



# HELIFLEX® Cable

## HCA38-50 Series 3/8" Air Coax



### APPLICATIONS

UHF, VHF, High Power (JT types, only)

### GENERAL INFORMATION

Cable Type	Air-Dielectric, Corrugated
Size	3/8"

### STRUCTURE

Inner Conductor Material	Copper Wire
Diameter Inner Conductor, mm (in)	4.0 (0.16)
Diameter Dielectric, mm (in)	8.6 (0.34)
Outer Conductor Material	Corrugated Copper
Diameter Copper Outer Conductor, mm (in)	12.4 (0.49)
Diameter over Jacket Nominal, mm (in)	13.9 (0.55)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft)	0.32 (0.215)
Minimum Bending Radius, Single Bend, mm (in)	50 (2)
Minimum Bending Radius, Repeated Bends, mm (in)	150 (6)
Tensile Strength, N (lb)	1000 (225)
Recommended / Maximum Clamp Spacing, m (ft)	0.5 / 0.5 (1.8 / 1.8)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm	50 +/- 1
Velocity, percent	89
Capacitance, pF/m (pF/ft)	74.0 (22.6)
Inductance, μH/m (μH/ft)	0.185 (0.056)
Maximum Frequency, GHz	3
Peak Power Rating, kW	16.9
RF Peak Voltage, Volts	1300
Jacket Spark, Volt RMS	8000
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft)	1.44 (0.44)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	1.63 (0.50)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors	See pages 79-81
Jumpers	See pages 82-87
Accessories	See pages 103-105
Coaxial Devices	See pages 106-108
Technical Appendix	See pages 639-648

### ORDERING INFORMATION

Model Number	Jacket
HCA38-50J	Standard
HCA38-50JB	Standard, Self-Healing
HCA38-50JT	Standard, High Power

### HCA38-50J/JB ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.193	0.0587	16.90
1.0	0.272	0.0830	16.90
1.5	0.334	0.102	16.90
2.0	0.386	0.118	16.90
10	0.865	0.264	7.98
20	1.23	0.374	5.63
30	1.50	0.459	4.59
50	1.95	0.594	3.54
88	2.60	0.791	2.66
100	2.77	0.844	2.49
108	2.88	0.878	2.40
150	3.41	1.04	2.03
174	3.67	1.12	1.88
200	3.95	1.20	1.75
300	4.86	1.48	1.43
400	5.64	1.72	1.23
450	5.99	1.83	1.16
500	6.33	1.93	1.10
512	6.41	1.95	1.08
600	6.96	2.12	1.00
700	7.55	2.30	0.924
800	8.09	2.47	0.863
824	8.22	2.51	0.850
894	8.58	2.61	0.815
900	8.61	2.62	0.812
925	8.73	2.66	0.801
960	8.91	2.71	0.786
1000	9.10	2.77	0.769
1250	10.2	3.12	0.686
1500	11.3	3.44	0.625
1800	12.4	3.79	0.569
2000	13.2	4.01	0.539
2200	13.9	4.22	0.514
2300	14.2	4.33	0.502
3000	16.4	5.00	0.439

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### HCA38-50JT ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.190	0.0578	16.9
1.0	0.268	0.0818	16.9
1.5	0.329	0.100	16.9
2.0	0.380	0.116	16.9
10	0.855	0.260	11.8
20	1.21	0.370	8.33
30	1.49	0.454	6.78
50	1.93	0.590	5.23
88	2.58	0.788	3.92
100	2.76	0.841	3.67
108	2.87	0.875	3.53
150	3.40	1.04	2.98
174	3.68	1.12	2.77
200	3.95	1.21	2.57
300	4.89	1.49	2.09
400	5.69	1.73	1.80
450	6.06	1.85	1.70
500	6.41	1.95	1.61
512	6.49	1.98	1.59
600	7.06	2.15	1.46
700	7.67	2.34	1.35
800	8.25	2.51	1.26
824	8.38	2.55	1.24
894	8.76	2.67	1.19
900	8.79	2.68	1.19
925	8.92	2.72	1.17
960	9.11	2.78	1.15
1000	9.31	2.84	1.13
1250	10.5	3.21	1.01
1500	11.6	3.55	0.920
1800	12.9	3.93	0.840
2000	13.7	4.16	0.798
2200	14.4	4.39	0.762
2300	14.8	4.51	0.745
3000	17.2	5.24	0.657

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 150° C (302° F). No solar loading.

# HELIFLEX® Cable

## HCA12-50 Series 1/2" Air Coax



### APPLICATIONS

Plenum In-Building only

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 1/2"

### STRUCTURE

Inner Conductor Material Copper-Clad Aluminum Wire  
Diameter Inner Conductor, mm 4.8 (0.19)  
(in)  
Diameter Dielectric, mm (in) n/a  
Outer Conductor Material Annularly Corrugated Copper  
Diameter Copper Outer Conductor, mm (in) 14.0 (0.55)  
Diameter over Jacket Nominal, mm (in) 15.7 (0.62)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 0.27 (0.18)  
Minimum Bending Radius, Single Bend, mm (in) 120 (5)  
Minimum Bending Radius, Repeated Bends, mm (in) 125 (5)  
Tensile Strength, N (lb) 1112 (250)  
Recommended / Maximum Clamp Spacing, m (ft) 0.5 / 0.9 ( 1.8 / 3.0 )

