm)	250 (4.5)

#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0560	0.184	21.0
1	0.0792	0.260	21.0
1.5	0.0971	0.319	20.0
2	0.112	0.37	17.3
10	0.253	0.83	7.69
20	0.359	1.18	5.41
30	0.442	1.45	4.40
50	0.574	1.88	3.38
88	0.768	2.52	2.53
100	0.821	2.69	2.37
108	0.854	2.80	2.27
150	1.01	3.33	1.91
174	1.10	3.60	1.77
200	1.18	3.87	1.65
300	1.46	4.80	1.33
400	1.71	5.60	1.14
450	1.82	5.96	1.07
500	1.92	6.31	1.01
512	1.95	6.39	1.00
600	2.12	6.97	0.914
700	2.31	7.58	0.840
800	2.49	8.16	0.781
824	2.53	8.29	0.768
894	2.64	8.68	0.734
960	2.75	9.03	0.706
1000	2.81	9.23	0.690
1250	3.19	10.5	0.609
1500	3.53	11.6	0.549
1700	3.80	12.5	0.512
2000	4.17	13.7	0.466
2300	4.52	14.8	0.430
3000	5.28	17.3	0.368
4000	6.27	20.6	0.310
5000†	7.17	23.5	0.271
6000	8.03	26.3	0.242
8000	9.61	31.5	0.202
10000	11.1	36.4	0.175
10900	11.7	38.4	0.166

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.

† Operation of this cable in the 5350-5500 MHz band is not recommended because of VSWR spikes produced by the dielectric section spacing.

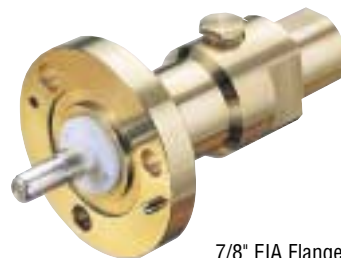




N Male  
H4PNM



N Female  
H4PNF



7/8" EIA Flange  
H4MPB-014

### Connectors

Interface	Description	Type Number	Reference*	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male		<b>H4PNM</b>		Solder	Self-Flare	SG	2.8 (71)	1.0 (25)
N Female		<b>H4PNF</b>		Solder	Self-Flare	SG	2.8 (71)	1.0 (25)
7-16 DIN Male		<b>H4PDM</b>		Spring Finger	Self-Flare	SS	2.6 (66)	1.3 (33)
7/8" EIA Flange	Gas Pass/ Barrier Option	<b>H4MPB-014</b>	74ARG	Solder	Self-Flare	BB	3.3 (84)	2.25 (57)
End Terminal		<b>74T</b>		Solder	Self-Flare	BB	4.6 (117)	0.9 (23)
Splice		<b>74Z</b>		Solder	Self-Flare	BB	4.9 (124)	1.1 (28)

**Plating Codes:** BB - Brass Body and Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

\* Previous Type Number.

### Connector Accessories

	Type Number
Connector Reattachment Kit for H4PNF, H4PNM, 74PN, 74PW	<b>34767A-22</b>
Bulkhead Adapter, for N Females	<b>26016-2</b>
7/8" EIA Gas Barrier	<b>1260A</b>



### Low VSWR Specifications, Type HJ4P-50-( )

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)	
			1-20 ft (0.3-6 m)	Above 20 ft (6 m)
0.94-1.45 *	<b>HJ4P-50-1</b>	N Male: <b>H4PNM</b> , N Female: <b>H4PNF</b>	1.20 (20.8)	1.25 (19.9)
1.7-2.3	<b>HJ4P-50-4</b>	N Male: <b>H4PNM</b>	1.10 (26.4)	1.15 (23.1)
		N Female: <b>H4PNF</b>	1.15 (23.1)	1.20 (20.8)
		7/8" EIA: <b>H4MPB-014</b>	1.10 (26.4)	1.15 (23.1)
3.625-4.2 *	<b>HJ4P-50-2</b>	N Male: <b>H4PNM</b> , N Female: <b>H4PNF</b>	1.30 (17.7)	1.35 (16.6)

\* Specify operating band

\*\* Connectors ordered separately.

VSWR values are guaranteed for factory fit assemblies and are typical for cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>43211A</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For pre-punched 3/4" (19mm) holes on tower member or adapters. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>206706-1</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616.

Standard Grounding Kit with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>204989-1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>241088-1</b>
Field attached two-hole lug, 1500 mm (60") lead	<b>241545</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620.	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-6</b> <b>48939A-7</b>
Three Hole:	<b>204679A-1</b> <b>48939A-5</b>



## 1/2" High Power, High Temperature, Air Dielectric, HT Series – 50-ohm

### HT4-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
1/2" Standard Cable, Unjacketed	<b>HT4-50</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	10.9
Velocity, percent	92.0
Peak Power Rating, kW	21.0
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.45 (1.48)
Outer	0.40 (1.31)
dc Breakdown, volts	2900
Capacitance, pF/ft (m)	22.0 (72.2)
Inductance, µH/ft (m)	0.056 (0.182)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Copper Conductor, in (mm)	0.50 (12.7)
Minimum Bending Radius, in (mm)	5 (125)
Number of Bends, minimum (typical)	15 (30)
Bending Moment, lb-ft (N•m)	7.3 (9.9)
Cable Weight, lb/ft (kg/m)	0.21 (0.31)
Tensile Strength, lb (kg)	830 (380)
Flat Plate Crush, lb/in (kg/mm)	290 (5.3)

### Attenuation and Average Power Ratings

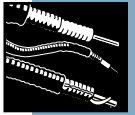
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0580	0.190	21.0
1	0.0822	0.270	21.0
1.5	0.101	0.331	21.0
2	0.117	0.383	21.0
10	0.265	0.870	20.8
20	0.379	1.24	14.5
30	0.468	1.54	11.8
50	0.613	2.01	9.00
88	0.829	2.72	6.65
100	0.888	2.91	6.21
108	0.926	3.04	5.96
150	1.11	3.63	4.98
174	1.20	3.94	4.59
200	1.30	4.26	4.25
300	1.63	5.35	3.38
400	1.92	6.31	2.87
450	2.06	6.75	2.68
500	2.19	7.18	2.52
512	2.22	7.28	2.49
600	2.43	7.99	2.27
700	2.67	8.75	2.07
800	2.89	9.48	1.91
824	2.94	9.65	1.88
894	3.09	10.1	1.79
960	3.23	10.6	1.71
1000	3.31	10.9	1.67
1250	3.79	12.4	1.45
1500	4.25	13.9	1.30
1700	4.60	15.1	1.20
2000	5.10	16.7	1.08
2300	5.59	18.3	0.987
3000	6.65	21.8	0.829
4000	8.07	26.5	0.683
5000†	9.41	30.9	0.586
6000	10.7	35.1	0.516
8000	13.1	43.1	0.420
10000	15.5	50.7	0.357
10900	16.5	54.0	0.335

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 200°C (392°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.

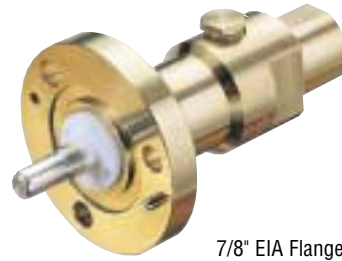
† Operation of this cable in the 5400-5600 MHz band is not recommended because of VSWR spikes produced by the dielectric section spacing.



N Male  
H4PNM



N Female  
H4PNF



7/8" EIA Flange  
H4MPB-014

## Connectors

Interface	Description	Type Number	Reference*	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male		<b>H4PNM</b>		Solder	Self Flare	SG	2.8 (71)	1.0 (25)
N Female		<b>H4PNF</b>		Solder	Self Flare	SG	2.8 (71)	1.0 (25)
7-16 DIN Male		<b>H4PDM</b>		Spring Finger	Self Flare	SS	2.6 (66)	1.3 (33)
7/8" EIA Flange	Gas Pass/ Barrier Option	<b>H4MPB-014</b>	74ARG	Solder	Self Flare	BB	3.3 (84)	2.25 (57)
End Terminal		<b>74T</b>		Solder	Self Flare	BB	4.6 (117)	0.9 (23)
Splice		<b>74Z</b>		Solder	Self Flare	BB	4.9 (124)	1.1 (28)

**Plating Codes:** BB - Brass Body and Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

\* Previous Type Number.

## Connector Accessories

	Type Number
Connector Reattachment Kit for H4PNF, H4PNM, 74PN, 74PW	<b>34767A-22</b>
Bulkhead Adapter, for N Females	<b>26016-2</b>
7/8" EIA Gas Barrier	<b>1260A</b>

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>43211A</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>

Description	Type No.
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Standard Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>204989-1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>241088-1</b>
Field attached two-hole lug, 1500 mm (60") lead	<b>241545</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620.	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-6</b> <b>48939A-7</b>
Three Hole:	<b>204679A-1</b> <b>48939A-5</b>



**1/2" Air Dielectric,  
Plenum Rated (CATVP),  
HL Series – 50-ohm**

**HL4RP-50**

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Plenum Cable</b>	
1/2" Fire Retardant Cable, Fire Retardant Jacket (CATVP)	<b>HL4RP-50</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	6.0
Velocity, percent	88.0
Peak Power Rating, kW	21.0
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.45 (1.48)
Outer	0.58 (1.90)
dc Breakdown, volts	4000
Capacitance, pF/ft (m)	23.0 (75.3)
Inductance, µH/ft (m)	0.058 (0.191)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.61 (15.5)
Diameter over Copper Outer Conductor, in (mm)	0.55 (14)
Minimum Bending Radius, in (mm)	5 (125)
Number of Bends, minimum (typical)	10 (15)
Bending Moment, lb-ft (N•m)	3.0 (4.1)
Cable Weight, lb/ft (kg/m)	0.18 (0.27)
Tensile Strength, lb (kg)	250 (114)
Flat Plate Crush, lb/in (kg/mm)	80 (1.4)

**Attenuation and Average Power Ratings**

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.049	0.162	40.0
1	0.070	0.229	37.8
1.5	0.086	0.281	30.9
2	0.099	0.324	26.7
10	0.223	0.730	11.9
20	0.317	1.04	8.34
30	0.389	1.28	6.78
50	0.506	1.66	5.22
88	0.678	2.22	3.89
100	0.725	2.38	3.64
108	0.754	2.47	3.50
150	0.896	2.94	2.95
174	0.968	3.18	2.73
200	1.04	3.42	2.53
300	1.29	4.24	2.04
400	1.51	4.95	1.75
450	1.61	5.28	1.64
500	1.70	5.59	1.55
512	1.73	5.66	1.53
600	1.88	6.17	1.40
700	2.05	6.72	1.29
800	2.20	7.23	1.20
824	2.24	7.35	1.18
894	2.34	7.69	1.13
960	2.44	8.00	1.08
1000	2.50	8.19	1.06
1250	2.83	9.29	0.933
1500	3.14	10.3	0.841
1700	3.37	11.1	0.783
1800	3.49	11.4	0.758
2000	3.71	12.2	0.713
2100	3.81	12.5	0.693
2200	3.92	12.9	0.675
2300	4.02	13.2	0.657
3000	4.70	15.4	0.562
3400	5.07	16.6	0.521
4000	5.59	18.3	0.473
5000	6.41	21.0	0.412
6000	7.18	23.6	0.368

**Standard Conditions:**

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.





N Male  
L4PNM-RC



N Female  
L4PNF-RC



7-16 DIN Male  
L4PDM-RC



7-16 DIN Female  
L4PDF-RC



7/8" EIA Flange  
L44R



UHF Male  
L44P

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	L4PNM-H	Solder	Self-Flare	SG	2.6 (66)	0.95 (24.1)
N Male	RingFlare	L4PNM-RC	Captivated	RingFlare	SG	3.0 (75.7)	0.86 (21.8)
N Male	Right Angle, Hex	L4PNR-H	Solder	Self-Flare	SG	3.2/1.5 (81/38)	0.95 (24.1)
N Male	Right Angle, Hex	L4PNR-HC	Captivated	Self-Flare	SG	3.2/1.5 (81/38)	0.91 (23.1)
N Female	–	L4PNF	Solder	Self-Flare	SG	2.6 (66)	0.94 (23.9)
N Female	Bulk Head	L4PNF-BH	Solder	Self-Flare	SG	2.6 (66)	0.96 (24.4)
N Female	Panel Mount	L4PNF-PM	Solder	Self-Flare	SG	2.6 (66)	1.0 (25.4)
N Female	RingFlare	L4PNF-RC	Captivated	RingFlare	SG	2.8 (71)	0.86 (21.8)
7-16 DIN Male	–	L4PDM	Solder	Self-Flare	SS	2.6 (66)	1.4 (35.6)
7-16 DIN Male	Right Angle	L4PDR	Solder	Self-Flare	SS	1.8/2.8 (46/72)	1.41 (35.9)
7-16 DIN Male	Right Angle	L4PDR-C	Captivated	Self-Flare	SS	1.8/2.8 (46/72)	1.41 (35.9)
7-16 DIN Male	RingFlare	L4PDM-RC	Captivated	RingFlare	SS	2.64 (67.1)	0.86 (21.8)
7-16 DIN Female	–	L4PDF	Solder	Self-Flare	SS	2.7 (69)	1.1 (27.9)
7-16 DIN Female	Bulk Head	L4PDF-BH	Solder	Self-Flare	SS	2.73 (69.4)	1.62 (41.1)
7-16 DIN Female	Bulk Head	L4PDF-BHC	Captivated	Self-Flare	SS	2.9 (74)	1.63 (41.4)
7-16 DIN Female	Panel Mount	L4PDF-PM	Solder	Self-Flare	SS	2.7 (69)	1.2 (29.4)
7-16 DIN Female	RingFlare	L4PDF-RC	Captivated	RingFlare	SS	2.8 (71)	0.86 (21.8)
7/8" EIA Flange	–	L44R	Solder	Self-Flare	BB	3.2 (81)	2.25 (57.2)
7/8" EIA Flange	Right Angle	124990-1	Solder	Self-Flare	BB	2.3/1.6 (58/41)	2.25 (57.2)
F Flange Male	–	L44F	Solder	Self-Flare	BB	2.3 (58)	2.25 (57.2)
F Flange Female	–	209865	Solder	Self-Flare	BS	2.3 (58)	2.25 (57.2)
UHF Male	–	L44P	Solder	Self-Flare	BB	2.3 (58)	0.91 (23.1)
UHF Female	–	L44U	Solder	Self-Flare	BS	2.3 (58)	0.91 (23.1)
HN Male	–	L44J	Solder	Self-Flare	BB	2.5 (64)	0.91 (23.1)
LC Male	–	L44M	Solder	Self-Flare	BB	3.6 (91)	0.91 (23.1)
TNC Female	–	L44NT	Solder	Self-Flare	BB	2.8 (71)	0.94 (23.9)
End Terminal	–	L44T	Solder	Self-Flare	BB	4.0 (102)	0.91 (23.1)
Splice	–	L44Z	Solder	Self-Flare	BB	3.2 (81)	1.1 (27.9)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>43211A</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19mm) long	<b>31769-5</b>
1" (25mm) long	<b>31769-1</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616.

