



COMPROD
Simplifying RF Solutions

**Market Leader and Partner of Choice
for all your Radio-Frequency
Communication Needs**



www.comprodc.com

**Filters
Base Station Antennas
In-Building Applications
Mobile & Transit Antennas**

Trusted by over 1000 Customers Worldwide

High Quality • Superior Performance Engineering Design • Excellent Technical Support

As the market leader in **designing and manufacturing RF Antennas, Filtering Systems and In-Building solutions**, Comprod has leveraged its more than **45 years** of experience in the field to establish and apply a set of best practices.

Building on our **engineering expertise and experience**, we offer a broad range of RF antenna and filtration products that are manufactured in **Canada and the USA** using high-quality **North American sourced materials**. Our Canadian manufacturing facility is certified under **ISO 9001:2015**, which means you can rest assured that we have reliable quality management systems in place to ensure high-quality products and services at any time. Our products are reliable and designed for superior performance and operate in the **harshest of environments** – from the extreme cold of the Arctic to the heat and humidity of the equatorial tropics.

From the careful selection of materials and sophisticated RF design practices, combined with **strict quality control** during the manufacturing processes all the way through to **rigorous testing procedures** performed using our own **anechoic chamber** - to deliver **unmatched low-PIM** products (better than -155 dBc) and guaranteed sustained product performance over time.

Our knowledge of the market, best-in-class technology and high level of customer service have made us a partner of choice for over 1,000 Public Safety, Utility, Telecommunication, Transportation, Defense and Government Agencies worldwide. Our products are backed by training, technical and systems support in the **27 MHz to 3 GHz** frequency spectrum and will soon cover **up to 6 GHz**.



Anechoic chamber

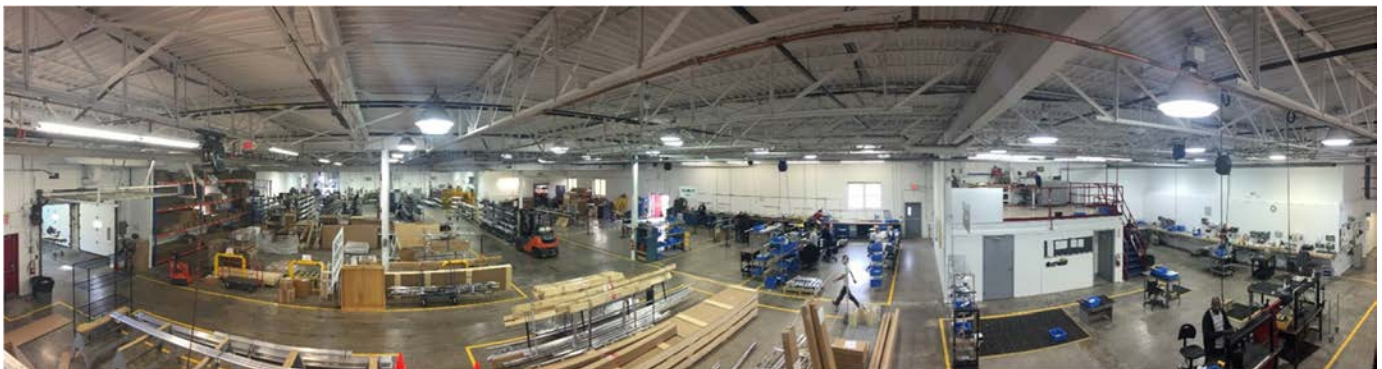


TABLE OF CONTENTS

BASE STATION ANTENNAS	4
Base Station Antenna Selection Guide	5
Ground Plane Antennas (118-470 MHz)	10
Omnidirectional Antennas (Omnidirectional & Collinear) (25-960 MHz)	12
Low Band Exposed Dipole Antennas (30-76 MHz & FM)	16
VHF Exposed Dipole Antennas (118-174 MHz)	20
Aviation Exposed Dipole Array (118-138 MHz)	28
VHF Exposed Dipole Array (108-138 MHz)	31
220MHz Exposed Dipole Antennas (215-225 MHz)	34
UHF Exposed Dipole Antennas (406-512 MHz)	36
Dual Exposed Dipole Array (138-512 MHz)	42
Dual Antenna Array (138-174 & 406-470 MHz)	44
VHF Exposed Dipoles with Reflectors (138-174 MHz)	47
Enclosed Dipole Antennas (746-960 MHz)	49
Yagi Antennas (VHF, 220 MHz, UHF, 746-960 MHz)	53
Reflector Antennas (VHF, 220 MHz, UHF, 764-960 MHz)	68
Log Periodic Antennas (VHF, UHF)	77
CLAMPS	81
Pipe-to-Pipe	82
Pipe-to-Flat Surface	85
Pipe-to-Angle	86
Side Mounting Assembly Kits	89
Yagi Holder Kit	90
No Torsion Clamps	90
FILTERS AND COMPONENTS	91
Filter Naming and Selection Guide	92
Single Cavities (Bandpass, Pass-Reject, Notch)	97
Multicouplers	100
Duplexers	105
X-Pass Cavities	112
X-Pass Expandable Systems (7")	114
X-Pass Expandable Systems (10")	115
800MHz Expandable Systems (X-Pass)	116
Receiver Multicouplers	117
Amplifiers (Tower Top, Receiver)	125
Isolators and RF Loads	128
Hybrid Combiners and Couplers	133
Ceramic Combiners	137

TABLE OF CONTENTS

FILTERS AND COMPONENTS	91
Cross-Band Couplers	138
Compline Filters	139
Power Splitters	140
Filter Racks and Mounting	141
MOBILE/TRANSIT ANTENNAS	143
Mobile and Transit Antenna Selection Guide	144
Wideband Antennas	146
Low Band Antennas	149
VHF Antennas	151
UHF Antennas	154
700-960 MHz Antennas (First Responders' Antennas – page 158 & 163)	155
Dual-Band / Tri-Band Antennas	165
Mobile Tactical Antenna	170
Mobile Accessories and Mounts	171
Transit Antennas (VHF, UHF, 760-960 MHz)	177
DISGUISED ANTENNAS	180
Low Band Antennas	182
VHF Antennas	184
UHF Antennas	185
750-960 MHz Antennas	186
Dual Band Antennas	187
Couplers (FM, Crossband, Tuners)	189
Bumper Antennas	190
IN-BUILDING SYSTEMS	194
In-Building Product Selection Guide	195
Single-Band Antennas	199
UHF Antennas	201
Multi-Band Antennas	202
Tri-Band Antennas	203
Broad Band Log Periodic Antenna	206
Ultra-Wideband In-Building Antenna	208
Signal Boosters (VHF, UHF, 700/800/900)	210
Battery Backup System	216
Hybrid & Directional Couplers / Tappers / Splitters	217
APPENDIX: ORDERING INFORMATION	229
Base Station Antennas Ordering Information	230
Filtering Ordering Information	237

Base Station Antennas

Renowned for their **superior performance, quality and reliability**, our antennas are designed to excel in the **harshest environments**.

Manufactured with the highest quality components, built with precision and strength, they feature **sealed cable connections, crimped and soldered connectors, moisture-resistant wire harnesses and welded junctions** which make them ideally suited for Mission-Critical applications.

All our antennas can be completely **customized** to your particular applications. Our antennas can be **heavy-duty, black hard anodized, low-PIM** that can be **top or side mounted** with three different **boom assemblies**.

The above-mentioned features provide **advantages** in terms of **signal strength, less deterioration** in coverage area over time and a **longer life cycle** compared to competitive products.



KEY FEATURES AND OPTIONS

HEAVY-DUTY

Heavy-Duty antennas are designed for long life cycle and immunity to RF noise even when the antenna is exposed to the harshest environments.

All junctions in HD antennas are welded where possible and assembled with a thorough quality control process. All parts such as booms, dipoles and joints are selected from high grade aluminum with extra thickness and larger diameter. This results in increased loading strength, better resistance to wind, to vibration, to temperature change and Ice accumulation.



BLACK HARD ANODIZED

Our black anodized finish is military-grade with 20-micron MIL specifications. It provides the extra strength and electrical performance required to withstand harsh environmental conditions. This process, integrated throughout the antenna assembly, is the result of an electro-chemical conversion that makes the coating an integral part of the aluminium. De-ices up to 35% faster and provides enhanced protection against corrosive elements such as salty air, high humidity, and other corrosive environments (e.g., mining or petrochemical sites). Backed by a 10-year warranty against corrosion.



LOW-PIM ANTENNAS

Low-PIM antennas at Comprod use certified Low-PIM parts, components, cables and connectors. The assembly process is done with high precaution to achieve high quality welding that avoid micro gaps responsible of MIM (Metal Insulator Metal) junctions. (DIN 7/16 or 4.3/10 connector Available for low-PIM antennas).

All our Low-PIM antennas are tested in an anechoic chamber which is equipped with custom-developed absorption panels specifically designed for PIM testing. Our standard specification for Low-PIM antennas is -150 dBc and we always ensure that our test bed has a residual InterModulation (IM) that is 10 dB below this value in order to offer a reliable measurement.



KEY FEATURES AND OPTIONS

Our antennas can be tailored to fit specific needs, based on unique RF network or product applications (e.g.: increased mast height for higher elevation mounting, customized mast separated into two sections for easier handling inside elevators, etc.). Our technical sales and support staff will be pleased to help you select the right product for your application from our broad variety of market-proven products.

Data files for these antenna patterns can also be downloaded from our website in multiple formats, or on demand from our support team in any of the other popular data formats suitable for your network planning software.

CUSTOM MOUNTING CONFIGURATIONS

Can be offered depending on the style of antenna.

A **top mount antenna** has the elements at the top of the mast, which creates more space at the bottom of the antenna mast to clamp onto the tower with two or more mounting clamps.

A **side mount antenna** has the elements vertically centered on the mast, which creates more space at the top of the antenna mast for fastening mounting clamps.

When in doubt regarding final placement, use a top mount or contact your Comprod representative. Mounting hardware sold separately.

END BOOM VS. EXTENDED BOOM VS. CENTER BOOM

Different boom assemblies are available.

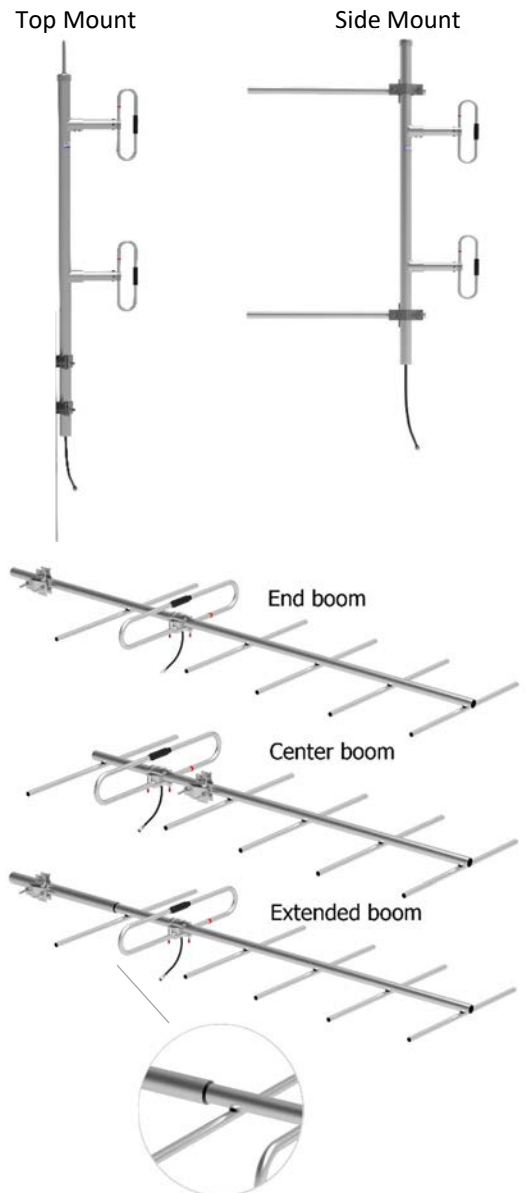
End Boom is when the bracket is at the end of the Boom. This is the most common configuration since it offers a cost-effective solution. The position of the mast at the end doesn't alter the radiation pattern therefore it allows more flexibility for the orientation of the antenna.

Center Boom is when the bracket is in the center of the Boom. In this case the mast should be either perpendicular to dipole or made of non-conductive material. Recommended when the antenna is installed at the top of the tower and a balance distribution of load is important.

Extended Boom is when a reinforced pipe is welded at the end of the Boom. Ideal when the antenna is installed in area here high wind velocity is an important factor.

CUSTOM ANTENNAS

Different frequency elements on single masts, different patterns (offset, opposing); dual assembly antennas, etc. Our Solutions Specialists can work to adapt a standard design to your unique coverage or installation requirements.



BASE STATION ANTENNAS

Model	Other	118-138	138-174	406-512	746-960	BW* 1.5:1	Type	Pattern	Gain dBd	Watts
265-70		•	•			6%	Ground Plane	Omni	1	300
266-70		•	•			1%	Ground Plane	Omni	2-3	250
267-70		118-137				15%	Ground Plane	Omni	1	250
268-70				406-470		1%	Ground Plane	Omni	2-3	100
201-70	25-174	•	•			2%	Omni	Omni	1	500
301-70				•		20	Omni	Omni	1	100
401-70					•	10%	Omni	Omni	1	100
928-70					•	75	Collinear Omni	Omni	8.5	500
531-70	30-76					7%	Exposed Dipole	Offset	2.5	300
531-70-HD	30-76					7%	Exposed Dipole	Offset	2.5	300
532-70	30-76					7%	Exposed Dipole	Offset	5.5	300
532-70-HD	30-76					7%	Exposed Dipole	Offset	5.5	300
871F-70-F	88-108					20	Exposed Dipole	Offset	2	200
872F-70-F	88-108					20	Exposed Dipole	Offset	5	450
874F-70-F	88-108					20	Exposed Dipole	Offset	8	450
871F-70-A		•				20	Exposed Dipole	Offset	2	200
872F-70-A		•				20	Exposed Dipole	Offset	5	450
874F-70-A		•				20	Exposed Dipole	Offset	8	450
871F-70			•			36	Exposed Dipole	Offset or Bi	2	200
872F-70			•			36	Exposed Dipole	Offset or Bi	5	450
874F-70			•			36	Exposed Dipole	Offset or Bi	8	450
871F-70-2	215-225					10	Exposed Dipole	Offset or Bi	2	200
872F-70-2	215-225					10	Exposed Dipole	Offset or Bi	5	300
874F-70-2	215-225					10	Exposed Dipole	Offset or Bi	8	500
871A-70-LM			•			36	Exposed Dipole	Offset or Bi	2	200
872A-70-LM			•			36	Exposed Dipole	Offset or Bi	5	450
874A-70-LM			•			36	Exposed Dipole	Offset or Bi	8	500
832-70			148-174			14	Exposed Dipole	Offset	3/6	500
834-70			148-174			14	Exposed Dipole	Offset	6/9	500
882-70-A		108-138				30	Dipole Array	Omni or Bi	3/5.5	450
884-70-A		108-138				30	Dipole Array	Omni or Bi	6/8.5	500
882-70			•			36	Dipole Array	Omni or Bi	3/5.5	450
884-70			•			36	Dipole Array	Omni or Bi	6/8.5	500
771-70				•		106	Exposed Dipole	Offset or Bi	2	75
772-70				•		106	Exposed Dipole	Offset or Bi	5	150
774-70				•		106	Exposed Dipole	Offset or Bi	8	300

*BW = Bandwidth in MHz or % of Center Frequency (CF)

BASE STATION ANTENNAS

Model	Other	118-138	138-174	406-512	746-960	BW* 1.5:1	Type	Pattern	Gain dBd	Watts
778-70				•		64	Exposed Dipole	Offset or Bi	11	300
782-70				•		64	Dipole Array	Omni or Bi	3-5.5	300
784-70				•		64	Dipole Array	Omni or Bi	6-8.5	300
776-70				•		106	Dual Dipole	Offset	5	300
876-70			•			36	Dual Dipole	Offset	5	300
F-3676			•	406-470		36/64	Dual Dipole	Offset	8	300
F-3661			•	406-470		36/106	Dual Dipole	Offset	5	300
F-3647			•	406-470		36/106	Dual Dipole	Offset	2	300
F-3729			•			36	Reflector	Directional	2.5	200
F-3713			•			36	Reflector	Directional	7	450
F-3766			•			36	Reflector	Directional	9	450
792-70					•	150	Encl. Dipole	Offset	5	150
794-70					•	150	Encl. Dipole	Offset	8	300
799-70					•	150	Encl. Dipole	Offset	10	500
792-70-R					•	150	Encl. Dipole	Directional	Up to 8	150
794-70-R					•	150	Encl. Dipole	Directional	Up to 13	300
799-70-R					•	150	Encl. Dipole	Directional	Up to 15	500
291-70			•			36	Yagi	Directional	3.5	350
295-70			•			4%	Yagi	Directional	6.5	350
290-70			•			4% C F	Yagi	Directional	9.5	350
250-70			•			36 (2:1)	Yagi	Directional	7	250
291-70-2	215-225					10	Yagi	Directional	3.5	350
295-70-2	215-225					10	Yagi	Directional	6.5	350
290-70-2	215-225					10	Yagi	Directional	9.5	350
F-3872				•		24	Yagi	Directional	3.5	350
433-70				•		24	Yagi	Directional	6.5	350
430-70				•		24	Yagi	Directional	10	350
480-70				406-470		64	Yagi	Directional	10	350
437-70				380-512		62	Yagi	Directional	12	350
982-70					•	30	Yagi	Directional	3.5	200
983-70					•	85	Yagi	Directional	6.5	200
980-70					•	85	Yagi	Directional	10	200
987-70					•	85	Yagi	Directional	12	200
490-70-HD					•	85	Yagi	Directional	10	200
425-70-HDR				406-470		20	Radome Yagi	Directional	10	250

*BW = Bandwidth in MHz or % of Center Frequency (CF)

BASE STATION ANTENNAS

Model	Other	118-138	138-174	406-512	746-960	BW* 1.5:1	Type	Pattern	Gain dBd	Watts
426-70-R				406-470		20	Radome Yagi	Directional	10	250
490-70-HDR					•	72	Radome Yagi	Directional	10	150
470-70			132-174			15% C F	Corner Refl.	Directional	7	250
470-70-HD			132-174			15% C F	Corner Refl.	Directional	7	250
471-70			132-174			15% C F	Corner Refl.	Directional	10	250
472-70-HD			132-174			15% C F	Corner Refl.	Directional	10	250
470-70-2	215-225					10	Corner Refl.	Directional	7	250
470-70-2HD	215-225					10	Corner Refl.	Directional	7	250
471-70-2	215-225					10	Corner Refl.	Directional	10	250
440-70				•		64	Corner Refl.	Directional	9.5	100
440-70-HD				•		64	Corner Refl.	Directional	9.5	100
442-70				•		64	Corner Refl.	Directional	12	100
442-70-HD				•		64	Corner Refl.	Directional	12	100
365-70-HD				406-470		20	Parabolic Refl.	Directional	15	250
965-70					764-960	72	Parabolic Refl.	Directional	16.5	200
635-70			132-174			42	Log Periodic	Directional	6	500
645-70			132-174			42	Log Periodic	Directional	6	500
638-70			132-174			36	Log Periodic	Directional	8	500
415-70				•		40	Log Periodic	Directional	1	250
465-70				•		64	Log Periodic	Directional	6	250
*BW = Bandwidth in MHz or % of Center Frequency (CF)										

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.

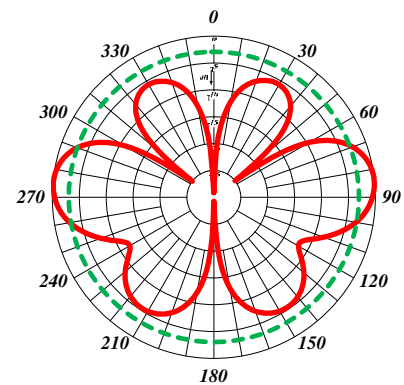
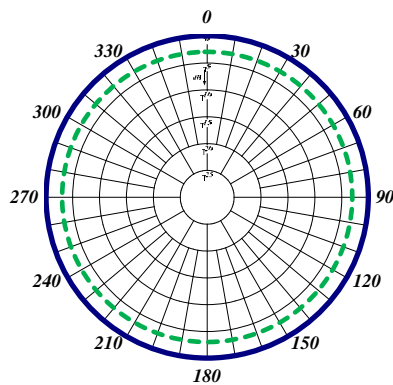
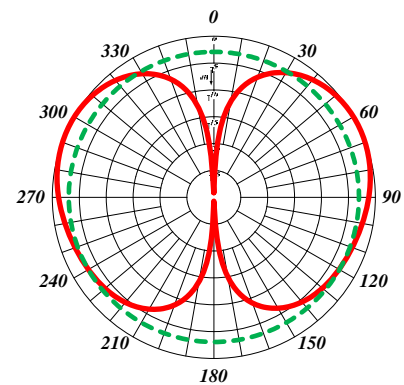
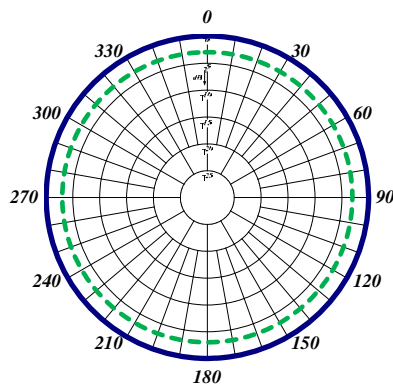
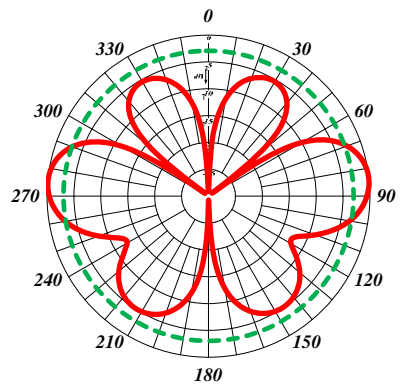
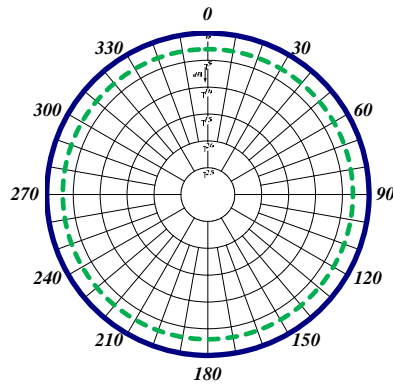
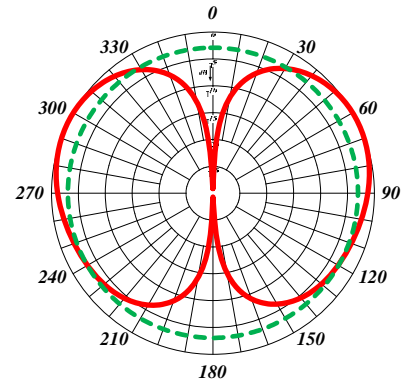
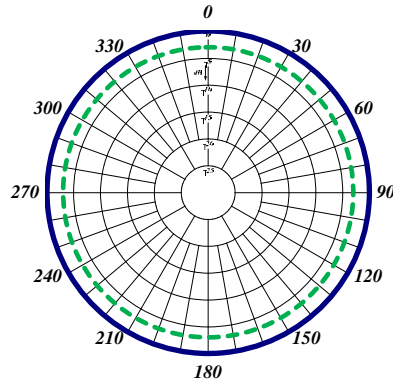


Electrical Specifications	265-70	266-70	267-70	268-70
Frequency Range, MHz (in splits)	118-174	118-174	118-137	406-470
Nominal Gain	Unity	2.0-3.0 dBd	Unity	2.0-3.0 dBd
Bandwidth 1.5:1 VSWR, MHz (% Ctr. Freq.)	6%	1%	15.6% (2:1)	1%
Tuning	Field Adj.	Field Adj.	Fixed	Field Adj.
Polarization	Vertical			
Vertical Beamwidth (Ver. Pol.)	80°	40°	71°	38°
Pattern	Omni			
Power Rating, Watts	300	250	250	100
Nominal Impedance, Ohms	50	50	50	50
Lightning Protection	DC Ground			
Standard Termination	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	167-85	167-85	167-85



267-70

* See appendix for ordering information of different frequency splits (page 230) *



Omnidirectional Antenna Series

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 (in splits)	25-174 MHz	406-512	746-960
Nominal Gain	Unity		
Bandwidth 1.5:1 VSWR, MHz	2%	20	10%
Polarization	Vertical	Vertical	Vertical
Vertical Beam width (Ver. Pol.)	78°	75°	75°
Pattern	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		
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

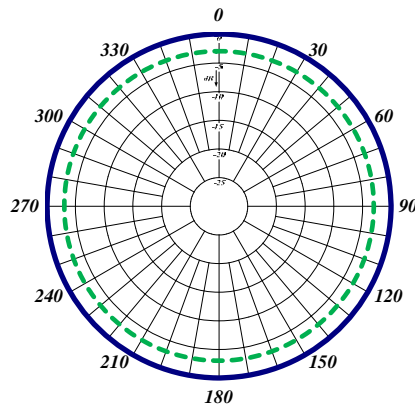


401-70

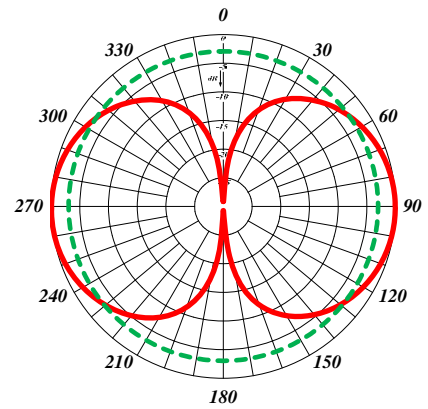
* See appendix for ordering information of different frequency splits (page 230) *



201-70



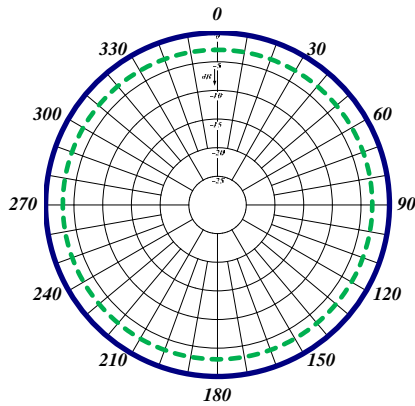
Horizontal Pattern



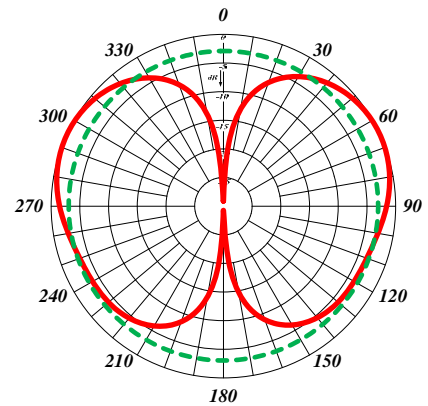
Vertical Pattern



301-70



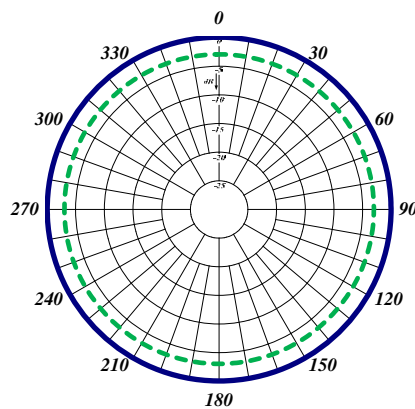
Horizontal Pattern



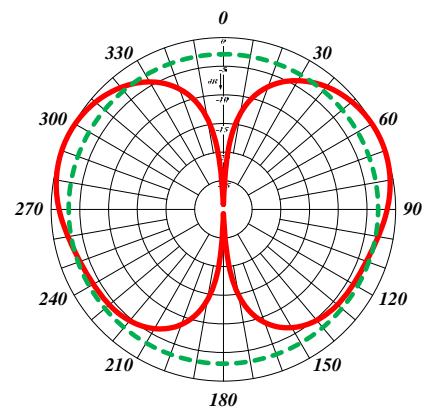
Vertical Pattern



401-70



Horizontal Pattern



Vertical Pattern



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.

This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

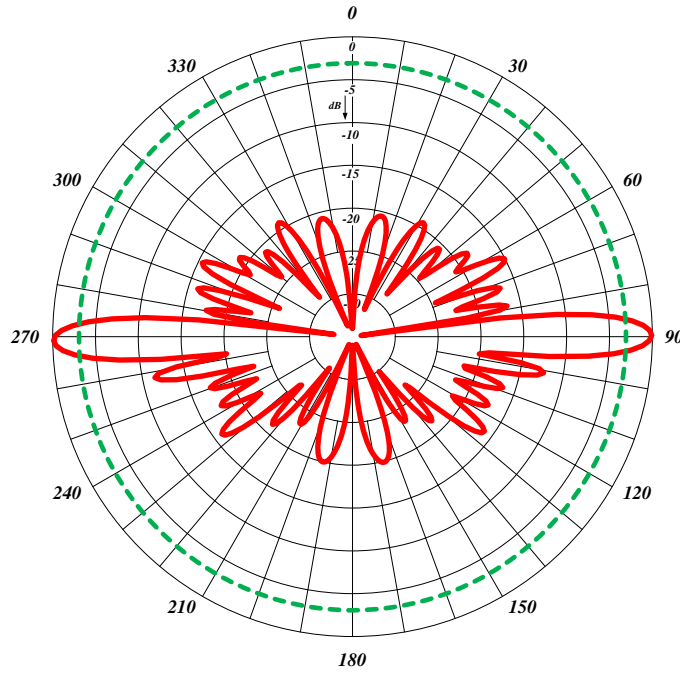
Electrical Specifications	928-70
Frequency Range, MHz (in splits)	746-806; 806-869; 885-960
Nominal Gain, dBd	8.5
Bandwidth 1.4:1 VSWR, MHz	75
Polarization	Vertical
Horizontal Beamwidth (°)	360
Vertical Beamwidth (°)	6.5
Electrical Downtilt—Fixed (Options) (°)	0, 1, 2, 3, 4, 5, 6
Pattern	Omnidirectional
Passive Intermodulation (PIM @ 2 X 43 dBm), dBc	< -150
Power Rating, Watts	500
Nominal Impedance, Ohms	50
Lightning Protection	DC Ground
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM
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)
Lateral Thrust @ 100 mph (161 km/h) – lbf (N)	
Radome Material	Fiberglass, light grey, RAL 7035
Radiating Element Material	Brass
Operational Temperature, °C	-55 to 70
Mounting Hardware Included	Pole mount included



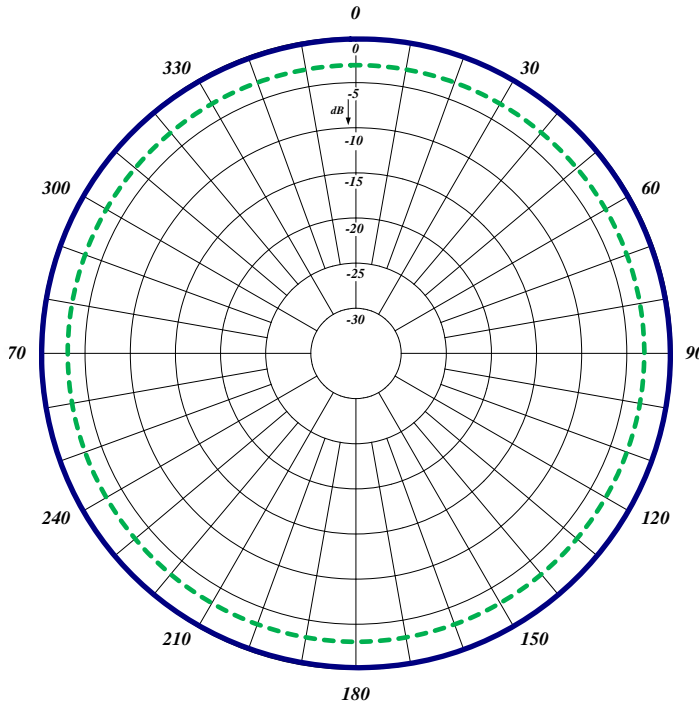
* See appendix for ordering information of different frequency splits (page 230) *



928-70



Vertical Pattern



Horizontal Pattern



530 Series Low Band Exposed Dipole Antenna

The Low Band Exposed Dipole Antenna Series are available in our standard or heavy-duty construction. These exposed dipole antennas come in both single and dual configurations, depending on the gain required. They are constructed from high strength, corrosion resistant aluminum alloy, hot galvanized steel mounting hardware, and use unique PVC off-set support arms. Our heavy-duty versions have dual support braces and use a superior anti-torque support. All components are oversized.

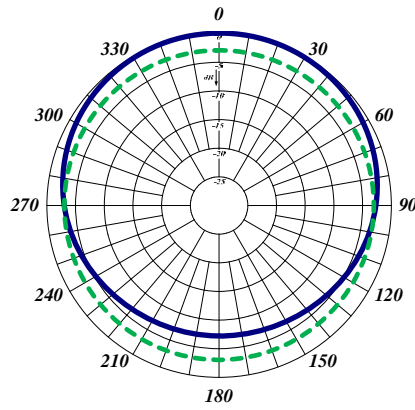
- Each antenna has a rugged design to withstand the most extreme environmental conditions.
- Supplied with anti-torque supports. DC ground for lightning protection.
- Can be black anodized coating for enhanced anti-corrosion and de-icing properties.

	531-70	531-70-HD	532-70	532-70-HD
Frequency Range, MHz (in splits)	30-76	30-76	30-76	30-76
Nominal Gain, dBd	2.5	2.5	5.5	5.5
Bandwidth 1.5:1 VSWR, MHz	7%	7%	7%	7%
Polarization	Vertical			
Pattern	Offset			
Power Rating, Watts	300	300	300	300
Nominal Impedance, Ohms	50	50	50	50
Lightning Protection	DC Ground			
Standard Termination	Type N Male			
Mechanical Specifications	531-70	531-70-HD	532-70	532-70-HD
Length @ 30 MHz, in (mm)	189 (4800)	189 (4800)	472 (11989)	472 (11989)
Width, in (mm)	87 (2210)	87 (2210)	87 (2210)	87 (2210)
Weight, lbs. (kg)	37 (17)	43 (19.5)	79 (36)	91 (41)
Rated Wind Velocity, No Ice, mph	143 (230)	200 (322)	143 (230)	200 (322)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	98 (158)	160 (258)	98 (158)	160 (258)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	133 (60.8)	160 (72.3)	266 (121.6)	320 (144.6)
Projected Area, ft ² (m ²)	4.98 (0.46)	5.94 (0.55)	9.96 (0.92)	11.88 (1.10)
Mounting Information Mast O.D., mm (number of clamps needed)	1.25"-2.38" (4)	1.25"-2.38" (6)	1.25"-2.38" (8)	1.25"-2.38" (12)

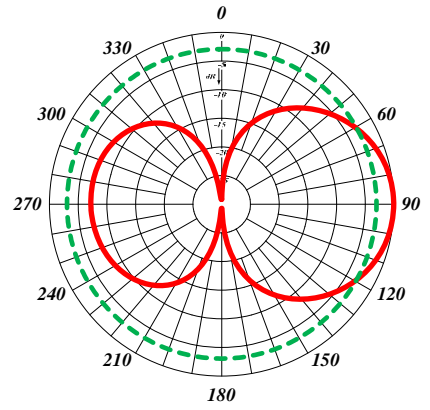
* See appendix for ordering information of different frequency splits (page 230) *



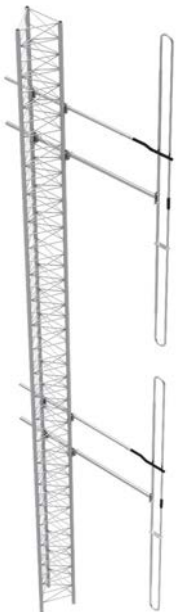
531-70



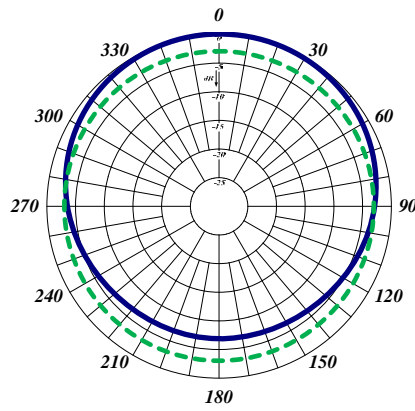
Horizontal Pattern



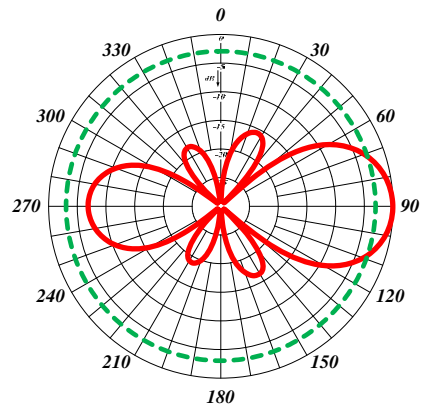
Vertical Pattern



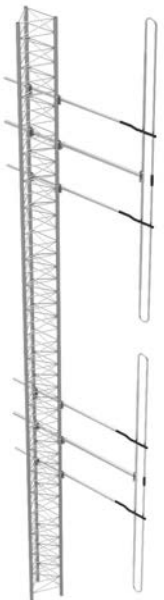
532-70



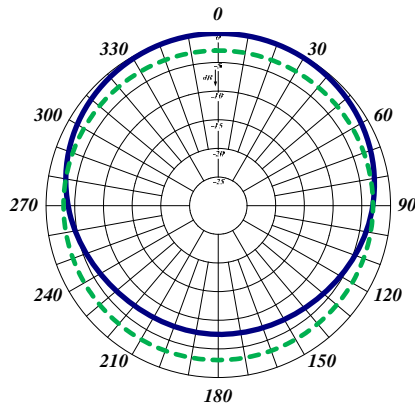
Horizontal Pattern



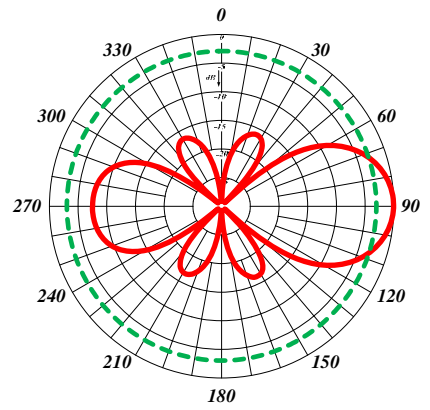
Vertical Pattern



532-70-HD



Horizontal Pattern



Vertical Pattern



870 FM Series Exposed Dipole

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

- Each antenna is offered in a 1/4 or 3/8 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.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	871F-70-F	872F-70-F	874F-70-F
Frequency Range, MHz	88-108	88-108	88-108
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	20	20	20
Polarization	Vertical		
Pattern	Offset		
Power Rating, Watts	200	450	450
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		
Mechanical Specifications	871F-70-F	872F-70-F	874F-70-F
Length, in (mm)	114 (2896)	198 (5029)	350 (8890)
Width (3/8 Wave Spacing), in (mm)	47 (1194)	47 (1194)	49 (1245)
Weight, lbs. (kg)	19.1 (8.7)	37 (16.8)	137 (62)
Rated Wind Velocity, No Ice, mph (km/h)	150 (241)	128 (206)	105 (169)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	118 (190)	100 (161)	84 (135)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	75 (34)	139 (63)	332 (151)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	60 (8.2)	596 (82)	3565 (493)
Projected Area, ft ² (m ²)	2.8 (0.26)	5.3 (0.49)	12.5 (1.17)
Mounting Information Mast O.D. (mm)	2.4" (61)	2.4" (61)	3.5" (89)

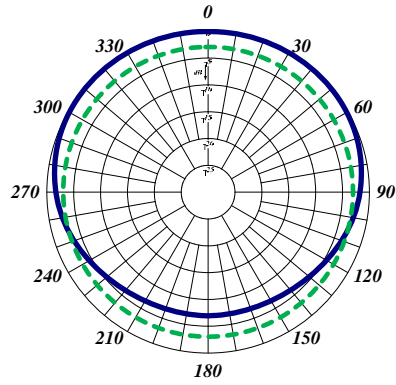


872F-70-F

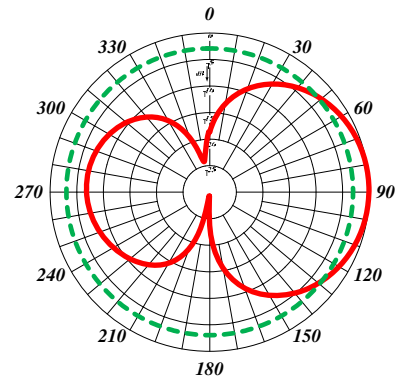
* See appendix for ordering information (page 231) *



871F-70-F



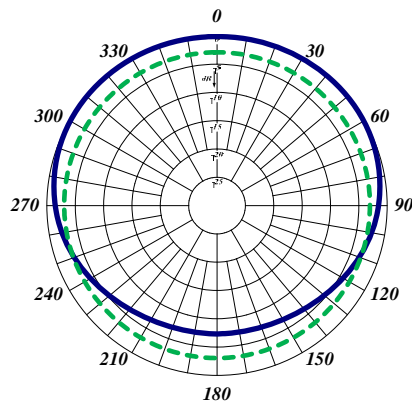
Quarter-wave Spacing Horizontal



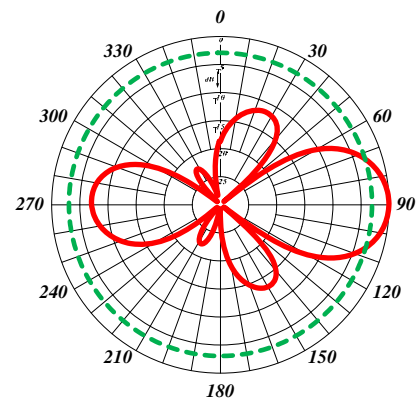
Quarter-wave Spacing Vertical



872F-70-F



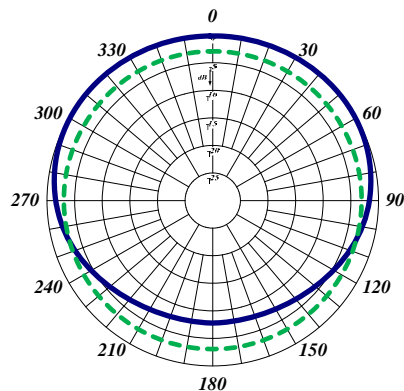
Quarter-wave Spacing Horizontal



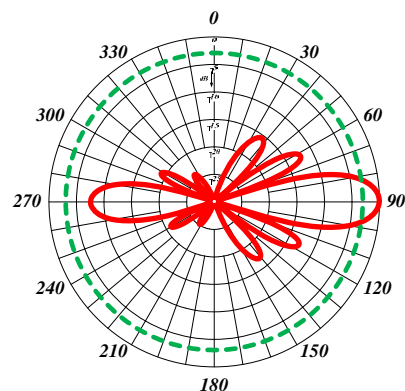
Quarter-wave Spacing Vertical



874F-70-F



Quarter-wave Spacing Horizontal



Quarter-wave Spacing Vertical



870 Series VHF Exposed Dipole

The 870 Series A – Aviation Series VHF Exposed Dipoles are available in 1, 2, 4, 8 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 or 3/8 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.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	871F-70-A	872F-70-A	874F-70-A
Frequency Range, MHz	118-138	118-138	118-138
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	20	20	20
Polarization	Vertical		
Pattern	Offset		
Power Rating, Watts	200	450	450
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		
Mechanical Specifications	871F-70-A	872F-70-A	874F-70-A
Length, in (mm)	78 (1981)	162 (4115)	294 (7468)
Width (3/8 Wave Spacing), in (mm)	54 (1372)	54 (1372)	55 (1397)
Weight, lbs. (kg)	16 (7.3)	31 (14.1)	93 (42)
Rated Wind Velocity, No Ice, mph (km/h)	150 (241)	145 (3341)	120 (193)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	105 (169)	100 (161)	95 (153)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	57 (26)	120 (54.5)	231 (105)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	82 (11)	420 (58)	1437 (199)
Projected Area, ft ² (m ²)	2.2 (0.2)	4.6 (0.43)	8.8 (0.82)
Mounting Information Mast O.D. (mm)	2.4" (61)	2.4" (61)	2.9" (73)

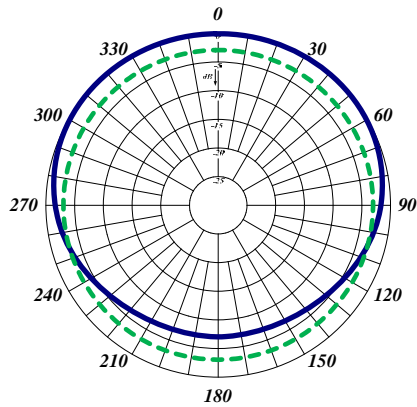


872F-70-A

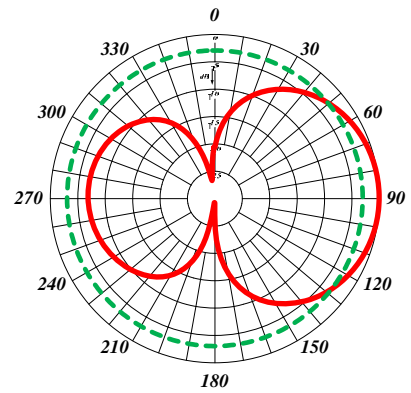
* See appendix for ordering information (page 231) *



871F-70-A



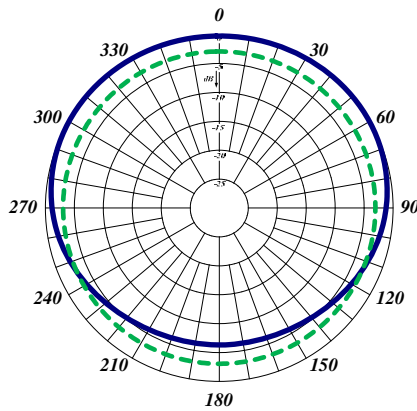
Quarter-wave Spacing Horizontal



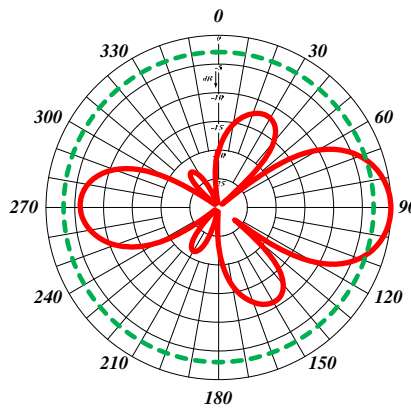
Quarter-wave Spacing Vertical



872F-70-A



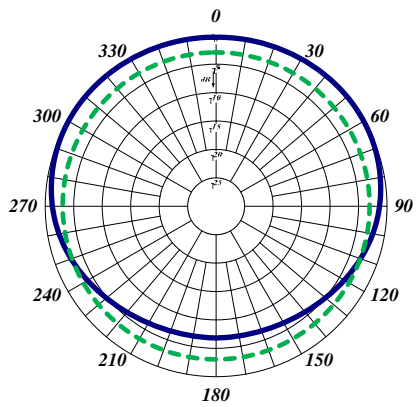
Quarter-wave Spacing Horizontal



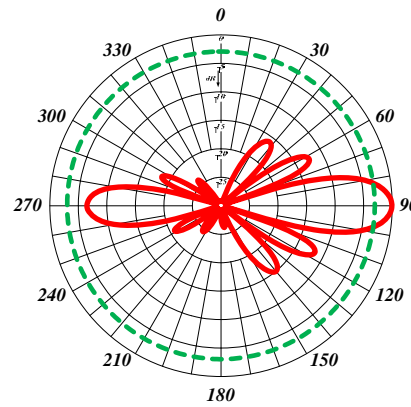
Quarter-wave Spacing Vertical



874F-70-A



Quarter-wave Spacing Horizontal



Quarter-wave Spacing Vertical



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.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

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		
Pattern	Offset / bi		
Power Rating, Watts	200	450	450
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		
Mechanical Specifications	871F-70	872F-70	874F-70
Length, in (mm)	78 (1981)	162 (3200)	246 (6248)
Width (1/2 Wave Spacing), in (mm)	40 (1016)	40 (1016)	40 (1016)
Weight, lbs. (kg)	13 (6)	24 (10.8)	67 (30)
Rated Wind Velocity, No Ice, mph (km/h)	170 (274)	150 (241)	110 (177)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	145 (233)	135 (217)	85 (137)
Lateral Thrust @ 100 mph, wind, lbs. (N)	45 (199)	92 (407)	206 (914)
Bending Moment @ top clamp: 100 mph, ft.*lb (N*m)	18 (24)	205 (278)	1440 (1953)
Projected Area, ft ² (m ²)	1.7 (0.16)	3.5 (0.33)	7.7 (0.72)
Mounting Information Mast O.D. (mm)	1.9" (48)	2.4" (61)	2.9" (73)

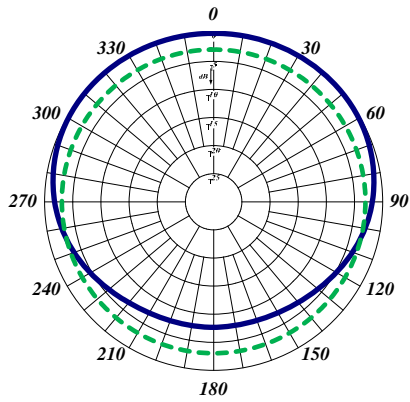


872F-70

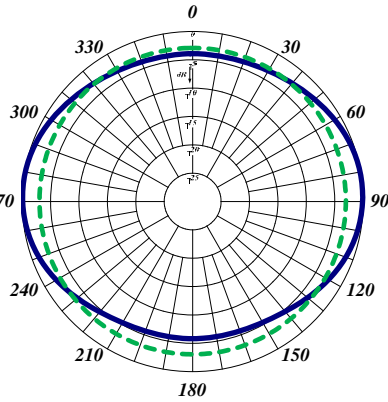
* See appendix for ordering information (page 231) *



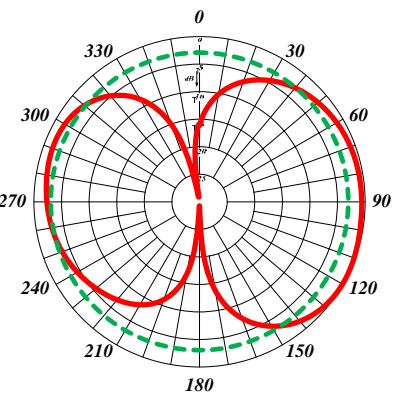
871F-70



Quarter-wave Spacing Horizontal



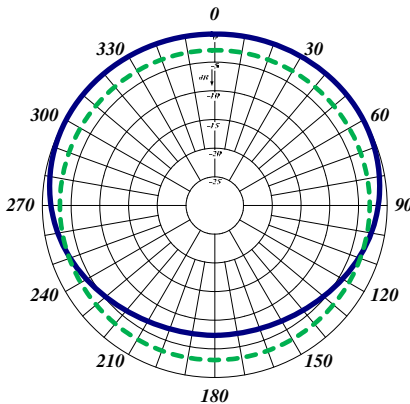
Half-wave Spacing Horizontal



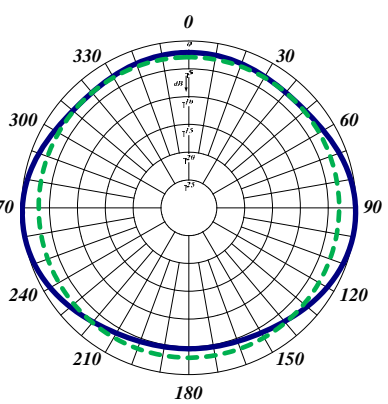
Half-wave Spacing Vertical



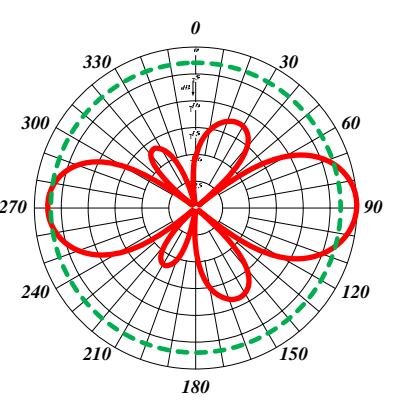
872F-70



Quarter-wave Spacing Horizontal



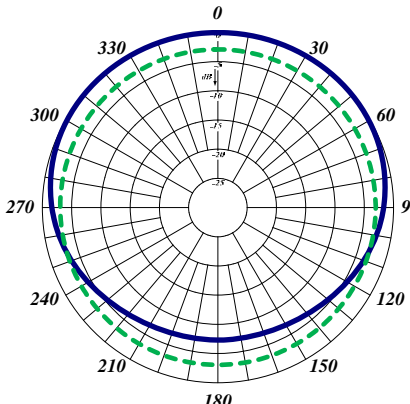
Half-wave Spacing Horizontal



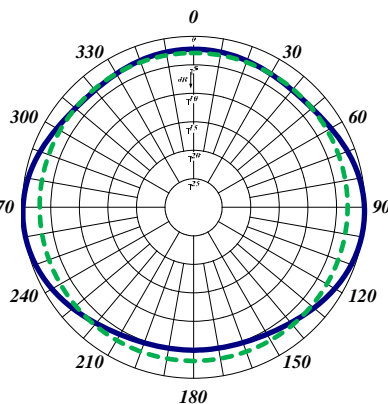
Half-wave Spacing Vertical



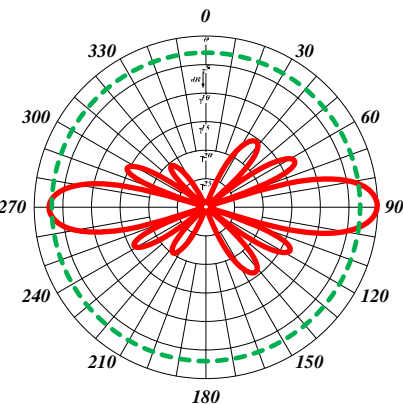
874F-70



Quarter-wave Spacing Horizontal



Half-wave Spacing Horizontal



Half-wave Spacing Vertical



870 LM Series VHF Exposed Dipoles – Without Mast

The 870 LM Series VHF Exposed Dipoles are available in 1, 2, 4, 8, dipole configurations. The LM stands for “Less Mast”. The product includes the dipole, boom and clamps to mount the dipoles but no mast is supplied. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, adjustable-only, 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 870 LM series has external cabling and is field adjustable pattern.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Electrical Specifications	871-70-LM	872-70-LM	874-70-LM
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		
Pattern	Offset / bi		
Power Rating, Watts	200	450	500
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male		
Mechanical Specifications	871-70-LM	872-70-LM	874-70-LM
Length, in (mm)	Mast Not Included		
Width (1/2 Wave Spacing), in (mm)	40 (1016)	40 (1016)	40 (1016)
Weight, lbs. (kg)	4.5 (2.0)	19 (8.6)	38 (17.2)
Rated Wind Velocity, No Ice, mph (km/h)	150 (241)	150 (241)	150 (241)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	135 (217)	135 (217)	135 (217)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	20 (9.1)	40 (18.2)	80 (36.5)
Projected Area, ft ² (m ²)	0.92 (0.08)	1.84 (0.17)	3.64 (0.34)
Mounting Hardware Included	181-85 Clamp	115R-85 Clamp	115R-85 Clamp

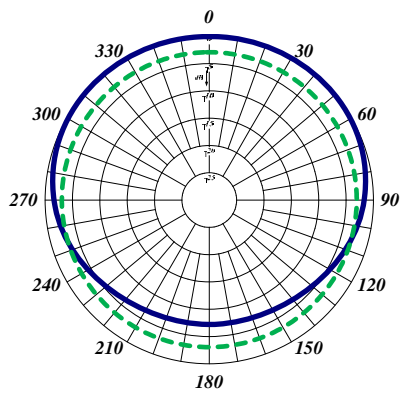


871-70-L

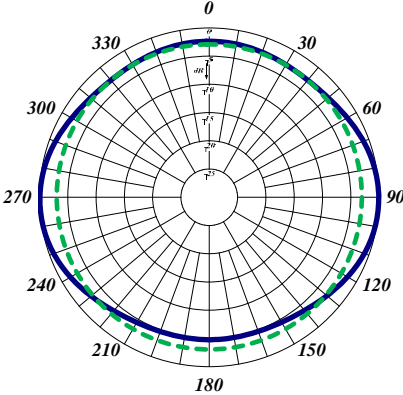
* See appendix for ordering information (page 231) *



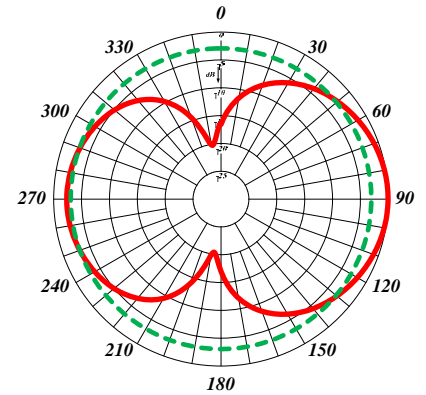
871A-70-LM



Quarter-wave Spacing Horizontal



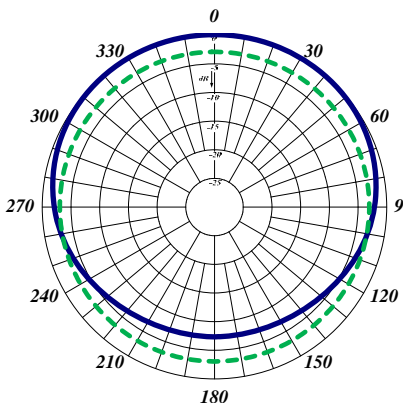
Half-wave Spacing Horizontal



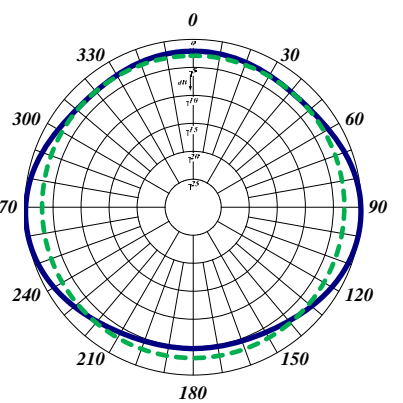
Half-wave Spacing Vertical



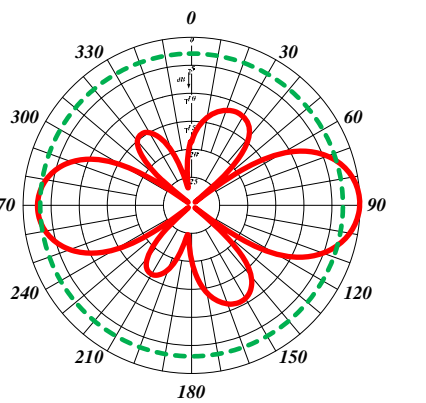
872-70-LM



Quarter-wave Spacing Horizontal



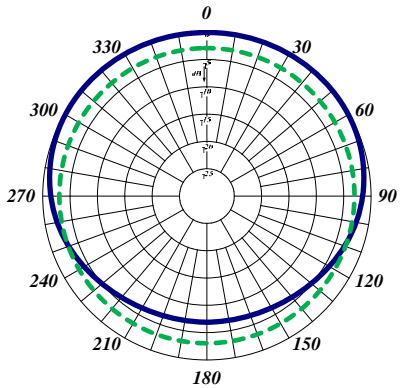
Half-wave Spacing Horizontal



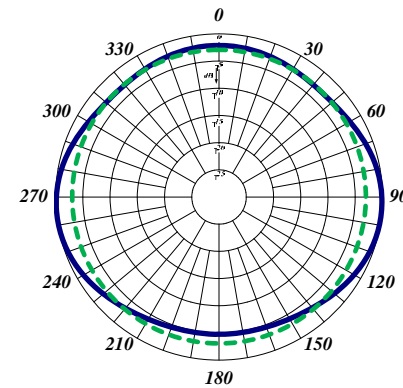
Half-wave Spacing Vertical



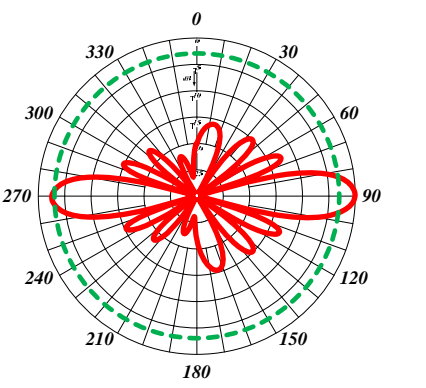
874-70-LM



Quarter-wave Spacing Horizontal



Half-wave Spacing Horizontal



Half-wave Spacing Vertical



830 Series Light Duty VHF Dipoles

The 830 Series Light Duty VHF Exposed Dipoles are available in 2 and 4 dipole configurations. All our antennas can be completely customized to your applications.

- Low VSWR version with maximum gain over specified frequency.
- The 830 series has external cabling and fixed dipole-mast spacing.
- These antennas have an adjustable pattern for omnidirectional or offset coverage.
- The 834-70 antenna is shipped in two sections to be assembled on site.

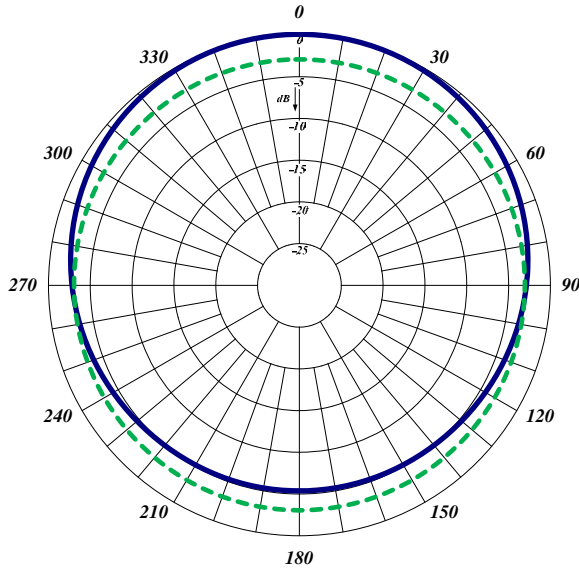
Electrical Specifications	832-70	834-70
Frequency Range, MHz (in splits)	148-174	148-174
Nominal Gain, dBd	3.0/6.0	6.0/9.0
Number of Dipoles	2	4
Bandwidth 2.0:1 VSWR, MHz	14	14
Polarization	Vertical	
Pattern	Offset	
Power Rating, Watts	500	500
Nominal Impedance, Ohms	50	50
Lightning Protection	DC Ground	
Standard Termination	Type N Male	
Mechanical Specifications	832-70	834-70
Length, in (mm)	120 (3048)	244 (6198)
Width (1/2 Wave Spacing), in (mm)	9 (229)	9 (229)
Weight, lbs. (kg)	12 (5.5)	29 (13)
Rated Wind Velocity, No Ice, mph (km/h)	125 (201)	90 (145)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	90 (145)	65 (105)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	45 (200)	69 (307)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	150 (203)	787 (1067)
Projected Area, ft ² (m ²)	1.7 (0.16)	4.2 (0.39)
Mounting Hardware Included	107R-85 Clamp	107-85 Clamp



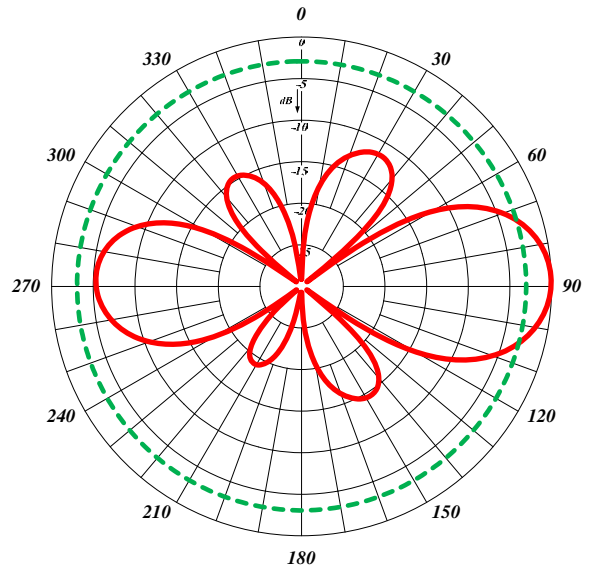
* See appendix for ordering information of different frequency splits (page 231) *



832-70



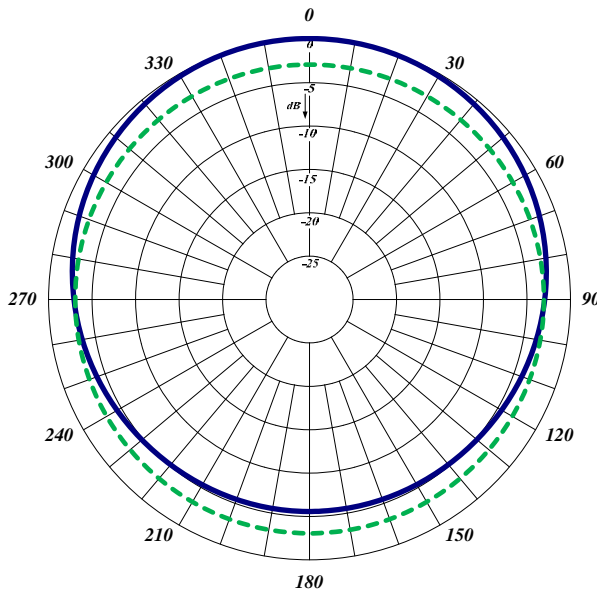
Horizontal Pattern



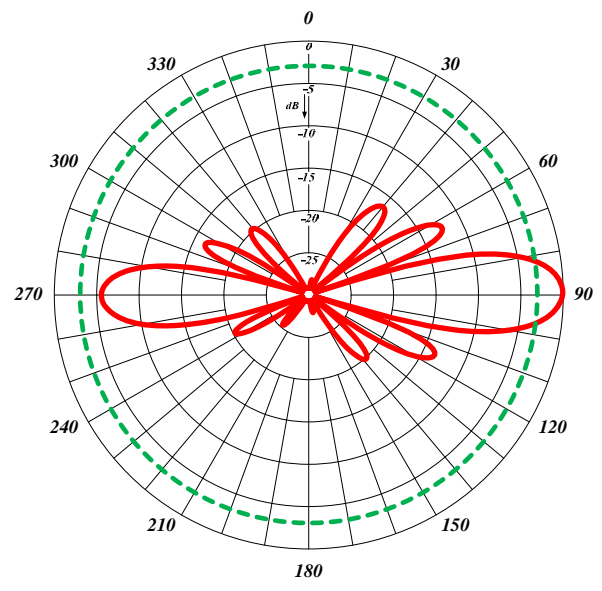
Vertical Pattern



834-70



Horizontal Pattern



Vertical Pattern



880-70-A Series VHF Exposed Dipole Array

The 880A Series VHF Exposed Dipole Array are available in 2 and 4 dipoles set configurations. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, top mount only, and heavy-duty versions are available.