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 1  
Velocity, percent 93  
Capacitance, pF/m (pF/ft) 66.8 (20.4)  
Inductance, μH/m (μH/ft) 0.191 (0.058)  
Maximum Frequency, GHz 4  
Peak Power Rating, kW 21.4  
RF Peak Voltage, Volts 3000  
Jacket Spark, Volt RMS 8000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 1.48 (0.45)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 1.90 (0.58)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA12-50JPL ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.141	0.0430	21.4
1.0	0.211	0.0640	21.4
1.5	0.254	0.0775	21.4
2.0	0.300	0.0910	21.4
10	0.675	0.206	21.4
20	0.961	0.293	16.4
30	1.18	0.360	13.3
50	1.36	0.414	11.8
60	1.53	0.466	10.3
88	2.05	0.627	7.66
100	2.19	0.670	7.16
108	2.28	0.697	6.89
150	2.68	0.817	6.07
160	2.71	0.828	5.80
174	2.93	0.895	5.36
200	3.15	0.963	4.98
300	3.90	1.19	4.03
400	4.56	1.39	3.45
450	4.85	1.48	3.24
500	5.24	1.60	3.00
512	5.32	1.62	2.80
600	5.67	1.73	2.77
700	6.16	1.88	2.55
800	6.66	2.03	2.36
824	6.75	2.06	2.33
894	7.08	2.16	2.22
900	7.11	2.17	2.23
925	7.21	2.20	2.20
960	7.34	2.24	2.14
1000	7.54	2.30	2.09
1250	8.53	2.60	1.85
1700	10.1	3.10	1.55
1800	10.5	3.20	1.46
2000	11.1	3.40	1.41
2200	11.7	3.58	1.35
2300	12.0	3.67	1.32
3000	14.1	4.32	1.11
4000	17.1	5.21	0.80

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 150° C (302° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA12-50JPL	Plenum rated



# HELIFLEX® Cable

## HCA58-50 Series 5/8" Air Coax



### APPLICATIONS

UHF, VHF

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 5/8"

### STRUCTURE

Inner Conductor Material Copper Wire  
Diameter Inner Conductor, mm (in) 6.3 (0.28)  
Diameter Dielectric, mm (in) 13.7 (0.54)  
Outer Conductor Material Corrugated Copper  
Diameter Copper Outer Conductor, mm (in) 19.0 (0.75)  
Diameter over Jacket Nominal, mm (in) 21.4 (0.84)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 0.70 (0.47)  
Minimum Bending Radius, Single Bend, mm (in) 80 (3)  
Minimum Bending Radius, Repeated Bends, mm (in) 250 (10)  
Tensile Strength, N (lb) 2400 (540)  
Recommended / Maximum Clamp Spacing, m (ft) 0.5 / 0.9 ( 1.8 / 3.0 )

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 0.5  
Velocity, percent 92  
Capacitance, pF/m (pF/ft) 72.0 (21.9)  
Inductance, µH/m (µH/ft) 0.180 (0.055)  
Maximum Frequency, GHz 3  
Peak Power Rating, kW 32  
RF Peak Voltage, Volts 1800  
Jacket Spark, Volt RMS 8000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 0.57 (0.18)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 0.86 (0.28)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA58-50J/JB ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.120	0.0366	32.0
1.0	0.170	0.0518	32.0
1.5	0.208	0.0634	32.0
2.0	0.240	0.0732	32.0
10	0.539	0.164	15.2
20	0.764	0.233	10.7
30	0.937	0.286	8.75
50	1.21	0.370	6.76
88	1.62	0.493	5.08
100	1.72	0.526	4.76
108	1.79	0.547	4.58
150	2.12	0.646	3.87
174	2.29	0.697	3.59
200	2.46	0.749	3.35
300	3.03	0.922	2.72
400	3.51	1.07	2.35
450	3.73	1.14	2.21
500	3.94	1.20	2.09
512	3.99	1.22	2.07
600	4.33	1.32	1.91
700	4.69	1.43	1.76
800	5.03	1.53	1.64
824	5.11	1.56	1.62
894	5.34	1.63	1.55
900	5.35	1.63	1.55
925	5.43	1.66	1.53
960	5.54	1.69	1.50
1000	5.66	1.73	1.47
1250	6.37	1.94	1.31
1500	7.01	2.14	1.19
1800	7.73	2.36	1.08
2000	8.18	2.49	1.03
2200	8.61	2.62	0.978
2300	8.82	2.69	0.956
3000	10.2	3.10	0.835

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA58-50J	Standard
HCA58-50JB	Standard, Self-Healing

# HELIFLEX® Cable

## HCA78-50 Series 7/8" Air Coax



### APPLICATIONS

UHF, VHF, Plenum In-Building (JPL types, only)

### GENERAL INFORMATION

Cable Type	Air-Dielectric, Corrugated
Size	7/8"

### STRUCTURE

Inner Conductor Material	Copper Tube
Diameter Inner Conductor, mm (in)	9.0 (0.35)
Diameter Dielectric, mm (in)	20.2 (0.79)
Outer Conductor Material	Corrugated Copper
Diameter Copper Outer Conductor, mm (in)	25.5 (1.00)
Diameter over Jacket Nominal, mm (in)	28.3 (1.11)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft)	0.68 (0.46)
Minimum Bending Radius, Single Bend, mm (in)	100 (4)
Minimum Bending Radius, Repeated Bends, mm (in)	250 (10)
Tensile Strength, N (lb)	1600 (360)
Recommended / Maximum Clamp Spacing, m (ft)	0.5 / 0.9 ( 1.8 / 3.0 )

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm	50 +/- 0.5
Velocity, percent	93
Capacitance, pF/m (pF/ft)	71.0 (21.6)
Inductance, μH/m (μH/ft)	0.178 (0.054)
Maximum Frequency, GHz	3
Peak Power Rating, kW	73
RF Peak Voltage, Volts	2700
Jacket Spark, Volt RMS	8000
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft)	1.02 (0.31)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	0.66 (0.20)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors	See pages 79-81
Jumpers	See pages 82-87
Accessories	See pages 103-105
Coaxial Devices	See pages 106-108
Technical Appendix	See pages 639-648

### ORDERING INFORMATION

Model Number	Jacket
HCA78-50J	Standard
HCA78-50JB	Standard, Self-Healing
HCA78-50JPL	Plenum rated
HCA78-50JT	Standard, High Power