<b>SureGround Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL4-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL4-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL4-15B4</b>
<b>SureGround Plus Grounding Kit with weatherproofing boot</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL4-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL4-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL4-15B4</b>

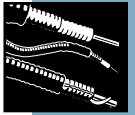
Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.	
<b>Cold Shrink Weatherproofing Kit</b>	
1/2" Coax N Connector to 1/2" Coax N Connector	<b>241474-4</b>
5/8" Coax to 1/2" Coax	<b>242475-13</b>
7/8" Coax to 1/2" Coax	<b>241475-9</b>
1-1/4" or 1-5/8" Coax to 1/2" Coax	<b>241475-5A</b>
2-1/4" Coax to 1/2" Coax	<b>241475-8</b>
1/2" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-8</b>
1/2" LDF4 to Antenna Type N interface	<b>241548-4</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>

**Entry Systems** – For entry systems offerings see pages 619-620.

Standard Cable Entry Boots	4" Boots	5" Boots
One Hole:	<b>204679A-5</b>	<b>48939A-6</b>
Three Hole:	<b>204679A-7</b>	<b>48939A-8</b>
Four Hole	<b>204679A-16</b>	<b>48939A-17</b>

**Tools** – for additional tool offerings see pages 620-623.

EASIA <sup>®</sup> X Cutting Tool	<b>207866</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 1/2" Air Dielectric, High Power High Temperature, HLT Series – 50-ohm



### HLT4-50T

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Plenum Cable</b>	
1/2" Fire Retardant Cable, Fire Retardant Jacket (CATVP, UL910)	<b>HLT4-50T</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	52.5 ± 2
Maximum Frequency, GHz	4.0
Velocity, percent	93.0
Peak Power Rating, kW	21.4
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.45 (1.48)
Outer	0.58 (1.90)
dc Breakdown, volts	3000
Capacitance, pF/ft (m)	20.4 (66.8)
Inductance, μH/ft (m)	0.058 (0.191)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.61 (15.5)
Diameter over Copper Outer Conductor, in (mm)	0.55 (14)
Diameter Inner Conductor, in (mm)	0.189 (4.8)
Minimum Bending Radius, in (mm)	5 (125)
Number of Bends, minimum (typical)	10 (15)
Bending Moment, lb-ft (N•m)	3.0 (4.1)
Cable Weight, lb/ft (kg/m)	0.18 (0.27)
Tensile Strength, lb (kg)	250 (114)
Flat Plate Crush, lb/in (kg/mm)	100 (1.8)

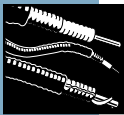
### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.047	0.153	21.4
1	0.066	0.217	21.4
1.5	0.081	0.266	21.4
2	0.094	0.308	21.4
10	0.213	0.700	21.4
20	0.305	1.00	15.7
30	0.377	1.24	12.7
50	0.494	1.62	9.72
88	0.669	2.20	7.18
100	0.718	2.35	6.70
108	0.748	2.45	6.42
150	0.896	2.94	5.36
174	0.973	3.19	4.94
200	1.05	3.45	4.57
300	1.32	4.34	3.64
400	1.56	5.12	3.08
450	1.67	5.48	2.88
500	1.78	5.83	2.70
512	1.80	5.91	2.67
600	1.98	6.50	2.43
700	2.17	7.12	2.22
800	2.35	7.72	2.04
824	2.40	7.86	2.01
894	2.52	8.26	1.91
960	2.63	8.63	1.83
1000	2.70	8.85	1.78
1250	3.10	10.2	1.55
1500	3.48	11.4	1.38
1700	3.77	12.4	1.28
1800	3.91	12.8	1.23
2000	4.18	13.7	1.15
2100	4.32	14.2	1.11
2200	4.45	14.6	1.08
2300	4.58	15.0	1.05
3000	5.47	17.9	0.881
3400	5.95	19.5	0.809
4000	6.65	21.8	0.724

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 200°C (392°F), no solar loading.



N Male  
L4PNM-RC



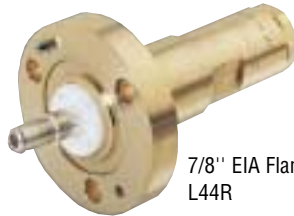
N Female  
L4PNF-RC



7-16 DIN Male  
L4PDM-RC



7-16 DIN Female  
L4PDF-RC



7/8" EIA Flange  
L44R



UHF Male  
L44P

### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>L4PNM-H</b>	Solder	Self-Flare	SG	2.6 (66)	0.95 (24.1)
N Male	RingFlare	<b>L4PNM-RC</b>	Captivated	RingFlare	SG	3.0 (75.7)	0.86 (21.8)
N Male	Right Angle, Hex	<b>L4PNR-H</b>	Solder	Self-Flare	SG	3.2/1.5 (81/38)	0.95 (24.1)
N Male	Right Angle	<b>L4PNR-HC</b>	Captivated	Self-Flare	SG	3.2/1.5 (81/38)	0.91 (23.1)
N Female	–	<b>L4PNF</b>	Solder	Self-Flare	SG	2.6 (66)	0.94 (23.9)
N Female	Bulk Head	<b>L4PNF-BH</b>	Solder	Self-Flare	SG	2.6 (66)	0.96 (24.4)
N Female	Panel Mount	<b>L4PNF-PM</b>	Solder	Self-Flare	SG	2.6 (66)	1.0 (25.4)
N Female	RingFlare	<b>L4PNF-RC</b>	Captivated	RingFlare	SG	2.8 (71)	0.86 (21.8)
7-16 DIN Male	–	<b>L4PDM</b>	Solder	Self-Flare	SS	2.6 (66)	1.4 (35.6)
7-16 DIN Male	Right Angle	<b>L4PDR</b>	Solder	Self-Flare	SS	1.8/2.8 (46/72)	1.41 (35.9)
7-16 DIN Male	Right Angle	<b>L4PDR-C</b>	Captivated	Self-Flare	SS	1.8/2.8 (46/72)	1.41 (35.9)
7-16 DIN Male	RingFlare	<b>L4PDM-RC</b>	Captivated	RingFlare	SS	2.64 (67.1)	0.86 (21.8)
7-16 DIN Female	–	<b>L4PDF</b>	Solder	Self-Flare	SS	2.7 (69)	1.1 (27.9)
7-16 DIN Female	Bulk Head	<b>L4PDF-BH</b>	Solder	Self-Flare	SS	2.73 (69.4)	1.62 (41.1)
7-16 DIN Female	Bulk Head	<b>L4PDF-BHC</b>	Captivated	Self-Flare	SS	2.9 (74)	1.63 (41.4)
7-16 DIN Female	Panel Mount	<b>L4PDF-PM</b>	Solder	Self-Flare	SS	2.7 (69)	1.2 (29.4)
7-16 DIN Female	RingFlare	<b>L4PDF-RC</b>	Captivated	RingFlare	SS	2.8 (71)	0.86 (21.8)
7/8" EIA Flange	–	<b>L44R</b>	Solder	Self-Flare	BB	3.2 (81)	2.25 (57.2)
7/8" EIA Flange	Right Angle	<b>124990-1</b>	Solder	Self-Flare	BB	2.3/1.6 (58/41)	2.25 (57.2)
F Flange Male	–	<b>L44F</b>	Solder	Self-Flare	BB	2.3 (58)	2.25 (57.2)
F Flange Female	–	<b>209865</b>	Solder	Self-Flare	BS	2.3 (58)	2.25 (57.2)
UHF Male	–	<b>L44P</b>	Solder	Self-Flare	BB	2.3 (58)	0.91 (23.1)
UHF Female	–	<b>L44U</b>	Solder	Self-Flare	BS	2.3 (58)	0.91 (23.1)
HN Male	–	<b>L44J</b>	Solder	Self-Flare	BB	2.5 (64)	0.91 (23.1)
LC Male	–	<b>L44M</b>	Solder	Self-Flare	BB	3.6 (91)	0.91 (23.1)
TNC Female	–	<b>L44NT</b>	Solder	Self-Flare	BB	2.8 (71)	0.94 (23.9)
End Terminal	–	<b>L44T</b>	Solder	Self-Flare	BB	4.0 (102)	0.91 (23.1)
Splice	–	<b>L44Z</b>	Solder	Self-Flare	BB	3.2 (81)	1.1 (27.9)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>43211A</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616.

### SureGround Grounding Kit with standard weatherproofing

Factory attached one-hole lug, 600 mm (24") lead	<b>SGL4-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL4-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL4-15B4</b>

### SureGround Plus Grounding Kit with weatherproofing boot

Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL4-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL4-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL4-15B4</b>

## Accessories

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.	
<b>Cold Shrink Weatherproofing Kit</b>	
1/2" Coax N Connector to 1/2" Coax N Connector	<b>241474-4</b>
5/8" Coax to 1/2" Coax	<b>242475-13</b>
7/8" Coax to 1/2" Coax	<b>241475-9</b>
1-1/4" or 1-5/8" Coax to 1/2" Coax	<b>241475-5A</b>
2-1/4" Coax to 1/2" Coax	<b>241475-8</b>
1/2" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-8</b>
1/2" LDF4 to Antenna Type N interface	<b>241548-4</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>

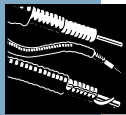
**Entry Systems** – For entry systems offerings see pages 619-620.

Standard Cable Entry Boots	4" Boots	5" Boots
One Hole:	<b>204679A-5</b>	<b>48939A-6</b>
Three Hole:	<b>204679A-7</b>	<b>48939A-8</b>
Four Hole	<b>204679A-16</b>	<b>48939A-17</b>

**Tools** – for additional tool offerings see pages 620-623.

EASIAx® Cutting Tool	<b>207866</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>





**1/2" Air Dielectric,  
Plenum Rated (CATVP),  
HS Series – 50-ohm**

**HS4RP-50**

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Plenum Cable</b>	
1/2" Fire Retardant Cable	<b>HS4RP-50</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	10.2
Velocity, percent	81
Peak Power Rating, kW	15.6
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.87 (2.85)
Outer	1.00 (3.28)
dc Breakdown, volts	2500
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	25.04 (82.16)
Inductance, µH/ft (m)	0.063 (0.206)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.52 (13.2)
Diameter over Copper Outer Conductor, in (mm)	0.48 (12.2)
Minimum Bending Radius, in (mm)	1.25 (32)
Number of Bends, minimum	20 (50)
Bending Moment, lb-ft (N•m)	4.5 (6.12)
Cable Weight, lb/ft (kg/m)	0.138 (0.205)
Tensile Strength, lb (kg)	175 (80)
Flat Plate Crush Strength, lb/in (kg/mm)	110 (1.9)

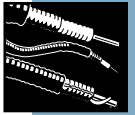
**Attenuation and Average Power Ratings**

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.065	0.214	15.6
1	0.092	0.303	15.6
1.5	0.113	0.372	15.0
2	0.131	0.429	13.0
10	0.294	0.965	5.77
20	0.417	1.37	4.07
30	0.512	1.68	3.31
50	0.664	2.18	2.55
88	0.887	2.91	1.91
100	0.947	3.11	1.79
108	0.985	3.23	1.72
150	1.17	3.83	1.46
174	1.26	4.13	1.35
200	1.35	4.44	1.25
300	1.67	5.48	1.02
400	1.94	6.37	0.874
450	2.07	6.78	0.821
500	2.19	7.17	0.777
512	2.21	7.26	0.767
600	2.41	7.90	0.705
700	2.61	8.57	0.650
800	2.81	9.21	0.605
824	2.85	9.35	0.595
894	2.98	9.77	0.570
960	3.09	10.2	0.549
1000	3.16	10.4	0.537
1250	3.57	11.7	0.476
1500	3.94	12.9	0.431
1700	4.22	13.9	0.402
1800	4.36	14.3	0.390
2000	4.62	15.2	0.368
2100	4.75	15.6	0.358
2200	4.87	16.0	0.349
2300	4.99	16.4	0.340
3000	5.79	19.0	0.293
3400	6.22	20.4	0.273
4000	6.82	22.4	0.249
5000	7.76	25.5	0.219
6000	8.63	28.3	0.197
8000	10.2	33.6	0.166
10000	11.7	38.4	0.145
10200	11.8	38.8	0.144

**Standard Conditions:**

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
F4PNMV2-H



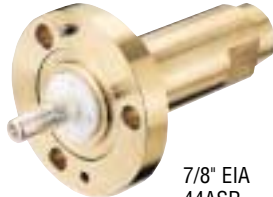
N Female Bulkhead  
F4PNF-BH



UHF Male  
44ASP



N Male Right Angle  
F4PNR-H



7/8" EIA  
44ASR



7-16 DIN Female  
F4PDF-C



7-16 DIN Male  
F4PDMV2-C

### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F4PNMV2-H</b>	Solder	Crush-Flare	SG	2.13 (54.0)	0.94 (23.8)
N Male	Hex Head	<b>F4PNMV2-HC</b>	Captivated	Crush-Flare	SG	2.13 (54.0)	0.94 (23.8)
N Male	Rt Angle, Hex Hd	<b>F4PNR-H</b>	Solder	Tab-Flare	SG	3.3/1.5 (84/38)	0.86 (21.8)
N Male		<b>F4PNR-HC</b>	Captivated	Crush-Flare	SG	2.8 (71.9)/1.6 (41.5)	1 (25.7)
N Female	–	<b>F4PNF</b>	Solder	Self-Flare	SG	2.3 (53.3)	0.88 (22.4)
N Female	–	<b>F4PNF-C</b>	Captivated	Self-Flare	SG	2.3 (53.3)	0.88 (22.4)
N Female	Bulkhead	<b>F4PNF-BH</b>	Solder	Self-Flare	SG	2.3 (58)	0.95 (24.1)
4.1/9.5 DIN Male	–	<b>F4PKM-C</b>	Captivated	Self-Flare	SS	2.0 (50)	0.95 (24.1)
4.1/9.5 DIN Male	Rt Angle, Outdoor Use	<b>F4PKR-C</b>	Captivated	Self-Flare	SS	2.3/1.5 (57/38)	0.95 (24.1)
7-16 DIN Male	–	<b>F4PDMV2-C</b>	Captivated	Crush-Flare	SS	1.98 (50.2)	1.05 (26.7)
7-16 DIN Male	–	<b>F4PDMV2</b>	Solder	Crush-Flare	SS	2.10 (53.4)	1.05 (26.7)
7-16 DIN Male	Right Angle	<b>F4PDR</b>	Solder	Self-Flare	SS	2.4/1.8 (61/46)	1.4 (35.6)
7-16 DIN Male	Right Angle	<b>F4PDR-C</b>	Captivated	Self-Flare	SS	2.1/2.0 (53/50)	1.4 (35.6)
7-16 DIN Female	–	<b>F4PDF-C</b>	Captivated	Self-Flare	SS	2.0 (50)	1.1 (27.9)
7-16 DIN Female	–	<b>F4PDF</b>	Solder	Self-Flare	SS	2.0 (50)	1.1 (27.9)
7-16 DIN Female	Bulkhead	<b>F4PDF-BH</b>	Solder	Self-Flare	SS	2.01 (51.1)	1.50 (38)
7-16 DIN Female	Panel Mount	<b>F4PDF-PM</b>	Solder	Self-Flare	SS	2.01 (51.1)	1.26 (32)
7-16 DIN Female	Bulkhead	<b>F4PDF-BHC</b>	Captivated	Self-Flare	SS	2.0 (50)	1.8 (45.7)
7-16 DIN Female	Panel Mount	<b>F4PDF-PMC</b>	Captivated	Self-Flare	SS	2.0 (50)	1.3 (33)
7/8" EIA Flange	–	<b>44ASR</b>	Solder	Tab-Flare	BS	3.3 (84)	1.4 (35.6)
UHF Male	–	<b>44ASP</b>	Solder	Tab-Flare	BS	2.1 (53)	0.84 (21.3)
UHF Female	–	<b>44ASU</b>	Solder	Tab-Flare	BS	2.3 (58)	0.84 (21.3)
HN Male	–	<b>44ASJ</b>	Solder	Tab-Flare	BB	2.4 (61)	0.84 (21.3)
SC Male	–	<b>44SPCW</b>	Solder	Tab-Flare	SG	2.7 (69)	0.88 (22.4)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

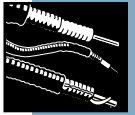
**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.



## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>43211A</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Standard Grounding Kits</b>	
Factory attached one-hole lug 24"	<b>204989-1</b>
Factory attached two-hole lug 24"	<b>241088-1</b>
Field attached two-hole lug 60"	<b>241545</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619-620.	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-5</b> <b>48939A-6</b>
Three Hole:	<b>204679A-7</b> <b>48939A-8</b>
Four Hole:	<b>204679A-16</b> <b>48939A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623.	
EASIAx® Cutting Tool FSJ4/FSJ1	<b>207865</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 1/2" High Power, High Temperature, Plenum Rated Air Dielectric, HST Series – 50-ohm



### HST4-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>High Power, High Temperature, Plenum Cable</b>	
1/2" Cable	<b>HST4-50</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 2
Maximum Frequency, GHz	10.2
Velocity, percent	81
Peak Power Rating, kW	15.6
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.87 (2.85)
Outer	1.00 (3.28)
dc Breakdown, volts	2500
Jacket Spark, volts RMS	4000
Capacitance, pF/ft (m)	25.04 (82.16)
Inductance, μH/ft (m)	0.063 (0.206)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Silver Plated, Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.52 (13.2)
Diameter over Copper Outer Conductor, in (mm)	0.48 (12.2)
Minimum Bending Radius, in (mm)	1.25 (32)
Number of Bends, minimum	20 (50)
Bending Moment, lb-ft (N•m)	4.57 (6.22)
Cable Weight, lb/ft (kg/m)	0.165 (0.245)
Tensile Strength, lb (kg)	175 (80)
Flat Plate Crush Strength, lb/in (kg/mm)	110 (1.9)

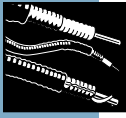
### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.074	0.244	15.6
1	0.105	0.345	15.6
1.5	0.129	0.423	15.6
2	0.149	0.489	15.6
10	0.335	1.10	15.6
20	0.477	1.56	15.6
30	0.586	1.92	15.6
50	0.762	2.50	13.3
88	1.02	3.35	9.92
100	1.09	3.58	9.29
108	1.13	3.72	8.92
150	1.35	4.42	7.52
174	1.46	4.78	6.95
200	1.57	5.14	6.46
300	1.94	6.38	5.21
400	2.27	7.44	4.47
450	2.42	7.93	4.19
500	2.56	8.39	3.96
512	2.59	8.50	3.91
600	2.82	9.27	3.59
700	3.07	10.1	3.30
800	3.31	10.9	3.06
824	3.36	11.0	3.01
894	3.52	11.5	2.88
960	3.66	12.0	2.77
1000	3.74	12.3	2.71
1250	4.24	13.9	2.39
1500	4.71	15.4	2.15
1700	5.05	16.6	2.00
1800	5.22	17.1	1.94
2000	5.55	18.2	1.83
2100	5.71	18.7	1.78
2200	5.86	19.2	1.73
2300	6.02	19.7	1.68
3000	7.04	23.1	1.44
3400	7.58	24.9	1.34
4000	8.36	27.4	1.21
5000	9.57	31.4	1.06
6000	10.7	35.1	0.947
8000	12.8	42.1	0.790
10000	14.8	48.6	0.685
10200	15.0	49.2	0.676

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 200°C (392°F), no solar loading.