- This antenna is field adjustable for omni or bidirectional configuration.
- Features internal cabling, fixed dipole-mast spacing and adjustable pattern control.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

Electrical Specifications	882-70-A	884-70-A
Frequency Range, MHz	118-138	118-138
Nominal Gain, dBd	3.0-5.5	6.0-8.5
Number of Dipoles	2 Sets	4 Sets
Bandwidth 1.5:1 VSWR, MHz	30	30
Polarization	Vertical	
Pattern	Omni or Bi-Directional	
Power Rating, Watts	450	500
Nominal Impedance, Ohms	50	50
Lightning Protection	DC Ground	
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM	
Mechanical Specifications	882-70-A	884-70-A
Length, in (mm)	157 (3988)	306 (7772)
Width, in (mm)	45 (1143)	46 (1168)
Weight, lbs. (kg)	49 (8.6)	105 (47.6)
Rated Wind Velocity, No Ice, mph (km/h)	140 (225)	100 (162)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	110 (177)	80 (129)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	154 (70)	307 (139)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	524 (72.5)	2039 (282)
Projected Area, ft ² (m ²)	5.6 (0.52)	11 (1.04)
Mounting Information: Mast O.D. (mm)	2.9" (73)	3.5" (89)

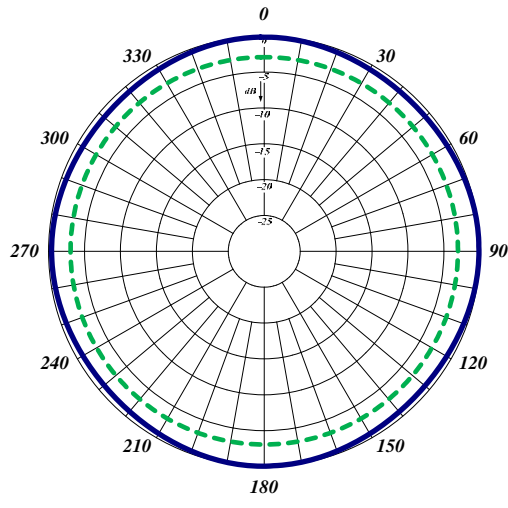


882-70-A
Bidirectional

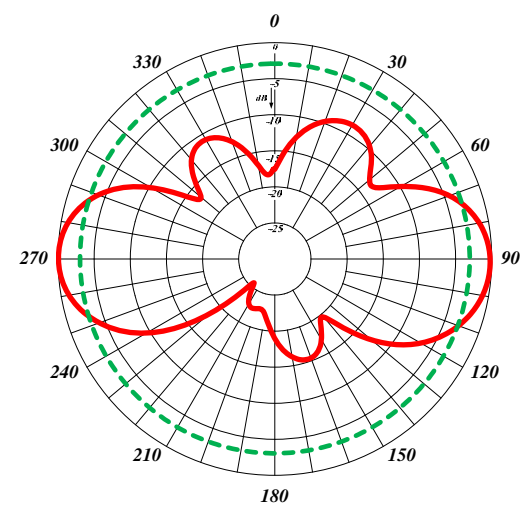
* See appendix for ordering information (page 232) *



882-70-A



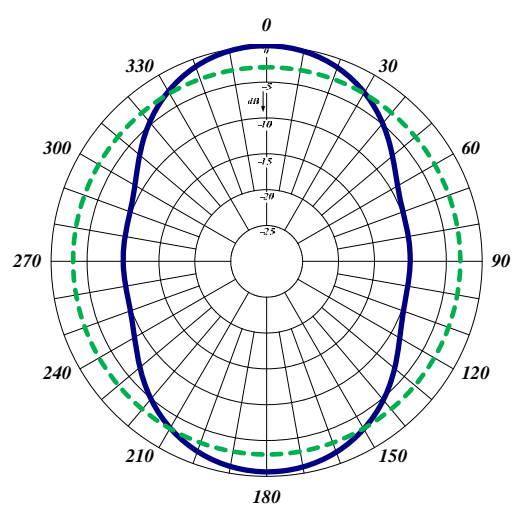
Omni Horizontal



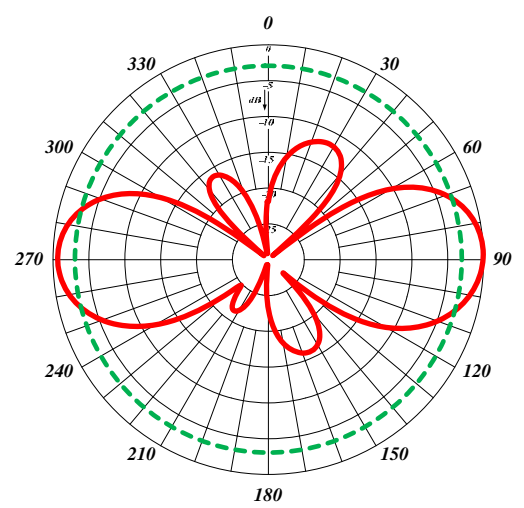
Omni Vertical



882-70-A



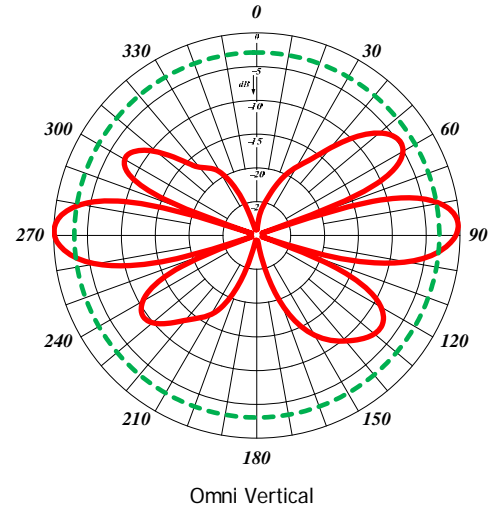
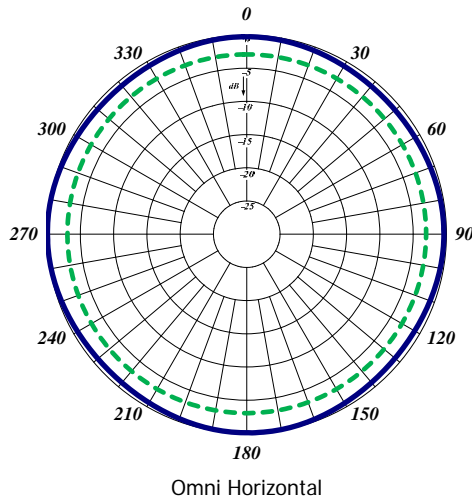
Bidirectional Horizontal



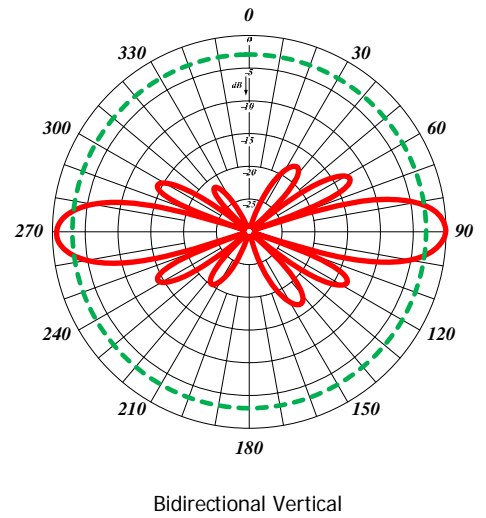
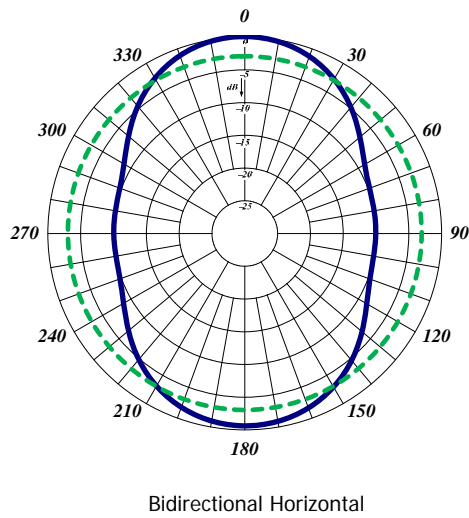
Bidirectional Vertical



884-70-A



884-70-A





880 Series VHF Exposed Dipole Array

The 880 Series VHF Exposed Dipole Array are available in 2 and 4 dipoles set configurations. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, top mount only, and heavy-duty versions are available.

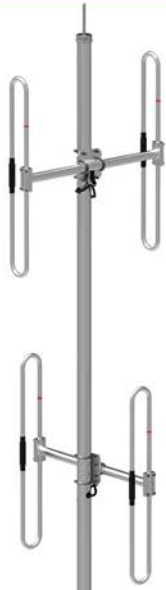
- This antenna is field adjustable for omni or bidirectional.
- These antennas have only internal cabling, fixed dipole-mast spacing, and adjustable pattern control.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	882-70	884-70
Frequency Range, MHz	138-174	138-174
Nominal Gain, dBd	3.0-5.5	6.0-8.5
Number of Dipoles	2 Sets	4 Sets
Bandwidth 1.5:1 VSWR, MHz	36	36
Polarization	Vertical	
Pattern	Omni or Bi-Directional	
Power Rating, Watts	450	500
Nominal Impedance, Ohms	50	50
Lightning Protection	DC Ground	
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version	
Mechanical Specifications	882-70	884-70
Length, in (mm)	138 (3500)	246 (6248)
Width, in (mm)	30 (762)	31 (787)
Weight, lbs. (kg)	36 (16.3)	78 (35)
Rated Wind Velocity, No Ice, mph (km/h)	120 (162)	110 (177)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	95 (137)	80 (129)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	113 (51)	236 (107)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	351(49)	1264 (175)
Projected Area, ft ² (m ²)	4.1 (0.38)	8.7 (0.81)
Mounting Information: Mast O.D. (mm)	2.4" (61)	2.9" (73)

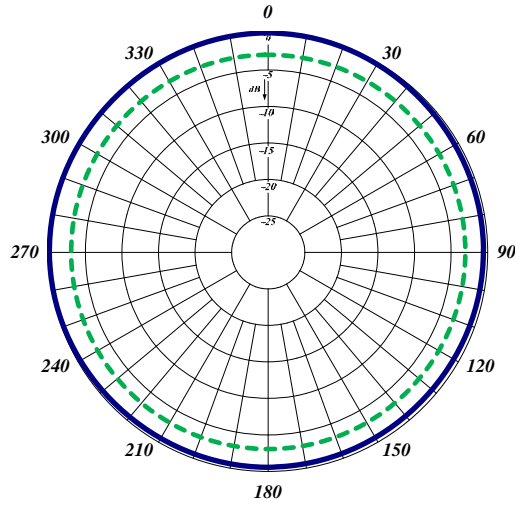


884-70
Bidirectional

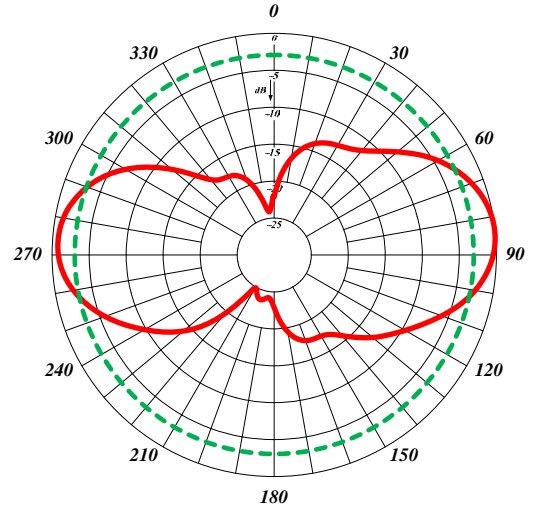
* See appendix for ordering information (page 232) *



882-70 Omni



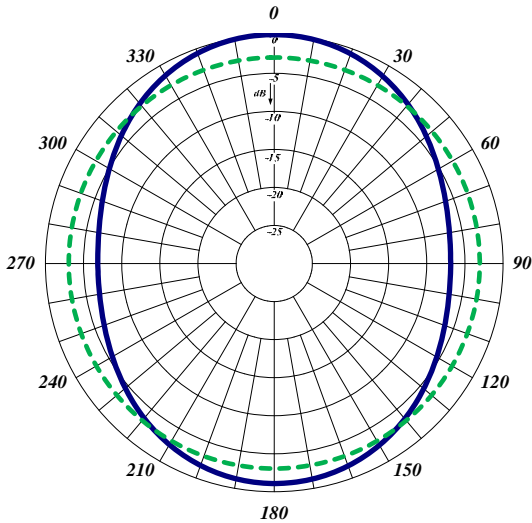
Omni Horizontal



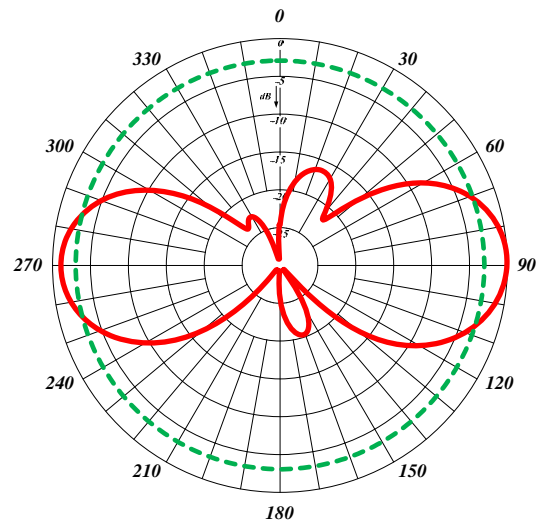
Omni Vertical



882-70 Bi



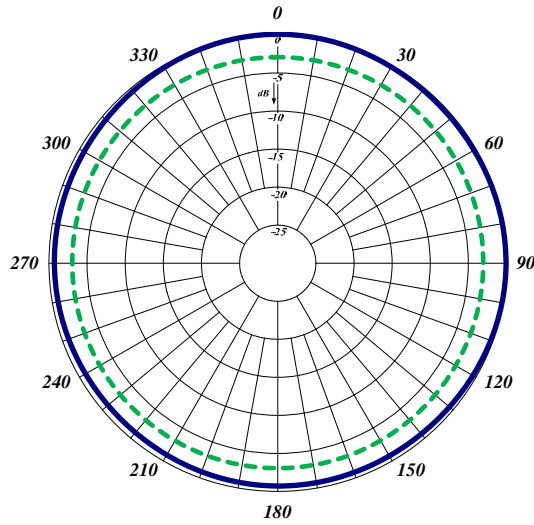
Bidirectional Horizontal



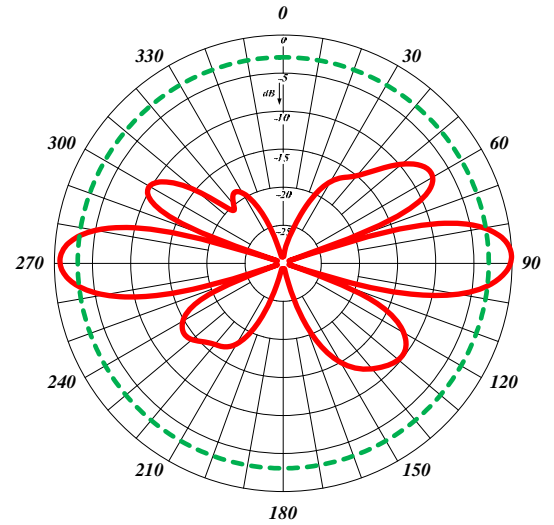
Bidirectional Vertical



884-70-Omni



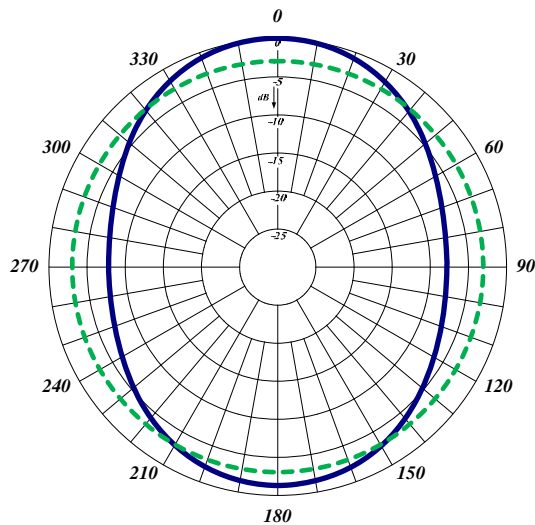
Omni Horizontal



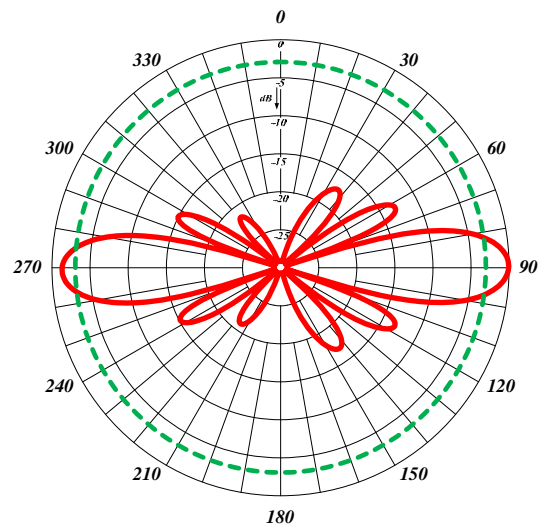
Omni Vertical



884-70-Bi



Bidirectional Horizontal



Bidirectional Vertical



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.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

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		
Pattern	Offset / bi		
Power Rating, Watts	200	300	500
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		
Mechanical Specifications	871F-70-2	872F-70-2	874F-70-2
Length, in (mm)	66 (1676)	112 (2845)	200 (5080)
Width (1/2 Wave Spacing), in (mm)	31 (787)	31 (787)	32 (813)
Weight, lbs. (kg)	12.5 (5.7)	21 (9.5)	51 (23)
Rated Wind Velocity, No Ice, mph (km/h)	165 (266)	150 (241)	145 (233)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	140 (225)	130 (209)	105 (177)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	40 (18)	66 (30)	143 (65)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	58 (8)	150 (21)	610 (84)
Projected Area, ft ² (m ²)	1.5 (0.14)	2.6 (0.24)	5.5 (0.51)
Mounting Information Mast O.D. (mm)	1.9" (48)	2.4" (60)	2.4" (60)

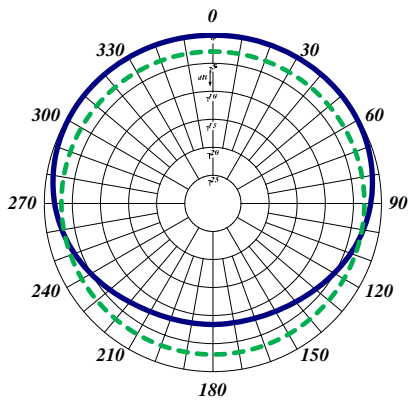


872F-70-2

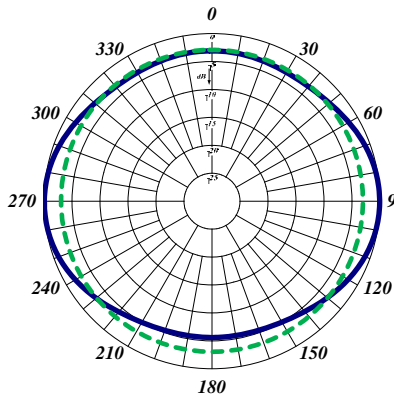
* See appendix for ordering information (page 232) *



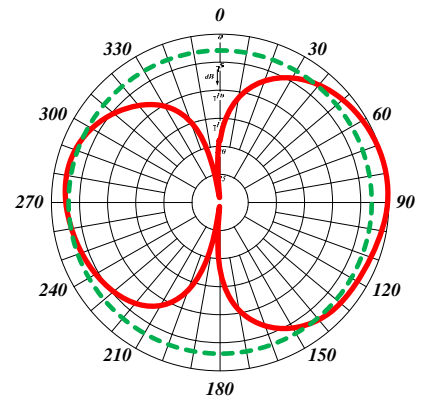
871F-70-2



Quarter-wave Spacing Horizontal



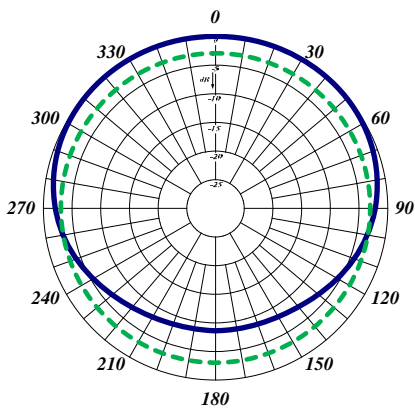
Half-wave Spacing Horizontal



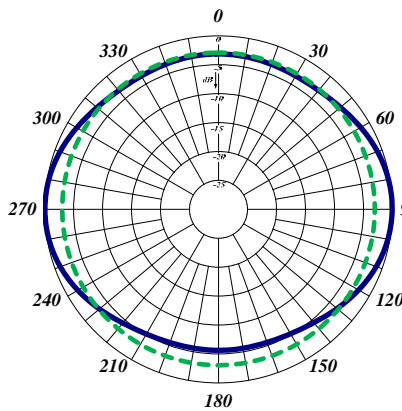
Half-wave Spacing Vertical



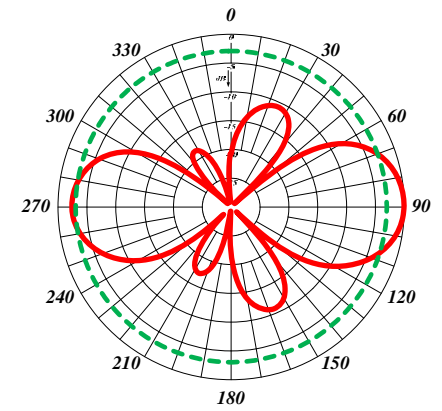
872F-70-2



Quarter-wave Spacing Horizontal



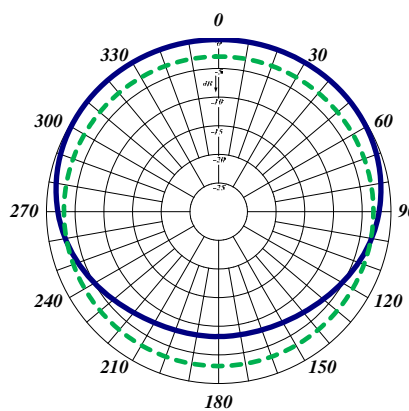
Half-wave Spacing Horizontal



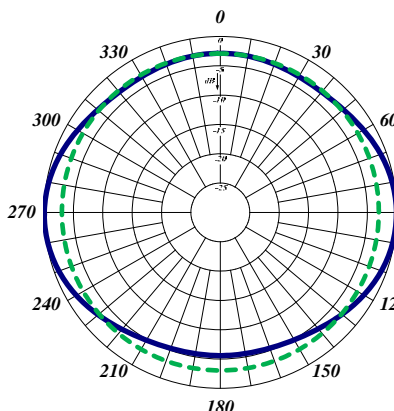
Half-wave Spacing Vertical



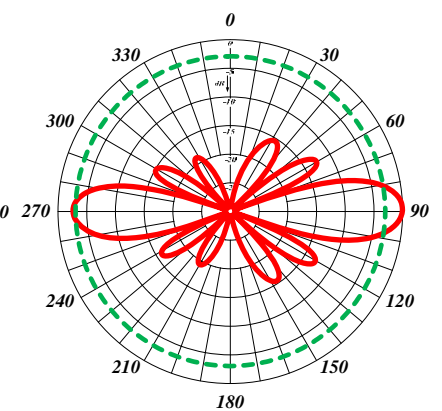
874F-70-2



Quarter-wave Spacing Horizontal



Half-wave Spacing Horizontal



Half-wave Spacing Vertical

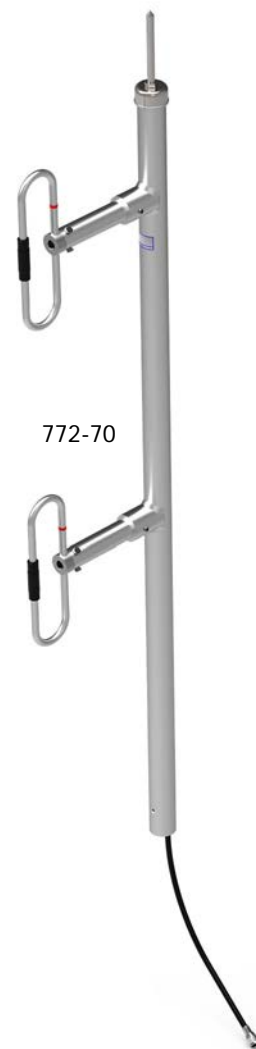


770 Series UHF Exposed Dipoles

The 770 Series UHF Exposed Dipoles are available in 1, 2, 4, 8 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 versions.
- The 77X-70 has internal cabling and fixed dipole-mast spacing.
- Heavy-duty Versions are available. Please contact our Technical Support team for consultation.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	771-70	772-70	774-70	778-70
Frequency Range, MHz (in splits)	406-512	406-512	406-512	406-512
Nominal Gain, dBd	2.0-2.5	5.0-5.5	8.0-8.5	11.0-11.5
Number of Dipoles	1	2	4	8
Bandwidth 1.5:1 VSWR, MHz	106	106	106	64
Polarization	Vertical			
Pattern	Offset / Bi			
Power Rating, Watts	75	150	300	300
Nominal Impedance, Ohms	50	50	50	50
Lightning Protection	DC Ground			
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version			
Mechanical Specifications	771-70	772-70	774-70	778-70
Length, in (mm)	66 (1676)	86 (2184)	126 (3200)	210 (5334)
Width, in (mm)	16 (406)	16 (406)	16 (406)	17 (432)
Weight, lbs. (kg)	8.6 (3.9)	12.6 (5.7)	21 (9.5)	52 (23.6)
Rated Wind Velocity, No Ice, mph (km/h)	170 (274)	160 (257)	150 (241)	140 (225)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	145 (233)	135 (217)	120 (193)	105 (169)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	27 (12.3)	39 (17.8)	64 (29)	134 (61)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	33.5 (4.6)	72 (9.1)	177 (24.5)	655 (91)
Projected Area, ft ² (m ²)	1 (0.09)	1.5 (0.14)	2.4 (0.23)	5.1 (0.472)
Mounting Information: Mast O.D. (mm)	1.9" (48)	1.9" (48)	1.9" (48)	2.4" (61)

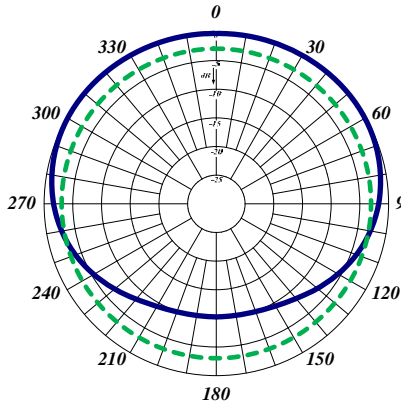


772-70

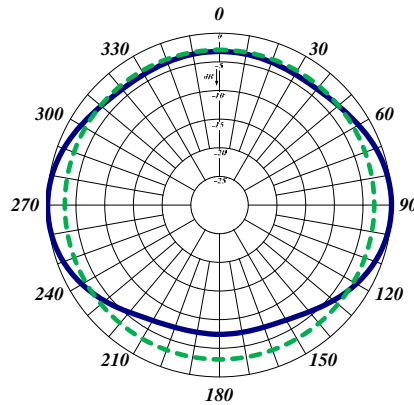
* See appendix for ordering information (page 232) *



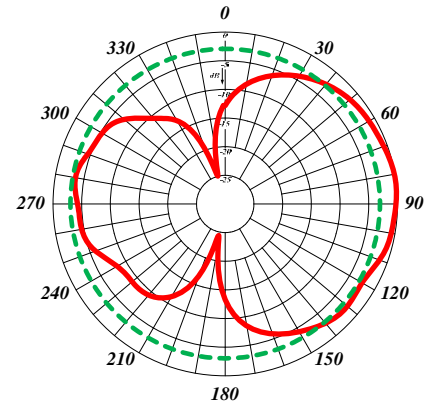
771-70



Quarter-wave Spacing Horizontal



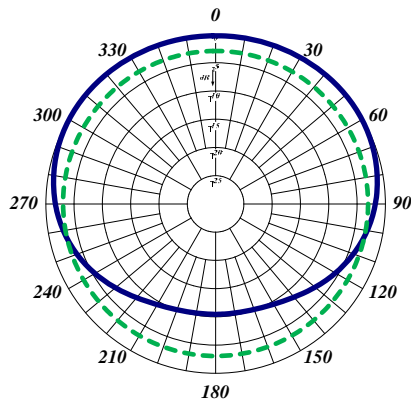
Half-wave Spacing Horizontal



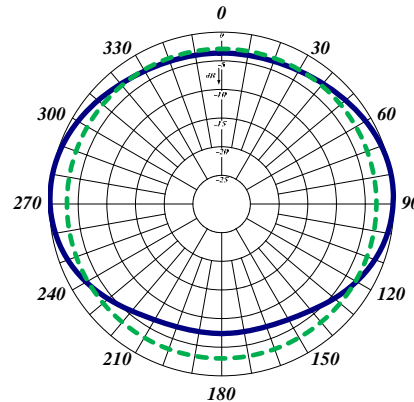
Half-wave Spacing Vertical



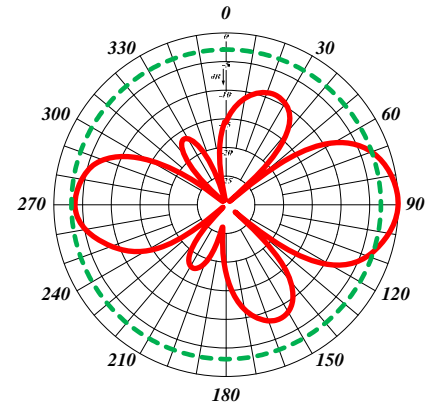
772-70



Quarter-wave Spacing Horizontal



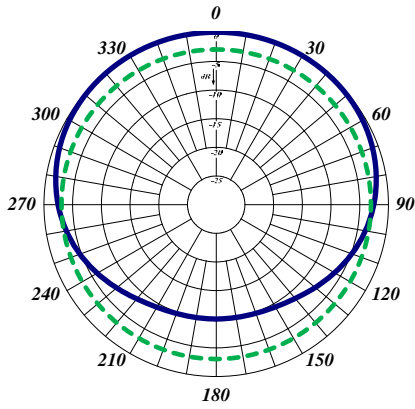
Half-wave Spacing Horizontal



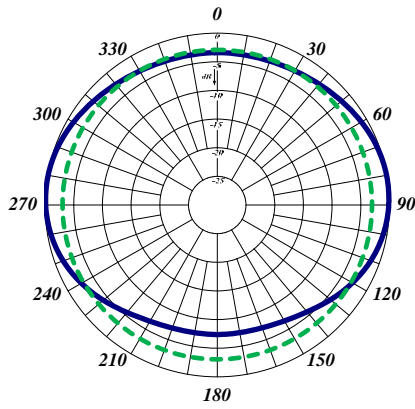
Half-wave Spacing Vertical



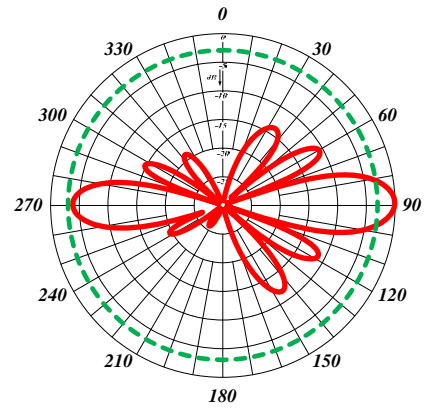
774-70



Quarter-wave Spacing Horizontal



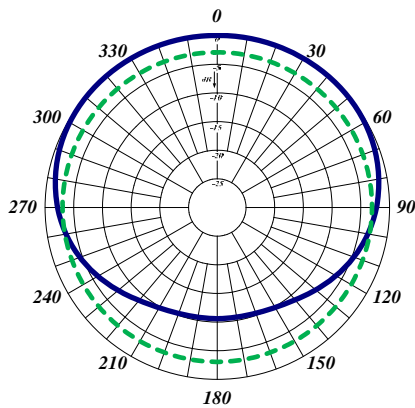
Half-wave Spacing Horizontal



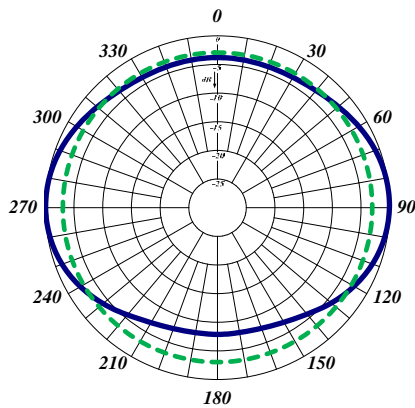
Half-wave Spacing Vertical



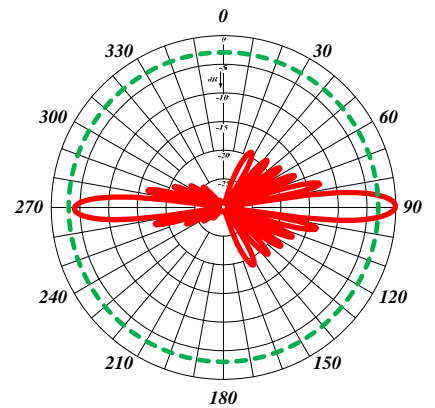
778-70



Quarter-wave Spacing Horizontal



Half-wave Spacing Horizontal



Half-wave Spacing Vertical



780 Series UHF Exposed Dipole Array

The 780 Series UHF Exposed Dipole Arrays are available in 2 and 4 dipoles set configurations. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, top or side mount configuration, and heavy-duty versions are available.

- This antenna is field adjustable for omni or bidirectional configuration.
- Features internal cabling, fixed dipole-mast spacing and adjustable pattern control.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	782-70	784-70
Frequency Range, MHz	406-512	406-512
Nominal Gain, dBd	3.0-5.5	6.0-8.5
Number of Dipoles	2 Sets	4 Sets
Bandwidth 1.5:1 VSWR, MHz	64	64
Polarization	Vertical	
Pattern	Omni or Bi-Directional	
Power Rating, Watts	300	300
Nominal Impedance, Ohms	50	50
Lightning Protection	DC Ground	
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM	
Mechanical Specifications	782-70	784-70
Length, in (mm)	90 (2286)	126 (3200)
Width, in (mm)	12.75 (324)	12.75 (324)
Weight, lbs. (kg)	25 (11.3)	38 (17)
Rated Wind Velocity, No Ice, mph (km/h)	145 (233)	130 (209)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	100 (161)	90 (145)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	54 (24.5)	101 (46)
Bending Moment @ top clamp: 100 mph, ft.*lb	137 (19)	426 (59)
Projected Area, ft ² (m ²)	2.0 (0.19)	3.5 (0.33)
Mounting Information: Mast O.D. (mm)	1.9" (48)	2.4" (60)

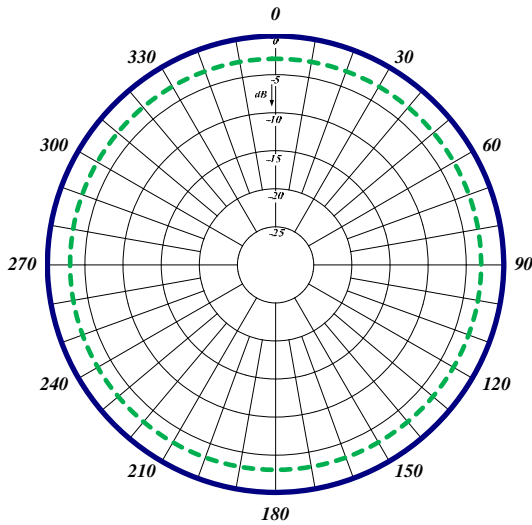


782-70
Bidirectional

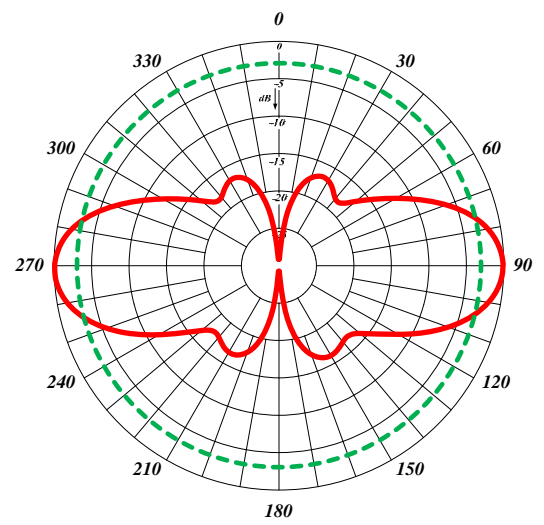
* See appendix for ordering information (page 232) *



782-70



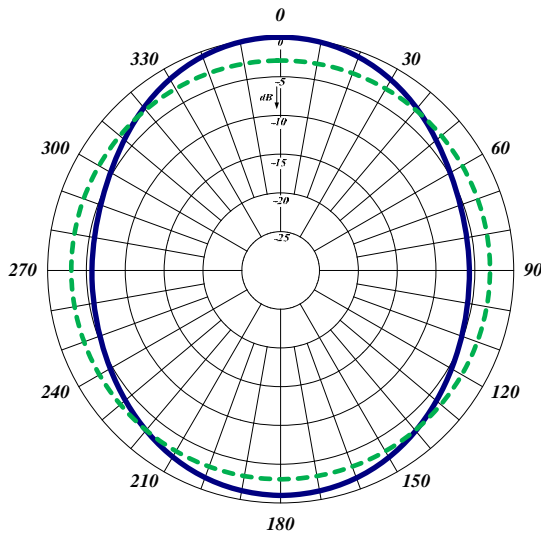
Omni Horizontal



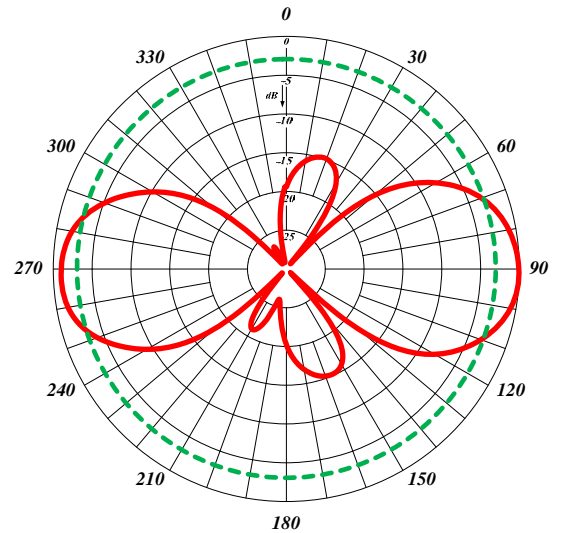
Omni Vertical



782-70



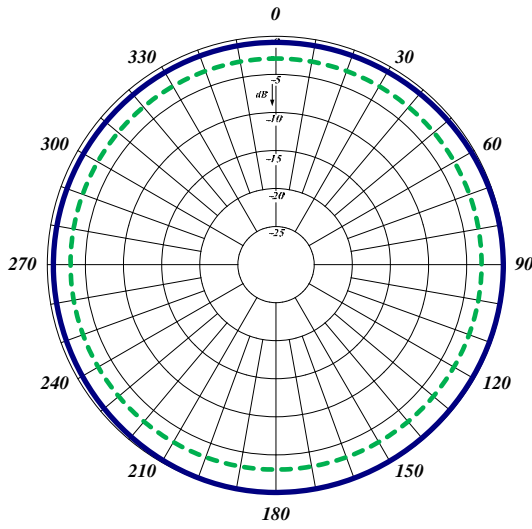
Bidirectional Horizontal



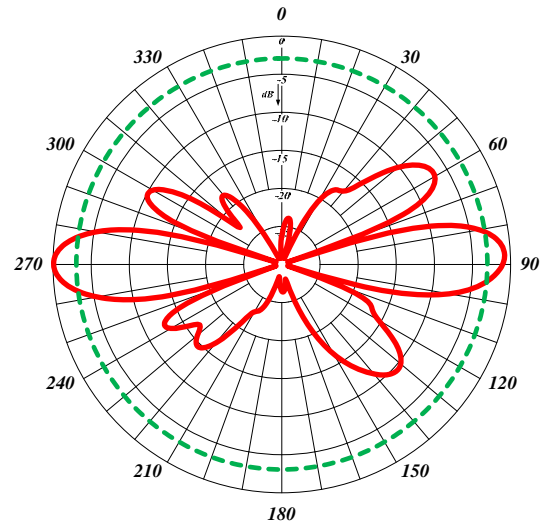
Bidirectional Vertical



784-70



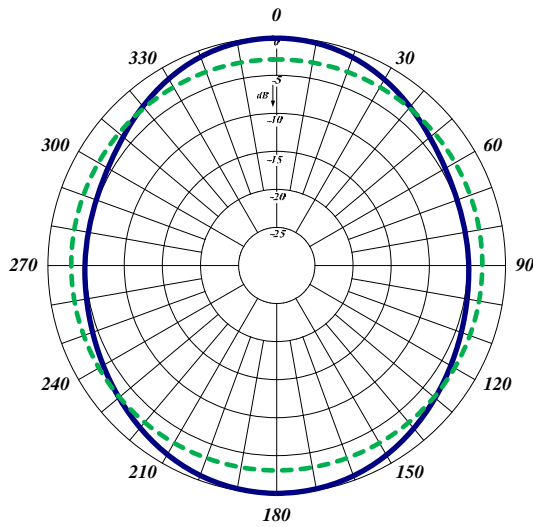
Omni Horizontal



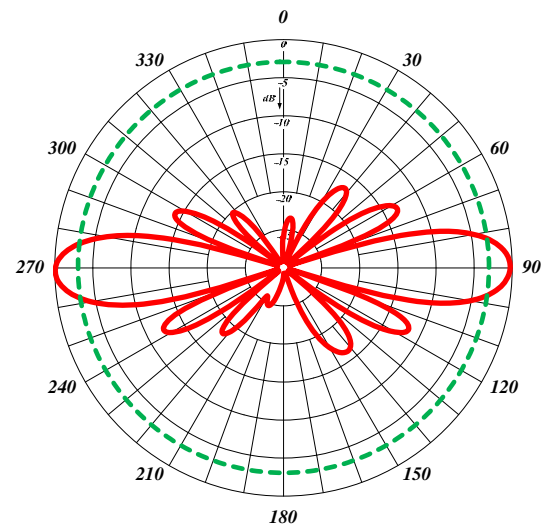
Omni Vertical



784-70



Bidirectional Horizontal



Bidirectional Vertical



Dual Feed Exposed Dipole Array

The Dual Feed Exposed Dipole Arrays are available in many different configurations. Our VHF, UHF or 700/800/900 MHz antennas can be combined into one mast. These antennas can be mixed and matched with our 840, 870, 880, 770 and 790 series antennas. All our antennas can be completely customized to your particular applications. Our antennas can be configured for side mount or top mount.

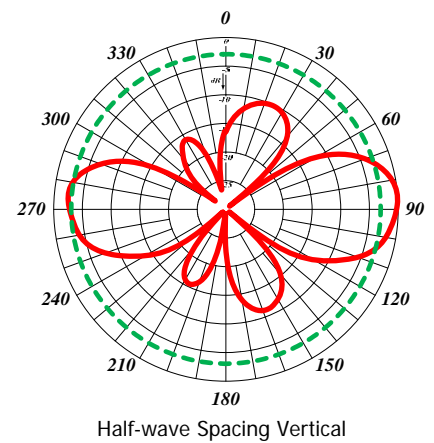
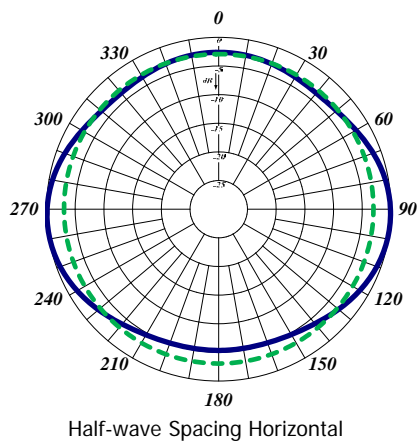
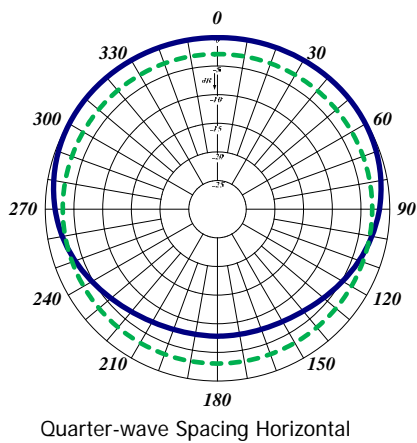
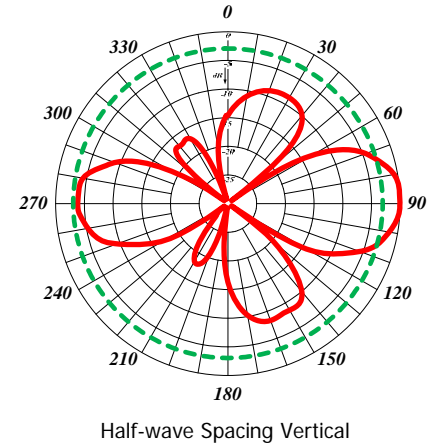
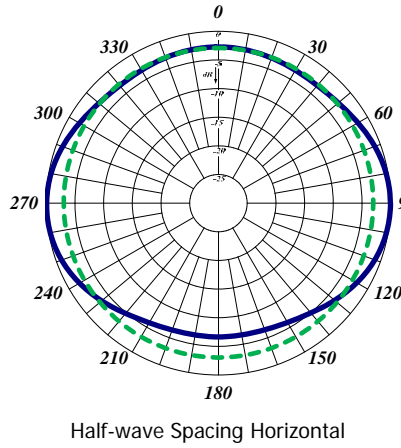
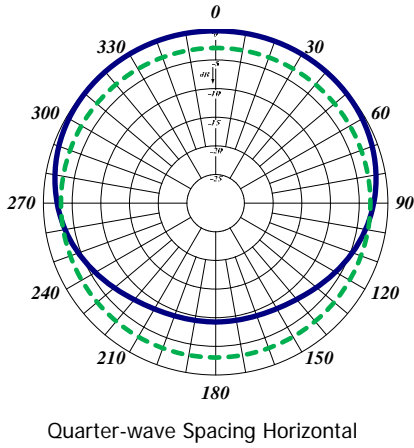
- Low VSWR version with maximum gain over specified frequency.
- Ideal for applications where costs are calculated per antenna.
- Heavy-duty and Black anodized versions are available.
- Typical antenna to antenna isolation is 30dB, 40 dB of isolation is also available.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	776-70	876-70
Frequency Range, MHz (in splits)	406-512	138-174
Nominal Gain, dBd	5.0-5.5	5.0-5.5
Number of Dipoles	2 sets of 2	
Bandwidth VSWR, MHz	1.5:1 (106)	1.5:1 (36)
Polarization	Vertical	
Pattern	Offset	
Power Rating, Watts	300	300
Nominal Impedance, Ohms	50	50
Lightning Protection	DC Ground	
Standard Termination	Type N Male for standard version -DIN 7/16 or 4.3/10 for Low-PIM	
Mechanical Specifications	776-70	876-70
Length, in (mm)	126 (3200)	246 (6248)
Width (1/2 Wave Spacing), in (mm)	16 (406)	40 (1016)
Weight, lbs. (kg)	19 (8.6)	67 (30)
Rated Wind Velocity, No Ice, mph (km/h)	150 (241)	145 (233)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	150 (241)	95 (153)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	44 (20)	160 (72.6)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	193 (26.7)	1364 (188.7)
Projected Area, ft ² (m ²)	1.38 (0.128)	7 (0.65)
Mounting Information Mast O.D. (mm)	1.9" (48)	2.9" (61)



776-70

* See appendix for ordering information of different frequency splits (page 233) *





Dual Antenna Array

The Dual Antenna Arrays are available in many different configurations. Our VHF, UHF, or 700/800/900 MHz antennas can be combined onto one mast. These antennas can be mixed and matched from our 870, 770 and 790 series antennas. All our antennas can be completely customized to your particular applications. Our antennas can be configured for top or side mount.

- A low VSWR version, with maximum gain over the specified frequencies.
- Ideal for applications where the costs are calculated per antenna.
- Heavy-duty versions are available.
- Multiple combinations are offered and customizable. Please contact our Technical Support team for consultation.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	F-3676		F-3661		F-3647	
Frequency Range, MHz	138-174	406-512	138-174	406-512	138-174	406-512
Nominal Gain, dBd	8.0-8.5	8.0-8.5	5.0-5.5	5.0-5.5	2.0-2.5	2.0-2.5
Number of Dipoles	4	4	2	2	1	1
Bandwidth 1.5:1 VSWR, MHz	36	106	36	106	36	106
Polarization	Vertical					
Pattern	Offset					
Power Rating, Watts	300		300		300	
Nominal Impedance, Ohms	50		50		50	
Lightning Protection	DC Ground					
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version					
Mechanical Specifications	F-3676		F-3661		F-3647	
Length, in (mm)	354 (8992)		186 (4724)		126 (3200)	
Width (1/2 Wave Spacing), in (mm)	41 (1041)		40 (1016)		40 (1016)	
Weight, lbs. (kg)	117 (53)		59 (26.8)		26 (11.9)	
Rated Wind Velocity, No Ice, mph (km/h)	110 (177)		150 (241)		170 (272)	
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	85 (137)		110 (177)		140 (225)	
Lateral Thrust @ 100 mph, wind, lbs. (kg)	315 (143)		154 (70)		67 (30.5)	
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	2469 (341)		720 (100)		110 (15)	
Projected Area, ft ² (m ²)	12 (1.12)		5.7 (0.53)		2.5 (0.23)	
Mounting Information Mast O.D. (mm)	3.5" (89)		2.9" (73)		1.9" (48)	

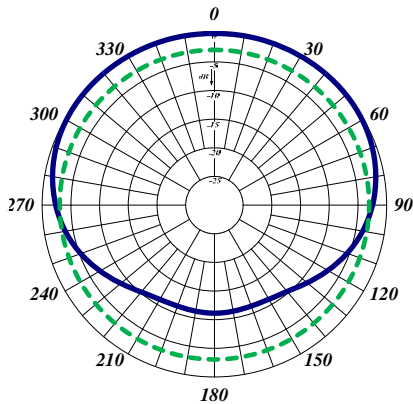


F-3661

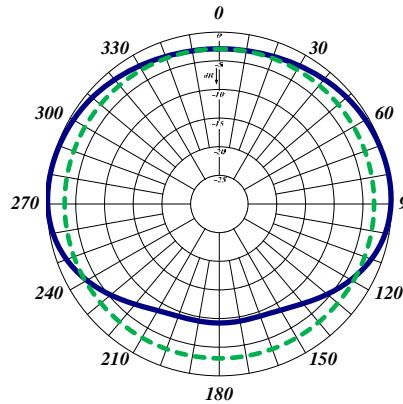
* See appendix for ordering information (page 233) *



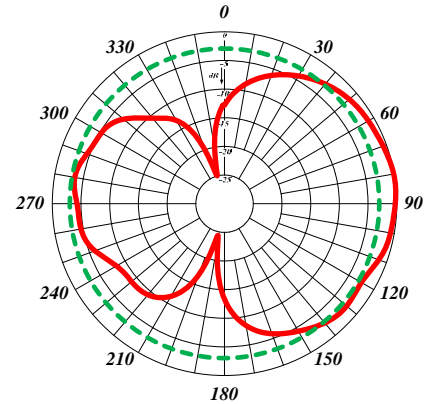
F-3647



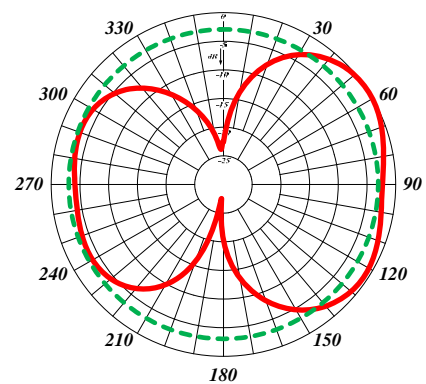
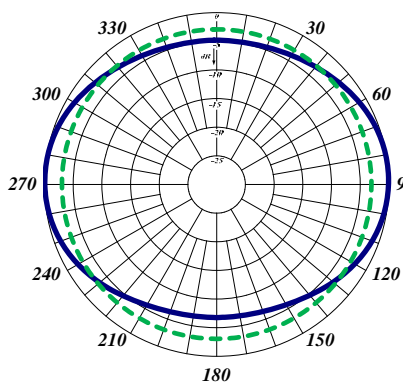
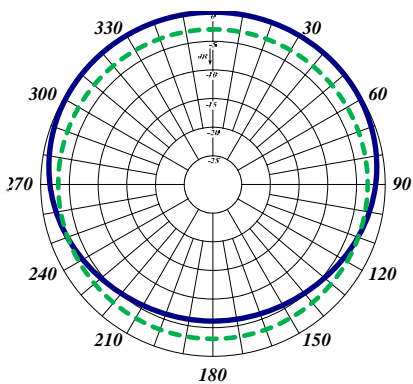
Quarter-wave Spacing Horizontal



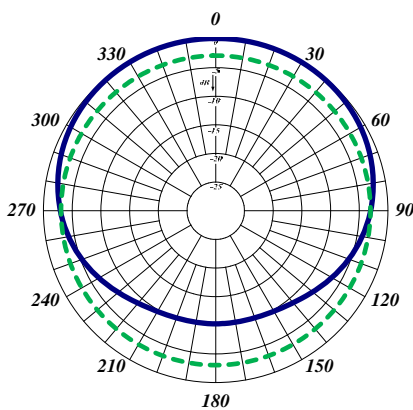
Half-wave Spacing Horizontal



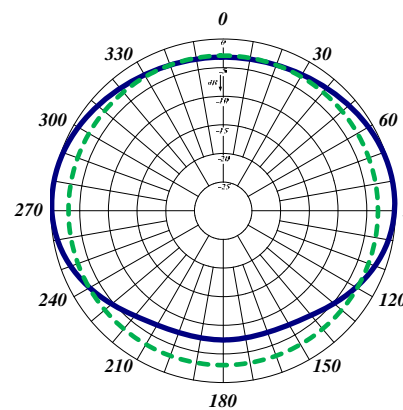
Half-wave Spacing Vertical



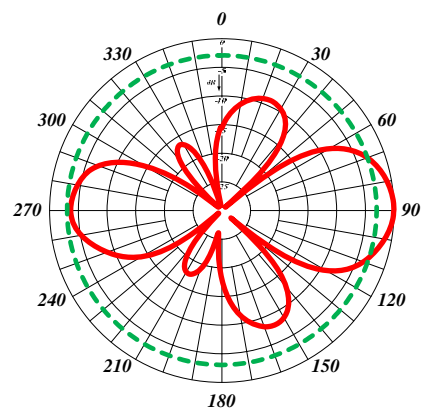
F-3661



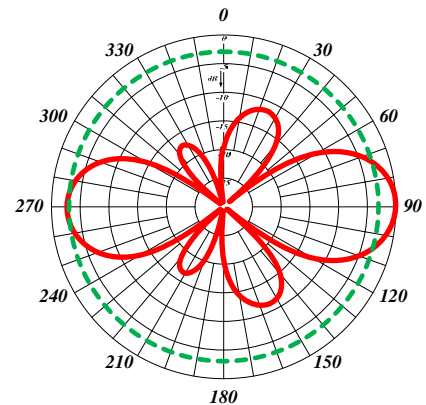
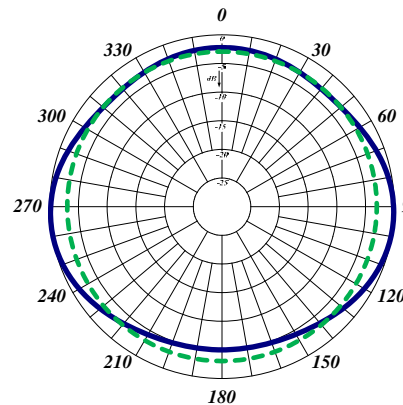
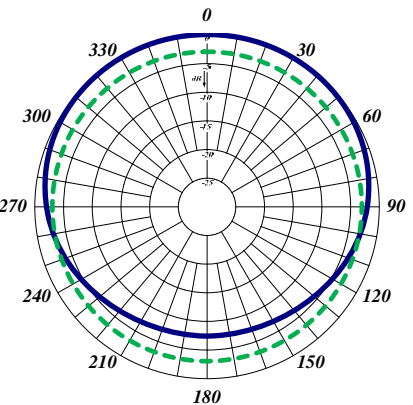
Quarter-wave Spacing Horizontal

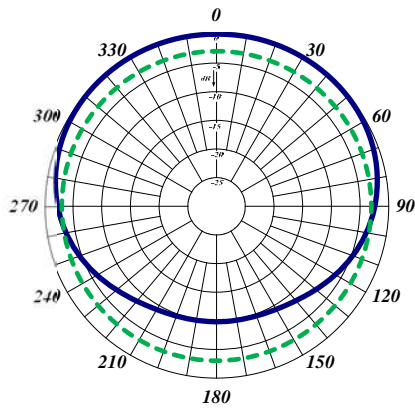


Half-wave Spacing Horizontal

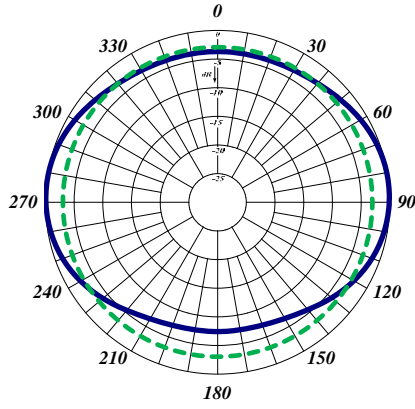


Half-wave Spacing Vertical

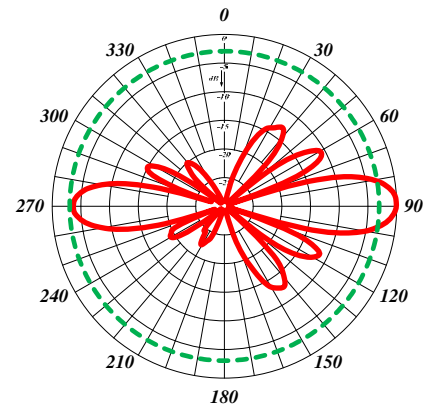




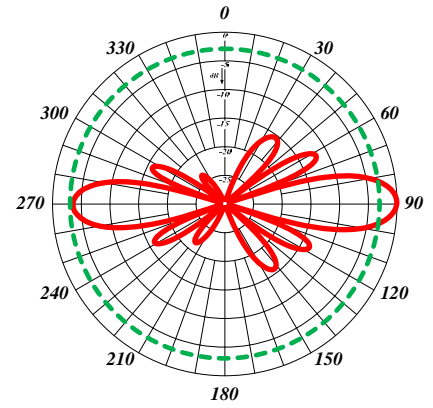
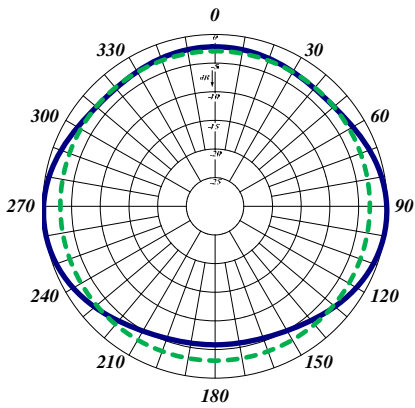
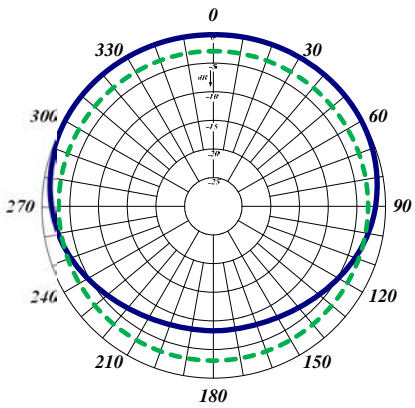
Quarter-wave Spacing Horizontal



Half-wave Spacing Horizontal



Half-wave Spacing Vertical



F-3676



870 Series VHF Exposed Dipoles with Reflectors

The F-37XX Series antennas are our 870 Series VHF Exposed Dipoles with Reflectors. They are available in 1, 2, 4 dipole configurations. All our antennas can be completely customized to your applications. Our antennas can be black anodized, fully welded, side mount or top mount, and heavy-duty versions are available.

The Reflectors provide a higher degree of directivity. This product is ideal for state or country borders. We have seen great success with being able to shape the RF patterns in the 870-series antenna line.

- Each antenna is configured as a 3/8 wave version.
- The reflectors provide more directivity and greater front-to-back ratios.
- These exposed dipoles have internal cabling and fixed dipole to mast spacing.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	F-3729	F-3713	F-3766
Frequency Range, MHz	138-174	138-174	138-174
Nominal Gain, dBd	2.5-3.0	7.0	9.0-10.0
Number of Dipoles	1	2	4
Number of Reflectors	7	7	7
Bandwidth 1.5:1 VSWR, MHz	36	36	36
Polarization	Vertical		
Pattern	Directional		
Power Rating, Watts	200	450	450
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		
Mechanical Specifications	F-3729	F-3713	F-3766
Length, in (mm)	72 (1829)	120 (3048)	240 (6096)
Width (1/2 Wave Spacing), in (mm)	50 (1270)	53 (1346)	53 (1346)
Weight, lbs. (kg)	34.3 (15.6)	57.2 (26)	100.3 (45.5)
Mounting Information Mast O.D.	2.4" (61)	2.4" (61)	2.9" (73)

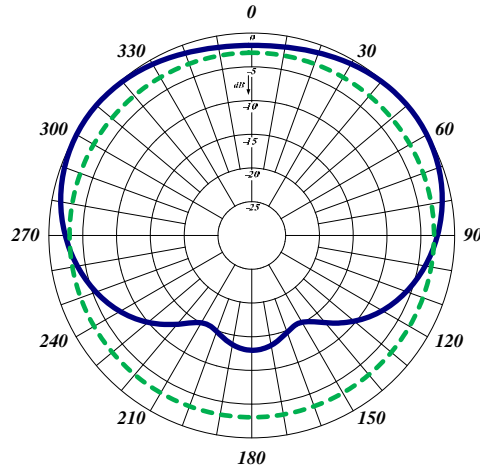


F-3713

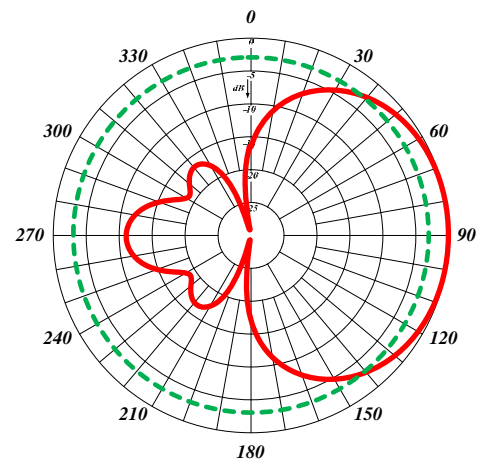
* See appendix for ordering information (page 233) *



F-3729



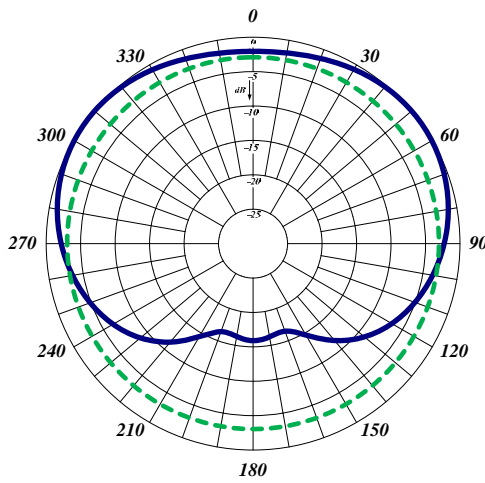
3/8 Spacing Horizontal



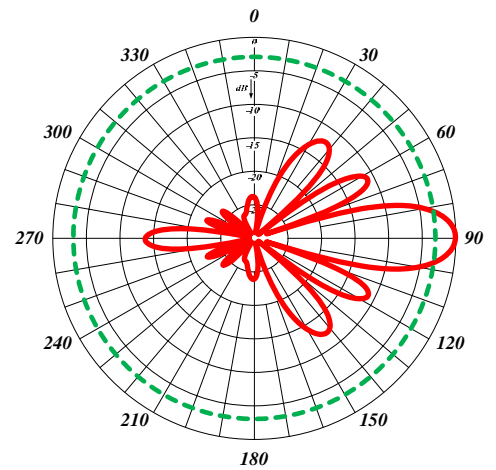
3/8 wave Spacing Vertical



F-3766



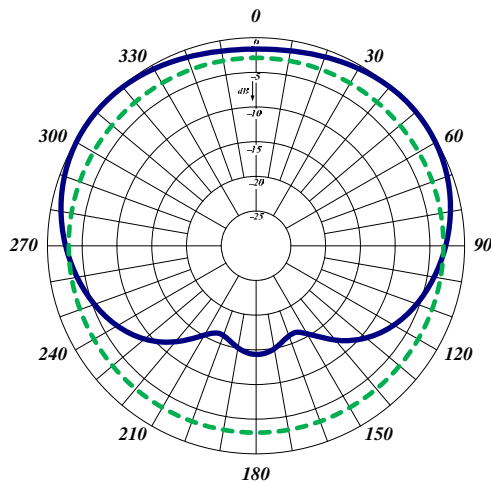
3/8 Spacing Horizontal



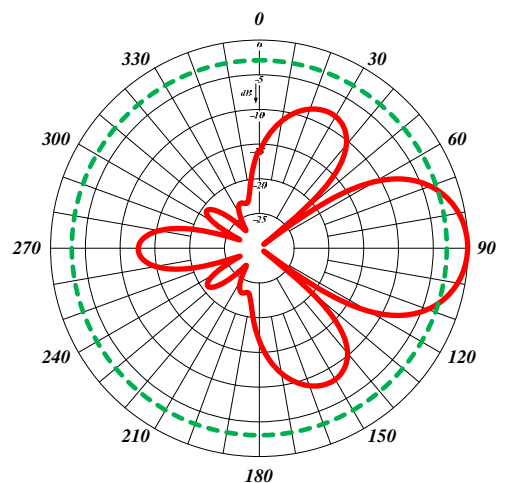
3/8 wave Spacing Vertical



F-3713



3/8 Spacing Horizontal



3/8 wave Spacing Vertical



790 Series Enclosed Dipole

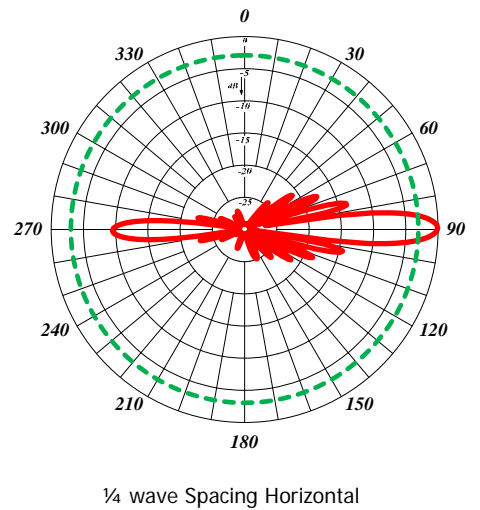
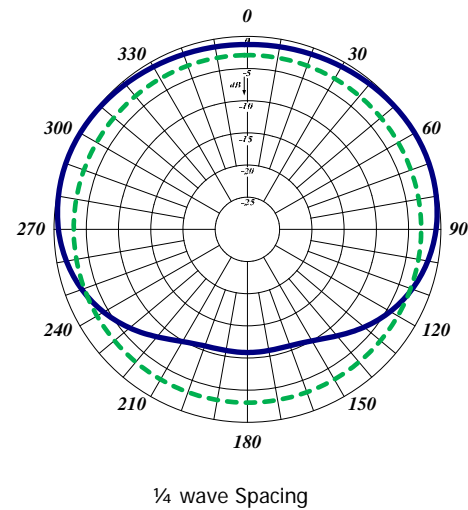
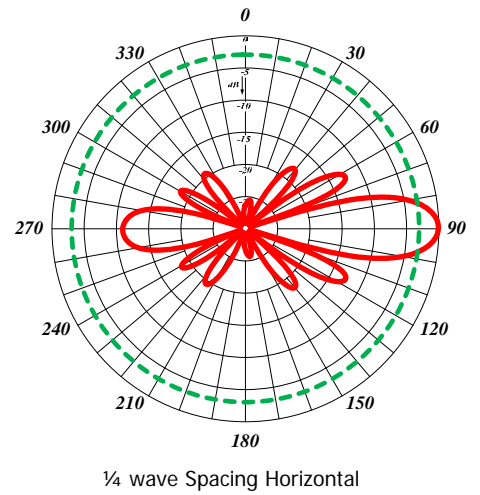
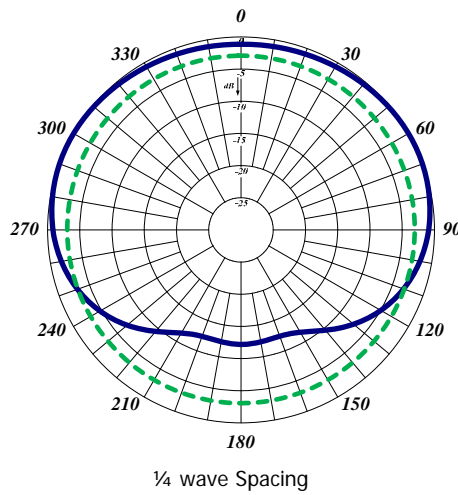
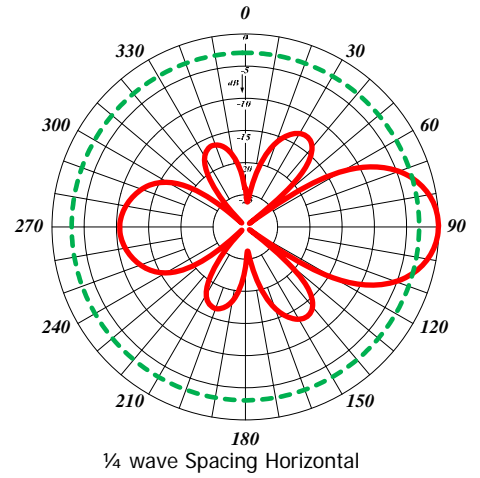
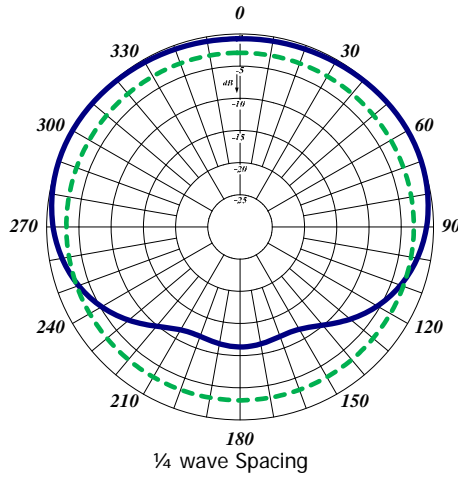
The 790 Series Enclosed Dipoles are available in 2, 4 or 8 dipole configurations. All our antennas can be completely customized to your particular applications.

