MISSION-CRITICAL COMMUNICATIONS

FOR UTILITY NETWORKS

Antennas, RF Filtering and In-Building Solutions

Designed for superior reliability and performance

Utility providers rely on critical telecommunication systems to ensure the continuous provision of core operational services as well as the safety of their workers. Often operating in remote, hard-to-reach areas and under the most extreme environmental conditions, they must also comply with strict Public Safety regulations in order to provide vital communications for Utility field staff in time of emergency.



Serving the Communication Needs of

Leading Utility Providers Worldwide

Our knowledge of the market, best-in-class technology and service excellence have made us a partner of choice for some of the world's leading Utility providers who have turned to Comprod's products and engineering support for the highest quality in RF components, resulting in minimal maintenance and enhanced performance.

	ANTENNAS	MOBILE ANTENNAS
•	220 MHz Yagi, offset dipoles, 4-bay exposed dipoles and heavy-duty antennas successfully deployed by the largest electric cooperative in South Carolina. Black anodized exposed dipole antennas, designed to provide low VSWR and superior performance in severe weather conditions, rolled out by one of the largest private telecommunications networks in North America, and installed in the world's largest power station: China's Three Gorges Dam.	 Mounted on Utility vehicles, our mobile antenna feature stainless steel whips, high-impact ABS, an gold-plated, spring-loaded contacts. Built for har use in rugged terrain, they can withstand varyin temperatures, dust, shock and vibration.
	FILTERS	IN-BUILDING SYSTEMS
•	As part of a digital radio modernization project, Comprod provided a filters and antenna solution to the NRTC electrical co-op to support both digital (from dispatch to the transmitter sites) and analog communications (from the transmitter tower to its 150 vehicles). Filter application for compact installation of a 4-	 VHF Bi-Directional Amplifier (BDA) and In-Building solutions, including the F-3749 Tri-Band antennas Tri-Band couplers and VHF Donor Yagi antenna have been deployed to enhance the securit communications within a north-eastern US nuclea power plant.
	channel 220 MHz hybrid combiner with receiver multicoupler installed for a leading provider in the East Coast.	Fun Fact
_	Did you know?	Hydro-Quebec is the only electric utility in North
•	Water level monitoring, GOES weather data collection, voice and SCADA applications are all supported using Comprod products.	America to have a major research center. The company invests approx. \$100 million per year in it innovation projects.



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-70

Ground Plane Antenna Series

The Ground Plane Antenna Series are available in VHF and UHF configurations. These omnidirectional antennas are either wide band unity or 2-3 dB gain antennas. They are constructed from high strength, corrosion resistant aluminum alloy and stainless steel. All our antennas can be completely customized to your particular applications.

- Each antenna has a rugged design to withstand the most extreme environmental conditions.
- Wide frequency band applications.
- The mounting hardware supplied will permit 0.75" to 2.38" O.D. pipe installation.
- DC ground for lightning protection.
- Ideal for mounting on buildings.

Electrical Specifications	265-70	266-70	267-70	268-70	
Frequency Range, MHz	118-174	118-174	118-137	406-470	
Nominal Gain, dBd	Unity	2.0-3.0	Unity	2.0-3.0	
Bandwidth 1.5:1 VSWR, MHz (% Ctr. Freq.)	6%	1%	15.6% (2:1)	1%	
Tuning	Field Adj.	Field Adj.	Fixed	Field Adj.	
Polarization	Vertical	Vertical	Vertical	Vertical	•
Vertical Beamwidth (Ver. Pol.)	80°	40°	71°	38º	/
Pattern	Omni	Omni	Omni	Omni	/
Power Rating, Watts	300	250	250	100	
Nominal Impedance, Ohms	50	50	50	50	
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground	
Standard Termination	Type N Male	Type N Male	Type N Male	Type N Male	
Mechanical Specifications	265-70	266-70	267-70	268-70	
Max. Length, in (mm)	58 (1473)	108 (2743)	67 (1702)	46 (1168)	
Width, in (mm)	55 (1397)	46 (1168)	26.5 (673)	20 (508)	
Weight, lbs. (kg)	6.8 (3.3)	6.5 (3.0)	6.0 (2.7)	1.5 (0.7)	
Rated Wind Velocity, No Ice, mph (km/h)	150 (241)	125 (201)	125 (201)	125 (201)	
Rated Wind Velocity, 0.5" (13mm) Ice, mph	140(225)	85 (137)	110 (177)	85 (137)	
Lateral Thrust @ 100 mph wind, lbs. (kg)	31.8 (14.4)	40 (18.1)	24 (10.7)	7.3 (3.3)	
Bending Moment @top clamp: 100 mph, ft.*lb	41 (5.7)	94 (13)	28 (3.9)	12 (1.6)	
Projected Area, ft ² (m ²)	1.2 (0.110)	1.57 (0.146)	0.88 (0.082)	0.27 (0.03)	
Mounting Hardware Included	167-85 Clamp	167-85 Clamp	167-85 Clamp	167-85 Clamp	



GROUND PLANE ANTENNA

118-470 MHz



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Omnidirectional Antenna

The Omnidirectional Antenna Series are available in VHF, UHF and 700/800/900 MHz configurations. These omnidirectional antennas are wide-band and unity gain. They are constructed from high strength, corrosion resistant aluminum alloy and stainless steel. All our antennas can be completely customized to your particular applications.

- Each antenna has a rugged design to withstand the most extreme environmental conditions.
- The mounting hardware supplied will permit 0.75" to 2.3/8" O.D. pipe installation.
- DC ground for lightning protection.
- Because of the very large bandwidth, these are ideal antennas to stock, whether for emergency use or for resale.

Electrical Specifications	201-70	301-70	401-70
Frequency Range, MHz	25-174 MHz	406-512	746-960
Nominal Gain	Unity	Unity	Unity
Bandwidth 1.5:1 VSWR, MHz	2%	20	10%
Polarization	Vertical	Vertical	Vertical
Vertical Beam width (Ver. Pol.)	78º	75°	75°
Pattern	Omni	Omni	Omni
Power Rating, Watts	500	100	100
Nominal Impedance, Ohms	50	50	50
Lightning Protection	Star Gap	DC Ground	DC Ground
Standard Termination	Type N Male	Type N Male	Type N Male
Mechanical Specifications	201-70	301-70	401-70
Max. Length, in (mm)	229 (5817)	24 (610)	21 (533)
Skirt Diameter, in (mm)	2.625 (67)	N/A	N/A
Whip Diameter, in (mm)	0.75 (19)	N/A	N/A
Weight, lbs. (kg)	17 (7.7)	1.4 (0.7)	1 (0.45)
Rated Wind Velocity, no ice, mph (km/h)	115 (185)	150 (241)	150 (241)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	N/A	100 (161)	100 (161)
Lateral Thrust @ 100 mph, ft.*lb (kg*m)	67 (30.4)	3.9 (1.8)	3.4 (1.6)
Bending Moment @top clamp: 100 mph, ft.*lb (kg*m)	308 (42.6)	1.84 (0.25)	1.87 (0.26)
Projected Area, ft ² (m ²)	2.5 (0.23)	0.15 (0.014)	0.13 (0.019)
Mounting Information Mast O.D. (mm) or Hardware Included	1.7" (42) O.D.	167-85 Clamp Included	167-85 Clamp Included



OMNIDIRECTIONAL ANTENNA

25-960 MHz



Fax: 1.800.554.1033

Collinear Omnidirectional Antenna

The 928-70 Collinear Omni Antenna is available in three frequency splits: 746-806; 806-869 or 885-960 within the 746 to 960 MHz range.