N Male  
F4PNMV2-H



N Female Bulkhead  
F4PNF-BH



UHF Male  
44ASP



N Male Right Angle  
F4PNR-H



7/8" EIA  
44ASR



7-16 DIN Female  
F4PDF-C



7-16 DIN Male  
F4PDMV2-C

### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Hex Head	<b>F4PNMV2-H</b>	Solder	Crush-Flare	SG	2.13 (54.0)	0.94 (23.8)
N Male	Hex Head	<b>F4PNMV2-HC</b>	Captivated	Crush-Flare	SG	2.13 (54.0)	0.94 (23.8)
N Male	Rt Angle, Hex Hd	<b>F4PNR-H</b>	Solder	Tab-Flare	SG	3.3/1.5 (84/38)	0.86 (21.8)
N Male	–	<b>F4PNR-HC</b>	Captivated	Crush-Flare	SG	2.8 (71.9)/1.6 (41.5)	1 (25.7)
N Female	–	<b>F4PNF</b>	Solder	Self-Flare	SG	2.3 (53.3)	0.88 (22.4)
N Female	–	<b>F4PNF-C</b>	Captivated	Self-Flare	SG	2.3 (53.3)	0.88 (22.4)
N Female	Bulkhead	<b>F4PNF-BH</b>	Solder	Self-Flare	SG	2.3 (58)	0.95 (24.1)
4.1/9.5 DIN Male	–	<b>F4PKM-C</b>	Captivated	Self-Flare	SS	2.0 (50)	0.95 (24.1)
4.1/9.5 DIN Male	Rt Angle, Outdoor Use	<b>F4PKR-C</b>	Captivated	Self-Flare	SS	2.3/1.5 (57/38)	0.95 (24.1)
7-16 DIN Male	–	<b>F4PDMV2-C</b>	Captivated	Crush-Flare	SS	1.98 (50.2)	1.05 (26.7)
7-16 DIN Male	–	<b>F4PDMV2</b>	Solder	Crush-Flare	SS	2.10 (53.4)	1.05 (26.7)
7-16 DIN Male	Right Angle	<b>F4PDR</b>	Solder	Self-Flare	SS	2.4.1.8 (61/46)	1.4 (35.6)
7-16 DIN Male	Right Angle	<b>F4PDR-C</b>	Captivated	Self-Flare	SS	2.1/2.0 (53/50)	1.4 (35.6)
7-16 DIN Female	–	<b>F4PDF-C</b>	Captivated	Self-Flare	SS	2.0 (50)	1.1 (27.9)
7-16 DIN Female	–	<b>F4PDF</b>	Solder	Self-Flare	SS	2.0 (50)	1.1 (27.9)
7-16 DIN Female	Bulkhead	<b>F4PDF-BH</b>	Solder	Self-Flare	SS	2.01 (51.1)	1.50 (38)
7-16 DIN Female	Panel Mount	<b>F4PDF-PM</b>	Solder	Self-Flare	SS	2.01 (51.1)	1.26 (32)
7-16 DIN Female	Bulkhead	<b>F4PDF-BHC</b>	Captivated	Self-Flare	SS	2.0 (50)	1.8 (45.7)
7-16 DIN Female	Panel Mount	<b>F4PDF-PMC</b>	Captivated	Self-Flare	SS	2.0 (50)	1.3 (33)
7/8" EIA Flange	–	<b>44ASR</b>	Solder	Tab-Flare	BS	3.3 (84)	1.4 (35.6)
UHF Male	–	<b>44ASP</b>	Solder	Tab-Flare	BS	2.1 (53)	0.84 (21.3)
UHF Female	–	<b>44ASU</b>	Solder	Tab-Flare	BS	2.3 (58)	0.84 (21.3)
HN Male	–	<b>44ASJ</b>	Solder	Tab-Flare	BB	2.4 (61)	0.84 (21.3)
SC Male	–	<b>44SPCW</b>	Solder	Tab-Flare	SG	2.7 (69)	0.88 (22.4)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

**Connector Accessories** – See page 624

**Factory Attached Connectors** – For factory made cable assemblies and jumper cables, see pages 584-587.





## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>43211A</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Standard Grounding Kits</b>	
Factory attached one-hole lug 24"	<b>204989-1</b>
Factory attached two-hole lug 24"	<b>241088-1</b>
Field attached one-hole lug 36"	<b>204989-21</b>
Field attached two-hole lug 60"	<b>241545</b>

Description	Type No.	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.		
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619-620.		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-5</b>	<b>48939A-6</b>
Three Hole:	<b>204679A-7</b>	<b>48939A-8</b>
Four Hole:	<b>204679A-16</b>	<b>48939A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623.		
EASIAx® Cutting Tool FSJ4/FSJ1	<b>207865</b>	
DIN Connector Coupling Torque Wrench	<b>244377</b>	
N Connector Coupling Torque Wrench	<b>244379</b>	



## 5/8" Air Dielectric, HJ Series – 50-ohm

### HJ4.5-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard and Fire Retardant Cables</b>	
5/8" Standard Cable, Standard Jacket	<b>HJ4.5-50</b>
5/8" Fire Retardant Jacket (CATVR)	<b>HJ4.5RN-50</b>
<b>Low VSWR and Specialized Cables</b>	
5/8" Low VSWR, specify operating band	<b>HJ4.5P-50-(**)</b>
Cable for Cellular, standard jacket	
824-960 MHz, 1.20 VSWR, max.	<b>HJ4.5P-50-1</b>
880-960 MHz, 1.10 VSWR, max.	<b>HJ4.5P-50-2</b>

\*\* Insert suffix number from "Low VSWR Specifications" table.

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	6.6
Velocity, percent	92
Peak Power Rating, kW	40
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.41 (1.35)
Outer	0.23 (0.75)
dc Breakdown, volts	4000
Jacket Spark, volts RMS	5500
Capacitance, pF/ft (m)	22.3 (73.2)
Inductance, µH/ft (m)	0.056 (0.182)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	0.875 (22.2)
Diameter over Copper Outer Conductor, in (mm)	0.775 (19.7)
Diameter Inner Conductor, in (mm)	0.272 (6.9)
Nominal Inside Transverse Dimensions (cm)	1.51
Minimum Bending Radius, in (mm)	7 (180)
Number of Bends, minimum (typical)	15 (20)
Bending Moment, lb-ft (N•m)	16 (21.7)
Cable Weight, lb/ft (kg/m)	0.40 (0.59)
Tensile Strength, lb (kg)	750 (340)
Flat Plate Crush Strength, lb/in (kg/mm)	250 (4.5)

#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.034	0.110	40.0
1	0.048	0.156	40.0
1.5	0.058	0.192	40.0
2	0.067	0.221	35.30
10	0.152	0.497	15.64
20	0.215	0.706	10.98
30	0.264	0.867	8.94
50	0.343	1.12	6.90
88	0.457	1.50	5.17
100	0.488	1.60	4.84
108	0.508	1.67	4.65
150	0.602	1.98	3.92
200	0.699	2.29	3.38
300	0.863	2.83	2.73
400	1.00	3.29	2.35
450	1.07	3.51	2.20
500	1.13	3.71	2.09
600	1.24	4.09	1.89
700	1.35	4.43	1.74
800	1.45	4.76	1.62
824	1.47	4.85	1.59
894	1.54	5.05	1.52
960	1.60	5.25	1.47
1000	1.64	5.37	1.43
1250	1.85	6.07	1.27
1500	2.04	6.70	1.16
2000	2.40	7.86	0.986
3000	3.01	9.89	0.784
4000*	3.55	11.6	0.665
5000	4.04	13.3	0.585
6000	4.49	14.8	0.525
6600	4.75	15.6	0.496

#### Standard Conditions:

For Attenuation. VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power. VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.

\* Operation of this cable in the 4250-4400 MHz band is not recommended because of VSWR spikes produced by the dielectric spacing.



N Male  
H4.5PNM



7-16 DIN Male  
H4.5PDM

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	–	<b>H4.5PNM</b>	Spring Finger	Self Flare	SG	2.6 (66)	1.3 (33)
7-16 DIN Male	–	<b>H4.5PDM</b>	Spring Finger	Self Flare	SS	2.8 (71)	1.3 (33)
Splice	–	<b>85Z</b>	Self-tapping	Self Flare	BB	3.1 (79)	1.6 (41)

**Plating Codes:** BB - Brass Body and Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin.

## Connector Accessories

	Type Number
Bulkhead Adapter, for N or UHF Females	<b>26016-2</b>

## Low VSWR Specifications, Type HJ4.5-50-( )

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)				
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)
0.824-0.960	<b>HJ4.5P-50-1</b>	N Plug: <b>H4.5PNM</b>	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		7-16 DIN male: <b>H4.5PDM</b>	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
0.880-0.960	<b>HJ4.5P-50-2</b>	N Plug: <b>H4.5PNM</b>	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN male: <b>H4.5PDM</b>	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
0.940-2.7	<b>HJ4.5P-50-3</b>	N Plug: <b>H4.5PNM</b>	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)
		7-16 DIN male: <b>H4.5PDM</b>	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)
0.010-0.806	<b>HJ4.5P-50-4</b>	N Plug: <b>H4.5PNM</b>	1.25 (19.1)	1.25 (19.1)	1.30 (17.6)	1.30 (17.6)	1.30 (17.6)
		7-16 DIN male: <b>H4.5PDM</b>	1.25 (19.1)	1.25 (19.1)	1.30 (17.6)	1.30 (17.6)	1.30 (17.6)
0.010-2.7	<b>HJ4.5P-50-5</b>	N Plug: <b>H4.5PNM</b>	1.25 (19.1)	1.25 (19.1)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN male: <b>H4.5PDM</b>	1.25 (19.1)	1.25 (19.1)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
0.010-4.2	<b>HJ4.5P-50-6</b>	N Plug: <b>H4.5PNM</b>	1.30 (17.6)	1.35 (16.5)	1.40 (15.6)	1.50 (19.9)	1.50 (19.9)
		7-16 DIN male: <b>H4.5PDM</b>	1.30 (17.6)	1.35 (16.5)	1.40 (15.6)	1.50 (19.9)	1.50 (19.9)
4.4-6.6	<b>HJ4.5P-50-7</b>	N Plug: <b>H4.5PNM</b>	1.30 (17.6)	1.35 (16.5)	1.40 (15.6)	1.50 (19.9)	1.50 (19.9)
		7-16 DIN male: <b>H4.5PDM</b>	1.30 (17.6)	1.35 (16.5)	1.40 (15.6)	1.50 (19.9)	1.50 (19.9)

\* Connectors ordered separately.

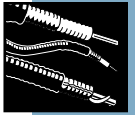
VSWR values are guaranteed for factory fit assemblies and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.



### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3 ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>42396A-9</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Snap-in Hangers Kit</b> of 10. For prepunched 3/4" (19 mm) holes on tower member or adapters. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, page 593-598.	<b>206706-6</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft.	<b>L45CLICK</b>
Mounting Hardware see page 605	
<b>Standard Hoisting Grip</b>	<b>29958</b>

Description	Type No.	
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.		
<b>SureGround Grounding Kit with standard weatherproofing</b>		
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL45-06B1</b>	
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL45-06B2</b>	
Field attached two hole lug, 1500 mm (59") lead	<b>SGL45-15B4</b>	
<b>Standard Grounding Kit with standard weatherproofing</b>		
Factory attached one-hole lug, 24" (610 mm) lead	<b>204989-2</b>	
Factory attached two-hole lug, 24" (610 mm) lead	<b>241088-2</b>	
Field attached two hole lug, 59" (1500 mm) lead	<b>220497</b>	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.		
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619-620.		
<b>Standard Cable Entry Boots</b>		
	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-13</b>	<b>48939A-14</b>
Three Hole:	<b>204679A-14</b>	<b>48939A-15</b>



## 7/8" Air Dielectric, HJ Series – 50-ohm



### HJ5-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard and Fire Retardant Cables</b>	
Maximum VSWR 1.20 (824-960 and 1850-1990 MHz)	
7/8" Standard Cable, Standard Jacket	<b>HJ5-50*</b>
7/8" Fire Retardant Jacket (CATVP)	<b>HJ5RP-50*</b>
7/8" Fire Retardant Jacket (CATVR)	<b>HJ5RN-50*</b>
<b>Low VSWR and Specialized Cables</b>	
7/8" Low VSWR, specify operating band	<b>HJ5P-50(**)</b>
Cable for Cellular, standard jacket 824-960 or 1850-1990 MHz, 1.10 VSWR, max.	<b>25831-7</b>
* For broadcast applications, specify channel and frequency.	
**Insert suffix number from "Low VSWR Specifications" table, page 557.	
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 0.5
Maximum Frequency, GHz	5.2
Velocity, percent	91.6
Peak Power Rating, kW	90
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.25 (0.82)
Outer	0.20 (0.66)
dc Breakdown, volts	6000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	22.2 (72.8)
Inductance μH/ft (m)	0.055 (0.180)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	1.11 (28.2)
Diameter over Copper Out Conductor, in (mm)	1.01 (25.7)
Diameter Inner Conductor, in (mm)	0.359 (9.1)
Nominal Inside Transverse Dimensions (cm)	2.02
Minimum Bending Radius, in (mm)	10 (250)
Number of Bends, minimum (typical)	15 (20)
Bending Moment, lb-ft (N•m)	25 (34)
Cable Weight, lb/ft (kg/m)	0.54 (0.80)
Tensile Strength, lb (kg)	800 (360)
Flat Plate Crush Strength, lb/in (kg/mm)	250 (4.5)

### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0250	0.0822	90.0
1	0.0355	0.116	78.4
1.5	0.0435	0.143	63.9
2	0.0503	0.165	55.3
10	0.113	0.372	24.5
20	0.161	0.529	17.3
30	0.198	0.651	14.0
50	0.258	0.846	10.8
88	0.346	1.13	8.05
100	0.369	1.21	7.53
108	0.385	1.26	7.23
150	0.457	1.50	6.09
174	0.494	1.62	5.63
200	0.532	1.75	5.23
300	0.661	2.17	4.21
400	0.772	2.53	3.60
450	0.823	2.70	3.38
500	0.871	2.86	3.19
512	0.883	2.90	3.15
600	0.963	3.16	2.89
700	1.05	3.44	2.65
800	1.13	3.71	2.46
824	1.15	3.77	2.42
894	1.20	3.94	2.31
960	1.25	4.11	2.22
1000	1.28	4.20	2.17
1250	1.45	4.77	1.91
1500	1.61	5.29	1.72
1700	1.73	5.69	1.60
2000	1.91	6.26	1.46
2300	2.07	6.79	1.34
3000†	2.43	7.96	1.15
4000	2.89	9.48	0.963
5000	3.32	10.9	0.839
5200	3.40	11.2	0.818

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For average Power. VSWR 1.0 inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.

† Contact Andrew for information on operation in the 3050-3200 MHz band.