- 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.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

Electrical Specifications	792-70	794-70	799-70
Frequency Range, MHz (in splits)	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	214	214	214
Polarization	Vertical		
Pattern	Offset		
Power Rating, Watts	150	300	500
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		
Mechanical Specifications	792-70	794-70	799-70
Length, in (mm)	22 (559)	44.5 (1130)	94 (2388)
Width, 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.



794-70





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 6 positions: 60°, 75°, 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.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).

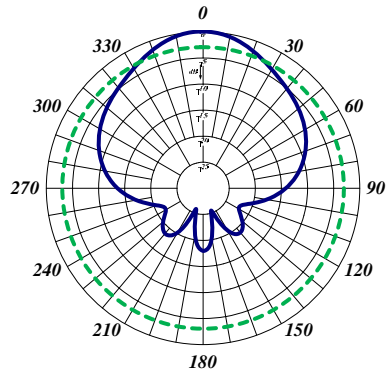
Electrical Specifications	792-70-R	794-70-R	799-70-R
Frequency Range, MHz	746-960	746-960	746-960
Nominal Gain (@ 60deg position), dBd	Up to 10.5	Up to 13.5	Up to 16.5
Number of Dipoles	2	4	8
Bandwidth 1.5:1 VSWR, MHz	214	214	214
Polarization	Vertical		
Pattern	Directional		
Power Rating, Watts	150	300	500
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		
Mechanical Specifications	792-70-R	794-70-R	799-70-R
Length, in (mm)	22 (559)	44.5 (1130)	94.5 (2395)
Width (1/4 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.



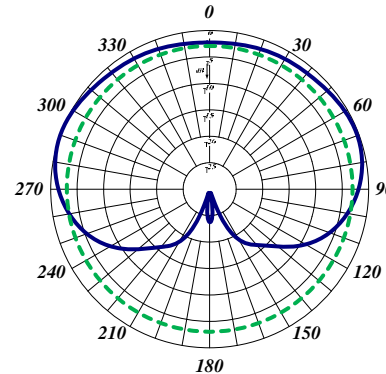
794-70-R



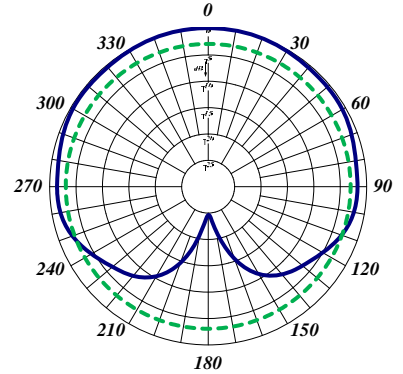
792-70-R



792-70-R60 (Horizontal)



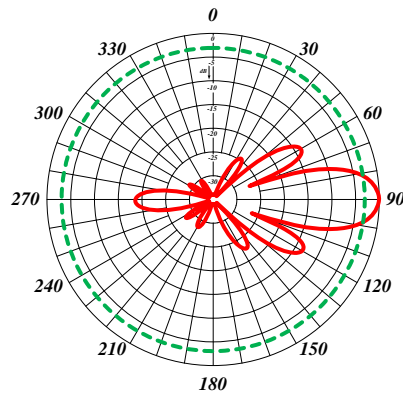
792-70-R130 (Horizontal)



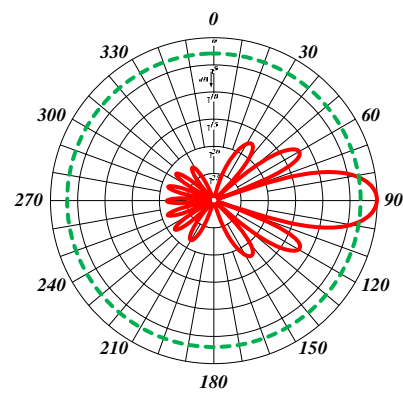
792-70-R160 (Horizontal)



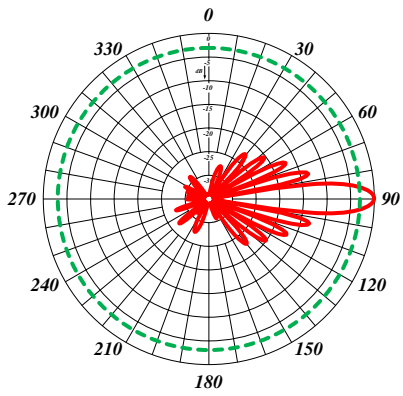
794-70-R



794-70-R60 (Vertical)



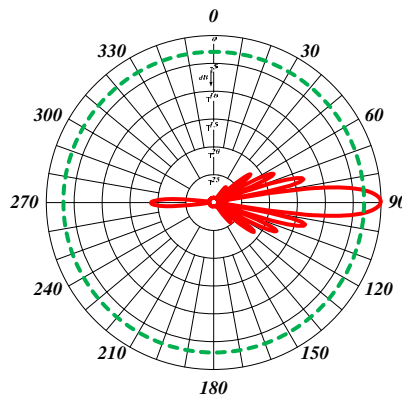
794-70-R130 (Vertical)



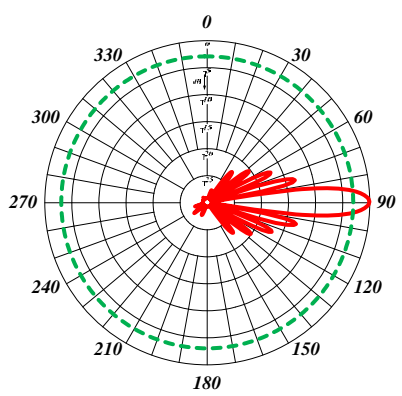
794-70-R160 (vertical)



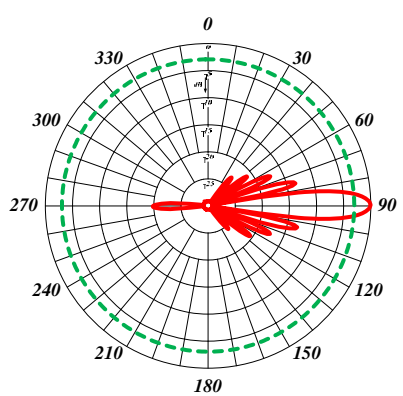
799-70-R



799-70-R90 (vertical)



799-70-R130 (Vertical)



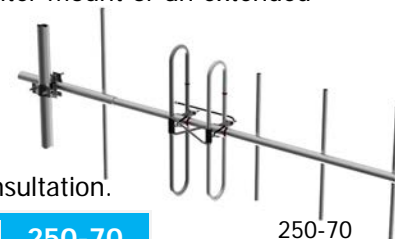
799-70-R160 (Vertical)



290 Series VHF Yagi Antennas

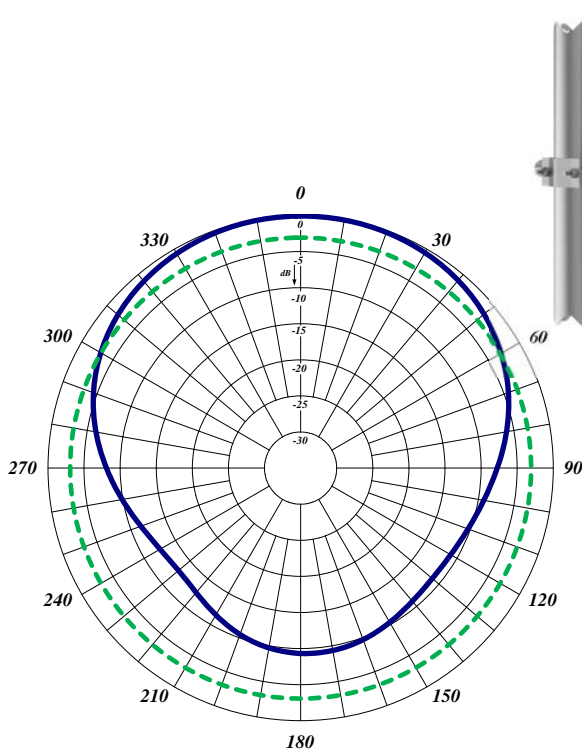
The 290 Series VHF Yagi Antenna are available in 2, 3, and 6 element configurations. All our antennas can be completely customized to your applications. Our antennas can be black anodized, welded, vertically or horizontally polarized, and heavy-duty versions are available. By default, our Yagi antennas are end mounted. But a center mount or an extended boom are also available for certain models.

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

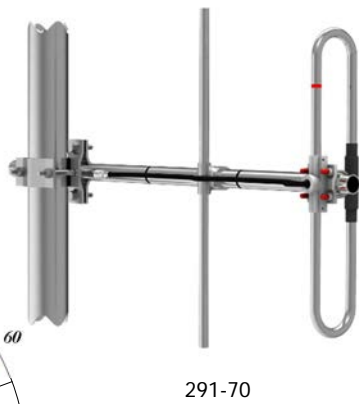


Electrical Specifications	291-70	295-70	290-70	250-70
Frequency Range, MHz (in splits)	138-174	138-174	138-174	138-174
Nominal Gain, dBd	3.5	6.5	9.5	7
Number of Elements	2	3	6	6
Bandwidth 2.0:1 VSWR, MHz (Ctr. Freq. %)	36	4%	4%	36
Polarization	Vertical or Horizontal			
Horizontal Beamwidth (Horizontal Pol.)	140°	90°	62°	80°
Vertical Beamwidth (Horizontal Pol.)	70°	61°	50°	60°
Front to Back, dB	15	12	17	25
Pattern	Directional			
Power Rating, Watts	350	350	350	250
Nominal Impedance, Ohms	50	50	50	50
Lightning Protection	DC Ground			
Standard Termination	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, 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

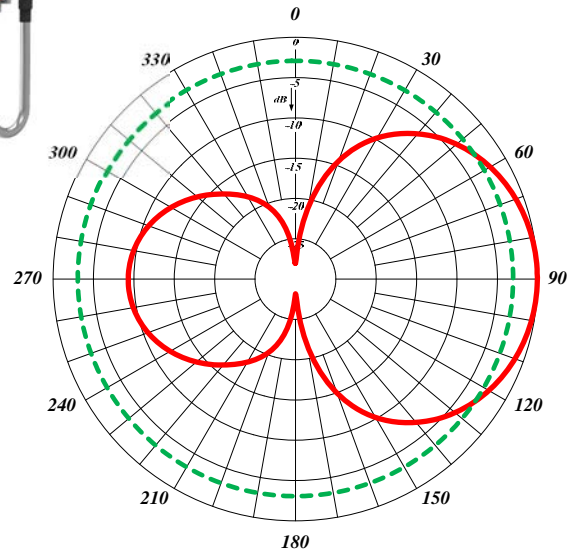
* See appendix for ordering information (page 234) *



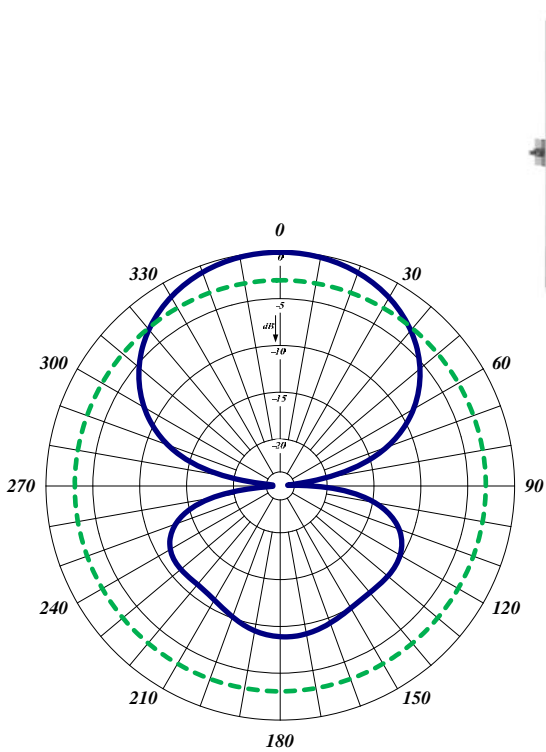
291-70 Horizontal Pattern (Vertical Polarization)



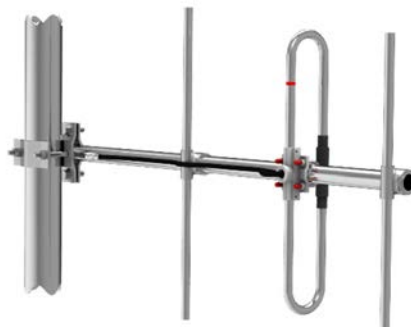
291-70



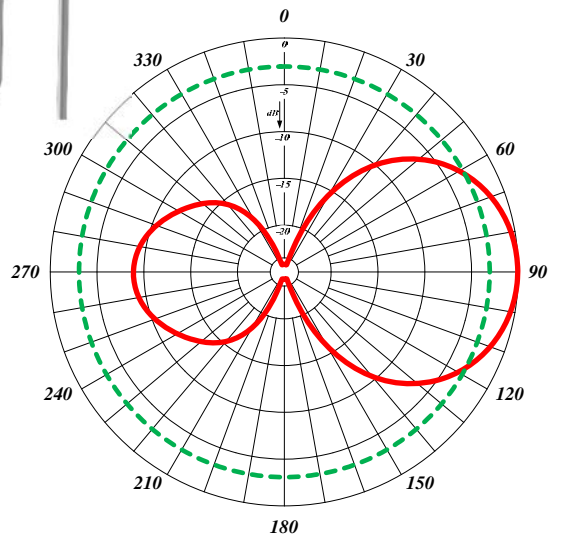
291-70 Vertical Pattern (Vertical Polarization)



295-70 Horizontal Pattern (Vertical Polarization)



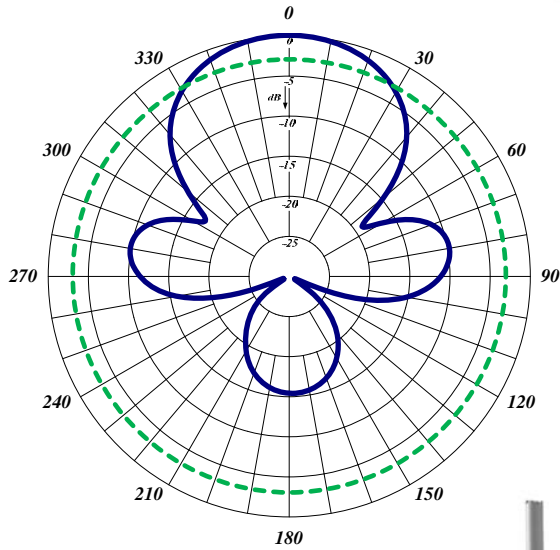
295-70



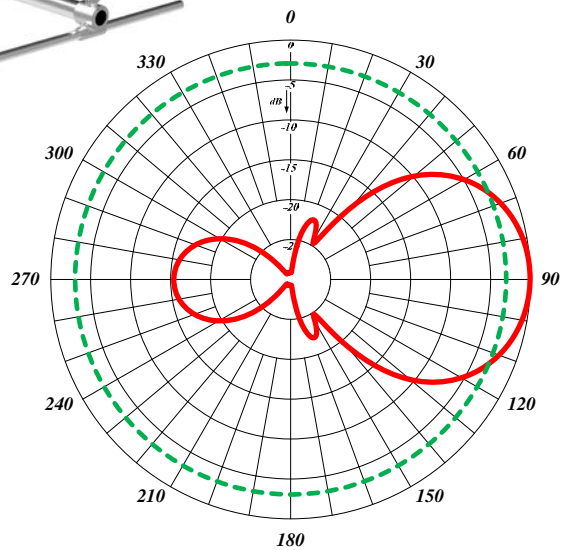
295-70 Vertical Pattern (Vertical Polarization)



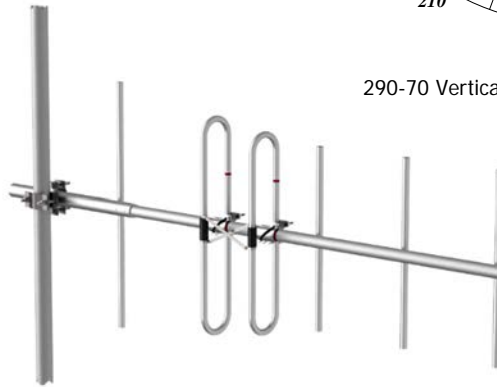
290-70



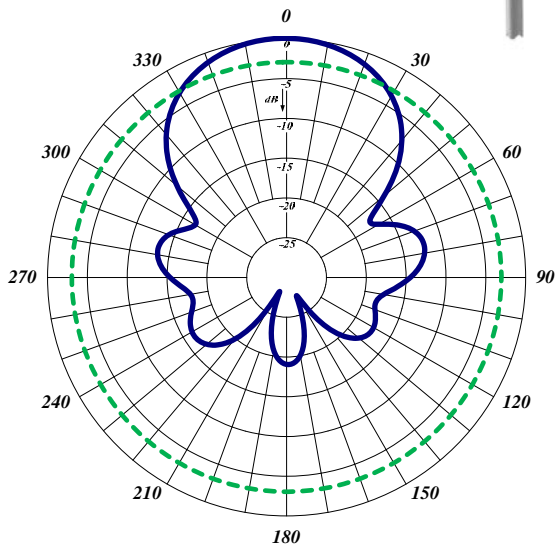
290-70 Horizontal Pattern (Vertical Polarization)



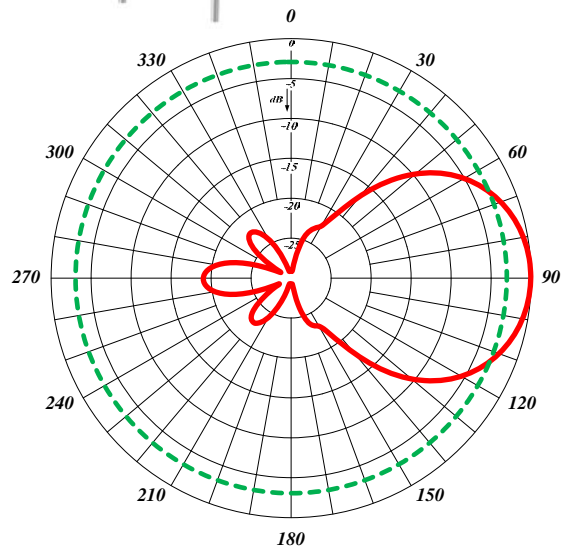
290-70 Vertical Pattern (Vertical Polarization)



250-70



250-70 Horizontal Pattern (Vertical Polarization)



250-70 Vertical Pattern (Vertical Polarization)



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. By default, our Yagi antennas are end mounted. But a center mount or an extended boom are also available for certain models.

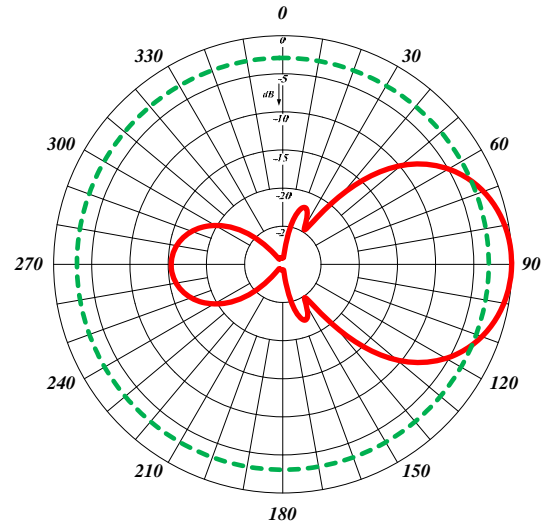
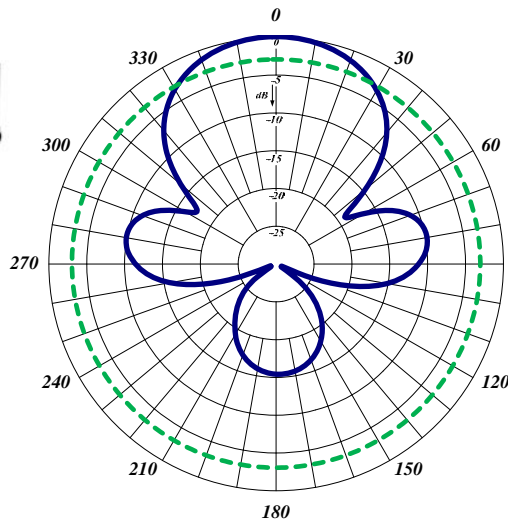
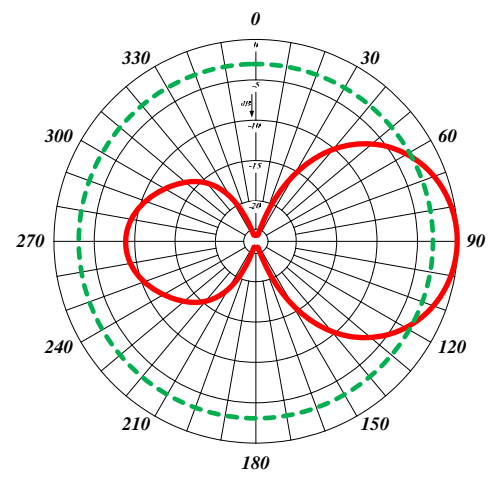
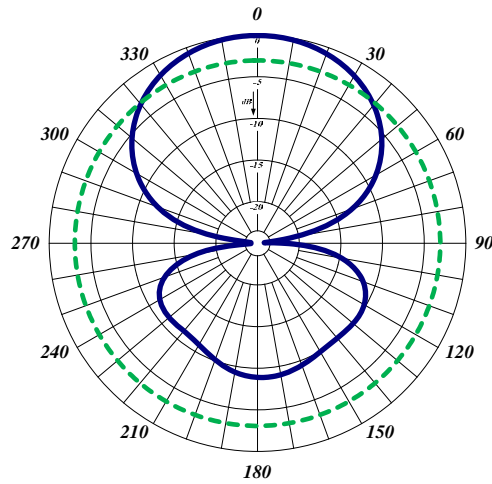
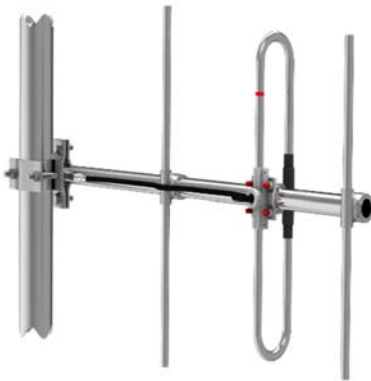
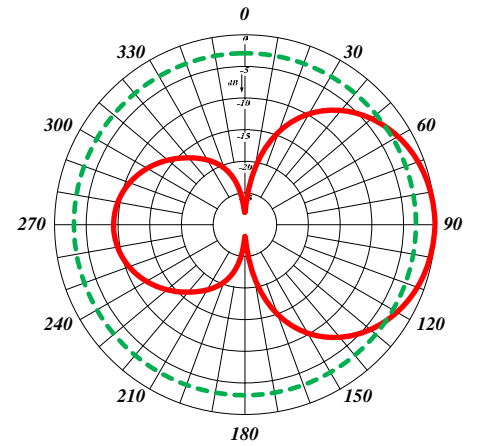
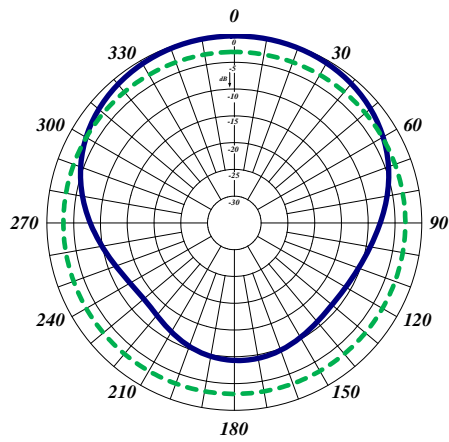
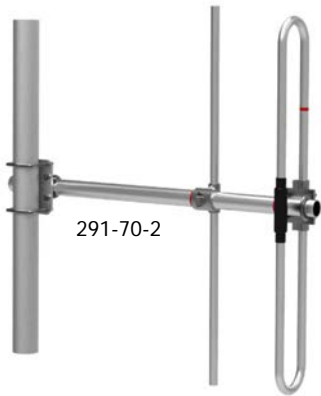
- Each antenna has a rugged design to withstand harsh environmental conditions.
- The mounting hardware supplied will permit either vertical or horizontal polarization.
- Option to have the entire antenna welded for added durability.
- Heavy-duty versions are available. Please contact our Technical Support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



290-70-2HDWB

Electrical Specifications	291-70-2	295-70-2	290-70-2
	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	Vertical or Horizontal		
Horizontal Beamwidth (Horizontal Pol.)	140°	90°	62°
Vertical Beamwidth (Horizontal Pol.)	70°	36°	50°
Front to Back, dB	15	12	17
Pattern	Directional		
Power Rating, Watts	350	350	350
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male		
Mechanical Specifications	291-70-2	295-70-2	290-70-2
Length, in (mm)	32 (813)	48 (1219)	84 (2134)
Width, 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

* See appendix for ordering information (page 234) *





UHF Yagi Antennas Series

The UHF Yagi Antenna Series is available in 2, 3, 7 and 12 elements and our 70 MHz wideband configurations. By default, our Yagi antennas are end mounted. But a center mount or an extended boom are also available for certain models. All our antennas can be completely customized to your specific applications.

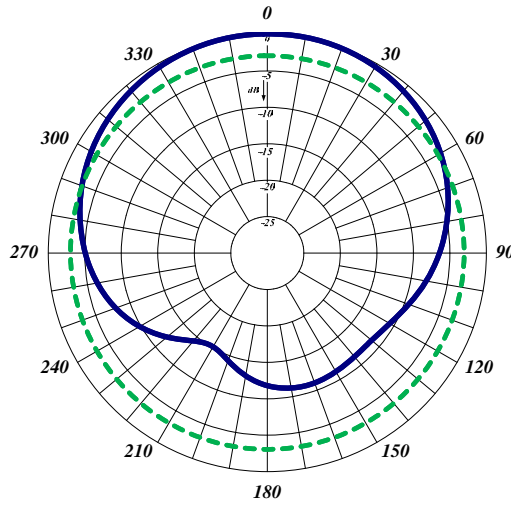
- Each antenna has a rugged, fully welded design to withstand harsh environmental conditions.
- Our antennas can be black anodized, and heavy-duty versions are available.
- The mounting hardware supplied allows either vertical or horizontal polarization.
- Please contact our Technical Support team for consultation.

Electrical Specifications	F-3872	433-70	430-70	480-70	437-70
Frequency Range, MHz (in splits)	406-470	406-470	380-512	406-470	380-512
Nominal Gain, dBd	3.5	6.5	10.0	10.0	12.0
Number of Elements	2	3	7	7	12
Bandwidth 1.5:1 VSWR, MHz (Center Freq. %)	24	24	24	64	62
Polarization	Vertical or Horizontal				
Horizontal Beamwidth (Vert. Pol.)	138°	83°	62°	62°	36°
Vertical Beamwidth (Vert. Pol.)	72°	59°	48°	50°	32°
Front to Back, dB	10	12	20	17	20
Pattern	Directional				
Power Rating, Watts	350	350	350	350	350
Nominal Impedance, Ohms	50	50	50	50	50
Lightning Protection	DC Ground				
Standard Termination	Type N Male				
Mechanical Specifications	F-3872	433-70	430-70	480-70	437-70
Length, in (mm)	28 (711)	23 (584)	45 (1143)	45 (1143)	73 (1855)
Width, in (mm)	14.5 (368)	14 (355)	14.5 (368)	14.4 (366)	14.5 (368)
Weight, lbs. (kg)	2.8 (1.3)	2.9 (1.3)	3.9 (1.8)	3.9 (1.8)	5.5 (2.5)
Rated Wind Velocity, No Ice, mph (km/h)	160 (257)	160 (257)	150 (241)	150 (241)	150 (241)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	120 (193)	120 (193)	110 (177)	110 (177)	110 (177)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	9 (4.1)	8.7 (4.0)	16 (7.3)	15 (6.8)	25.8 (11.7)
Projected Area, ft ² (m ²)	0.34 (0.03)	0.32 (0.03)	0.61 (0.06)	0.55 (0.05)	0.96 (0.089)
Mounting Hardware Included	127-85 Clamp				

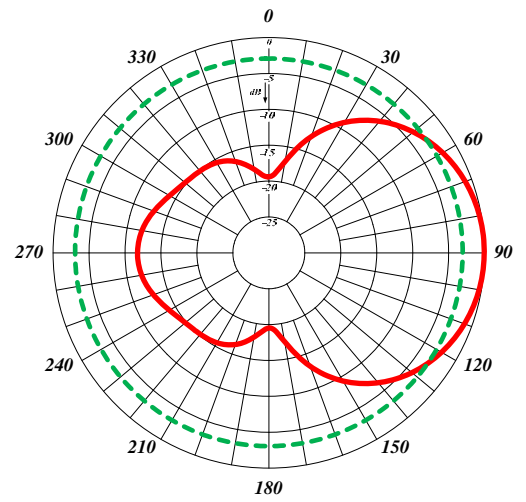
* See appendix for ordering information of different frequency splits (page 234) *



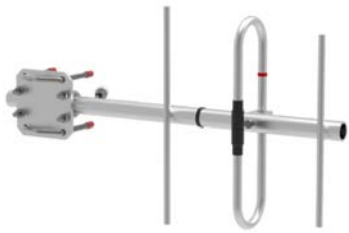
F-3872



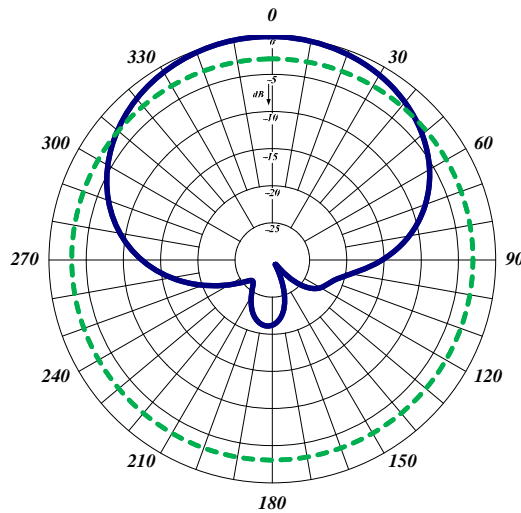
F-3872, Horizontal Pattern (Vertical Polarization)



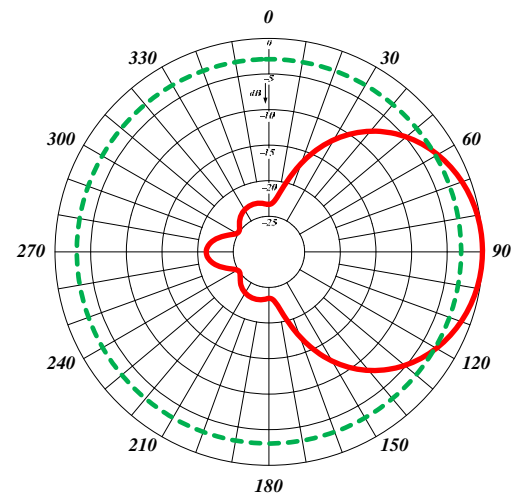
F-3872, Vertical Pattern (Vertical Polarization)



433-70



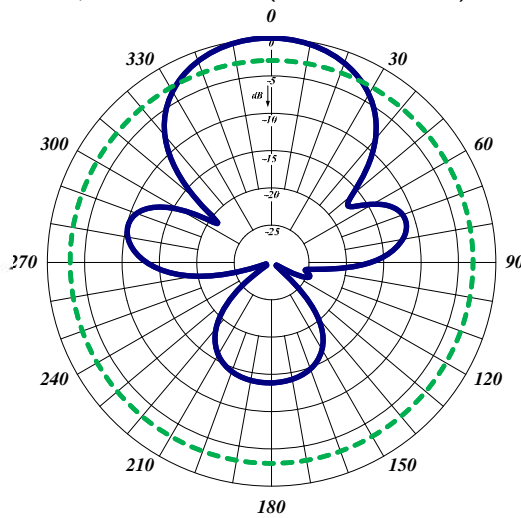
433-70, Horizontal Pattern (Vertical Polarization)



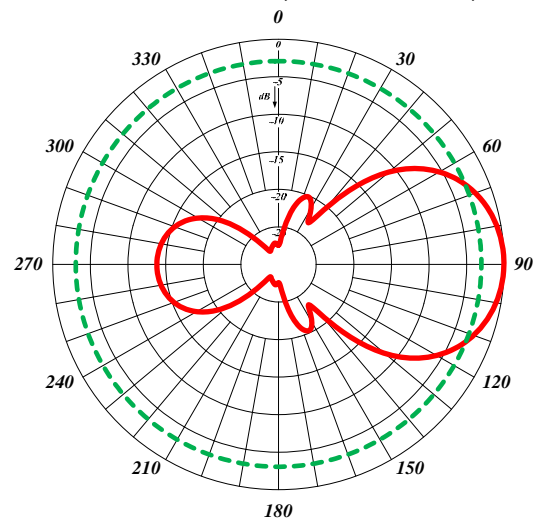
433-70, Vertical Pattern (Vertical Polarization)



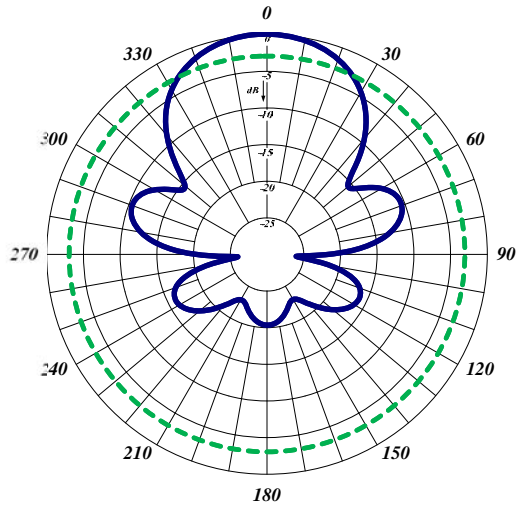
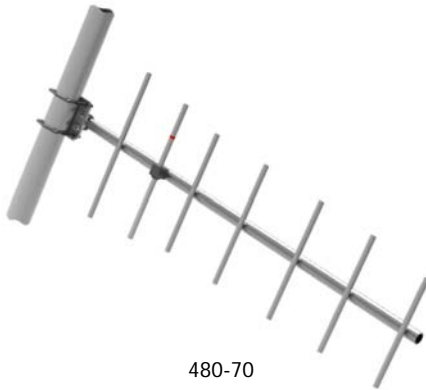
430-70



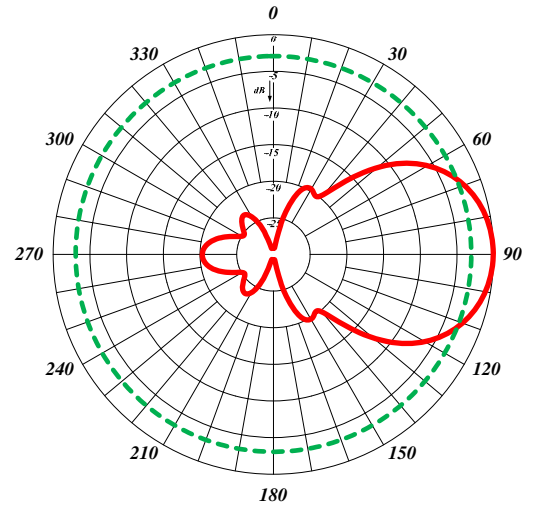
430-70, Horizontal Pattern (Vertical Polarization)



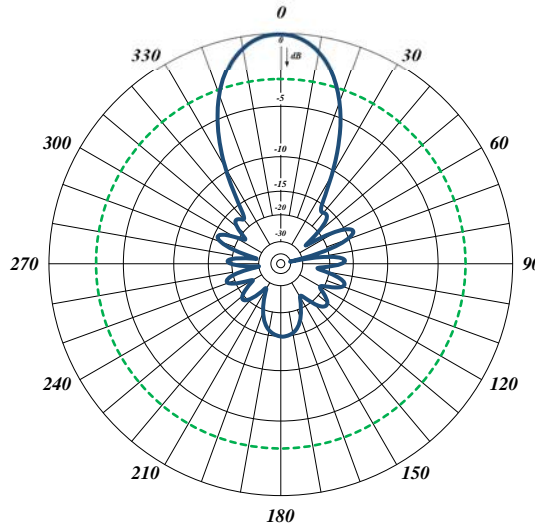
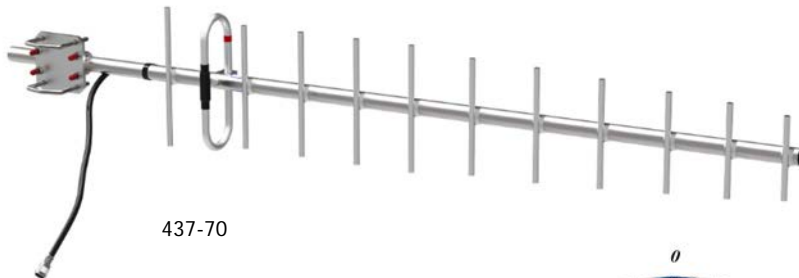
430-70, Vertical Pattern (Vertical Polarization)



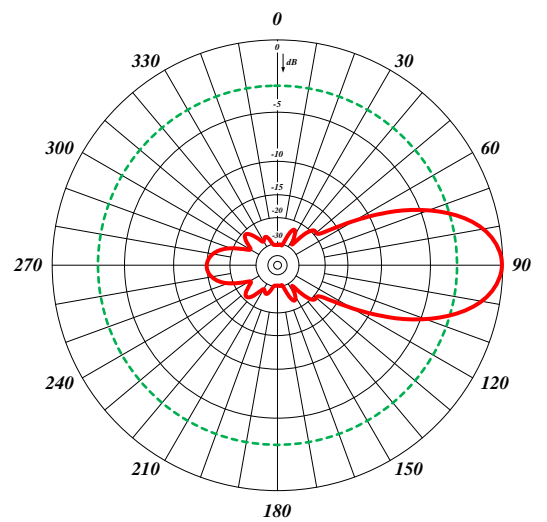
480-70, Horizontal Pattern (Vertical Polarization)



480-70, Vertical Pattern (Vertical Polarization)



437-70, Horizontal Pattern (Vertical Polarization)



437-70, Vertical Pattern (Vertical Polarization)



980 Yagi Antennas Series

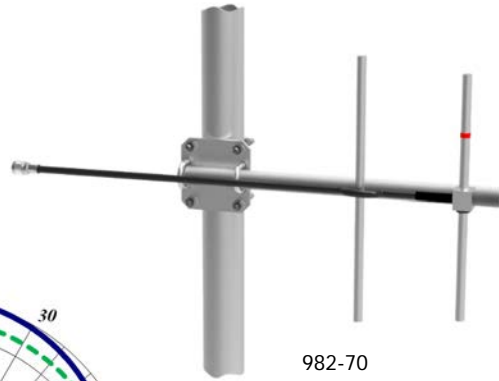
The 980 Yagi Antenna Series are available in 2, 3, 7, 12 element configurations. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, vertically or horizontally polarized.

- Each antenna has a rugged design to withstand harsh environmental conditions.
- The mounting hardware supplied will permit either vertical or horizontal polarization.
- All 980 Series Yagi antennas are fully welded.
- Heavy-duty versions are available. Please contact our Technical Support team for consultation.

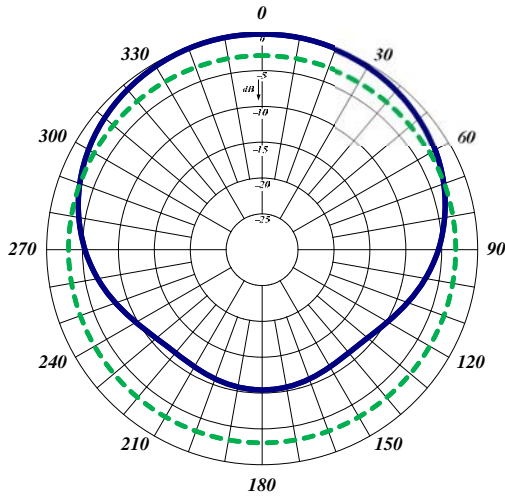
Electrical Specifications	982-70	983-70	980-70	987-70
Frequency Range, MHz (in splits)	900-930	746-960	746-960	746-960
Nominal Gain, dBd	3.5	6.5	10.0	12.0
Number of Elements	2	3	7	12
Bandwidth 1.5:1 VSWR, MHz (Ctr. Freq. %)	30	85	85	85
Polarization	Vertical or Horizontal			
Horizontal Beamwidth (Horizontal Pol.)	128°	99°	56°	41°
Vertical Beamwidth (Horizontal Pol.)	66°	60°	42°	38°
Front to Back, dB	9	16	20	20
Pattern	Directional			
Power Rating, Watts	200	200	200	200
Nominal Impedance, Ohms	50	50	50	50
Standard Termination	Type N Male			
Mechanical Specifications	982-70	983-70	980-70	987-70
Length, in (mm)	11 (280)	13 (330)	27 (686)	41 (1041)
Width, in (mm)	6.5 (165)	8 (203)	8 (203)	8 (203)
Weight, lbs. (kg)	1.7 (0.76)	1.8 (0.82)	2.5 (1.1)	3 (1.4)
Rated Wind Velocity, No Ice, mph (km/h)	160 (257)	160 (257)	150 (241)	140 (225)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	120 (193)	120 (193)	110 (177)	100 (161)
Lateral Thrust @ 100 mph, wind, lbs.(kg)	2.6 (1.2)	2.8 (1.3)	7 (3.2)	11 (5.0)
Projected Area, ft ² (m ²)	0.10	0.13	0.26	0.41
Mounting Hardware Included	127-85 Clamp			



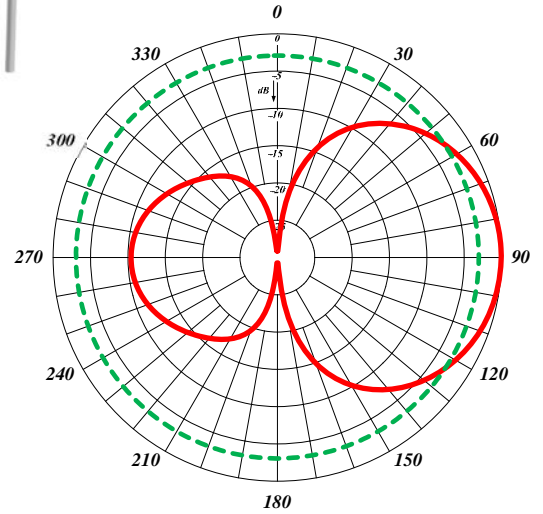
* See appendix for ordering information of different frequency splits (page 234) *



982-70



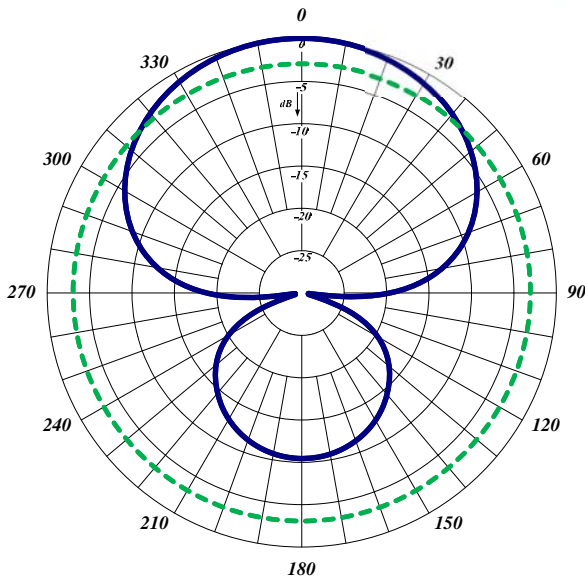
982-70, Horizontal Pattern (Vertical Polarization)



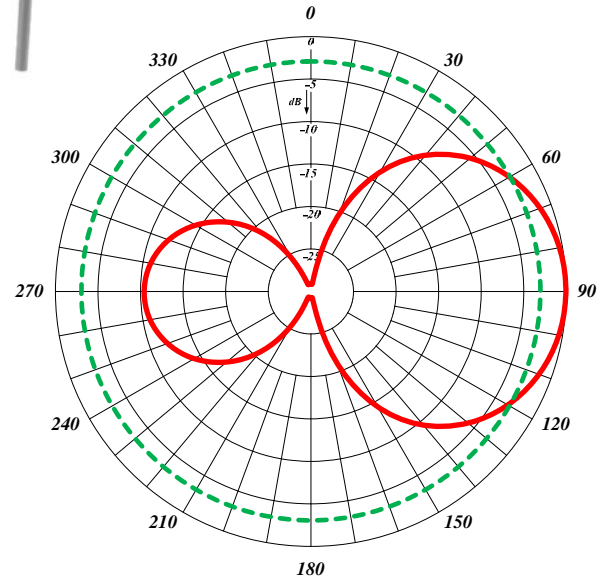
982-70, Vertical Pattern (Vertical Polarization)



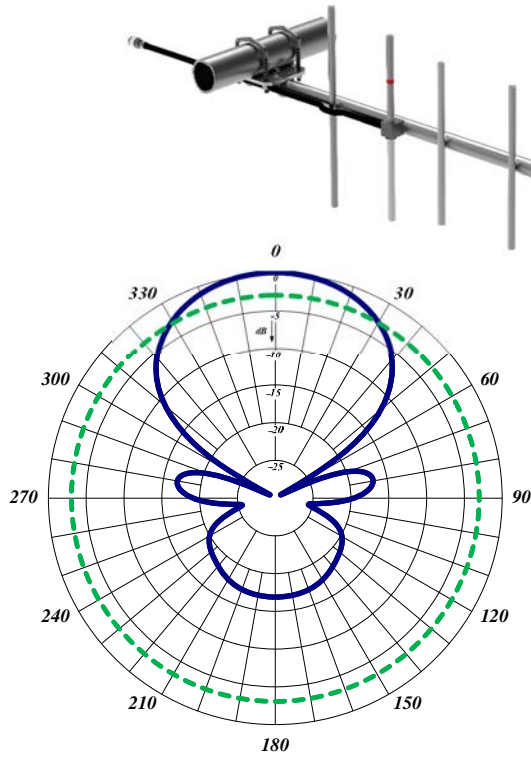
983-70



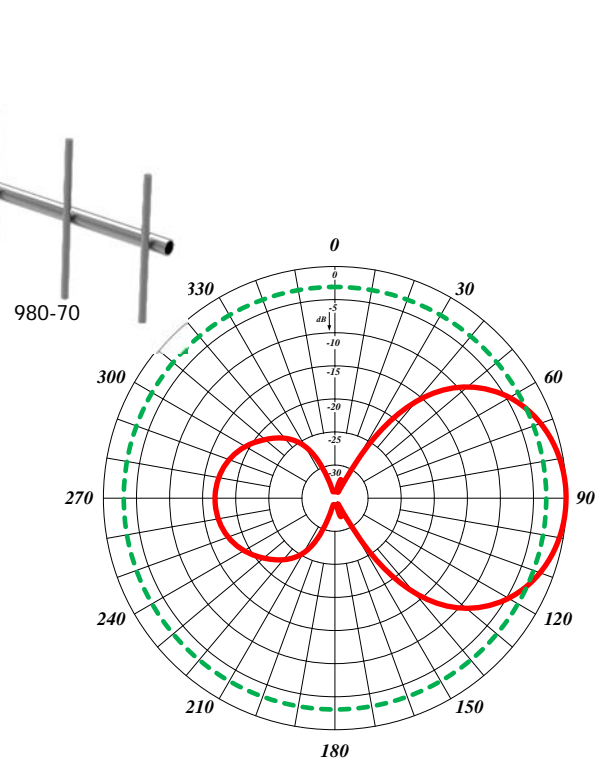
983-70, Horizontal Pattern (Vertical Polarization)



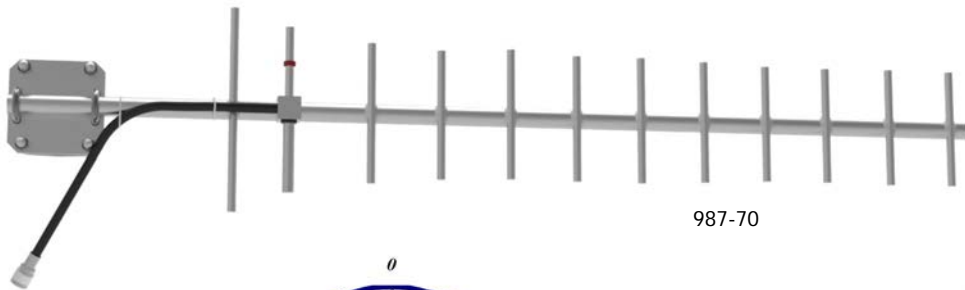
983-70, Vertical Pattern (Vertical Polarization)



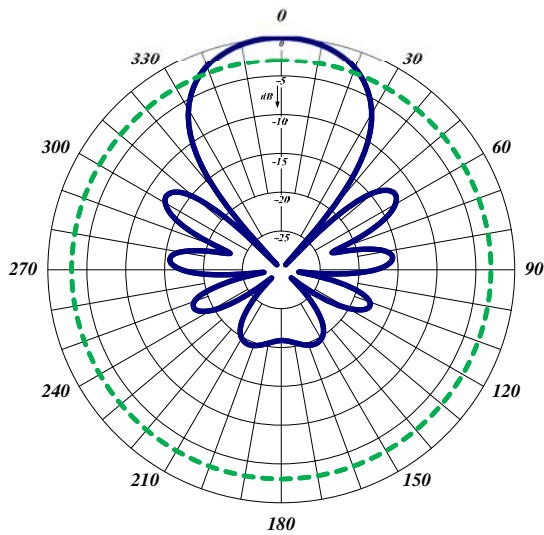
980-70, Horizontal Pattern (Vertical Polarization)



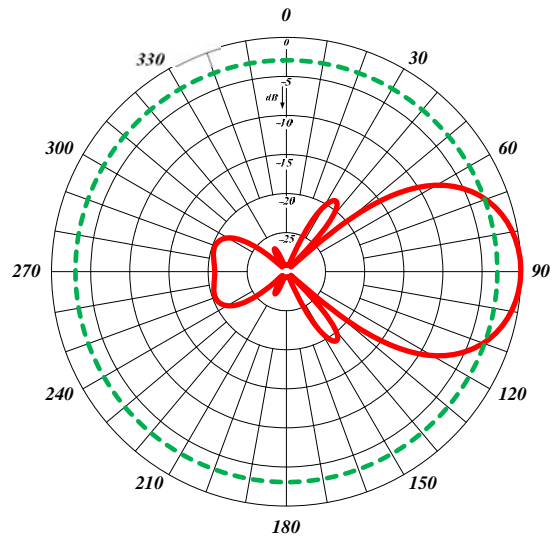
980-70, Vertical Pattern (Vertical Polarization)



987-70



987-70, Horizontal Pattern (Vertical Polarization)



987-70, Vertical Pattern (Vertical Polarization)

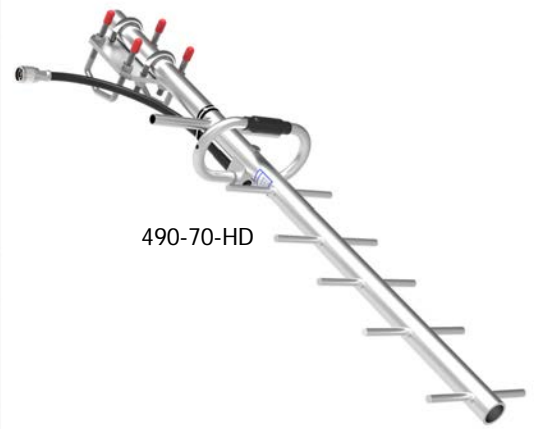


490 Heavy-Duty Yagi Antennas Series

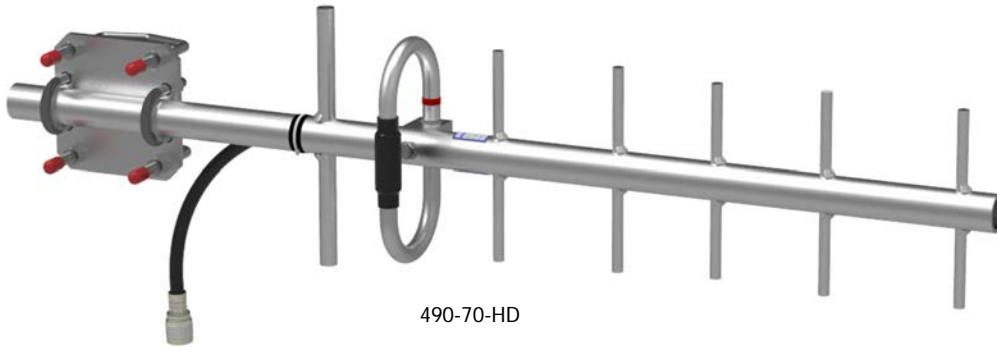
The 490 Heavy-duty Yagi Series is an extremely rugged, 7 elements configuration antenna. All our antennas can be completely customized to your particular applications. Our antennas can be black anodized, vertically or horizontally polarized.

- Each antenna has an extremely rugged design to withstand harsh environmental conditions.
- The mounting hardware supplied will permit either vertical or horizontal polarization.
- The 490 Series Yagi antennas are fully welded.
- DC ground for lightning protection.

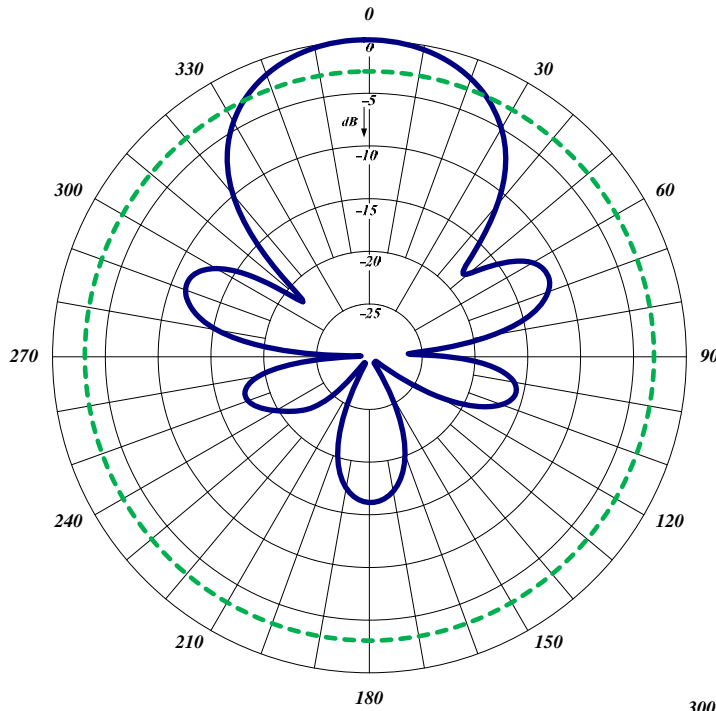
Electrical Specifications	490-70-HD
Frequency Range, MHz (in splits)	806-960
Nominal Gain, dBd	10.0
Number of Elements	7
Bandwidth: 1.5:1 VSWR, MHz	85
Polarization	Vert. or Horiz.
Horizontal Beamwidth (Horizontal Pol.)	56°
Vertical Beamwidth (Horizontal Pol.)	42°
Front to Back, dB	20
Pattern	Directional
Power Rating, Watts	200
Nominal Impedance, Ohms	50
Standard Termination	Type N Male
Mechanical Specifications	490-70-HD
Length, in (mm)	27 (686)
Width, in (mm)	8 (203)
Weight, lbs. (kg)	2.5 (1.1)
Rated Wind Velocity, No Ice, mph (km/h)	150 (241)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	150 (241)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	38 (17)
Bending Moment @ top clamp: 100 mph, ft.*lb (kg*m)	13 (1.8)
Projected Area, ft ² (m ²)	0.4 (0.04)
Mounting Hardware Included	127-85



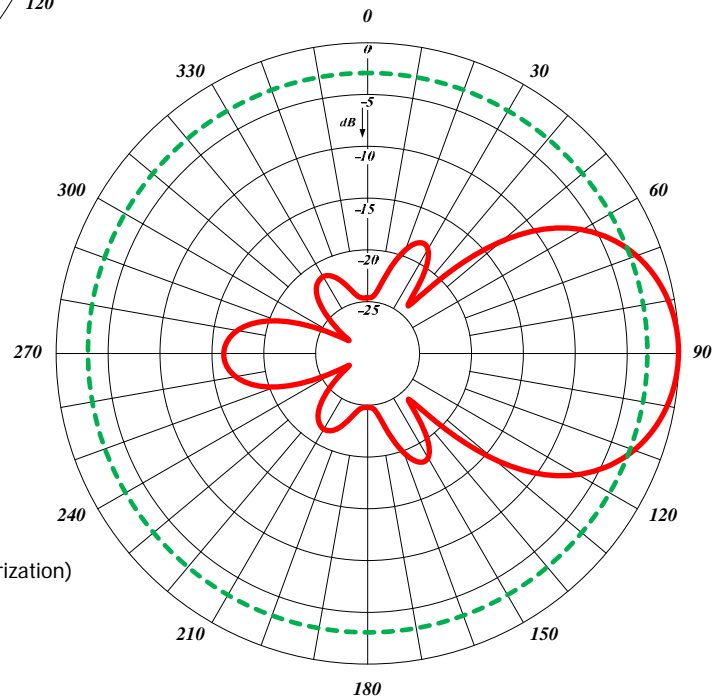
* See appendix for ordering information of different frequency splits (page 235) *



490-70-HD



490-70, Horizontal Pattern (Vertical Polarization)



490-70, Vertical Pattern (Vertical Polarization)



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.
- The PVC radome models are our Heavy-Duty Versions.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).



490-70-HDR

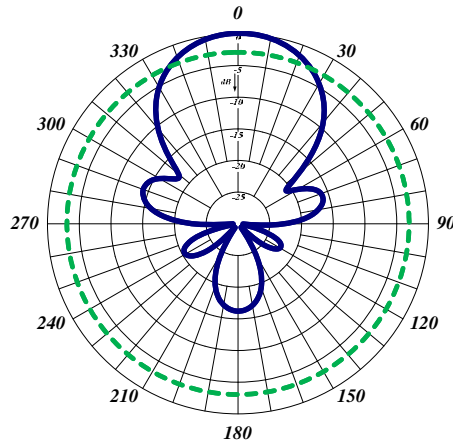
Electrical Specifications	425-70-HDR	426-70-R	490-70-HDR
Frequency Range, MHz (in splits)	406-470	406-470	746-960
Nominal Gain, dBd	10	10	10
Number of Elements	7	7	7
Bandwidth: 1.5:1 VSWR, MHz	20	20	72
Polarization	Vert./Hor.		
Horizontal Beamwidth (Horizontal Pol.)	62°	62°	56°
Vertical Beamwidth (Horizontal Pol.)	48°	48°	42°
Front to Back, dB	20	20	20
Pattern	Directional		
Power Rating, Watts	250	250	150
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		

Mechanical Specifications	425-70-HDR	426-70-R	490-70-HDR
Length, in (mm)	31 (787)	30 (762)	29 (737)
Width, 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

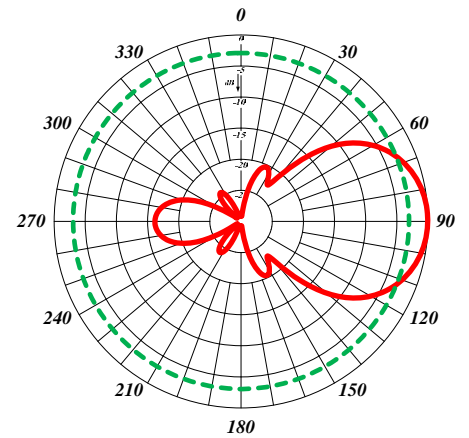
* See appendix for ordering information of different frequency splits (page 235) *



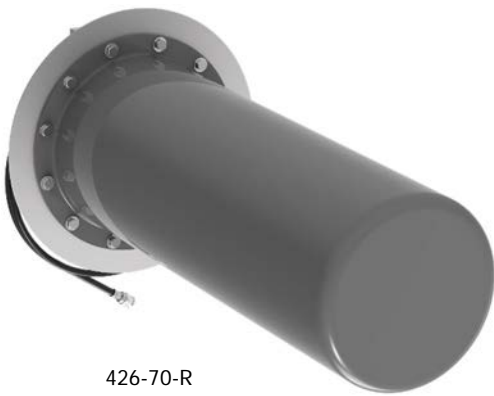
425-70-HDR



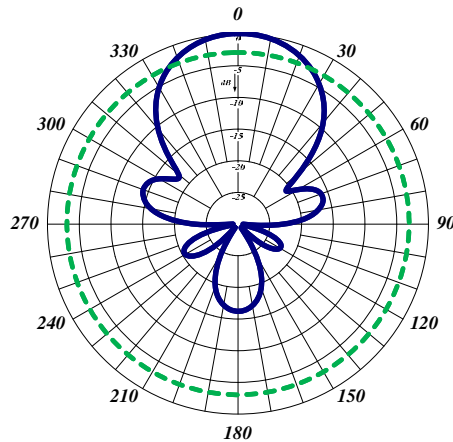
425-70-HDR Horizontal pattern (Vertical Polarization)



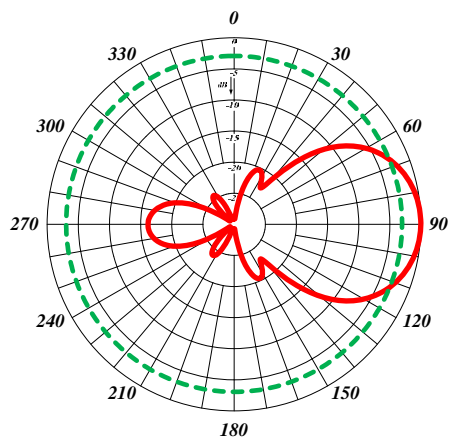
425-70-HDR Vertical Pattern (Vertical Polarization)



426-70-R



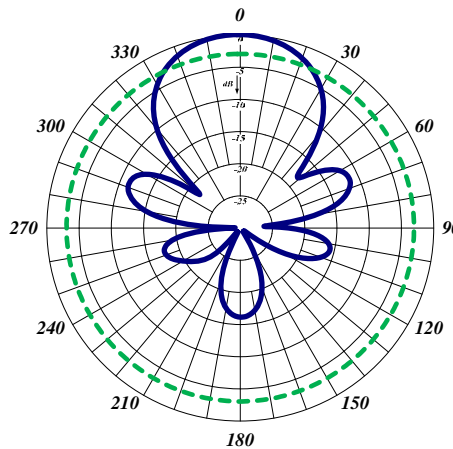
426-70-R Horizontal pattern (Vertical Polarization)



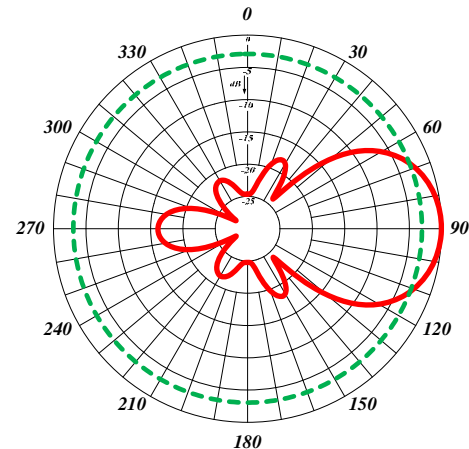
426-70-R Vertical Pattern (Vertical Polarization)



490-70-HDR



490-70-HDR Horizontal pattern (Vertical



490-70-HDR Vertical Pattern (Vertical



VHF Corner Reflector Antenna Series

The Corner Reflector Antennas are available in VHF configurations, in addition these antennas have a very high front-to-back ratio. They are broadband and ideal for point-to-point applications. Performance is constant throughout the band.

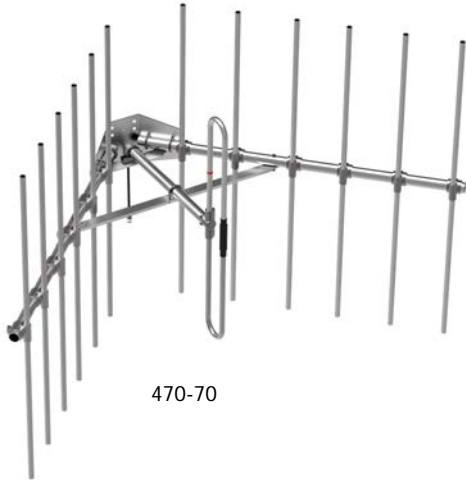
- Each antenna has a rugged design to withstand harsh environmental conditions.
- Single dipole mounted in the front of a 90° reflector, providing good directivity.
- These antennas have ultra-low VSWR ratings and will not exceed 2.0:1 VSWR ratio with 0.5" of radial ice.
- The mounting hardware supplied allows either vertical or horizontal polarization.
- DC ground for lightning protection. Heavy-duty versions are available.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).
- Please contact our Technical Support team for consultation.