### HCA78-50J/JB/JPL ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0813	0.0248	73.0
1.0	0.115	0.0351	73.0
1.5	0.141	0.0430	70.9
2.0	0.163	0.0497	61.4
10	0.366	0.112	27.3
20	0.520	0.158	19.3
30	0.638	0.194	15.7
50	0.827	0.252	12.1
88	1.10	0.337	9.07
100	1.18	0.359	8.50
108	1.23	0.374	8.17
150	1.45	0.443	6.91
174	1.57	0.478	6.40
200	1.69	0.514	5.96
300	2.08	0.634	4.83
400	2.42	0.738	4.17
450	2.57	0.785	3.92
500	2.72	0.830	3.71
512	2.76	0.840	3.67
600	3.00	0.914	3.38
700	3.25	0.992	3.12
800	3.49	1.07	2.91
824	3.55	1.08	2.86
894	3.71	1.13	2.74
900	3.72	1.13	2.73
925	3.78	1.15	2.70
960	3.85	1.17	2.64
1000	3.94	1.20	2.59
1250	4.45	1.36	2.31
1500	4.91	1.50	2.10
1800	5.43	1.65	1.91
2000	5.75	1.75	1.81
2200	6.07	1.85	1.72
2300	6.22	1.90	1.68
3000	7.22	2.20	1.47

Standard Conditions:

For attenuation: VSWR 1.0, cable temperature 20° C (68° F).  
For average power: VSWR 1.0, ambient temperature 40° C (104°F), inner conductor temperature 115° C (239° F). No solar loading.

### HCA78-50JT ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0815	0.0248	73.0
1.0	0.115	0.0352	73.0
1.5	0.142	0.0431	73.0
2.0	0.164	0.0499	73.0
10	0.369	0.113	39.6
20	0.526	0.160	27.8
30	0.647	0.197	22.6
50	0.843	0.257	17.4
88	1.13	0.345	13.0
100	1.21	0.369	12.1
108	1.26	0.384	11.7
150	1.50	0.457	9.82
174	1.62	0.494	9.09
200	1.75	0.533	8.45
300	2.17	0.663	6.83
400	2.54	0.775	5.87
450	2.71	0.827	5.51
500	2.88	0.877	5.21
512	2.91	0.888	5.15
600	3.18	0.970	4.74
700	3.47	1.06	4.37
800	3.74	1.14	4.07
824	3.81	1.16	4.01
894	3.99	1.22	3.84
900	4.00	1.22	3.83
925	4.06	1.24	3.77
960	4.15	1.27	3.70
1000	4.25	1.30	3.62
1250	4.83	1.47	3.23
1500	5.38	1.64	2.94
1800	5.99	1.82	2.68
2000	6.37	1.94	2.54
2200	6.75	2.06	2.42
2300	6.93	2.11	2.37
3000	8.15	2.48	2.09

Standard Conditions:

For attenuation: VSWR 1.0, cable temperature 20° C (68° F).  
For average power: VSWR 1.0, ambient temperature 40° C (104°F), inner conductor temperature 150° C (302° F). No solar loading.



# HELIFLEX® Cable

## HCA118-50 Series 1-1/8" Air Coax



### APPLICATIONS

UHF, VHF, Broadcast

### GENERAL INFORMATION

Cable Type	Air-Dielectric, Corrugated
Size	1-1/8"

### STRUCTURE

Inner Conductor Material	Copper Tube
Diameter Inner Conductor, mm (in)	12.0 (0.47)
Diameter Dielectric, mm (in)	27.2 (1.069)
Outer Conductor Material	Corrugated Copper
Diameter Copper Outer Conductor, mm (in)	33.2 (1.30)
Diameter over Jacket Nominal, mm (in)	36.4 (1.43)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft)	1.10 (0.74)
Minimum Bending Radius, Single Bend, mm (in)	130 (5)
Minimum Bending Radius, Repeated Bends, mm (in)	400 (16)
Tensile Strength, N (lb)	2200 (495)
Recommended / Maximum Clamp Spacing, m (ft)	0.5 / 0.9 ( 1.8 / 3.0 )

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm	50 +/- 0.5
Velocity, percent	92
Capacitance, pF/m (pF/ft)	73.0 (22.3)
Inductance, μH/m (μH/ft)	0.183 (0.056)
Maximum Frequency, GHz	3
Peak Power Rating, kW	137
RF Peak Voltage, Volts	3700
Jacket Spark, Volt RMS	8000
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft)	0.64 (0.195)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	0.50 (0.152)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors	See pages 79-81
Jumpers	See pages 82-87
Accessories	See pages 103-105
Coaxial Devices	See pages 106-108
Technical Appendix	See pages 639-648

### ORDERING INFORMATION

Model Number	Jacket
HCA118-50J	Standard
HCA118-50JB	Standard, Self-Healing
HCA118-50JT	Standard, High Power

### HCA118-50J/JB ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0623	0.0190	137
1.0	0.0882	0.0269	125
1.5	0.108	0.0330	102
2.0	0.125	0.0381	88.1
10	0.281	0.0857	39.2
20	0.399	0.122	27.6
30	0.491	0.150	22.4
50	0.637	0.194	17.3
88	0.852	0.260	13.0
100	0.910	0.277	12.1
108	0.947	0.289	11.7
150	1.12	0.342	9.86
174	1.21	0.370	9.14
200	1.31	0.398	8.50
300	1.62	0.492	6.90
400	1.88	0.574	5.95
450	2.00	0.611	5.60
500	2.12	0.646	5.30
512	2.15	0.655	5.24
600	2.34	0.713	4.83
700	2.54	0.775	4.46
800	2.73	0.833	4.17
824	2.78	0.847	4.11
894	2.91	0.886	3.94
900	2.92	0.889	3.93
925	2.96	0.902	3.87
960	3.02	0.921	3.80
1000	3.09	0.942	3.72
1250	3.50	1.07	3.33
1500	3.87	1.18	3.04
1800	4.29	1.31	2.78
2000	4.55	1.39	2.64
2200	4.81	1.46	2.52
2300	4.93	1.50	2.46
3000	5.75	1.75	2.18

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### HCA118-50JT ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0625	0.0190	137
1.0	0.0885	0.0270	137
1.5	0.109	0.0331	137
2.0	0.126	0.0383	128
10	0.284	0.0866	56.7
20	0.405	0.123	39.8
30	0.500	0.152	32.3
50	0.652	0.199	24.8
88	0.877	0.267	18.5
100	0.939	0.286	17.3
108	0.978	0.298	16.6
150	1.17	0.356	13.9
174	1.26	0.385	12.9
200	1.36	0.416	12.0
300	1.70	0.519	9.65
400	2.00	0.609	8.28
450	2.13	0.651	7.77
500	2.27	0.691	7.35
512	2.30	0.700	7.26
600	2.51	0.766	6.67
700	2.75	0.837	6.14
800	2.97	0.904	5.72
824	3.02	0.920	5.64
894	3.16	0.965	5.40
900	3.18	0.968	5.38
925	3.23	0.984	5.30
960	3.30	1.01	5.20
1000	3.38	1.03	5.09
1250	3.86	1.18	4.53
1500	4.30	1.31	4.12
1800	4.81	1.47	3.76
2000	5.13	1.56	3.57
2200	5.44	1.66	3.40
2300	5.60	1.71	3.33
3000	6.62	2.02	2.93

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 150° C (302° F). No solar loading.