N Female  
H5PNF



N Female  
H5NF-T



7/8" EIA Flange  
75AR



7-16 DIN Male  
H5PDM



7-16 DIN Female  
H5PDF



N Male  
H5PNM

### Connectors

Interface	Description	Type Number	Reference*	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	—	<b>H5PNM</b>	—	Self-tapping	Tab Flare	SG	3.5 (89)	1.4 (36)
N Male	Tunable	<b>H5NM-T</b>	—	Self-tapping	Tab Flare	BB	8.5 (216)	1.4 (36)
N Female	—	<b>H5PNF</b>	—	Self-tapping	Tab Flare	SG	3.4 (86)	1.4 (36)
N Female	Tunable	<b>H5NF-T</b>	—	Self-tapping	Tab Flare	BB	8.2 (208)	1.4 (36)
7-16 DIN Male	—	<b>H5PDM</b>	—	Spring Finger	Tab Flare	SS	2.8 (71)	1.4 (36)
7-16 DIN Female	—	<b>H5PDF</b>	—	Spring Finger	Tab Flare	SS	2.8 (71)	1.4 (36)
7/8" EIA Flange	Gas Pass	<b>75AR</b>	—	Self-tapping	Tab Flare	BB	3.7 (94)	2.25 (57)
7/8" EIA Flange	Gas Pass, Tunable	<b>75ART</b>	—	Self-tapping	Tab Flare	BB	5.9 (150)	2.25 (57)
7/8" EIA Flange	Gas Barrier	<b>H5MB-014</b>	75AG	Self-tapping	Tab Flare	BB	3.7 (94)	2.25 (57)
7/8" EIA Flange	Gas Barrier, Tunable	<b>75AGT</b>	—	Self-tapping	Tab Flare	BB	5.9 (150)	2.25 (57)
1-5/8" EIA Flange	Gas Pass/Barrier	<b>H5MPB-110</b>	—	Self-tapping	Tab Flare	BS	5.2 (132)	3.5 (89)
UHF Female	—	<b>75AU</b>	—	Self-tapping	Tab Flare	BS	3.4 (86)	1.4 (36)
LC Male	—	<b>75AM</b>	—	Self-tapping	Tab Flare	BB	5.0 (127)	1.4 (36)
End Terminal	—	<b>75AT</b>	—	Self-tapping	Tab Flare	BB	5.1 (130)	1.4 (36)
Splice	—	<b>75AZ</b>	—	Self-tapping	Tab Flare	BB	4.2 (107)	1.4 (36)

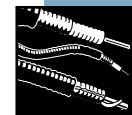
**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

\* Previous Type Number.

### Connector Accessories

	Type Number
Connector Reattachment Kit	
For H5PNF, H5PNM, 75AR, 75PN, 75PW	<b>34767A-3</b>
For 75AG, 75AU	<b>34767A-5</b>
For 75ART, 75AGT	<b>34767A-44</b>
For H5NF-T, 75NT	<b>34767A-18</b>
Bulkhead Adapter, for N or UHF Females	<b>26016-2</b>
90°, 7/8" EIA Miter Elbow, includes one inner connector	<b>1060A</b>





## Terrestrial Microwave – Low VSWR Specifications

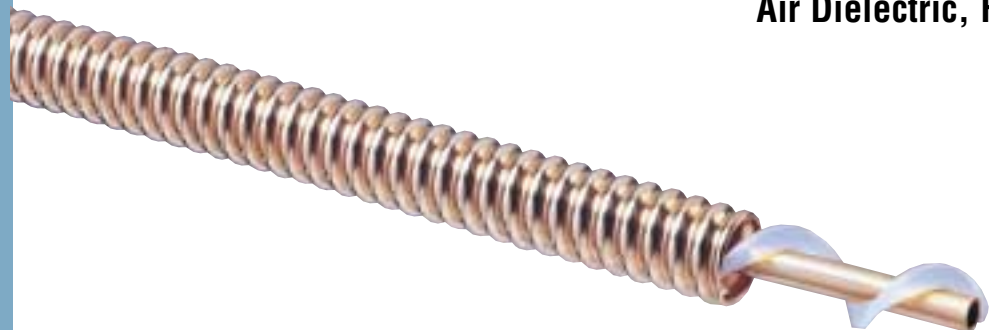
Frequency Band, GHz	Type Number	7/8" EIA		Recommended Connectors		VSWR, max. (R.L.)
		No Gas Barrier	Gas Barrier	Type N Plug	Type N Jack	
1.7-1.9	<b>HJ5P-50-17L</b>	75ART	75AGT	H5NM-T	H5NF-T	1.08 (28.3)
1.85-1.99	<b>HJ5P-50-18</b>	75ART	75AGT	H5NM-T	H5NF-T	1.08 (28.3)
2.11-2.2	<b>HJ5P-50-21</b>	75ART	75AGT	H5NM-T	H5NF-T	1.08 (28.3)
1.7-2.11	<b>HJ5P-50-17</b>	75ART	75AGT	H5NM-T	H5NF-T	1.08 (28.3)
1.9-2.3	<b>HJ5P-50-19</b>	75ART	75AGT	H5NM-T	H5NF-T	1.08 (28.3)
2.3-2.7	<b>HJ5P-50-23W</b>	75ART	75AGT	H5NM-T	H5NF-T	1.08 (28.3)
3.625-4.2	<b>HJ5P-50-36</b>	–	–	H5PNM	H5PNF	1.20 (20.8)

VSWR values are guaranteed for factory fit assemblies and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3 ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>42396A-5</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). Mounting Hardware see page 605.	<b>L5CLICK</b>
<b>Standard Hoisting Grip</b>	<b>19256B</b>

Description	Type No.
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>SureGround Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600mm (24") lead	<b>SGL5-06B1</b>
Factory attached two-hole lug, 600mm (24") lead	<b>SGL5-06B2</b>
Field attached two hole lug, 2000mm (79") lead	<b>SGL5-20B4</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.	
<b>Standard Cable Entry Boots</b>	
One Hole:	<b>204679A-2</b> <b>48939A-1</b>
Two Hole:	<b>204679A-18</b> –
Three Hole:	<b>204679A-15</b> <b>48939A-2</b>



## 7/8" High Power, High Temperature, Air Dielectric, HT Series – 50-ohm

### HT5-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
7/8" Standard Cable, Unjacketed	<b>HT5-50</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	5.2
Velocity, percent	92.5
Peak Power Rating, kW	90
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.25 (0.82)
Outer	0.20 (0.66)
dc Breakdown, volts	6000
Capacitance, pF/ft (m)	21.7 (71.2)
Inductance, µH/ft (m)	0.055 (0.182)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper Tube
Diameter over Copper Outer Conductor, in (mm)	1.01 (25.5)
Minimum Bending Radius, in (mm)	10 (250)
Number of Bends, minimum (typical)	15 (30)
Bending Moment, lb-ft (N•m)	29 (39.3)
Cable Weight, lb/ft (kg/m)	0.45 (0.67)
Tensile Strength, lb (kg)	800 (360)
Flat Plate Crush Strength, lb/in (kg/mm)	240 (4.3)

### Attenuation and Average Power Ratings

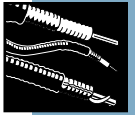
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0253	0.0829	90.0
1	0.0360	0.118	90.0
1.5	0.0442	0.145	90.0
2	0.0512	0.168	90.0
10	0.118	0.387	59.2
20	0.171	0.561	40.8
30	0.213	0.698	32.7
50	0.282	0.925	24.7
88	0.389	1.28	17.9
100	0.419	1.38	16.6
108	0.438	1.44	15.9
150	0.532	1.75	13.1
174	0.581	1.91	11.9
200	0.632	2.07	11.0
300	0.813	2.67	8.59
400	0.972	3.19	7.18
450	1.05	3.44	6.65
500	1.12	3.69	6.21
512	1.14	3.74	6.11
600	1.26	4.15	5.52
700	1.40	4.59	4.99
800	1.53	5.03	4.55
824	1.56	5.13	4.47
894	1.65	5.42	4.23
960	1.73	5.69	4.03
1000	1.78	5.85	3.92
1250	2.08	6.84	3.34
1500	2.37	7.77	2.94
1700	2.59	8.50	2.20
2000	2.91	9.56	1.51
2300	3.24	10.6	1.49
3000†	3.95	13.0	1.46
4000	4.91	16.1	1.42
5000	5.84	19.2	1.19
5200	6.02	19.8	1.16

#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For average power, VSWR 1.0 inner temperature 200°C (392°F), ambient temperature 40°C (104°F) atmospheric pressure, dry air, no solar loading.

† Operation of this cable in the 3550-3700 MHz band is not recommended because of VSWR spikes produced by the dielectric section spacing.



N Female  
H5PNF



7-16 DIN Male  
H5PDM



7-16 DIN Female  
H5PDF



7/8" EIA Flange  
75AR



N Male  
H5PNM

## Connectors

Interface	Description	Type Number	Reference*	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	-	<b>H5PNM</b>	-	Self-tapping	Tab Flare	SG	3.5 (89)	1.4 (36)
N Female	Tunable	<b>H5NF-T</b>	-	Self-tapping	Tab Flare	BB	8.2 (208)	1.4 (36)
7-16 DIN Male	-	<b>H5PDM</b>	-	Spring Finger	Tab Flare	SS	2.8 (71)	1.4 (36)
7-16 DIN Female	-	<b>H5PDF</b>	-	Spring Finger	Tab Flare	SS	2.8 (71)	1.4 (36)
7/8" EIA Flange	Gas Pass	<b>75AR</b>	-	Self-tapping	Tab Flare	BB	3.7 (94)	2.25 (57)
7/8" EIA Flange	Gas Barrier	<b>H5MB-014</b>	75AG	Self-tapping	Tab Flare	BB	3.7 (94)	2.25 (57)
UHF Female	-	<b>75AU</b>	-	Self-tapping	Tab Flare	BS	3.4 (86)	1.4 (36)
LC Male	-	<b>75AM</b>	-	Self-tapping	Tab Flare	BB	5.0 (127)	1.4 (36)
End Terminal	-	<b>75AT</b>	-	Self-tapping	Tab Flare	BB	5.1 (130)	1.4 (36)
Splice	-	<b>75AZ</b>	-	Self-tapping	Tab Flare	BB	4.2 (107)	1.4 (36)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

\* Previous Type Number.

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3 ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>42396A-5</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Standard Hoisting Grip</b>	<b>19256B</b>

**Grounding and Surge Protection** – for additional grounding kits and our surge protection offerings, see pages 609-616.

### SureGround Grounding Kit with standard weatherproofing

Factory attached one-hole lug, 600 mm (24") lead	<b>SGL5-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL5-06B2</b>
Field attached two hole lug, 1500 mm (59") lead	<b>SGL5-15B4</b>

## Connector Accessories

Description	Type Number
<b>Connector Reattachment Kit</b>	
For H5PNF, H5PNM, 75AR, 75PN, 75PW	<b>34767A-3</b>
For 75AG, 75AU	<b>34767A-5</b>
For 75ART, 75AGT	<b>34767A-44</b>
For H5NF-T, 75NT	<b>34767A-18</b>
<b>Bulkhead Adapter</b> , for N or UHF Females	<b>26016-2</b>
90°, 7/8" EIA Miter Elbow, includes one inner connector	<b>1060A</b>

## Accessories

Description	Type No.	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.		
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-2</b>	<b>48939A-1</b>
Two Hole:	<b>204679A-18</b>	-
Three Hole:	<b>204679A-15</b>	<b>48939A-2</b>



## 1-5/8" Air Dielectric, HJ Series – 50-ohm

### HJ7-50A

Description	Type No.
-------------	----------

#### Cable Ordering Information

Standard and Fire Retardant Cables	
Maximum VSWR 1.20 (824-960 and 1850-1990 MHz)	
1-5/8" Standard Cable, Standard Jacket	<b>HJ7-50A</b>
1-5/8" Fire Retardant Jacket (CATVP)	<b>HJ7RP-50A</b>
1-5/8" Fire Retardant Jacket (CATVR)	<b>HJ7RN-50A</b>
Enhanced Power Cable	
1-5/8" Cable with Polyolefin Dielectric for 25% increase in power ratings	<b>27591-101</b>
Low VSWR and Specialized Cables	
1-5/8" Low VSWR, specify operating band	<b>HJ7P-50A(**)</b>
1-5/8" Low VSWR, specify operating band	<b>HJ7SP-50A(**)</b>
Cable for Cellular, standard jacket 824-960 or 1850-1990 MHz, 1.10 VSWR, max.	<b>25816A-33</b>
Broadcast, Low VSWR 54-216 MHz, 1.05 VSWR, max. over broadcast channel 470-740 MHz, 1.08 VSWR, max. over broadcast channel 740-856 MHz, 1.10 VSWR, max. over broadcast channel	<b>42140*</b>

\* For broadcast applications, specify channel and frequency.

\*\* Insert suffix number from "Low VSWR Specifications" table.

#### Characteristics

Electrical	
Impedance, ohms	50 ± 0.5
Maximum Frequency, GHz	2.7
Velocity, percent	92.1
Peak Power Rating, kW	305
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.22 (0.72)
Outer	0.10 (0.33)
dc Breakdown, volts	11000
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	22.1 (72.4)
Inductance, µH/ft (m)	0.055 (0.181)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	1.98 (50.3)
Diameter over Copper Outer Conductor, in (mm)	1.83 (46.5)
Diameter Inner Conductor, in (mm)	0.713 (18.1)
Nominal Inside Transverse Dimensions (cm)	3.99
Minimum Bending Radius, in (mm)	20 (510)
Number of Bends, minimum (typical)	15 (30)
Bending Moment, lb-ft (N•m)	30 (40.7)
Cable Weight, lb/ft (kg/m)	1.04 (1.55)
Tensile Strength, lb (kg)	750 (340)
Flat Plate Crush Strength, lb/in (kg/mm)	175 (3.1)

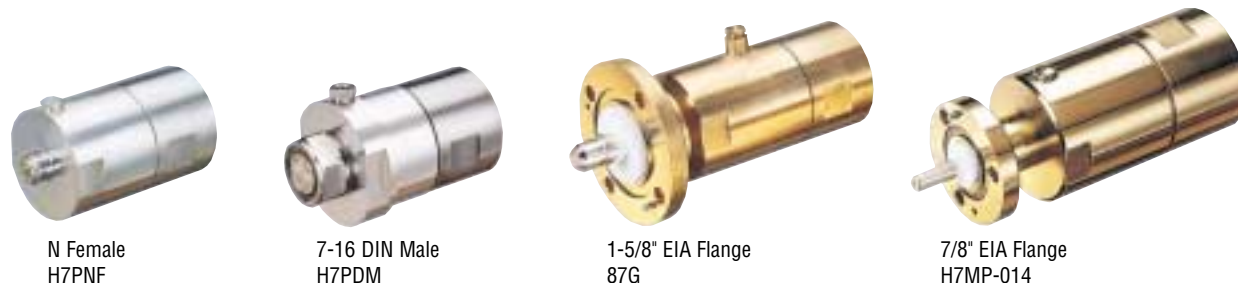
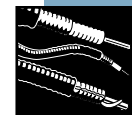
#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0138	0.0452	243
1	0.0195	0.0641	171.8
1.5	0.0239	0.0785	140.2
2	0.0277	0.0908	121.3
10	0.0623	0.205	53.8
20	0.0887	0.291	37.8
30	0.109	0.358	30.8
50	0.142	0.465	23.7
88	0.190	0.623	17.7
100	0.203	0.666	16.5
108	0.211	0.693	15.9
150	0.251	0.823	13.4
174	0.271	0.890	12.4
200	0.292	0.958	11.5
300	0.363	1.19	9.25
400	0.423	1.39	7.93
450	0.451	1.48	7.44
500	0.478	1.57	7.02
512	0.484	1.59	6.93
600	0.528	1.73	6.36
700	0.575	1.89	5.84
800	0.619	2.03	5.42
824	0.629	2.06	5.33
894	0.658	2.16	5.10
960	0.685	2.25	4.90
1000	0.701	2.30	4.79
1250	0.795	2.61	4.22
1700	0.948	3.11	3.54
2000	1.04	3.42	3.22
2300	1.13	3.71	2.97
2700	1.24	4.08	2.70

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.