The antennas have an 8.5 dBd gain, and offer 6 fixed Electrical Downtilt options, based on customer requirements.

The antenna is constructed with a high-quality fiberglass light-grey radome. The aluminum mounting hardware is included with the antenna.

Electrical Specifications	928-70
Frequency Range, MHz	746-806; 806-869; 885-960
Nominal Gain, dBd	8.5
Bandwidth 1.4:1 VSWR, MHz	75
Polarization	Vertical
Horizontal Beamwidth (°)	360
Vertical Beamwidth (°)	6.5
Electrical Downtilt—Fixed (Options) (°)	0, 1, 2, 3, 4, 5, 6
Pattern	Omnidirectional
3rd Order Intermodulation @ 2 X 43 dBm, dBc	< -150
Power Rating, Watts	500
Nominal Impedance, Ohms	50
Lightning Protection	DC Ground
Standard Termination	7/16 DIN-Female
Mechanical Specifications	928-70
Max. Length, in (mm)	130 (3310)
Diameter, in (mm)	2 (52)
Weight, lbs. (kg) - with mounting kit	26 (11.8)
Rated Wind Velocity, mph (km/h)	124 (200)
Radome Material	Fiberglass, light grey, RAL 7035
Radiating Element Material	Brass
Operational Temperature, °C	-55 to 70
Mounting Hardware Included	Pole mount included (U-bolts not included)





COLLINEAR OMNIDIRECTIONAL ANTENNA

746-960 MHz





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870 Series VHF Exposed Dipoles

The 870 Series VHF Exposed Dipoles are available in 1, 2, 4, 8, dipole and dual dipole configurations. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, adjustable or fixed, side mount or top mount, and heavy-duty versions are available.

- Each antenna is offered in a 1/4, 3/8, or 1/2 wave spacing versions.
- The 87XA-70 has external cabling and a field-adjustable pattern.
- The 87XF-70 has internal cabling and fixed dipole-mast spacing.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Electrical Specifications	871F-70	872F-70	874F-70
Frequency Range, MHz	138-174	138-174	138-174
Nominal Gain, dBd	2.0-2.5	5.0-5.5	8.0-8.5
Number of Dipoles	1	2	4
Bandwidth 1.5:1 VSWR, MHz	36	36	36
Polarization	Vertical	Vertical	Vertical
Pattern	Offset / bi	Offset / bi	Offset / bi
Power Rating, Watts	200	450	450
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground	DC Ground	DC Ground
Standard Termination	Type N	Type N Malo	Type N Malo
	Maie	Male	Male
Mechanical Specifications	871F-70	872F-70	874F-70
Mechanical Specifications Length, in. (mm)	871F-70 78 (1981)	872F-70 162 (3200)	874F-70 246 (6248)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm)	871F-70 78 (1981) 40 (1016)	872F-70 162 (3200) 40 (1016)	874F-70 246 (6248) 40 (1016)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm) Weight, lbs. (kg)	871F-70 78 (1981) 40 (1016) 13 (6)	872F-70 162 (3200) 40 (1016) 24 (10.8)	874F-70 246 (6248) 40 (1016) 67 (30)
Mechanical SpecificationsLength, in. (mm)Width (1/2 Wave Spacing), in. (mm)Weight, lbs. (kg)Rated Wind Velocity, No Ice, mph (km/h)	871F-70 78 (1981) 40 (1016) 13 (6) 170 (274)	872F-70 162 (3200) 40 (1016) 24 (10.8) 150 (241)	874F-70 246 (6248) 40 (1016) 67 (30) 110 (177)
Mechanical SpecificationsLength, in. (mm)Width (1/2 Wave Spacing), in. (mm)Weight, lbs. (kg)Rated Wind Velocity, No Ice, mph (km/h)Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	871F-70 78 (1981) 40 (1016) 13 (6) 170 (274) 145 (233)	872F-70 162 (3200) 40 (1016) 24 (10.8) 150 (241) 135 (217)	874F-70 246 (6248) 40 (1016) 67 (30) 110 (177) 85 (137)
Mechanical SpecificationsLength, in. (mm)Width (1/2 Wave Spacing), in. (mm)Weight, lbs. (kg)Rated Wind Velocity, No Ice, mph (km/h)Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)Lateral Thrust @ 100 mph, wind, lbs. (N)	871F-70 78 (1981) 40 (1016) 13 (6) 170 (274) 145 (233) 45 (199)	872F-70 162 (3200) 40 (1016) 24 (10.8) 150 (241) 135 (217) 92 (407)	874F-70 246 (6248) 40 (1016) 67 (30) 110 (177) 85 (137) 206 (914)
Mechanical SpecificationsLength, in. (mm)Width (1/2 Wave Spacing), in. (mm)Weight, lbs. (kg)Rated Wind Velocity, No Ice, mph (km/h)Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)Lateral Thrust @ 100 mph, wind, lbs. (N)Bending Moment @ top clamp: 100 mph, ft.*lb(N*m)	871F-70 78 (1981) 40 (1016) 13 (6) 170 (274) 145 (233) 45 (199) 18 (24)	872F-70 162 (3200) 40 (1016) 24 (10.8) 150 (241) 135 (217) 92 (407) 205 (278)	874F-70 246 (6248) 40 (1016) 67 (30) 110 (177) 85 (137) 206 (914) 1440 (1953)
Mechanical SpecificationsLength, in. (mm)Width (1/2 Wave Spacing), in. (mm)Weight, lbs. (kg)Rated Wind Velocity, No Ice, mph (km/h)Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)Lateral Thrust @ 100 mph, wind, lbs. (N)Bending Moment @ top clamp: 100 mph, ft.*lb (N*m)Projected Area, ft² (m²)	871F-70 78 (1981) 40 (1016) 13 (6) 170 (274) 145 (233) 45 (199) 18 (24) 1.7 (0.16)	872F-70 162 (3200) 40 (1016) 24 (10.8) 150 (241) 135 (217) 92 (407) 205 (278) 3.5 (0.33)	874F-70 246 (6248) 40 (1016) 67 (30) 110 (177) 85 (137) 206 (914) 1440 (1953) 7.7 (0.72)



VHF EXPOSED DIPOLES

138-174 MHz





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870 Series 220MHz Exposed Dipoles

The 870 Series 220MHz Exposed Dipoles are available in 1, 2, 4, 8 dipole configurations. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, adjustable, or fixed, side mount or top mount, and heavy-duty versions are available.