Electrical Specifications	470-70	470-70-HD	471-70	471-70-HD
Frequency Range, MHz	138-174	138-174	138-174	138-174
Nominal Gain, dBd	7.0	7.0	10.0	10.0
Bandwidth: 1.5:1 VSWR, MHz	36	36	36	36
Polarization	Vertical or Horizontal			
Horizontal Beamwidth (Vert. Pol.)	67°	67°	50°	50°
Vertical Beamwidth (Vert. Pol.)	75°	75°	66°	66°
Front to Back, dB	30	30	30	30
Pattern	Directional			
Power Rating, Watts	250	250	250	250
Nominal Impedance, Ohms	50	50	50	50
Lightning Protection	DC Ground			
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version			

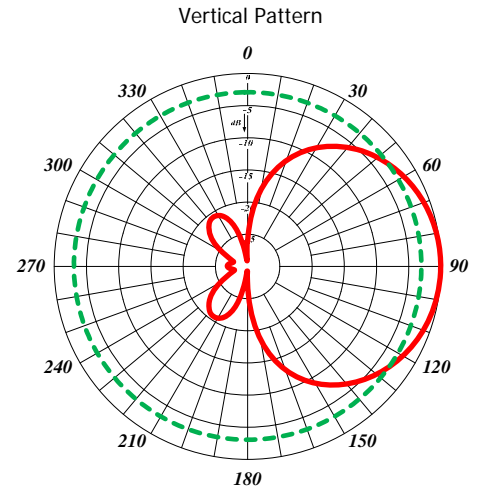
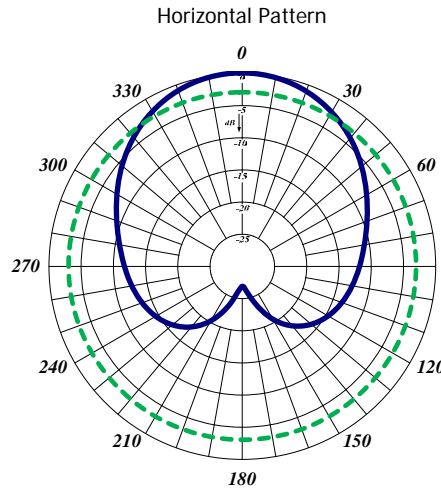


470-70-HD

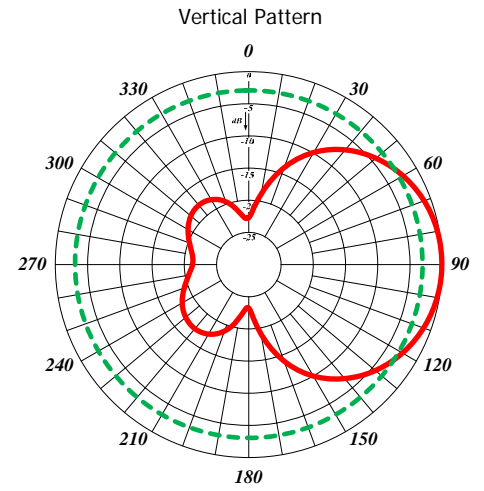
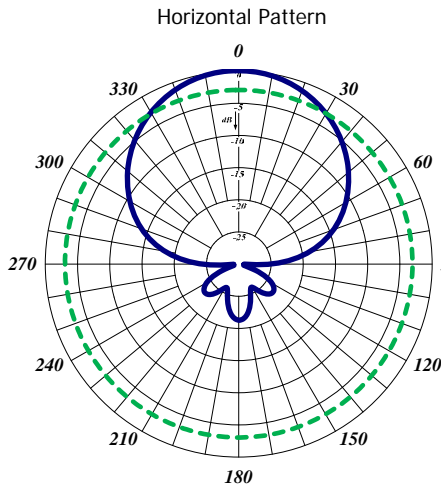
Mechanical Specifications	470-70	470-70-HD	471-70	471-70-HD
Length, in (mm)	48 (1219)	48 (1219)	72 (1829)	72 (1829)
Width, in (mm)	75 (1905)	75 (1905)	120 (3048)	120 (3048)
Weight, lbs. (kg)	39 (17.7)	57 (25.8)	66 (30)	72 (32.7)
Rated Wind Velocity, No Ice, mph (km/h)	100 (61)	140 (225)	100 (61)	140 (225)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	85 (137)	100 (161)	85 (137)	100 (161)
Lateral Thrust @ 100 mph, wind, lbs.	144 (65)	236 (107)	320 (145)	398 (181)
Projected Area, ft ² (m ²)	5.3 (0.5)	8.8 (0.82)	11.9 (1.10)	14.8 (1.38)
Mounting Hardware Included	173-85 Clamp	173-85 Clamp	173-85 Clamp	173-85 Clamp

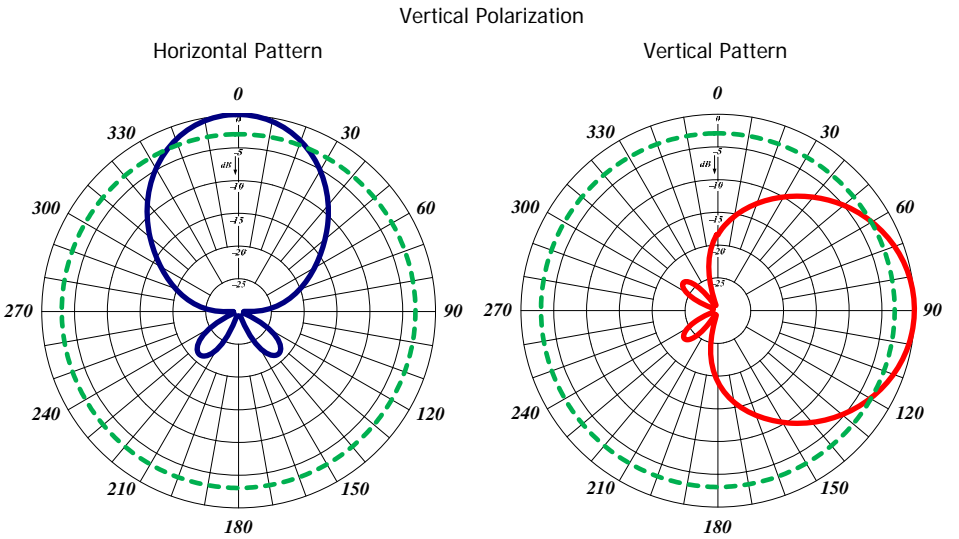
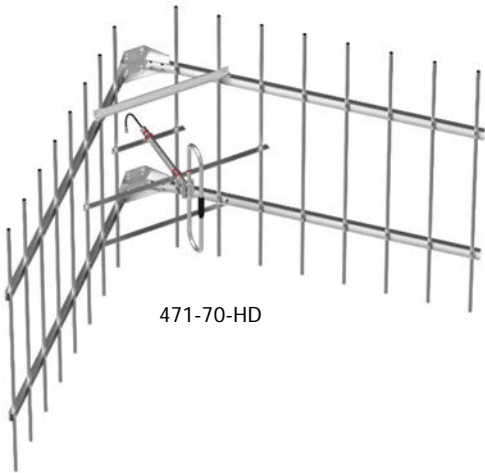
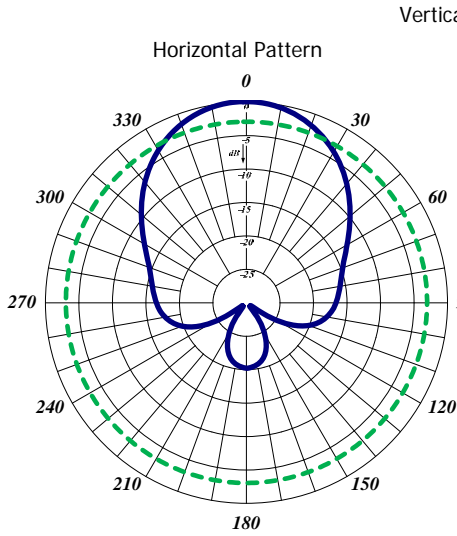
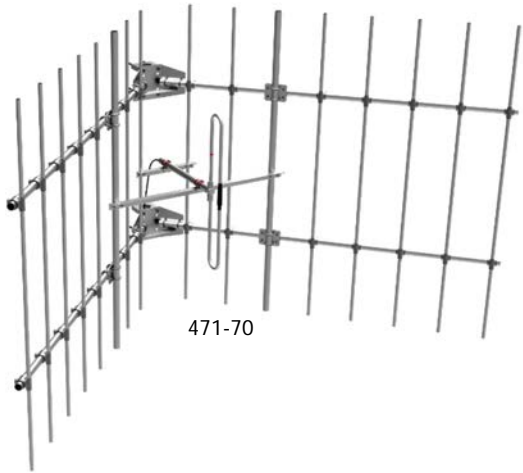


Vertical Polarization



Vertical Polarization







220MHz Corner Reflector Antenna Series

The Corner Reflector Antennas are available in 220 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.

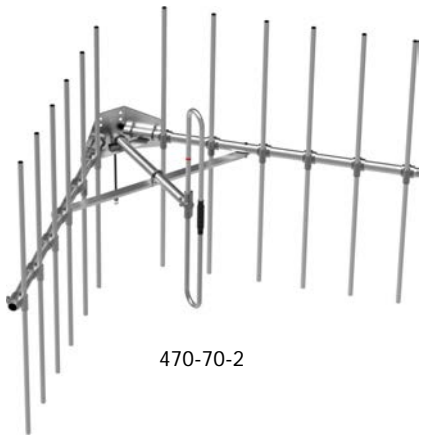
- Each antenna has a rugged design to withstand harsh environmental conditions.
- Single or Dual Dipole mounted in the front of a 90° reflector, providing good directivity.
- These antennas have ultra-low VSWR ratings and will not exceed 2.0:1 VSWR ratio with 0.5" of radial ice.
- The supplied mounting hardware allows either vertical or horizontal polarization. DC ground for lightning protection. Heavy-duty versions are available.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).
- 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	Vertical or Horizontal		
Horizontal Beamwidth (Vert. Pol.)	67°	67°	50°
Vertical Beamwidth (Vert. Pol.)	75°	75°	66°
Front to Back, dB	30	30	30
Pattern	Directional		
Power Rating, Watts	250	250	250
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		

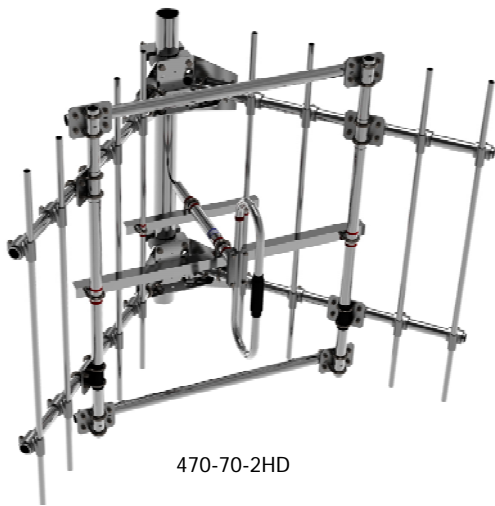
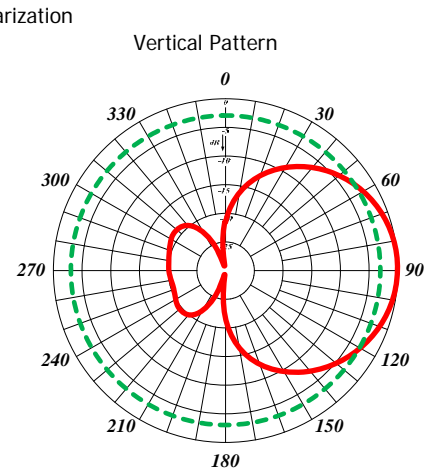
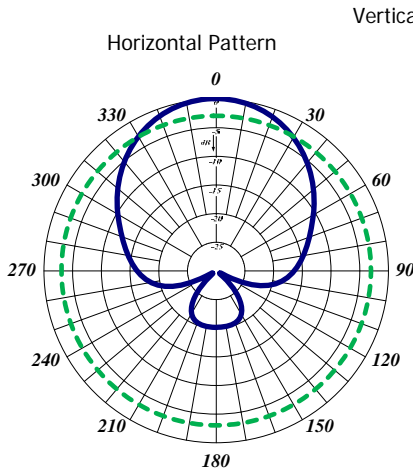
Mechanical Specifications	470-70-2	470-70-2HD	471-70-2
Length, in (mm)	48 (1219)	48 (1219)	72 (1829)
Width, in (mm)	75 (1905)	75 (1905)	120 (3048)
Weight, lbs. (kg)	39 (17.7)	57 (25.8)	55 (30)
Rated Wind Velocity, No Ice, mph (km/h)	100 (161)	140 (225)	100 (161)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	85 (137)	100 (161)	85 (137)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	144 (65)	236 (107)	320 (145)
Projected Area, ft ² (m ²)	5.3 (0.5)	8.8 (0.82)	11.9 (1.10)
Mounting Hardware Included	172-85 Clamp	172-85 Clamp	172-85 Clamp



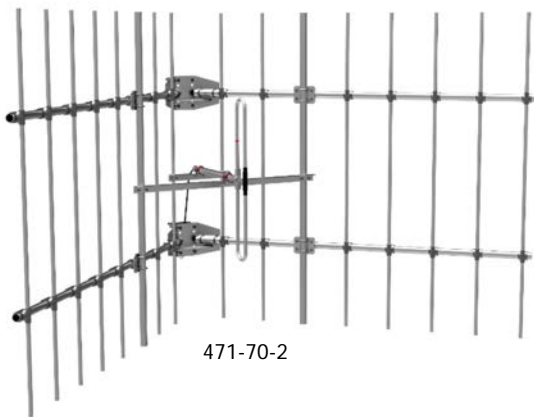
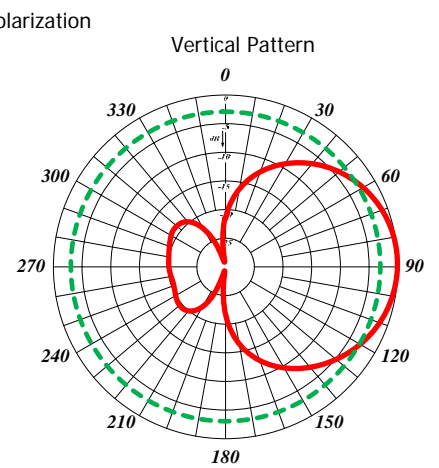
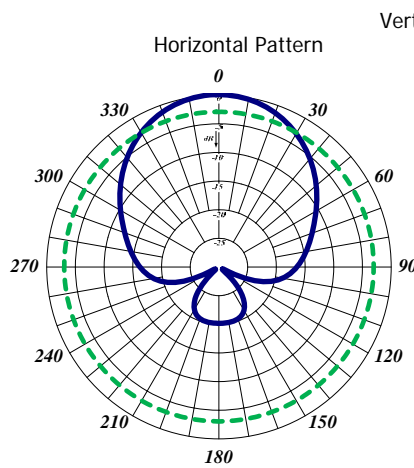
470-70-2HD



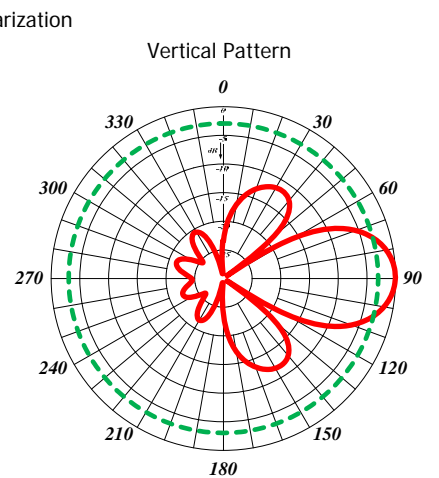
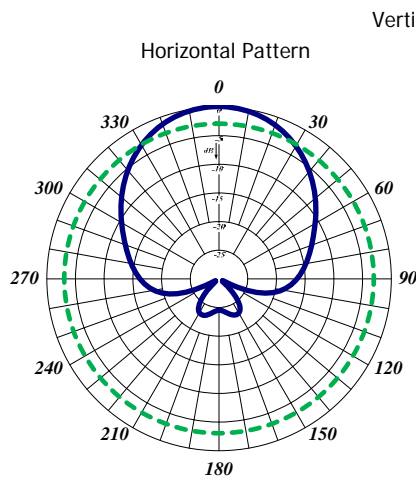
470-70-2



470-70-2HD



471-70-2



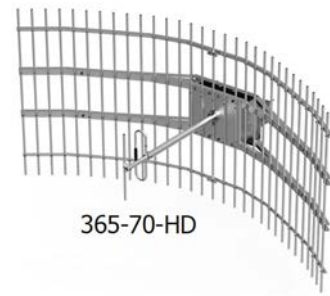


UHF Corner Reflector Antenna Series

The Corner Reflector Antennas are available in UHF 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.

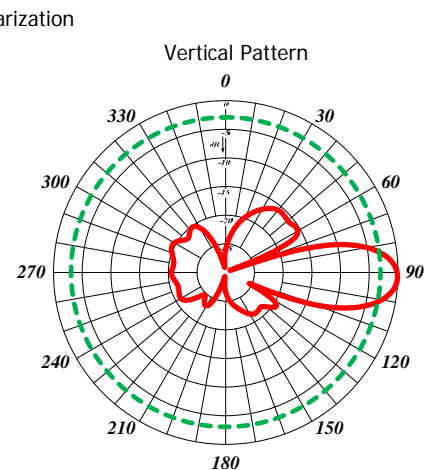
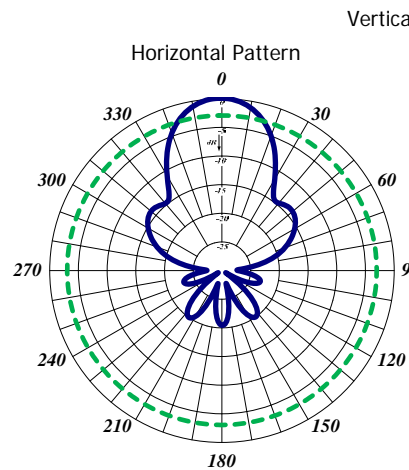
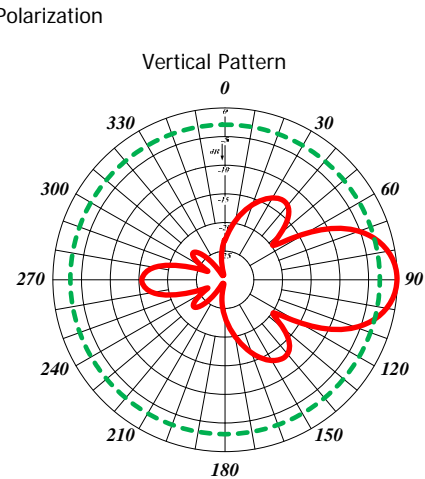
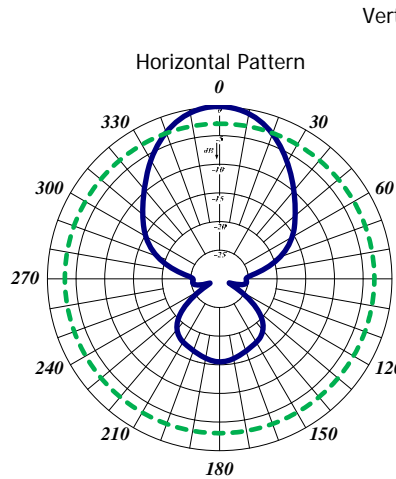
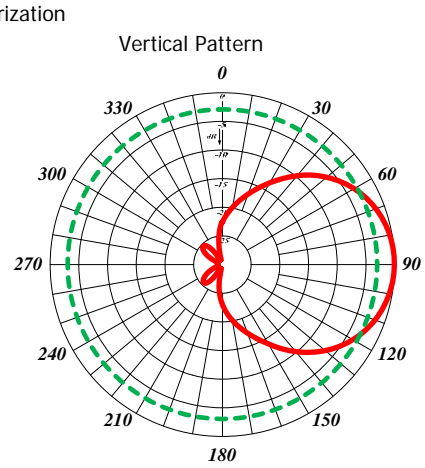
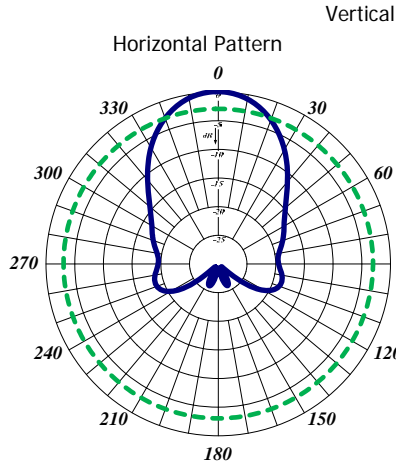
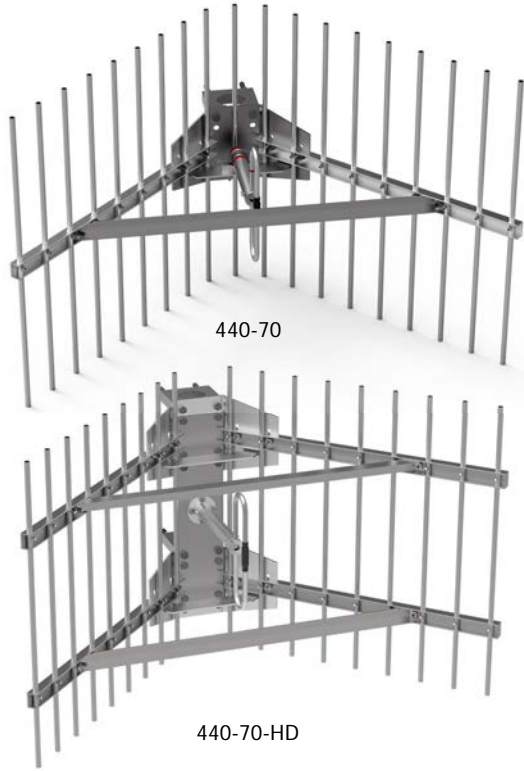
- Single or Dual Dipole mounted in the front of a 90° reflector, providing good directivity.
- The 365-70 is a highly directive parabolic antenna consisting of a back-firing dipole reflector assembly for increased gain and directivity.
- The mounting hardware supplied will permit either vertical or horizontal polarization. DC ground for lightning protection. Heavy-duty versions are available.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).
- Please contact our Technical Support team.

Electrical Specifications	440-70	440-70-HD	442-70-HD	365-70-HD
Frequency Range, MHz (in splits)	406-512	406-512	406-512	406-470
Nominal Gain, dBd	9.5	9.5	12.0	15.0
Bandwidth: 1.5:1 VSWR, MHz	64	64	64	20
Polarization	Vertical or Horizontal			
Horizontal Beamwidth (Vert. Pol.)	60°	60°	40°	32°
Vertical Beamwidth (Vert. Pol.)	45°	45°	34°	18°
Front to Back, dB	25	25	25	24
Pattern	Directional			
Power Rating, Watts	100	100	100	250
Nominal Impedance, Ohms	50	50	50	50
Lightning Protection	DC Ground			
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version			
Mechanical Specifications	440-70	440-70-HD	442-70-HD	365-70-HD
Length, in (mm)	30 (762)	30 (762)	48 (1219)	82 (2083)
Width, in (mm)	50 (1905)	50 (1905)	50 (1905)	41 (1041)
Weight, lbs. (kg)	22 (10)	36 (16)	42 (19.1)	25 (11.3)
Rated Wind Velocity, No Ice, mph (km/h)	125 (201)	135 (217)	125 (201)	100 (161)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	85 (137)	95 (153)	85 (137)	85 (137)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	97 (44)	210 (934)	185 (84)	233 (109)
Projected Area, ft ² (m ²)	3.6 (0.34)	3.6 (0.34)	6.9 (0.64)	8.7 (0.8)
Mounting Hardware Included	172-85 Clamp	172-85 Clamp	172-85 Clamp	172-85 Clamp



365-70-HD

* See appendix for ordering information of different frequency splits (page 235) *



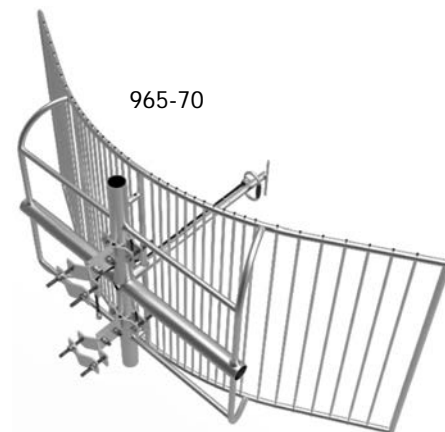


Parabolic Reflector Series Antennas

The Reflector antenna is a SRSP-507 Category A compliant antenna. These antennas have a very high front-to-back ratio. They are broadband and are ideal for point-to-point applications where restrictions on beam width are present. Performance is constant throughout the band.

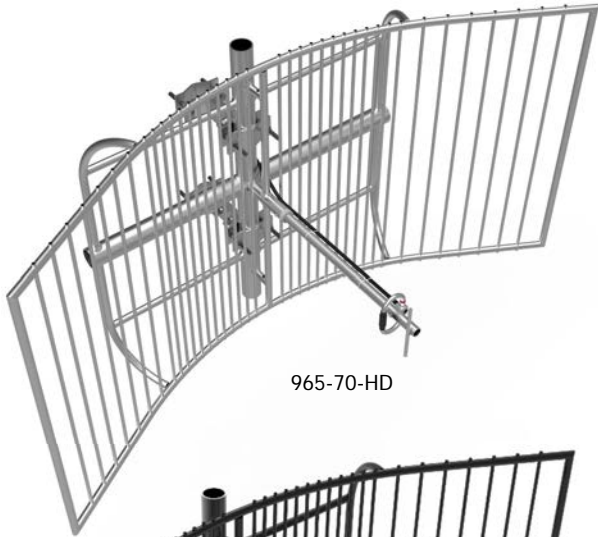
- Mechanical resonance reducing design.
- Each antenna has a rugged design to withstand harsh environmental conditions.
- The 965-70 is a highly-directive parabolic antenna consisting of a back-firing dipole reflector assembly for increased gain and directivity.
- These antennas have ultra-low VSWR ratings and will not exceed 1.5:1 VSWR ratio with 0.5" of radial ice.
- The mounting hardware supplied will permit either vertical or horizontal polarization. DC ground for lightning protection. Black Anodized and Dipole Radome protected versions are available.
- This antenna is available in Low-PIM (-150 dBc; two 20W carriers).
- Please contact our Technical Support team for consultation.

Electrical Specifications	965-70-HD	965-70-HDB	965-70-HDBR
Frequency Range, MHz (in splits)	764-960	764-960	764-960
Nominal Gain, dBd	16.5	16.5	16.5
Bandwidth: 1.5:1 VSWR, MHz	72	72	72
Front to Back, dB	25	25	25
Pattern	Directional		
Power Rating, Watts	200	200	200
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male for standard version – DIN 7/16 or 4.3/10 for Low-PIM version		
Mechanical Specifications	965-70-HD	965-70-HDB	965-70-HDBR
Length, in (mm)	68 (1727)	68 (1727)	68 (1727)
Width, in (mm)	36 (914)	36 (914)	36 (914)
Weight, lbs. (kg)	49 (22.3)	49 (22.3)	51 (23.2)
Rated Wind Velocity, No Ice, mph (km/h)	110 (177)	110 (177)	110 (177)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	85 (137)	85 (137)	85 (137)
Lateral Thrust @ 100 mph, wind, lbs. (kg)	1.9 (0.46)	1.9 (0.46)	1.9 (0.46)
Projected Area, ft ² (m ²)	4.9 (0.46)	4.9 (0.46)	5 (0.47)
Mounting Hardware Included	112-85 Clamp	112-85 Clamp	112-85 Clamp

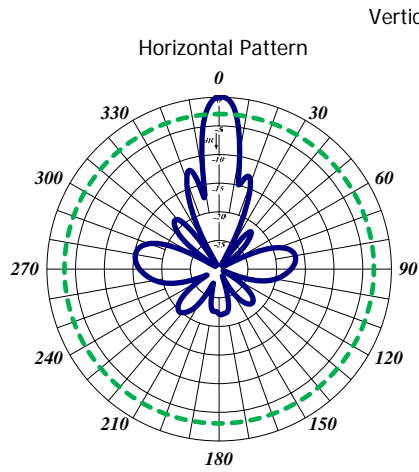


965-70

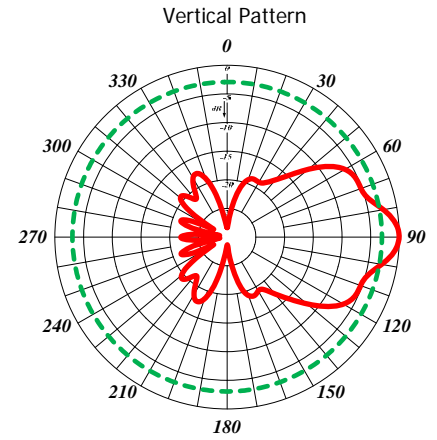
* See appendix for ordering information of different frequency splits (page 235) *



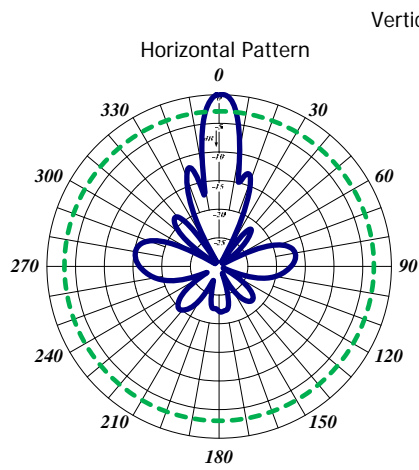
965-70-HD



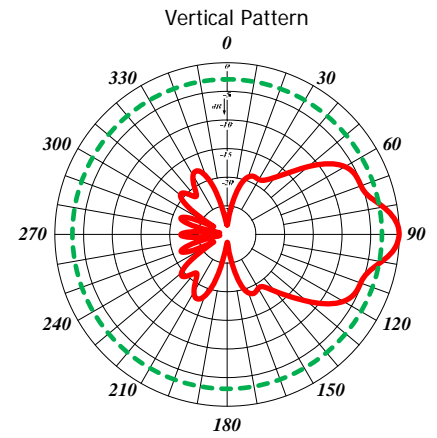
Vertical Polarization



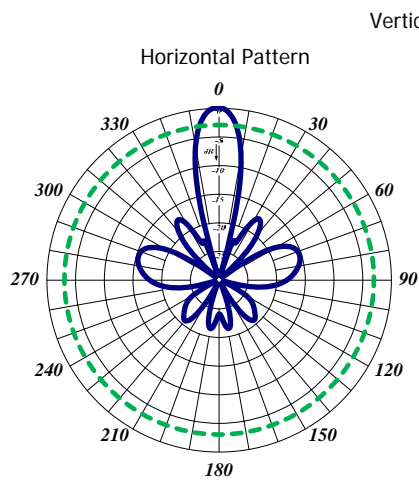
965-70-HDB



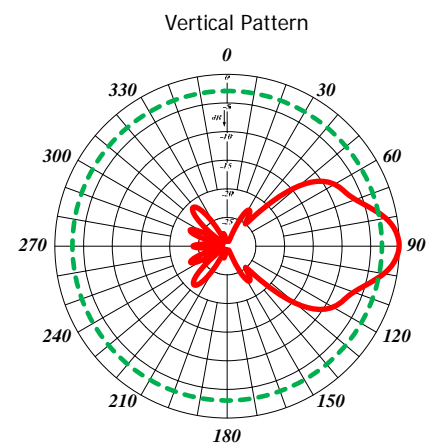
Vertical Polarization



965-70-HDBR



Vertical Polarization

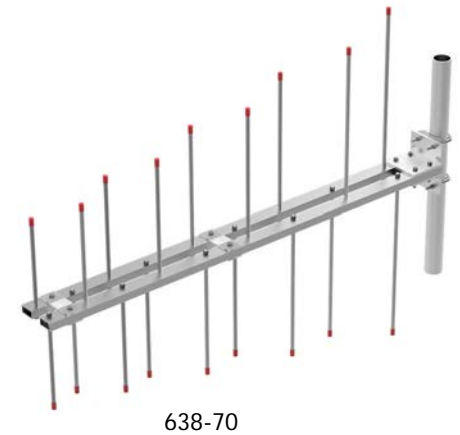


VHF Log Periodic Series Antennas

The Log Periodic Antennas are available in VHF and UHF configurations. These antennas have an extremely good front-to-back ratio. They are wideband and are ideal for base station or in-building applications. These antennas are great for providing underground coverage within garages. Performance is constant throughout the band.

- 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.
- Please contact our Technical Support team for consultation.

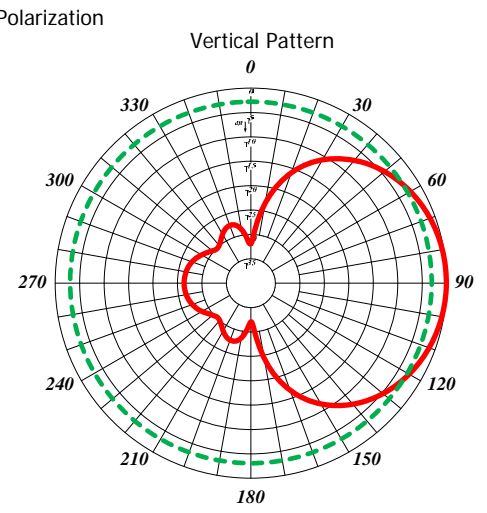
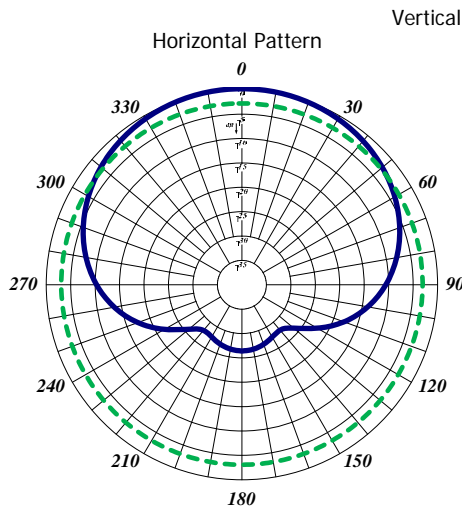
Electrical Specifications	635-70	655-70	638-70
Frequency Range, MHz	138-174	138-174	138-174
Nominal Gain, dBd	6.0	9.0	8.0
Bandwidth: 1.5:1 VSWR, MHz	42	42	36
Polarization	Vertical or Horizontal		
Horizontal Beamwidth (Vert. Pol.)	106°	106°	75°
Vertical Beamwidth (Vert. Pol.)	60°	30°	55°
Front to Back, dB	25	25	25
Pattern	Directional		
Power Rating, Watts	500	500	500
Nominal Impedance, Ohms	50	50	50
Lightning Protection	DC Ground		
Standard Termination	Type N Male		
Mechanical Specifications	635-70	655-70	638-70
Length, in (mm)	42 (1067)	42 (1067)	60 (1524)
Width, in (mm)	44 (1118)	44 (1118)	44.5 (1130)
Weight, lbs. (kg)	8 (3.6)	16 (7.2)	16.8 (7.8)
Rated Wind Velocity, No Ice, mph (km/h)	158 (254)	158 (254)	150 (241)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	108 (173)	108 (173)	108 (173)
Lateral Thrust @ c, wind, lbs. (kg)	31 (14)	31 (14)	47.5 (21.5)
Torsional Moment @ 100 mph, ft.*lb (kg*m)	56 (7.8)	N/A	121 (16.7)
Projected Area, ft ² (m ²)	0.86 (0.08)	0.86 (0.08)	1.26 (0.120)
Mounting Information: (clamp included) for pipe size O.D. in (mm)	1" to 2.5" (64)	1" to 2.5" (64)	1" to 2.5" (64)



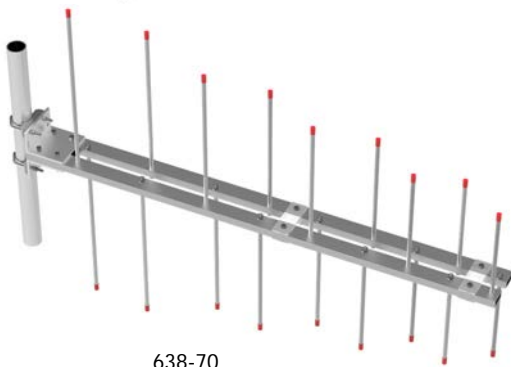
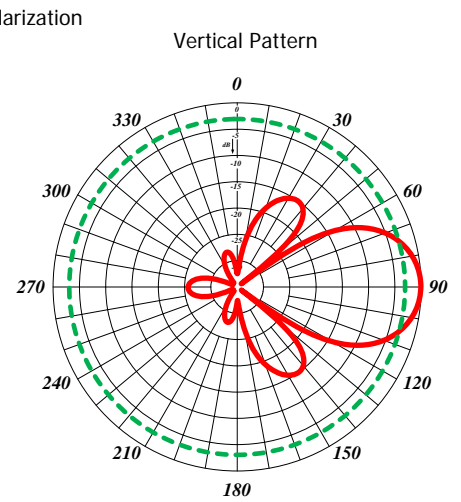
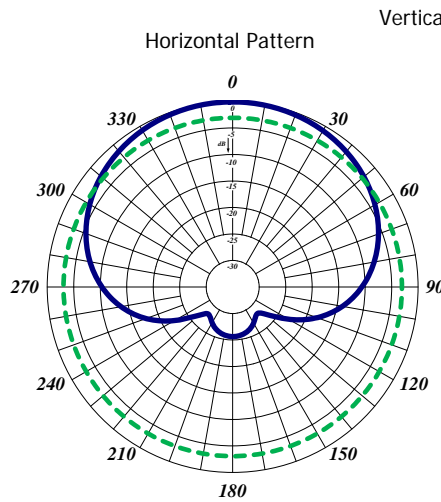
* See appendix for ordering information (page 236) *



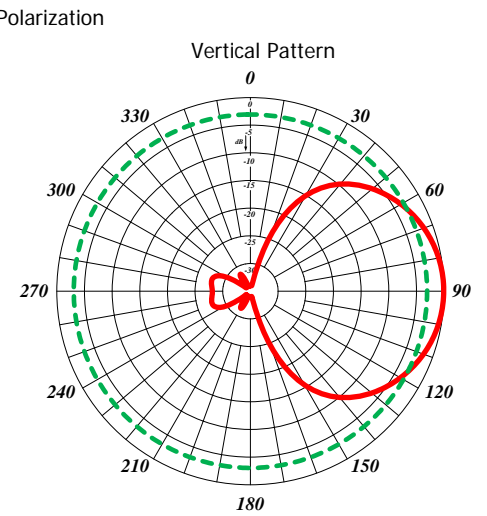
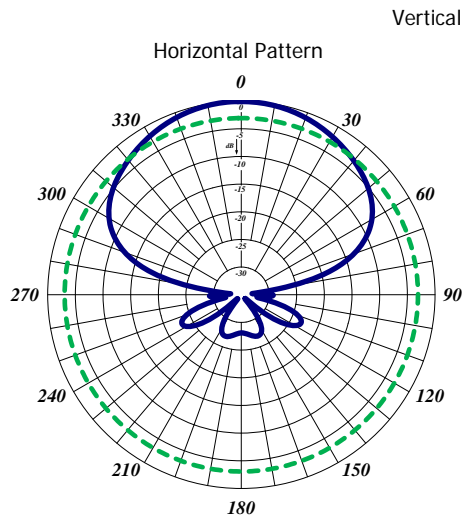
635-70



655-70



638-70



UHF Log Periodic Series Antennas

The Log Periodic Antennas are available in VHF and UHF configurations. These antennas have a very high front-to-back ratio. They are wideband and are ideal for base station or in-building applications. We have had great success with these antennas providing underground coverage within garages. Performance is constant throughout the band.

- 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.
- Please contact our Technical Support team for consultation.

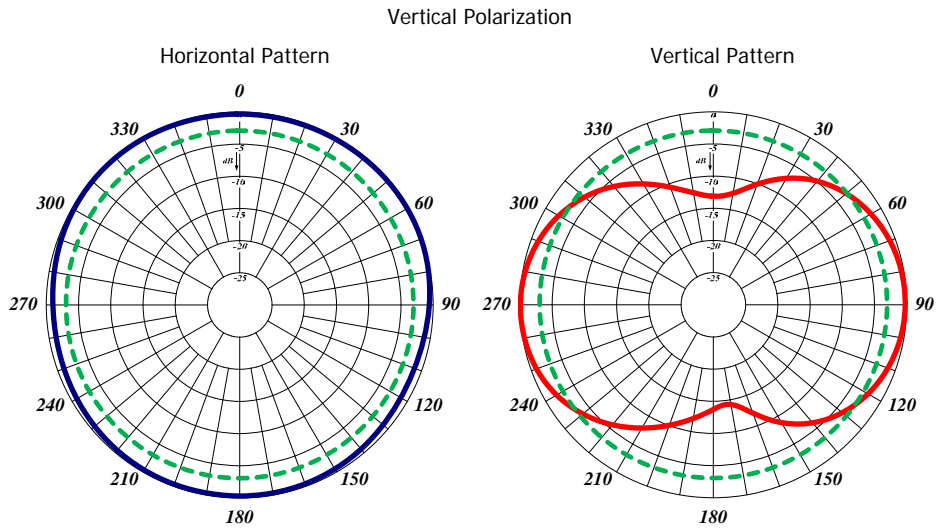
Electrical Specifications	415-70	465-70
Frequency Range, MHz (in splits)	406-512	406-512
Nominal Gain, dBd	Unity	6.0
Bandwidth: 1.5:1 VSWR, MHz	40	64
Polarization	Vertical or Horizontal	
Horizontal Beamwidth (Vert. Pol.)	N/A	106°
Vertical Beamwidth (Vert. Pol.)	84°	60°
Front to Back, dB	N/A	20
Pattern	Directional	
Power Rating, Watts	250	250
Nominal Impedance, Ohms	50	50
Lightning Protection	DC Ground	
Standard Termination	Type N Male	
Mechanical Specifications	415-70	465-70
Length, in (mm)	18 (457)	15 (381)
Width, in (mm)	14.3 (362)	16 (406)
Weight, lbs. (kg)	2.6 (1.2)	3.3 (1.47)
Rated Wind Velocity, No Ice, mph (km/h)	160 (257)	150 (241)
Rated Wind Velocity, 0.5" (13mm) ice, mph (km/h)	120 (193)	110 (177)
Lateral Thrust @ c, wind, lbs. (kg)	12 (5.4)	14 (6.4)
Torsional Moment @ 100 mph, ft.*lb (kg*m)	6.3 (0.88)	6.4 (0.89)
Projected Area, ft ² (m ²)	0.44 (0.04)	0.50 (0.05)
Mounting Information: Max Pipe Size (mm)	1" to 2.5" (64)	1" to 2.5" (64)



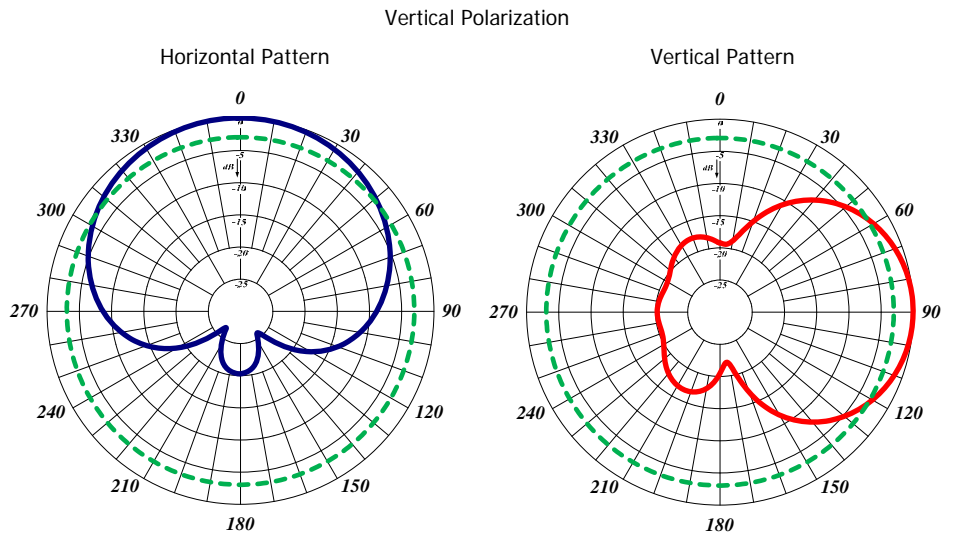
* See appendix for ordering information of different frequency splits (page 236) *



415-70



465-70

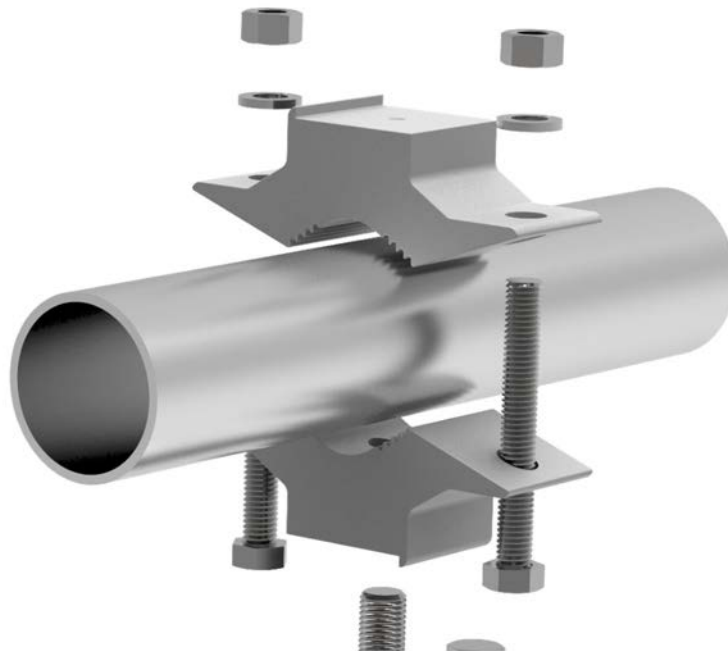


Clamps

Our offering of clamps has evolved over the last 45 years and is among the **greatest in the industry**. We offer standard clamp designs as well as many **custom-designed** examples for customers with **unique installation requests**.

Our industry-proven clamps will provide **strong and reliable mounting** for antennas **to pipes, angles and flat surfaces**.

Most of our clamps are fabricated using **hot-dipped galvanized high-grade steel**. They incorporate **oversized U-bolts** and **fastening hardware**. We also offer **stainless steel** versions as an alternative for use in **extremely corrosive** environments.



90° PIPE-TO-PIPE

Model	1st Pipe	2nd Pipe	Clamp Material	Screw Material
110-85	1.5" to 3.5" dia.	2.25" to 5" dia.	Steel HDG	Steel HDG
110R-85	1.5" dia.	2.25" to 5" dia.	Steel HDG	Steel HDG
115-85	1.5" to 3.5" dia.	1.5" to 3.5" dia.	Steel HDG	Steel HDG
115R-85	1.5" dia.	1.5" to 3.5" dia.	Steel HDG	Steel HDG
124-85	1" to 2.4" dia.	1" to 2.4" dia.	Aluminum	Steel HDG
127-85	1" dia.	1" to 2.4" dia.	Aluminum	Steel HDG
132-85	1.9" dia.	1" dia.	Aluminum Cast	Stainless Steel
134-85	1.5" dia.	0.75" dia.	Aluminum Cast	Stainless Steel
171-85	1.9" dia.	1.9" dia.	Aluminum Cast	Steel HDG
181-85	1.5" dia.	1" to 2.4" dia.	Aluminum	Steel HDG
185-85	1.9" dia.	1.5" dia.	Aluminum Cast	Steel HDG



110-85
110R-85
115-85
115R-85

HDG=Hot Dip Galvanized



124-85



127-85



132-85
171-85



134-85



181-85



185-85



PARALLEL PIPE-TO-PIPE

Model	1st Pipe	2nd Pipe	Clamp Material	Screw Material
107-85	1.5" to 3.5" dia.	1.5" to 3.5" dia.	Steel HDG	Steel HDG
107R-85	1.5" dia.	1.5" to 3.5" dia.	Steel HDG	Steel HDG
108-85	2.5" to 5" dia.	2.5" to 5" dia.	Steel HDG	Steel HDG
112-85	1.5" to 3.5" dia.	1.5" to 3.5" dia.	Steel HDG	Steel HDG
112L-85	2.25" to 5" dia.	2.25" to 5" dia.	Steel HDG	Steel HDG
112M-85	1.5" to 3.5" dia.	2.25" to 5" dia.	Steel HDG	Steel HDG
126-85	1.5" dia.	1.5" to 2.4" dia.	Aluminum	Steel HDG
167-85	1.5" dia.	0.75" to 2.375" dia.	Steel HDG	Steel HDG
167B-85	0.75" dia.	0.75" to 2.375" dia.	Steel HDG	Steel HDG

HDG=Hot Dip Galvanized



112-85 112L-85 112M-85



107-85



126-85

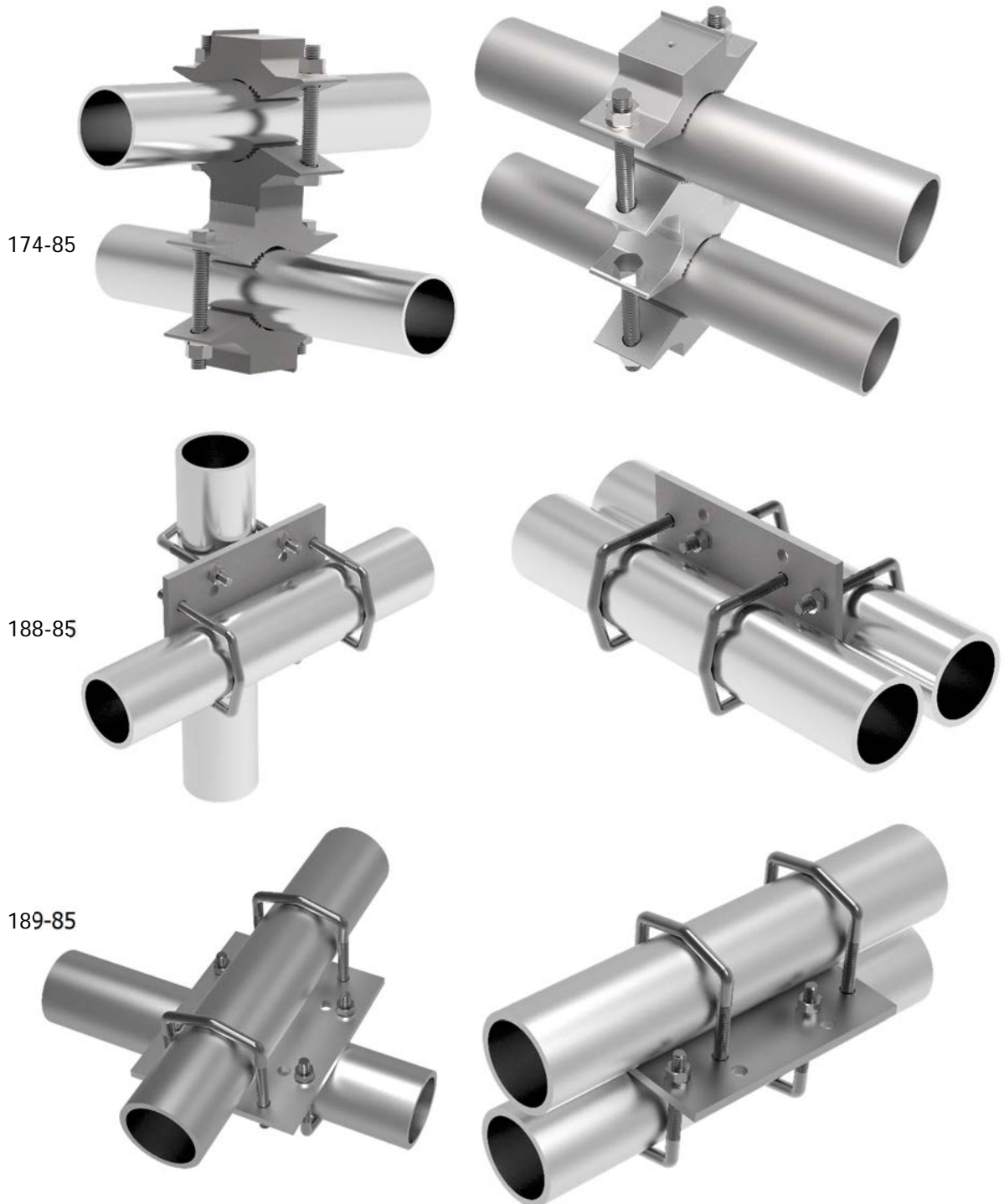


167-85 167B-85

PARALLEL OR 90° PIPE-TO-PIPE

Model	1st Pipe	2nd Pipe	Clamp Material	Screw Material
174-85	0.88" to 2.88" dia.	0.88" to 2.88" dia.	Aluminum	Steel HDG
188-85	1" to 2.4" dia.	1" to 2.4" dia.	Steel HDG	Steel HDG
189-85	1" to 2.4" dia.	1" to 2.4" dia.	Aluminum	Steel HDG

HDG=Hot Dip Galvanized



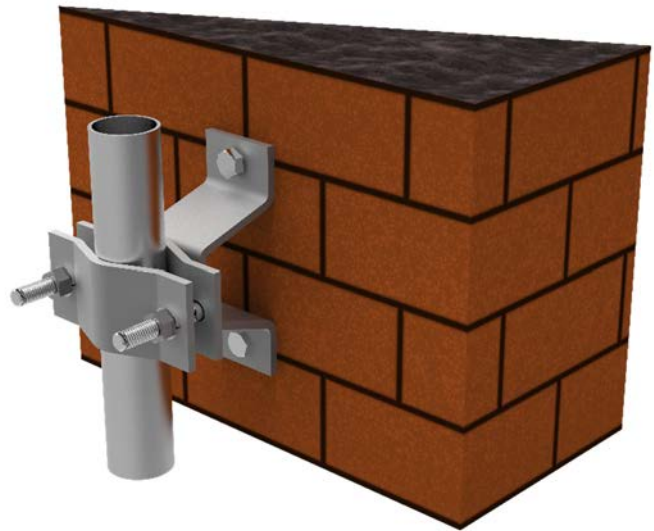
PIPE-TO-FLAT SURFACE (or wood pole)

Model	Pipe O.D.	Clamp Material	Screw Material
115P-85	1.5" to 3.5" dia.	Steel HDG	Steel HDG
115W-85	1.5" to 3.5" dia.	Steel HDG	Steel HDG
130-85	0.5" to 1.5" dia.	Aluminum	Steel HDG
186-85	1.5" to 3.5" dia.	Steel HDG	Steel HDG

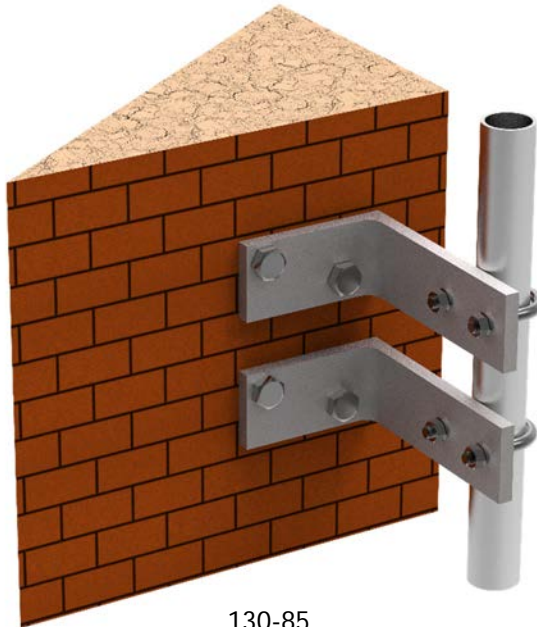
HDG=Hot Dip Galvanized



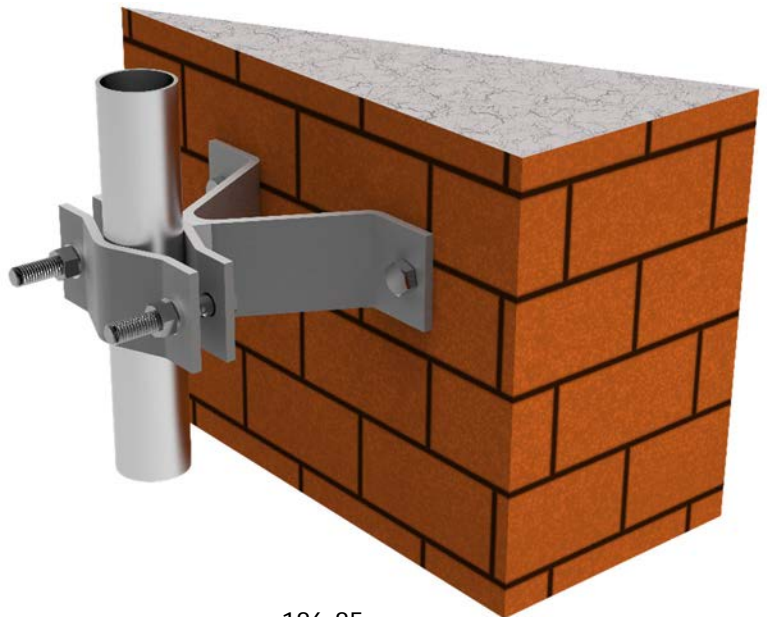
115P-85



115W-85



130-85



186-85

PARALLEL PIPE-TO-ANGLE

Model	1st Pipe	Angle	Clamp Material	Screw Material
113-85	1.5" to 3.5" dia.	8" x 8" max. 60°	Steel HDG	Steel HDG
113L-85	2.25" to 5" dia.	8" x 8" max. 60°	Steel HDG	Steel HDG
116-85	1.5" to 3.5" dia.	8" x 8" max. 90°	Steel HDG	Steel HDG
116L-85	2.25" to 5" dia.	8" x 8" max. 90°	Steel HDG	Steel HDG
133-85	1.5" to 3.5" dia.	5" x 5" max. 60°	Steel HDG	Steel HDG
133L-85	2.25" to 5" dia.	5" x 5" max. 60°	Steel HDG	Steel HDG
136-85	1.5" to 3.5" dia.	5" x 5" max. 90°	Steel HDG	Steel HDG
136L-85	2.25" to 5" dia.	5" x 5" max. 90°	Steel HDG	Steel HDG
163-85	1.5" to 3.5" dia.	3" x 3" max. 60°	Steel HDG	Steel HDG
163L-85	2.25" to 5" dia.	3" x 3" max. 60°	Steel HDG	Steel HDG
166-85	1.5" to 3.5" dia.	3" x 3" max. 90°	Steel HDG	Steel HDG
166L-85	2.25" to 5" dia.	3" x 3" max. 90°	Steel HDG	Steel HDG

HDG=Hot Dip Galvanized



116-85; 116L-85; 136-85;
136L-85; 166-85; 166L-85



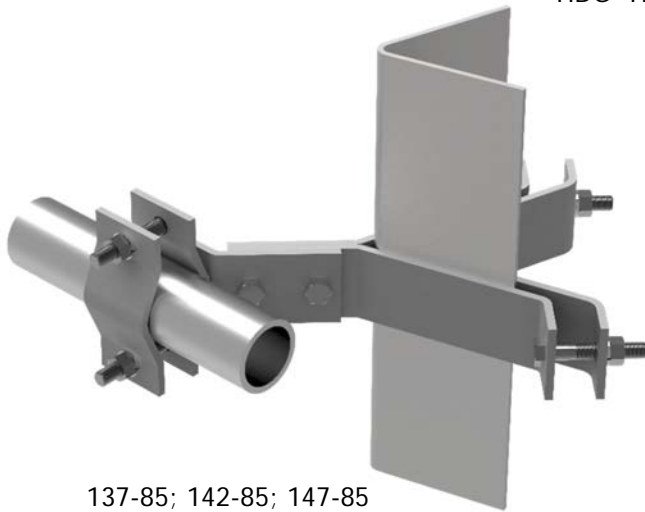
113-85; 113L-85; 133-85;
133L-85; 163-85; 163L-85



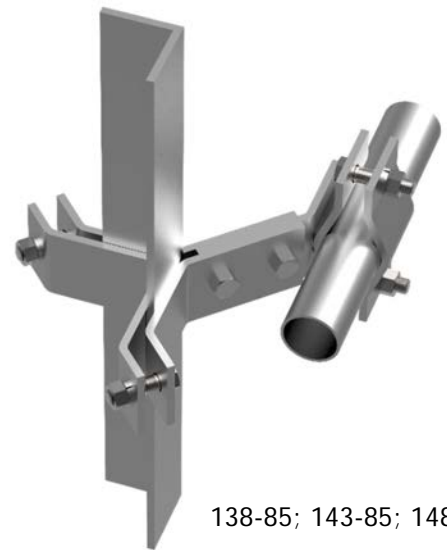
90° PIPE-TO-ANGLE

Model	1st Pipe	Angle	Clamp Material	Screw Material
137-85	1.5" to 3.5" dia.	5" x 5" max. 60°	Steel HDG	Steel HDG
138-85	1.5" to 3.5" dia.	5" x 5" max. 90°	Steel HDG	Steel HDG
142-85	1.5" to 3.5" dia.	8" x 8" max. 60°	Steel HDG	Steel HDG
143-85	1.5" to 3.5" dia.	8" x 8" max. 90°	Steel HDG	Steel HDG
147-85	1.5" to 3.5" dia.	3" x 3" max. 60°	Steel HDG	Steel HDG
148-85	1.5" to 3.5" dia.	3" x 3" max. 90°	Steel HDG	Steel HDG

HDG=Hot Dip Galvanized



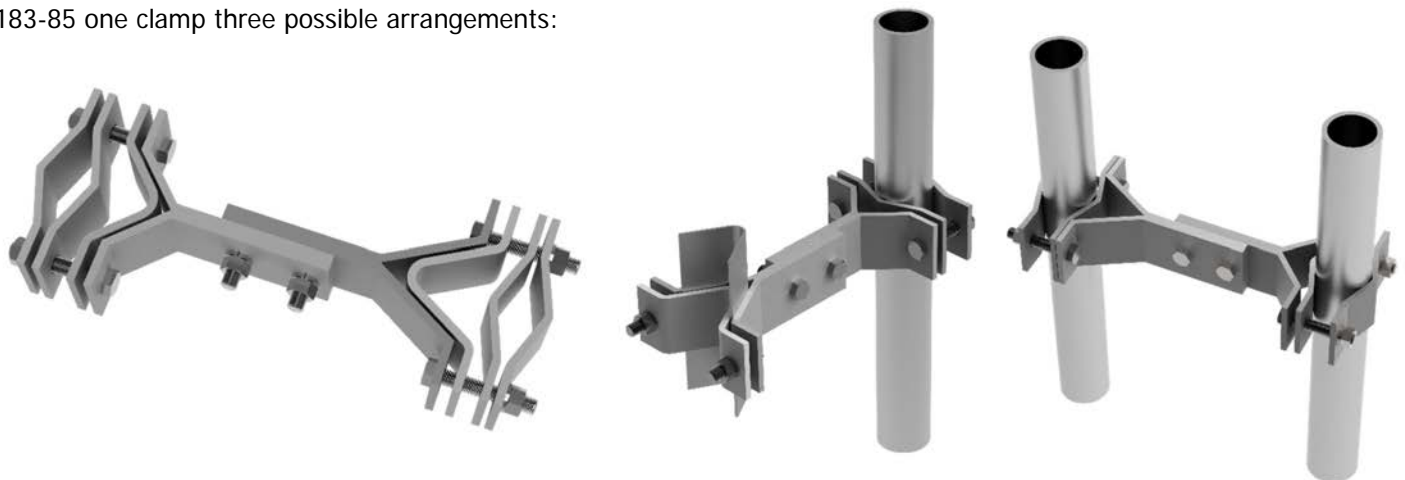
137-85; 142-85; 147-85



138-85; 143-85; 148-85

183-85	Pipe	Angle	Clamp Material	Screw Material
Pipe-to-Angle	1.5" to 3.5" dia.	3.5" x 3.5" max. 60°	Steel HDG	Steel HDG
Pipe-to-Angle	1.5" to 3.5" dia.	2.75" x 2.75" max. 90°	Steel HDG	Steel HDG
Pipe-to-Pipe	1.5" to 3.5" dia.	1.5" to 3.5" dia.	Steel HDG	Steel HDG

183-85 one clamp three possible arrangements:

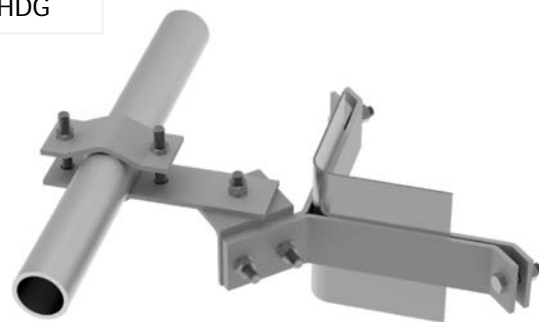




OMNIDIRECTIONAL PIPE-TO-ANGLE

Model	Pipe	Angle	Clamp Material	Screw Material
175-85	1.5" to 3.5" dia.	3" x 3" max. 60°	Steel HDG	Steel HDG
176-85	1.5" to 3.5" dia.	5" x 5" max. 60°	Steel HDG	Steel HDG
177-85	1.5" to 3.5" dia.	8" x 8" max. 60°	Steel HDG	Steel HDG
178-85	1.5" to 3.5" dia.	3" x 3" max. 90°	Steel HDG	Steel HDG
179-85	1.5" to 3.5" dia.	5" x 5" max. 90°	Steel HDG	Steel HDG
180-85	1.5" to 3.5" dia.	8" x 8" max. 90°	Steel HDG	Steel HDG

HDG=Hot Dip Galvanized



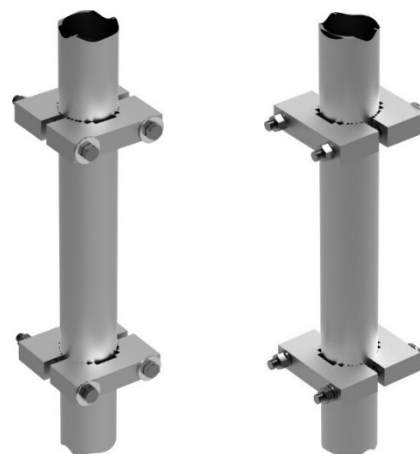
OMNIDIRECTIONAL PIPE-TO-PIPE

Model	1st Pipe	2nd Pipe	Clamp Material	Screw Material
122-85	0.75" to 2.38 dia.	0.75" to 2.38 dia.	Aluminum	Steel HDG



OMNIDIRECTIONAL PIPE-TO-PIPE

Model	Pipe	Clamp Material	Screw Material
172-85	2.88" dia.	Aluminum	Steel HDG
173-85	2.38" dia.	Aluminum	Steel HDG



SIDE-MOUNTING ASSEMBLY

Model	Tower Leg	Holder	Tower	Clamp Material	Screw Material
150-85	0.875" to 2.4"	Al. pipe 1.9"	1.5"- 40	Steel & Aluminum	Steel HDG
151-85	0.875" to 2.4"	Al. pipe 1.9"	1.5"- 40	Steel & Aluminum	Steel HDG
152-85	0.875" to 2.4"	Al. pipe 2.375"	2.0"- 40	Steel & Aluminum	Steel HDG
153-85	5" x 5" max. 60°	1.5" to 3.5"	60° and 5"	Steel & Aluminum	Steel HDG
154-85	5" x 5" max. 90°	1.5" to 3.5"	90° and 5"	Steel & Aluminum	Steel HDG
155-85	8" x 8" max. 60°	1.5" to 3.5"	60° and 8"	Steel & Aluminum	Steel HDG
156-85	8" x 8" max. 60°	1.5" to 3.5"	90° and 8"	Steel & Aluminum	Steel HDG
157-85	3" x 3" max. 60°	1.5" to 3.5"	60° and 3"	Steel & Aluminum	Steel HDG
158-85	3" x 3" max. 60°	1.5" to 3.5"	90° and 3"	Steel & Aluminum	Steel HDG

EACH KIT INCLUDES

150-85	4 Clamps Model 124-85	151-85	4 Clamps Model 124-85
	2 Support pipes 1.5" #40 x 10 feet		2 Support pipes 1.5" #40 x 5 feet
152-85	4 Clamps Model 124-85	153-85	4 Clamps Model 137-85
	2 Support pipes 2" #40 x 10 feet		2 Al. pipe 2" #40 x 10 feet
154-85	4 Clamps Model 137-85	155-85	4 Clamps Model 142-85
	2 Al. pipe 2" #40 x 10 feet		2 Al. pipe 2" #40 x 10 feet
156-85	4 Clamps Model 143-85	157-85	4 Clamps Model 147-85
	2 Al. pipe 2" #40 x 10 feet		2 Al. pipe 2" #40 x 10 feet
158-85	4 Clamps Model 148-85	HDG=Hot Dip Galvanized	
	2 Al. pipe 2" #40 x 10 feet		



150-85, 151-85, 152-85



153-85, 155-85, 157-85

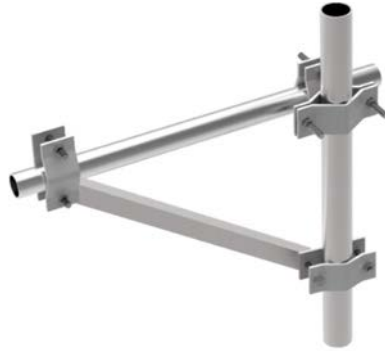


154-85, 156-85, 158-85



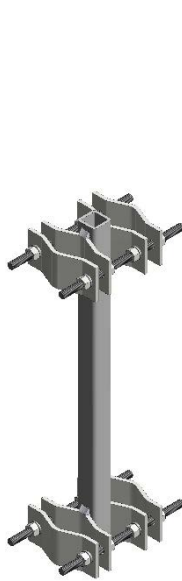
YAGI HOLDER KIT

Model	Tower Leg	Holder Section	Clamp Material	Screw Material
123-85	1.5" to 3.5"	Al. angle 1.5" x 1.5" x 0.1875"	Steel & Aluminum	Steel HDG

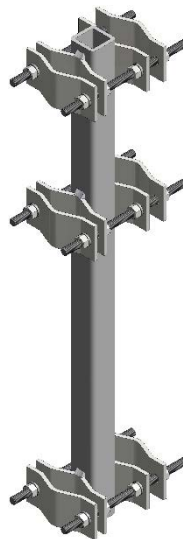


NO TORSION CLAMPS – Pipe-to-Pipe Clamp for Parallel Mounting

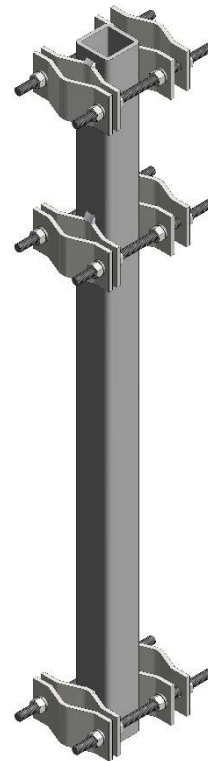
Model	1st Pipe	2nd Pipe	Clamp Material	Height
194-85	1.5" to 3.5" dia.	1.5" to 3.5" dia.	Steel HDG	24"
195-85	1.5" to 3.5" dia.	1.5" to 3.5" dia.	Steel HDG	34"
196-85	1.5" to 3.5" dia.	1.5" to 3.5" dia.	Steel HDG	44"



194-85



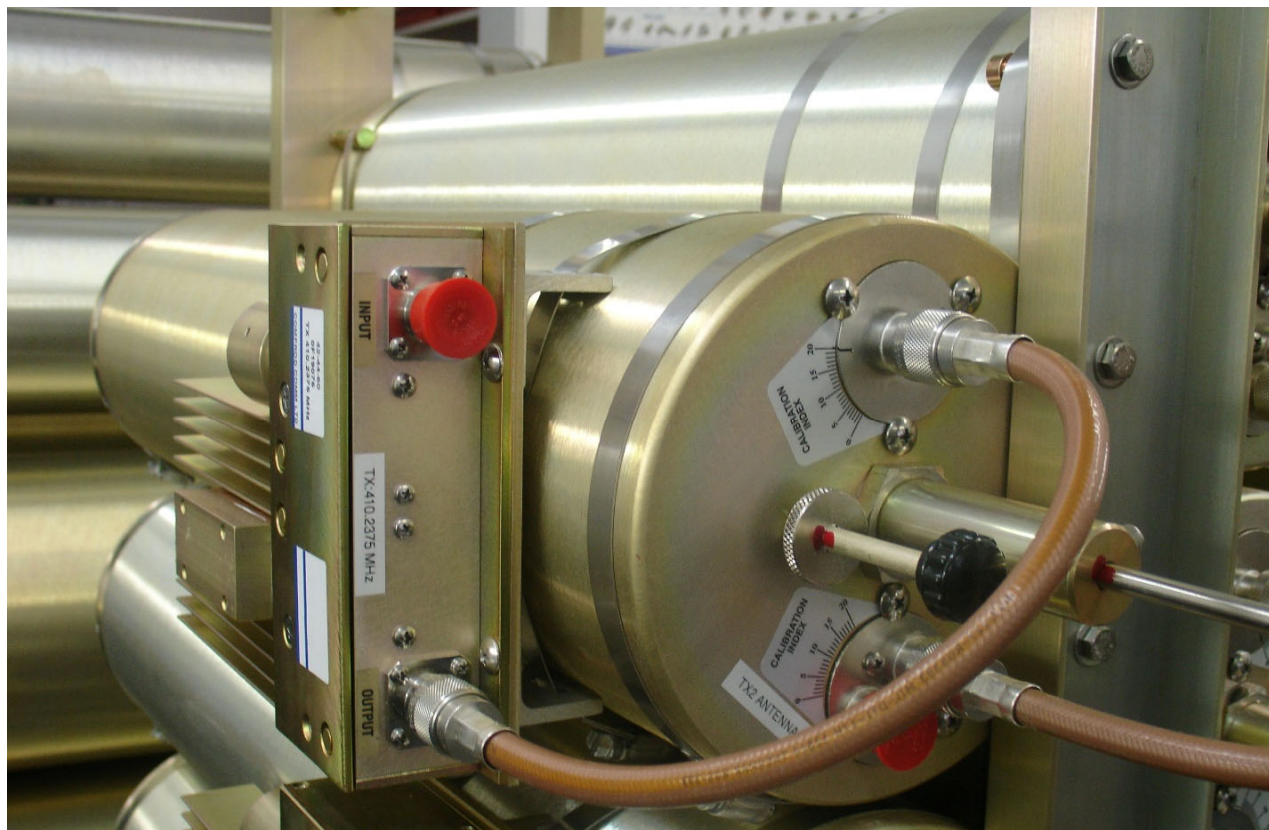
195-85



196-85

Filters and Components

Our **filters** have been selected by some of the leading Public Safety organizations across North America to **ensure Mission-Critical performance** for their RF networks. Comprod **manufactures each cavity filter in North America** – skilled RF technicians, quality calibration, and insistence on high-quality plating materials. This ensures that the filter **performance will be optimal**, tuning can be easily **performed by your technicians**, and the RF signals remain as pure and clean as possible. Our customers notice the difference in **quality and reliability**.