# HELIFLEX® Cable

## HCA158-50 Series 1-5/8" Air Coax



### APPLICATIONS

UHF, VHF, Broadcast, High Power (JT types, only), Plenum In-Building (JPL types, only)

### GENERAL INFORMATION

Cable Type	Air-Dielectric, Corrugated
Size	1-5/8"

### STRUCTURE

Inner Conductor Material	Corrugated Copper Tube
Diameter Inner Conductor, mm (in)	18.6 (0.73)
Diameter Dielectric, mm (in)	39.8 (1.56)
Outer Conductor Material	Corrugated Copper
Diameter Copper Outer Conductor, mm (in)	46.6 (1.83)
Diameter over Jacket Nominal, mm (in)	50.4 (1.984)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft)	1.30 (0.89)
Minimum Bending Radius, Single Bend, mm (in)	180 (7)
Minimum Bending Radius, Repeated Bends, mm (in)	550 (22)
Tensile Strength, N (lb)	1500 (337)
Recommended / Maximum Clamp Spacing, m (ft)	0.8 / 1.2 (2.75 / 4.0)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm	50 +/- 0.5
Velocity, percent	95
Capacitance, pF/m (pF/ft)	70.0 (21.3)
Inductance, μH/m (μH/ft)	0.175 (0.053)
Maximum Frequency, GHz	3
Peak Power Rating, kW	270
RF Peak Voltage, Volts	5200
Jacket Spark, Volt RMS	8000
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft)	1.06 (0.33)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	0.34 (0.11)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors	See pages 79-81
Jumpers	See pages 82-87
Accessories	See pages 103-105
Coaxial Devices	See pages 106-108
Technical Appendix	See pages 639-648

### ORDERING INFORMATION

Model Number	Jacket
HCA158-50J	Standard
HCA158-50JB	Standard, Self-Healing
HCA158-50JT	Standard, High Power
HCA158-50JPL	Plenum rated

### HCA158-50/JFN/JPL ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0437	0.0133	270
1.0	0.0618	0.0188	196
1.5	0.0757	0.0231	160
2.0	0.0875	0.0267	138
10	0.197	0.0599	61.6
20	0.279	0.0850	43.4
30	0.342	0.104	35.4
50	0.444	0.135	27.3
88	0.592	0.180	20.5
100	0.632	0.193	19.2
108	0.657	0.200	18.5
150	0.778	0.237	15.6
174	0.840	0.256	14.5
200	0.902	0.275	13.5
300	1.11	0.339	10.9
400	1.29	0.394	9.42
450	1.38	0.419	8.86
500	1.45	0.443	8.39
512	1.47	0.449	8.29
600	1.60	0.488	7.64
700	1.74	0.529	7.05
800	1.86	0.568	6.58
824	1.89	0.577	6.48
894	1.98	0.603	6.21
900	1.98	0.605	6.19
925	2.01	0.614	6.10
960	2.05	0.626	5.98
1000	2.10	0.640	5.86
1250	2.37	0.722	5.22
1500	2.61	0.797	4.75
1800	2.89	0.880	4.32
2000	3.06	0.932	4.09
2200	3.22	0.982	3.89
2300	3.30	1.01	3.80
3000	3.83	1.17	3.32

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### HCA158-50JT ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0442	0.0135	270
1.0	0.0626	0.0191	270
1.5	0.0767	0.0234	228
2.0	0.0886	0.0270	197
10	0.200	0.0608	87.7
20	0.284	0.0865	61.7
30	0.349	0.106	50.2
50	0.454	0.138	38.7
88	0.607	0.185	28.9
100	0.649	0.198	27.1
108	0.675	0.206	26.0
150	0.802	0.244	22.0
174	0.867	0.264	20.4
200	0.933	0.284	18.9
300	1.16	0.353	15.3
400	1.35	0.411	13.2
450	1.44	0.438	12.4
500	1.52	0.464	11.8
512	1.54	0.470	11.6
600	1.68	0.513	10.7
700	1.83	0.558	9.87
800	1.97	0.600	9.21
824	2.00	0.610	9.07
894	2.10	0.639	8.69
900	2.10	0.641	8.66
925	2.14	0.651	8.54
960	2.18	0.664	8.38
1000	2.23	0.680	8.21
1250	2.53	0.770	7.32
1500	2.80	0.854	6.67
1800	3.11	0.948	6.09
2000	3.31	1.01	5.78
2200	3.49	1.06	5.51
2300	3.59	1.09	5.39
3000	4.19	1.28	4.75

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 150° C (302° F). No solar loading.