- Each antenna is offered in a 1/4, 3/8 or 1/2 wave spacing versions.
- The 87XA-70 has external cabling and a field-adjustable pattern.
- The 87XF-70 has internal cabling and fixed dipole-mast spacing.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Electrical Specifications	871F-70-2	872F-70-2	874F-70-2
Frequency Range, MHz	215-225	215-225	215-225
Nominal Gain, dBd	2.0-2.5	5.0-5.5	8.0-8.5
Number of Dipoles	1	2	4
Bandwidth 1.5:1 VSWR, MHz	10	10	10
Polarization	Vertical	Vertical	Vertical
Pattern	Offset / bi	Offset / bi	Offset / bi
Power Rating, Watts	200	300	500
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground	DC Ground	DC Ground
Standard Termination	Type N	Type N	Type N
	Male	Male	Male
Mechanical Specifications	Male 871F-70-2	Male 872F-70-2	Male 874F-70-2
Mechanical Specifications Length, in. (mm)	Male 871F-70-2 66 (1676)	Male 872F-70-2 112 (2845)	Male 874F-70-2 200 (5080)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm)	Male 871F-70-2 66 (1676) 31 (787)	Male 872F-70-2 112 (2845) 31 (787)	Male 874F-70-2 200 (5080) 32 (813)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm) Weight, lbs. (kg)	Male 871F-70-2 66 (1676) 31 (787) 12.5 (5.7)	Male 872F-70-2 112 (2845) 31 (787) 21 (9.5)	Male 874F-70-2 200 (5080) 32 (813) 51 (23)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm) Weight, lbs. (kg) Rated Wind Velocity, No Ice, mph (km/h)	Male 871F-70-2 66 (1676) 31 (787) 12.5 (5.7) 165 (266)	Male 872F-70-2 112 (2845) 31 (787) 21 (9.5) 150 (241)	Male 874F-70-2 200 (5080) 32 (813) 51 (23) 145 (233)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm) Weight, lbs. (kg) Rated Wind Velocity, No Ice, mph (km/h) Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	Male 871F-70-2 66 (1676) 31 (787) 12.5 (5.7) 165 (266) 140 (225)	Male 872F-70-2 112 (2845) 31 (787) 21 (9.5) 150 (241) 130 (209)	Male 874F-70-2 200 (5080) 32 (813) 51 (23) 145 (233) 105 (177)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm) Weight, lbs. (kg) Rated Wind Velocity, No Ice, mph (km/h) Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h) Lateral Thrust @ 100 mph, wind, lbs. (kg)	Male 871F-70-2 66 (1676) 31 (787) 12.5 (5.7) 165 (266) 140 (225) 40 (18)	Male 872F-70-2 112 (2845) 31 (787) 21 (9.5) 150 (241) 130 (209) 666 (30)	Male 874F-70-2 200 (5080) 32 (813) 51 (23) 145 (233) 105 (177) 143 (65)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm) Weight, lbs. (kg) Rated Wind Velocity, No Ice, mph (km/h) Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h) Lateral Thrust @ 100 mph, wind, lbs. (kg) Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	Male 871F-70-2 66 (1676) 31 (787) 12.5 (5.7) 165 (266) 140 (225) 40 (18) 58 (8)	Male 872F-70-2 112 (2845) 31 (787) 21 (9.5) 150 (241) 130 (209) 666 (30) 150 (21)	Male 874F-70-2 200 (5080) 32 (813) 51 (23) 145 (233) 105 (177) 143 (65) 610 (84)
Mechanical Specifications Length, in. (mm) Width (1/2 Wave Spacing), in. (mm) Weight, lbs. (kg) Rated Wind Velocity, No Ice, mph (km/h) Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h) Lateral Thrust @ 100 mph, wind, lbs. (kg) Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m) Projected Area, ft ² (m ²)	Male 871F-70-2 66 (1676) 31 (787) 12.5 (5.7) 165 (266) 140 (225) 40 (18) 58 (8) 1.5 (0.14)	Male 872F-70-2 112 (2845) 31 (787) 21 (9.5) 150 (241) 130 (209) 66 (30) 150 (21) 2.6 (0.24)	Male 874F-70-2 200 (5080) 32 (813) 51 (23) 145 (233) 105 (177) 143 (65) 610 (84) 5.5 (0.51)





220MHz EXPOSED DIPOLES

215-225 MHz





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790 Series Enclosed Dipole

The 790 Series Enclosed Dipoles are available in 2, 4 or 8 dipole configurations. All our antennas can be completely customized to your particular applications.

- Each antenna is offered in an offset pattern, 1/4 or 1/2 wave versions.
- Broadband antennas are ideal for trunking or cellular applications.
- Weatherproof radome to ensure continuous service during severe environmental conditions.
- Versions with 3, 6, and 9-degree downtilt are also available.

Electrical Specifications	792-70	794-70	799-70
Frequency Range, MHz	746-960	746-960	746-960
Nominal Gain, dBd	5.0	8.0	10.0
Number of Dipoles	2	4	8
Bandwidth 1.5:1 VSWR, MHz	150	150	150
Polarization	Vertical	Vertical	Vertical
Pattern	Offset	Offset	Offset
Power Rating, Watts	150	300	500
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground	DC Ground	DC Ground
Standard Termination	Type N Male	Type N Male	Type N Male
Mechanical Specifications	792-70	794-70	799-70
Length, in. (mm)	22 (559)	44.5 (1130)	94 (2388)
Width (1/2 Wave Spacing), in. (mm)	2.5 (64)	2.5 (64)	2.5 (64)
Weight, lbs. (kg)	8.8 (4)	14 (6.5)	24 (11)
Rated Wind Velocity, No Ice, mph (km/h)	100 (162)	100 (162)	100 (162)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	85 (137)	85 (137)	85 (137)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	36.4 (16.5)	73 (33)	153 (59)
Projected Area, ft ² (m ²)	1.4 (0.13)	2.7 (0.25)	5.7 (0.53)
Mounting Information	1.5-2.88" O.D.	1.5-2.88" O.D.	1.5-2.88" O.D.