CAVITY FILTER DESIGN



Types of Loops

Bandpass Loop



Pass/Reject Loop



Notch Loop



X-Pass Loop



**Cavity Construction
Mechanical Components**



We at Comprod have one of the most rugged, high quality cavity filter designs in the industry with our proven, temperature-compensated cavities. The flexibility of having four versions of filters, (Bandpass, Notch, Pass-Reject, and X-Pass), available in 2", 4", 6.625" and 10" cavities, allows for any system to be designed for maximum performance and efficiency. All of the following filters can be achieved by changing the loops, while maintaining the same cavity, when using the 6.625" and 10" cavities.

1. **Bandpass Cavity Filter** – Passes one narrow band of frequencies and attenuates all others with increasing attenuation above and below the pass frequency. The adjustable selectivity characteristics using rotatable loops allows for a trade-off between insertion loss (0.5 to 3.0 dB) and selectivity. This filter is ideal when the interfering frequencies are not known with any degree of accuracy or when high amounts of broadband filtering are required.
2. **Notch Filter** – Passes a relatively wide band of required frequencies, while rejecting a very narrow band of undesired frequencies. Notch depth is variable from 15 to 25 dB. Both the pass and notch frequencies must be known. The Notch Filter is recommended when filtering multiple channel transmitters and receivers. This filter is ideal for very close separations (70-200 kHz) in VHF and (200-400 kHz) in UHF.
3. **Pass-Reject Filter** – Passes a relatively narrow band of required frequencies and rejects a specific undesired frequency. This filter has the greatest notch depth when compared to other types of filters. Notch depth is adjustable, but is dependent on the passband insertion loss (0.3 dB or 0.6 dB typical) and frequency separation. This type of filter is the most efficient for moderately close to wide separations of 200 kHz and greater in VHF and 400 kHz and greater in UHF.
4. **X-Pass** – A special type of filter for expandable multicoupler/combiner applications. Characteristics are identical to a bandpass filter, but have a third port for coupling to other channels. This filter is ideal for close frequency spacing with extremely low losses, acting similar to a hybrid combiner/multicoupler. The design is extremely flexible and expandable from 1 to 21 cavities per rack with additional channel capabilities.

All of our 6.625" and 10" filters have two hand-movable tuning rods (a coarse and a fine) for faster tuning. Silver-plated adjustable coupling loops and a calibration index label help to facilitate setting the cavity insertion loss as required for each application.

The combination of a heavy-gauge aluminum outer conductor, thick heliarc-welded cavity top plates, heavy silver-plating on micro-finished tuning assemblies, and Invar-based temperature compensation material results in constant performance levels and long-term reliability. Cavity and isolator connectors are type N female, with silver-plated brass bodies and gold-plated center contacts. Thru-line cable assemblies are made with high quality connectors and RG-393B/U Teflon or RG-214/U cable, to provide excellent intermodulation rejection at high system power levels. Gold-plated cable connector center contacts are soldered to the cable, and the dual shield is securely crimped to the connector barrel using pneumatic fixtures and precision dies. All of these attributes contribute to making a superior quality product.

For additional information on our X-Pass, Combiners, Multicouplers, Duplexers, Pass-Reject, Bandpass, or Notch filters, contact our Technical Support team at sales@comprodcom.com.

CAVITY FILTER DESIGN

FILTER NOMENCLATURE PP—FF—XX—YY

PP = Product Category/Family

FF = Frequency Band / Frequency Range

XX = Cavity Size/No. Channels/Load Size/Termination

YY = Mounting Style

PP—Product Category / Product Family Codes

11	Mounting Kits	56	2nd Harmonic Filter
13	Cable Kits/Accessories	57	Combine Filters
19	X-Racks	58	Pre-Amp
21	Low Power Single Junction Isolator	59	Pre-Selector
22	Low Power Dual Junction Isolator	60	Multicoupler (XMF Version – Reject/Pass)
27	Economy Power Dividers	61	Bandpass Filter
29	Low Power Directional Couplers	62	Pass-Reject Filter
41	High Power Single Junction Isolator	63	Notch Filter
42	High Power Dual Junction Isolator	66	Pass-Reject, Helical & Re-Entrant Duplexer
45	RF Loads	68	X-Pass Filter
46	Signal Sampler	69	Paging Filter
47	Power Divider	90	RX Multicoupler
48	Hybrid Decouplers VHF/UHF/800/900MHz	DRC	Dielectric Resonator Star Configuration
49	Hybrid Coupler (Single Band)	DRXC	Dielectric Resonator X-Pass Configuration
50	Compact Hybrid Coupler	HTC	Hybrid Transmit Combiner
51	Band pass Conversion Loops	TTA	Tower Top Amplifier
52	Pass-Reject Conversion Loops	XBC	X-Band Coupler (Cross Band Couplers)
53	Notch Conversion Loops	XRM	Expandable Receiver Multicoupler
54	X-Pass Conversion Loops	XTC	Expandable Transmit Combiner System
55	Variable Attenuator 3-15 dB	XTR	Expandable Transmit Receiver System

FILTERS AND RF COMPONENT

Model	Filter Type	Other Frequency (MHz)	118-136 MHz	138-174 MHz	406-512 MHz	746-960 MHz	Cavity / Mounting	Power Watts	Connector
61-FF-7X	Bandpass		•	•	•	•	6.625	150	N Female
62-FF-7X	Pass-Reject	30-88	•	•	•	•	6.625	150	N Female
63-FF-7X	Notch		•	•	•	•	6.625	150	N Female
60-13-7X	XMF Multicoupler			•			6.625	90-400	N Female
60-40-7X	XMF Multicoupler				•		6.625	80-300	N Female
66-FF-74	Duplexer			•	•		6.625	350	N Female
66-FF-2P	Duplexer			•			2 x 2	100	BNC / N F
66-FF-44	Duplexer			•	•	•	4 x 4	350	N Female
66-FF-46	Duplexer			•	•	•	4 x 4	350	N Female
5X4-90	Mobile Duplexer			144-174	406-470		1 x 1	50	BNC / N F
5X6-90	Mobile Duplexer			144-174	406-470		1 x 1	50	BNC / N F
68-FF-7X	X-Pass		•	•	•	•	6.625	150	N Female
XTC-06-7X	X-Pass						6.625	150	N Female
XTC-06-0X	X-Pass						10	150	N Female
XTC-11-7X	X-Pass		108-136				6.625	150	N Female
XTC-11-0X	X-Pass		108-136				10	150	N Female
XTC-13-7X	X-Pass			132-174			6.625	150	N Female
XTC-13-0X	X-Pass			132-174			10	150	N Female
XTC-22-7X	X-Pass	215-300					6.625	150	N Female
XTC-22-0X	X-Pass	215-300					10	150	N Female
XTC-38-7X	X-Pass				380-512		6.625	150	N Female
XTC-38-0X	X-Pass				380-512		10	150	N Female
XTC-74-7X	X-Pass					•	6.625	150	N Female
XTC-74-0X	X-Pass					•	10	150	N Female
80-FF-8X	X-Pass Combiner				•	•	19" Rack Mt	60/100	N Female
XRM-13-PP	RX Multicoupler	138-225		•			Rack/Cavity	RX	BNC / N F
XRM-38-PP	RX Multicoupler				300-512		Rack/Cavity	RX	BNC / N F
XRM-80-PP	RX Multicoupler					806-896	Rack/Cavity	RX	BNC / N F
XRM-90-PP	RX Multicoupler					896-960	Rack/Cavity	RX	BNC / N F
90-FF-PP	RX Multicoupler				•	•	19" Rack Mt	RX	N Female

FILTERS AND RF COMPONENT

Model	Filter Type	Other Frequency (MHz)	118-136 MHz	138-174 MHz	406-512 MHz	746-960 MHz	Cavity / Mounting	Power Watts	Connector
TTA-FF-00	TTA Amplifier			•	•	•	N/A	RX	N Female
21-FF-PP	Single Isolators			•	•	•	N/A	RX	N Female
22-FF-PP	Dual Isolators			•	•	•	N/A	100	N Female
41-FF-PP	Single Isolators			•	•	•	N/A	150-250	N Female
42-FF-PP	Dual Isolators			•	•	•	N/A	150-250	N Female
45-05-PP	RF Loads	5-1000	•	•	•	•	N/A	5-250	N Male
HTC-13 Combiner	Hybrid Combiner			•			19" Rack Mt	100	N Female
HTC-40 Combiner	Hybrid Combiner				•		19" Rack Mt	100	N Female
HTC-80 Combiner	Hybrid Combiner					806-960	19" Rack Mt	100	N Female
49, 50-FF-YY-XX	Hybrid Coupler			•	•	•	N/A	N/A	N Female
Ceramic Combiner	Star Junction Combiner					•	19" Rack Mt	125	N Female
Ceramic Combiner	X-Pass Combiner					•	19" Rack Mt	125	N Female
XBC-FF-PP	Crossband Coupler	25-175	•	•	•	•	N/A	RX-250	N Female
57-FF-XX	Comblines				•	•	N/A	RX	N Female
46-FF-30-50	Signal Samplers			•	•	•	N/A	50	N Female
47-FF-XXN	Power Splitters	25-512	•	•	•	•	N/A	RX	N Female
56-FF-01	Harmonic Filters		•	•	•	•	N/A	150	N Female
66-13-3X-HE	Helical Duplexer			•			19" Rack Mt	150	N Female
66-FF-XX-RE	Re-Entrant Duplexer			•	•		19" Rack Mt	350	N Female
Racks, Hardware	Filter Racks						Racks	N/A	N/A

61-FF-7X Series

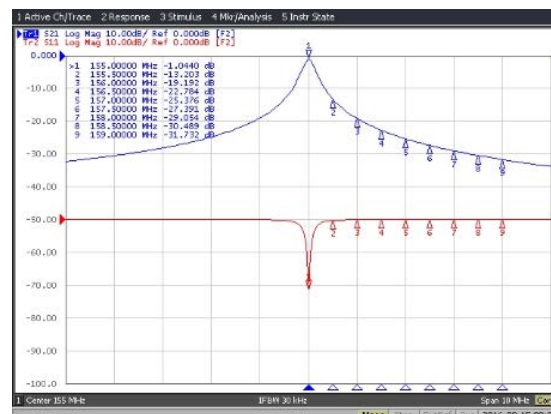
Our Band Pass filters are designed for minimizing interference from adjacent channels and outside systems. They are available in single units. Selectivity can be determined by the insertion loss of the cavity or by adding additional cavity units as needed. Each cavity is temperature compensated for operation 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 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
 - Each cavity has a calibration index to reference insertion loss



Electrical Specifications	61-11-71	61-14-71	61-38-71	61-76-71
Frequency Range, MHz (in splits)	108-136	138-174	380-512	764-960
Frequency Spacing Min.	Please Refer to Typical Curves			
Cavity Diameter, in	6.625	6.625	6.625	6.625
Continuous Power Input, Watts (Dependent on insertion Loss)	150	150	150	150
Connectors	N Female			
Insertion Loss, dB	0.6-1.5			
Reject Attenuation	Please Refer to Typical Curves			
VSWR	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to 60-40 to +60			
Mechanical Specifications	61-11-71	61-14-71	61-38-71	61-76-71
Maximum length, in	40	35	20.5	20.7
Weight, lbs	18	15	10	10

* See appendix for ordering information (Page 236)



62-FF-7X Series

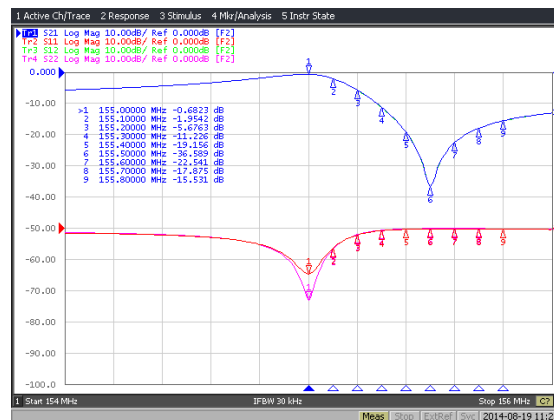
Our Pass-Reject filters are designed to pass a frequency band and reject a narrow band of frequencies. They provide more attenuation than our standard bandpass type cavities. These cavities can reject frequencies on either the high or low side of the pass frequency. Each cavity is temperature compensated 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
 - Each cavity has a calibration index to reference insertion loss



Electrical Specifications	62-11-71	62-14-71	62-38-71	62-76-71
Frequency Range, MHz (in splits)	108-136	138-174	380-512	764-960
Frequency Spacing Min.	Please Refer to Typical Curves			
Cavity Diameter, in	6.625	6.625	6.625	6.625
Continuous Power Input, Watts (Dependent on insertion Loss)	300	300	300	150
Connectors	N Female			
Insertion Loss, dB	0.6-1.5			
Reject Attenuation	Please Refer to Typical Curves			
VSWR	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60			
Mechanical Specifications	62-11-71	62-14-71	62-38-71	62-76-71
Maximum length, in	40	35	20.5	20.7
Weight, lbs	18	15	10	10

* See appendix for ordering information (Page 237)



63-FF-7X Series

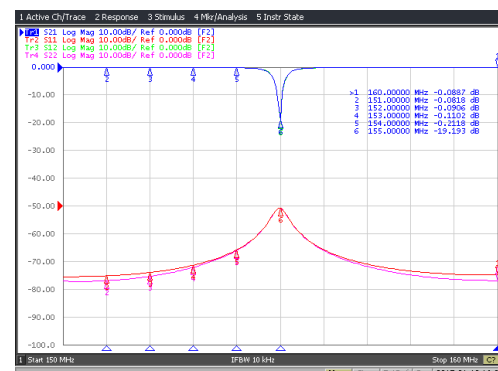
Our Notch filters are designed to reject one narrow band of frequencies, while letting all others pass in the operating band. They provide additional isolation by eliminating close adjacent frequencies. The notch cavities can be cascaded or added to one another in order to sharpen the attenuation of the rejection curve. These cavities can be used individually or in multiples. 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
 - Each cavity has a calibration index to reference insertion loss



Electrical Specifications	63-11-71	63-14-71	63-38-71	63-76-71
Frequency Range, MHz (in splits)	108-136	138-174	380-512	764-960
Frequency Spacing Min.	Please Refer to Typical Curves			
Cavity Diameter, in	6.625	6.625	6.625	6.625
Continuous Power Input, Watts (Dependent on insertion Loss)	150	150	150	150
Connectors	N Female			
Insertion Loss, dB	0.6-1.5			
Reject Attenuation	Please Refer to Typical Curves			
VSWR	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60			
Mechanical Specifications	63-11-71	63-14-71	63-38-71	63-76-71
Maximum length, in	40	35	20.5	20.7
Weight, lbs	18	15	10	10

* See appendix for ordering information (Page 237)



VHF, UHF, & 700/800/900 MHz, Expandable, Bandpass, Multicoupler Filters

The XMF (Expandable, Bandpass, Multicoupler, Filter) system is a unique transmit/receive multi-coupler. Each channel consists of one, two, or three bandpass filters in combination with an exclusive notch filter design. This enables system expansion without modification to the existing system channels as long as applicable selectivity standards for minimum channel spacing are met.

This unique notch-filter approach provides a junction between channels, allowing channel frequencies to pass freely to or from antennas, while diverting all other channel frequencies to the pass-through antenna line terminal. This characteristic is field-tunable over specified bands of operation without any alterations in the configuration.

Channels may be interconnected with any convenient cable length. There is also no frequency order of interconnection required. The only requirement is that the minimum spacing for VHF is 0.8 MHz and for UHF is 2 MHz.

Our XMF channels are supplied with mounting hardware for wall or rack mounting. The individual cavities are mounted with stainless steel strap clamps, and two horizontal mounting bars. In either case, it may be located at a convenient location for rack or wall applications. Horizontally-spaced mounting holes are the standard 19" EIA rack spacing for on the wall and rack mounting.



VHF 60-FF-XP Series 4"x 4"

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
 - Each cavity has a calibration index to reference insertion loss

Electrical Specifications	60-FF-43
Frequency Range, MHz (in splits)	138-174
Frequency Spacing Min. MHz	2
Cavity Dimensions, in (W x L)	4 x 4
Continuous Power Input, Watts	150
Connectors	N Female
Insertion Loss, dB	3.4
Channel Isolation, dB	See Typical Curves
VSWR	1.5:1
Temperature °C	-40 to +60
Mechanical Specifications	60-FF-43
Maximum length, in (H x W x D)	34 x 19 x 4
Weight, lbs (kg)	27 (12)

* See appendix for ordering information (Page 237)



VHF 60-FF-XP Series 7"

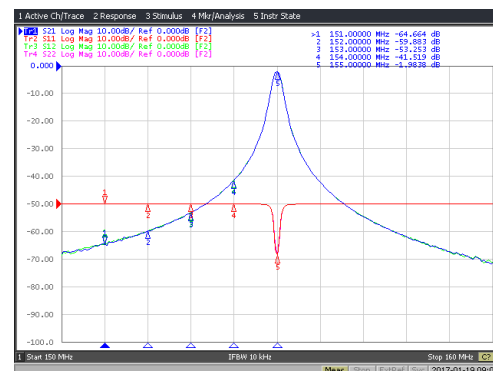
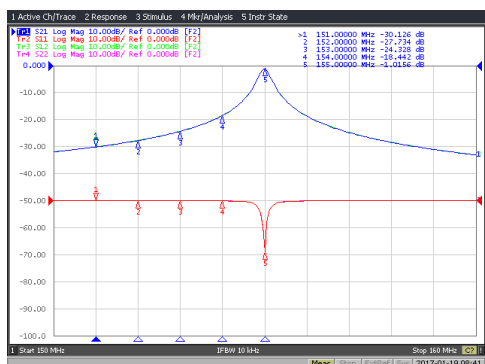
Our Bandpass VHF Multicoupler filters are designed for minimizing interference from adjacent channels and outside systems. They are available in single, dual, triple or additional units. Selectivity can be determined by the insertion loss of the cavity or by adding cavity units as required. Each cavity 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
 - Each cavity has a calibration index to reference insertion loss



Electrical Specifications	60-13-71	60-FF-72	60-FF-73
Frequency Range, MHz (in splits)	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		
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		
Mechanical Specifications	60-14-71	60-FF-72	60-FF-73
Maximum length, in (H x W x D)	34 x 19 x 7	34 x 19 x 16.5	34 x 19 x 16.5
Weight, lbs (kg)	30 (13.6)	36.3 (16.5)	44 (20)

* See appendix for ordering information (Page 238)



UHF 60-FF-XP Series 4"x 4"

Our Bandpass, UHF, 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 needed. 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 applications.

- 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

Electrical Specifications	60-FF-43
Frequency Range, MHz (in splits)	380-512
Frequency Spacing Min. MHz	2
Cavity Dimensions, in (W x L)	4 x 4
Continuous Power Input, Watts	150
Connectors	N Female
Insertion Loss, dB	3.4
Channel Isolation, dB	See Typical Curves
VSWR	1.5:1
Temperature °C	-40 to +60
Mechanical Specifications	60-FF-43
Maximum length, in (H x W x D)	18.5 x 19 x 4
Weight, lbs (kg)	13 (5.9)



* See appendix for ordering information (Page 238)

UHF 60-FF-XP Series 7"

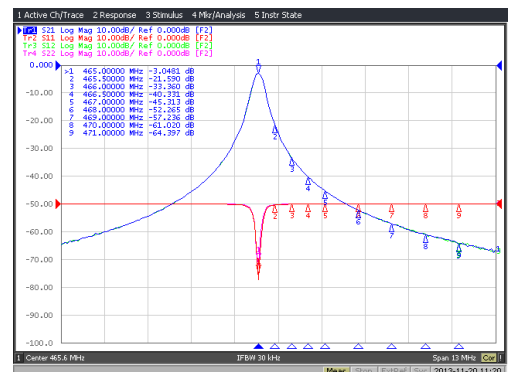
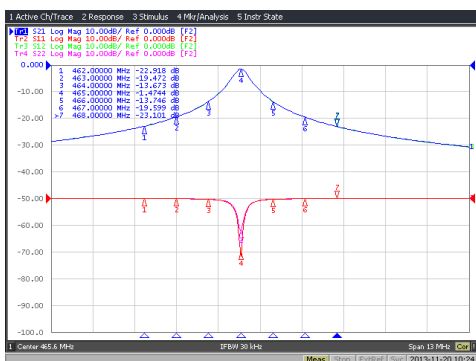
Our Bandpass, UHF, Multicoupler, filters are designed for minimizing interference from adjacent channels and outside systems. They are available in single, dual, triple or additional units. Selectivity can be determined by the insertion loss of the cavity or by adding cavity units as needed. Each cavity 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 applications.

- 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

Electrical Specifications	60-38-71	60-FF-72	60-FF-73
Frequency Range, MHz (in splits)	380-512	380-512	380-512
Frequency Spacing Min. MHz	0.8	0.8	0.8
Cavity Diameter, in	6.625	6.625	6.625
Continuous Power Input, Watts	80-300	80-300	80-300
Connectors	N Female		
Insertion Loss, dB	0.6-1.5	1.2-3.0	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		
Mechanical Specifications	60-38-71	60-FF-72	60-FF-73
Maximum length, in (H x W x D)	16 x 19 x 7	16 x 19 x 16.5	16 x 19 x 16.5
Weight, lbs (kg)	18 (8.6)	26 (11.8)	32 (15.2)



* See appendix for ordering information (Page 238)

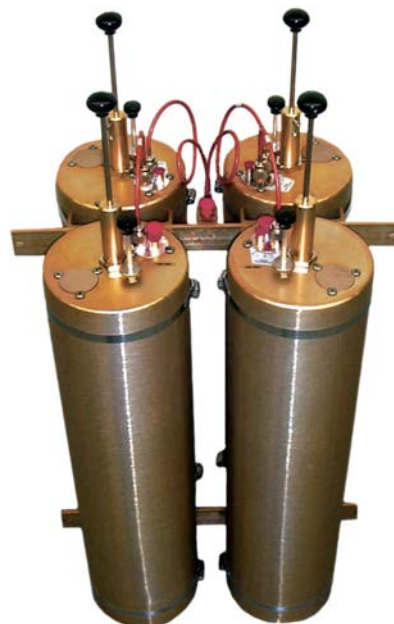


66-FF-74 and 66-FF-76

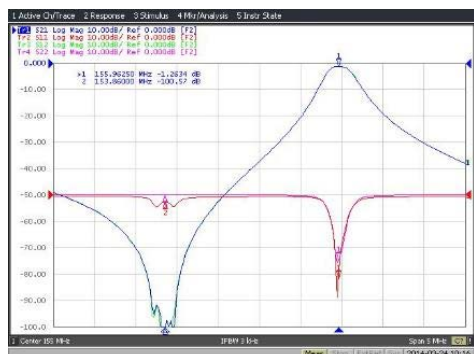
Our Pass-Reject Duplexer filters are designed for quick and easy installations. These filters are designed for the combination of two frequencies requiring extra isolation or can be used as efficient pre-selectors. They are available in either 4 or 6 cavity configurations if higher levels of isolation 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 quick 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

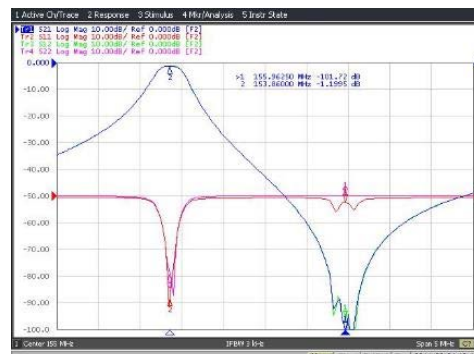
Electrical Specifications	66-FF-74	66-FF-76	66-FF-74
Frequency Range, MHz	138-174	138-174	380-512
Frequency Spacing Min. MHz	0.5	0.3	1.5
Cavity Diameter, in	6.625	6.625	6.625
Continuous Power Input, Watts	400	400	350
Connectors	N Female		
Insertion Loss, dB	1.5	2.2	1.5
Channel Isolation, dB	85	95	90
VSWR	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60		
Mechanical Specifications	66-FF-74	66-FF-76	66-FF-74
Maximum length, in (H x W x D)	34 x 19 x 16.5	34 x 19 x 24	18.5 x 19 x 16.5
Weight, lbs (kg)	44 (20)	90 (40)	32 (15.2)



* See appendix for ordering information (Page 238)



66-13-74



66-FF-2P Series 2" Cavity Pass-Reject Duplexers

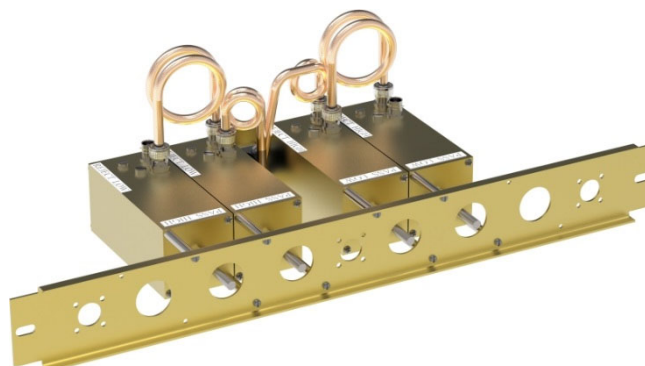
Our 2" base station duplexers are ideal for compact high isolation installations. These filters are designed for the combination of two frequencies that require extra isolation, or they can be used as efficient preselectors. Available in either 4 or 6 cavity configurations if higher levels of isolation 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	138-150	148-174	138-150	148-174
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-F			
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		1.3:1	
Temperature °C	-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	
Mounting	19" Rack Mount			

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



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

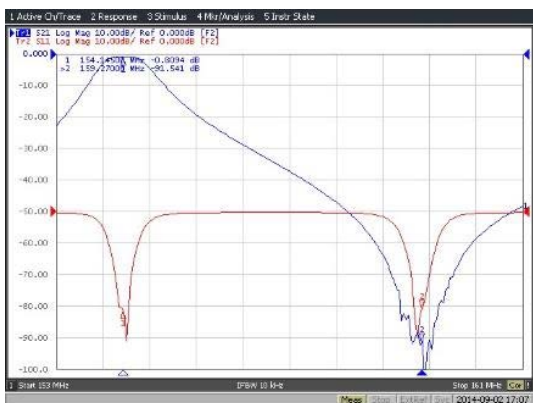
These 4" base station duplexers are ideal for high power, close frequency separation installations. These filters are designed for combining two frequencies or they can be used as efficient pre-selectors. If higher levels of isolation are required, please consider using 6 cavity configurations. Selectivity 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

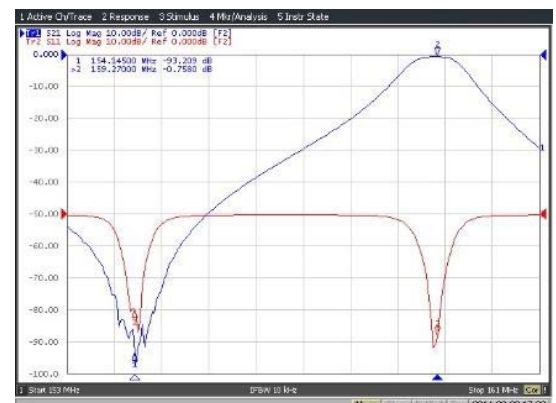
Electrical Specifications	66-13-44	66-FF-44	66-FF-44
Frequency Range, MHz	138-174	380-512	746-960
Frequency Spacing Min. MHz	0.5	3	9
Cavities, Diameter, in	(4) - 4" Square	(4) - 4" Square	(4) - 4" Square
Continuous Power Input, Watts	350	350	350
Connectors	N Female		
Insertion Loss, dB (maximum)	1.5	0.8	0.8
Channel Isolation, dB	70	75	90
VSWR	1.2:1	1.2:1	1.2:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	66-13-44	66-FF-44	66-FF-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		



* See appendix for ordering information (Page 239)



66-13-44 (VHF)

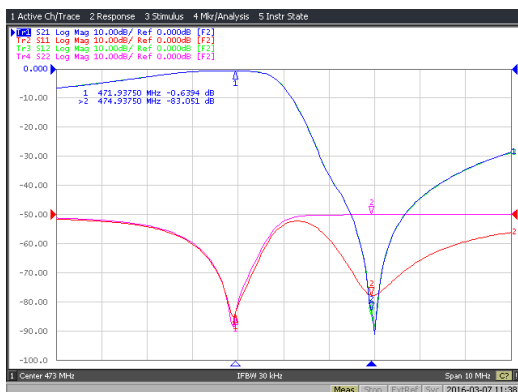


66-FF-46 Series (6) 4" Cavity Duplexers

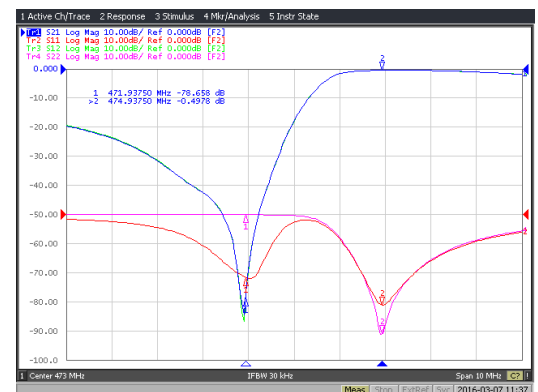
These 6-cavity 4" base station duplexers are ideal for high power close frequency separation installations. These filters are designed for the combination of 2 frequencies that require extra isolation or they can be used as an efficient pre-selector. If higher levels of isolation are required, please 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

Electrical Specifications	66-13-46	66-FF-46	66-FF-46
Frequency Range, MHz	138-174	380-512	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		
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 °C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	66-13-46	66-FF-46	66-FF-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		
* See appendix for ordering information (Page 239)			



66-40-46 (UHF)



4 Cavity Standard Version

Our line of mobile duplexers features compact size, low loss and temperature compensation over the range of -40°C to +60°C. The use of extruded aluminum cavities and solid-shield copper-jacketed inter-cabling ensures excellent mechanical and electrical stability.

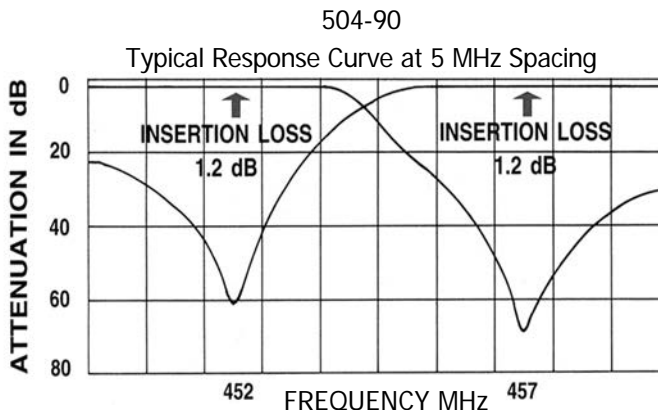
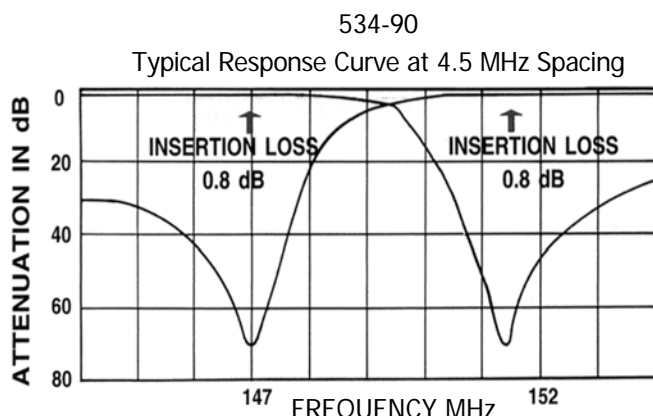
All units are adjustable in the field by qualified personnel and rated at a maximum of 50 Watts with a maximum VSWR of 1.5:1 over the entire tuning range.

BNC connectors are standard. Variations on connectors and mountings are available by special order. For N female connectors, add suffix N to model number (Ex. 534-90-N).

Electrical Specifications	534-90	504-90
Frequency Range, MHz (in splits)	144-174	406-470
Frequency Spacing Min. MHz	4.5	5.0 10.0
Continuous Power Rating, Watts	50	50 50
Insertion Loss, dB: TX to Antenna	0.8	1.2 0.8
Insertion Loss, dB: RX to Antenna	0.8	1.2 0.8
Isolation, dB: TX noise suppression at RX frequency	60	50 60
Isolation, dB: TX isolation at TX frequency	60	50 60
Maximum VSWR	1.5:1	1.5:1
Impedance, Ohms	50	50
Connector Type, Female	BNC / N-F	
Temperature °C	-40 to +60	
Mechanical Specifications	534-90	504-90
Dimensions H x W x D, in. (mm)	1-1/4 x 4-1/8 x 7-5/8 (31.8 x 105 x 194)	1-1/4 x 4-1/8 x 8-3/4 (31.8 x 105 x 222)
Weight, lbs (kg)	1.5 (0.7)	2 (0.9)



* See appendix for ordering information (Page 239)



6 Cavity Standard Version

Our line of mobile duplexers features compact size, low loss and temperature compensation over the range of -40°C to +60°C. The use of extruded aluminum cavities and solid-shield copper-jacketed inter-cabling ensures excellent mechanical and electrical stability.

All units are adjustable in the field by qualified personnel and rated at 50 watts continuous duty with a maximum VSWR of 1.5: 1 over the entire tuning range.

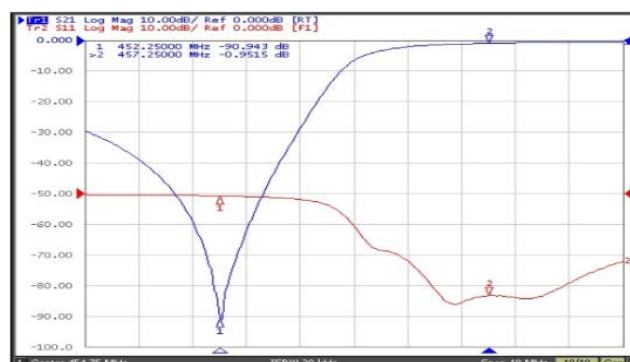
BNC connectors are standard. Variations on connectors and mountings are available by special order. For N female connectors, add suffix N to model number (Ex. 536-90-N)

Electrical Specifications	536-90	506-90	
Frequency Range, MHz (in splits)	144-174	406-512	
Frequency Spacing Min. MHz	4.5	5.0	10.0
Continuous Power Rating, Watts	50	50	50
Insertion Loss, dB: TX to Antenna	1.2	1.4	1.2
Insertion Loss, dB: RX to Antenna	1.2	1.4	1.2
Isolation, dB: TX noise suppression at RX frequency	80	75	80
Isolation, dB: TX isolation at TX frequency	80	75	80
Maximum VSWR	1.5:1	1.5:1	
Impedance, Ohms	50	50	
Connector Type, Female	BNC / N-F		
Temperature °C	-40 to +60		
Mechanical Specifications	536-90	506-90	
Dimensions H x W x D, in. (mm)	1-1/4 x 6-3/16 x 7-5/8 (31.8 x 157 x 222)	1-1/4 x 6-3/16 x 7-5/8 (31.8 x 157 x 222)	
Weight, lbs (kg)	2 (0.9)	3.5 (1.7)	



* See appendix for ordering information (Page 239)

506-90 Typical Response Curves at 5 MHz Spacing



VHF and UHF Re-Entrant Base Station Duplexers

These Comprod base station duplexers use four or six cavities. They are ideal for compact high-performance applications. They are designed to cover either the VHF frequency band. These filters are designed for the combination of two frequencies that require extra isolation, or they can be used as an efficient preselector. An eight-cavity configuration is also available for a higher level of isolation and selectivity.

- N Female connectors on the input and output
- Can be retuned in the field
- These duplexers are available in other frequencies and configurations. Please call our technical support for additional models.



Electrical Specifications	66-13-44-RE	66-40-34-RE
Frequency Range, MHz	138-174	406-512
Frequency Spacing, MHz	2	5
Continuous Power Inputs, Watts	350	350
Connectors	N Female	
Number of Cavities	4	4
Insertion Loss, dB	1.5	0.8
Isolation at minimum spacing	70	75
VSWR	1.22:1	1.22:1
Temperature °C	-40 to +60	
Mechanical Specifications	66-13-44-RE	66-40-34-RE
Cavity Size, in (H x W x D)	4 x 4 x 10	4 x 3 x 6
Maximum length, in (H x W x D)	5.2 x 19 x 14 (3 Rack Units)	5.2 x 19 x 12 (3 Rack Units)
Mounting	19-inch rack mount	19-inch rack mount



Expandable Multicoupler/Combiner Filters

The X-Pass system is a proven innovative family of filter design technology. Possessing the properties of a combiner, but having the expandability of a multicoupler, our X-Pass filters are one of the most versatile and re-usable filtering systems available on the market.

The X-Pass Transmitter Combiner Receiver Multicoupler has superior expandability compared with the fixed star junction configuration. The X-Pass system can be expanded one channel at a time for up to 21 channels with factory tuned, easy to install expansion channel assemblies. Expansion can be completed easily, without modifying the existing system, as easy as adding one or more channels on top of the existing system (daisy chain).

The X-Pass system is a broadband design allowing the system to span entire frequency ranges by using the properties of the X-Pass combiner for close frequency spacing and the X-Pass multicoupler properties for normally spaced channels. The X-Pass system can span the full 138-174 MHz, 406-512 MHz or 806-960 MHz frequency bands. When using the 6.625" cavities, the TX-TX separation in VHF can be as close as 75 kHz of frequency separation, or 50 kHz of separation when using 10" cavities.

The X-Pass system has the advantage of being extremely flexible to configure. With the ability to combine Bandpass, Pass-Reject, or Notch loops for 6.625" and 10" cavity filters, once-difficult complex operating requirements can be resolved with a customized design. This allows the X-Pass system to have unlimited combinations that can be integrated using multi-cavity configurations while retaining the expandability of the combiner properties for close frequency-spaced channels using 6.625" and 10" cavities. The system can also be a combination of a combiner for close frequency-spaced channels while encompassing the expandability of a standard multicoupler that can be integrated with standard Bandpass, Notch, and Pass-Reject filter combinations. All of our X-Pass systems come fully assembled, tested and ready for Plug-and-Play installations.

The X-Pass system has one extra beneficial aspect - the optional X-Pass Rack. With this unique rack design, certain systems can take up to 50 % less space than other systems that are in a 19" rack. By being able to mount all of the cavities horizontally, the installer has the ability to expand one channel on top of another in no particular order, and not having the physical obstacles of mounting a star-junction type configuration in a rack. The X-Pass system can save valuable installation space and make efficient use of the rack space for future expansion projects.

68-FF-7X Series

Our X-Pass filters are designed for flexible, close frequency systems. Each cavity has both a Reject and a Pass band curve. These individual cavities are used to add channels to existing systems. Available in single units, they can be combined with Bandpass, Notch, and Pass-Reject cavities for added protection and isolation. Selectivity can be determined by the insertion loss of the cavity or by adding Bandpass cavity units to this expansion channel 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
 - Each cavity has a calibration index to reference insertion loss



Electrical Specifications	68-11-71	68-13-71	68-38-71	68-74-71
Frequency Range, MHz	108-136	132-174	380-512	746-960
Frequency Spacing Min.	Please Refer to Typical Curves			
Cavity Diameter, in	6.625	6.625	6.625	6.625
Continuous Power Input, Watts (Dependent on insertion Loss)	300	300	300	150
Connectors	N Female			
Insertion Loss. dB	0.6-1.5			
Reject Attenuation	Please Refer to Typical Curves			
VSWR	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60			
Mechanical Specifications	68-11-71	68-13-71	68-38-71	68-74-71
Maximum length, in	31.5	26	11.5	13
Weight, lbs	18	15	10	10

* See appendix for ordering information (Page 240)

XTC-Expandable Transmit Combiner Series—7" Cavity

Our Expandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 75 kHz TX-TX spacing or 50 kHz spacing when using 10" cavities. Each cavity is constructed using a gold Alodine finish, silver-plated loops, silver-plated connectors and an internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine-tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable: 1 or more additional channels at a time, Re-configurable equipment
- 28 MHz to 254 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high-power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-11-7ND	XTC-13-7ND	XTC-22-7ND	XTC-38-7ND	XTC-76-7ND
Frequency Range, MHz	108-136	132-174	215-300	380-512	746-1000
Bandwidth, MHz	28	42	85	85	254
Number of Channels	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625
Min. Channel Sep., kHz	75	75	100	125	250
Isolation Min., TX-TX, dB	70	70	70	80	80
Isolation Min., Ant-TX, dB	60	60	60	70	70
Max. Insertion Loss Per Chan., dB	3.6 to 5.6	4.3 to 6.7	4.1 to 5.8	4.1 to 6.4	3.1 to 5.5
Continuous Power Input, Watts	150	150	150	150	150
Connectors	N Female				
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature, °C	-40 to +60				
Mechanical Specifications					
Height, in (H x W X D) (mm)	86.5 x 24 x 40.25 (2197 x 610 x 1022) (In X Rack)				
Weight, lbs	DEPENDS ON SET-UP AND RACK DESIGN				
Mounting	19-inch rack mount				

* See appendix for ordering information (Page 240)

XTC-Expandable Transmit Combiner Series—10" Cavity

Our Expandable Transmit combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 75 kHz TX-TX spacing or 50 kHz spacing while using 10" cavities. Each cavity is constructed using a gold Alodine finish, silver-plated loops, silver-plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine-tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable: 1 or more additional channels at a time, Re-configurable equipment
- 28 MHz to 132 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high-power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-11-OND	XTC-13-OND	XTC-22-OND	XTC-38-OND
Frequency Range, MHz	108-136	132-174	215-300	380-512
Bandwidth, MHz	28	42	85	132
Number of Channels	2 to 12	2 to 12	2 to 12	2 to 12
Cavity Diameter, in	10	10	10	10
Min. Channel Sep., kHz	50	50	75	75
Isolation Min., TX-TX, dB	70	70	70	80
Isolation Min., Ant-TX, dB	60	60	60	70
Max. Insertion Loss Per Chan., dB	4.1 to 5.7	4.1 to 6.1	4.2 to 6.2	4.3 to 7.1
Continuous Power Input, Watts	150	150	150	150
Connectors	N Female			
VSWR	1.22:1	1.22:1	1.22:1	1.22:1
Temperature, °C	-40 to +60			
Mechanical Specifications				
Height, in (H x W X D) (mm)	86.5 x 24 x 40.25 (2197 x 610 x 1022) (19 X Rack)			
Weight, lbs	DEPENDS ON SET-UP AND RACK DESIGN			
Mounting	19-inch rack mount			

* See appendix for ordering information (Page 240)

X-PASS EXPANDABLE TX COMBINER 80 SERIES

Our 80 Series 8" Cavity Transmit Combiner features X-Pass, plug-and-play technology and is fully expandable and reconfigurable. These combiners are designed to offer engineers and technicians many options when designing or upgrading a site.

Electrical Specifications 8N-FF-8X1LPI

Frequency Range, MHz	Call for Information
Frequency Separation, kHz	200 min
Number of Channels	1 to 6+
Isolation, dB	
TX to TX @ 200k Sep.	(S)40 (D)70
ANT to TX @ 600k Sep.	(S)30 (D)60
Insertion Loss	See Insertion Loss Chart
TX input Return Loss, dB	1.25:1 min
Power / Channel, Watts	Low=60 / High=100

Mechanical Specifications

Construction / Finish	Aluminum/Gold/Black
Input Connector	N-Female
Mounting	EIA standard 19"
Temperature Range, °C	-30 to +60

Dimensions

Cavity Diameter, in (mm)	8 (203)
Width, in (mm)	19 (483)
Depth, in (mm)	UHF 16.5 (419) 700-900MHz 21 (534)
Height, in (mm)	8.7 (221)
Number of Channels	Rack Units Weight lbs. (kg)
1	5 11 (05)
2	5 22 (10)
3	10 33 (15)
4	10 44 (20)
5	15 55 (25)
6	15 66 (30)



UHF 100-WATT TYPICAL INSERTION

Number of Channels	Frequency Separation (kHz)		
	200	400	600 and +
2	4	3	2.8
3	4.3	3.2	2.85
4	4.6	3.3	2.95
5	4.8	3.4	3
6	5.1	3.5	3.15

UHF 60-WATT TYPICAL INSERTION LOSS, dB

(TX to TX Separations under 400kHz, please use a 100-Watt unit - that spacing requires an external load)

Number of Channels	Frequency Separation (kHz)		
	200	400	600 and +
2	Use 100W	3	2.8
3		3.2	2.85
4		3.3	2.95
5		3.4	3
6		3.5	3.15

700-900MHz 100-WATT TYPICAL INSERTION

Number of Channels	Frequency Separation (kHz)		
	200	500	800 and +
2	3.5	2.5	2.2
3	4.2	3	2.4
4	4.5	3.4	2.5
5	4.8	3.6	2.6
6	5.3	3.7	2.8

* See appendix for ordering information (Page 240)

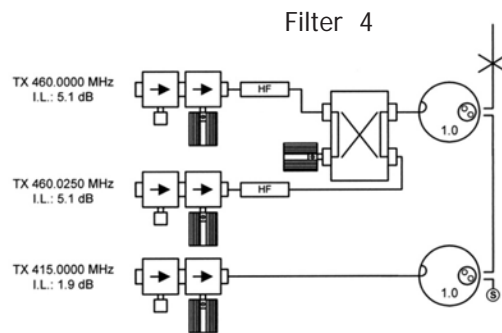
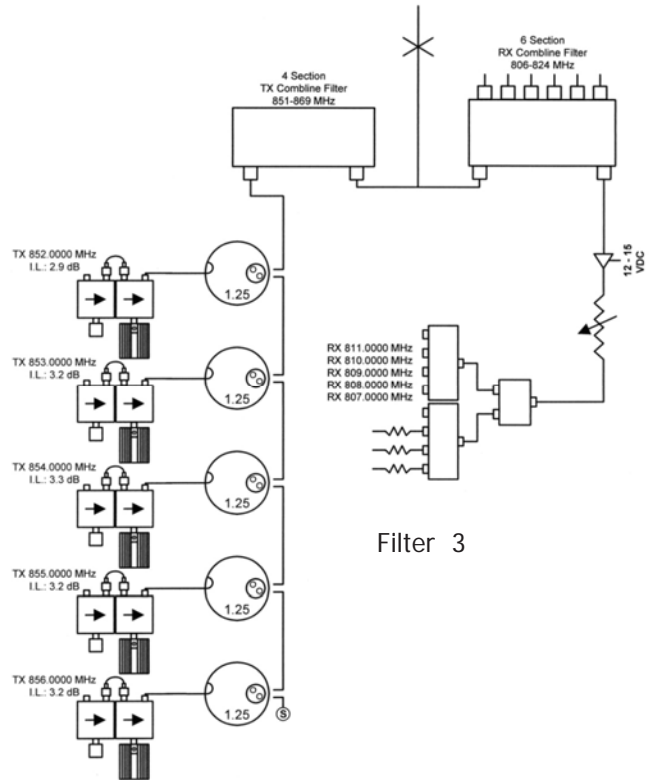
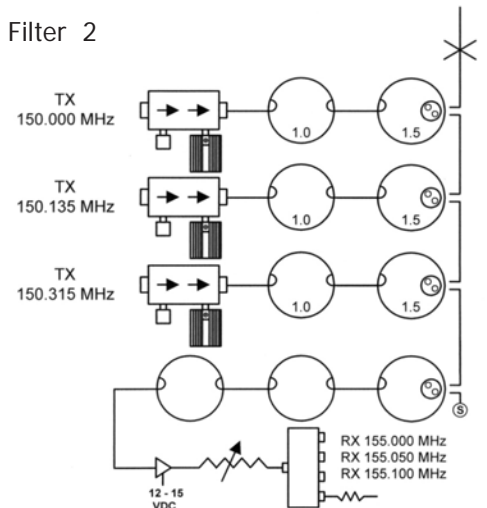
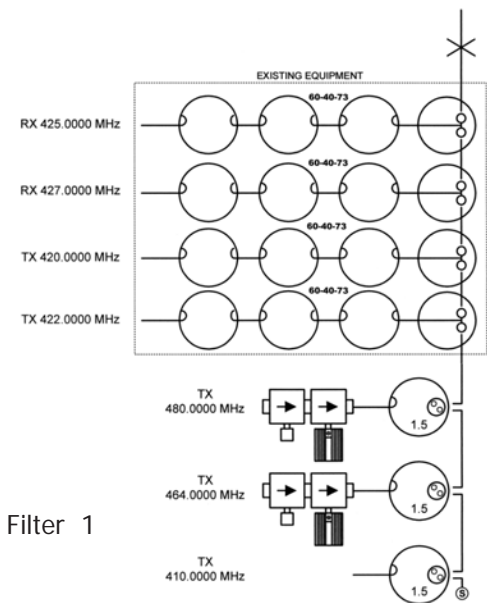
EXPANDABLE, TRANSMIT-RECEIVE, MULTICOUPLER

Our X-Pass technology can combine your TX & RX frequencies onto the same antenna. Our System Design Department can integrate any combination of frequency, and close frequency spacing, minimizing the system's physical space, and maximizing the efficiency of your system.

Each of our system designs comes with a full intermodulation study that examines the Intermodulation products followed with a customized solution specific to your clients needs. There are no off-the-shelf solutions - each system is custom tailored to your exact requirements.

Contact us for a free customized system quotation. TX and RX frequencies will be required.

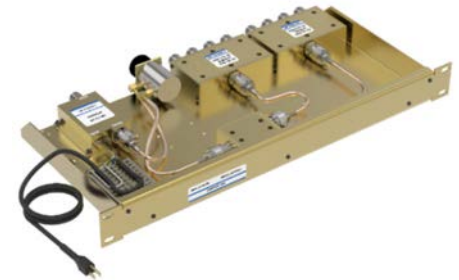
Here are some design examples:



XRM-13-PP Series

Our Expandable Receiver Multicouplers are simple and compact. They are available in 2, 4, 8, 12, 16 and 32 port configurations. This is an affordable means of combining multiple RX frequencies onto the same antenna. We offer three mounting versions: our standard 19" rack, a tray mounted or a cavity mounted version. Each unit consists of a power splitter and an RF amplifier. Every Expandable Receiver Multicoupler has the optional plug-in power supply.

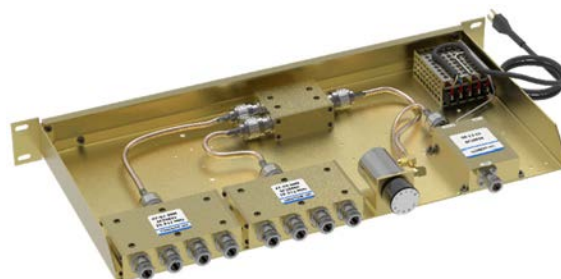
- Design
 - Simple and cost effective
- Mounting
 - 19" rack mount (RM)
 - Cavity mount (CM)
 - Tray mount (TRM)
- Optional 100-240 VAC power supply (PS)



Electrical Specifications	XRM-13-02	XRM-13-04	XRM-13-08	XRM-13-16	XRM-13-32
Frequency Range, MHz	138-225	138-225	138-225	138-225	138-225
Pass Band, MHz	3-8	3-8	3-8	3-8	3-8
Number of Channels	2	4	8	16	32
RX/RX Isolation, dB	23+	23+	23+	23+	23+
Amplifier Gain, dB	18	18	18	18	18
Amplifier Noise Figure, dB	1.9	1.9	1.9	1.9	1.9
Amplifier Bias Voltage, VDC	+13-28	+13-28	+13-28	+13-28	+13-28
Amplifier Current Draw, mA	130	130	130	130	130
Nominal Impedance, Ohms	50	50	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1	1.25:1	1.25:1
Temperature °C	-40 to +60				

Mechanical Specifications	XRM-13-02	XRM-13-04	XRM-13-08	XRM-13-16	XRM-13-32
Mounting	RM / CM	RM / CM	RM / CM	RM / CM	RM / CM
Connectors (Optional)	N-F (BNC)	N-F (BNC)	N-F (BNC)	N-F (BNC)	N-F (BNC)
Weight, lbs	5-12	5-12	5-12	5-12	5-12

* See appendix for ordering information (Page 241)



XRM-38-PP Series

Our Expandable Receiver Multicouplers are simple and compact. They are available in 2, 4, 8, 12, and 32 port configurations. This is an affordable means of combining multiple RX frequencies onto the same antenna. We offer three mounting versions: our standard 19" rack, a tray mounted or a cavity mounted version. Each unit consists of a power splitter and an RF amplifier. Every Expandable Receiver Multicoupler has the optional plug-in power supply.

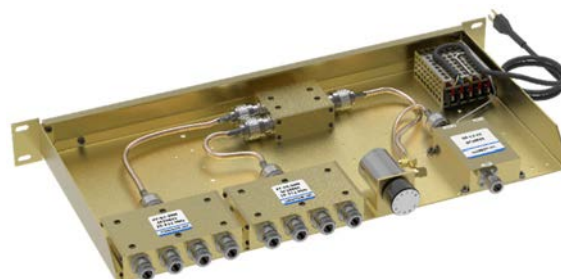
- Design
 - Simple and cost effective
- Mounting
 - 19" rack mount (RM)
 - Cavity mount (CM)
 - Tray mount (TRM)
- Optional 100-240 VAC power supply (PS)



Electrical Specifications	XRM-38-02	XRM-38-04	XRM-38-08	XRM-38-16	XRM-38-32
Frequency Range, MHz	380-512	380-512	380-512	380-512	380-512
Pass Band, MHz	3-10	3-10	3-10	3-10	3-10
Number of Channels	2	4	8	16	32
RX/RX Isolation, dB	23+	23+	23+	23+	23+
Amplifier Gain, dB	18.5	18.5	18.5	18.5	18.5
Amplifier Noise Figure, dB	1.9	1.9	1.9	1.9	1.9
Amplifier Bias Voltage, VDC	+13-28	+13-28	+13-28	+13-28	+13-28
Amplifier Current Draw, mA	130	130	130	130	130
Nominal Impedance, Ohms	50	50	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1	1.25:1	1.25:1
Temperature °C	-40 to +60				

Mechanical Specifications	XRM-38-02	XRM-38-04	XRM-38-08	XRM-38-16	XRM-38-32
Mounting	RM / CM				
Connectors (Optional)	N-F (BNC)				
Weight, lbs	5-12	5-12	5-12	5-12	5-12

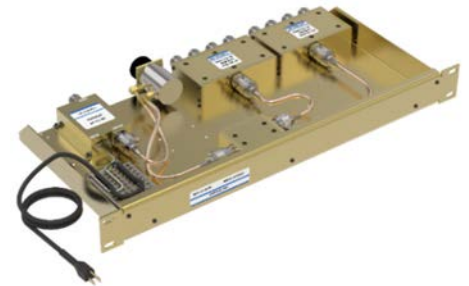
* See appendix for ordering information (Page 241)



XRM-80-PP Series

Our Expandable Receiver Multicouplers are simple and compact. They are available in 2, 4, 8, 12, 16 and 32 port configurations. This is an affordable means of combining multiple RX frequencies onto the same antenna. We offer three mounting versions: our standard 19" rack, a tray mounted or a cavity mounted version. Each unit consists of a power splitter and an RF amplifier. Every Expandable Receiver Multicoupler has the optional plug-in power supply.

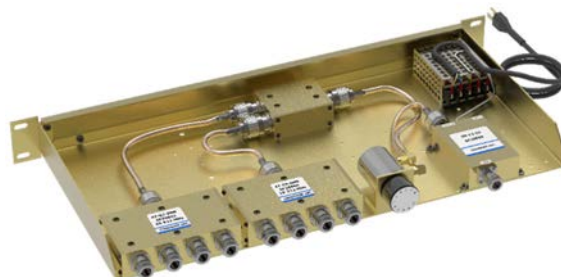
- Design
 - Simple and cost effective
- Mounting
 - 19" rack mount (RM)
 - Cavity mount (CM)
 - Tray mount (TRM)
- Optional 100-240 VAC power supply (PS)



Electrical Specifications	XRM-80-02	XRM-80-04	XRM-80-08	XRM-80-16	XRM-80-32
Frequency Range, MHz	806-896	806-896	806-896	806-896	806-896
Pass Band, MHz	3-18	3-18	3-18	3-18	3-18
Number of Channels	2	4	8	16	32
RX/RX Isolation, dB	23+	23+	23+	23+	23+
Amplifier Gain, dB	19	19	19	19	19
Amplifier Noise Figure, dB	1.9	1.9	1.9	1.9	1.9
Amplifier Bias Voltage, VDC	+13-28	+13-28	+13-28	+13-28	+13-28
Amplifier Current Draw, mA	130	130	130	130	130
Nominal Impedance, Ohms	50	50	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1	1.25:1	1.25:1
Temperature °C	-40 to +60				

Mechanical Specifications	XRM-80-02	XRM-80-04	XRM-80-08	XRM-80-16	XRM-80-32
Mounting	RM / CM				
Connectors (Optional)	N-F (BNC)				
Weight, lbs	5-12	5-12	5-12	5-12	5-12

* See appendix for ordering information (Page 241)



XRM-90-PP Series

Our Expandable Receiver Multicouplers are simple and compact. They are available in 2, 4, 8, 12, 16 and 32 port configurations. This is an affordable means of combining multiple RX frequencies onto the same antenna. We offer three mounting versions: our standard 19" rack, a tray mounted or a cavity mounted version. Each unit consists of a power splitter and an RF amplifier. Every Expandable Receiver Multicoupler has the optional plug-in power supply.

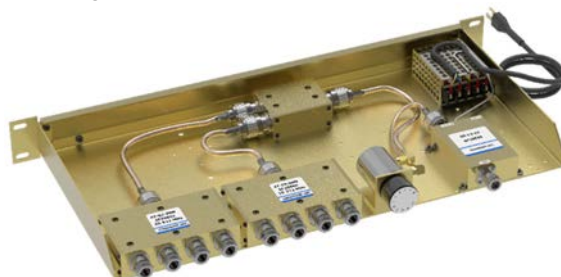
- Design
 - Simple and cost effective
- Mounting
 - 19" rack mount (RM)
 - Cavity mount (CM)
 - Tray mount (TRM)
- Optional 100-240 VAC power supply (PS)



Electrical Specifications	XRM-90-02	XRM-90-04	XRM-90-08	XRM-90-16	XRM-90-32
Frequency Range, MHz	896-960	896-960	896-960	896-960	896-960
Pass Band, MHz	3-15	3-15	3-15	3-15	3-15
Number of Channels	2	4	8	16	32
RX/RX Isolation, dB	23+	23+	23+	23+	23+
Amplifier Gain, dB	19	19	19	19	19
Amplifier Noise Figure, dB	1.9	1.9	1.9	1.9	1.9
Amplifier Bias Voltage, VDC	+13-28	+13-28	+13-28	+13-28	+13-28
Amplifier Current Draw, mA	130	130	130	130	130
Nominal Impedance, Ohms	50	50	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1	1.25:1	1.25:1
Temperature °C	-40 to +60				

Mechanical Specifications	XRM-90-02	XRM-90-04	XRM-90-08	XRM-90-16	XRM-90-32
Mounting	RM / CM				
Connectors (Optional)	N-F (BNC)				
Weight, lbs	5-12	5-12	5-12	5-12	5-12

* See appendix for ordering information (Page 242)



XRM-XX-PP-RM-DCM Series

This Receiver Multicoupler with dry contact alarms is available in 2, 4, 8, 12, 16 and 32 port configurations assembled in standard 19" rack. Each unit features continuous monitoring of the power supply voltage and the current drawn by the amplifier to provide alarm notifications via relay contacts when the DC voltage or the current are out of tolerance. In addition, an integrated bypass capability will fully remove the amplifier from the circuit when the power is cut-off or in faulty conditions. The bypass option contributes to protect the amplifier from DC voltages that are out of tolerance and provide a non-amplified connection from the antenna to keep the system up and running even in case of power failure.



* Images are for illustrative purposes only and may differ from the actual product.

Electrical Specifications	XRM-13-PP-RM-DCM	XRM-38-PP-RM-DCM	XRM-70-PP-RM-DCM
Frequency Range, MHz	138-225	380-512	760-940
Rx/Rx Isolation, dB	23+	23+	23+
Amplifier Gain max	31	31	31
Amplifier Noise Figure, dB	1.5	1.5	1.5
Nominal Impedance, Ohms	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1
3rd Order Intercept, dBm	+43	+43	+43
Maximum Input Power, dBm	0	0	0
Amplifier Bias Voltage, V	12.5 (nom). Voltage range 11-16 V		
Amplifier Current Drawn, mA	(350 @ 15V), (400 @ 12.5 V), (450 @ 12 V)		
Reverse polarity protection	Yes		
Alarm Output	N.O./N.C. Dry Contacts, 10A @ 125V AC, 5A @ 30V DC rating		
Alarm Conditions	Amplifier VDC outside tolerance, Amplifier IDC outside tolerance		

Mechanical & Environmental Specifications	
RF connectors	N-type female
Power & Alarm Connectors	8 pins, DIN Rail Terminal Blocks
Mounting	Standard 19" rack
Weight, lbs	12 (4 ch)
Temperature range °C	-40 to +60

Expandable Receiver Multicoupler 90 Series

Our Expandable Receiver Multicoupler provides an affordable means of combining multiple Receiver frequencies onto the same antenna. They are available in 2, 4, 8, 12 and 16 port configurations.

Key features:

- A low noise amplifier provides gain across the frequency band
- Low noise figure and low intermodulation generation
- Features up to 16 ports (24 and 32 port versions are available)
- -30 dB signal sampler port that can also be used to inject a signal

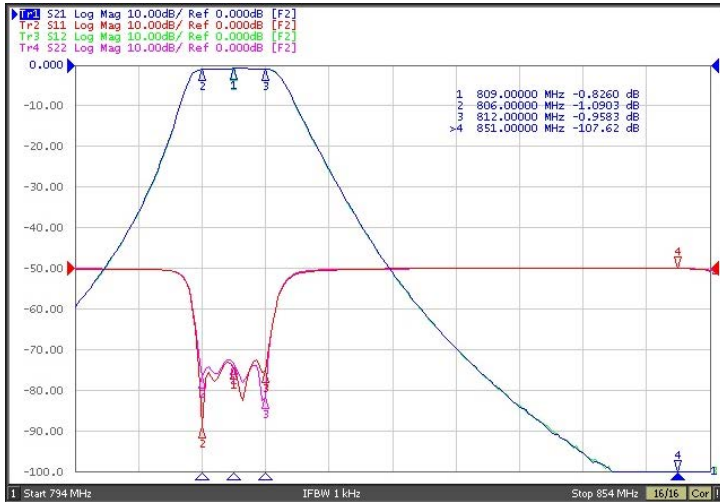


Electrical Specifications

Frequency Band, MHz	406-512	794-824
Number of output ports	2 to 16 (24 and 32 port versions available)	2 to 16 (24 and 32 port versions available)
Input Preselector Bandwidth Options	2 or 3 MHz Bandwidth 380-512 MHz	794 - 824 MHz, 3/6/12 MHz BW 806 - 821 MHz, 15 MHz BW 806 - 824 MHz, 18 MHz BW 794 - 824 MHz, 30 MHz BW
VSWR	1.5:1	1.5:1
Amplifier Gain, dB	18.5 typical	19 typical
Amplifier Output IP3, dB	+40 Min	+40 Min
Amplifier Noise Figure, dB	1.9 typical	1.9 typical
Manual Attenuation Selection	0 to -10dB in 1 dB steps	0 to -10dB in 1 dB steps
RX to RX Isolation, dB	>20	>20
TX Band Rejection, dB	>40 at 2MHz TX-RX	>80
Connector, Input	N (Female)	N (Female)
Connector, Output	N (Female)	N (Female)
Connector, Signal Sampler	BNC (Female)	BNC (Female)
Power Input, Standard	110/220 VAC 50/60Hz 10W	110/220 VAC 50/60Hz 10W
AC Power Input Connector	Hardwired 3-wire	Hardwired 3-wire
DC Power (optional), VDC	+13-28	+13-28
Mounting	EIA Standard 19" 3 RU	EIA Standard 19" 2 RU
Temperature Range C	-30 to +60 C	-30 to +60 C

* See appendix for ordering information (Page 242)

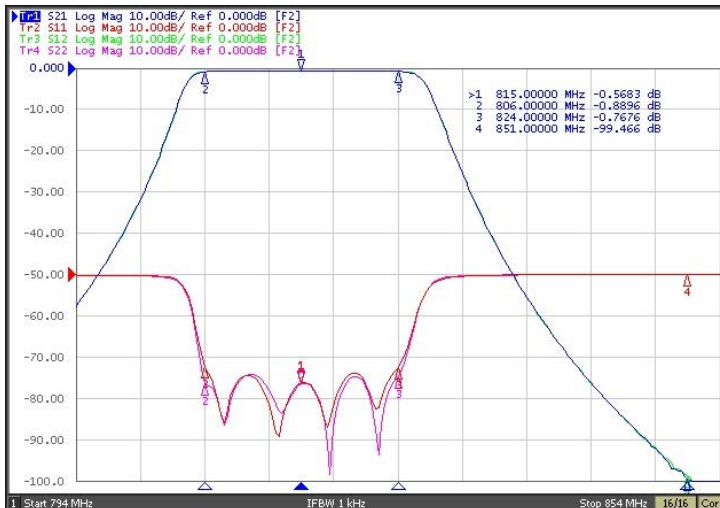
800 MHz Pass: 806-812MHz (6MHz)



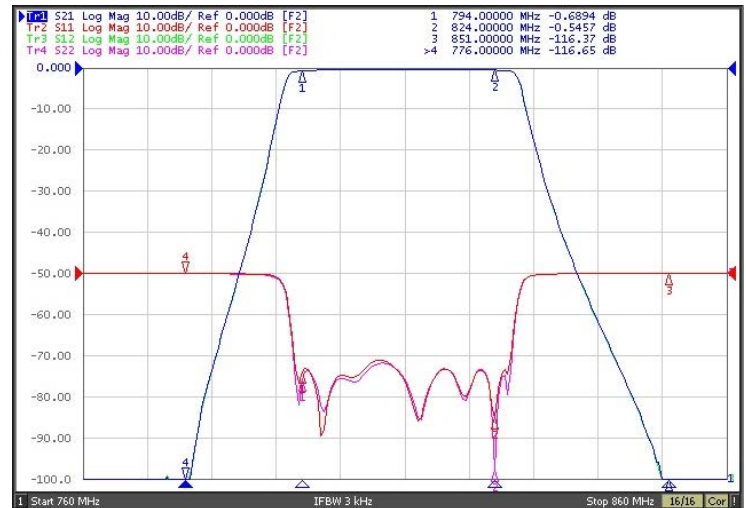
800MHz Pass: 809-821MHz (12MHz)



800MHz Pass: 806-824MHz (18MHz)



800MHz Pass: 794-824MHz (30MHz)



Our Tower-Top Amplifier (TTA) systems provide superior receiver system performance and excellent electrical reliability in a rugged, weather-proof design. The tower unit is housed in a seamless cylindrical aluminum housing with a durable finish to repel both weather and solar energy. The aluminum shell connector plate provides much lower electrical resistance than competing stainless steel housings, enhancing the performance of the internal lightning surge protection. A high permeability internal magnetic shield provides protection against damage from lightning-induced magnetic pulses and is many times more effective than a stainless-steel enclosure.