# HELIFLEX® Cable

## HCA214-50 Series 2-1/4" Air Coax



### APPLICATIONS

TV, Broadcast, Riser-rated In-Building (JFN types, only)

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 2-1/4"

### STRUCTURE

Inner Conductor Material Corrugated Copper Tube  
Diameter Inner Conductor, mm 22.6 (0.89)  
(in)  
Diameter Dielectric, mm (in) 49.8 (1.96)  
Outer Conductor Material Corrugated Copper  
Diameter Copper Outer Conductor, mm (in) 56.6 (2.23)  
Diameter over Jacket Nominal, mm (in) 60.5 (2.37)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 1.7 (1.15)  
Minimum Bending Radius, Single Bend, mm (in) 210 (8)  
Minimum Bending Radius, Repeated Bends, mm (in) 560 (22)  
Tensile Strength, N (lb) 1900 (427)  
Recommended / Maximum Clamp Spacing, m (ft) 0.8 / 1.0 (2.75 / 3.25)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 0.5  
Velocity, percent 95  
Capacitance, pF/m (pF/ft) 66.6 (20.3)  
Inductance, µH/m (µH/ft) 0.167 (0.051)  
Maximum Frequency, GHz 2.3  
Peak Power Rating, kW 425  
RF Peak Voltage, Volts 6500  
Jacket Spark, Volt RMS 8000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 0.32 (0.16)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 0.23 (0.07)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA214-50J/JFN ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0374	0.0114	340
1.0	0.0529	0.0161	240
1.5	0.0649	0.0198	196
2.0	0.0750	0.0229	169
10	0.169	0.0516	75.1
20	0.241	0.0734	52.8
30	0.296	0.0903	42.9
50	0.385	0.117	33.0
88	0.517	0.158	24.6
100	0.553	0.168	23.0
108	0.576	0.175	22.1
150	0.684	0.209	18.6
174	0.740	0.226	17.2
200	0.797	0.243	16.0
300	0.991	0.302	12.9
400	1.16	0.353	11.0
450	1.24	0.377	10.3
500	1.31	0.399	9.74
512	1.33	0.404	9.62
600	1.45	0.441	8.82
700	1.58	0.481	8.10
800	1.70	0.518	7.52
824	1.73	0.527	7.40
894	1.81	0.552	7.07
900	1.82	0.554	7.04
925	1.84	0.562	6.94
960	1.88	0.574	6.79
1000	1.93	0.588	6.64
1250	2.19	0.668	5.86
1500	2.43	0.742	5.28
1800	2.71	0.825	4.76
2000	2.88	0.878	4.48
2200	3.05	0.929	4.24
2300	3.13	0.954	4.13

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA214-50J	Standard
HCA214-50JFN	Flame Retardant



# HELIFLEX® Cable

## HCA295-50 Series 3" Air Coax



### APPLICATIONS

TV, Broadcast, Riser-rated In-Building (JFN types, only)

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 3"

### STRUCTURE

Inner Conductor Material Corrugated Copper Tube  
Diameter Inner Conductor, mm 27.1 (1.067)  
(in)  
Diameter Dielectric, mm (in) 58.4 (2.30)  
Outer Conductor Material Corrugated Copper  
Diameter Copper Outer Conductor, mm (in) 66.6 (2.622)  
Diameter over Jacket Nominal, mm (in) 71.0 (2.795)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 2.6 (1.75)  
Minimum Bending Radius, Single Bend, mm (in) 270 (11)  
Minimum Bending Radius, Repeated Bends, mm (in) 800 (31)  
Tensile Strength, N (lb) 1800 (405)  
Recommended / Maximum Clamp Spacing, m (ft) 0.8 / 1.2 (2.75 / 4.0)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 0.5  
Velocity, percent 96  
Capacitance, pF/m (pF/ft) 70.0 (21.3)  
Inductance,  $\mu$ H/m ( $\mu$ H/ft) 0.175 (0.053)  
Maximum Frequency, GHz 1.5  
Peak Power Rating, kW 580  
RF Peak Voltage, Volts 7600  
Jacket Spark, Volt RMS 8000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 0.51 (0.16)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 0.18 (0.06)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA295-50J/JB ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0307	0.0094	518
1.0	0.0434	0.0132	366
1.5	0.0532	0.0162	299
2.0	0.0615	0.0187	259
10	0.138	0.0421	115
20	0.196	0.0597	81.3
30	0.240	0.0732	66.2
50	0.311	0.0949	51.2
88	0.415	0.127	38.4
100	0.443	0.135	36.0
108	0.461	0.141	34.6
150	0.546	0.166	29.3
174	0.589	0.179	27.2
200	0.633	0.193	25.3
300	0.780	0.238	20.6
400	0.906	0.276	17.8
450	0.964	0.294	16.8
500	1.02	0.311	15.9
512	1.03	0.314	15.7
600	1.12	0.342	14.5
700	1.22	0.371	13.4
800	1.31	0.398	12.6
824	1.33	0.404	12.4
894	1.38	0.422	11.9
900	1.39	0.424	11.8
925	1.41	0.430	11.7
960	1.44	0.438	11.5
1000	1.47	0.448	11.2
1250	1.66	0.505	10.1
1500	1.83	0.557	9.19

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA295-50J	Standard
HCA295-50JB	Standard, Self-Healing
HCA295-50JFN	Flame Retardant





# HELIFLEX® Cable

## HCA300-50 Series 3" Air Coax



### APPLICATIONS

TV, Broadcast, Riser-rated In-Building (JFN types, only)

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 3"

### STRUCTURE

Inner Conductor Material Corrugated Copper Tube  
Diameter Inner Conductor, mm 29.3 (1.15)  
(in)  
Diameter Dielectric, mm (in) 63.5 (2.5)  
Outer Conductor Material Corrugated Copper  
Diameter Copper Outer Conductor, mm (in) 72.4 (2.85)  
Diameter over Jacket Nominal, mm (in) 76.7 (3.02)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 2.6 (1.78)  
Minimum Bending Radius, Single Bend, mm (in) 270 (11)  
Minimum Bending Radius, Repeated Bends, mm (in) 760 (30)  
Tensile Strength, N (lb) 1800 (405)  
Recommended / Maximum Clamp Spacing, m (ft) 0.8 / 1.2 (2.75 / 4.0)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 0.5  
Velocity, percent 96  
Capacitance, pF/m (pF/ft) 66.6 (20.3)  
Inductance,  $\mu$ H/m ( $\mu$ H/ft) 0.167 (0.051)  
Maximum Frequency, GHz 1.63  
Peak Power Rating, kW 640  
RF Peak Voltage, Volts 8000  
Jacket Spark, Volt RMS 8000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 0.39 (0.12)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 0.16 (0.05)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA300-50J ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0280	0.0085	596
1.0	0.0397	0.0121	421
1.5	0.0487	0.0148	343
2.0	0.0563	0.0172	297
10	0.127	0.0388	131
20	0.181	0.0552	92.2
30	0.223	0.0680	74.8
50	0.291	0.0886	57.5
88	0.391	0.119	42.8
100	0.418	0.127	40.0
108	0.436	0.133	38.4
150	0.519	0.158	32.3
174	0.561	0.171	29.8
200	0.605	0.184	27.7
300	0.754	0.230	22.2
400	0.883	0.269	19.0
450	0.943	0.287	17.8
500	1.00	0.305	16.8
512	1.01	0.309	16.6
600	1.11	0.338	15.2
700	1.21	0.368	13.9
800	1.30	0.398	12.9
824	1.33	0.404	12.7
894	1.39	0.424	12.1
900	1.40	0.425	12.1
925	1.42	0.432	11.9
960	1.45	0.441	11.7
1000	1.48	0.452	11.4
1250	1.69	0.515	10.0
1500	1.88	0.573	9.04
1630	1.98	0.602	8.62