ENCLOSED DIPOLES

746-960 MHz

90



Fax: 1.800.554.1033

790 Series Enclosed Dipoles with Reflector

The 790 Series Enclosed Dipoles with Reflector are available in 2, 4, or 8 dipole configurations. These antennas can be adjusted from 60° to 160°. All our antennas can be completely customized to your particular applications.

- These antennas have 1/4 wave spacing to the reflector.
- Broadband antennas are ideal for trunking or cellular applications.
- Reflector is field adjustable and has 5 positions: 60°, 90°, 105°, 130° and 160°.
- Weatherproof radome to ensure continuous service during severe environmental conditions.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Electrical Specifications	792-70R	794-70R	799-70R
Frequency Range, MHz	746-960	746-960	746-960
Nominal Gain, dBd	Up to 8.0	Up to 13.5	Up to 15.0
Number of Dipoles	2	4	8
Bandwidth 1.5:1 VSWR, MHz	150	150	150
Polarization	Vertical	Vertical	Vertical
Pattern	Directional	Directional	Directional
Power Rating, Watts	150	300	500
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground	DC Ground	DC Ground
Standard Termination	Type N Male	Type N Male	Type N Male
Mechanical Specifications	792-70R	794-70R	799-70R
Length, in (mm)	22 (559)	44.5 (1130)	94.5 (2395)
Width (1/2 Wave Spacing), in (mm)	25 (635)	25 (635)	25 (635)
Weight, lbs. (kg)	16.5 (7.5)	24 (10.9)	42 (19)
Rated Wind Velocity, No Ice, mph (km/h)	100 (162)	100 (162)	100 (162)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	85 (137)	85 (137)	85 (137)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	57(26)	115 (52)	243 (110)
Projected Area, ft ² (m ²)	2.0 (0.19)	4.3 (0.40)	9 (0.84)
Mounting Information	1.5-2.88" O.D.	1.5-2.88" O.D.	1.5-2.88" O.D.



ENCLOSED DIPOLES WITH REFLECTOR

746-960 MHz





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Radome Yagi Antennas Series

The Radome Yagi Antenna Series are available in UHF and 700/800/900 MHz configurations. The UHF model is offered with a Fiberglass or PVC Radome. The 700/800/900 MHz model is offered in PVC. All our antennas can be completely customized to your particular applications.

- Each antenna has a rugged design to withstand extreme environmental conditions.
- The mounting hardware supplied supports either vertical or horizontal polarization.
- DC ground for lightning protection.
- The PVC enclosure is 1/2 inch thick.
- These are our Heavy-Duty Versions. Please contact our Technical Support team for consultation.

Electrical Specifications	425-70	426-70	490-70R
Frequency Range, MHz	406-512	406-512	746-960
Nominal Gain, dBd	10	10	10
Number of Elements	Loop Yagi	Loop Yagi	7
Bandwidth: 1.5:1 VSWR, MHz	20	20	72
Polarization	Vert./Hor.	Vert./Hor.	Vert./Hor.
Horizontal Beamwidth (Horizontal Pol.)	62º	62°	56°
Vertical Beamwidth (Horizontal Pol.)	48°	48 ⁰	42°
Front to Back, dB	20	20	20
Pattern	Directional	Directional	Directional
Power Rating, Watts	250	250	150
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground	DC Ground	DC Ground
Standard Termination	Type N Male	Type N Male	Type N Male
Mechanical Specifications	425-70	426-70	490-70R
Length, in. (mm)	31 (787)	30 (762)	29 (737)
Width (1/2 Wave Spacing), in. (mm)	16 (406)	16 (406)	14 (356)
Weight, lbs. (kg)	44 (20)	19 (8.6)	28 (12)
Radome Material	PVC	Fiberglass	PVC
Rated Wind Velocity, No Ice, mph (km/h)	150 (241)	120 (193)	150 (241)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	105 (169)	110 (177)	115 (185)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	69 (31.3)	61 (27.7)	47.4 (21.5)
Projected Area, ft ² (m ²)	2.6 (0.24)	2.3 (0.21)	1.8 (0.17)
Mounting Hardware Included	173-85 clamp	173-85 clamp	173-85 clamp



490-70R







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138-174 MHz

250-70

290 Series VHF Yagi Antennas

The 290 Series VHF Yagi Antenna are available in 2, 3, and 6 element configurations. All our antennas can be completely customized to your applications. Our antennas can be black anodized, welded, vertically or horizontally polarized, and heavy-duty versions are available.

- Each antenna has a rugged design to withstand harsh environmental conditions.
- The mounting hardware supplied will permit either vertical or horizontal polarization.
- DC ground for lightning protection.
- Optionally have the entire antenna welded for added durability.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Electrical Specifications	291-70	295-70	290-70	250-70
Frequency Range, MHz	138-174	138-174	138-174	138-174
Nominal Gain, dBd	3.5	6.5	9.5	7
Number of Elements	2	3	6	7
Bandwidth 2.0:1 VSWR, MHz (Ctr. Freq.%)	36	4%	4%	36
Polarization	Vert. or Horiz.	Vert. or Horiz.	Vert. or Horiz.	Vert. or Horiz.
Horizontal Beamwidth (Horizontal Pol.)	140°	90o	62°	80°
Vertical Beamwidth (Horizontal Pol.)	70°	61º	50°	60°
Front to Back, dB	15	12	17	25
Pattern	Directional	Directional	Directional	Directional
Power Rating, Watts	350	350	350	250
Nominal Impedance, Ohms	50	50	50	50
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground
Standard Termination	Type N Male	Type N Male	Type N Male	Type N Male
Mechanical Specifications	291-70	295-70	290-70	250-70
Length, in (mm)	50 (1270)	60 (1524)	108 (2743)	104 (2642)
Width (1/2 Wave Spacing), in (mm)	40 (1016)	43 (1092)	42 (1067)	42 (1067)
Weight, lbs. (kg)	4.8 (2.2)	6.5 (2.9)	12.0 (5.4)	12.0 (5.4)
Rated Wind Velocity, No Ice, mph (km/h)	150 (241)	145 (223)	120 (177)	110 (177)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	105 (169)	100 (161)	85 (137)	90 (145)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	29 (13)	39 (18)	65 (29)	95 (43)
Projected Area, ft ² (m ²)	1.1 (0.10)	1.4 (0.13)	2.4 (0.22)	2.6 (0.24)
Mounting Hardware Included	181-85 Clamp	181-85 Clamp	115-85 Clamp	115-85 Clamp



VHF YAGI ANTENNA





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VHF YAGI ANTENNA





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290 Series 220MHz Yagi Antennas

The 290 Series 220MHz Yagi Antennas are available in 2, 3, and 6 element configurations. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, welded, vertically or horizontally polarized, and heavy-duty versions are available.