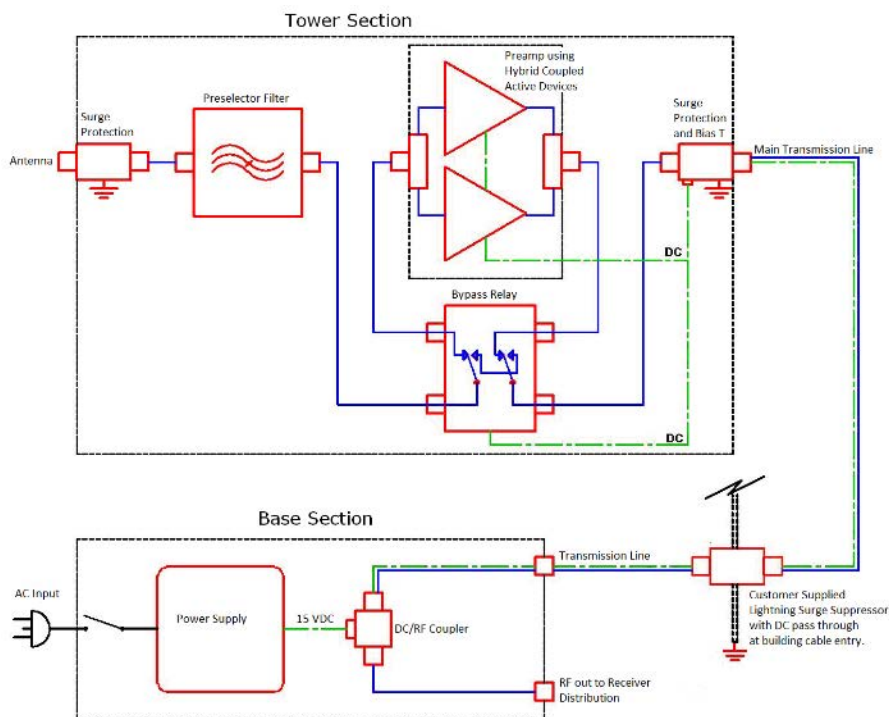
The tower housing has two drain holes to release any water due to condensation build up. RF connections stay weather-resistant longer as a result of the protection provided by a 360° drip-edge. Superior electrical performance starts with a highly selective Compline preselector that provides excellent out-of-band rejection with minimum loss. Our preamplifier uses PHEMT (GaAs FET) device technology to provide low noise performance (1.6dB typical) and high intermodulation immunity (+39 dBm OIP3).

For greater reliability, the preamplifier uses a pair of hybrid-coupled devices to provide amplifier redundancy. This circuit provides useful gain should only one device be operational. The preamp features internal transient suppression that complements lightning surge protection provided on all TTA ports.

In addition to amplifier redundancy, full amplifier bypass capability is provided. A hermetically sealed, high-reliability bypass relay will fully remove the amplifier from the circuit and provide a non-amplified connection from the antenna to keep the system up and running even if the preamplifier totally ceases operation. Bypass mode is activated when DC power to the tower unit is disabled.

The base unit is housed in a 19" rack assembly that includes the power supply and DC injector to send DC (12 V) over the transmission line to operate the tower unit. The base unit has jacks for measurement of tower unit Current using a standard digital multi-meter. Type N connectors provided. Tower unit mounting hardware included.

Building-entry lightning surge suppressor w/DC pass-thru is recommended but not supplied.



Tower Section	TTA-40-00	TTA-70-00	TTA-79-00	TTA-80-00	TTA-90-00
Frequency Range, MHz	UHF (406-512)	794-806	792-824	806-824	896-902
Bandwidth, MHz	2-3	3, 6, 10, 12	32	18	6
Gain, dB	16-19	16-19	16-19	16-19	16-19
Noise Figure, dB	2-4	2-4	2-4	2-4	3-4
3rd Order Intercept Point, dBm	+40	+40	+40	+40	+40
Connectors	N Female				
Power, VDC	+13-28	+13-28	+13-28	+13-28	+13-28
Housing Diameter, in	16 x 14 x 6	7	7	7	7
Housing Length, in	N/A	21	21	21	21
Finish	Grey Anodize				
Temperature Range, °C	- 40° to +50	- 40° to +50	- 40° to +50	- 40° to +50	- 40° to +50
Weight, lbs	45 with clamps	45 with clamps	45 with clamps	45 with clamps	45 with clamps

Base Unit

Size (H x W x D) in	1.75 x 19 x 6
Finish, Front	Black
Connectors	Transmission Line, RF Output
Connector Type	N Female
Power Input, Standard	110/220 VAC 50/60Hz, 12W
Weight, lbs	5
DC Power (optional), VDC	13-28
Mounting	EIA Standard 19" 1 RU
Temperature Range, C	-0 to +50

* See appendix for ordering information (Page 243)

Models: 58-13-19 (100-225 MHz)
 58-40-19 (300-520 MHz)
 58-74-19 (700-1000 MHz)

Our line of low noise, medium power robust amplifiers are designed for unconditionally stable performance in professional communications systems. Featuring rugged construction, internal voltage regulator, hybrid-combined redundant amplifier pairs and low pass filters. The amplifiers will provide higher system dynamic range for fixed receiver systems, tower mounted amplifiers, or Bi-Directional in-building repeaters and boosters.

- High Gain, Low Noise - Maximum performance with minimum noise.
- Filtering on DC Terminals - Greater than 70 dB attenuation from as low as 5 MHz to several GHz

Electrical Specifications	58-13-19	58-40-19	58-74-19
Frequency Range, MHz	100-225	380-520	700-1000
Bandwidth, MHz	125	220	300
Amplifier Type	Low Noise / Medium Power		
Typical Gain, dB	19	19	19
Amplifier Noise figure, dB	1.9	1.9	1.9
3rd Order Intercept, dBm	+41	+41	+41
Output 1 dB Compression Point, dBm	25.0	25.0	25.0
Input/output Return loss, dB	-18 Typ.	-18 Typ.	-18 Typ.
Operating Voltage, VDC	12.5-28	12.5-28	12.5-28
Typical DC Current Draw, mA	130	130	130
Standard Connectors (Optional)	N Female		
Maximum Input Power, dBm	+15	+15	+15
Temperature Range, °C	-20 to +70	-20 to +70	-20 to +70
Mechanical Specifications	58-13-19	58-40-19	58-74-19
Height, in (mm)	4.375 (111)	4.375 (111)	4.375 (111)
Width, in (mm)	2.5 (63.5)	2.5 (63.5)	2.5 (63.5)
Depth, in (mm) (including Connectors)	0.9375 (23.8)	0.9375 (23.8)	0.9375 (23.8)
Weight, lb (kg)	0.42 (0.187)	0.42 (0.187)	0.42 (0.187)
Finish	Alodine (yellow)		



* See appendix for ordering information (Page 243)

Our Isolators are among the best in the industry for blocking the transfer of RF power flow in the opposite direction. Low to medium power, and total reliability are two of the characteristics of these isolators. Used for intermodulation panels, protecting your transmitters from reflected power and providing extra isolation are just a few of the possible applications. These isolators can be combined with a variety of loads, 5/25/60/100/150/250-watt combinations, as well as combined with second harmonic filters for Hybrid Combiners (HTCs).

- High Isolation
 - Minimizes intermodulation products
- Low loss
 - Maximizes system performance
- Continuous Power
 - Physical size and materials used maximize the performance across the operating band

Electrical Specifications	21-13-XX	21-40-XX	21-76-XX
Frequency Range, MHz	138-174	406-512	746-960
Frequency Split, MHz	4	24	24
Bandwidth	2.5% Cent. Freq.	1% Cent. Freq.	2.5% Cent. Freq.
Continuous Power Input, Watts	100	100	100
Connectors	N Female		
Output Load Size	5/25/60/100/150	5/25/60/100/150	5/25/60/100/150
Reverse Isolation, Db	30	30	30
Typical Insertion Loss, dB	0.45	0.35	0.25
VSWR	1.22:1	1.22:1	1.22:1
Temperature Range, °C	-40 to +60		
Mechanical Specifications	21-13-XX	21-40-XX	21-76-XX
Dimensions, in (H x W x D)	3.94 x 3.75 x 1.78	4.19 x 3.99 x 1.78	5.63 x 3.15 x 1.84
Weight, lbs	1.40	1.41	1.32
Mounting	Cavity / Plate / Cabinet / Rack Mount Are All Available		

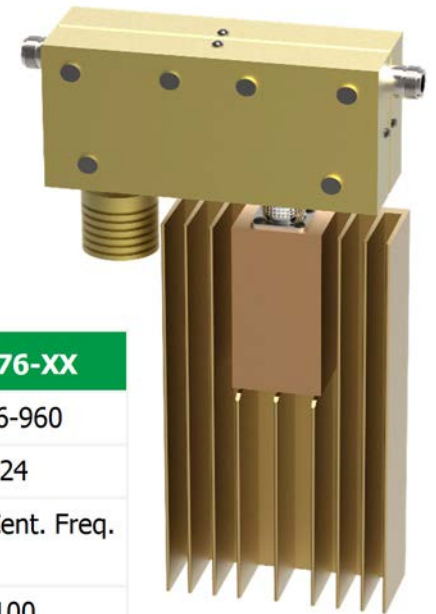


* See appendix for ordering information (Page 243)

22-FF-PP

Our Isolators are among the best in the industry for blocking the transfer of RF power flow in the opposite direction. Low to medium power and total reliability are two of the characteristics of these isolators. Used for intermodulation panels, protecting your transmitters from reflected power, and providing extra isolation are just a few of the possible applications. These isolators can be combined with a variety of loads, 5/25/60/100/150/250-watt combinations, and combined with second harmonic filters for Hybrid Combiners (HTCs).

- High Isolation
 - Minimizes intermodulation products
- Low loss
 - Maximizes system performance
- Continuous Power
 - Physical size and materials used maximize the performance across the operating band



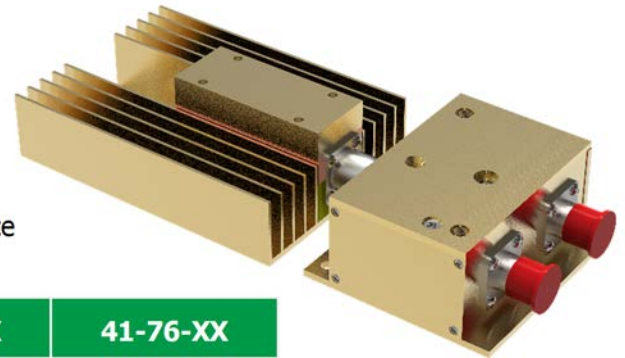
Electrical Specifications	22-13-XX	22-40-XX	22-76-XX
Frequency Range, MHz	138-174	406-512	746-960
Frequency Split, MHz	4	24	24
Bandwidth	2.5% Cent. Freq.	1% Cent. Freq.	2.5% Cent. Freq.
Continuous Power Input, Watts	100	100	100
Connectors	N Female		
Output Load Size	5/25/60/100/150	5/25/60/100/150	5/25/60/100/150
Reverse Isolation, Db	50	50	50
Typical Insertion Loss, dB	0.9	0.7	0.5
VSWR	1.22:1	1.22:1	1.22:1
Temperature Range, °C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	22-13-XX	22-40-XX	22-76-XX
Dimensions, in (H x W x D)	3.94 x 6.25 x 1.78	4.19 x 8.75 x 1.78	5.63 x 6.13 x 1.84
Weight, lbs	2.6	2.8	2.75
Mounting	Cavity / Plate / Cabinet / Rack Mount Are All Available		

* See appendix for ordering information (Page 243)

41-FF-PP

Our Isolators are among the best in the industry for blocking the transfer of RF power flow in the opposite direction. High power and total reliability are two of the characteristics of these isolators. Used for intermodulation panels, protecting your transmitters from reflected power, and providing extra isolation are just a few of the possible applications. These isolators can be combined with a variety of loads, 5/25/60/100/150/250-watt combinations, and combined with second harmonic filters for Hybrid Combiners (HTCs).

- High Isolation
 - Minimizes intermodulation products
- Low loss
 - Maximizes system performance
- Continuous Power
 - Physical size and materials used maximize the performance across the operating band



Electrical Specifications	41-13-XX	41-40-XX	41-76-XX
Frequency Range, MHz	138-174	406-512	746-960
Frequency Split, MHz	36	24	24
Bandwidth	2.5% Cent. Freq.	1% Cent. Freq.	2.5% Cent. Freq.
Continuous Power Input, Watts	150	250	150
Connectors	N Female		
Output Load Size	5/25/60/100/150	5/25/60/100/150	5/25/60/100/150
Reverse Isolation, Db	30	30	30
Typical Insertion Loss, dB	0.45	0.45	0.25
VSWR	1.22:1	1.22:1	1.22:1
Temperature Range, °C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	41-13-XX	41-40-XX	41-76-XX
Dimensions, in (H x W x D)	3.94 x 3.75 x 1.78	4.19 x 3.99 x 1.78	5.63 x 3.15 x 1.84
Weight, lbs	1.40	1.41	1.32
Mounting	Cavity / Plate / Cabinet / Rack Mount Are All Available		

* See appendix for ordering information (Page 243)

42-FF-PP

Our Isolators are among the best in the industry for blocking the transfer of RF power flow in the opposite direction. High power and total reliability are two of the characteristics of these isolators. Used for intermodulation panels, protecting your transmitters from reflected power, and providing extra isolation are just a few of the possible applications. These isolators can be combined with a variety of loads, 5/25/60/100/150/250-watt combinations, and combined with second harmonic filters for Hybrid Combiners (HTCs).

- High Isolation
 - Minimizes intermodulation products
- Low loss
 - Maximizes system performance
- Continuous Power
 - Physical size and materials used maximize the performance across the operating band



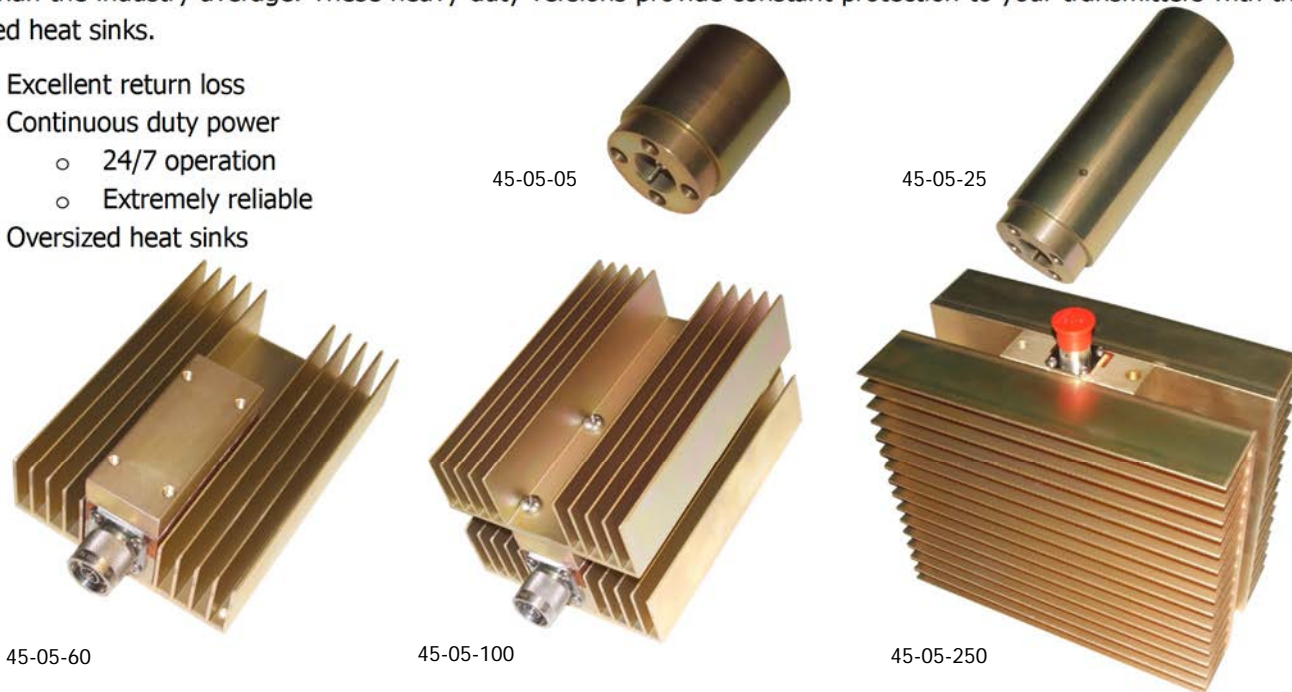
Electrical Specifications	42-13-XX	42-40-XX	42-76-XX
Frequency Range, MHz	138-174	406-512	746-960
Frequency Split, MHz	36	24	24
Bandwidth	2.5% Cent. Freq.	1% Cent. Freq.	2.5% Cent. Freq.
Continuous Power Input, Watts	150	250	150
Connectors	N Female	N Female	N Female
Output Load Size	5/25/60/100/150	5/25/60/100/150	5/25/60/100/150
Reverse Isolation, Db	60	60	60
Typical Insertion Loss, dB	0.9	0.7	0.5
VSWR	1.22:1	1.22:1	1.22:1
Temperature Range, °C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	42-13-XX	42-40-XX	42-76-XX
Dimensions, in (H x W x D)	3.94 x 6.25 x 1.78	4.19 x 8.75 x 1.78	5.63 x 6.13 x 1.84
Weight, lbs	2.6	2.8	2.75
Mounting	Cavity / Plate / Cabinet / Rack Mount Are All Available		

* See appendix for ordering information (Page 244)

45-05-PP Series

Our continuous power RF Loads have been specifically developed to provide our customers with a product that is extremely reliable. The RF loads are specifically designed to continually absorb reflected power. Our loads are traditionally larger than the industry average. These heavy-duty versions provide constant protection to your transmitters with their oversized heat sinks.

- Excellent return loss
- Continuous duty power
 - 24/7 operation
 - Extremely reliable
- Oversized heat sinks

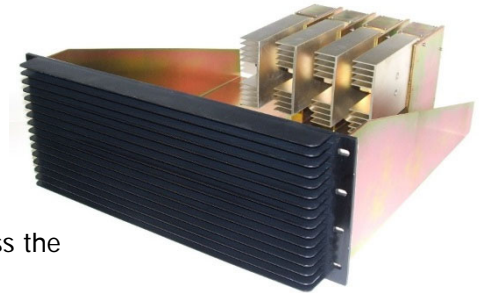


Electrical Specifications	45-05-05	45-05-25	45-05-60	45-05-100	45-05-250
Frequency Range, MHz	25-1000	25-1000	25-1000	25-1000	25-1000
Load Type	Dry				
Cooling	Natural Air Convection				
Duty Cycle	Continuous				
Connectors	N Male				
Impedance, Ohms	50	50	50	50	50
Maximum RF Input Power, Watts	5	25	60	100	250
Resistor Element Rating, Watts	60	60	250	250	250
Heatsink Area, in (cm)	9.2 (59)	57 (368)	172.7 (1114)	334.7 (2159)	898.2 (5795)
VSWR	1.05:1	1.05:1	1.05:1	1.05:1	1.05:1
Temperature Range, °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	45-05-05	45-05-25	45-05-60	45-05-100	45-05-250
Dimensions, in (H x W x D)	1.31 x 1.50	5.06 x 1.50	6.3 x 3.9 x 1.6	6.3 x 3.9 x 2.9	7.4 x 8.00 x 4.3
Weight, lbs	0.18	0.64	1.28	2.00	7.52

HTC-13-OX

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, and for providing extra isolation between two very close transmitters.

- High Isolation
 - Minimizes intermodulation products
- Low loss
 - Maximizes system performance
- Continuous Power
 - Physical size and materials used maximize the performance across the operating band



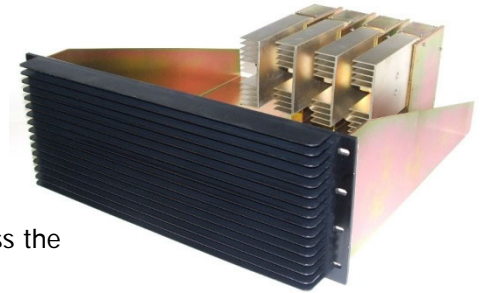
Electrical Specifications	HTC-13-04HS	HTC-13-02HS	HTC-13-04HD	HTC-13-02HD
Frequency Range, MHz	138-174	138-174	138-174	138-174
Frequency Split, MHz	30	30	24	24
Bandwidth	2.5% Cent. Freq.	2.5% Cent. Freq.	1% Cent. Freq.	1% Cent. Freq.
Channels	4	2	4	2
Continuous Power Input, Watts*	100	100	100	100
Connectors	N Female			
Isolator	Single	Single	Dual	Dual
Isolation TX/TX, dB	65	65	100	100
Isolation Ant/TX	35+	35+	70+	70+
Typical Insertion Loss, dB	6.8	3.5	7.0	3.7
VSWR	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1
Temperature Range, °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	HTC-13-04HS	HTC-13-02HS	HTC-13-04HD	HTC-13-02HD
Dimensions, in (H x W x D)	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18
Weight, lbs	42.5	31.5	52	36
Mounting	19" Rack Mount			

*Low power input (60 Watts) models are also available. Please contact our Technical Support team.

HTC-40-OX

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, and for providing extra isolation between two very close transmitters.

- High Isolation
 - Minimizes intermodulation products
- Low loss
 - Maximizes system performance
- Continuous Power
 - Physical size and materials used maximize the performance across the operating band



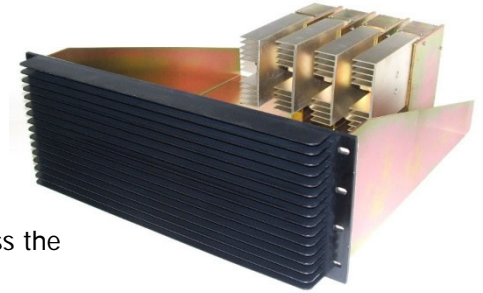
Electrical Specifications	HTC-40-04HS	HTC-40-02HS	HTC-40-04HD	HTC-40-02HD
Frequency Range, MHz	406-512	406-512	406-512	406-512
Frequency Split, MHz	30	30	24	24
Bandwidth	2.5% Cent. Freq.	2.5% Cent. Freq.	1% Cent. Freq.	1% Cent. Freq.
Channels	4	2	4	2
Continuous Power Input, Watts*	100	100	100	100
Connectors	N Female			
Isolator	Single	Single	Dual	Dual
Isolation TX/TX, dB	65	65	100	100
Isolation Ant/TX	35+	35+	70+	70+
Typical Insertion Loss, dB	6.8	3.5	7.0	3.7
VSWR	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1
Temperature Range, °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	HTC-40-04HS	HTC-40-02HS	HTC-40-04HD	HTC-40-02HD
Dimensions, in (H x W x D)	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18
Weight, lbs	40.5	29.5	44.6	31.5
Mounting	19" Rack Mount			

*Low power input (60 Watts) models are also available. Please contact our Technical Support team.

HTC-80-OX

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, and for providing extra isolation between two very close transmitters.

- High Isolation
 - Minimizes intermodulation products
- Low loss
 - Maximizes system performance
- Continuous Power
 - Physical size and materials used maximize the performance across the operating band



Electrical Specifications	HTC-80-04HS	HTC-80-02HS	HTC-80-04HD	HTC-80-02HD
Frequency Range, MHz	806-960	806-960	806-960	806-960
Frequency Split, MHz	30	30	24	24
Bandwidth	2.5% Cent. Freq.	2.5% Cent. Freq.	1% Cent. Freq.	1% Cent. Freq.
Channels	4	2	4	2
Continuous Power Input, Watts*	100	100	100	100
Connectors	N Female			
Isolator	Single	Single	Dual	Dual
Isolation TX/TX, dB	65	65	100	100
Isolation Ant/TX	35+	35+	70+	70+
Typical Insertion Loss, dB	6.8	3.5	7.0	3.7
VSWR	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1
Temperature Range, °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	HTC-80-04HS	HTC-80-02HS	HTC-80-04HD	HTC-80-02HD
Dimensions, in (H x W x D)	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18
Weight, lbs	11.8	9.3-11	12.8	9.3-11
Mounting	19" Rack Mount			

*Low power input (60 Watts) models are also available. Please contact our Technical Support team.

50-FF-YY-XX Series

We offer a full line of compact couplers covering the frequency ranges from 138-174, 215-300, or 350-520 MHz. The full range of coupling values provides balanced power division and distribution. The 50-FF series uses a multilayer bonded PCB design resulting in a high-performance compact design.

- Low insertion Loss, Excellent return Loss.
- Compact dimensions VHF and 220MHz: 5.0x3.70x1.5 in. and UHF: 3.0x3.0x1.5 in.
- 3, 4.8, 6, 7, 10, 15, 20, 30 dB values.
- 200 Watts Maximum main line power. Integrated Mounting Bracket.



Model with No Load	With Integrated 5-Watt Load	With Integrated 25-Watt Load	Frequency Range	Coupling Nom. (dB)	ThruLine Loss (dB)	Power Split Ratio (%)
50-13-03-00	50-13-03-05	50-13-03-25	138-174MHz	-3.0	-3.0 ±0.3	50 / 50
50-13-48-00	50-13-48-05	50-13-48-25	138-174MHz	-4.8	-1.8 ±0.2	67 / 33
50-13-06-00	50-13-06-05	50-13-06-25	138-174MHz	-6.0	-1.2 ±0.2	75 / 25
50-13-07-00	50-13-07-05	50-13-07-25	138-174MHz	-7.0	-1.0 ±0.2	80 / 20
50-13-10-00	50-13-10-05	50-13-10-25	138-174MHz	-10.0	-0.5 ±0.2	90 / 10
50-13-15-00	50-13-15-05	50-13-15-25	138-174MHz	-15.0	-0.14 ±0.2	97 / 3
50-13-20-00	50-13-20-05	50-13-20-25	138-174MHz	-20.0	-0.04 ±0.2	99 / 1
50-13-30-00	50-13-30-05	50-13-30-25	138-174MHz	-30.0	-0.04 ±0.2	99.9 / 0.1
50-21-03-00	50-21-03-05	50-21-03-25	215-300MHz	-3.0	-3.0 ±0.3	50 / 50
50-21-48-00	50-21-48-05	50-21-48-25	215-300MHz	-4.8	-1.8 ±0.2	67 / 33
50-21-06-00	50-21-06-05	50-21-06-25	215-300MHz	-6.0	-1.2 ±0.2	75 / 25
50-21-07-00	50-21-07-05	50-21-07-25	215-300MHz	-7.0	-1.0 ±0.2	80 / 20
50-21-10-00	50-21-10-05	50-21-10-25	215-300MHz	-10.0	-0.5 ±0.2	90 / 10
50-21-15-00	50-21-15-05	50-21-15-25	215-300MHz	-15.0	-0.14 ±0.2	97 / 3
50-21-20-00	50-21-20-05	50-21-20-25	215-300MHz	-20.0	-0.04 ±0.2	99 / 1
50-21-30-00	50-21-30-05	50-21-30-25	215-300MHz	-30.0	-0.04 ±0.2	99.9 / 0.1
50-35-03-00	50-35-03-05	50-35-03-25	350-520MHz	-3.0	-3.0 ±0.3	50 / 50
50-35-48-00	50-35-48-05	50-35-48-25	350-520MHz	-4.8	-1.8 ±0.2	67 / 33
50-35-06-00	50-35-06-05	50-35-06-25	350-520MHz	-6.0	-1.2 ±0.2	75 / 25
50-35-07-00	50-35-07-05	50-35-07-25	350-520MHz	-7.0	-1.0 ±0.2	80 / 20
50-35-10-00	50-35-10-05	50-35-10-25	350-520MHz	-10.0	-0.5 ±0.2	90 / 10
50-35-15-00	50-35-15-05	50-35-15-25	350-520MHz	-15.0	-0.14 ±0.2	97 / 3
50-35-20-00	50-35-20-05	50-35-20-25	350-520MHz	-20.0	-0.04 ±0.2	99 / 1
50-35-30-00	50-35-30-05	50-35-30-25	350-520MHz	-30.0	-0.04 ±0.2	99.9 / 0.1

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

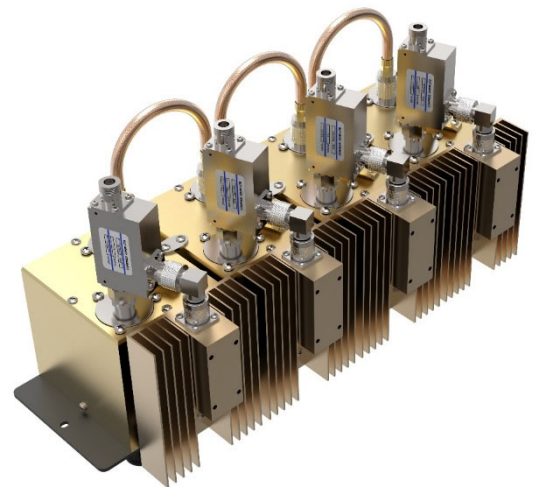
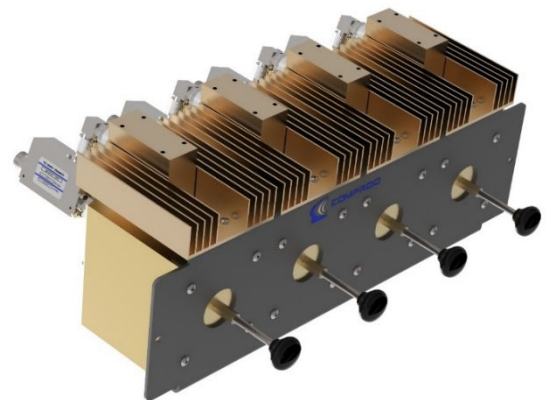
Frequency Range, MHz	764-776, 851-869 & 935-941
Frequency Spacing, Min.	150 kHz
Temperature Range, °C	-35 to +60
TX to TX Isolation at Minimum Frequency Spacing of 150 kHz	65 dB min (double junction isolator)
ANT to TX Isolation	60 dB min (double junction isolator)
Insertion Loss	1.8 dB – 4 Ch. at 500 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)

Order Information

DRXC	-	FF	-	XX	N or D
DRXC	Dielectric Resonator X-Pass Configuration				
FF	Frequency band: 76=764-776 / 85=851-869 / 93=935-940				
XX	Number of Channels				
N or D	Type of Connector N = N Female Connectors D = DIN Connectors				



Example: Model # DRXC-76-04N
X-Pass Ceramic Combiner, 764-776 MHz,
4 Channel N Connectors

Our Cross-Band Couplers are designed for easy installation, reduced coaxial runs, and in-building applications for multi-band antennas. They allow multiple bands to share the same transmission lines. They are available in VHF, UHF and 800/900MHz bands. They can be tower mounted (TM), rack mounted (RM), tray-mounted (TRM) or stand alone.



Electrical Specifications		XBC-02-38	XBC-02-38-R	XBC-38-76	XBC-38-76-R	XBC-38-76-RX
Frequency Range, MHz	1st	25-175	25-175	380-512	380-512	380-512
	2nd	380-960	380-960	764-960	764-960	764-960
Typical Loss, dB	1st	0.35	0.35	0.20	0.35	0.30
	2nd	0.50	0.50	0.20	0.50	0.50
Isolation, dB		40	40	40	40	40
Power Rating, Watts	1st	250	RX Only	250	RX Only	250
	2nd	250	RX Only	250	RX Only	RX Only
Connectors	N Female					
VSWR	1.25:1					
Temperature °C		-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications		XBC-02-38	XBC-02-38R	XBC-38-80	XBC-38-80R	XBC-38-80RX
Dimensions	DEPENDS on Mounting Configuration					
Rack Mount	DEPENDS on Mounting Configuration					
Tower Mount	DEPENDS on Mounting Configuration					

* See appendix for ordering information (Page 244)

57-FF-XX Series

Our Comblines filters are designed for minimizing interference from adjacent channels and outside systems. They are available in a wide range of bandwidths and frequency splits. Used in front of a wideband receiver multicoupler, the preselectors narrow the passband to the desired bandwidth. Each filter is temperature compensated for operation between -40°C to +60°C. Each filter has silver-plated loops, and silver-plated tuning rods. Comprod Inc. preselectors are available in a wide range of frequency splits, bandwidth and cavity sizes.

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

Several other preselectors are also available. They include combines and our full line of cavity-based preselectors. Sizes range from the very compact 1" helical filter to the very selective 6.625" cavity preselector. Please contact our Technical Support team for consultation at sales@comprodcom.com

Electrical Specifications	57-45-04	57-80-05	57-80-07	57-80-15	57-80-18
Frequency Range, MHz	450-470	766-960	766-960	766-960	766-960
Type	Comblines				
Insertion Loss Bandwidth, dB	3	1.5	1.5	0.8	0.8
Pass Bandwidth, MHz	4.0	5.0	7.0	15.0	18.0
Return Loss, dB (VSWR)	20 (1.22)	20 (1.22)	20 (1.22)	20 (1.22)	20 (1.22)
Typical Selectivity, dB @ MHz	38 @ 5	80 @ 45	80 @ 45	70 @ 45	70 @ 45
Temperature Range, °C	-30 to +60	-30 to +60	-30 to +60	-30 to +60	-30 to +60
Input Power, Watt	RX Only				
Connectors, Antenna/Output	N-F/N-F				
Mechanical Specifications	57-45-04	57-80-05	57-80-07	57-80-15	57-80-18
Finish	Black	Black and gold Alodine			
Dimensions H x W x D, in (mm)	5.25 x 19 x 4.5	3.5 x 19 x 6	3.5 x 19 x 6	3.5 x 19 x 6	3.5 x 19 x 6
	(133 x 686 x 114)	(89 x 483 x 152)	(89 x 483 x 152)	(89 x 483 x 152)	(89 x 483 x 152)

Order information: specify working frequency, bandwidth, power and isolation required.



We offer a full line of Power Splitters. The 47-02-XXN and 47-70-XXN series is a hybrid design which provides 20 dB or more of port-to-port isolation. They are typically used on receiver multicoupler applications. They provide low loss above the splitting loss and cover a very wide frequency range. N connectors are standard but other connectors are available. Standard finish is gold Alodine.



Electrical Specifications	47-02-02	47-02-04	47-35-02	47-35-04	47-35-08
Frequency Range, MHz	25-512	25-512	350-1000	350-1000	350-1000
Impedance, Ohms	50	50	50	50	50
Number of Outputs	2	4	2	4	8
Split Loss, dB	3	6	3	6	9
Insertion Loss, dB	.3	.5	.3	.3	1.0
VSWR (All Ports)	< 1.2:1	< 1.2:1	< 1.25:1	< 1.25:1	< 1.4:1
Port to Port Isolation	20	20	20	20	20
Power Rating Watts	RX Only				
Split Ratio	50%	25%	50%	25%	12.5%
Connectors (All Ports)	N-Female / BNC				
Mechanical Specifications	47-02-02	47-02-04	47-70-02	47-70-04	47-70-08
Length, in (mm)	3.5 (89)	3.5 (89)	3.5 (89)	3.5 (89)	3.5 (89)
Height, in (mm)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
Width, in (mm)	2.25 (57)	4.25 (114)	2.25 (57)	4.5 (114)	8.05 (204)
Weight, lbs (Kg)	.5 (230)	.96 (435)	.4 (185)	.96 (435)	2.6 (1150)
Mounting	Tray/Deck				

FILTER RACKS AND MOUNTING

Filter Rack Mounting Systems

Our filter racks are designed for flexible, space saving filter systems. Each rack has its own benefits, space constraints, ease of installation and cost effectiveness.

We offer four types of racks:

19-inch Standard Rack

This is a standard 19" rack with mounting holes on either side of the rack for ease of installation. Racks are available in different heights.

X-Rack

The X-Rack was specifically developed for our X-Series Cavities. This rack system allows for maximum cavity installation but minimizes the amount of physical space that is used. All cavities mount horizontally for easy installation and removal. Most X-Rack systems will be supplied turnkey and pre-assembled for quick installation. The maximum capacity per rack is 21 cavities. Racks are available in different heights.

Stack Rack

The Stack Rack is used when space is at a premium. It must be assembled on-site. Two Stack Racks can hold 40 cavities. All cavities are mounted horizontally, with 4 cavities per row.

Wall-Mount and Cabinets

We have multiple versions of these cabinets and cavity mounts. Please contact us for additional information. Do not hesitate to ask for custom installations.

We offer four types of mounting hardware:

- Cabinet Mount (CM)
- Wall Mount (WM)
- Rack Mount (RM)
- Tower Mount (TM)
- Tray Mount (TRM)

We supply mounting hardware manufactured to your specifications. We offer the ability to design and build your custom concepts.

Rack Style	Model Number	Cavity Size	Cavity Length	# of Cavity	Height	Width	Depth
X Rack	19-10-26-13	10"	26"	13	79.5"	24"	28.69"
X Rack	19-07-11-20	6.625"	11.5"	20	86.5"	24"	14.19"
X Rack	19-07-26-20	6.625"	26"	20	86.5"	24"	28.69"
X Rack	19-07-13-20	6.625"	13"	20	86.5"	24"	15.81"
X Rack	19-10-26-19	10"	26"	19	108"	24"	28.69"
Stack Rack	HRV-85	6.625"	26"	20	42.62"	32.75"	30.25"
Stack Rack	HRU-85	6.625"	11.5"	20	42.62"	32.75"	18.25"
19" Standard	Call for Available Dimensions						



19" Standard Rack



X Rack



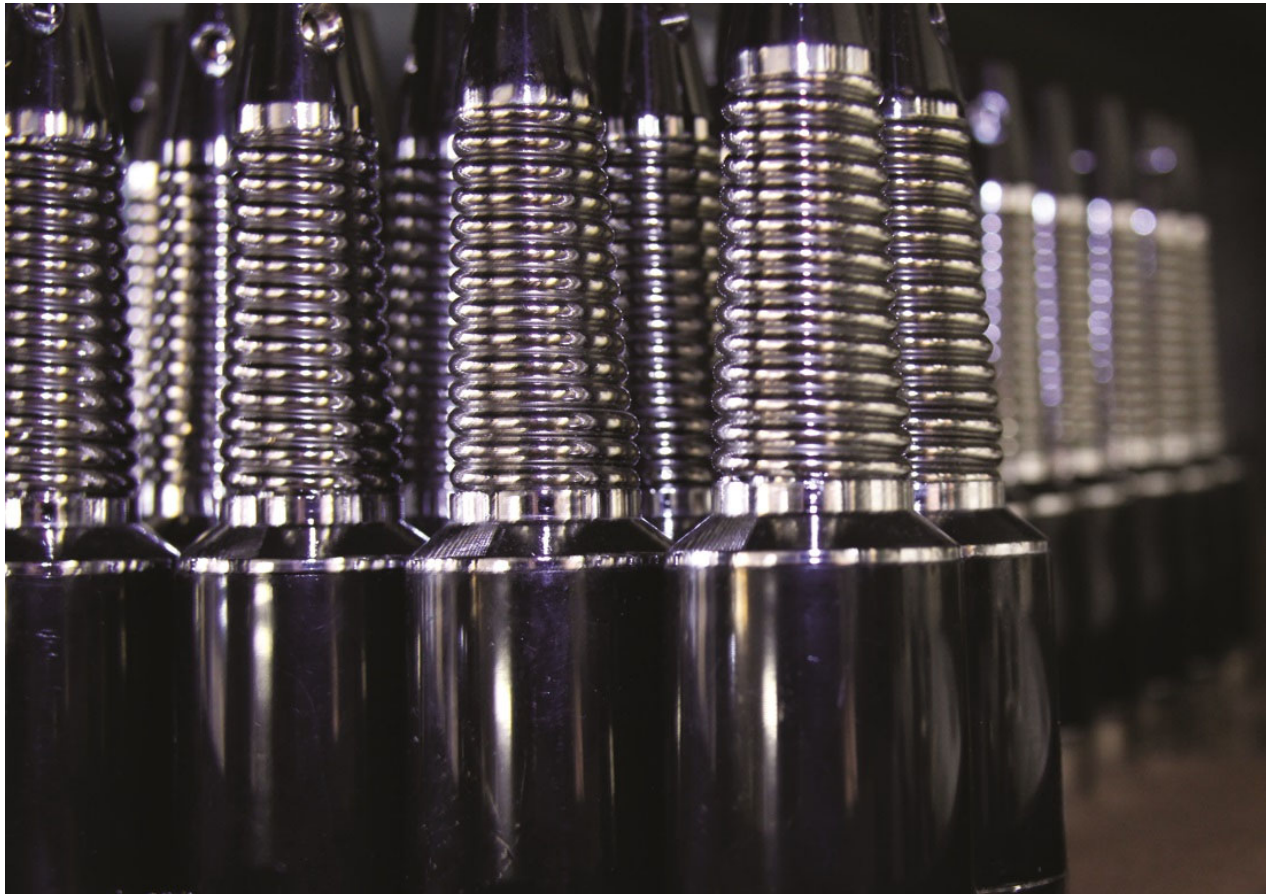
Wall Mount

Mobile/Transit Antennas

Our Mobile and Transit antennas feature **stainless steel whips, high-impact ABS,** and **gold-plated, spring-loaded contacts** when possible, ensuring long-term reliability and performance.

Our multi-band antennas have been developed for **transmitting and receiving Data and Voice.**

We have also **customized** many **wideband and full band VHF, UHF, and 700/800/900 MHz antenna models** for unique requirements.



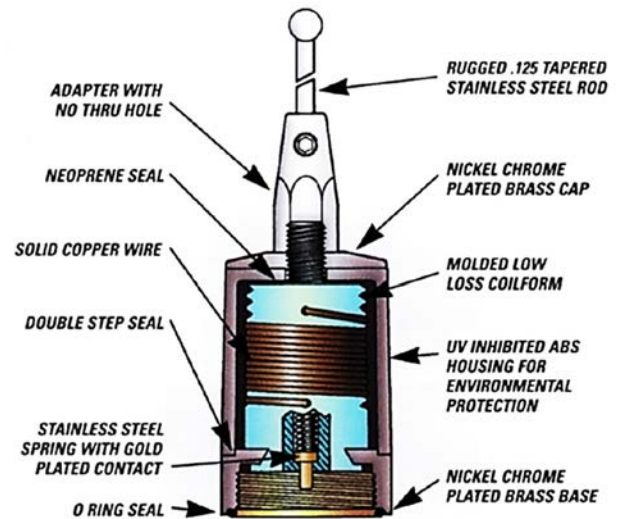
RELIABILITY AND PERFORMANCE

Our Mobile and Transit Antenna lines are suited for Government and Utility applications and result in long term, problem-free installations.

We use stainless steel whips, incorporate high-impact ABS, and gold-plated, spring-loaded contacts, ensuring long term reliability and performance.

Our multi-band antennas have been developed for transmitting and receiving Data and Voice.

We have also customized many Wideband and Full-Band VHF, UHF, and 700/800/900 MHz antenna models for unique requirements. Please contact our Technical Support team for consultation if you require customized antennas at sales@comprodc.com.



Model	Frequency						Gain			Options		
	Multi	VHF	220	UHF	700-900	Other Bands	Unity	2dB	3dB	No Gnd	Black	With
550-75		•	•	•	•		•				•	
552-75		•	•	•			•				•	•
555-75		•	•	•	•		•				•	
565-75						27-54	•				•	•
573-75		•					•					•
F-33329		•					•					
578-75		•						•				•
580-75		•							•		•	•
583-75				•					•		•	•
F-33371					•			•				
590-75					•				•		•	
F-33486		•			•				•		•	
591-75					•				•		•	
592-75					•				•			
593-75					•				•		•	

RELIABILITY AND PERFORMANCE

Model	Frequency						Gain			Options		
	Multi band	VHF	220	UHF	700-900	Other Bands	Unity	2dB	3dB	No Gnd Plane	Black	With Spring
594-75					•				•		•	
595-75					•				3.5		•	•
599-75					•				•	•	•	•
690-75	dual				•	1710-1970	•				•	
692-75	dual				•	2400-2500		•			•	
694-75	dual				•	1850-1990		•			•	
696-75	dual				•	880-1200 / 2300-2600 1100-1500 / 2400-2800	•				•	
697-75	Tri	•		•	•		•	•				
F-33415		•						•		•		
F-33116				•				•		•		
357-75		•					•					
358-75		•					•					
364-75			•				•					
359-75				•			•					
360-75				•			•					
361-75					•		•					
362-75					•		•					

552-75 Series

Performance: These antennas provide unity gain in a broadband design for extra heavy-duty service.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. They come with an integrated shock spring and a heavy-duty stainless-steel whip that is designed to withstand severe shock.

Reliable: The ABS base has an ultrasonically welded brass insert and a gold-plated spring-loaded contact.

Broadband: This antenna provides 24 MHz of bandwidth using VHF frequencies and 100 MHz of bandwidth at UHF frequencies.

Standard Mounting: All base loaded antennas mate with the standard Motorola NMO type mount.

Electrical Specifications	552-75
Frequency Range, MHz	132-512
Gain	Unity
Impedance, Ohms	50
Power Rating, Watts	150
Bandwidth, MHz	VHF - 24 @ 2.0:1 VSWR, UHF - 100 @ 2.0:1 VSWR
Mechanical Specifications	552-75
Radiator: Chrome A	Tapered S.S. whip., 0.125 dia.
Black B	Tapered S.S. whip., 0.10 dia.
Base	Ultrasonic brass insert
Contact	Spring-loaded, gold-plated
Height, in (mm)	21.5 (55) at 138MHz
Mounting	Standard Motorola NMO
Ordering Information	552-75
Description	Model
Chrome finish, triple-plated chrome	552-75-A
Black finish	552-75-B



550-75 Series

Performance: These antennas provide unity gain in a wideband design for heavy-duty service.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. Triple-plated chrome or black finishes are available.

Reliable: The ABS base has an ultrasonically welded brass insert and a gold-plated spring-loaded contact.

Versatile: They are shipped with a 19" whip that can be cut by the customer to any frequency between 136 MHz and 960 MHz according to a cutting chart that is provided. They can also be supplied cut and tested to a specific frequency, at no extra charge.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	550-75
Frequency Range, MHz	136-960
Gain	Unity
Impedance, Ohms	50
Power Rating, Watts	150
Bandwidth, MHz	VHF - 12 @ 2.0:1 VSWR UHF - 50 @ 2.0:1 VSWR
Mechanical Specifications	550-75
Radiator	S.S.
Base	ABS, Ultrasonic brass insert
Contact	Spring-loaded contact
Height, in	19 Maximum
Mounting	Standard Motorola NMO
Ordering Information	550-75
Description	Model
Chrome finish, triple-plated chrome	552-75-A
Black finish	552-75-B



555-75 Series

Performance: These antennas provide unity gain in a wideband design for heavy-duty service.

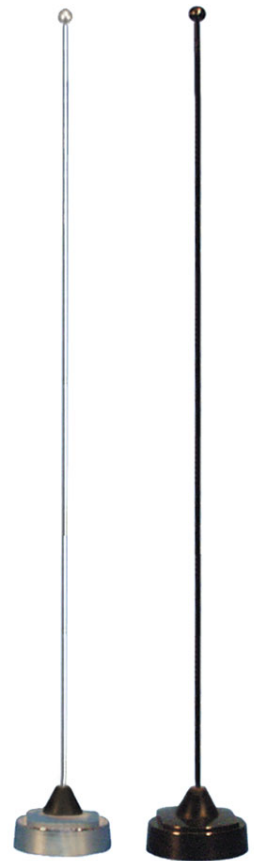
Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. Triple-plated chrome or black finishes are available.

Reliable: The ABS base has an ultrasonically welded brass insert and a gold-plated spring-loaded contact.

Versatile: They are shipped with a factory tuned whip cut to size based on the customer specified frequency range between 136 MHz and 960 MHz.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	555-75
Frequency Range, MHz	132-960
Gain	Unity
Impedance, Ohms	50
Power Rating, Watts	200
VSWR	1.5:1
Bandwidth, MHz	VHF - 12 @ 2.0:1 VSWR UHF - 50 @ 2.0:1 VSWR
Mechanical Specifications	555-75
Radiator: Chrome A	Tapered S.S., 0.10 dia.
Black B	Tapered S.S., 0.10 dia.
Base	ABS
Height, in	20 Maximum
Mounting	Standard Motorola NMO
Ordering Information	555-75
Description	Model
Chrome finish, triple-plated chrome	555-75-A
Black finish	555-75-B



565-75 Series

Performance: Unity gain, base loaded antenna with a power handling capacity of 200 Watts.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Weatherproof: O-ring seals and overlap construction keeps moisture out of the antenna.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	565-75	
Frequency Range, MHz	27-54	
Gain	Unity	
Impedance, Ohms	50	
Power Rating, Watts	200	
VSWR	2.0:1	
Bandwidth	2% of center freq.	
Mechanical Specifications	565-75	
Radiator: Chrome A	Tapered S.S., 0.125 dia.	
Black B	Tapered S.S., 0.10 dia.	
Base	ABS, spring-loaded contact	
Height, in	52 Maximum	
Mounting	Standard Motorola NMO	
Ordering Information	565-75-A	565-75-B
Frequency	Chrome	Black
27-31 MHz	565-75-A*1	565-75-B*1
30-35 MHz	565-75-A*2	565-75-B*2
34-40 MHz	565-75-A*3	565-75-B*3
40-47 MHz	565-75-A*4	565-75-B*4
47-54 MHz	565-75-A*5	565-75-B*5



573-75 Series

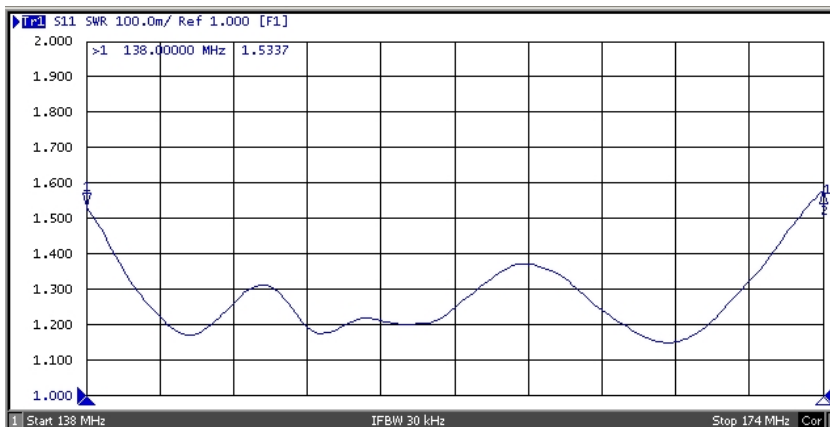
Performance: This broadband 1/4-wave antenna provides 0 dBd of gain over its operating bandwidth.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Weatherproof: Rubber boot keeps moisture out of the antenna base. It avoids scratching/rusting of vehicle if antenna is frequently removed, for maintenance or car wash activities.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	573-75	
Frequency Range, MHz	138-174	
Gain	Unity	
Impedance, Ohms	50	
Power Rating, Watts	100	
Bandwidth, MHz	40MHz @ 1.8:1 VSWR	
Mechanical Specifications	573-75	
Radiator	Stainless Steel	
Base	ABS, spring-loaded contact	
Height, in	25	
Mounting	Standard Motorola NMO	
Ordering Information	573-75	
Description	Standard Model	With Spring Mount
Antenna with chrome finish and rubber boot	573-75-A	573-75-AS



F-33329

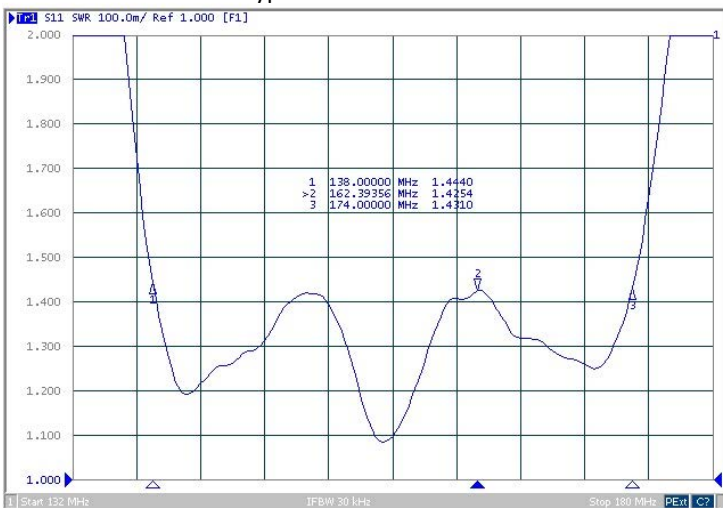
We supply antennas that use the most advanced shape memory alloy for vehicles, such as ambulances, where the vertical clearance is very critical. This antenna is ideal for a vehicle that enters areas with reduced headroom.

This antenna is combined with a matching circuit that is mounted inside the vehicle. The F-33329 has a base that is less than 1.5 inches high.

Each antenna assembly is individually calibrated on the roof of a vehicle with the same dimensions as the ambulance or a similar vehicle, to ensure the best performance even when the antenna is bent at its maximum angle.

Electrical	F-33329
Frequency Range, MHz	138-174
Gain	Unity
Impedance, Ohms	50
Power Rating, Watts	100
VSWR	< 1.5:1
Mechanical	F-33329
Radiator	Nickel Titanium
Base Height, in.	1.5
Total Height, in.	18
Connector	Mini-UHF

Typical VSWR Curve



578-75 Series

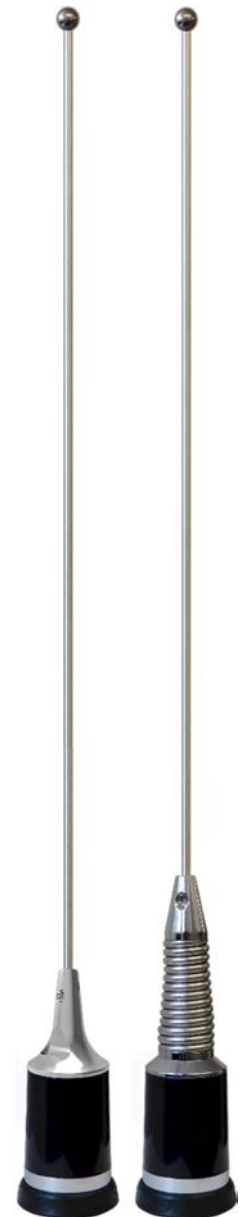
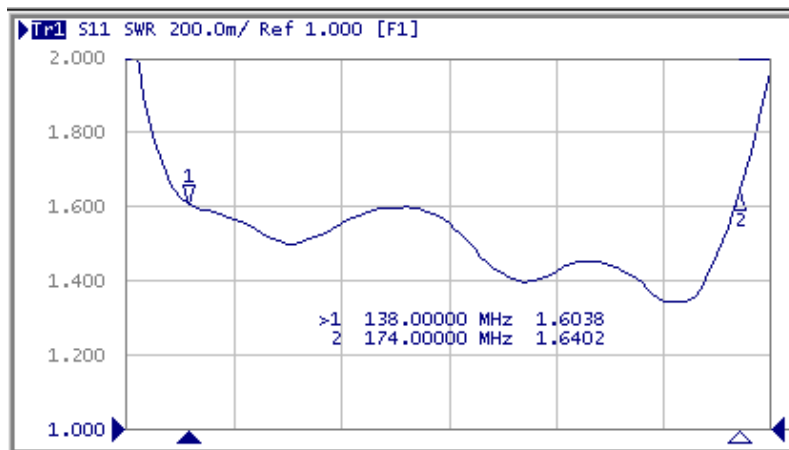
Performance: This broadband 1/2-wave antenna provides 2.0 dBd of gain over its operating bandwidth.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Weatherproof: Rubber boot keeps moisture out of the antenna base. It avoids scratching/rusting of vehicle if antenna is frequently removed, for maintenance or car wash activities.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	578-75	
Frequency Range, MHz	138-174	
Gain	2.0	
Impedance, Ohms	50	
Power Rating, Watts	100	
Bandwidth/VSWR	36 MHz @ 1.8:1 VSWR	
Mechanical Specifications	578-75	
Radiator	Stainless Steel	
Base	ABS, spring-loaded contact	
Height, in	36.5	
Mounting	Standard Motorola NMO	
Ordering Information	578-75	
Description	Standard	With Spring Mount
Antenna with chrome finish and rubber boot	578-75	578-75S



580-75 Series

Performance: 3 dBd gain is achieved with these premium antennas by featuring a 5/8-wave whip with a base loaded matching coil.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Weatherproof: O-ring seals and overlap construction keeps moisture out of the antenna.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	580-75	
Frequency Range, MHz	132-174	
Gain, dBd	3.0	
Impedance, Ohms	50	
Power Rating, Watts	200	
VSWR	2.0:1	
Bandwidth, MHz	6	
Mechanical Specifications	580-75	
Radiator: Chrome A	Tapered S.S. whip., 0.125 dia.	
Black B	Tapered S.S. whip., 0.10 dia.	
Base	ABS, spring-loaded contact	
Height, in	55 Whip	
Mounting	Standard Motorola NMO	
Ordering Information	580-75	
Description	Standard	With Spring Mount
Chrome finish, triple-plated chrome	580-75-A	580-75-AS
Black finish	580-75-B	580-75-BS



583-75 Series

Performance: 3 dBd gain is achieved with these premium antennas by featuring a 5/8-wave whip with a base loaded matching coil.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Broadband: The large diameter coil form used in the construction of the loading coil allows for a wider operational bandwidth and better matching characteristics.

Weatherproof: Rubber boot keeps moisture out of the antenna base. It avoids scratching/rusting of vehicle if antenna is frequently removed, for maintenance or car wash activities.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	583-75
Frequency Range, MHz	406-512
Gain, dBd	3.0
Impedance, Ohms	50
Power Rating, Watts	200
VSWR	2.0:1
Bandwidth, MHz	20 @ 2.0:1 VSWR
Mechanical Specifications	583-75
Radiator: Chrome A	Tapered S.S. whip., 0.10 dia.
Black B	Tapered S.S. whip., 0.10 dia.
Base	ABS, spring-loaded contact
Height, in	21 Whip
Mounting	Standard Motorola NMO



Ordering Information	583-75			
Frequency	Chrome with Rubber Boot	Chrome with Spring Mt. and Rubber Boot	Black with Rubber Boot	Black with Spring Mt. and Rubber Boot
406-430 MHz	583-75-A*1	583-75-AS*1	583-75-B*1	583-75-BS*1
430-470 MHz	583-75-A*2	583-75-AS*2	583-75-B*2	583-75-BS*2
70-512 MHz	583-75-A*3	583-75-AS*3	583-75-B*3	583-75-BS*3

F-33371

This antenna provides a dual band frequency range of 700/800 MHz or 800/900 MHz Public Safety bands.

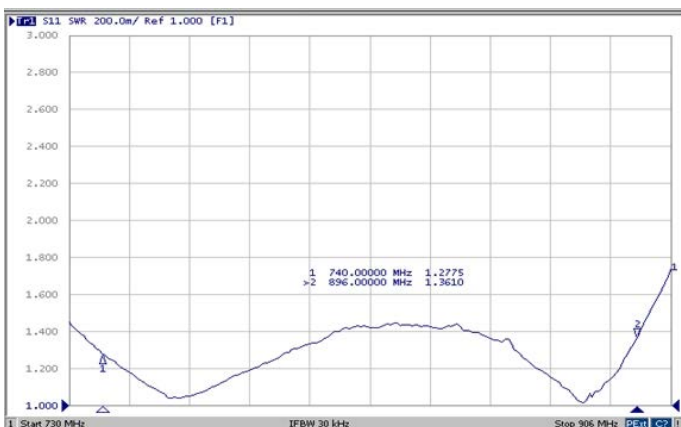
Performance: This broadband antenna provides 2 dB of gain over its operating bandwidth.

Stylish and Durable: The antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert molded low loss coil form and a spring-loaded, gold-plated contact.

Weatherproof: The rubber boot keeps moisture out of the antenna base. It avoids scratching/rusting of vehicle if antenna is frequently removed, for maintenance or car wash activities.

Standard Mounting: All base loaded antennas mate with the standard TAD / NMO type mount.

Electrical Specifications	F-33371
Frequency Range, MHz	740-960
Gain, dBd	2.0
Impedance, Ohms	50
Power Rating, Watts	150
Bandwidth/VSWR	156 MHz, 1.5:1
Mechanical Specifications	F-33371
Radiator	Stainless Steel
Base	ABS, spring-loaded contact
Length, in	7
Mounting	Standard Motorola NMO
Ordering Information	F-33371
Frequency Range	Model Number
740-896 MHz	F-33371-A
800-960 MHz	F-33371-B



590-75 Series

Performance: 3 dBd gain is achieved with these premium antennas by featuring a 5/8-wave whip with a base loaded matching coil.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Broadband: The large diameter coil form used in the construction of the loading coil allows for a wider operational bandwidth and better matching characteristics.

Weatherproof: O-ring seals keep moisture out of the antenna base.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	590-75	
Frequency Range, MHz	746-960	
Gain, dBd	3.0	
Impedance, Ohms	50	
Power Rating, Watts	200	
Bandwidth, MHz	70 @ 2.0:1 VSWR	
Mechanical Specifications	590-75	
Radiator: Chrome A	Stainless Steel	
Black B	Stainless Steel	
Base	ABS, Ultrasonic brass insert	
Height, in	14 Maximum	
Mounting	Standard Motorola NMO	
Ordering Information	590-75	
Frequency	Chrome	Black
746-806MHz	590-75-A*4	590-75-B*4
806-866 MHz	590-75-A*1	590-75-B*1
824-896 MHz	590-75-A*2	590-75-B*2
896-960 MHz	590-75-A*3	590-75-B*3



Dual band 138-174 & 810-860 MHz

F-33486

Performance: Our premium dual-band antennas feature heavy-duty design and excellent performance. Perfect for both voice and data transmission. These antennas are optimized for 3dBd Gain in the VHF band and 5 dBd in the 800 band

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The antenna is extremely rugged and ideal for commercial applications in harsh environment.

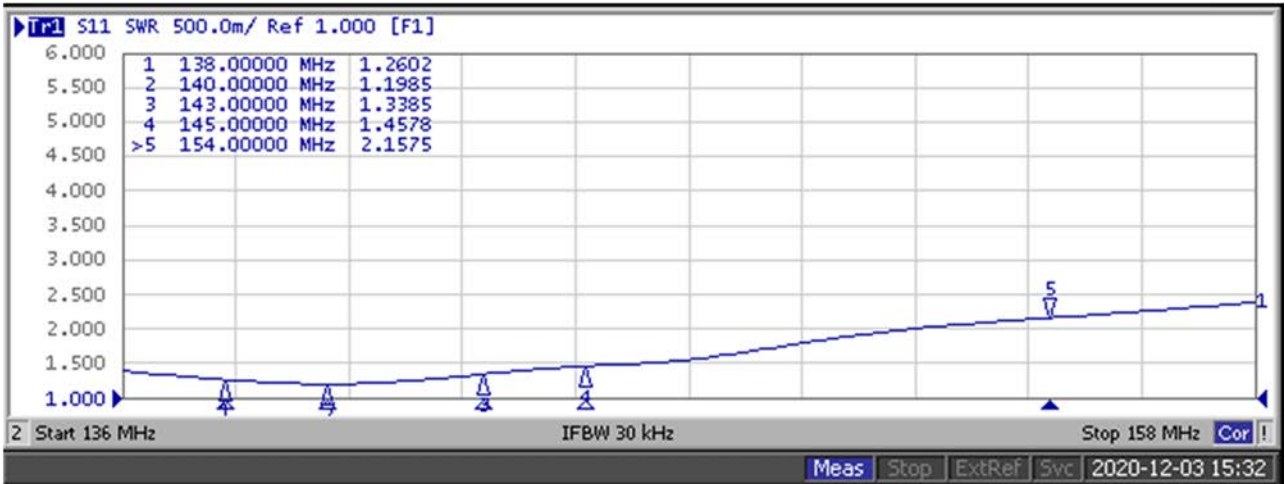
Weatherproof: rubber boot seals and overlap construction keeps moisture out of the antenna.

Standard Mounting: These antennas mate with the standard TAD/NMO type mount, providing an excellent moisture seal even when the antenna is removed.

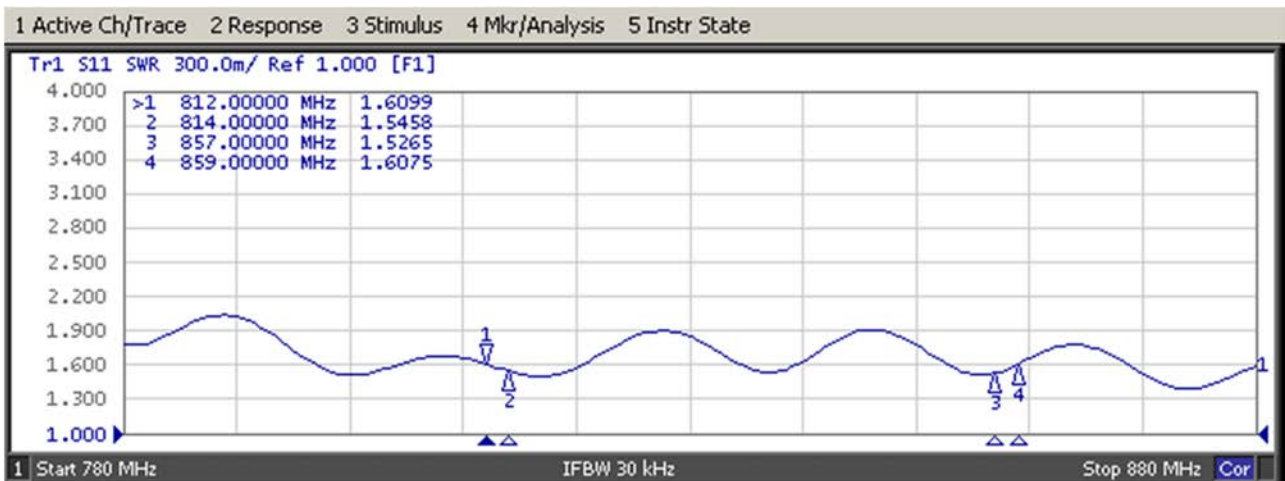
Electrical Specifications		
Frequency Range, MHz	138-174	804-860
Bandwidth @ VSWR of 1.5:1, MHz	10	56
Bandwidth @ VSWR of 2.0:1, MHz	20	100
Gain (min.) (dBd)	3	5
Impedance, Ohms	50	
Power Rating, Watts	75	
Mechanical Specifications		
Base	ABS, Ultrasonic brass insert	
Contact	Gold-plated spring-loaded	
Radiator	Stainless steel, heavy duty, .125 dia.	
Height, in	43 Maximum	
Mounting	Standard Motorola type 3/4	
Finish	Black	



Dual band 138-145 & 810-860 MHz



F-33486, VSWR VHF band



F-33486, VSWR 800 MHz Band

591-75 Series

Performance: 3 dBd gain is achieved with these premium antennas by featuring a 5/8 wave antenna above a 1/4 wave antenna with an open coil design.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert and a molded low loss coil.

Reliable: The ABS base has an ultrasonically welded brass insert and a leaf spring-loaded contact for long term reliability.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	591-75	
Frequency Range, MHz	746-960	
Gain, dBd	3.0	
Impedance, Ohms	50	
Power Rating, Watts	200	
Bandwidth, MHz	70 @ 2.0:1 VSWR	
Mechanical Specifications	591-75	
Radiator: Chrome A	Stainless Steel	
Black B	Stainless Steel	
Base	Leaf Design	
Height, in	15 Maximum	
Mounting	Standard Motorola NMO	
Ordering Information	591-75	
Frequency	Chrome	Black
746-806MHz	591-75-A*4	591-75-B*4
806-866 MHz	591-75-A*1	591-75-B*1
824-896 MHz	591-75-A*2	591-75-B*2
896-960 MHz	591-75-A*3	591-75-B*3



592-75 Series

Performance: 3 dBd gain is achieved with these premium antennas by featuring a 5/8 wave antenna above a 1/2 wave antenna with a closed coil design.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Reliable: The ABS base has an ultrasonically welded brass insert and a leaf spring-loaded contact for long term reliability.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	592-75	
Frequency Range, MHz	746-960	
Gain, dBd	3.0	
Impedance, Ohms	50	
Power Rating, Watts	200	
Bandwidth, MHz	70 @ 2.0:1 VSWR	
Mechanical Specifications	592-75	
Radiator: Chrome A	Stainless Steel	
Black B	Stainless Steel	
Base	ABS, Ultrasonic brass insert	
Contact	Spring-loaded, gold-plated	
Height, in	16 Maximum	
Mounting	Standard Motorola NMO	
Ordering Information	592-75	
Frequency	Chrome	Black
746-806MHz	592-75-A*4	592-75-B*4
806-866 MHz	592-75-A*1	592-75-B*1
824-896 MHz	592-75-A*2	592-75-B*2
896-960 MHz	592-75-A*3	592-75-B*3



593-75 Series – First Responders Antenna

Performance: 3 dBd gain is achieved with these premium antennas by featuring a 5/8 wave antenna above a 1/4 wave design.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Weatherproof: O-ring seals keep moisture out of the antenna base.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.