## Connectors

Interface	Description	Type Number	Reference*	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Tunable	<b>H7NM-T</b>	–	Tab Flare	Tab Flare	BB	11.6 (295)	2.4 (61)
N Female	–	<b>H7PNF</b>	–	Tab Flare	Tab Flare	SG	4.1 (104)	2.4 (61)
N Female	Tunable	<b>H7NF-T</b>	–	Tab Flare	Tab Flare	BB	11.4 (290)	2.4 (61)
7-16 DIN Male	–	<b>H7PDM</b>	–	Tab Flare	Tab Flare	SS	4.2 (107)	2.7 (69)
7-16 DIN Female	–	<b>H7PDF</b>	–	Tab Flare	Tab Flare	SS	4.2 (107)	2.7 (69)
1-5/8" EIA Flange	Gas Pass†	<b>87R</b>	–	Tab Flare	Tab Flare	BS	4.8 (122)	3.5 (89)
1-5/8" EIA Flange	Gas Block†	<b>87G</b>	–	Tab Flare	Tab Flare	BS	5.7 (145)	3.5 (89)
7/8" EIA Flange	Gas Pass†	<b>H7MP-014</b>	<b>87S</b>	Tab Flare	Tab Flare	BS	5.6 (142)	2.4 (61)
7/8" EIA Flange	Gas Pass, Tunable†	<b>87ST</b>	–	Tab Flare	Tab Flare	BS	11.8 (300)	2.4 (61)
7/8" EIA Flange	Gas Block†	<b>H7MB-014</b>	<b>87SG</b>	Tab Flare	Tab Flare	BS	5.6 (142)	2.4 (61)
7/8" EIA Flange	Gas Block, Tunable†	<b>87SGT</b>	–	Tab Flare	Tab Flare	BS	12.2 (310)	2.4 (61)
LC Female	–	<b>87L</b>	–	Tab Flare	Tab Flare	BB	4.9 (124)	2.4 (61)
End Terminal	–	<b>87T</b>	–	Tab Flare	Tab Flare	BB	7.0 (178)	2.4 (61)
Splice	–	<b>87Z</b>	–	Tab Flare	Tab Flare	BB	5.9 (150)	2.4 (61)

Plating Codes: BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin (inner connector), SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

\* Previous Type Number. † Includes inner.

## Connector Accessories

	Type Number
Connector Reattachment Kit	
For 87G, 87R	<b>34767A-6</b>
For H7PNF, 87PN, H7MP-014, H7MB-014	<b>34767A-7</b>
For 87SGT, 87ST	<b>34767A-20</b>
For H7NF-T, H7NM-T, 87NT, 87WT	<b>34767A-19</b>
For 87Z	<b>34767A-13</b>
7/8" EIA Gas Barrier	<b>1260A</b>
1-5/8" EIA Gas Barrier	<b>1261B</b>
1-5/8" EIA End Terminal, for strap connection to center conductor, includes inner connector.	
Use with 87R	<b>2061</b>
1-5/8" Inner Connector, with anchor bead	<b>34660</b>
1-5/8" EIA 90° Miter Elbow, includes one inner connector	<b>1061A</b>



### Terrestrial Microwave – Low VSWR Specifications

Frequency Band, GHz	Type Number	Recommended Connectors				VSWR, max. (R.L.)
		7/8" EIA No Gas Barrier	7/8" EIA Gas Barrier	Type N Plug	Type N Jack	
<b>P Series</b>						
1.7-1.9	<b>HJ7P-50A-17L</b>	87ST	87SGT	H7NM-T	H7NF-T	1.15 (23.1)
1.85-1.99	<b>HJ7P-50A-18</b>	H7MP-014*	H7MB-014*	H7NM-T	H7NF-T	1.15 (23.1)
2.11-2.2	<b>HJ7P-50A-21</b>	H7MP-014*	H7MB-014*	H7NM-T	H7NF-T	1.15 (23.1)
1.7-2.11	<b>HJ7P-50A-17</b>	87ST	87SGT	H7NM-T	H7NF-T	1.15 (23.1)
1.9-2.3	<b>HJ7P-50A-19</b>	87ST	87SGT	H7NM-T	H7NF-T	1.15 (23.1)
2.3-2.7	<b>HJ7P-50A-23W</b>	87ST	87SGT	H7NM-T	H7NF-T	1.15 (23.1)
<b>SP Series</b>						
1.7-1.9	<b>HJ7SP-50A-17L</b>	87ST	87SGT	–	–	1.10 (26.4)
1.85-1.99	<b>HJ7SP-50A-18</b>	–	–	H7NM-T	H7NF-T	1.12 (24.8)
2.11-2.2	<b>HJ7SP-50A-21</b>	87ST	87SGT	–	–	1.10 (26.4)
1.7-2.11	<b>HJ7SP-50A-17</b>	87ST	87SGT	H7NM-T	H7NF-T	1.12 (24.8)
1.9-2.3	<b>HJ7SP-50A-19</b>	87ST	87SGT	–	–	1.10 (26.4)
		–	–	H7NM-T	H7NF-T	1.12 (24.8)

\* Tunable connector may be used.

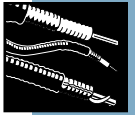
VSWR values are guaranteed for factory fit assemblies and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3 ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>42396A-2</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). Mounting Hardware see page 605.	<b>L7CLICK</b>
<b>Standard Hoisting Grip</b>	<b>24312A</b>

Description	Type No.
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>SureGround Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL7-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL7-06B2</b>
Field attached two hole lug, 1500 mm (59") lead	<b>SGL7-15B4</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-4</b> <b>48939A-4</b>





## 2-1/4" Air Dielectric, HJ Series – 50-ohm



### HJ12-50

Description	Type No.
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#### Cable Ordering Information

Standard and Fire Retardant Cables	
Maximum VSWR 1.20 (824-960 and 1850-1990 MHz)	
2-1/4" Standard Cable, Standard Jacket	HJ12-50
2-1/4" Fire Retardant Jacket (CATVR)	HJ12RN-50
Low VSWR and Specialized Cables	
2-1/4" Low VSWR, specify operating band	HJ12P-50(**)
Cable for Cellular, standard jacket	
824-960 MHz 1.10 VSWR, max.	207760-3
Broadcast, Low VSWR	
54-216 MHz, 1.05 VSWR, max. over broadcast channel	
470-740 MHz, 1.08 VSWR, max. over broadcast channel	
740-856 MHz, 1.10 VSWR, max. over broadcast channel	207761*

\* For broadcast applications, specify channel and frequency.  
 \*\*Insert suffix number from "Low VSWR Specifications" table.

#### Characteristics

Electrical	
Impedance, ohms	50 ± 0.5
Maximum Frequency, GHz	2.3
Velocity, percent	93.1
Peak Power Rating, kW	425
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.17 (0.56)
Outer	0.075 (0.25)
dc Breakdown, volts	13000
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	21.8 (71.5)
Inductance, µH/ft (m)	0.055 (0.180)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	2.38 (60.4)
Diameter over Copper Outer Conductor, in (mm)	2.23 (56.6)
Diameter Inner Conductor, in (mm)	0.890 (22.6)
Nominal Inside Transverse Dimension (cm)	4.96
Minimum Bending Radius, in (mm)	22 (560)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (N*m)	55 (75)
Cable Weight, lb/ft (kg/m)	1.16 (1.73)
Tensile Strength, lb (kg)	980 (445)
Flat Plate Crush Strength, lb/in (kg/mm)	145 (2.6)

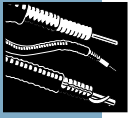
#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0114	0.0375	342
1	0.0162	0.0531	241.2
1.5	0.0198	0.0651	196.8
2	0.0229	0.0752	170.2
10	0.0517	0.170	75.5
20	0.0736	0.242	53.0
30	0.0906	0.297	43.1
50	0.118	0.387	33.1
88	0.158	0.519	24.7
100	0.169	0.555	23.1
108	0.176	0.577	22.2
150	0.209	0.686	18.7
174	0.226	0.743	17.2
200	0.244	0.800	16.0
300	0.303	0.994	12.9
400	0.354	1.16	11.0
450	0.378	1.24	10.3
500	0.400	1.31	9.76
512	0.405	1.33	9.63
600	0.442	1.45	8.82
700	0.482	1.58	8.10
800	0.519	1.70	7.52
824	0.528	1.73	7.39
894	0.553	1.81	7.06
960	0.576	1.89	6.78
1000	0.589	1.93	6.63
1250	0.669	2.20	5.83
1500	0.744	2.44	5.25
1700	0.800	2.62	4.88
2000	0.880	2.89	4.44
2300	0.956	3.14	4.08

#### Standard Conditions:

For Attenuation. VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power. VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.



N Female  
H12PNF



3-1/8" EIA Flange  
82GF



1-5/8" EIA Flange  
82R



7/8" EIA Flange  
82S

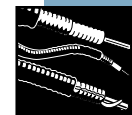
### Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Female	–	<b>H12PNF</b>	Tab Flare	Tab Flare	SG	4.4 (112)	2.8 (71)
7-16 DIN Male	–	<b>H12PDM</b>	Tab Flare	Tab Flare	SS	4.5 (114)	3.1 (79)
3-1/8" EIA Flange	Gas Pass, Female	<b>82RF</b>	Tab Flare	Tab Flare	BB	6.9 (175)	5.2
3-1/8" EIA Flange	Gas Barrier, Female	<b>82GF</b>	Tab Flare	Tab Flare	BB	6.9 (175)	5.2
1-5/8" EIA Flange	Gas Pass, Male	<b>82R</b>	Tab Flare	Tab Flare	BB	4.8 (122)	3.5 (89)
7/8" EIA Flange	Gas Pass, Male	<b>82S</b>	Tab Flare	Tab Flare	BB	5.7 (145)	2.8 (71)
Splice	–	<b>82Z</b>	Tab Flare	Tab Flare	BB	5.9 (150)	3.4 (86)

**Plating Codes:** BB - Brass Body and Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

### Connector Accessories

	Type Number
Connector Reattachment Kit	
For H12PNF, 82PN	<b>34767A-46</b>
For 82R	<b>34767A-47</b>
For 82RF	<b>34767A-49</b>
For 82GF	<b>34767A-50</b>
1-5/8" EIA Gas Barrier	<b>1261B</b>
1-5/8" EIA End Terminal, for strap connection to center conductor, includes inner connector. Use with 82R	<b>2061</b>
1-5/8" Inner Connector, with anchor bead	<b>34660</b>
3-1/8" Inner Connector, with anchor bead	<b>ACX350-20</b>
3-1/8" EIA 90° Miter Elbow, includes inner conductor	<b>ACX350-10SE</b>
1-5/8" EIA 90° Miter Elbow	<b>ACX150-10SE</b>
7/8" EIA 90° Miter Elbow	<b>1060A</b>



### Terrestrial Microwave – Low VSWR Specifications

Frequency Band, GHz	Type Number	Recommended Connectors			VSWR, max. (R.L.)
		7/8" EIA No Gas Barrier	Type N Jack		
1.7-1.9	<b>HJ12P-50-17L</b>	82S	H12PNF		1.15 (23.1)
1.85-1.99	<b>HJ12P-50-18</b>	82S	H12PNF		1.15 (23.1)
2.11-2.2	<b>HJ12P-50-21</b>	82S	H12PNF		1.15 (23.1)

Frequency Band, GHz	Type Number	Recommended Connectors			VSWR, max. (R.L.)
		7/8" EIA No Gas Barrier	Type N Jack		
1.7-2.11	<b>HJ12P-50-17</b>	82S	H12PNF		1.15 (23.1)
1.9-2.3	<b>HJ12P-50-19</b>	82S	H12PNF		1.15 (23.1)

VSWR values are guaranteed for factory fit assemblies and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

### Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>42396A-4</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lock washers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For pre-punched 3/4" (19 mm) holes on tower member or adapters. Standard tower configuration spacing is 3-4 feet. (1-1.2m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>206706-5</b>
<b>Standard Hoisting Grip</b>	<b>31535</b>

Description	Type No.
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>SureGround Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL12-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL12-06B2</b>
Field attached two hole lug, 1500 mm (59") lead	<b>SGL12-15B4</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-8</b> <b>48939A-9</b>



## 3" Air Dielectric, HJ Series – 50-ohm

### HJ8-50B

Description	Type No.
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#### Cable Ordering Information

<b>Standard Cable</b>	
3" Standard Cable, Standard Jacket	<b>HJ8-50B</b>
<b>Low VSWR and Specialized Cables</b>	
Cable for Cellular, standard jacket 824-894 MHz, 1.20 VSWR, max.	<b>209227</b>
Broadcast, Low VSWR 54-216 MHz, 1.05 VSWR, max. over broadcast channel 470-740 MHz, 1.08 VSWR, max. over broadcast channel 740-856 MHz, 1.10 VSWR, max. over broadcast channel	<b>42141*</b>
Cable with Polyethylene Dielectric (12% lower attenuation at 800 MHz)	<b>27591-6</b>

\* For broadcast applications, specify channel and frequency.

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	50 ± 0.5
Maximum Frequency, GHz	1.64
Velocity, percent	93.3
Peak Power Rating, kW	640
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.15 (0.49)
Outer	0.07 (0.23)
dc Breakdown, volts	16000
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	21.7 (71.2)
Inductance, μH/ft (m)	0.055 (0.18)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	3.01 (76.6)
Diameter over Copper Outer Conductor, in (mm)	2.85 (72.4)
Diameter Inner Conductor, in (mm)	1.14 (29.0)
Nominal Inside Transverse Dimensions, (cm)	6.35
Minimum Bending Radius, in (mm)	30 (760)
Number of Bends, minimum (typical)	15 (25)
Bending Moment, lb-ft (N•m)	30 (41)
Cable Weight, lb/ft (kg/m)	1.78 (2.6)
Tensile Strength, lb (kg)	750 (340)
Flat Plate Crush Strength, lb/in (kg/mm)	175 (3.1)

#### Attenuation and Average Power Ratings

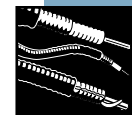
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0089	0.0291	640
1	0.0126	0.0414	476
1.5	0.0155	0.0508	387
2	0.0179	0.0588	334
10	0.0410	0.135	146
20	0.0590	0.194	102
30	0.0732	0.240	81.9
50	0.0964	0.316	62.2
88	0.132	0.432	45.6
100	0.141	0.464	42.4
	0.136*	0.448*	33.4*
108	0.148	0.484	40.6
150	0.178	0.583	33.7
174	0.194	0.635	31.0
200	0.210	0.688	28.6
300	0.266	0.874	22.5
400	0.317	1.04	18.9
450	0.340	1.12	17.6
	0.309*	1.01*	14.7*
500	0.363	1.19	16.5
512	0.368	1.21	16.3
600	0.407	1.33	14.7
700	0.448	1.47	13.4
800	0.488	1.60	12.3
	0.429*	1.41*	10.6*
824	0.497	1.63	12.1
894	0.524	1.72	11.4
960	0.548	1.80	10.9
1000	0.563	1.85	10.6
1250	0.652	2.14	9.19
1500	0.737	2.42	8.14
1640	0.782	2.57	7.66

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 121°C (250°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.

\* These values are for 27591-6 cable with polyethylene dielectric available on special order.



3-1/8" EIA Flange  
H8MP-302



1-5/8" EIA Flange  
78AS

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
3-1/8" EIA Flange	Gas pass, includes inner connector	<b>H8MP-302</b>	Tab Flare	Tab Flare	BB	8.06 (204.7)	5.19 (131.7)
3-1/8" EIA Flange	Gas block, includes inner connector**	<b>H8MB-302</b>	Tab Flare	Tab Flare	BB	8.06 (204.7)	5.19 (131.7)
3-1/8" EIA Flange	Gas pass, no inner connector	<b>H8FP-302</b>	Tab Flare	Tab Flare	BB	6.0 (152.4)	5.19 (131.7)
3-1/8" EIA Flange	Gas block, no inner connector	<b>H8FB-302</b>	Tab Flare	Tab Flare	BB	6.0 (152.4)	5.19 (131.7)
1-5/8" EIA Flange	Gas Pass, inner connector	<b>78AS</b>	Tab Flare	Tab Flare	BB	3.9 (99)	3.6 (91)
Splice	-	<b>78BZ</b>	Tab Flare	Tab Flare	BB	6.1 (155)	5.3 (135)

**Plating Codes:** BB - Brass Body and Pin \*\* Universal application - designed so that all connector variations of same flange size can be accommodated by modifying this connector, using instructions provided.