- Each antenna has a rugged design to withstand harsh environmental conditions.
- The mounting hardware supplied will permit either vertical or horizontal polarization.
- DC ground for lightning protection.
- Option to have the entire antenna welded for added durability.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Electrical Specifications	291-70-2	295-70-2	290-70-2
Frequency Range, MHz	215-225	215-225	215-225
Nominal Gain, dBd	3.5	6.5	9.5
Number of Elements	2	3	6
Bandwidth 1.5:1 VSWR, MHz (Center Freq.%)	10	10	10
Polarization	Vert. or Horiz.	Vert. or Horiz.	Vert. or Horiz.
Horizontal Beamwidth (Horizontal Pol.)	140°	90°	62°
Vertical Beamwidth (Horizontal Pol.)	70°	36°	50°
Front to Back, dB	15	12	17
Pattern	Directional	Directional	Directional
Power Rating, Watts	350	350	350
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground	DC Ground	DC Ground
Standard Termination	Type N Male	Type N Male	Type N Male
Mechanical Specifications	291-70-2	295-70-2	290-70-2
Length, in. (mm)	32 (813)	48 (1219)	84 (2134)
Width (1/2 Wave Spacing), in. (mm)	29 (737)	28 (711)	27 (686)
Weight, lbs. (kg)	3.7 (1.7)	4.8 (2.2)	9.0 (4.1)
Rated Wind Velocity, No Ice, mph (km/h)	165 (266)	155 (249)	145 (233)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	145 (233)	130 (209)	100 (161)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	19.4 (8.8)	27 (12)	47 (21.3)
Torsional Moment @ 100 mph, ft.*lb (kg*m)	25 (3.5)	52 (7.2)	138 (19)
Projected Area, ft ² (m ²)	0.7 (0.07)	1.0 (0.09)	1.75 (0.16)
Mounting Hardware Included	181-85 Clamp	181-85 Clamp	115R-85 Clamp





290-70-2HDWB

220MHz YAGI ANTENNA

215-225 MHz



Fax: 1.800.554.1033

215-225 MHz

220MHz Corner Reflector Antenna Series

The Corner Reflector Antennas are available in VHF, UHF, 700/800/900 MHz configurations. These antennas have a very high front-to-back ratio. They are broadband and are ideal for point-to-point applications. Performance is constant throughout the band.

- Each antenna has a rugged design to withstand harsh environmental conditions.
- Single or Dual Dipole mounted in the front of a 90° reflector, providing good directivity.
- These antennas have ultra-low VSWR ratings, and will not exceed 2.0:1 VSWR ratio with 0.5" of radial ice.
- The supplied mounting hardware allows either vertical or horizontal polarization. DC ground for lightning protection. Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Electrical Specifications	470-70-2	470-70-2HD	471-70-2
Frequency Range, MHz	215-225	215-225	215-225
Nominal Gain, dBd	7.0	7.0	10.0
Bandwidth: 1.5:1 VSWR, MHz	10	10	10
Polarization	Vert. or Horiz.	Vert. or Horiz.	Vert. or Horiz.
Horizontal Beamwidth (Vert. Pol.)	67º	67º	50°
Vertical Beamwidth (Vert. Pol.)	75°	75°	66º
Front to Back, dB	30	30	30
Pattern	Directional	Directional	Directional
Power Rating, Watts	250	250	250
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground	DC Ground	DC Ground
Standard Termination	Type N Male	Type N Male	Type N Male
Mechanical Specifications	470-70-2	470-70-2HD	471-70-2
Length, in. (mm)	48 (1219)	48 (1219)	72 (1829)
Width, in. (mm)	75 (1905)	75 (1905)	120 (3048)
Weight, lbs. (kg)	39 (17.7)	57 (25.8)	55 (30)
Rated Wind Velocity, No Ice, mph (km/h)	100 (161)	140 (225)	100 (161)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	85 (137)	100 (161)	85 (137)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	144 (65)	236 (107)	320 (145)
Lateral Thrust @ 100 mph, wind, lbs. (kg) Projected Area, ft ² (m ²)	144 (65) 5.3 (0.5)	236 (107) 8.8 (0.82)	320 (145) 11.9 (1.10)





220 MHz CORNER REFLECTOR

215-225 MHz





215-225 MHz

F-33324 Back to Back Dual Yagi Antenna Array

The F-33324 is a dual Yagi array mounted in a back-to-back configuration. The antennas are welded and are supplied with a phasing harness. All our antennas can be completely customized to your particular applications. Our antennas can be vertically or horizontally polarized and heavy-duty versions are available.

- Each antenna has a rugged design to withstand harsh environmental conditions.
- The mounting hardware supplied will permit either vertical or horizontal polarization.
- DC ground for lightning protection.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Frequency Range, MHz215-225Nominal Gain, dBd6.6Bandwidth 1.5:1 VSWR, MHz (Center Freq.%)10PolarizationVert. or Horiz.
Nominal Gain, dBd6.6Bandwidth 1.5:1 VSWR, MHz (Center Freq.%)10PolarizationVert. or Horiz.
Bandwidth 1.5:1 VSWR, MHz (Center Freq.%)10PolarizationVert. or Horiz.
Polarization Vert. or Horiz.
Horizontal Beamwidth (Vert. Pol.) 47°
Vertical Beamwidth (Vert. Pol.) 43°
Front to Back, dB N/A
Pattern Directional
Power Rating, Watts 350
Nominal Impedance, Ohms 50
Lightning Protection DC Ground
Standard Termination Type N Male
Mechanical Specifications F-33324
Length, in. (mm) 161 (4089)
Width, in. (mm) 27 (686)
Weight, lbs. (kg) 28 (12.7)
Rated Wind Velocity, No Ice, mph (km/h) 145 (233)
Rated Wind Velocity, 0.5" (13mm) ice, mph 100 (161) (km/h)
Lateral Thrust @ 100 mph, wind, lbs. (kg) 94 (418)
Projected Area, ft ² (m ²) 4.0 (0.37)
Mounting Hardware Included 115R-85 Clamp



Horizontal Pattern



Vertical Pattern







XMF BAND PASS MULTICOUPLER VHF

60-13-XP Series

Our Bandpass VHF Multicoupler filters are designed for minimizing interference from adjacent channels and outside systems. They are available in single, dual, triple or additional units. Selectivity can be determined by the insertion loss of the cavity or by adding cavity units as required. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold Alodine finish, silver-plated loops, and silver-plated tuning rods. Every cavity is equipped with both coarse and fine-tuning rods for quick and easy field or lab re-tuning.