Electrical Specifications		593-75
Frequency Range, MHz		740-840
Gain, dBd		3.0
Impedance, Ohms		50
Power Rating, Watts		200
VSWR		< 2.0:1
Mechanical Specifications		593-75
Radiator: Chrome A		Stainless Steel
Black B		Stainless Steel
Base		ABS, Ultrasonic brass insert
Contact		Spring-loaded, gold-plated
Height, in		17
Mounting		Standard Motorola NMO
Ordering Information		593-75
Frequency	Chrome with Spring	Black with Spring
740-840 MHz	593-75-A	593-75-B



594-75 Series

Performance: 3 dBd gain is achieved by using a 5/8 wave antenna above a 1/4 wave design.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded low loss coil form and a spring-loaded gold-plated contact.

Magnetic Mounting: Features a powerful magnetic base with a protective Mylar to prevent damage to any mounting service. It is supplied with 12 feet of RG58U coax and your choice of connector. Available with Mini-UHF or TNC connector.

Electrical Specifications		594-75	
Frequency Range, MHz	730-850		
Gain, dBd	3.0		
Impedance, Ohms	50		
Power Rating, Watts	200		
VSWR	< 2.0:1		
Mechanical Specifications		594-75	
Radiator	Stainless Steel		
Base	ABS		
Contact	Spring-loaded, gold-plated		
Height, in	16		
Mounting	Mini-UHF or TNC connector on 12' cable, Magnetic Mount Base		
Ordering Information		594-75	
Frequency	Chrome	Black	
730-850 MHz	594-75-A	594-75-B	



595-75 Series

Performance: 3.5 dBd gain is achieved with these premium antennas by featuring a 5/8 wave antenna above a 1/2 wave design.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. It comes with an integrated shock spring and a heavy-duty stainless-steel whip that is designed to withstand severe shock without suffering permanent damage. It is available in triple-plated chrome or black finish

Reliable: The ABS base has an ultrasonically welded brass insert and a gold-plated, spring-loaded contact. The silver-plated matching coil is fully enclosed to ensure years of dependable service.

Weatherproof: O-ring seals and overlap construction keeps moisture out of the antenna.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	595-75	
Frequency Range, MHz	760-970	
Gain, dBd	3.5	
Impedance, Ohms	50	
Power Rating, Watts	200	
Bandwidth, MHz	70 @ 2.0:1	
Mechanical Specifications	595-75	
Radiator: Chrome A	Stainless Steel	
Black B	Stainless Steel	
Matching Coil	Silver plated enclosed coil	
Base	ABS, spring-loaded contact	
Contact	Spring-loaded, gold-plated	
Height, in	18 Maximum	
Mounting	Standard Motorola NMO	
Ordering Information	595-75	
Frequency	Chrome	Black
746-806 MHz	595-75-A*4	595-75-B*4
806-866MHz	595-75-A*1	595-75-B*1
824-896MHz	595-75-A*2	595-75-B*2
896-970MHz	595-75-A*3	595-75-B*3



599-75 Series

Performance: 3 dBd gain is achieved with these premium antennas by featuring a 5/8 wave antenna above a 1/4 wave design with an elevated feed point. This antenna requires no ground plane as a result of its collinear design. The elevated feed design is ideal for the antenna RF signal to clear any nearby obstructions.

Safety: The elevated feed-point design keeps the RF signals above and away from the passenger compartment.

Elegance This elegant black antenna gives a sleek appearance that blends well with the exterior treatments of most late model vehicles.

Dependability: The 599-75 antenna features a built-in shock spring and a spring-loaded contact for long term dependability.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	599-75
Frequency Range, MHz	806-960
Gain, dBd	3.0
Impedance, Ohms	50
Power Rating, Watts	200
Bandwidth, MHz	70 @ 2.0:1 VSWR
Mechanical Specifications	599-75
Radiator	Black Stainless Steel
Base	Open Coil
Contact	Solid Brass Base
Height, in	23 Maximum
Mounting	Standard Motorola NMO
Finish	Black
Ordering Information	599-75
Frequency	Black Finish
806-866MHz	599-75-B*1
824-896MHz	599-75-B*2
896-960MHz	599-75-B*3



692-75 Series

Performance: Our premium dual band antennas feature heavy-duty design and excellent performance. Perfect for both voice and data transmission. These antennas are very wide in bandwidth.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The antenna is low profile, extremely rugged and ideal for commercial applications.

Weatherproof: O-ring seals and overlap construction keeps moisture out of the antenna.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	692-75	
Frequency Range (Full Band), MHz	900-930 / 2400-2500	
Gain, dBd	2.0	
Impedance, Ohms	50	
Power Rating, Watts	250	
Bandwidth, MHz	Full Band @ 2.0:1 VSWR	
Mechanical Specifications	692-75	
Base	ABS	
Contact	Gold-plated spring-loaded	
Height, in	3	
Mounting	Standard Motorola NMO	
Ordering Information	692-75	
Finish	White	Black
	692-75-W	692-75-B



694-75 Series

Performance: Our premium dual band antennas feature heavy-duty design and excellent performance. Perfect for both voice and data transmission. These antennas are very wide in bandwidth.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The antenna is low profile, extremely rugged and ideal for commercial applications.

Weatherproof: O-ring seals and overlap construction keeps moisture out of the antenna.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	694-75	
Frequency Range (Full Band), MHz	806-960 / 1850-1990	
Gain, dBd	2.0	
Impedance, Ohms	50	
Power Rating, Watts	250	
Bandwidth, MHz	Full Band @ 2.0:1 VSWR	
Mechanical Specifications	694-75	
Base	ABS	
Contact	Gold-plated spring-loaded	
Height, in	4	
Mounting	Standard Motorola NMO	
Ordering Information	694-75	
Finish	White	Black
	694-75-W	694-75-B



696-75 Series

Performance: Our premium dual band antennas feature heavy-duty design and excellent performance. Perfect for both voice and data transmission. These antennas are very wide in bandwidth.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The antenna is low profile, extremely rugged and ideal for commercial applications.

Weatherproof: O-ring seals and overlap construction keeps moisture out of the antenna.

Standard Mounting: These antennas mate with the standard Motorola NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical Specifications	696-75-B*1	696-75B*2
Frequency Range (Full Band), MHz	1100-1500 / 2400-2500	880-1200 / 2300-2600
Gain	Unity	Unity
Impedance, Ohms	50	50
Power Rating, Watts	200	200
Bandwidth, MHz	Full Band @ 2.0:1 VSWR	Full Band @ 2.0:1 VSWR
Mechanical Specifications	696-75-B*1	696-75B*2
Radiator	Polyester Coated Brass	Polyester Coated Brass
Base	ABS, Ultrasonic Brass insert	ABS, Ultrasonic Brass insert
Contact	Gold-plated spring-loaded	Gold-plated spring-loaded
Height, in	2.75	2.75
Mounting	Standard Motorola NMO	Standard Motorola NMO
Ordering Information	696-75-B*1	696-75B*2
Finish	Black	Black
	696-75-B*1	696-75B*2



697-75 Series

Performance: Our premium tri-band antennas feature heavy-duty design and excellent performance. Perfect for both voice and data transmission. These antennas are very wide in bandwidth.

Stylish and Durable: These antennas are manufactured using the best corrosion resistant materials and finishes available. The antenna is low profile, extremely rugged and ideal for commercial applications.

Weatherproof: rubber boot seals and overlap construction keeps moisture out of the antenna.

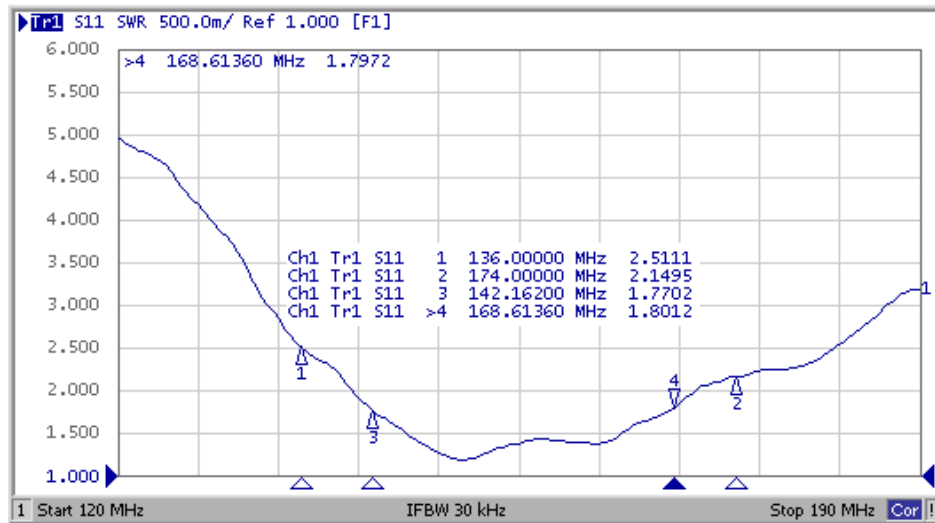
Standard Mounting: These antennas mate with the standard TAD/NMO type mount, providing an excellent moisture seal even when the antenna is removed.

Electrical			
Frequency Range, MHz	136-174	380-490	698-870
Bandwidth, MHz	38	110	172
VSWR	2.5 :1 @ 142-168		
	1.8 :1 @ 136-142	2:1 @ all band	2:1 @ all band
	1.8 :1 @ 168-174		
Gain dBd	Unity	3	3
Impedance, Ohms	50		
Power Rating, Watts	200		
Specifications			
Base	ABS, Ultrasonic brass insert		
Contact	Gold-plated spring-loaded		
Radiator	Stainless steel, heavy duty, .125 dia.		
Height, in	20.5 Maximum		
Mounting	Standard Motorola type 3/4		
Finish	Black		

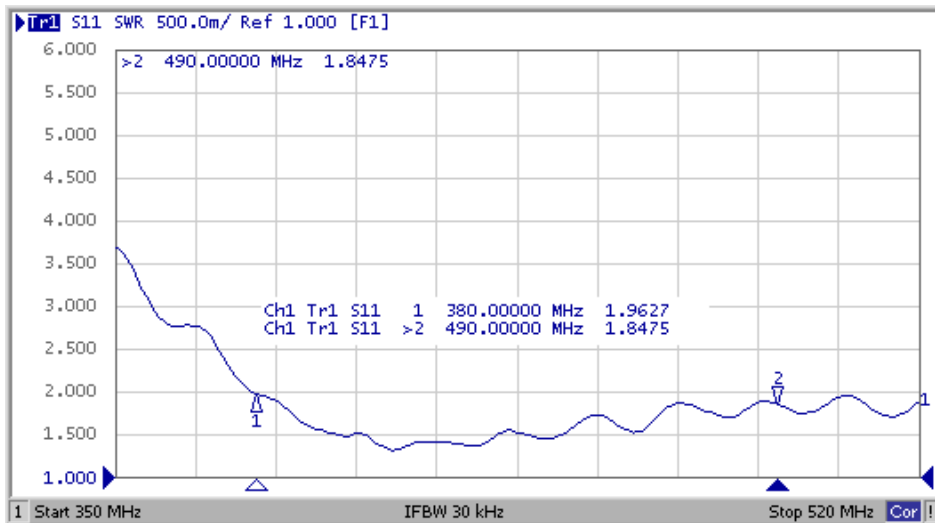
**Ordering Information**

Standard	With Spring Mount
697-75	697-75S

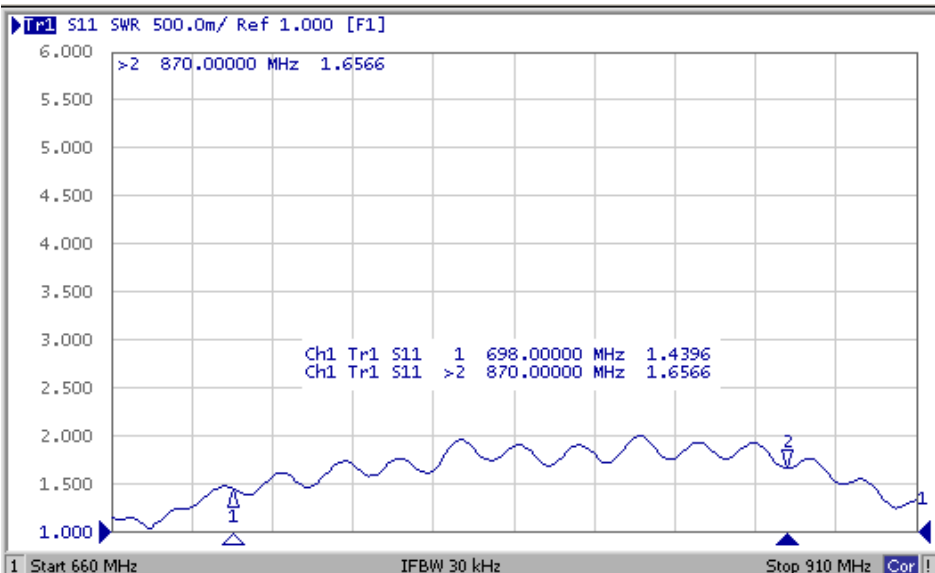
697-75, 697-75S
VSWR VHF band



697-75, 697-75S
VSWR UHF band



697-75, 697-75S
VSWR 700/800 band



F-33415, F-33116

No ground plane is needed. This antenna is designed for tactical remote deployments. The radiating element is a stainless steel, flexible cable that can be unwound and hung from a supporting structure, such that the base and coax cable are suspended vertically. The cable can be tied or mounted to a structure, such as:

- Tree
- Building Exterior
- Portable Fixture

KEY FEATURES

- **High Performance:** Provides 2.0 dB of gain over its operating bandwidth.
- **Style and Durability:** Manufactured using the best corrosion resistant materials and finishes available. The base is triple-plated chrome brass with a large insert, molded, low loss coil form and a spring-loaded contact, gold plated.
- **Weatherproof Design:** O-ring seals and overlap construction keep moisture out of the antenna.
- **Standard Mounting:** A cable kit is provided with an N-type connector (other type of connector is available under request).

Electrical Specifications	F-33415	F-33116
Frequency Range, MHz	138-174	380-520
Gain, dBd	2	2
Impedance, Ohms	50	50
Power Rating, Watts	75	75
Bandwidth, MHz	1.5:1 VSWR, 36 MHz	1.5:1 VSWR, 70
Mechanical Specifications	F-33415	F-33116
Radiator	3/32" Stainless Steel, L=32"	3/32" Stainless Steel L=9"
Base	ABS, spring-loaded contact	ABS, spring-loaded contact
Mounting	No Ground Plane Needed	No Ground Plane Needed
Cable length	50'	50'



ACCESSORIES / ADAPTERS



MGAS 545-75



MGLAS 546-75



547-75



548-75



MMM



TMBM



MMNMO



BSMN

MOBILE ANTENNAS / ACCESSORIES / ADAPTERS

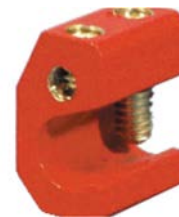
412-75	Stainless Steel Trunk Groove Mounting Bracket (3/8" hole)
412M-75	Stainless Steel Trunk Groove Mounting Bracket (3/4" hole)
435-75	Rubber Hole Plug / 3/8" Hole Diameter
453-75	Straight Whip (24" Length) + 5/16 - 24 Thread Adapter
545-75	Magnet Mount Kit, Motorola Base, 12 ft. RG58A/U, PL-259
546-75	Magnet Mount Kit, 5/16" Stud Mount, 12 ft. RG58A/U, PL-259
547-75	Trunk Mount Kit, Motorola Base, 17 ft. RG58A/U, PL-259
548-75	Trunk Mount Kit, 5/16" Stud Mount, 17 ft. RG58A/U, PL-259
551-75	C-Mount (3/8"-3/4") c/w 17 ft. RG58A/U, PL-259
634-75	Rubber Hole Plug 7/8" Hole Diameter
TMBM	Trunk Mount Stainless Steel
MMNMO	Mirror Mount Kit, Motorola Base, 17 ft. RG-58A/U, PL-259
BSMN	Mirror Mount, Motorola Base, UHF Connector
WAB	Whip Adapter, Black
WAC	Whip Adapter, Chrome
A1001A	Battery Tap (5 Individually packed)



Whip Adapter—Black



Whip Adapter—Chrome



Battery Tap A1001A

UTBM		Mount Terminates as Mini-UHF.
UTBM-UHF		Mount Terminates as UHF.
UTBM-NF		Mount Terminates as N Female.
UTCR		Celling Mounts Terminates as Mini-UHF.
UNIBKT		Mobile-to-base adapter only, includes hose clamps.
BSMO-150-NF		VHF mobile-to-base adapter w/artificial ground plane, N Female connector.
BSMO-450-NF		UHF mobile-to-base adapter w/artificial ground plane, N Female connector.
BSMO-800-NF		800-900 mobile-to-base adapter w/artificial ground plane, N Female connector.

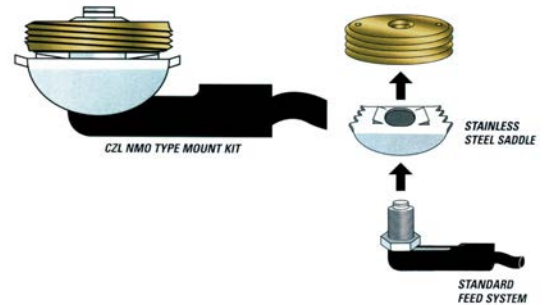
MOBILE MOUNTS



CABLE KITS

Our brass mounts and cable kits are among the best in the Industry. The cable kits present a consistent 50 Ohms impedance to match our mobile antennas, ensuring that our customers receive the best combined performance from the antennas and the cable kits. The quality of our designs is one of the factors that allows our wideband models to outperform the competition.

551-75	C Type	All Brass	3/4-3/8-inch mount only
551A-75	M Type	Standard	3/4-inch mount only
551B-75	MB Type	All Brass	3/4-inch mount only
551C-75	MH Type	Standard	3/4-inch mount only (large contact)
551D-75	MHB Type	All Brass	3/4-inch mount only (large contact)
551E-75	ASC Type	All Brass	3/4-3/8-inch k166 type mount



CONNECTORS

We carry and stock a complete line of connectors. Please contact our Technical Support team for additional information at: sales@comprodcom.com.



RG-58A/U Stranded	RG-58/U Solid	ANTENNA MOUNTS WITH 17 Ft of RG-58A/U Stranded Center or RG-58/U solid center cable
551-75-CA	551-75-CU	C Mount No Connector
551A-75-CA	551A-75-CU	M Mount No Connector
551B-75-CA	551B-75-CU	MB Mount No Connector
551E-75-CA	551E-75-CU	ASC Mount No Connector
551-75-CA-01	551-75-CU-01	C Mount Crimp TNC
551A-75-CA-01	551A-75-CU-01	M Mount Crimp TNC
551B-75-CA-01	551B-75-CU-01	MB Mount Crimp TNC
551E-75-CA-01	551E-75-CU-01	ASC Mount Crimp TNC
551-75-CA-02	551-75-CU-02	C Mount Crimp BNC
551A-75-CA-02	551A-75-CU-02	M Mount Crimp BNC
551B-75-CA-02	551B-75-CU-02	MB Mount Crimp BNC
551E-75-CA-02	551E-75-CU-02	ASC Mount Crimp BNC
551-75-CA-03	551-75-CU-03	C Mount Solder PL-259
551A-75-CA-03	551A-75-CU-03	M Mount Solder PL-259
551B-75-CA-03	551B-75-CU-03	MB Mount Solder PL-259
551E-75-CA-03	551E-75-CU-03	ASC Mount Solder PL-259
551-75-CA-04	551-75-CU-04	C Mount Crimp Mini UHF
551A-75-CA-04	551A-75-CU-04	M Mount Crimp Mini UHF
551B-75-CA-04	551B-75-CU-04	MB Mount Crimp Mini UHF
551E-75-CA-04	551E-75-CU-04	ASC Mount Crimp Mini UHF
551-75-CA-05	551-75-CU-05	C Mount Solder N
551A-75-CA-05	551A-75-CU-05	M Mount Solder N
551B-75-CA-05	551B-75-CU-05	MB Mount Solder N
551E-75-CA-05	551E-75-CU-05	ASC Mount Solder N
551-75-CA-06	551-75-CU-06	C Mount Crimp PL-259
551A-75-CA-06	551A-75-CU-06	M Mount Crimp PL-259
551B-75-CA-06	551B-75-CU-06	MB Mount Crimp PL-259
551E-75-CA-06	551E-75-CU-06	ASC Mount Crimp PL-259
551-75-CA-07	551-75-CU-07	C Mount Crimp N
551A-75-CA-07	551A-75-CU-07	M Mount Crimp N
551B-75-CA-07	551B-75-CU-07	MB Mount Crimp N
551E-75-CA-07	551E-75-CU-07	ASC Mount Crimp N

MAGNET MOUNTS WITH 12FT OF RG-58A/U CABLE (Optional: 17FT)

545-75-01	Magnet Mount with TNC
545-75-02	Magnet Mount with BNC
545-75-03	Magnet Mount with PL-259
545-75-04	Magnet Mount with Mini UHF
545-75-05	Magnet Mount with Type N
545-75-06	Magnet Mount with Crimp UHF
545-75-07	Magnet Mount with Crimp N
545-75-08	Magnet Mount with FME
545-75-10	Magnet Mount with SMA
546-75-01	Magnet Mount with TNC
546-75-02	Magnet Mount with BNC
546-75-03	Magnet Mount with PL-259
546-75-04	Magnet Mount with Mini UHF
546-75-05	Magnet Mount with Type N
546-75-06	Magnet Mount with Crimp UHF
546-75-07	Magnet Mount with Crimp N

TRUNK MOUNTS WITH 17FT OF RG-58A/U CABLE

547-75-01	Trunk Mount with TNC
547-75-02	Trunk Mount with BNC
547-75-03	Trunk Mount with PL-259
547-75-04	Trunk Mount with Mini UHF
547-75-05	Trunk Mount with Type N
547-75-06	Trunk Mount with Crimp UHF
547-75-07	Trunk Mount with Crimp N
548-75-01	Trunk Mount with TNC
548-75-02	Trunk Mount with BNC
548-75-03	Trunk Mount with PL-259
548-75-04	Trunk Mount with Mini UHF
548-75-05	Trunk Mount with Type N
548-75-06	Trunk Mount with Crimp UHF
548-75-07	Trunk Mount with Crimp N

MOUNTING BRACKETS

TMBC	Stainless Trunk L 3/8-inch Hole (Chrome)
TMBM	Stainless Trunk L 3/4-inch Hole (Chrome)
TMBCB	Stainless Trunk L 3/8-inch Hole (Black)
TMBMB	Stainless Trunk L 3/4-inch Hole (Black)
MMM	Mirror Mount Bracket
MMCB	Mirror Mount CB with 12 ft. of coax., PL-
MMCM	Mirror Bracket, C-Mount & 12 ft. Coax.

MOBILE ANTENNA PARTS

DBW	Dual Band Whip 0.10
DBWB	Dual Band Whip 0.10, Black
WPDB33	Dual Band Whip Assembly, 4 dB
WPDB33B	Dual Band Whip Assembly, 4 dB, Black
QWP	20-inch Stainless Whip 0.10
QWPB	20-inch Stainless Whip 0.10, Black
WPBL125	52-inch Stainless Taper Whip 0.125
WPBL100	52-inch Stainless Taper Whip 0.10
WPBL100B	52-inch Stainless Taper Whip 0.10, Black
EFW	Elevated Feed Whip Assembly
WP85A-X	3.5 dB Whip Assembly 800 MHz
WP85B-X	3.5 dB Whip Assembly 800 MHz, Black
WP855A-X	5 dB Whip Assembly 800 MHz
WP855B-X	5 dB Whip Assembly 800 MHz, Black
WP45A-X	3.5 dB Whip Assembly 450 MHz
WP45B-X	3.5 dB Whip Assembly 450 MHz, Black
WPBL45AX	5 dB Base Load Whip 450 MHz
WPBL45BX	5 dB Base Load Whip 450 MHz, Black

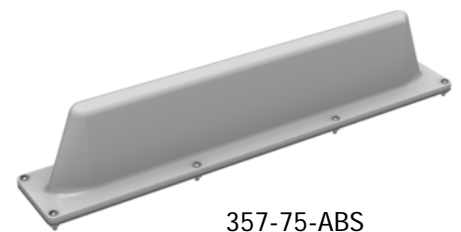
357-75, 358-75 and 364-75

Our line of VHF transit antennas is a low profile rugged alternative to a 1/4 wave whip mobile antenna. When mounted on a horizontal surface, maximum radiation is omnidirectional and vertically polarized. These antennas are an excellent choice for low clearance applications such as those found on trains, public transit vehicles, construction equipment and police vehicles.

The model 357-75-ABS is a folded 1/4 wavelength section of aluminum tube housed in an impact resistant ABS radome. To ensure a moisture proof installation, the model 357-75-ABS is supplied with a mounting gasket.

The model 358-75 and 364-75 are high strength cast aluminum designs. The antennas can be coated for additional protection against harsh environmental conditions. To ensure a moisture proof installation, the 358-75 and 364-75 are supplied with an O-ring.

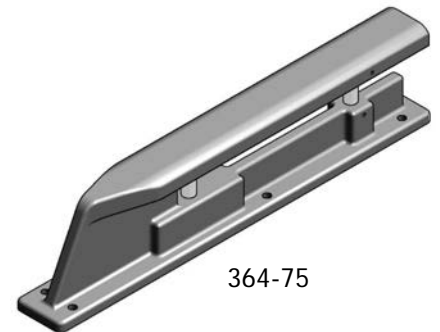
Electrical Specifications	357-75-ABS	358-75	364-75
Nominal Gain	Unity	Unity	Unity
Maximum Power, Watts	150	150	150
Frequency Range, MHz	148-174	138-174	215-225
Bandwidth VSWR: 1.5:1, MHz	3.0	3.0	10
Bandwidth VSWR: 2.0:1, MHz	4.5	4.5	>10
Nominal Impedance, Ohms	50	50	50
Radiation Pattern	Omni	Omni	Omni
Polarization	Vertical	Vertical	Vertical
Radome Material	High Impact ABS	N/A	N/A
Connector	UHF / BNC /	UHF / BNC /	UHF / BNC /
Height, in (mm)	4 (102)	4 (102)	4 (102)
Length, in (mm)	21 (533)	23-1/2 (597)	17 (432)
Width, in (mm)	3 (76)	2-1/8 (54)	2 (51)
Weight, lbs (kg)	2.1 (0.945)	6 (2.7)	5 (2.27)
Minimum Ground Plane Size, in	36 x 48	36 x 48	36 x 48



357-75-ABS

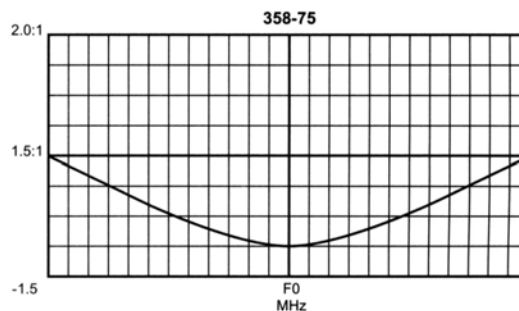
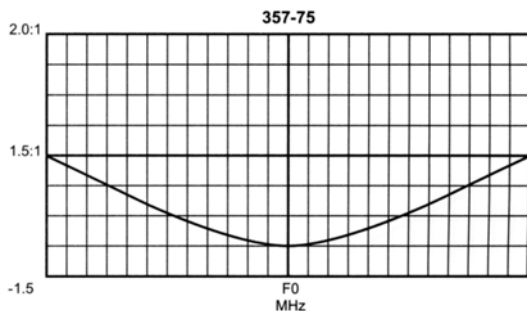


358-75



364-75

Ordering information: Specify exact frequency, Specify connector type, UHF, BNC or N Female



359-75 and 360-75

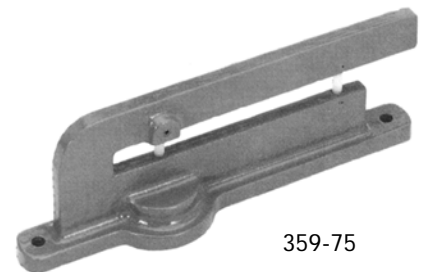
Our line of UHF transit antennas is a low-profile rugged alternative to 1/4 wave whips. When mounted on a horizontal surface, maximum radiation is omnidirectional and vertically polarized.

These antennas are an excellent choice for low clearance applications such as those found on trains, public transit vehicles, construction equipment and police vehicles.

The model 359-75 is a high strength cast aluminum design. The antenna can be coated for additional protection against harsh environmental conditions. To ensure a moisture proof installation, the model 359-75 is supplied with an O-ring.

The model 360-75-ABS is a folded 1/4 wavelength section of aluminum tube housed in an impact resistant ABS radome. To ensure a moisture proof installation, the model 360-75-ABS is supplied with a mounting gasket.

Electrical Specifications	359-75	360-75-ABS
Nominal Gain	Unity	Unity
Maximum Power, Watts	125	125
Frequency Range, MHz	406-512	380-512
Bandwidth VSWR: 1.5:1, MHz	18	20
Bandwidth VSWR: 2.0:1, MHz	27	40
Nominal Impedance, Ohms	50	50
Radiation Pattern	Omnidirectional	Omnidirectional
Polarization	Vertical	Vertical
Radome Material	N/A	High Impact ABS
Connector	UHF / BNC /	UHF / BNC /
Height, in (mm)	2-1/2 (64)	3 (76)
Length, in (mm)	8 (203)	11 (279)
Width, in (mm)	2 (51)	3-1/4 (83)
Weight, lbs (kg)	0.75 (0.338)	1 (0.45)
Minimum Ground Plane Size, in	20 x 16 (508 x 406)	20 x 16 (508 x 406)

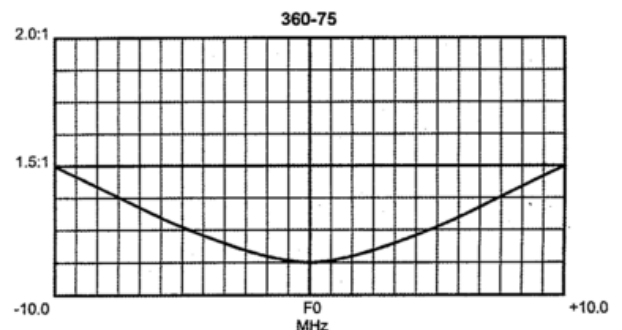
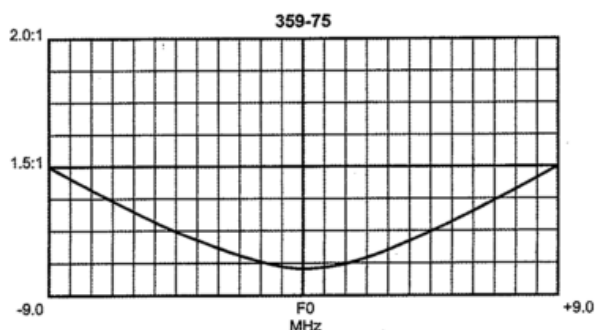


359-75



360-75-ABS

Ordering information: Specify exact frequency, Specify connector type, UHF, BNC or N Female



361-75 and 362-75

Our line of radome transit antennas for operation in the 806-960 MHz band consists of compact, low profile antennas in weatherproof ABS radomes. When mounted on a horizontal surface, maximum radiation is omnidirectional and vertically polarized.

These antennas are an excellent choice for low clearance applications such as those found on trains, mass transit vehicles, construction equipment and police and emergency vehicles.

The 361-75-ABS model is a space diversity design that provides greater communication reliability in a poor environment. To ensure a moisture proof installation, the 361-75-ABS model is supplied with an O-ring.

The 362-75-ABS model is a standard, folded radiator housed in a sturdy high-impact ABS radome. To ensure a moisture proof installation, the 362-75-ABS model is supplied with a mounting gasket.

Electrical Specifications	361-75-ABS-NF	362-75-ABS-NF
Nominal Gain	Unity	2 dBd
Maximum Power, Watts	50	125
Frequency Range, MHz	806-960	806-960 (in splits*)
Bandwidth VSWR: 1.5:1, MHz	140	66
Bandwidth VSWR: 2.0:1, MHz	N/A	100
Nominal Impedance, Ohms	50	50
Radiation Pattern	Omnidirectional	Omnidirectional
Polarization	Vertical	Vertical
Radome Material	High Impact ABS	High Impact ABS
Connector	N Female	N Female
Height, in (mm)	3.15 (80)	2 (51)
Diameter, in (mm)	9.3 (236)	4.5 (114)
Weight, lbs (kg)	2.5 (1.15)	0.375 (0.169)
Minimum Ground Plane Size, in	14 x 14 (355 x 355)	10 x 10 (254 x 254)

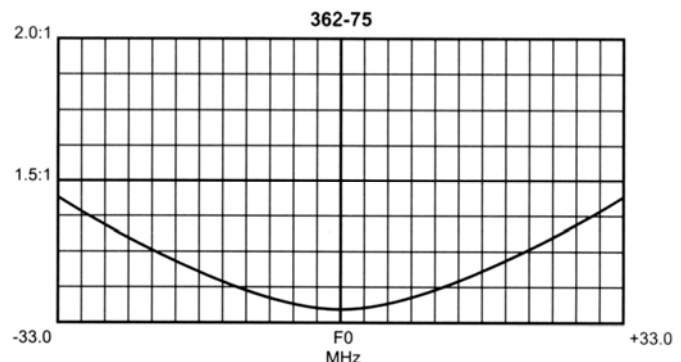
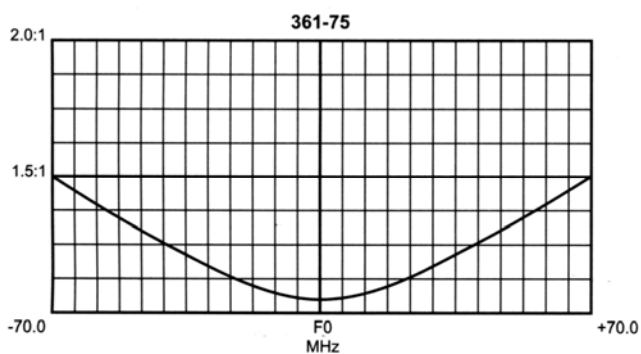


361-75-ABS-NF



362-75-ABS-NF

*Ordering information for 362-75-ABS-NF: *1 = 806-869MHz; *2 = 824-896MHz; *3 = 900-960MHz



Disguised Antennas

Comprod has a long experience in supplying disguised antennas and associated couplers to some of the leading **Public Safety** and **private security** organizations across North America, for national, state, regional and municipal agencies. Our disguised antennas and filters are **reliable** and **high quality** to **meet the needs of Mission-Critical communications**.

The antennas provide high-performance **two-way** communications in **VHF (low and high band), UHF, dual, and 800-900 MHz mobile bands**.

Once installed, they will be indistinguishable from the original AM/FM broadcast antenna on the covert or undercover vehicle.



Antennas for Public Safety

Disguised antennas allow a public security organization to use a vehicle's existing AM/FM antennas for both conventional radio receiver functions as well as allowing a two-way radio to communicate over the same antenna.

This allows a covert vehicle to avoid the need for a long mobile antenna and disguise the fact that it is equipped with a two-way radio communication device.

Comprod supplies either the Original Equipment Manufacturers (OEM) antennas, or adjustable universal mounted antennas, based on customer needs.

A broadcast coupler is optionally available, to allow the two-way radio (transmit and receive) frequencies to be shared with the vehicle's AM/FM radio. The coupler prevents the transmit radio from damaging the AM/FM radio. When multi-band operation is required, Comprod provides the required Cross-band couplers, in order to support multiple frequency band operation on a single antenna.

New line of Bumper Antennas

Our latest offering in disguised antennas is our new Wideband Bumper antennas. They are perfectly designed for covert operations which require an effectively invisible antenna.



We supply disguised antennas using an OEM antenna combined with a tuning circuit integrated with the coaxial cable. Each antenna assembly is individually calibrated to ensure the best performance in a disguised appearance, which will be completely undetectable from the original vehicle's appearance.

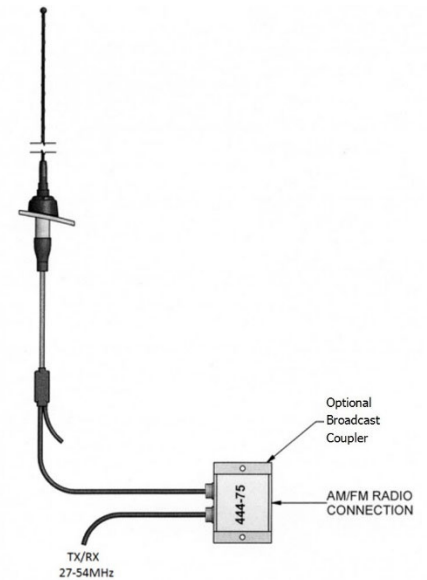
There is an optional broadcast coupler to deliver an antenna that can offer both two-way radio communication in addition to AM/FM receiver functions. The antenna may also be modified to provide multi-band two-way communication.

We are capable of meeting customers' special requirements:

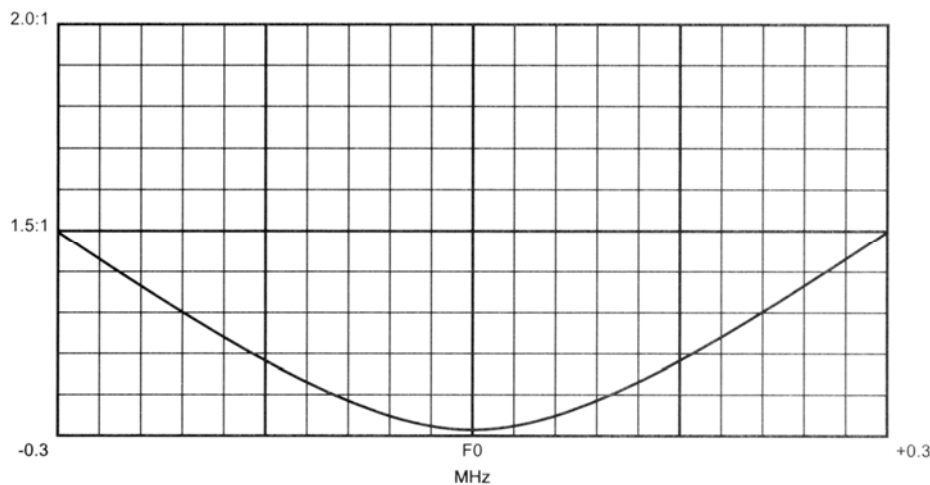
- Two or three separate frequency segments in a given mobile band.
- Cross-channel operation in two mobile bands with one antenna.
- Alternative antennas to an OEM version will be recommended, where required (e.g. Euro-style, or universal mount traditional whip).

Technical Specifications	
Nominal Gain	Unity
Bandwidth 1.5:1 VSWR, MHz	0.60
Power Rating, Watts	150
Radiator	Per OEM antenna
Length, in	Per OEM antenna
Feed Line	17 ft. RG58/U
Connector Options (Customer Specified)	UHF / Mini-UHF / BNC / TNC
Broadcast Coupler (optional)	Model 444-75

If the antenna is not required to provide AM/FM Radio service, the Broadcast Coupler can be omitted.



Typical VSWR vs Frequency curve



We supply disguised antennas using an OEM antenna combined with a tuning circuit integrated with the coaxial cable. Each antenna assembly is individually calibrated to ensure the best performance in a disguised appearance, which will be completely undetectable from the original vehicle's appearance.

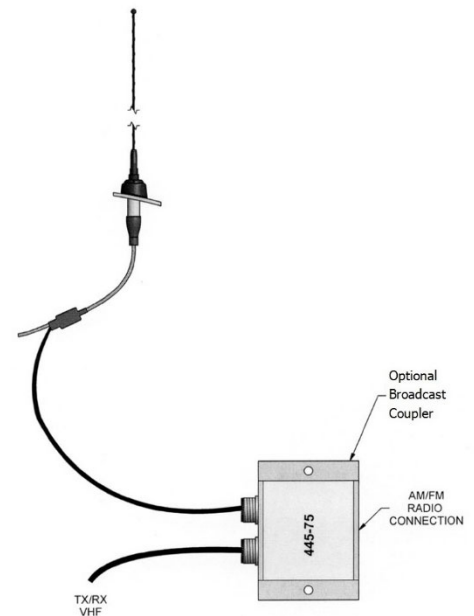
There is an optional broadcast coupler to deliver an antenna that can offer both two-way radio communication in addition to AM/FM receiver functions. The antenna may also be modified to provide multi-band two-way communication.

We are capable of meeting customers' special requirements:

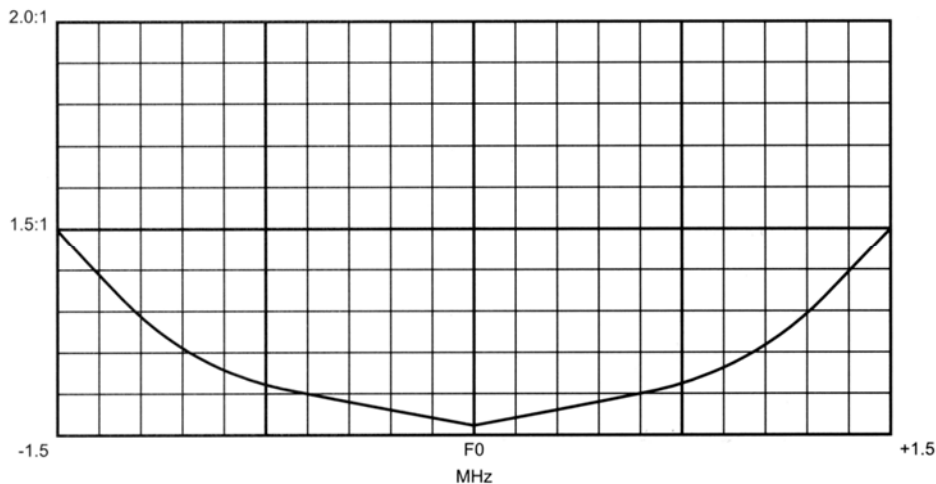
- Two or three separate frequency segments in a given mobile band.
- Cross-channel operation in two mobile bands with one antenna.
- Alternative antennas to an OEM version will be recommended, where required (e.g. Euro-style, or universal mount traditional whip).

Technical Specifications	
Nominal Gain	Unity
Bandwidth 1.5:1 VSWR, MHz	3.0
Power Rating, Watts	150
Radiator	Per OEM antenna
Length, in	Per OEM antenna
Feed Line	17 ft. RG58/U
Connector Options (Customer Specified)	UHF / Mini-UHF / BNC / TNC
Broadcast Coupler (optional)	Model 444-75

If the antenna is not required to provide AM/FM Radio service, the Broadcast Coupler can be omitted.



Typical VSWR vs Frequency curve





Model F-33390

We supply disguised antennas using a standard antenna combined with a tuning circuit integrated with the coaxial cable. Each antenna assembly is individually calibrated to ensure the best performance in a disguised appearance, which will be completely undetectable from the original vehicle's appearance.

There is an optional broadcast coupler to deliver an antenna that can offer both two-way radio communication in addition to AM/FM receiver functions. The antenna may also be modified to provide multi-band two-way communication.

We are capable of meeting customers' special requirements:

- Two or three separate frequency segments in a given mobile band.
- Cross-channel operation in two mobile bands with one antenna.
- Alternative antennas to an OEM version will be recommended, where required (e.g. Euro-style, or universal mount traditional whip).

Technical Specifications	F-33390
Nominal Gain	Unity
Bandwidth 1.5:1 VSWR, MHz	138-150
Power Rating, Watts	50
Radiator	Fiberglass
Length, in	13.5
Feed Line	17 ft.
Connector Options (Customer Specified)	Mini-UHF
Broadcast Coupler (optional)	Model 444-75

If the antenna is not required to provide AM/FM Radio service, the Broadcast Coupler can be omitted.



We supply disguised antennas using a standard antenna combined with a tuning circuit integrated with the coaxial cable. Each antenna assembly is individually calibrated to ensure the best performance in a disguised appearance, which will be completely undetectable from the original vehicle's appearance.

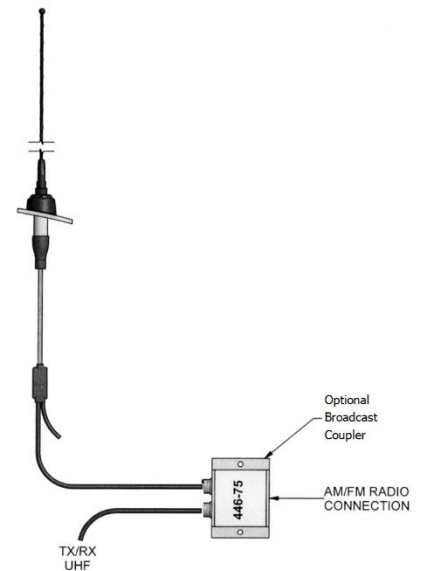
There is an optional broadcast coupler to deliver an antenna that can offer both two-way radio communication in addition to AM/FM receiver functions. The antenna may also be modified to provide multi-band two-way communication.

We are capable of meeting customers' special requirements:

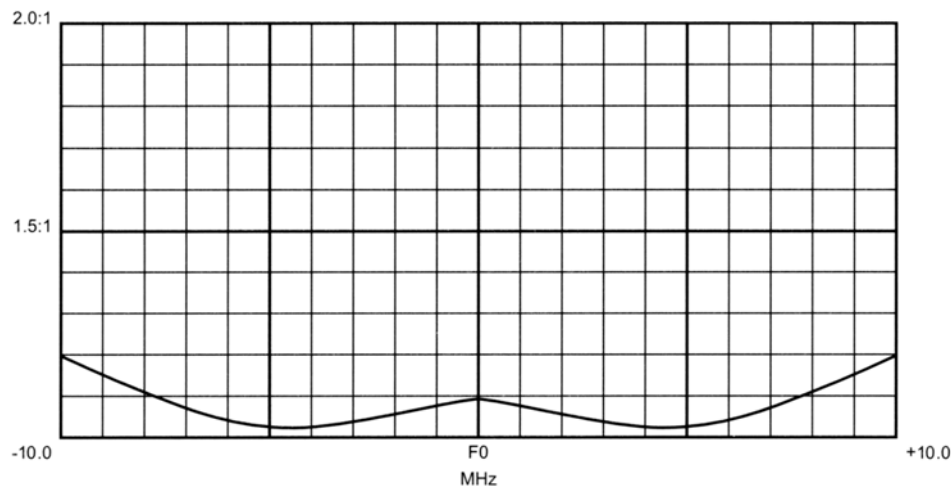
- Two or three separate frequency segments in a given mobile band.
- Cross-channel operation in two mobile bands with one antenna.
- Alternative antennas to an OEM version will be recommended, where required (e.g. Euro-style, or universal mount traditional whip).

Technical Specifications	
Nominal Gain	Unity
Bandwidth 1.5:1 VSWR, MHz	10-20
Power Rating, Watts	150
Radiator	Per OEM antenna
Length, in	Per OEM antenna
Feed Line	17 ft. RG-8X
Connector Options (Customer Specified)	UHF / Mini-UHF / BNC / TNC
Broadcast Coupler (optional)	Model 446-75

If the antenna is not required to provide AM/FM Radio service, the Broadcast Coupler can be omitted.



Typical VSWR vs Frequency curve



We supply disguised antennas using a standard antenna combined with a tuning circuit integrated with the coaxial cable. Each antenna assembly is individually calibrated to ensure the best performance in a disguised appearance, which will be completely undetectable from the original vehicle's appearance.

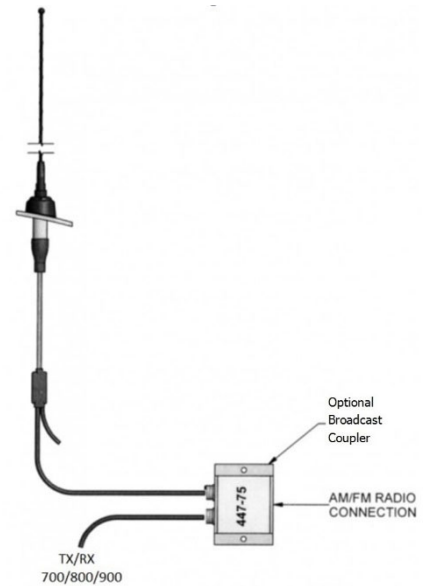
There is an optional broadcast coupler to deliver an antenna that can offer both two-way radio communication in addition to AM/FM receiver functions. The antenna may also be modified to provide multi-band two-way communication.

We are capable of meeting customers' special requirements:

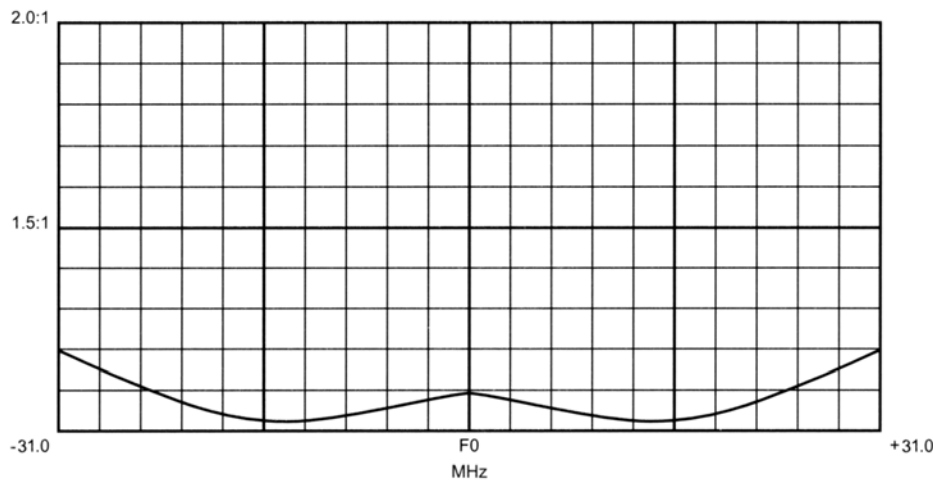
- Two or three separate frequency segments in a given mobile band.
- Cross-channel operation in two mobile bands with one antenna.
- Alternative antennas to an OEM version will be recommended, where required (e.g. Euro-style, or universal mount traditional whip).

Technical Specifications	
Nominal Gain	Unity
Bandwidth 1.5:1 VSWR, MHz	62
Power Rating, Watts	75
Radiator	Per OEM antenna
Length, in	Per OEM antenna
Feed Line	20 ft. LMR-195
Connector Options (Customer Specified)	UHF / Mini-UHF / BNC / TNC
Broadcast Coupler (optional)	Model 447-75

If the antenna is not required to provide AM/FM Radio service, the Broadcast Coupler can be omitted.



Typical VSWR vs Frequency curve



DISGUISED ANTENNAS

DUAL BAND ANTENNAS

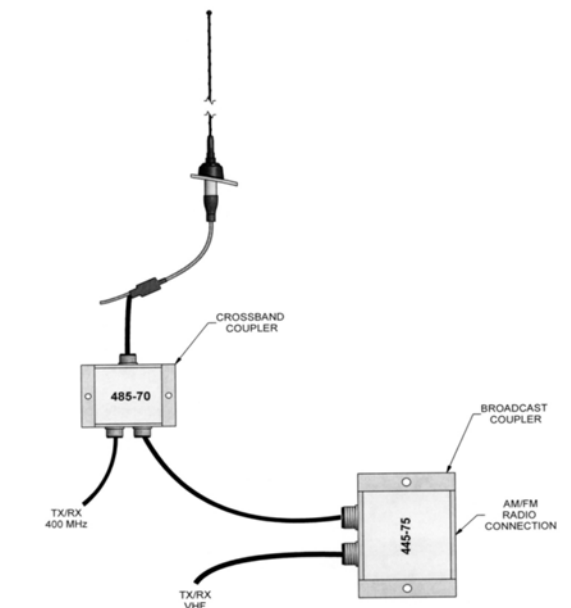
We supply disguised antennas using a standard antenna combined with a tuning circuit integrated with the coaxial cable. Each antenna assembly is individually calibrated to ensure the best performance in a disguised appearance, which will be completely undetectable from the original vehicle's appearance.

There is an optional broadcast coupler to deliver an antenna that can offer both two-way radio communication in addition to AM/FM receiver functions. The antenna may also be modified to provide multi-band two-way communication.

We are capable of meeting customers' special requirements:

- Two or three separate frequency segments in a given mobile band.
- Cross-channel operation in two mobile bands with one antenna.
- Alternative antennas to an OEM version will be recommended, where required (e.g. Euro-style, or universal mount traditional whip).

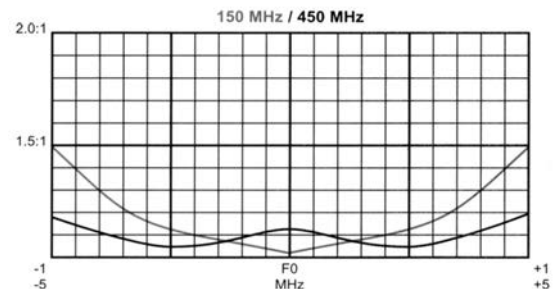
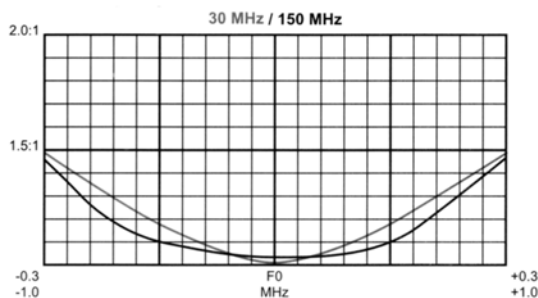
Technical Specifications	
Frequency Range, MHz	30-50 and 150-174 150-174 and 406-512 150-174 and 764-960
Nominal Gain	Unity
Bandwidth 1.5:1 VSWR, MHz	30-50MHz: 0.6, 150-174MHz: 2 406-512MHz: 10, 764-960MHz: 63
VSWR	< 1.5:1
Pattern	Omnidirectional
Power Rating, Watts	30-512 MHz: 150, 764-960MHz: 75
Appearance	OEM antenna / Universal
Mounting	Front / Rear Fender
Finish	Black / Chrome
Connector Options (Customer	UHF / Mini-UHF / BNC / TNC
Cable	VHF: 17' RG-58/U UHF: 17' RG-8X 764-960MHz: 5' LMR-240



Euro-style antenna (Option)

When ordering, specify Year, Make and Model of the vehicle and both operating frequencies

Typical VSWR vs Frequency curves





Model F-33404

We supply disguised antennas using a standard antenna combined with a tuning circuit integrated with the coaxial cable. Each antenna assembly is individually calibrated to ensure the best performance in a disguised appearance, which will be completely undetectable from the original vehicle's appearance.

There is an optional broadcast coupler to deliver an antenna that can offer both two-way radio communication in addition to AM/FM receiver functions. The antenna may also be modified to provide multi-band two-way communication.

We are capable of meeting customers' special requirements:

- Two or three separate frequency segments in a given mobile band.
- Cross-channel operation in two mobile bands with one antenna.
- Alternative antennas to an OEM version will be recommended, where required (e.g. Euro-style, or universal mount traditional whip).

Technical Specifications	F-33404
Nominal Gain	Unity
Bandwidth 1.5:1 VSWR, MHz	138-150, 764-776
Power Rating, Watts	50
Radiator	Fiberglass
Length, in	13.5
Vertical Height, in	13
Feed Line	15 ft.
Connector Options (Customer Specified)	Mini-UHF
Broadcast Coupler (optional)	Model 445-75

If the antenna is not required to provide AM/FM Radio service, the Broadcast Coupler can be omitted.



We are the leader in the design of RF filtering and coupling devices. The following are the specifications for couplers and tuners required as part of a Disguised Antenna solution.

Broadcast couplers - allow AM-FM broadcast receiver operation along with normal two-way mobile radio operation.

Crossband couplers - allow mobile radios on two different bands to operate with a single disguised antenna.

Antenna tuners - provide impedance matching and partly retuning the existing antenna to new frequencies.

Broadcast Coupler Specifications

Model Number	Frequency Range	Insertion Loss	Max Power	Minimum Isolation	Connectors
444-75	27-54 MHz	0.15 dB	1.5	150 Watts	Mini-UHF
445-75	138-174 MHz	0.15 dB	1.5	150 Watts	
446-75	406-512 MHz	0.15 dB	1.5	150 Watts	
447-75	764-960 MHz	0.20 dB	0.5	50 Watts	

Crossband Coupler Specifications

Model Number	Frequency Range		Max Power	Insertion Loss	Minimum Isolation	Connectors	Size (H x W x L) In (mm)
	Low Pass	High Pass					
485-75	138-174 MHz	406-512 MHz	100 Watts	0.4 dB	40 dB	UHF Female	1.6 x 3.5 x 3 (41 x 89 x 76)
486-75	30-50 MHz	138-174 MHz		0.3 dB	35 dB		
487-75	138-174 MHz	764-960 MHz		0.3 dB	35 dB		

Crossband Coupler



Antenna Tuner Specifications

Model Number	Frequency Range	Max Power	Impedance	
			Input 1	Input 2
461-75	144-174 MHz	150 Watts	50 Ohms	10-700 Ohms
462-75	406-512 MHz	150 Watts	50 Ohms	10-700 Ohms

BUMP-138174-DUAL**Features**

- Front and Rear Bumper Antenna for covert applications
- 138-174 MHz, 3-14 MHz bandwidth
- Field tunable for optimal VSWR and bandwidth
- Flexible radiating element
- Easy to deploy
- Compatible with any vehicle model or manufacturer

Description

Comprod Bumper Antenna BUMP-138174-DUAL is designed for covert operations which require effectively invisible antenna hidden inside the front and rear bumper of a vehicle. The bumper covers must be plastic, and the vehicle frame is used by the antenna as a ground plane.

Featuring a unique and compact design that integrates radiating elements on flexible polymer substrate, this antenna can be easily deployed on uneven surfaces, allowing for the simplicity and versatility of installation. It is an ideal all-round antenna solution for fitting into narrow spaces in applications where a completely discrete antenna is required.

The antennas are supplied with 2 tunable matching impedance networks integrated into a waterproof housing.

The antennas can be finely tuned to the required band after installation by adjusting the tuning screws to ensure that an optimal VSWR match is achieved.

The antenna is integrated with a 25 feet RG58U feed cable.

Note:

The connectors are provided but not installed for ease of cable running inside the vehicle. Other connector and cable configuration options are available.

This bumper antenna can be sold separately (BUMP-138174). Ask for a quote.

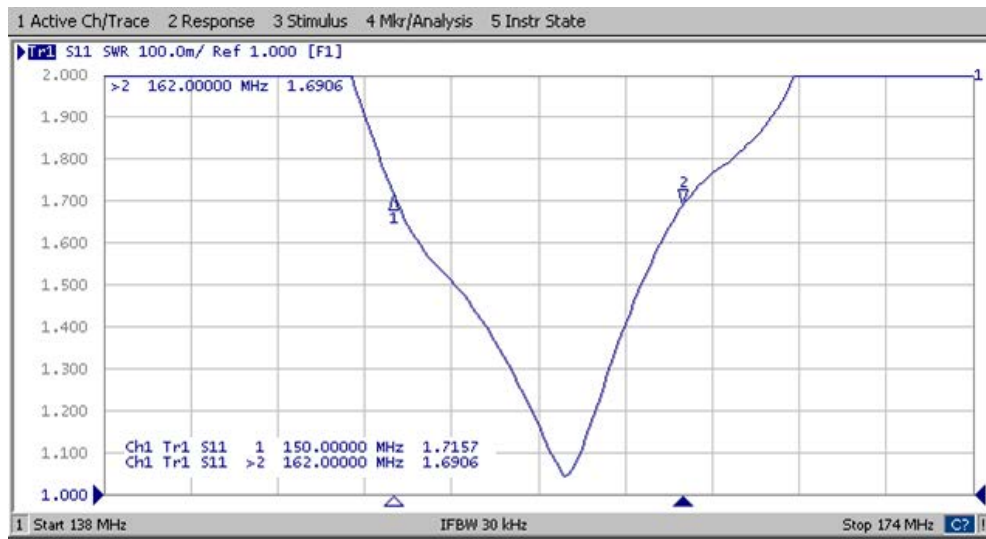


Electrical Specifications

Frequency Range, MHz	138-174
Bandwidth: 2:1 VSWR, MHz	3-14
Nominal Gain (dBd)	Unity
VSWR	2:1
Polarization	Vertical
Nominal Impedance, Ohms	50
Pattern	Omnidirectional
Power Handling (max), Watts	50
Standard Termination	Mini-UHF (other connectors are available under request)

Mechanical & Environmental Specifications

Length/Height, in (mm)	16 (404.4)
Width, in (mm)	2.2 (56)
Depth, in (mm)	1.2 (30.5)
Mounting Hardware	#8-32 screws (8) and connectors provided
Operating Temperature range °F (°C)	-40 to +140 (-40 to +60)



VSWR Curve of BUMP-138174 (antenna tuned to around 155 MHz central frequency)

BUMP-400900-DUAL**Features**

- Dual Bumper Antenna for covert applications
- No tuning required
- 400-900 MHz, 500 MHz bandwidth
- Flexible radiating element for easy installation
- Waterproof housing
- Easy to deploy
- Compatible with any vehicle model or manufacturer

Description

Comprod Wideband Bumper Antenna BUMP-400900-DUAL is designed for covert operations which require effectively invisible antenna hidden inside the front and rear bumper of a vehicle. The bumper covers must be plastic.

Featuring a unique and compact design that integrates radiating elements on flexible substrate, this antenna can be easily deployed on uneven surfaces, allowing for the simplicity and versatility of installation. It is an ideal all-round antenna solution for fitting into narrow spaces in applications where completely discrete antenna is required.

The antenna is provided with 25 feet RG-8X feed cable.

Note:

The connector is provided but not installed for ease of cable running inside the vehicle. The connector will need to be installed on the cable by the customer. Other connectors and cable configuration options are available.

For optimal performance

Two bumper antennas are installed, one at the front of the vehicle and one at the rear. The provided Comprod power splitter (SPLT-400900) is designed to help to create an omni-directional pattern around the vehicle and enable better network coverage.

This bumper antenna can be sold separately (BUMP-400900). Ask for a quote.



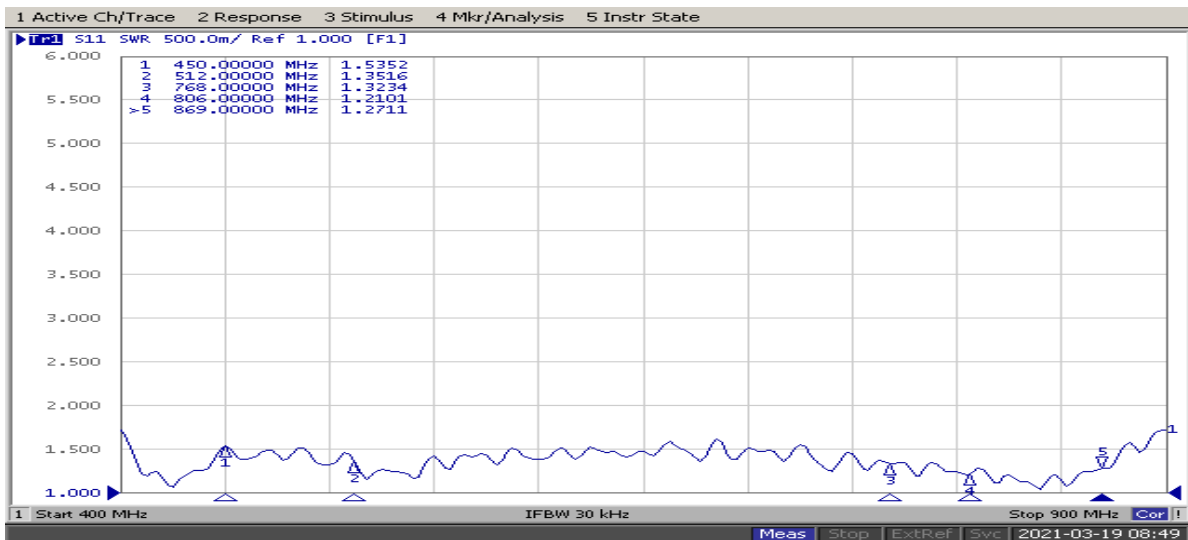


Electrical Specifications

Frequency Range, MHz	400-900
Bandwidth: 1.7:1 VSWR, MHz	500
Nominal Gain (dBd)	Unity
VSWR	1.7:1
Polarization	Vertical
Nominal Impedance, Ohms	50
Pattern	Omnidirectional (Free space)
Power Handling (max), Watts	150
Standard Termination	Mini-UHF (other connectors available)

Mechanical & Environmental Specifications

Length, in (mm)	8.5 (215.9)
Width, in (mm)	4.5 (114.3)
Thickness, in (mm)	0.067 (1.71) (Including adhesive pad)
Operating Temp °F (°C)	-40 to +158 (-40 to +70)
Fixing Method	Adhesive Pad
Mounting Hardware	#8-32 screws (8) and connectors provided



VSWR test result of BUMP-40090

In-Building Systems

Comprod In-Building products have been deployed for **Mission-Critical projects** including subway transit in-tunnel or underground projects, high-rise In-Building systems, nuclear power plants, correctional facilities, shopping malls, parking garages, casinos and public sports arenas.

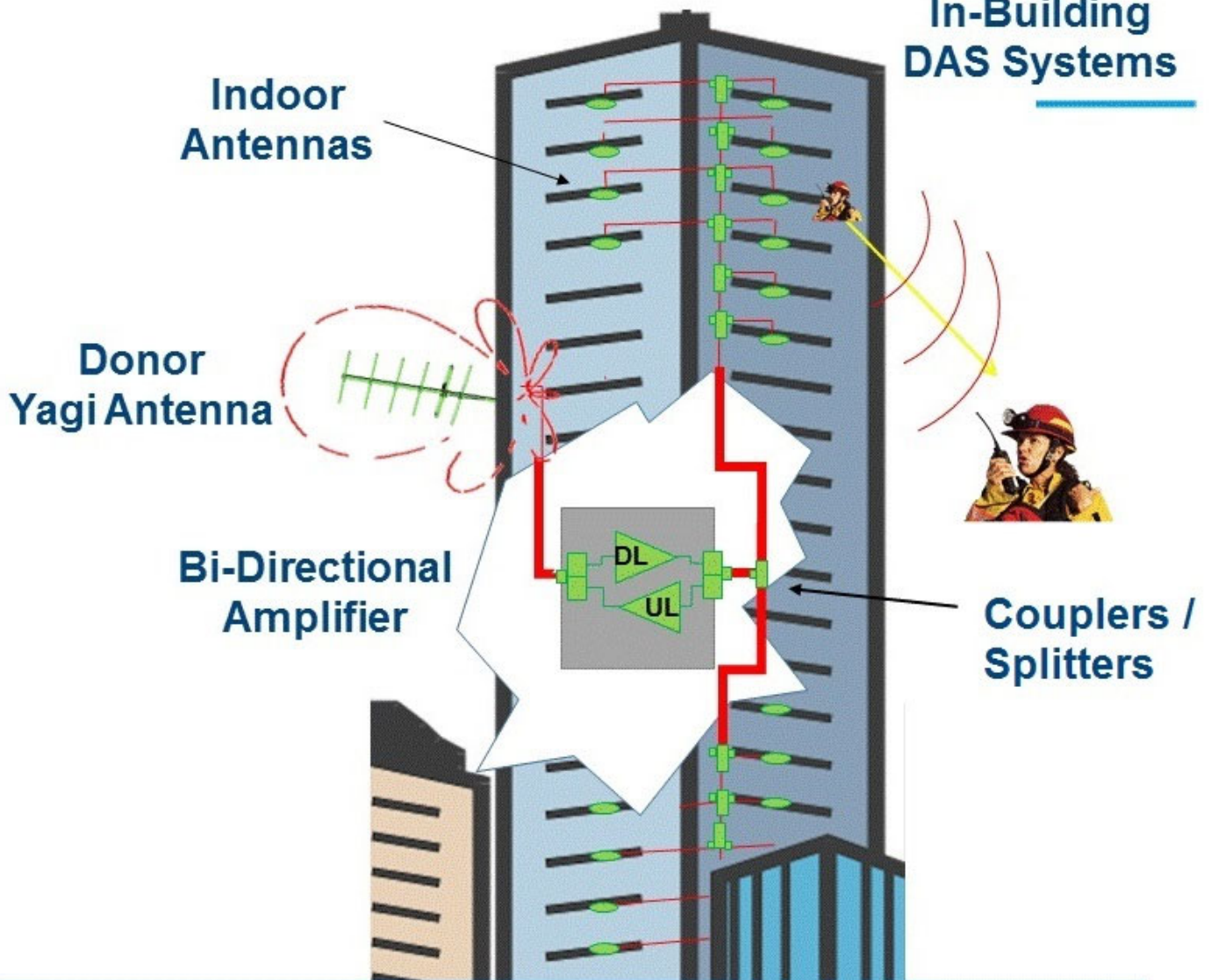
- Incorporate **single, dual, and tri-band frequency specifications**
- Are offered in a wide range of enclosures: **radomes, low profile, 6200 Kydex fire-retardant material, ABS high-impact, polycarbonate**

Comprod can complement antenna systems with other RF components to build out the network: splitters, couplers, taps, cables, connectors, signal boosters (Bi-Directional Amplifiers) required for **complete RF needs** for In-Building Public Safety requirements.