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104°F), inner conductor temperature 100° C (221° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA300-50J	Standard
HCA300-50JFN	Flame Retardant

# HELIFLEX® Cable

## HCA318-50 Series 3-1/8" Air Coax



### APPLICATIONS

TV, Broadcast

### GENERAL INFORMATION

Cable Type	Air-Dielectric, Corrugated
Size	3-1/8"

### STRUCTURE

Inner Conductor Material	Corrugated Copper Tube
Diameter Inner Conductor, mm (in)	34.8 (1.37)
Diameter Dielectric, mm (in)	75.3 (2.96)
Outer Conductor Material	Corrugated Copper
Diameter Copper Outer Conductor, mm (in)	85.5 (3.36)
Diameter over Jacket Nominal, mm (in)	90.5 (3.56)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft)	3.3 (2.25)
Minimum Bending Radius, Single Bend, mm (in)	380 (15)
Minimum Bending Radius, Repeated Bends, mm (in)	1100 (43)
Tensile Strength, N (lb)	2600 (585)
Recommended / Maximum Clamp Spacing, m (ft)	0.8 / 1.2 (2.75 / 4.0)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm	50 +/- 0.5
Velocity, percent	96
Capacitance, pF/m (pF/ft)	70.0 (21.3)
Inductance, μH/m (μH/ft)	0.175 (0.053)
Maximum Frequency, GHz	1.5
Peak Power Rating, kW	940
RF Peak Voltage, Volts	9700
Jacket Spark, Volt RMS	8000
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft)	0.43 (0.13)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	0.13 (0.04)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors	See pages 79-81
Jumpers	See pages 82-87
Accessories	See pages 103-105
Coaxial Devices	See pages 106-108
Technical Appendix	See pages 639-648

### HCA318-50J/JB ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0245	0.0075	793
1.0	0.0346	0.0106	560
1.5	0.0425	0.0129	457
2.0	0.0491	0.0150	395
10	0.111	0.0337	175
20	0.158	0.0480	123
30	0.194	0.0591	100
50	0.252	0.0769	77.3
88	0.338	0.103	57.9
100	0.362	0.110	54.2
108	0.377	0.115	52.1
150	0.448	0.136	44.0
174	0.484	0.148	40.8
200	0.521	0.159	38.0
300	0.648	0.198	30.9
400	0.757	0.231	26.7
450	0.808	0.246	25.1
500	0.856	0.261	23.8
512	0.867	0.264	23.6
600	0.946	0.288	21.8
700	1.03	0.314	20.2
800	1.11	0.339	18.9
824	1.13	0.344	18.6
894	1.18	0.360	17.9
900	1.19	0.362	17.9
925	1.21	0.367	17.6
960	1.23	0.375	17.3
1000	1.26	0.384	17.0
1250	1.43	0.436	15.3
1500	1.59	0.485	14.1

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104°F), inner conductor temperature 115° C (239° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA318-50J	Standard
HCA318-50JB	Standard, Self-Healing



# HELIFLEX® Cable

## HCA418-50 Series 4-1/8" Air Coax



### APPLICATIONS

TV, Broadcast, Riser-rated In-Building (JFN types, only)

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 4-1/8"

### STRUCTURE

Inner Conductor Material Corrugated Copper Tube  
Diameter Inner Conductor, mm 45.0 (1.77)  
(in)  
Diameter Dielectric, mm (in) 98.1 (3.86)  
Outer Conductor Material Corrugated Copper  
Diameter Copper Outer Conductor, mm (in) 109.3 (4.30)  
Diameter over Jacket Nominal, mm (in) 115.1 (4.53)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 5.4 (3.63)  
Minimum Bending Radius, Single Bend, mm (in) 500 (20)  
Minimum Bending Radius, Repeated Bends, mm (in) 1200 (47)  
Tensile Strength, N (lb) 2600 (585)  
Recommended / Maximum Clamp Spacing, m (ft) 1.0 / 2.0 (3.3 / 6.6)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 0.5  
Velocity, percent 97  
Capacitance, pF/m (pF/ft) 68.0 (20.7)  
Inductance,  $\mu$ H/m ( $\mu$ H/ft) 0.170 (0.052)  
Maximum Frequency, GHz 1  
Peak Power Rating, kW 1560  
RF Peak Voltage, Volts 12500  
Jacket Spark, Volt RMS 8000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 0.31 (0.095)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 0.094 (0.029)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA418-50J/JB/JFN ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0195	0.00594	1200
1.0	0.0276	0.00841	848
1.5	0.0338	0.0103	692
2.0	0.0391	0.0119	599
10	0.0879	0.0268	266
20	0.125	0.0380	188
30	0.153	0.0467	153
50	0.199	0.0606	118
88	0.266	0.0810	88.4
100	0.284	0.0865	82.8
108	0.295	0.0900	79.6
150	0.350	0.107	67.3
174	0.378	0.115	62.4
200	0.406	0.124	58.1
300	0.503	0.153	47.2
400	0.585	0.178	40.7
450	0.623	0.190	38.3
500	0.659	0.201	36.3
512	0.667	0.203	35.9
600	0.726	0.221	33.1
700	0.789	0.240	30.6
800	0.848	0.258	28.6
824	0.861	0.263	28.1
894	0.900	0.274	27.0
900	0.904	0.275	26.9
925	0.917	0.280	26.5
960	0.936	0.285	26.0
1000	0.957	0.292	25.5