- Temperature Compensation
 - Ensures Frequency Stability
- High Attenuation
 - Minimizes desense and interference from adjacent systems
- Adjustable Loops

Mechanical Specifications

Maximum length, in

 $(H \times W \times D)$

• Each cavity has a calibration index to reference insertion loss

Electrical Specifications	60-13-71	60-13-72	60-13-73		
Frequency Range, MHz	138-174	138-174	138-174		
Frequency Spacing Min. MHz	0.8	0.8	0.8		
Cavity Diameter, in	6.625	6.625	6.625		
Continuous Power Input, Watts	90-400	90-400	90-400		
Connectors	N Female	N Female	N Female		
Insertion Loss, dB	0.6-1.5	1.2-3.2	1.8-5.0		
Channel Isolation, dB	See Typical Curves				
VSWR	1.5:1	1.5:1	1.5:1		
Temperature °C	-40 to +60	-40 to +60	-40 to +60		

60-13-71

34 x 19 x 7

60-13-72

34 x 19 x 16.5

60-13-73

34 x 19 x 16.5









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138-174 MHz

PSEUDO BAND PASS DUPLEXER

66-FF-74 and 66-FF-76

Our Pseudo Bandpass Duplexer filters are designed for quick and easy installations. These filters are designed for the combination of two frequencies requiring extra isolation or can be used as efficient pre- selectors. They are available in either 4 or 6 cavity configurations if higher levels of isolation are required. Selectivity can be determined by the field adjustable capacitors. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold Alodine finish, silver-plated loops, and silver-plated tuning rods. Every cavity is equipped with both coarse and fine-tuning rods for guick and easy field or lab re-tuning.

- **Temperature Compensation**
 - Ensures Frequency Stability
- **High Attenuation**
 - Minimizes desense and interference from adjacent systems
- Adjustable Loops
 - Each cavity has a calibration index to reference insertion loss 0

Electrical Specifications	66-13-74	66-13-76	66-40-74
Frequency Range, MHz	138-174	138-174	406-512
Frequency Spacing Min. MHz	0.5	0.3	1.5
Cavity Diameter, in	6.625	6.625	6.625
Continuous Power Input, Watts	400	400	350
Connectors	N Female	N Female	N Female
Insertion Loss, dB	1.5	2.2	1.5
Channel Isolation, dB	85	95	90
VSWR	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	66-13-74	66-13-76	66-40-74
Maximum length, in (H x W x D)	34 x 19 x 16.5	34 x 19 x 33	18.5 x 19 x 16.5
Weight, Ibs (kg)	44 (20)	90 (40)	32 (15.2)









-10.00

20.0 -30,00

-50.0

-60.00

70.00

Center 155 Mi-

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138-512 MHz

2-INCH CAVITY DUPLEXERS

66-FF-2P Series 2" Cavity Duplexers

Our 2" base station duplexers are ideal for compact high isolation installations. These filters are designed for the combination of two frequencies that require extra isolation or they can be used as efficient preselectors. Available in either 4 or 6 cavity configurations if higher levels of isolation are required. Selectivity can be determined by the field adjustable capacitors. Each cavity is temperature compensated for operation between -40°C to +60 °C. Each cavity has a gold Alodine finish, silver-plated loops, and silver-plated tuning rods.

- Temperature Compensation
 - Ensures Frequency Stability
- High Attenuation
 - Minimizes desense and interference from adjacent systems



Electrical Specifications	66-13-24	66-14-24	66-13-26	66-14-26
Frequency Range, MHz	132-150	144-174	132-150	144-174
Frequency Spacing Min.	4.5	4.5	3.0	3.0
Cavity Number	4	4	6	6
Cavity Diameter, in	2.0	2.0	2.0	2.0
Continuous Power Inputs, Watts	100	100	100	100
Connectors (Equipment/Antenna)	BNC/N	BNC/N	BNC/N	BNC/N
Insertion Loss, dB (maximum)	1.5	1.5	1.5	1.5
Channel Isolation, dB	70	70	80/90	80/90
VSWR	1.3:1		.3:1 1.3:1	
Temperature ^o C	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	66-13-24	66-14-24	66-13-26	66-14-26
Maximum length, in (H x W x D)	5.25 x 19 x 7.25 5.25 x 19 x 7.25			9 x 7.25
Mounting	19" Rack Mount			

These duplexers are available in other frequencies and configurations. Please call our technical support for additional models.





4-INCH CAVITY DUPLEXERS

66-FF-44 Series (4) 4" Cavity Duplexers

These 4" base station duplexers are ideal for high power, close frequency separation installations. These filters are designed for combining two frequencies or they can be used as efficient pre-selectors. If higher levels of isolation are required, please consider using 6 cavity configurations. Selectivity can be determined by the field adjustable capacitors. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold Alodine finish, silver-plated loops, and silver-plated tuning rods.

- Temperature Compensation
 - Ensures Frequency Stability
- High Attenuation
 - Minimizes desense and interference from adjacent systems

Electrical Specifications	66-13-44	66-40-44	66-80-44	
Frequency Range, MHz	138-174	406-512	746-960	
Frequency Spacing Min. MHz	0.5	0.3	1.5	
Cavities, Diameter, in	(4) - 4" Square	(4) - 4" Square	(4) - 4" Square	
Continuous Power Input, Watts	350	350	350	
Connectors	N Female	N Female	N Female	
Insertion Loss, dB (maximum)	1.5	0.8	0.8	
Channel Isolation, dB	70	75	90	
VSWR	1.2:1	1.2:1	1.2:1	
Temperature ^o C	-40 to +60	-40 to +60	-40 to +60	
Mechanical Specifications	66-13-44	66-40-44	66-80-44	
Maximum length, in (H x W x D)	31 x 19 x 4	4 x 19 x 15	4 x 19 x 12	
Weight, lbs (kg)	30 (13.6)	18 (8.2)	16 (7.3)	
Mounting	19" Rack Mount			







66-13-44



4-INCH CAVITY DUPLEXERS

66-FF-46 Series (6) 4" Cavity Duplexers

These 6-cavity 4" base station duplexers are ideal for high power close frequency separation installations. These filters are designed for the combination of 2 frequencies that require extra isolation or they can be used as an efficient pre-selector. If higher levels of isolation are required, please consider using the 8-cavity configuration. Selectivity can be determined by the field adjustable loops. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold Alodine finish, silver-plated loops, and silver-plated tuning rods.