## Connector Accessories

	Type Number
Connector Reattachment Kit	
For H8MP-302, H8MB-302, H8FP-302, H8FB-302	<b>34767A-60</b>
For 78AGF, 78ARM, 78ARF, 78AGM, 78AS	<b>34767A-10</b>
For 78BZ	<b>34767A-30</b>
3-1/8" EIA End Terminal, for strap connection to center conductor, includes inner connector. Use with H8FP-302.	<b>2062</b>
3-1/8" Inner Connector, with anchor bead	<b>ACX350-20</b>
1-5/8" Inner Conductor, with anchor bead	<b>34660</b>
3-1/8" EIA 90° Miter Elbow, includes one inner connector	<b>ACX350-10SE</b>
1-5/8" EIA 90° Miter Elbow	<b>ACX150-10SE</b>
1-5/8" Gas Barrier	<b>1261B</b>

## Accessories

Description	Type No.	
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.		
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>31766A-11</b>	
<b>Hardware Kit</b> of 10. 3/8" bolts, lock washers, nuts		
3/4" (19 mm) long	<b>31769-5</b>	
1" (25 mm) long	<b>31769-1</b>	
<b>Standard Hoisting Grip</b>	<b>26895A</b>	
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.		
<b>Grounding Kit with standard weatherproofing</b>		
Factory attached one-hole lug, 600 mm (24") lead	<b>204989-5</b>	
Field attached screw-on lug, 915 mm (36") lead	<b>204989-35</b>	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.		
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-9</b>	<b>48939A-10</b>



## 4" Air Dielectric, HJ Series – 50-ohm

### HJ11-50

Description	Type No.
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#### Cable Ordering Information

<b>Standard Cable</b>	
4" Standard Cable, Standard Jacket	<b>HJ11-50</b>
<b>Low VSWR and Specialized Cables</b>	
Broadcast, Low VSWR	
54-216 MHz, 1.05 VSWR, max. over broadcast channel	
470-740 MHz, 1.08 VSWR, max. over broadcast channel	
740-856 MHz, 1.10 VSWR, max. over broadcast channel	<b>42144*</b>

\* For broadcast applications, specify channel and frequency.

#### Characteristics

Electrical	
Impedance, ohms	50 ± 0.5
Maximum Frequency, GHz	1.22
Velocity, percent	92
Peak Power Rating, kW	1100
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.11 (0.36)
Outer	0.04 (0.13)
dc Breakdown, volts	21000
Jacket Spark, volts RMS	10000
Capacitance, pF/ft (m)	22.0 (72.2)
Inductance, μH/ft (m)	0.055 (0.18)

Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	4.00 (102)
Diameter over Copper Outer Conductor, in (mm)	3.84 (97)
Diameter Inner Conductor, in (mm)	1.55 (39.4)
Nominal Inside Transverse Dimensions, (cm)	8.55
Minimum Bending Radius, in (mm)	40 (1015)
Number of Bends, minimum (typical)	15 (30)
Bending Moment, lb-ft (N•m)	191 (259)
Cable Weight, lb/ft (kg/m)	2.50 (3.72)
Tensile Strength, lb (kg)	900 (408)
Flat Plate Crush Strength, lb/in (kg/mm)	280 (5.0)

#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0074	0.0243	1000
1	0.0105	0.0345	705
1.5	0.0129	0.0423	574.
2	0.0149	0.0489	496
10	0.0339	0.111	218
20	0.0486	0.159	152
30	0.0601	0.197	123
50	0.0788	0.258	94.0
88	0.107	0.350	69.3
100	0.114	0.376	64.7
108	0.119	0.392	62.0
150	0.143	0.469	51.7
174	0.155	0.510	47.6
200	0.168	0.551	44.0
300	0.212	0.694	35.0
400	0.250	0.820	29.6
450	0.268	0.879	27.6
500	0.285	0.935	26.0
512	0.289	0.948	25.6
600	0.318	1.04	23.3
700	0.349	1.14	21.2
800	0.378	1.24	19.6
824	0.385	1.26	19.2
894	0.405	1.33	18.3
960	0.423	1.39	17.5
1000	0.434	1.42	17.1

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 121°C (250°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.

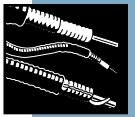




6-1/8" EIA Flange  
H11FP-602



3-1/8" EIA Flange  
H11FB-302



## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
6-1/8" EIA Flange	Gas pass, includes inner connector	<b>H11MP-602</b>	Tab Flare	Tab Flare	BB	11.3 (288)	8.13 (207)
6-1/8" EIA Flange	Gas block, includes inner connector**	<b>H11MB-602</b>	Tab Flare	Tab Flare	BB	11.3 (288)	8.13 (207)
6-1/8" EIA Flange	Gas pass, no inner connector	<b>H11FP-602</b>	Tab Flare	Tab Flare	BB	8.5 (216)	8.13 (207)
6-1/8" EIA Flange	Gas block, no inner connector	<b>H11FB-602</b>	Tab Flare	Tab Flare	BB	8.5 (216)	8.13 (207)
4-1/2" IEC Flange	Gas pass, includes inner connector	<b>H11MP-M408</b>	Tab Flare	Tab Flare	BB	9.4 (240)	6.36 (162)
4-1/2" IEC Flange	Gas block, includes inner connector**	<b>H11MB-M408</b>	Tab Flare	Tab Flare	BB	9.4 (240)	6.36 (162)
4-1/2" IEC Flange	Gas pass, no inner connector	<b>H11FP-M408</b>	Tab Flare	Tab Flare	BB	7.0 (178)	6.36 (162)
4-1/2" IEC Flange	Gas block, no inner connector	<b>H11FB-M408</b>	Tab Flare	Tab Flare	BB	7.0 (178)	6.36 (162)
3-1/8" EIA Flange	Gas pass, includes inner connector	<b>H11MP-302</b>	Tab Flare	Tab Flare	BB	9.1 (230)	5.2 (132)
3-1/8" EIA Flange	Gas block, includes inner connector**	<b>H11MB-302</b>	Tab Flare	Tab Flare	BB	9.1 (230)	5.2 (132)
3-1/8" EIA Flange	Gas pass, no inner connector	<b>H11FP-302</b>	Tab Flare	Tab Flare	BB	7.0 (178)	5.2 (132)
3-1/8" EIA Flange	Gas block, no inner connector	<b>H11FB-302</b>	Tab Flare	Tab Flare	BB	7.0 (178)	5.2 (132)
Splice		<b>81Z</b>	Tab Flare	Tab Flare	BB	7.0 (178)	6.0 (152)

**Plating Codes:** BB - Brass Body and Pin \*\* Universal application - designed so that all connector variations of same flange size can be accommodated by modifying this connector, using instructions provided.

## Connector Accessories

	Type Number
Connector Reattachment Kit	
For H11( )-602	<b>34767A-57</b>
For H11( )-M408	<b>34767A-58</b>
For H11( )-302	<b>34767A-59</b>
For 81RF	<b>34767A-15</b>
For 81GF	<b>34767A-16</b>
For 42826	<b>34767A-40</b>
For 42896	<b>34767A-41</b>
For 81Z	<b>34767A-17</b>
3-1/8" End Terminal, for strap connection to center conductor, includes inner connector. Use with H11FB-302.	<b>2062</b>
6-1/8" End Terminal, for strap connection to center conductor, includes inner connector. Use with H11FB-602.	<b>RLA650-80</b>
6-1/8" EIA Inner Connector, with anchor bead	<b>ACX650-20</b>
3-1/8" EIA Inner Connector, with anchor bead	<b>ACX350-20</b>
4-1/2" IEC Inner Connector, with anchor bead	<b>241252</b>
3-1/8" EIA 90° Mitre Elbow, includes one inner connector	<b>ACX350-10SE</b>
Reducer, 3-1/8" to 1-5/8", captivated 3-1/8" inner connector	<b>1861</b>
6-1/8" EIA 90° Miter Elbow, includes one inner connector	<b>ACX650B-10SE</b>

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>31766A-10</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lock washers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Standard Hoisting Grip</b>	<b>34759</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>204989-6</b>
Field attached screw-on lug, 915 mm (36") lead	<b>204989-36</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>

**Entry Systems** – For entry systems offerings see pages 619, 620.



## 5" Air Dielectric, HJ Series – 50-ohm

### HJ9-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
5" Standard Cable, Standard Jacket	<b>HJ9-50</b>
<b>Low VSWR and Specialized Cables</b>	
Broadcast, Low VSWR	
54-216 MHz, 1.05 VSWR, max. over broadcast channel	
470-740 MHz, 1.08 VSWR, max. over broadcast channel	
740-856 MHz, 1.10 VSWR, max. over broadcast channel	<b>42142*</b>
* For broadcast applications, specify channel and frequency.	
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 0.5
Maximum Frequency, GHz	0.96
Velocity, percent	93.1
Peak Power Rating, kW	1890
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.1 (0.3)
Outer	0.04 (0.13)
dc Breakdown, volts	27500
Jacket Spark, volts RMS	12000
Capacitance, pF/ft (m)	21.7 (71.2)
Inductance, µH/ft (m)	0.055 (0.18)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	5.20 (133)
Diameter over Copper Outer Conductor, in (mm)	5.00 (127)
Diameter Inner Conductor, in (mm)	2.02 (51.3)
Nominal Inside Transverse Dimensions, (cm)	11.3
Minimum Bending Radius, in (mm)	50 (1270)
Number of Bends, minimum (typical)	15 (30)
Bending Moment, lb-ft (N•m)	200 (271)
Cable Weight, lb/ft (kg/m)	3.3 (4.9)
Tensile Strength, lb (kg)	1000 (454)
Flat Plate Crush Strength, lb/in (kg/mm)	275 (4.9)

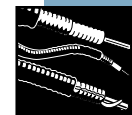
### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0052	0.0172	1272
1	0.0074	0.0244	898
1.5	0.0091	0.0299	732
2	0.0105	0.0346	633
10	0.0238	0.0782	280
20	0.0340	0.112	196
30	0.0419	0.138	159
50	0.0547	0.180	122
88	0.0738	0.242	90.4
100	0.0789	0.259	84.5
108	0.0822	0.270	81.1
150	0.0981	0.322	68.0
174	0.106	0.349	62.7
200	0.115	0.376	58.1
300	0.143	0.470	46.5
400	0.168	0.552	39.6
450	0.180	0.590	37.1
500	0.191	0.626	34.9
512	0.193	0.635	34.5
600	0.212	0.695	31.5
700	0.231	0.760	28.8
800	0.250	0.821	26.6
824	0.255	0.835	26.2
894	0.267	0.876	25.0
960	0.278	0.913	23.9

#### Standard Conditions:

For Attenuation. VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power. VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.



6-1/8" EIA Flange  
H9FP-602

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
6-1/8" EIA Flange	Gas pass, includes inner connector	<b>H9MP-602</b>	Tab Flare	Tab Flare	BB	12.3 (313)	8.13 (207)
6-1/8" EIA Flange	Gas block, includes inner connector**	<b>H9MB-602</b>	Tab Flare	Tab Flare	BB	12.3 (313)	8.13 (207)
6-1/8" EIA Flange	Gas pass, no inner connector	<b>H9FP-602</b>	Tab Flare	Tab Flare	BB	9.5 (241)	8.13 (207)
6-1/8" EIA Flange	Gas block, no inner connector	<b>H9FB-602</b>	Tab Flare	Tab Flare	BB	9.5 (241)	8.13 (207)
4-1/2" IEC Flange	Gas pass, includes inner connector	<b>H9MP-M408</b>	Tab Flare	Tab Flare	BB	10.7 (272)	6.6 (168)
4-1/2" IEC Flange	Gas block, includes inner connector**	<b>H9MB-M408</b>	Tab Flare	Tab Flare	BB	10.7 (272)	6.6 (168)
4-1/2" IEC Flange	Gas pass, no inner connector	<b>H9FP-M408</b>	Tab Flare	Tab Flare	BB	8.3 (211)	6.6 (168)
4-1/2" IEC Flange	Gas block, no inner connector	<b>H9FB-M408</b>	Tab Flare	Tab Flare	BB	8.3 (211)	6.6 (168)
Splice	-	<b>79AZ</b>	Tab Flare	Tab Flare	BB	6.2 (157)	7.6 (193)

**Plating Codes:** BB - Brass Body and Pin \*\* Universal application - designed so that all connector variations of same flange size can be accommodated by modifying this connector, using instructions provided.

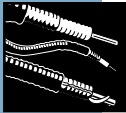
## Connector Accessories

	Type Number
Connector Reattachment Kit	
For 79AG, 79AR	<b>34767A-45</b>
For H9( )-602	<b>34767A-55</b>
For H9( )-M408	<b>34767A-56</b>
For 79AZ	<b>34767A-31</b>
6-1/8" End Terminal, for strap connection to center conductor, includes inner connector. Use with H9FB-602.	<b>RLA650-80</b>
6-1/8" EIA Inner Connector, with anchor bead	<b>ACX650-20</b>
4-1/2" IEC Inner Connector, with anchor bead	<b>241252</b>
Reducer, 6-1/8" to 3-1/8" includes two inner connectors	<b>RLA650-350</b>
6-1/8" EIA 90° Miter Elbow, includes one inner connector	<b>ACX650-10SE</b>

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>33598-5</b>
<b>Hardware Kit</b> of 10. 1/2" x 1-1/4" bolts, lock washers, nuts	<b>31769-4</b>
<b>Standard Hoisting Grip</b>	<b>31031-1</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>204989-7</b>
Field attached screw-on lug, 915 mm (36") lead	<b>204989-37</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>

**Entry Systems** – For entry systems offerings see pages 619, 620.



## 5" Air Dielectric, High Power HJ( )HP Series – 50-ohm

### HJ9HP-50

Description	Type No.
<b>Cable Ordering Information</b>	
<b>High Power Cable</b>	
5" Standard High Power Cable	<b>HJ9HP-50</b>
45 – 70 MHz, 1.06 VSWR, max.	
87 – 108 MHz, 1.06 VSWR, max. over broadcast channel	
170 – 230 MHz, 1.08 VSWR, max. over broadcast channel	
470 – 860 MHz, 1.10 VSWR, max. over broadcast channel	
* For broadcast applications, specify channel and frequency.	
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	50 ± 0.5
Maximum Frequency, GHz	0.96
Velocity, percent	96.4
Peak Power Rating, kW	1690
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.1 (0.33)
Outer	0.04 (0.13)
dc Breakdown, volts	26000
Jacket Spark, volts RMS	12000
Capacitance, pF/ft (m)	20.8 (68.1)
Inductance, µH/ft (m)	0.054 (0.176)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	5.20 (132)
Diameter over Outer Conductor, in (mm)	5.00 (127)
Diameter Inner Conductor, in (mm)	2.07 (52.7)
Nominal Inside Transverse Dimensions, (cm)	11.3
Minimum Bending Radius, in (mm)	50 (1270)
Number of Bends, minimum (typical)	15 (30)
Bending Moment, lb-ft (N•m)	200 (271)
Cable Weight, lb/ft (kg/m)	3.4 (4.9)
Tensile Strength, lb (kg)	1000 (454)
Flate Plate Crush Strength, lb/in (kg/mm)	240 (4.29)

### Attenuation and Average Power Ratings

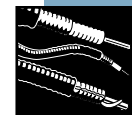
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0045	0.0148	1690
1	0.0064	0.0211	1690
1.6	0.0081	0.0267	1540
2	0.0092	0.0300	1375
10	0.0211	0.0693	599
20	0.0306	0.100	416
30	0.0381	0.125	335
50	0.0505	0.166	254
88	0.0695	0.228	185
100	0.0748	0.245	172
108	0.0782	0.257	165
150	0.0948	0.311	137
174	0.104	0.340	125
200	0.113	0.369	116
300	0.144	0.474	90.8
400	0.173	0.568	76.2
450	0.186	0.612	70.8
500	0.200	0.655	66.3
512	0.203	0.665	65.3
600	0.225	0.737	59.1
700	0.249	0.816	53.6
800	0.272	0.893	49.1
824	0.278	0.910	48.2
860	0.286	0.937	48.9
894	0.293	0.962	45.7
960	0.308	1.010	43.6

#### Standard Conditions:

For Attenuation. VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 150°C (302°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.

United States Patent No. 5,742,002



6-1/8" EIA Flange  
H9HPFP-602

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
6-1/8" EIA Flange	Gas pass, includes inner connector	<b>H9HPMP-602</b>	Tab Flare	Tab Flare	BB	12.4 (315)	8.13 (207)
6-1/8" EIA Flange	Gas block, includes inner connector**	<b>H9HPMB-602</b>	Tab Flare	Tab Flare	BB	12.4 (315)	8.13 (207)
6-1/8" EIA Flange	Gas pass, no inner connector	<b>H9HPFP-602</b>	Tab Flare	Tab Flare	BB	9.5 (242)	8.13 (207)
6-1/8" EIA Flange	Gas block, no inner connector	<b>H9HPFB-602</b>	Tab Flare	Tab Flare	BB	9.5 (242)	8.13 (207)
Splice	—	<b>H9HPZ</b>	Tab Flare	Tab Flare	BB	6.19 (158)	7.57 (193)

**Plating Codes:** BB - Brass Body and Pin \*\* Universal application - designed so that all connector variations of same flange size can be accommodated by modifying this connector, using instructions provided.