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104°F), inner conductor temperature 115° C (239° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA418-50J	Standard
HCA418-50JB	Standard, Self-Healing
HCA418-50JFN	Flame Retardant

# HELIFLEX® Cable

## HCA500-50 Series 5" Air Coax



### APPLICATIONS

TV, Broadcast, Riser-rated In-Building (JFN types, only)

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 5"

### STRUCTURE

Inner Conductor Material Corrugated Copper Tube  
Diameter Inner Conductor, mm 58.0 (2.28)  
(in)  
Diameter Dielectric, mm (in) 127.0 (5.0)  
Outer Conductor Material Corrugated Copper  
Diameter Copper Outer Conductor, mm (in) 140.5 (5.53)  
Diameter over Jacket Nominal, mm (in) 147.2 (5.79)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 8.65 (5.78)  
Minimum Bending Radius, Single Bend, mm (in) 800 (31)  
Minimum Bending Radius, Repeated Bends, mm (in) 1600 (63)  
Tensile Strength, N (lb) 3500 (787)  
Recommended / Maximum Clamp Spacing, m (ft) 1.0 / 1.75 (3.25 / 5.7)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 0.5  
Velocity, percent 96  
Capacitance, pF/m (pF/ft) 70.0 (21.3)  
Inductance, μH/m (μH/ft) 0.175 (0.053)  
Maximum Frequency, GHz 0.86  
Peak Power Rating, kW 2250  
RF Peak Voltage, Volts 15000  
Jacket Spark, Volt RMS 8000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 0.2 (0.06)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 0.057 (0.017)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA500-50J/JB/JFN ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0149	0.00454	1887
1.0	0.0211	0.00643	1333
1.5	0.0258	0.00788	1087
2.0	0.0299	0.00910	941
10	0.0673	0.0205	418
20	0.0956	0.0292	294
30	0.118	0.0359	240
50	0.153	0.0466	185
88	0.205	0.0624	138
100	0.219	0.0667	130
108	0.228	0.0694	125
150	0.270	0.0824	105
174	0.292	0.0890	97.7
200	0.314	0.0958	91.0
300	0.390	0.119	74.0
400	0.455	0.139	64.0
450	0.485	0.148	60.3
500	0.513	0.156	57.2
512	0.520	0.158	56.5
600	0.567	0.173	52.3
700	0.616	0.188	48.4
800	0.663	0.202	45.4
824	0.674	0.206	44.7
860	0.691	0.211	43.8

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### HCA500-50JFT ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0149	0.00455	2250
1.0	0.0211	0.00644	1984
1.5	0.0259	0.00790	1618
2.0	0.0300	0.00913	1399
10	0.0677	0.0206	619
20	0.0965	0.0294	435
30	0.119	0.0363	353
50	0.155	0.0473	271
88	0.209	0.0636	202
100	0.223	0.0680	189
108	0.232	0.0708	181
150	0.277	0.0844	153
174	0.300	0.0914	141
200	0.323	0.0985	131
300	0.403	0.123	106
400	0.472	0.144	90.7
450	0.504	0.154	85.2
500	0.535	0.163	80.5
512	0.542	0.165	79.5
600	0.593	0.181	73.0
700	0.647	0.197	67.3
800	0.699	0.213	62.6
824	0.711	0.217	61.7
860	0.728	0.222	60.3

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 150° C (302° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA500-50J	Standard
HCA500-50JB	Standard, Self-Healing
HCA500-50JFN	Flame Retardant
HCA500-50JT	High Power



# HELIFLEX® Cable

## HCA618-50 Series 6-1/8" Air Coax



### APPLICATIONS

TV, Broadcast, UHF (JT types, only), VHF (JT types, only), High Power (JT types, only)

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 6-1/8"

### STRUCTURE

Inner Conductor Material Corrugated Copper Tube  
Diameter Inner Conductor, mm 67.0 (2.63)  
(in)  
Diameter Dielectric, mm (in) 147.0 (5.78)  
Outer Conductor Material Corrugated Copper  
Diameter Copper Outer Conductor, mm (in) 162.0 (6.37)  
Diameter over Jacket Nominal, mm (in) 169.0 (6.65)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 11.0 (7.39)  
Minimum Bending Radius, Single Bend, mm (in) 1000 (39)  
Minimum Bending Radius, Repeated Bends, mm (in) 2000 (79)  
Tensile Strength, N (lb) 5000 (1124)  
Recommended / Maximum Clamp Spacing, m (ft) 1.0 / 2.0 (3.3 / 6.6)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 0.5  
Velocity, percent 97  
Capacitance, pF/m (pF/ft) 69.0 (21.0)  
Inductance, μH/m (μH/ft) 0.173 (0.053)  
Maximum Frequency, GHz 0.86  
Peak Power Rating, kW 2890  
RF Peak Voltage, Volts 17000  
Jacket Spark, Volt RMS 8000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 0.17 (0.052)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 0.044 (0.013)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA618-50J/JB/JFN ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0128	0.00389	2507
1.0	0.0181	0.00551	1770
1.5	0.0222	0.00676	1444
2.0	0.0256	0.00781	1249
10	0.0578	0.0176	554
20	0.0822	0.0251	390
30	0.101	0.0308	317
50	0.132	0.0401	244
88	0.176	0.0538	183
100	0.189	0.0575	171
108	0.196	0.0599	164
150	0.233	0.0711	139
174	0.252	0.0770	129
200	0.272	0.0829	120
300	0.338	0.103	97.1
400	0.395	0.120	83.7
450	0.421	0.128	78.8
500	0.446	0.136	74.7
512	0.452	0.138	73.8
600	0.493	0.150	68.1
700	0.537	0.164	63.0
800	0.579	0.176	58.9
824	0.588	0.179	58.1
860	0.602	0.184	56.8