- **Temperature Compensation**
 - Ensures Frequency Stability
- **High Attenuation**
 - Minimizes desense and interference from adjacent systems 0



Electrical Specifications	66-13-46	66-40-46	66-80-46
Frequency Range, MHz	138-174	406-512	746-960
Frequency Spacing Min. MHz	0.5	3.0	3.6
Cavities, Diameter, in	(6) - 4" Square	(6) - 4" Square	(6) - 4" Square
Continuous Power Input, Watts	350	350	350
Connectors	N Female	N Female	N Female
Insertion Loss, dB (maximum)	2.1	1.2	1.2
Channel Isolation, dB	85	100	85
VSWR	1.2:1	1.2:1	1.2:1
Temperature ^o C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	66-13-46	66-40-46	66-80-46
Maximum length, in (H x W x D)	31 x 19 x 8	8 x 19 x 15	8 x 19 x 12
Weight, lbs (kg)	45 (20.25)	27 (12.15)	24 (10.8)
Mounting		19" Rack Mount	





66-40-46



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HYBRID TRASMIT COMBINERS

Custom Hybrid Combiners

Our Hybrid Transmit Combiners are designed for compact, close frequency installations. Our HTCs are perfect for very closely spaced frequency transmitters. These devices are ideal for use when our X-Pass technology does not provide adequate performance and isolation for very close Tx-Tx spacing. Hybrid Combiners are also ideal for intermodulation panels, providing extra protection with their second harmonic filters, or when physical space is at a premium or is constrained, and for providing extra isolation between two very close transmitters.

- We can arrange or design our combiners to meet your custom needs.
- High Isolation
 - Minimizes intermodulation products
- Low Loss
 - Maximizes system performance
- Continuous Power
 - o Physical size and materials used
 - Maximizes the performance across the operating band







Star Junction Ceramic Combiner

Our Ceramic Combiner uses dielectric resonator technology to offer higher performance than standard RF cavities in a much smaller package. It combines 8 channels in only 8.5" of standard 19" rack space. The resonator allows combining of transmitters at a frequency spacing as close as 150 kHz. Lower insertion loss per channel is another result of the sharper filtering performance. Expandable in individual channel increments. Available in Star or X-Pass (expandable) configuration.

- Available for the 764-776, 851-869 and 935-941 MHz bands
- Designed for tight channel spacing
- Lowest insertion loss, high isolation for maximum coverage and reduced interference
- Star Configuration
- Compact, robust design for rapid installations, increased mobility and ease of maintenance

Electrical Specifications	
Frequency Range, MHz	764-776, 851-869 & 935-941
Frequency Spacing, Min.	150 kHz
Temperature Range, °C	-35 to +60
TX to TX Isolation at Minimum Frequency Spacing of 150 kHz	65 dB min (double junction isolator)
ANT to TX Isolation	60 dB min (double junction isolator)
Insertion Loss	1.8 dB – 4 Ch. at 500 kHz 2.5 dB – 16 Ch. at 500 kHz 3.8 dB – 24 Ch. at 500 kHz
Power Input / Channel (Watts)	125
Transmitter Input VSWR (max)	1.25:1
Mechanical Specifications	
Dimensions (HWD), in (mm)	14 x 8.5 x 19 (356 x 216 x 483)
Weight, lb (kg)	8-Channel system 62.17 (28.2)





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CERAMIC COMBINER

764-941 MHz

X-Pass Ceramic Combiner

Our Ceramic Combiner uses dielectric resonator technology to offer higher performance than standard RF cavities in a much smaller package. It combines 4 channels in only 7.75" of standard 19" rack space. The resonator allows combining of transmitters at a frequency spacing as close as 150 kHz. Lower insertion loss per channel is another result of the sharper filtering performance.

Expandable in individual channel increments. Available in Star or X-Pass (expandable) configuration.

- Available for the 764-776, 851-869 and 935-941 MHz bands
- Designed for tight channel spacing
- Lowest insertion loss, high isolation for maximum coverage and reduced interference
- Easy field expandability with X-Pass technology one channel at a time
- Compact, robust design for rapid installations, increased mobility and ease of maintenance

Electrical Specifications	
Frequency Range, MHz	764-776, 851-869 & 935-941
Frequency Spacing, Min.	150 kHz
Temperature Range, °C	-35 to +60
TX to TX Isolation at Minimum Frequency Spacing of 150 kHz	65 dB min (double junction isolator)
ANT to TX Isolation	60 dB min (double junction isolator)
Insertion Loss	1.8 dB – 4 Ch. at 500 kHz 2.5 dB – 16 Ch. at 500 kHz 3.8 dB – 24 Ch. at 500 kHz
Power Input / Channel (Watts)	125
Transmitter Input VSWR (max)	1.25:1
Mechanical Specifications	
Dimensions (HWD), in (mm)	7.75 x 19 x 14 (197 x 483 x 356)
Weight, lb (kg)	4-Channel system 32 (15)







138-225 MHz

BDA-138225-SERIES

Our BDA138225 is an unidirectional Class B signal booster. It covers both the 138-174 MHz and 216-225 MHz bands. The amplifier can be used with input / output filters as an Unidirectional Amplifier or it can be combined with input and output duplexers to create a FCC and IC Certified Bi-Directional Amplifier.

Note: The BDA138225 must have adequate input and output filtering to prevent undesired interference. Our Technical Solutions Specialists can provide guidance on the required filtering solution for a complete BDA system design.

Electrical Specifications	Canada		USA	
Certification	IC: 7755A-UDA138225		FCC: WDM-BDA13822	
Frequency Range, MHz	138-225		150-225	
Automatic Level Control (ALC), dB	35		35	
Amplifier Maximum Gain, dB	+80 Typ	pical	+80 Typical	
System Nominal Gain at -45 dBm input power	+75		+75	
Input Manual Attenuator Range, dB	0 to 30 in 2 o	dB steps	0 to 30 in 2 dB steps	
Output Level Manual Adjustment range, dB	0 to 15 in 1 dB steps		0 to 15 in 1 dB steps	
3rd Order Output Intercept Point, dBm	+48 Typical		+48 Typical	
Noise Figure, Typical (without filters), dB	4		4	
Limited Output Composite Power, dBm	+31		+31	
Nominal Impedance, Ohms	50 50			
Input / Output Connectors	N Fema	ale	N Female	
AC Power Source Input, Volts	100 to 260	50/60Hz	100 to 260	50/60Hz
Optional DC Power Source Voltages, Volts	+24 or -	+48	+24 or +48	
Optional dry contact alarms	Power Fa	ilure	Power Failure	
Mechanical Specifications (Typical)				
Dimensions, in (H x W x D)			24 x 20 x 13.5	
Temperature Range, °F (°C)		-4 t	o 131 (-20 to +	-55)
Weight, lbs (Kg)			100 (45)	





UHF BI-DIRECTIONAL AMPLIFIER (BDA)

UBDA-3845/4551-SERIES

Our BDA system is designed for high standards with government and industrial clients in mind. The solution can be customized for unique client requirements.