## Connector Accessories

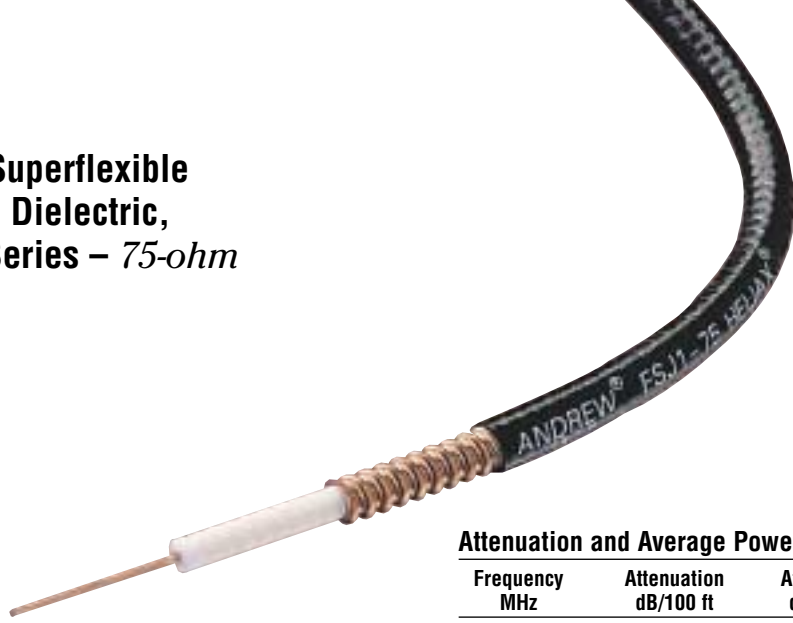
	Type Number
Connector Reattachment Kit	
For H9 ( ) HP-602	<b>34767A-55</b>
For H9HPZ	<b>34767A-31</b>
6-1/8" End Terminal, for strap connection to center conductor, includes inner connector. Use with H9HPFB-602.	<b>RLA650-80</b>
6-1/8" EIA Inner Connector, with anchor bead	<b>ACX650-20</b>
4-1/2" IEC Inner Connector, with anchor bead	<b>241252</b>
Reducer, 6-1/8" to 3-1/8" includes two inner connectors	<b>RLA650-350</b>
6-1/8" EIA 90° Miter Elbow, includes one inner connector	<b>ACX650B-10SE</b>

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Standard tower configuration spacing is 3-4 feet (1-1.2m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>33598-5</b>
<b>Hardware Kit</b> of 10. 1/2" x 1-1/4" bolts, lock washers, nuts	<b>31769-4</b>
<b>Standard Hoisting Grip</b>	<b>31031-1</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>204989-7</b>
Field attached screw-on lug, 915 mm (36") lead	<b>204989-37</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>

**Entry Systems** – For entry systems offerings see pages 619, 620.

# 1/4" Superflexible Foam Dielectric, FSJ Series – 75-ohm



## FSJ1-75

Description	Type No.
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### Cable Ordering Information

Standard Cable	
1/4" Standard superflexible	<b>FSJ1-75</b>
Fire Retardant Cables	
1/4" Fire Retardant Jacket (CATVX)	<b>FSJ1RN-75A</b>
1/4" Fire Retardant Jacket (CATVR)	<b>FSJ1RN-75A</b>

### Characteristics

Electrical	
Impedance, ohms	75 ± 3
Maximum Frequency, GHz	22.0
Velocity, percent	78
Peak Power Rating, kW	6.7
dc Resistance, ohms/1000 ft (1000 m)	
Inner	15 (49.2)
Outer	1.8 (5.9)
dc Breakdown, volts	2000
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	17.4 (57.0)
Inductance, µH/ft (m)	0.098 (0.321)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Steel
Diameter over Jacket, in (mm)	0.29 (7.4)
Diameter over Copper Outer Conductor, in (mm)	0.25 (6.4)
Minimum Bending Radius, in (mm)	1 (25)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (N•m)	0.5 (0.68)
Cable Weight, lb/ft. (kg/m)	0.046 (0.068)
Tensile Strength, lb (kg)	150 (68)
Flat Plate Crush Strength, lb/in (kg/mm)	100 (1.8)

### Attenuation and Average Power Ratings

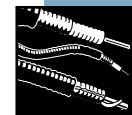
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.126	0.413	8.43
1	0.178	0.585	5.95
1.5	0.219	0.718	4.85
2	0.253	0.830	4.20
10	0.570	1.87	1.86
20	0.812	2.66	1.31
30	0.999	3.28	1.06
50	1.30	4.27	0.817
88	1.74	5.72	0.609
100	1.86	6.12	0.570
108	1.94	6.37	0.547
150	2.31	7.57	0.460
174	2.50	8.19	0.425
200	2.69	8.82	0.395
300	3.34	11.0	0.318
400	3.91	12.8	0.272
450	4.17	13.7	0.255
500	4.42	14.5	0.241
512	4.48	14.7	0.237
600	4.89	16.0	0.217
700	5.32	17.5	0.200
800	5.74	18.8	0.185
824	5.83	19.1	0.182
894	6.11	20.0	0.174
960	6.36	20.9	0.167
1000	6.51	21.4	0.163
1250	7.40	24.3	0.144
1500	8.22	27.0	0.129
1700	8.84	29.0	0.120
1800	9.14	30.0	0.116
2000	9.73	31.9	0.109
2100	10.0	32.9	0.106
2200	10.3	33.8	0.103
2300	10.6	34.7	0.101
3000	12.4	40.7	0.086
3300	13.2	43.1	0.081
3400	13.4	43.9	0.079
4000	14.8	48.6	0.072
4900	16.8	55.2	0.063
6000	19.1	62.7	0.056
8000	23.0	75.6	0.046
10000	26.7	87.6	0.040
12000	30.2	99.0	0.035
14000	33.5	110.0	0.032
16000	36.8	120.7	0.029
18000	39.9	131.0	0.027
19000	41.5	136.1	0.026
20000	43.0	141.1	0.025
22000	46.0	151.0	0.023

#### Standard Conditions:

For Attenuation. VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 40°C (104°F), inner conductor temperature 1000°C (212°F), no solar loading.





N Male  
F1NM-7550

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	50 Ohm Mating Pin	<b>F1NM-7550-H</b>	Solder	Solder	SG	1.85 (47)	0.92 (23.4)
N Male	70 Ohm Mating Pin	<b>F1NM-7570</b>	Solder	Solder	NS	2.2 (56)	0.79 (20.1)
N Female	70 Ohm Mating Pin	<b>F1NF-7570</b>	Solder	Solder	BS	1.9 (48)	0.70 (17.8)
BNC Male	50 Ohm Mating Pin	<b>49651</b>	Solder	Tab Flare	BS	1.2 (30)	0.56 (14.2)
UHF Male	50 Ohm Mating Pin	<b>41SP</b>	Solder	Tab Flare	BB	1.5 (38)	0.72 (18.3)
TNC Male	50 Ohm Mating Pin	<b>41SWT-75</b>	Solder	Tab Flare	SS	1.1 (28)	0.63 (16.0)
CATV Type F	–	<b>F1FM-75</b>	Captivated	Crimp	BB	1.42 (36)	0.56 (14.2)

**Plating Codes:** BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, NS - Nickel Plated Body and Silver Plated Pin, SS - Silver Plated Body and Pin, SG - Silver Plated Body and Gold Plated Pin

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Insulated Hanger</b> , single. Recommended maximum spacing is 2.5 ft (0.76 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598	<b>11662-3</b>
<b>Angle Adapter</b> , for insulated hanger	<b>40430-1</b>
<b>Nylon Cable Tie Kit</b> of 50, Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>40417</b>
<b>Nylon Cable Tie Kit</b> in plastic box. 100 each 4, 5.5 and 7.5 inch ties. Indoor use, Recommended maximum spacing is 1.5 ft (0.5 m)	<b>CT-K350</b>
<b>Velcro Cable Ties</b> , Black, 8 inch. Indoor Use	
Kit of 10	<b>VCT8-10</b>
Kit of 50	<b>VCT8-50</b>
Kit of 100	<b>VCT8-100</b>
<b>Support/Hoisting Grip</b> . Use at 200-ft (60 m) intervals.	
Grip with one clamp	<b>F1SGRIP</b>
Support clamp kit of 10	<b>F1SGRIP-11K</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Standard Grounding Kit</b>	
Factory attached one-hole lug, 24" lead	<b>223158</b>
Factory attached two-hole lug, 24" lead	<b>223158-2</b>
Field attached one-hole lug, 36" lead	<b>223158-3</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Cold Shrink Weatherproofing Kit</b>	
5/8" Coax to 1/4" Coax	<b>241475-13</b>
7/8" Coax to 1/4" Coax	<b>241475-12</b>
1-1/4" or 1-5/8" Coax to 1/4" Coax	<b>241475-11</b>
1/4" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-10</b>
1/4" to 2" Omni/Panel base Type N or DIN	<b>241548-11</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.	
<b>Standard Cable Entry Boots</b>	
4" Boots – Three Hole:	<b>204679A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623.	
EASIA <sup>®</sup> Cutting Tool FSJ1/FSJ4	<b>207865</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 1/2" Superflexible Foam Dielectric, FSJ Series – 75-ohm

### FSJ4-75A

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
1/2" Standard Superflexible	<b>FSJ4-75A</b>
<b>Fire Retardant Cables</b>	
1/2" Fire Retardant Jacket (CATVX)	<b>FSJ4RN-75A</b>
1/2" Fire Retardant Jacket (CATVR)	<b>FSJ4RN-75A</b>

### Characteristics

<b>Electrical</b>	
Impedance, ohms	75 ± 2
Maximum Frequency, GHz	11.5
Velocity, percent	81
Peak Power Rating, kW	10.0
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.50 (4.9)
Outer	1.00 (3.28)
dc Breakdown, volts	2500
Jacket Spark, volts RMS	5000
Capacitance, pF/ft (m)	16.7 (54.9)
Inductance, µH/ft (m)	0.094 (0.309)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	0.52 (13.2)
Diameter over Copper Outer Conductor in (mm)	0.48 (12.2)
Diameter Inner Conductor, in (mm)	0.118 (3.0)
Minimum Bending Radius, in (mm)	1.25 (32)
Number of Bends, minimum (typical)	20 (50)
Bending Moment, lb-ft (N•m)	2.0 (2.7)
Cable Weight, lb/ft (kg/m)	0.14 (0.21)
Tensile Strength, lb (kg)	140 (63.5)
Flat Plate Crush Strength, lb/in (kg/mm)	105 (1.9)

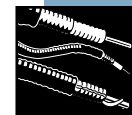
### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.065	0.213	26.2
1	0.092	0.301	18.5
1.5	0.112	0.369	15.1
2	0.130	0.427	13.1
10	0.293	0.962	5.79
20	0.417	1.37	4.07
30	0.514	1.68	3.30
50	0.668	2.19	2.54
88	0.896	2.94	1.89
100	0.958	3.14	1.77
108	0.997	3.27	1.70
150	1.19	3.89	1.43
174	1.28	4.21	1.32
200	1.38	4.53	1.23
300	1.72	5.63	0.989
400	2.01	6.58	0.846
450	2.14	7.02	0.794
500	2.27	7.44	0.749
512	2.30	7.53	0.739
600	2.51	8.22	0.677
700	2.73	8.96	0.622
800	2.94	9.65	0.577
824	2.99	9.82	0.568
894	3.13	10.3	0.542
960	3.26	10.7	0.521
1000	3.34	11.0	0.509
1250	3.79	12.4	0.448
1500	4.21	13.8	0.403
1700	4.53	14.9	0.375
1800	4.68	15.4	0.363
2000	4.98	16.4	0.341
2100	5.13	16.8	0.331
2200	5.27	17.3	0.322
2300	5.42	17.8	0.314
3000	6.35	20.8	0.268
3300	6.73	22.1	0.252
3400	6.86	22.5	0.248
4000	7.58	24.9	0.224
4900	8.60	28.2	0.198
6000	9.78	32.1	0.174
8000	11.8	38.6	0.144
10000	13.6	44.7	0.125
11500	15.0	49.1	0.114

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
F4NM-7570



N Female  
F4NF-7570

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	50 Ohm Mating Pin	<b>F4NM-7550</b>	Solder	Tab Flare	BB	2.3 (58)	0.84 (21.3)
N Male	70 Ohm Mating Pin	<b>F4NM-7570</b>	Solder	Tab Flare	BB	2.2 (56)	0.84 (21.3)
N Male	50 Ohm Mating Pin, Right Angle	<b>F4NR-7550</b>	Solder	Tab Flare	BB	3.3/1.5 (84/38)	0.84 (21.3)
N Female	50 Ohm Mating Pin	<b>F4NF-7550</b>	Solder	Tab Flare	BS	2.2 (56)	0.84 (21.3)
N Female	70 Ohm Mating Pin	<b>F4NF-7570</b>	Solder	Tab Flare	BS	2.1 (53)	0.84 (21.3)
UHF Male	50 Ohm Mating Pin	<b>44ASP-75</b>	Solder	Tab Flare	BS	2.3 (58)	0.84 (21.3)
UHF Female	50 Ohm Mating Pin	<b>44ASU-75</b>	Solder	Tab Flare	BS	2.3 (58)	0.84 (21.3)
CATV Type F	–	<b>44ASCM</b>	Solder	Tab Flare	BB	2.5 (64)	0.84 (21.3)

Plating Codes: BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin.

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>43211A</b>
<b>Snap-In Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>206706-1</b>
<b>Support/Hoisting Grip.</b> Use at 200-ft (60 m) intervals.	
Grip with one clamp	<b>F4SGRIP</b>
Support clamp kit of 10	<b>F4SGRIP-4IK</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>Standard Grounding Kits</b>	
Factory attached one-hole lug 24"	<b>204989-1</b>
Factory attached two-hole lug 24"	<b>241088-1</b>
Field attached two-hole lug 60"	<b>241545</b>

Description	Type No.	
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.		
<b>WeatherShield™ Connector Protection Housing</b>		
LDF5 to FSJ4	<b>WS-L5F4</b>	
LDF6 to FSJ4	<b>WS-L6F4</b>	
LDF7 to FSJ4	<b>WS-L7F4</b>	
<b>Cold Shrink Weatherproofing Kit</b>		
1/2" Coax N Connector to 1/2" Coax N Connector	<b>241474-4</b>	
5/8" Coax to 1/2" Coax	<b>241475-13</b>	
7/8" Coax to 1/2" Coax	<b>241475-9</b>	
1-1/4" or 1-5/8" Coax to 1/2" Coax	<b>241475-5A</b>	
2 1/4" Coax to 1/2" Coax	<b>241475-8</b>	
1/2" to 1-1/2" Omni/Panel Base Type N or DIN	<b>241548-8</b>	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>	
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.		
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b>	<b>5" Boots</b>
One Hole:	<b>204679A-5</b>	<b>48939A-6</b>
Three Hole:	<b>204679A-7</b>	<b>48939A-8</b>
Four Hole	<b>204679A-16</b>	<b>48939A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623.		
EASIAx® Plus Automated Cable Prep Tool	<b>CPT-F4B</b>	
EASIAx® Cutting Tool FSJ4/FSJ1	<b>207865</b>	
EASIAx® Cutting Tool FSJ4/FSJ2	<b>241372</b>	
Cable Flare Tool	<b>224363</b>	
DIN Connector Coupling Torque Wrench	<b>244377</b>	
N Connector Coupling Torque Wrench	<b>244379</b>	



## 1/2" Foam Dielectric, LDF Series – 75-ohm

### LDF4-75A

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
1/2" Standard superflexible	<b>LDF4-75A</b>
<b>Fire Retardant Cables</b>	
1/2" Fire Retardant Jacket (CATVX)	<b>LDF4RN-75A</b>
1/2" Fire Retardant Jacket (CATVR)	<b>LDF4RN-75A</b>

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	75 ± 3
Maximum Frequency, GHz	10
Velocity, percent	88
Peak Power Rating, kW	26
dc Resistance, ohms/1000 ft (1000 m)	
Inner	1.15 (3.77)
Outer	0.58 (1.90)
dc Breakdown, volts	4000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	15.4 (50.5)
Inductance, µH/ft (m)	0.087 (0.284)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.63 (16)
Diameter over Copper Outer Conductor, in (mm)	0.55 (14)
Minimum Bending Radius, in (mm)	5 (125)
Number of Bends, minimum (typical)	15 (40)
Bending Moment, lb-ft (N•m)	2.8 (3.8)
Cable Weight, lb/ft (kg/m)	0.14 (0.21)
Tensile Strength, lb (kg)	200 (90.7)
Flat Plate Crush Strength, lb/in (kg/mm)	110 (2.0)

#### Attenuation and Average Power Ratings

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.042	0.138	24.5
1	0.060	0.196	17.3
1.5	0.073	0.240	14.1
2	0.084	0.277	12.2
10	0.190	0.624	5.43
20	0.270	0.887	3.82
30	0.333	1.09	3.10
50	0.432	1.42	2.39
88	0.579	1.90	1.78
100	0.618	2.03	1.67
108	0.644	2.11	1.60
150	0.764	2.51	1.35
174	0.826	2.71	1.25
200	0.889	2.92	1.16
300	1.10	3.62	0.937
400	1.29	4.22	0.803
450	1.37	4.50	0.753
500	1.45	4.76	0.712
512	1.47	4.82	0.702
600	1.60	5.26	0.644
700	1.74	5.72	0.592
800	1.88	6.16	0.550
824	1.91	6.26	0.541
894	2.00	6.55	0.517
960	2.08	6.81	0.497
1000	2.12	6.97	0.486
1250	2.41	7.90	0.429
1500	2.67	8.76	0.387
1700	2.87	9.41	0.360
1800	2.96	9.73	0.348
2000	3.15	10.3	0.328
2100	3.24	10.6	0.319
2200	3.33	10.9	0.310
2300	3.42	11.2	0.302
2500	3.59	11.8	0.288
3300	4.23	13.9	0.244
3400	4.30	14.1	0.240
4000	4.75	15.6	0.218
4900	5.37	17.6	0.192
6000	6.09	20.0	0.170
8000	7.29	23.9	0.142
10000	8.42	27.6	0.123

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F).