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### HCA618-50JT ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0128	0.00390	2890
1.0	0.0182	0.00554	2595
1.5	0.0223	0.00680	2114
2.0	0.0258	0.00786	1828
10	0.0587	0.0179	804
20	0.0840	0.0256	562
30	0.104	0.0316	455
50	0.136	0.0415	348
88	0.184	0.0562	258
100	0.198	0.0602	241
108	0.206	0.0628	231
150	0.247	0.0752	194
174	0.268	0.0817	179
200	0.290	0.0883	166
300	0.364	0.111	133
400	0.430	0.131	113
450	0.461	0.140	106
500	0.490	0.149	100
512	0.497	0.152	99.1
600	0.546	0.167	90.9
700	0.599	0.183	83.6
800	0.650	0.198	77.7
824	0.662	0.202	76.5
860	0.679	0.207	74.7

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 150° C (302° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA618-50J	Standard
HCA618-50JB	Standard, Self-Healing
HCA618-50JFN	Flame Retardant
HCA618-50JT	High Power

# HELIFLEX® Cable

## HCA800-50 Series 8" Air Coax



### APPLICATIONS

TV, Broadcast, UHF (JT types, only), VHF (JT types, only), High Power (JT types, only)

### GENERAL INFORMATION

Cable Type	Air-Dielectric, Corrugated
Size	8"

### STRUCTURE

Inner Conductor Material	Corrugated Copper Tube
Diameter Inner Conductor, mm (in)	88.5 (3.48)
Diameter Dielectric, mm (in)	195.0 (7.67)
Outer Conductor Material	Corrugated Copper
Diameter Copper Outer Conductor, mm (in)	215.0 (8.46)
Diameter over Jacket Nominal, mm (in)	223.0 (8.78)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft)	18.6 (12.5)
Minimum Bending Radius, Single Bend, mm (in)	1400 (55)
Minimum Bending Radius, Repeated Bends, mm (in)	2500 (98)
Tensile Strength, N (lb)	4700 (1057)
Recommended / Maximum Clamp Spacing, m (ft)	1.0 / 2.0 (3.3 / 6.6)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm	50 +/- 0.5
Velocity, percent	97
Capacitance, pF/m (pF/ft)	69.0 (21.0)
Inductance, $\mu$ H/m ( $\mu$ H/ft)	0.173 (0.053)
Maximum Frequency, GHz	0.65
Peak Power Rating, kW	4000
RF Peak Voltage, Volts	20000
Jacket Spark, Volt RMS	8000
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft)	0.13 (0.04)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	0.027 (0.008)

See Installation, Operation and Storage Temperatures on page 28. The Tensile Strength for High Power versions is 3700 N (832 lb).

### CONNECTORS AND ACCESSORIES

Connectors	See pages 79-81
Jumpers	See pages 82-87
Accessories	See pages 103-105
Coaxial Devices	See pages 106-108
Technical Appendix	See pages 639-648

### HCA800-50J/JB ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0100	0.00305	4000
1.0	0.0142	0.00432	2910
1.5	0.0174	0.00529	2373
2.0	0.0201	0.00612	2053
10	0.0454	0.0138	909
20	0.0647	0.0197	639
30	0.0797	0.0243	519
50	0.104	0.0317	399
88	0.140	0.0426	298
100	0.149	0.0455	279
108	0.156	0.0474	268
150	0.185	0.0565	226
174	0.201	0.0612	209
200	0.216	0.0660	195
300	0.270	0.0823	158
400	0.316	0.0964	136
450	0.338	0.103	129
500	0.358	0.109	122
512	0.363	0.111	120
600	0.397	0.121	111
650	0.415	0.127	107

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 115° C (239° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA800-50J	Standard
HCA800-50JB	Standard, Self-Healing



# HELIFLEX® Cable

## HCA900-50T Series 9" Air Coax



### APPLICATIONS

TV, Broadcast

### GENERAL INFORMATION

Cable Type Air-Dielectric, Corrugated  
Size 9"

### STRUCTURE

Inner Conductor Material Corrugated Copper Tube  
Diameter Inner Conductor, mm 99.4 (3.91)  
(in)  
Diameter Dielectric, mm (in) 216.7 (8.53)  
Outer Conductor Material Corrugated Aluminum  
Diameter Copper Outer Conductor, mm (in) 247.7 (9.75)

### MECHANICAL SPECIFICATIONS

Cable Weight, kg/m (lb/ft) 9.6 (6.48)  
Minimum Bending Radius, Single Bend, mm (in) 1700 (67)  
Tensile Strength, N (lb) 9600 (2158)  
Recommended / Maximum Clamp Spacing, m (ft) 1.0 / 2.0 (3.3 / 6.6)

### ELECTRICAL SPECIFICATIONS

Impedance, Ohm 50 +/- 0.5  
Velocity, percent 98  
Capacitance, pF/m (pF/ft) 68.0 (20.7)  
Inductance, µH/m (µH/ft) 0.170 (0.052)  
Maximum Frequency, GHz 0.56  
Peak Power Rating, kW 5800  
RF Peak Voltage, Volts 24000  
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft) 0.11 (0.034)  
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) 0.031 (0.009)

See Installation, Operation and Storage Temperatures on page 28.

### CONNECTORS AND ACCESSORIES

Connectors See pages 79-81  
Jumpers See pages 82-87  
Accessories See pages 103-105  
Coaxial Devices See pages 106-108  
Technical Appendix See pages 639-648

### HCA900-50T ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power kW
0.5	0.0103	0.00314	5800
1.0	0.0146	0.00445	5800
1.5	0.0179	0.00546	5262
2.0	0.0207	0.00631	4551
10	0.0469	0.0143	2011
20	0.0670	0.0204	1410
30	0.0828	0.0252	1144
50	0.108	0.0330	878
88	0.146	0.0446	653
100	0.157	0.0479	611
108	0.164	0.0499	586
150	0.196	0.0599	492
174	0.214	0.0651	454
200	0.231	0.0705	422
300	0.294	0.0896	337
400	0.351	0.107	287
450	0.379	0.115	268
500	0.406	0.124	252
512	0.413	0.126	249
560	0.439	0.134	236

Standard Conditions:

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

For average power: VSWR 1.0, ambient temperature 40° C (104° F), inner conductor temperature 150° C (302° F). No solar loading.

### ORDERING INFORMATION

Model Number	Jacket
HCA900-50T	No jacket