Reliable RF coverage for public safety and utility clients in 380-512 MHz offered for applications including hotel parking garages, underground mining facilities, shopping malls, hospitals, government buildings, subway stations and tunnels. Available in rack mount, NEMA stainless steel or painted steel NEMA enclosures. Compliant to Govt. standards: FCC WDM-UBDA 4551; IC 7755A-UBDA4551. Our Technical Solutions Specialists can provide guidance on the required filtering solution for a complete BDA system design.

Electrical Specifications				
Frequency Range, MHz		380-512		
Passbands		2 (4 passband version available)		
Guard Band, MHz		2-3		
Window Bandwidth, MHz (configured by channel filters)		2-3		
Automatic Level Control (ALC), dB		Yes (30 dB)		
Maximum Gain, dB		+70 dB Typical		
Output Level / Input Attenuator Range, dB		0 to 15 in 1 dB steps / 0 to 30 in 2 dB steps		
3rd Order Output Intercept Point, dBm		+48 Typical		
Output 1 dB Compression Point, dBm		+38 Typical		
Noise Figure, Typical (with filters), dB		5.5		
Uplink Max Output (Composite), dBm		+29		
Downlink Max Output (Composite), dBm		+29		
Nominal Impedance, Ohms		50		
VSWR		1.5:1		
AC Power Input, Volts		117 to 260		
Temperature Range, °F (°C)		-4 to 131 (-20 to +55)		
Input / Output Connectors		N Female		
Mechanical Specifications				
Enclosure	NEMA 4 Painted Steel			
Dimensions, in H, W, D	24 x 16 x 11.5 (Large Enclosure); 14 x 8 x 7 (Attached Small Enclosure)			
Weight, lbs (Kg) (Approximate)	100 (45)			





BDA-40-SERIES

Designed and engineered to meet the fire protection codes (NFPA and IFC standards), our Bi-Directional Amplifier (BDA) features advanced Alarm, Monitoring & Control capabilities ensuring continuous availability of mission-critical services. Certified: FCC and IC.

- Available in 700, 800 and 900 MHz Public Safety bands
- Ideal for indoor applications in commercial and government buildings, parking garages, mining facilities, subway stations and tunnels
- Rack mounted or in NEMA 4/4x waterproof, stainless steel enclosures
- Low noise figure, wide dynamic range
- Visual alarms and remote failure monitoring with Graphical User Interface



* See next page (p.219) for certification numbers





Our In-building antennas are designed to provide excellent coverage solutions for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

Our antennas can cover single or multiple frequency bands. We offer a wide variety of antennas with Fire Retardant 6200 Kydex radomes. These materials are designed for In-building applications and inside public transport vehicles such as underground trains, vans, buses and trains. They meet the recommended fire safety practices of both the Federal Transit Administration (FTA) and the Federal Rail Administration (FRA) for smoke emission and flammability as tested under ASTM E-662 and ASTM E-162.

The F-3741 has been designed for mounting with a ground plane on a concrete surface. This is a requirement for meeting full bandwidth specifications. Polycarbonate tubing is used for the radome on the F-3741. It's a flame resistant and self-extinguishing material.

Electrical Specifications	F-3741		
Frequency Range, MHz	VHF / UHF/ 760-960		
Nominal Gain	Unity		
Bandwidth: 2.0:1 VSWR, MHz			
138-174	8		
406-512	64		
764-890	126		
806-960	154		
1800-1990	N/A		
2400-3000	N/A		
Polarization	Vertical		
Pattern	Omnidirectional		
Power Rating, Watts	50		
Nominal Impedance, Ohms	50		
Radome	Polycarbonate		
Standard Termination	N Male		
Mechanical Specifications	F-3741		
Length, in (mm)	11.25 (286.88)		
Diameter, in (mm)	0.65 (16.575)		
Weight, lbs (kg)	N/A		
Mounting hardware	Included		





VHF / UHF/ 760-960 MHz

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Our antennas can cover single or multiple frequency bands. We offer a wide variety of antennas with Fire Retardant 6200 Kydex radomes. These materials are designed for In-building applications and inside public transport vehicles such as underground trains, vans, buses and trains. They meet the recommended fire safety practices of both the Federal Transit Administration (FTA) and the Federal Rail Administration (FRA) for smoke emission and flammability as tested under ASTM E-662 and ASTM E-162.

The F-3749/A/B antennas are available in custom colors for orders of 150 or more.

Electrical Specifications	F-3749	F-3749A	F-3749-B
Frequency Range, MHz	VHF / UHF/ 760-960	VHF / UHF/ 760-960	VHF / UHF/ 760-960
Nominal Gain	Unity	Unity	Unity
Bandwidth: 2.0:1 VSWR, MHz			
138-174	8	8	8
406-512	64	64	64
764-890	126	126	126
806-960	154	154	154
1800-1990	N/A	N/A	N/A
2400-3000	N/A	N/A	N/A
olarization	Vertical	Vertical	Vertical
attern	Omnidirectional	Omnidirectional	Omnidirectional
ower Rating, Watts	50	50	50
ominal Impedance, Ohms	50	50	50
dome	6200 Kydex	6200 Kydex	6200 Kydex
ean Time Between Failure,	87,000	87,000	87,000
blor	White	White	White
tandard Termination	N Female	2' jumper to N Male	N Female
lechanical Specifications	F-3749	F-3749A	F-3749-B
ax. Length, in (mm)	9.78 (249)	9.78 (249)	
ameter, in (mm)	7.0 (178.5)	7.0 (178.5)	
eight, lbs (kg)	4 (1.8)	4 (1.8)	
equired Minimum Ground ane Size, in (mm)	14 x 14 (357 x 357)	14 x 14 (357 x 357)	
ounting hardware	Not Included (see next page)	Not Included (see next page)	



TRI-BAND IN-BUILDING ANTENNAS

VHF / UHF/ 760-960 MHz

Our In-building antennas require a ground plane to work properly. The minimum ground plane size is specified for each antenna. Failure to provide the ground plane may result in poor propagation and/or poor frequency coverage.



Specifications	F-33034	F-33220	F-33135	F-33203	F-33159	F-33105
Fits Antennas	F-3749/A/B	F-3749/B	F-3749/A/B	F-3749/A/B	F-3749/A/B	F-3749/A/B
Ground Plane in	14x14	14x14	24x48	24x24	12x26	14x14
Included with Antenna	No	No	No	No	No	No
Length, in	~16	~16	24	24	12	14
Width, in	14	14	48	24	26	14x5.625







Notes :	



Our Mission:

As a market leader in RF technology, we are committed to delivering best in-class products and services to Public Safety, Utility, Transportation, Defense and Government organizations around the world.



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