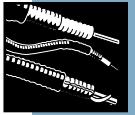
For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



N Male  
L4NM-7570



N Female  
L4NF-7570



## Connectors

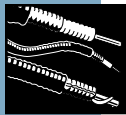
Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	50 Ohm Mating Pin	<b>L4NM-7550-H</b>	Solder	Self Flare	BB	2.5 (64)	0.94 (23.8)
N Male	70 Ohm Mating Pin	<b>L4NM-7570-H</b>	Solder	Self Flare	BB	2.5 (64)	0.94 (23.8)
N Male	50 Ohm Mating Pin, Right Angle	<b>L4NR-7550</b>	Solder	Self Flare	NB	3.2/1.5 (81/38)	0.95 (24.1)
N Female	50 Ohm Mating Pin	<b>L4NF-7550</b>	Solder	Self Flare	BB	2.5 (64)	0.91 (23.1)
N Female	70 Ohm Mating Pin	<b>L4NF-7570</b>	Solder	Self Flare	BB	2.3 (58)	0.91 (23.1)
UHF Male	–	<b>L44P-75</b>	Solder	Self Flare	BB	2.3 (58)	0.91 (23.1)
UHF Female	–	<b>L44U-75</b>	Solder	Self Flare	BB	2.3 (58)	0.91 (23.1)
CATV Equipment Housing Splice	–	<b>48070</b>	–	Self Flare	BB	2.0 (50)	0.91 (23.1)
	–	<b>L44Z-75</b>	Solder	Self Flare	BB	3.2 (81)	1.1 (27.9)

Plating Codes: BB - Brass Body and Pin, NB - Nickel Plated Body and Brass Pin.

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>43211A</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Snap-In Hangers Kit</b> of 10. For prepunched 3/4" (19mm) holes on tower member or adapters, Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>206706-1</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft	<b>L4CLICK</b>
Mounting Hardware see page 605.	
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L4SGRIP</b>
Support clamp kit of 10	<b>L4SGRIP-4IK</b>
<b>Standard Hoisting Grip</b>	<b>43094</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>SureGround Grounding Kit</b> with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL4-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL4-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL4-15B4</b>

Description	Type No.
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL4-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL4-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL4-15B4</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Cold Shrink Weatherproofing Kit</b>	
1/2" Coax N Connector to 1/2" Coax N Connector	<b>241474-4</b>
5/8" Coax to 1/2" Coax	<b>242475-13</b>
7/8" Coax to 1/2" Coax	<b>241475-9</b>
1-1/4" or 1-5/8" Coax to 1/2" Coax	<b>241475-5A</b>
2 1/4" Coax to 1/2" Coax	<b>241475-8</b>
1/2" to 1-1/2" Omni/Panel base Type N or DIN	<b>241548-8</b>
1/2" to 2" Omni/Panel base Type N or DIN	<b>241548-9</b>
1/2" LDF4 to Antenna Type N interface	<b>241548-4</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-5</b> <b>48939A-6</b>
Three Hole:	<b>204679A-7</b> <b>48939A-8</b>
Four Hole	<b>204679A-16</b> <b>48939A-17</b>
<b>Tools</b> – for additional tool offerings see pages 620-623.	
EASIAx® Plus Automated Cable Prep Tool	<b>CPT-L4ARC</b>
EASIAx® Cutting Tool	<b>207866</b>
Cable Flare Tool	<b>224363</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 7/8" Foam Dielectric, LDF Series – 75-ohm

### LDF5-75

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard Cable</b>	
7/8" Standard Cable	<b>LDF5-75</b>

#### Characteristics

<b>Electrical</b>	
Impedance, ohms	75 ± 3
Maximum Frequency, GHz	5.3
Velocity, percent	89
Peak Power Rating, kW70	
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.34 (1.11)
Outer	0.32 (1.05)
dc Breakdown, volts	6500
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	15.1 (49.5)
Inductance, µH/ft (m)	0.087 (0.284)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper-clad aluminum
Diameter over Jacket, in (mm)	1.082 (27.48)
Diameter over Copper Outer Conductor, in (mm)	0.980 (24.89)
Minimum Bending Radius, in (mm)	10 (250)
Number of Bends, minimum (typical)	15 (40)
Bending Moment, lb-ft (Nm)	12 (16.3)
Cable Weight, lb/ft (kg/m)	0.30 (0.45)
Tensile Strength, lb (kg)	325 (147)
Flat Plate Crush Strength, lb/in (kg/mm)	80 (1.4)

#### Attenuation and Average Power Ratings

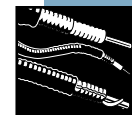
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.024	0.080	45.2
1	0.034	0.113	31.9
1.5	0.042	0.139	26.0
2	0.049	0.160	22.5
10	0.111	0.363	9.94
20	0.158	0.518	6.96
30	0.195	0.639	5.65
50	0.254	0.833	4.33
88	0.342	1.12	3.21
100	0.366	1.20	3.00
108	0.382	1.25	2.88
150	0.455	1.49	2.42
174	0.493	1.62	2.23
200	0.532	1.75	2.07
300	0.665	2.18	1.65
400	0.781	2.56	1.41
450	0.834	2.74	1.32
500	0.885	2.90	1.24
512	0.897	2.94	1.23
600	0.982	3.22	1.12
700	1.07	3.52	1.03
800	1.16	3.81	0.949
824	1.18	3.87	0.933
894	1.24	4.06	0.889
960	1.29	4.24	0.853
1000	1.32	4.34	0.832
1250	1.51	4.95	0.729
1500	1.69	5.53	0.653
1700	1.82	5.97	0.605
1800	1.88	6.18	0.584
2000	2.01	6.60	0.548
2100	2.07	6.80	0.531
2200	2.13	7.00	0.516
2300	2.19	7.20	0.502
3000	2.59	8.51	0.425
3400	2.81	9.23	0.392
4000	3.12	10.3	0.353
5000	3.62	11.9	0.304
5300	3.76	12.3	0.293

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F).

For Average Power, VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.





N Female  
L5PNF-7570-BH

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	70-Ohm Mating Pin	<b>L5PNM-7570</b>	Solder	Self-Flare	SG	2.9 (74)	1.36 (34.5)
N Male	50-Ohm Mating Pin	<b>L5PNM-7550</b>	Solder	Self-Flare	SG	3.1 (78.7)	1.36 (34.5)
N Female	70-Ohm Mating Pin	<b>L5PNF-7570</b>	Solder	Self-Flare	SG	2.9 (74)	1.36 (34.5)
N Female	70-Ohm Mating Pin Bulkhead	<b>L5PNF-7570-BH</b>	Solder	Self Flare	BB	3.1 (78.7)	1.36 (34.5)

Plating Codes: BB - Brass Body and Pin, SG - Silver Plated Body and Gold Plated Pin

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>42396A-5</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Snap-in Hangers Kit</b> of 10. For prepunched 3/4" (19 mm) holes on tower member or adapters. Recommended maximum spacing is 3-ft. For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>206706-2</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft	<b>L5CLICK</b>
Mounting Hardware see page 605.	
<b>Kwik-Clamps Kit</b> of 10. See page 607 for hanger options	
<b>Support/Hoisting Grip</b> . Use at 200-ft (60m) intervals.	
Grip with one clamp	<b>L5SGRIP</b>
Support clamp kit of 10	<b>L5SGRIP-5IK</b>
<b>Standard Hoisting Grip</b>	<b>19256B</b>
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>SureGround Grounding Kit</b> with standard weatherproofing	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL5-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL5-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGL5-15B4</b>
<b>SureGround Plus Grounding Kit</b> with weatherproofing boot	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGPL5-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGPL5-06B2</b>
Field attached two-hole lug, 1500 mm (59") lead	<b>SGPL5-15B4</b>

Description	Type No.
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617-618.	
<b>WeatherShield™ Connector Protection Housing</b>	
LDF5 to LDF4	<b>WS-L5L4</b>
LDF5 to FSJ4	<b>WS-L5F4</b>
<b>Cold Shrink Weatherproofing Kit</b>	
7/8" Coax to 7/8" Coax N Connectors	<b>241474-5</b>
1-5/8" Coax to 7/8" Coax N Connectors	<b>241475-3</b>
7/8" Coax to 1/4" Coax	<b>241475-12</b>
7/8" Coax to 3/8" or 1/2" Coax	<b>241475-9</b>
7/8" Coax to Antenna Type N or DIN interface	<b>241548-5</b>
7/8" to APTL5 Arrestors	<b>241474-5</b>
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.	
<b>Standard Cable Entry Boots</b>	<b>4" Boots</b> <b>5" Boots</b>
One Hole:	<b>204679A-2</b> <b>48939A-1</b>
Two Hole:	<b>204679A-18</b> –
Three Hole:	<b>204679A-15</b> <b>48939A-2</b>
<b>Tools</b> – for additional tool offerings see pages 620-623.	
EASIAx® Plus Automated Cable Prep Tool	<b>CPTL5A</b>
EASIAx® Cutting Tool	<b>222951</b>
Cable Flaring Tool	<b>224368</b>
7/8" Connector Torque Wrench	<b>244378</b>
DIN Connector Coupling Torque Wrench	<b>244377</b>
N Connector Coupling Torque Wrench	<b>244379</b>



## 7/8" Air Dielectric, HJ Series – 75-ohm

### HJ5-75

Description	Type No.
<b>Cable Ordering Information</b>	
<b>Standard and Fire Retardant Cables</b>	
7/8" Standard Cable, Standard Jacket	<b>HJ5-75</b>
7/8" Fire Retardant Jacket (CATVR)	<b>HJ5RN-75</b>
<b>Characteristics</b>	
<b>Electrical</b>	
Impedance, ohms	75 ± 1
Maximum Frequency, GHz	5.6
Velocity, percent	90
Peak Power Rating, kW	60
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.25 (0.82)
Outer	0.20 (0.66)
dc Breakdown, volts	6000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	15.1 (49.4)
Inductance, μH/ft (m)	0.085 (0.278)
<b>Mechanical</b>	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	1.11 (28.2)
Diameter over Copper Outer Conductor, in (mm)	1.01 (25.7)
Minimum Bending Radius, in (mm)	10 (250)
Number of Bends, minimum (typical)	15 (20)
Bending Moment, lb-ft (N•m)	25 (34)
Cable Weight, lb/ft (kg/m)	0.52 (0.79)
Tensile Strength, lb (kg)	800 (360)
Flat Plate Crush Strength, lb/in (kg/mm)	250 (4.5)

### Attenuation and Average Power Ratings

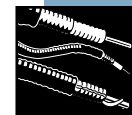
Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power, kW
0.5	0.0250	0.0819	60.0
1	0.0355	0.116	54.7
1.5	0.0436	0.143	44.6
2	0.0505	0.166	38.5
10	0.116	0.381	16.4
20	0.168	0.552	11.4
30	0.209	0.686	9.31
50	0.272	0.892	7.13
88	0.363	1.19	5.34
100	0.388	1.27	5.01
108	0.404	1.33	4.80
150	0.480	1.58	4.02
174	0.517	1.70	3.71
200	0.555	1.82	3.45
300	0.687	2.26	2.79
400	0.800	2.63	2.40
450	0.850	2.79	2.25
500	0.898	2.95	2.14
512	0.909	2.98	2.10
600	0.988	3.24	1.93
700	1.07	3.51	1.78
800	1.15	3.77	1.66
824	1.17	3.82	1.64
894	1.22	3.99	1.57
960	1.26	4.14	1.52
1000	1.29	4.23	1.49
1250	1.46	4.78	1.31
1500	1.61	5.28	1.17
1700	1.74	5.70	1.08
2000	1.92	6.30	0.977
2300	2.10	6.89	0.898
3000†	2.49	8.18	0.763
4000	3.00	9.84	0.640
5000	3.40	11.2	0.565
5600	3.65	12.0	0.526

#### Standard Conditions:

For Attenuation, VSWR 1.0 ambient temperature 20°C (68°F), atmospheric pressure, dry air.

For Average Power, VSWR 1.0, inner temperature 100°C (212°F), ambient temperature 40°C (104°F), atmospheric pressure, dry air, no solar loading.

† Operation of this cable in the 3500-3650 MHz band is not recommended because of VSWR spikes produced by the dielectric section spacing.



N Female  
H5NF-7550



7/8" EIA Flange  
75AR-75



N Male  
H5NM-7550

## Connectors

Interface	Description	Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	50 Ohm Mating Pin	<b>H5NM-7550</b>	Self-tapping	Tab Flare	BB	3.5 (89)	1.4 (36)
N Female	50 Ohm Mating Pin	<b>H5NF-7550</b>	Self-tapping	Tab Flare	BB	3.9 (99)	1.4 (36)
7/8" EIA Flange	Gas Pass	<b>75AR-75</b>	Self-tapping	Tab Flare	BB	4.3 (109)	2.25 (57)
UHF Female	50 Ohm Mating Pin	<b>75AU-75</b>	Self-tapping	Tab Flare	BB	4.3 (109)	1.4 (36)
LC Male	50 Ohm Mating Pin	<b>75AM-75</b>	Self-tapping	Tab Flare	BB	5.0 (127)	1.4 (36)
End Terminal	–	<b>75AT-75</b>	Self-tapping	Tab Flare	BB	5.8 (147)	1.4 (36)
Splice	–	<b>75AZ-75</b>	Self-tapping	Tab Flare	BB	4.2 (107)	1.4 (36)

Plating Codes: BB - Brass Body and Pin

## Accessories

Description	Type No.
<b>Hangers</b> – For more hangers, adapters and mounting hardware see pages 599-607.	
<b>Standard Hangers Kit</b> of 10. Recommended maximum spacing is 3 ft (1 m). For different spacing recommendations, refer to Cable Hanger Spacing, pages 593-598.	<b>42396A-5</b>
<b>Hardware Kit</b> of 10. 3/8" bolts, lockwashers, nuts	
3/4" (19 mm) long	<b>31769-5</b>
1" (25 mm) long	<b>31769-1</b>
<b>Click-On Hangers Kit</b> of 10. Recommended maximum spacing is 3-ft (1 m). Mounting Hardware see page 605.	<b>L5CLICK</b>
<b>Standard Hoisting Grip</b>	<b>19256B</b>

Description	Type No.
<b>Grounding and Surge Protection</b> – for additional grounding kits and our surge protection offerings, see pages 609-616.	
<b>SureGround Grounding Kit with standard weatherproofing</b>	
Factory attached one-hole lug, 600 mm (24") lead	<b>SGL5-06B1</b>
Factory attached two-hole lug, 600 mm (24") lead	<b>SGL5-06B2</b>
Field attached two hole lug, 1500 mm (59") lead	<b>SGL5-15B4</b>
<b>Weatherproofing</b> – for additional weatherproofing information see pages 617, 618.	
<b>Connector/Splice Weatherproofing Kit</b>	<b>221213</b>
<b>Entry Systems</b> – For entry systems offerings see pages 619, 620.	
<b>Standard Cable Entry Boots</b>	
One Hole:	
4" Boots	<b>204679A-2</b>
5" Boots	<b>48939A-1</b>
Two Hole:	<b>204679A-18</b>
5" Boots	–
Three Hole:	<b>204679A-15</b>
5" Boots	<b>48939A-2</b>