We can complement antenna systems with other RF components from our portfolio to build out the network: splitters, couplers, taps, cables, connectors, signal boosters (Bi-Directional Amplifiers) required for complete RF needs for In-building public safety requirements.

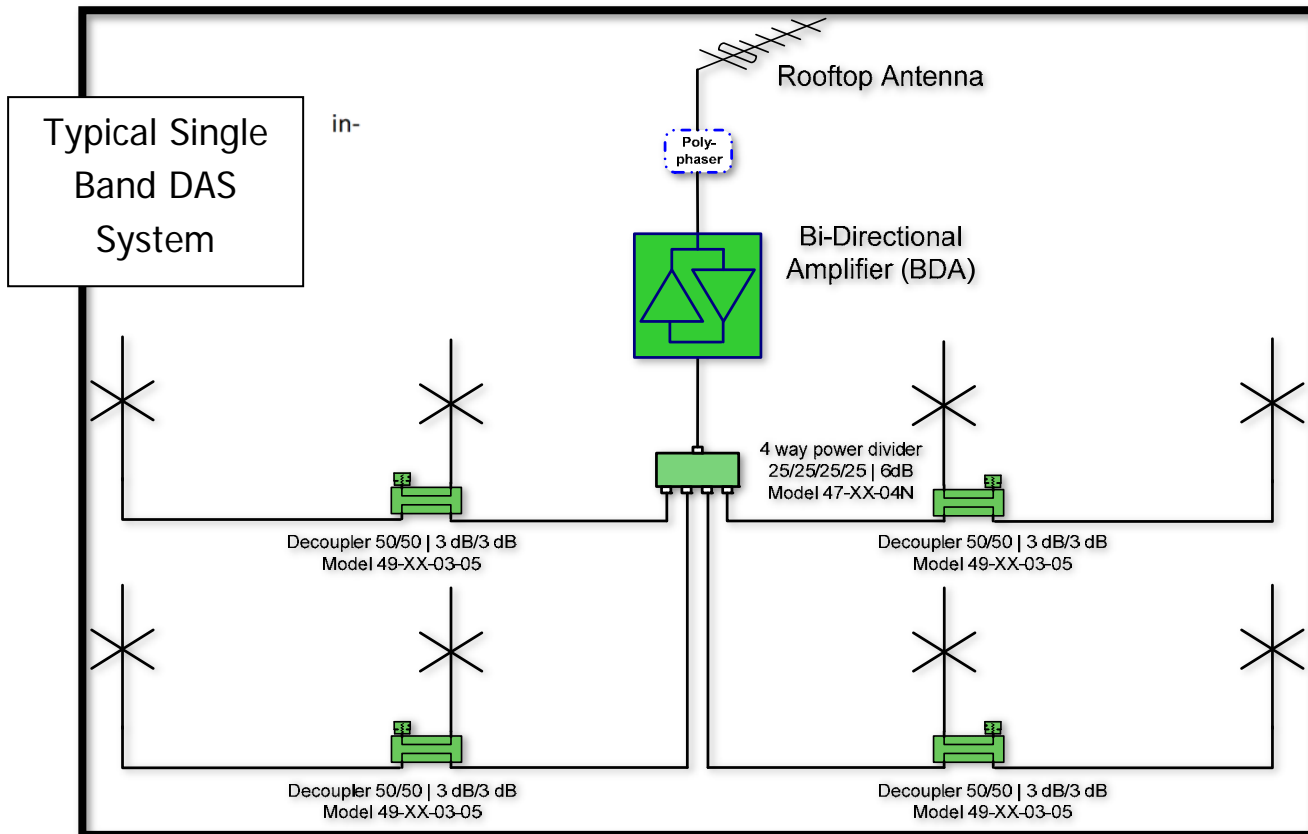
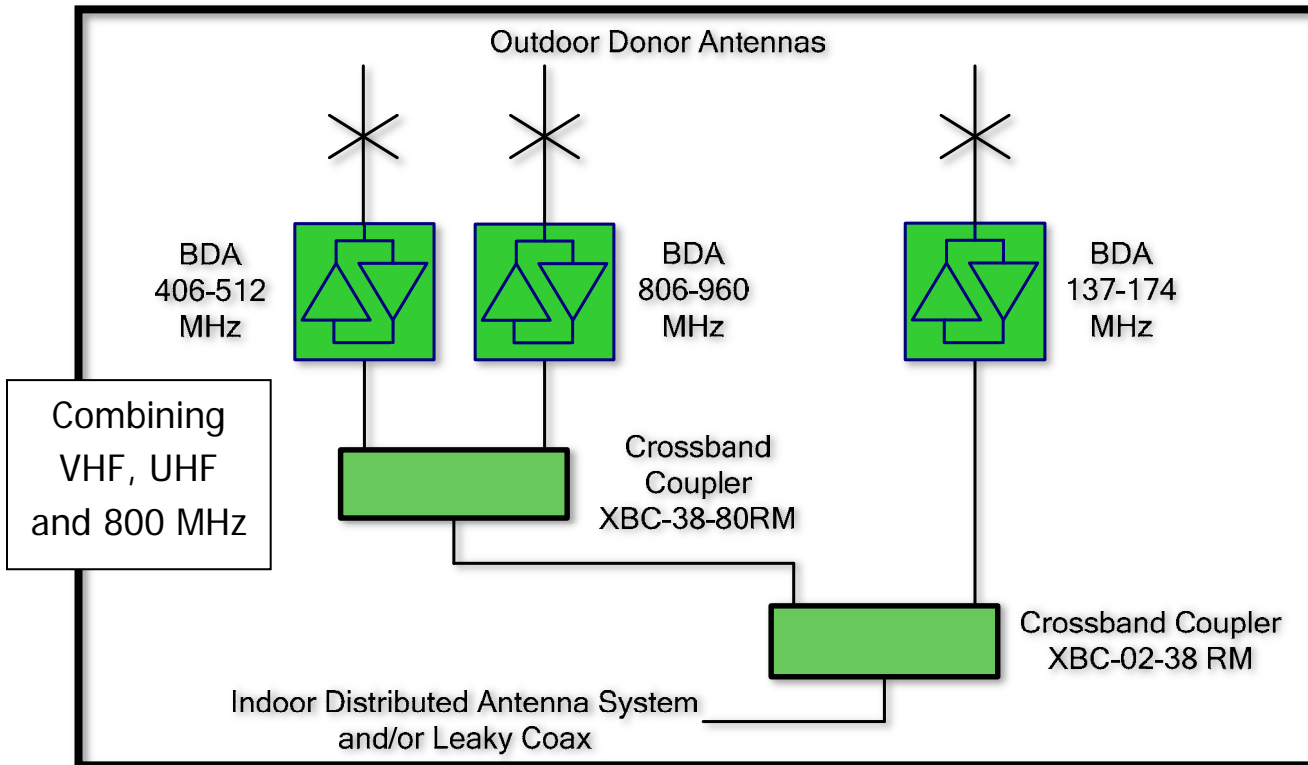
**In-Building
DAS Systems**

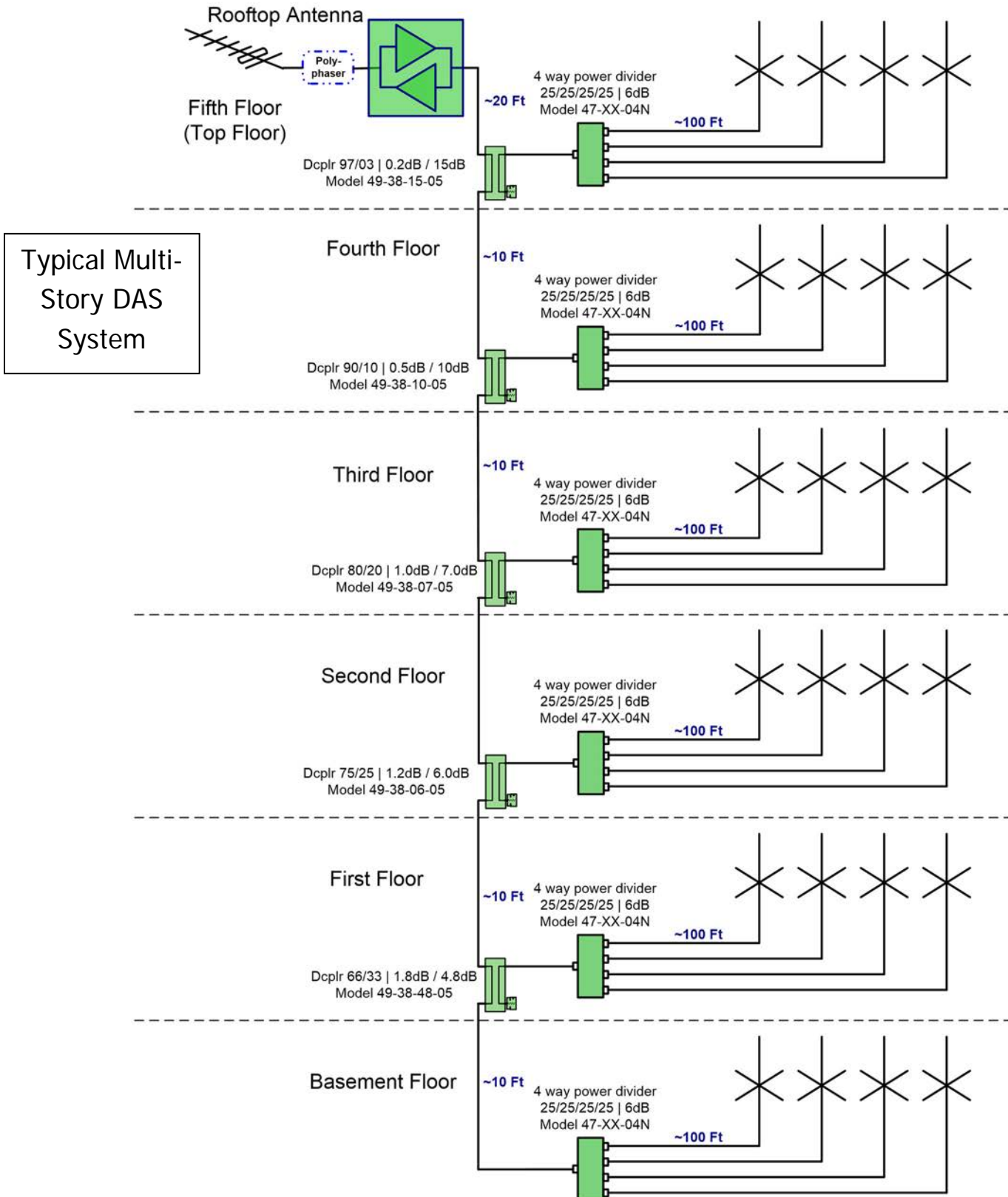


NOTE: For Donor Yagi Antennas please refer to Yagi Antenna section of our Catalog (Base Station Antennas)

All our In-Building products are available in IBwave and RanPlan libraries.







ANTENNAS & AMPLIFIERS

Antennas									
Part Number	Frequency Range, MHz	Length, in (mm)	Diameter, in (mm)	Pattern	Power, Watts	Radome material	Color	Standard Connector	
357-75	148-174	4 x 21 x 3		Omni	150	ABS/6200 Kydex	Grey/White	UHF/BNC/ N Female	
360-75	406-512	3.25 x 3 x 11		Omni	50	ABS/6200 Kydex	Grey/White	UHF/BNC/ N Female/PNC	
361-75	806-960	3.15 (80)	9.3 (236)	Omni	50	ABS/6200	Grey/White	N Female	
362-75	806-960	2.0 (51)	4.5 (114)	Omni	100	ABS/6200	Grey/White	N Female	
F-3987	380-512	6.75 (171)	0.5 (12.75)	Omni	150	Aluminum	Black or white	N Male	
F-3953	380-512	7.0 (178.5)	0.625	Omni	50	Aluminum	Black or white	NMO	
F-33005	806-960 / 1850-1990	2 (51)	4.5 (114)	Omni	50	6200 Kydex	White	N Female	
F-33048	740-960	2 (51)	4.5 (114)	Omni	50	6200 Kydex	White	N Female installed at the base	
F-33048-A	740-960	2 (51)	4.5 (114)	Omni	50	6200 Kydex	White	32" Jumper – N Female	
F-3749/B	VHF /UHF/ 760-960	9.78 (249)	7.0 (178.5)	Omni	50	6200 Kydex	White	N Female	
F-3749-A	VHF /UHF/ 760-960	9.78 (249)	7.0 (178.5)	Omni	50	6200 Kydex	White	2' jumper to N Male or N Female	
F-3741-A	VHF /UHF/ 760-960	11.25 (286.88)	0.65 (16.575)	Omni	50	Polycarbonate	Black	N Male	
945-70	580-2700	30x13		Directional	150	ABS	Grey	7/16 DIN	
Amplifiers									
Part Number	Frequency Range, MHz	Size, in (mm)	Color	Connectors	Max. Gain, dB	Noise Figure, dB	Max. Output Power, dBm	Input Voltage	Alarm Indicators
BDA 138174	138-174	Depends on FLTR.	Grey/Red	N Female	+80	2.5 typical	DL: +31.5 UL: +31.5	AC: 115-220 DC: 48	AGC, S/D, Power Fail
BDA 380518	380-518	Depends on FLTR.	Grey/Red	N Female	+80	2.5 typical	DL: +31.5 UL: +31.5	AC: 115-220 DC: 48	AGC, S/D, Power Fail
BDA 764806	DL: 764-776 UL: 776	10H x 16W x 8.5D	Grey/Red	N Female	+80	2.5 typical	DL: +31.5 UL: +31.5	AC: 115-220 DC: 24-27	AGC, S/D, Power Fail
BDA 806870	DL: 851-869 UL: 869	10H x 16W x 8.5D	Grey/Red	N Female	+80	2.5 typical	DL: +31.5 UL: +31.5	AC: 115-220 DC: 24-27	AGC, S/D, Power Fail
BDA 896941	DL: 935-941 UL: 941	10H x 16W x 8.5D	Grey/Red	N Female	+80	2.5 typical	DL: +31.5 UL: +31.5	AC: 115-220 DC: 24-27	AGC, S/D, Power Fail

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

We offer a 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.

Our antennas have been installed worldwide and provide RF coverage inside nuclear power plants, correctional institutions, tunnels, high-rise buildings, subways, shopping malls, parking garages, power plants, high-security office networks and mine shafts.

Note: add the material and connector type to the part number when ordering:

- ABS is for outdoor use and is grey in color (Default)
- KYDEX is for indoor use and is white in color

Electrical Specifications	357-75	360-75	361-75	362-75
Frequency Range, MHz	148-174	380-512	806-960	806-960
Nominal Gain	Unity	Unity	Unity	2 dBd
Bandwidth 1.5:1 VSWR, MHz	3	20	140	66
Bandwidth: 2.0:1 VSWR, MHz	4	40	140	100
Polarization	Vertical	Vertical	Vertical	Vertical
Pattern	Omnidirectional	Omnidirectional	Omnidirectional	Omnidirectional
Power Rating, Watts	150	50	50	100
Nominal Impedance, Ohms	50	50	50	50
Radome	ABS / 6200 Kydex	ABS / 6200 Kydex	ABS / 6200 Kydex	ABS / 6200 Kydex
Color	Grey / White	Grey / White	Grey / White	Grey / White
Standard Termination	UHF / BNC / N Female	UHF / BNC / N Female / PNC	N Female	N Female
Mechanical Specifications	357-75	360-75	361-75	362-75
Width, in (mm)	4.0 (102)	3.0 (76)	3.15 (80)	2.0 (51)
Length, in (mm)	21.0 (533)	11.0 (279)	N/A	N/A
Height, in (mm)	3.0 (76)	3.25 (83)	N/A	N/A
Diameter, in (mm)	N/A	N/A	9.3 (236)	4.5 (114)
Weight, lbs (kg)	2.1 (0.945)	1.0 (0.45)	2.5 (1.15)	0.375 (0.169)
Required Minimum Ground Plane Size, in (mm)	36 x 48 (914 x 1219)	20 x 16 (508 x 406)	14 x 14 (355 x 355)	10 x 10 (254 x 254)
Mounting hardware	Not Included	Not Included	Not Included	Not Included



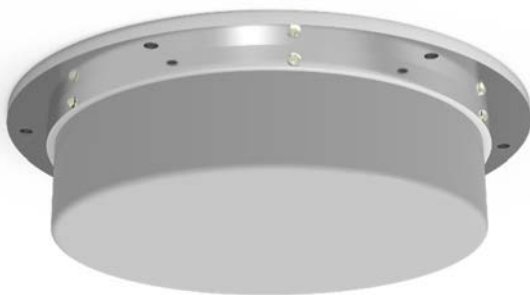
357-75 Top and Underside-view



360-75



361-75



362-75 Top and Underside View



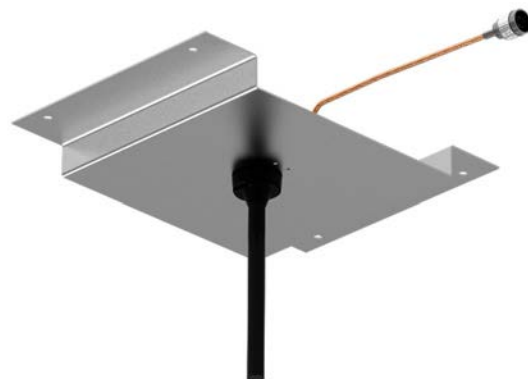
Our In-building antennas are designed to provide excellent coverage solutions in order for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

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.

Our antennas have been installed worldwide and provide RF coverage inside nuclear power plants, correctional institutions, tunnels, high-rise buildings, subways, shopping malls, parking garages, power plants, high-security office networks and mine shafts.

Electrical Specifications	F-3987	F-3953
Frequency Range, MHz	380-470 / 420-512	380-470 / 420-512
Nominal Gain	Unity	Unity
Bandwidth: 2.0:1 VSWR, MHz	90	90
Polarization	Vertical	Vertical
Pattern	Omnidirectional	Omnidirectional
Power Rating, Watts	150	50
Nominal Impedance, Ohms	50	50
Radome	Aluminium Painted	Aluminium Painted
Color	Black / White	Black / White
Standard Termination	N Male	NMO
Mechanical Specifications	F-3987	F-3953
Max. Length, in (mm)	6.75 (171)	7.0 (178.5)
Diameter, in (mm)	0.5 (12.75)	0.625 (15.93)
Weight, lbs (kg)	N/A	N/A
Required Minimum Ground Plane Size, in (mm)	8 x 8 (203 x 203)	8 x 8 (203 x 203)
Mounting hardware	Ground Plane Included	Ground Plane Not Included



F-3987



F-3953

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

Our antennas can cover single or multiple frequency bands.

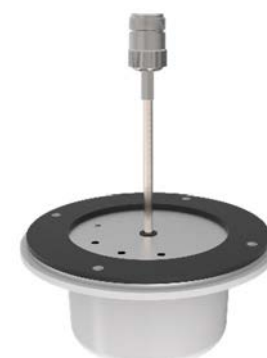
We offer a wide variety of antennas with Fire Retardant 6200 Kydex radomes. These materials are designed for In-building applications and inside public transport vehicles such as underground trains, vans, buses and trains. They meet the recommended fire safety practices of both the Federal Transit Administration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

The antennas are installed on ceilings to provide RF coverage inside nuclear power plants, correctional institutions, tunnels, high-rise buildings, subways, shopping malls, parking garages, power plants, high-security office networks and mine shafts.

Electrical Specifications	F-33005	F-33048	F-33048-A
Frequency Range, MHz	806-960 / 1850-1990	760-960	760-960
Nominal Gain	Unity	Unity	Unity
Bandwidth: 1.5:1 VSWR, MHz			
138-174	N/A	N/A	N/A
406-512	N/A	N/A	N/A
760-960	N/A	200	200
806-960	72 (specify frequencies)	N/A	N/A
1800-1990	140	N/A	N/A
Polarization	Vertical	Vertical	Vertical
Pattern	Omnidirectional	Omnidirectional	Omnidirectional
Power Rating, Watts	50	50	50
Nominal Impedance, Ohms	50	50	50
Radome	6200 Kydex	6200 Kydex	6200 Kydex
Standard Termination	N Female	N Female installed at the base	32" Jumper - N Female
Mechanical Specifications	F-33005	F-33048	F-33048-A
Max. Length, in (mm)	2 (51)	2 (51)	
Diameter, in (mm)	4.5 (114)	4.5 (114)	
Weight, lbs (kg)	0.375 (0.169)	0.375 (0.169)	
Required Minimum Ground Plane Size, in (mm)	8 x 8 (203 x 203)	8 x 8 (203 x 203)	
Mounting hardware	Not Included	Not Included	



F-33005



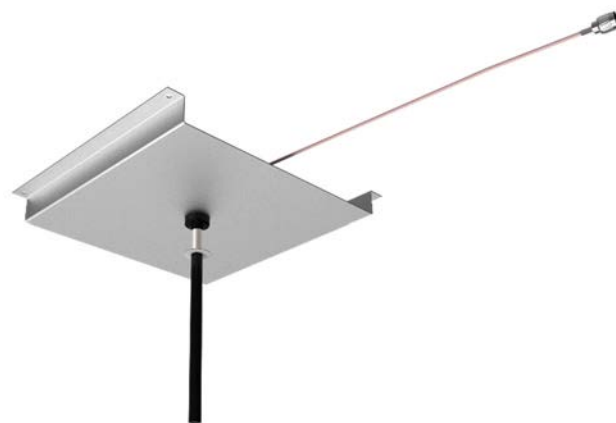
F-33048-A

Our In-building antennas are designed to provide excellent coverage solutions in order 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-A 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-A. It's a flame resistant and self-extinguishing material.

Electrical Specifications	F-3741-A
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-A
Length, in (mm)	11.25 (286.88)
Diameter, in (mm)	0.65 (16.575)
Weight, lbs (kg)	N/A
Mounting hardware	Included



F-3741-A

Our In-building antennas are designed to provide excellent coverage solutions in order 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-3749/A/B antennas are available in custom colors for orders of 150 or more.

Electrical Specifications	F-3749	F-3749-A	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
Polarization	Vertical	Vertical	Vertical
Pattern	Omnidirectional	Omnidirectional	Omnidirectional
Power Rating, Watts	50	50	50
Nominal Impedance, Ohms	50	50	50
Radome	6200 Kydex	6200 Kydex	6200 Kydex
Mean Time Between Failure	87,000 hours	87,000 hours	87,000 hours
Color	White	White	White
Standard Termination	N Female	2' jumper to N Male or	N Female
Mechanical Specifications	F-3749	F-3749-A	F-3749-B
Max. Length, in (mm)	9.78 (249)	9.78 (249)	
Diameter, in (mm)	7.0 (178.5)	7.0 (178.5)	
Weight, lbs (kg)	4 (1.8)	4 (1.8)	
Required Minimum Ground	14 x 14 (357 x 357)	14 x 14 (357 x 357)	
Mounting hardware	Not Included	Not Included	

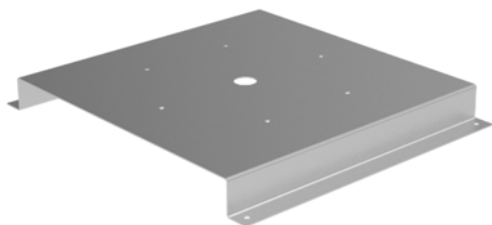


F-3749-B

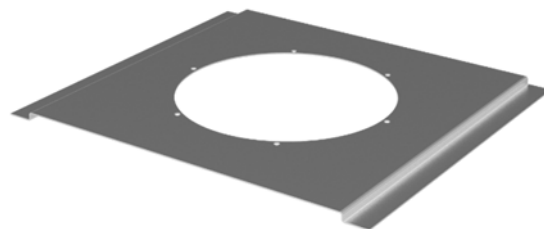
Our In-building antennas require a ground plane to work properly. The minimum ground plane size is specified for each antenna. Failure to provide the ground plane may result in poor propagation and/or poor frequency coverage.



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



F-33034 Mounting Bracket



F-33220 Mounting Bracket

945-70

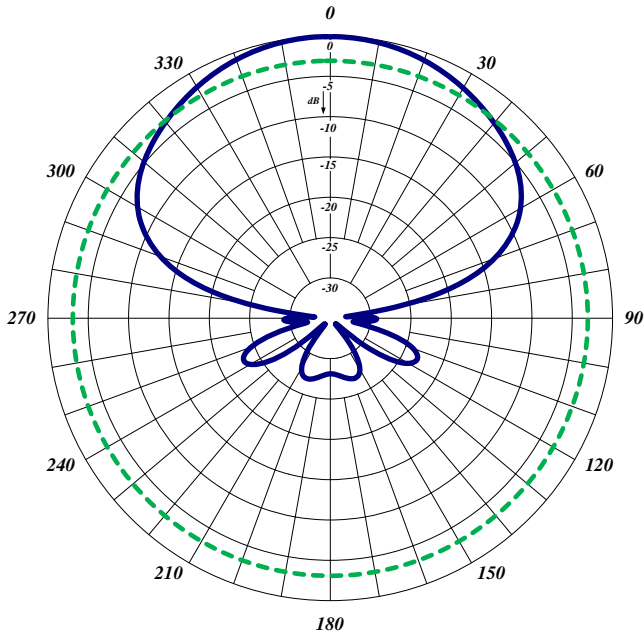
This antenna is a broadband antenna that can be used for public safety as well as in cellular bands. It makes an ideal solution for a donor antenna for a DAS system. Our In-building system antennas are designed to provide excellent coverage solutions in order for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

Features:

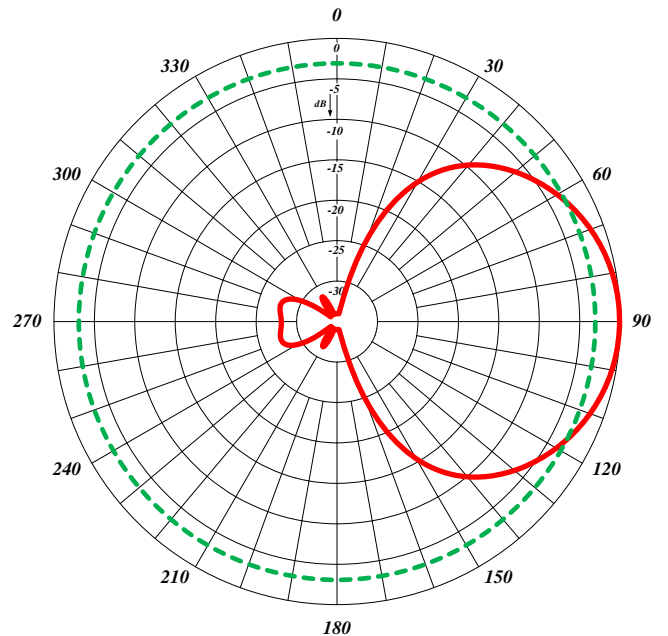
- Rugged design to withstand the most extreme environmental conditions.
- Extra wide bandwidth for use in multiple bands.

Specifications	945-70
Frequency Band:	580-2700 MHz
Gain:	8-9 dBd
Impedance:	50 Ohm
Intermodulation IM3 2 carrier, 20 W each:	-150 dBc
Power:	300 Watts at lowest frequency, 150 Watts at highest frequency
Front to back Ratio:	25 dB
Half power Horizontal Beamwidth (V Pol):	60 (high frequency) degrees -65 (low frequency) degrees
Half power Vertical Beamwidth (V Pol):	45 (high frequency) degrees -50 (low frequency) degrees
Connector:	DIN 7/16. N type also available (PIM not guaranteed with N type connector)
Max wind Velocity:	240 Km/h (150 mph)
Dimensions:	30" x 13" x 3"

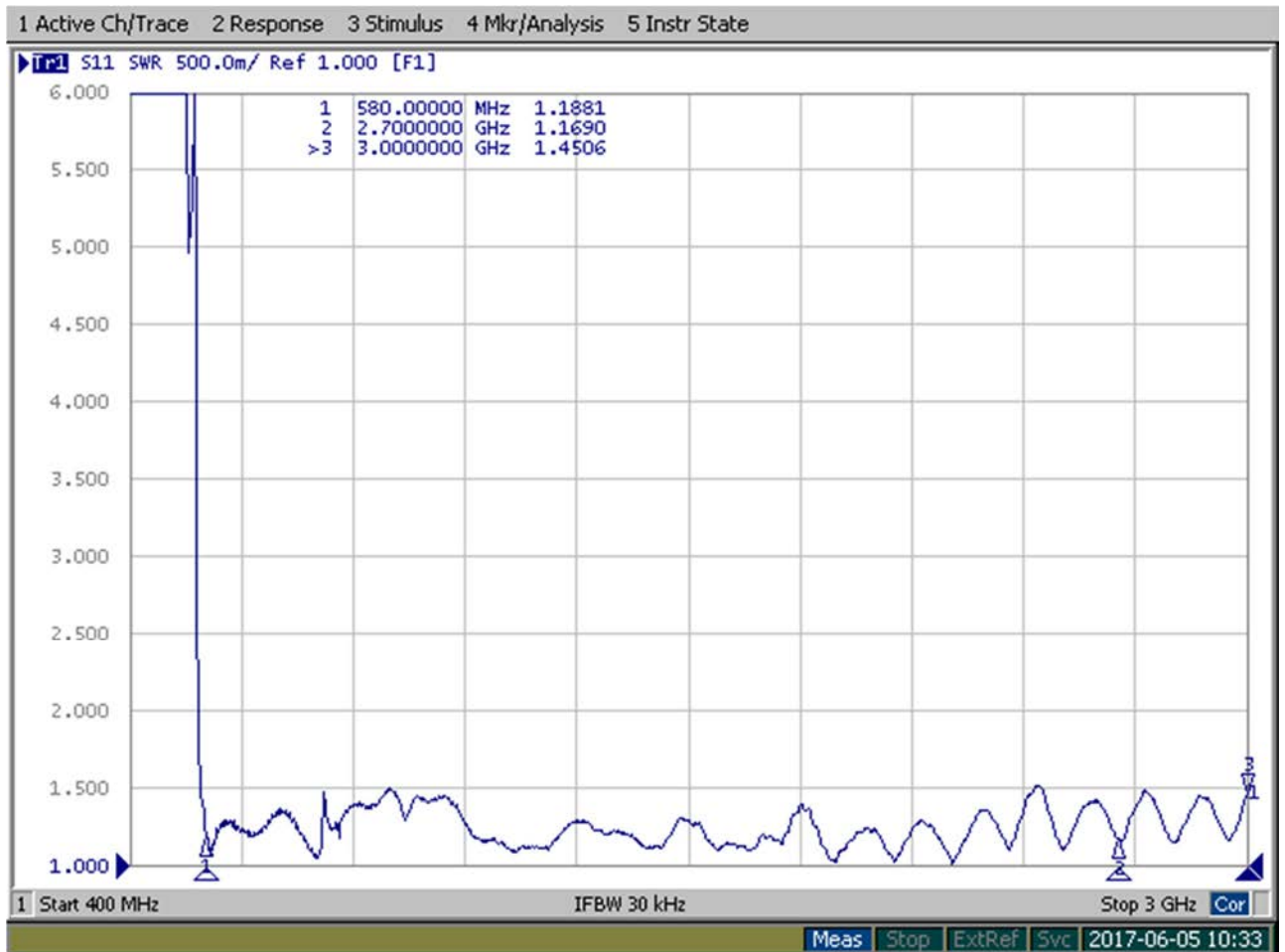




Horizontal Pattern 580-1690 Vertical Polarization



Vertical Pattern 580-1690 Vertical Polarization



UWB-1301000-NF, UWB-1301000-RNF, UWB-1301000-R-NFBLKHD

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

Our latest innovation, the UWB-1301000-NF has been designed for mounting on a ceiling or gyrock wall without the need of a ground plane. This in-building antenna is entirely flat and gets integrated into the ceiling almost invisibly. The antenna's main application includes: Usage for Distributed Antenna Systems (DAS) for Public Safety or LTE communication in multiple stories of a building.

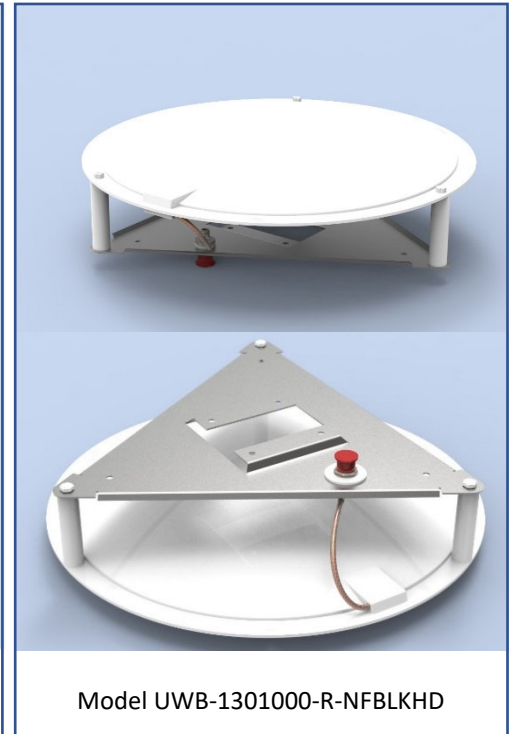
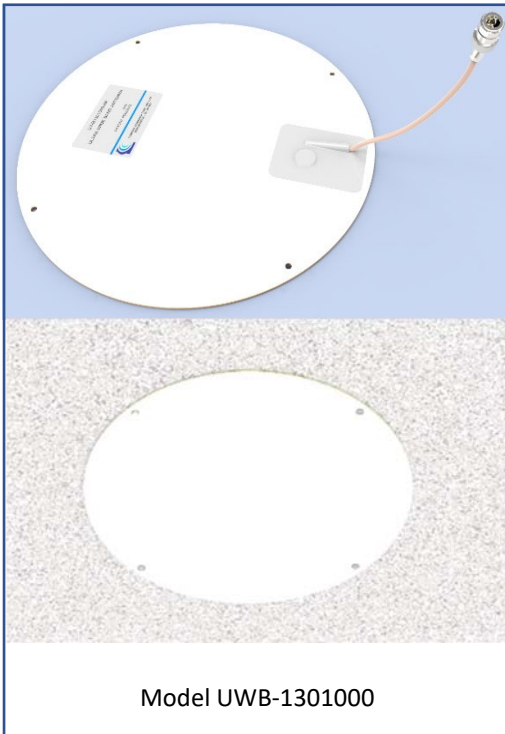
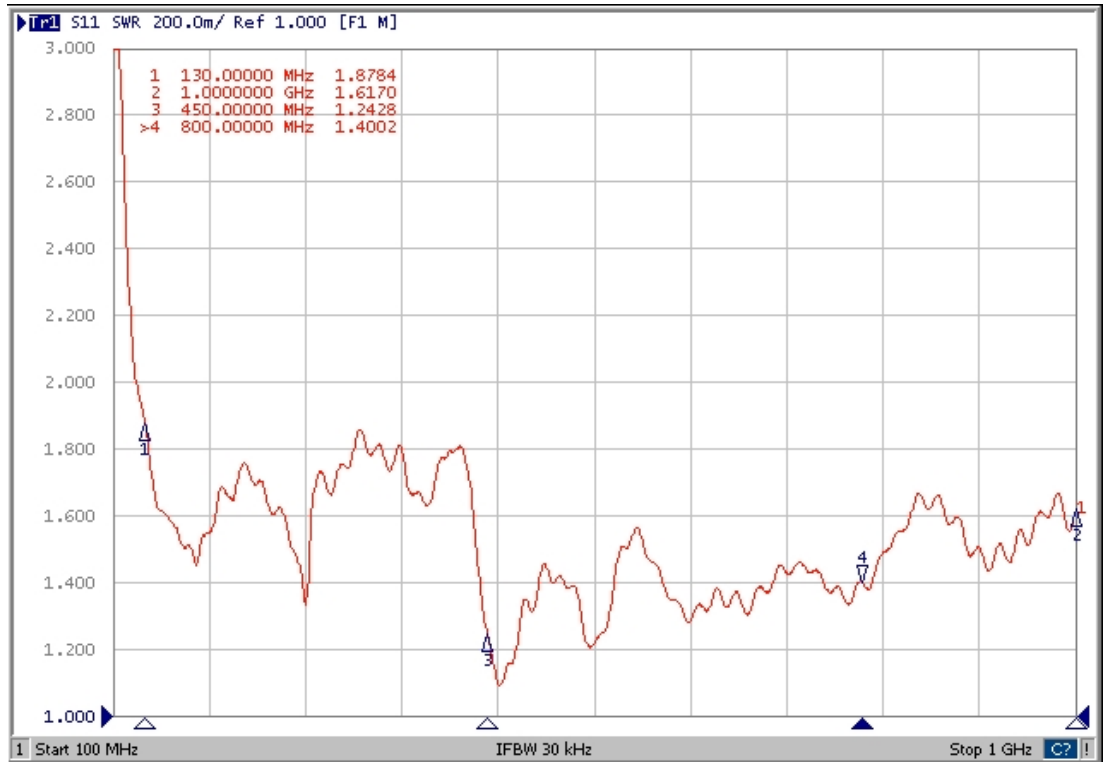
UWB-1301000-RNF model is design to be installed on hard surfaces such as concrete or metal structures.

UWB-1301000-R-NFBLKHD model is similar to the UWB-1301000-RNF model except it has a bulkhead connector fixed on the metallic plate support to allow the antenna to be installed on hard surface with clearance such as structural beams.

UWB-1301000-RNF and UWB-1301000-R-NFBLKHD have a Kydex 6200 radome with extra protection to 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.

Electrical Specifications	UWB-1301000-NF, UWB-1301000-RNF, UWB-1301000-R-NFBLKHD		
Frequency Range, MHz	130-1000		
Nominal Gain	<i>Unity</i>		
VSWR	1.8:1 Typical (2.0:1 Maximum)		
Bandwidth: 1.8:1 VSWR, MHz	870		
Pattern	Omnidirectional		
Power Handling, Watts	5		
Nominal Impedance, Ohms	50		
Color	White		
Standard Termination	N Female		
Mechanical Spec.	UWB-1301000-NF	UWB-1301000-RNF	UWB1301000-R-NFBLKHD
Diameter, in (mm)	15.25 (387.35)	17 (423)	17 (423)
Thickness, in (mm)	0.07 (1.8)	4 (101.6)	4 (101.6)
Weight, lbs (kg)	Less than 1 (0.45)	3.25 (1.475)	3.25 (1.475)
Mounting Hardware	Mounting bolts provided	Mounting plate and supports	Mounting plate and supports

VSWR Curve
Representative of all
models



BDA-40-SERIES (VHF and UHF)

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 VHF and UHF 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

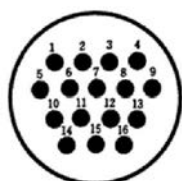


Electrical Specifications	BDA 138174	BDA 380512
Frequency Range, MHz	138-174	380-512
Passband Ripple, dB	+/- 1.5	+/- 1.5
Automatic Gain Control (AGC), dB	30	30
Maximum Gain, dB	+80	+80
Input Manual Attenuation, dB	30 in 2 dB Steps	30 in 2 dB Steps
Output Manual Attenuation, dB	15 in 1 dB Steps	15 in 1 dB Steps
Noise Figure, dB	2	2
Output Power, dBm	30	31.5
VSWR	1.5:1	1.5:1
IP3, dBm (2 tones; 32 dBm each)	50	50
Input Voltage, Volts	AC: 115-220 DC: 48	AC: 115-220 DC: 48
Temperature Range, °C	-30 to +60	-30 to +60
Connectors	N Female	N Female
Alarms	AGC, S/D, Power	AGC, S/D, Power
Mechanical Specifications	BDA 138174	BDA 380512
Enclosure	NEMA 4 Painted Steel	NEMA 4 Painted Steel
Dimensions, in. H, W, D	Depends on filtering	24 x 13.5 x 20

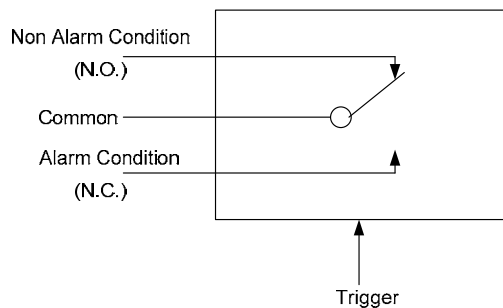
* See next page for certification numbers

Certification Numbers	BDA 138174	BDA 380512
FCC ID	WDM-BDA138174	WDM-BDA380512
IC	7755A-BDA138174	7755A-BDA380512

Dry Contact Alarms:



UL or DL



UL Dry Contact Alarm connection		DL Dry Contact Alarm connection	
Pin	Description	Pin	Description
1	NC DC Relay	1	NC DC Relay
2	COM DC Relay	2	COM DC Relay
3	NO DC Relay	3	NO DC Relay
4	NC Oscillation	4	NC Oscillation
5	COM Oscillation	5	COM Oscillation
6	NO Oscillation	6	NO Oscillation
7	NC RF System Failure Relay	7	NC RF System Failure Relay
8	COM RF System Failure Relay	8	COM RF System Failure Relay
9	NO RF System Failure Relay	9	NO RF System Failure Relay
10	NC AC Relay	10	NC AC Relay
11	COM AC Relay	11	COM AC Relay
12	NO AC Relay	12	NO AC Relay
13		13	
14	NC VSWR Donor Antenna Relay	14	NC VSWR Donor Antenna Relay
15	COM VSWR Donor Antenna Relay	15	COM VSWR Donor Antenna Relay
16	NO VSWR Donor Antenna Relay	16	NO VSWR Donor Antenna Relay

Monitoring and Control via Built-in via RS-232 Connector (USB Optional)

Monitor	Alarm	Control
<ul style="list-style-type: none"> - TX/RX System Gain - TX/RX Attenuation - TX Input Power - TX/RX Output Power - DC Voltage/Current - System Temperature 	<ul style="list-style-type: none"> - TX Input Over Power - TX/RX Output Over Power - AGC Range Alarm - TX/RX Shutdown - PSU Alarm - Over Temperature - VSWR - Oscillation 	<ul style="list-style-type: none"> - HPA On/Off - Gain - AGC On/Off - Shutdown On/Off - MCU Reset - Alarm Limit

The screenshot displays the UDA RF GUI V1.0 interface. On the left, there is a sidebar with a dropdown menu set to 'COM25', a 'Connect' button, and a 'MENU' section containing 'Status & Control' (highlighted), 'Download', 'Alarm History', and 'Maintenance'. Below these are 'EXIT' and 'INFO' buttons. The main window is titled 'Monitoring' and is divided into several sections:

- Classification Table:**

Classification	#1	#2
UDA ON/OFF	ON	ON
Input Power(dBm)	-55.0	-55.0
Output Power(dBm)	5.0	5.0
Gain(dB)	60.0	60.0
- AGC/ASD Settings:** Includes checkboxes and numeric input fields for AGC(User) Atten1/2, AGC Level, AGC Window, ASD Level, ASD Time, and OSC Time for both channels.
- VSWR Settings:** Includes dropdown menus for VSWR and input fields for VSWR Limit.
- Enable/Disable Buttons:** Buttons for AGC Enable, OSC Enable, ASD Enable, HPA OFF Case (set to DC Fail), HPA Enable, and Over TEMP Enable.
- System Status:** A table showing DC Voltage(V) at 0.00, Current #1(A) at 0.00, and Current #2(A) at 0.00.
- Info Section:** Displays Maker (COMPROD), Model (UDA RF), Hw Ver (1.0), Sw Ver (1.0), and Temp (26 °C).
- Control Section:** Includes 'Environment', 'Repeater Reset', and 'CONTROL' buttons.

Visual Alarms and Remote Failure Monitoring with Graphical User Interface

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



Electrical Specifications	BDA 764806	BDA 806870	BDA 896941
Frequency Range, MHz	DL: 764-776	DL: 851-869	DL: 935-941
Passband Ripple, dB	+/- 1.5	+/- 1.5	+/- 1.5
Automatic Gain Control (AGC), dB	30	30	30
Maximum Gain, dB	+80	+80	+80
Manual Gain Control (MGC), dB	0-31 in 1 dB Steps	0-31 in 1 dB Steps	0-31 in 1 dB Steps
Noise Figure, dB	2.5 Typical	2.5 Typical	2.5 Typical
Delay, Max., μ s	1	1	1
Max. Output Power, dBm	DL: +31.5	DL: +31.5	DL: +31.5
VSWR	1.5:1	1.5:1	1.5:1
Input Voltage, Volts	AC: 115-220	AC: 115-220	AC: 115-220
Temperature Range, $^{\circ}$ C	-30 to +60	-30 to +60	-30 to +60
Humidity, %	95	95	95
Connectors	N Female	N Female	N Female
LNA bypass Function Implementation, dBm	-20 @ Input Power	-20 @ Input Power	-20 @ Input Power
Alarms	AGC, S/D, Power	AGC, S/D, Power	AGC, S/D, Power
Mechanical Specifications	BDA 764806	BDA 806870	BDA 896941
Enclosure	NEMA 4 Painted	NEMA 4 Painted	NEMA 4 Painted
Dimensions, in. H, W, D	17.5 x 11 x 9	17.5 x 11 x 9	17.5 x 11 x 9
Weight, lbs	33.5	33.5	33.5

* See next page for certification numbers

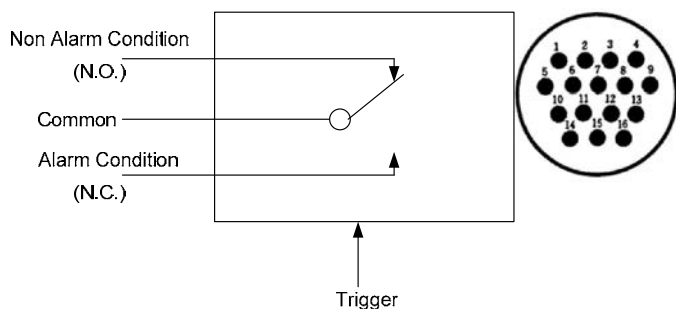
Certification Numbers	BDA 764806	BDA 806870	BDA 896941
FCC ID	WDM-BDA764806	WDM-BDA806870	WDM-BDA896941
IC	7755A-BDA764806	7755A-BDA806870	7755A-BDA896941

Four Dry Contact Alarms:

Donor Antenna Alarm	AC Current Alarm	DC Current Alarm	RF System Alarm
<ul style="list-style-type: none"> - Antenna disconnected - Antenna open circuit 	<ul style="list-style-type: none"> - AC Power failure (Can run on DC source) 	<ul style="list-style-type: none"> - DC Power failure 	<ul style="list-style-type: none"> - Shutdown of RF System: <ul style="list-style-type: none"> - Overheating - Power over limit - VGA malfunction - Other failures

Relay Shown in Non-Alarm Condition.

A kit of the connector with labeled wires is supplied with the unit.



Pin	Description	Pin	Description
1	NC DC Relay	9	NO RF System Failure Relay
2	COM DC Relay	10	NC AC Relay
3	NO DC Relay	11	COM AC Relay
4		12	NO AC Relay
5		13	
6		14	NC Antenna Relay
7	NC RF System Failure Relay	15	COM Antenna Relay
8	COM RF System Failure Relay	16	NO Antenna Relay

Monitoring and Control via Built-in via RS-232 Connector (USB Optional)

Monitor	Alarm	Control
<ul style="list-style-type: none"> - TX/RX System Gain - TX/RX Attenuation - TX Input Power - TX/RX Output Power - DC Voltage/Current - System Temperature 	<ul style="list-style-type: none"> - TX Input Over Power - TX/RX Output Over Power - AGC Range Alarm - TX/RX Shutdown - PSU Alarm - Over Temperature 	<ul style="list-style-type: none"> - HPA On/Off - Gain - AGC On/Off - Shutdown On/Off - MCU Reset - Alarm Limit

The screenshot displays the RF BDA GUI V1.8[20180122] interface. On the left, there is a sidebar with a 'COM5' dropdown, a 'Connect' button, a 'MENU' section with 'Status & Control' and 'Download' buttons, 'Alarm History', 'Maintenance', and an 'EXIT' button. The main area is titled 'Monitoring' and is divided into several sections:

- Classification Table:**

Classification	DL	UL
Input Power(dBm)	-52.6	The lowest input level can be detected is -80dBm
Output Power(dBm)	30.8	-10.1
Gain(dB)	83.5	83.5
- Environment:**
 - AGC(User) Atten(dB): 0.0
 - AGC Level(dBm): 30
 - AGC Window(dB): 2
 - Balance Enable/Offset(dB): ON
 - ASD Level(dBm): 33
 - ASD Time(min)/Count(dB): 1
- Control Options:**
 - AGC Enable: ON
 - ASD Enable: ON
 - HPA OFF Case: []
 - HPA Enable: ON
 - Over TEMP Enable: ON
 - Over TEMP Level(?): 50
- Alarm Section:**
 - DL Over Input
 - DL Over Power
 - DL AGC Range
 - DL ShutDown
 - UL Over Power
 - UL AGC Range
 - UL ShutDown
 - PSU Fail
 - Over Temp
 - Donor Antenna
- System Section:**
 - DC Voltage(V): 28.51
 - Current(A): 0.84
- Info Section:**
 - Maker: COMPROD, Model: BDA RF 1Watt, Hw Ver: 1.0, Sw Ver: 1.9
 - Temp: 24, Time: 2008.01.00, 00:05:12

At the bottom, there are 'TX' and 'RX' status indicators, a 'REFRESH' button, and 'Repeater Reset' and 'CONTROL' buttons.

Visual Alarms and Remote Failure Monitoring with Graphical User Interface

PE-48V-480W-55AH-UL: Battery backup system compatible with our VHF/UHF BDA and any other 48V BDA.

PE-24V-240W-55AH-UL: Battery backup compatible with our /700/800/900 MHz BDA and any other 24V BDA.

Features

- Certified to UL 2524
- AC input: 115/230 VAC (factory wired for 120 V AC)
- Input protection: AC breaker
- Load protection: DC breaker
- Typical dimensions (H x W x D): 30" x 23" x 10.5"
- Shipping Weight: 114 lbs for 24V system, 230 lbs for 48 V system
- Batteries Included: maintenance free, valve regulated, sealed lead acid 55 AH capacity
- NFPA compliant Dry Contact Alarms for the following conditions:
 - Charger Failure
 - Battery Discharged to 30 % of capacity.
 - AC Power or Rectifier failure

Cabinet Type

NEMA-4, UL listed, welded aluminum with IP 65 battery vent and locking door, 4 each 1/2" knock-outs for cable entry on sides and bottom (16 total), IP-68 cable entries. Red powder coat wall mount.



Disclaimer

- Actual backup time depends on the actual connected load, battery temperature and aging.
- Dimensions, weight, and look could be slightly different please contact our technical service for more information.

49-FF-YY-XX Series

We offer a full line of Hybrid and Directional Couplers. The full range of decoupling values allows balanced power division and distribution. These couplers are bidirectional and are well suited for two-way communications systems. A full line of Tri-Band models is available for distribution of VHF, UHF and 800 MHz via a single transmission line. Standard finish is gold Alodine.

- Low Insertion Loss
- High Isolation between ports
- Excellent VSWR
- Tri-Band and other models are available and customizable.

Please contact our Technical Support team for consultation at sales@comprodcom.com



Model with 5-Watt Load	Frequency Range	Decoupling (dB)	Insertion Loss (dB)	Power Split Ratio (%)
49-13-03-05	138-174MHz	-3.0, ±0.7	-3.0, ±0.3	50 / 50
49-13-48-05	138-174MHz	-4.8, ±0.7	-1.8, ±0.3	67 / 33
49-13-06-05	138-174MHz	-6.0, ±1.0	-1.2, ±0.2	75 / 25
49-13-07-05	138-174MHz	-7.0, ±1.0	-1.0, ±0.2	80 / 20
49-13-10-05	138-174MHz	-10.0, ±1.0	-0.5, ±0.2	90 / 10
49-13-20-05	138-174MHz	-20.0, ±1.0	-0.3 max.	99 / 1
49-38-03-05	380-512MHz	-3.0, ±0.7	-3.0, ±0.3	50 / 50
49-38-48-05	380-512MHz	-4.8, ±0.7	-1.8, ±0.3	67 / 33
49-38-06-05	380-512MHz	-6.0, ±1.0	-1.2, ±0.2	75 / 25
49-38-07-05	380-512MHz	-7.0, ±1.0	-1.0, ±0.2	80 / 20
49-38-10-05	380-512MHz	-10.0, ±1.0	-0.5, ±0.2	90 / 10
49-38-15-05	380-512MHz	-15.0	-0.2 max.	97 / 3
49-38-20-05	380-512MHz	-20.0	-0.2 max.	99 / 1
49-38-30-05	380-512MHz	-30.0	-0.2 max.	99.9 / 0.1
49-74-03-05	760-960MHz	-3.0, ±0.7	-3.0, ±0.3	50 / 50
49-74-48-05	760-960MHz	-4.8, ±0.7	-1.8, ±0.3	67 / 33
49-74-06-05	760-960MHz	-6.0, ±1.0	-1.2, ±0.2	75 / 25
49-74-07-05	760-960MHz	-7.0, ±1.0	-1.0, ±0.2	80 / 20
49-74-10-05	760-960MHz	-10.0, ±1.0	-0.5, ±0.2	90 / 10
49-74-15-05	760-960MHz	-15.0	-0.2 max.	97 / 3
49-74-20-05	760-960MHz	-20.0	-0.2 max.	99 / 1
49-74-30-05	760-960MHz	-30.0	-0.2 max.	99.9 / 0.1

50-FF-YY-XX Series

We offer a full line of compact couplers covering the frequency ranges from 138-174, 215-300, 350-520 or 740-960 MHz. The full range of coupling values provides balanced power division and distribution. The 50-FF series uses a multilayer bonded PCB design resulting in a high-performance compact design.

- Low insertion Loss,
- Excellent return Loss.
- Compact dimensions: 5.0x3.70x1.5 in.
- 3, 4.8, 6, 7, 10, 15, 20, 30 dB values.
- A high power of up to 200 Watts is also available.
- Integrated Mounting Bracket.



With Integrated 5-Watt Load	Frequency Range	Coupling Nom. (dB)	ThruLine Loss (dB)	Power Split Ratio (%)
50-13-03-05	138-174MHz	-3.0	-3.0 ±0.3	50 / 50
50-13-48-05	138-174MHz	-4.8	-1.8 ±0.2	67 / 33
50-13-06-05	138-174MHz	-6.0	-1.2 ±0.2	75 / 25
50-13-07-05	138-174MHz	-7.0	-1.0 ±0.2	80 / 20
50-13-10-05	138-174MHz	-10.0	-0.5 ±0.2	90 / 10
50-13-15-05	138-174MHz	-15.0	-0.14 ±0.2	97 / 3
50-13-20-05	138-174MHz	-20.0	-0.04 ±0.2	99 / 1
50-13-30-05	138-174MHz	-30.0	-0.04 ±0.2	99.9 / 0.1
50-21-03-05	215-300MHz	-3.0	-3.0 ±0.3	50 / 50
50-21-48-05	215-300MHz	-4.8	-1.8 ±0.2	67 / 33
50-21-06-05	215-300MHz	-6.0	-1.2 ±0.2	75 / 25
50-21-07-05	215-300MHz	-7.0	-1.0 ±0.2	80 / 20
50-21-10-05	215-300MHz	-10.0	-0.5 ±0.2	90 / 10
50-21-15-05	215-300MHz	-15.0	-0.14 ±0.2	97 / 3
50-21-20-05	215-300MHz	-20.0	-0.04 ±0.2	99 / 1
50-21-30-05	215-300MHz	-30.0	-0.04 ±0.2	99.9 / 0.1

50-FF-YY-XX Series

We offer a full line of compact couplers covering the frequency ranges from 138-174, 215-300, 350-520 or 740-960 MHz. The full range of coupling values provides balanced power division and distribution. The 50-FF series uses a multilayer bonded PCB design resulting in a high-performance compact design.

- Low insertion Loss,
- Excellent return Loss.
- Compact dimensions: 3.0x3.0x1.5 in.
- 3, 4.8, 6, 7, 10, 15, 20, 30 dB values.
- A high power of up to 200 Watts is also available.
- Integrated Mounting Bracket.



With Integrated 5-Watt Load	Frequency Range	Coupling Nom. (dB)	Thru-line Loss (dB)	Power Split Ratio (%)
50-35-03-05	350-520MHz	-3.0	-3.0 ±0.3	50 / 50
50-35-48-05	350-520MHz	-4.8	-1.8 ±0.2	67 / 33
50-35-06-05	350-520MHz	-6.0	-1.2 ±0.2	75 / 25
50-35-07-05	350-520MHz	-7.0	-1.0 ±0.2	80 / 20
50-35-10-05	350-520MHz	-10.0	-0.5 ±0.2	90 / 10
50-35-15-05	350-520MHz	-15.0	-0.14 ±0.2	97 / 3
50-35-20-05	350-520MHz	-20.0	-0.04 ±0.2	99 / 1
50-35-30-05	350-520MHz	-30.0	-0.04 ±0.2	99.9 / 0.1
50-74-03-05	740-960MHz	-3.0	-3.0 ±0.3	50 / 50
50-74-48-05	740-960MHz	-4.8	-1.8 ±0.2	67 / 33
50-74-06-05	740-960MHz	-6.0	-1.2 ±0.2	75 / 25
50-74-07-05	740-960MHz	-7.0	-1.0 ±0.2	80 / 20
50-74-10-05	740-960MHz	-10.0	-0.5 ±0.2	90 / 10
50-74-15-05	740-960MHz	-15.0	-0.14 ±0.2	97 / 3
50-74-20-05	740-960MHz	-20.0	-0.04 ±0.2	99 / 1
50-74-30-05	740-960MHz	-30.0	-0.04 ±0.2	99.9 / 0.1

26-35-YY-NF Series

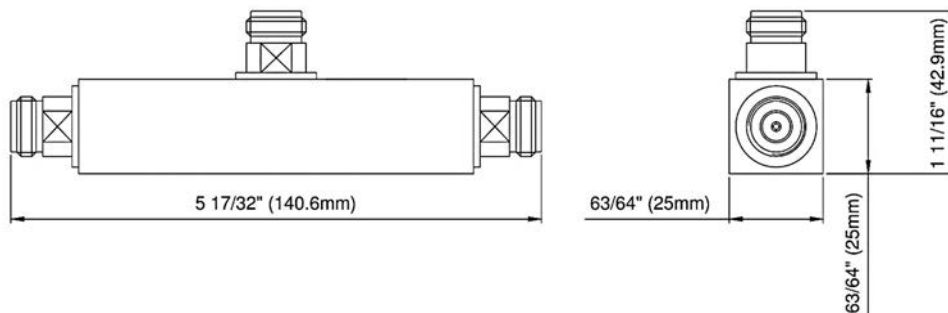
We offer a full line of tappers covering the frequency ranges from 350-2700 MHz.

- Low insertion loss. Lower PIM versions available with DIN 7/16 Connector
- Compact dimensions: 5.5 x 1.0 x 1.7 in.
- 5, 6, 10, 15, 20, 30 dB values
- Average power of 200 Watts and with supplied mounting bracket

Electrical Specifications	26-35-YY-NF
Frequency Range, MHz	350-2700
Insertion Loss, dB	< 0.1
VSWR	1.2:1
Power Rating, Watts	200
PIM, dBc	150 (2 x 20W carriers)
Nominal Impedance – In/Out, Ohms	50
Environmental Specifications	26-35-YY-NF
Temperature Range, °C	-35 to +75
Mechanical Specifications	26-35-YY-NF
Dimensions (H x W x D), in. (mm)	1.7 x 5.5 x 1.0 (42.9 x 140.6 x 25)
Connectors	N Female
Mounting Information	Mounting bracket supplied



Model	Frequency Range	Split Ratio (dB)	Power Ratio (%)
26-35-05-NF	350-2700 MHz	5.0	70 / 30
26-35-06-NF	350-2700 MHz	6.0	75 / 25
26-35-10-NF	350-2700 MHz	10.0	90 / 10
26-35-15-NF	350-2700 MHz	15.0	97 / 3
26-35-20-NF	350-2700 MHz	20.0	99 / 1
26-35-30-NF	350-2700 MHz	30.0	99.9 / 0.1



26-69-YY-NF Series

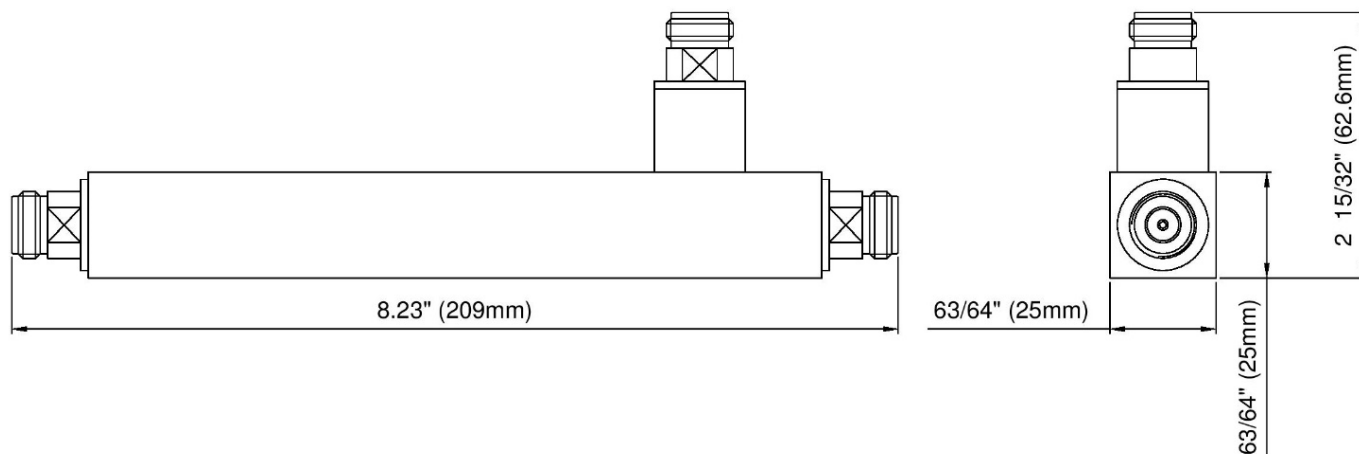
We offer a full line of tappers covering the frequency ranges from 698-2700 MHz.

- Low insertion loss. Low-PIM versions available with DIN 7/16 Connector
- Compact dimensions: 8.2 x 1.0 x 2.5 in. with 5, 6, 10, 15 dB values
- Average power of 200 Watts and with supplied mounting bracket

Electrical Specifications		26-69-YY-NF	
Frequency Range, MHz	698-2700		
Insertion Loss, dB	< 0.1		
VSWR	1.2:1		
Power Rating, Watts	200		
PIM, dBc	150 (2 x 20W Carriers)		
Nominal Impedance – In/Out, Ohms	50		
Environmental Specifications		26-69-YY-NF	
Temperature Range, °C	-35 to +75		
Mechanical Specifications		26-69-YY-NF	
Dimensions (H x W x D), in. (mm)	2.5 x 8.23 x 1.0 (62.6 x 209 x 25)		
Connectors	N Female		
Mounting Information	Mounting bracket supplied		
Model	Frequency Range	Split Ratio (dB)	Power Ratio (%)
26-69-05-NF	698-2700 MHz	5.0	70 / 30
26-69-06-NF	698-2700 MHz	6.0	75 / 25
26-69-10-NF	698-2700 MHz	10.0	90 / 10
26-69-15-NF	698-2700 MHz	15.0	97 / 3



Mounting Bracket



26-69-YY-NF Series

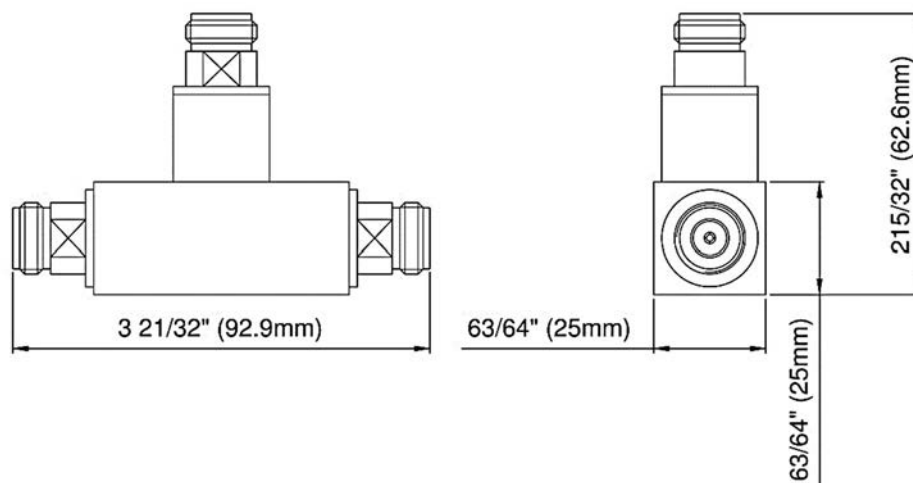
We offer a full line of tappers covering the frequency ranges from 698-2700 MHz.

- Low insertion loss. Low-PIM versions available with DIN 7/16 Connector
- Compact dimensions: 3.7 x 1.0 x 2.5 in. with 20, 30 dB values
- Average power of 200 Watts and with supplied mounting bracket

Electrical Specifications		26-69-YY-NF	
Frequency Range, MHz		698-2700	
Insertion Loss, dB		< 0.1	
VSWR		1.2:1	
Power Rating, Watts		200	
PIM, dBc		150 (2 x 20W Carriers)	
Nominal Impedance – In/Out, Ohms		50	
Environmental Specifications		26-69-YY-NF	
Temperature Range, °C		-35 to +75	
Mechanical Specifications		26-69-YY-NF	
Dimensions (H x W x D), in. (mm)		2.5 x 3.66 x 1.0 (62.6 x 92.9 x 25)	
Connectors		N Female	
Mounting Information		Mounting bracket supplied	
Model	Frequency Range	Split Ratio (dB)	Power Ratio (%)
26-69-20-NF	698-2700 MHz	20.0	99 / 1
26-69-30-NF	698-2700 MHz	30.0	99.9 / 0.1



Mounting Bracket



27-35-02-NF

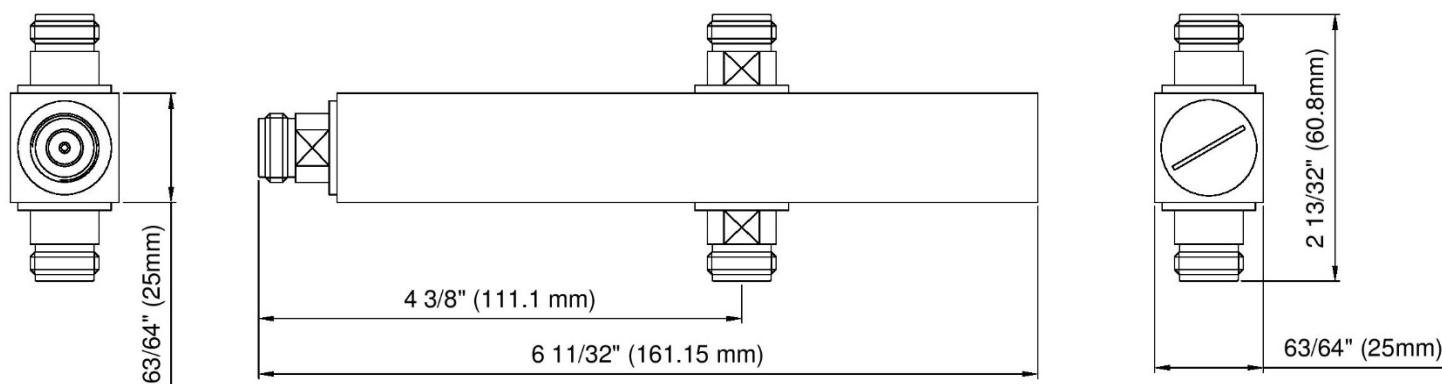
We offer a full line of splitters covering the frequency range of 350-2700 MHz. Available in a 2-way or 3-way configuration.

- Low insertion loss. Low-PIM versions available with DIN 7/16 Connector
- Compact dimensions: 6.3 x 1.0 x 2.4 in.
- 3 dB values
- Average power of 300 Watts and with supplied mounting bracket

Electrical Specifications		27-35-02-NF	
Frequency Range, MHz		350-2700	
Insertion Loss, dB		< 0.1	
VSWR		1.2:1	
Power Rating, Watts		300	
PIM, dBc		150 (2 x 20W carriers)	
Nominal Impedance – In/Out, Ohms		50	
Environmental Specifications		27-35-02-NF	
Temperature Range, °C		-35 to +75	
Mechanical Specifications		27-35-02-NF	
Dimensions (H x W x D), in. (mm)		2.4 x 6.3 x 1.0 (60.8 x 161.15 x 25)	
Connectors		N Female	
Mounting Information		Mounting bracket supplied	
Model	Frequency Range	Split Ratio (dB)	Power Ratio (%)
27-35-02-NF	350-2700 MHz	3.0	50



Mounting Bracket



27-35-03-NF

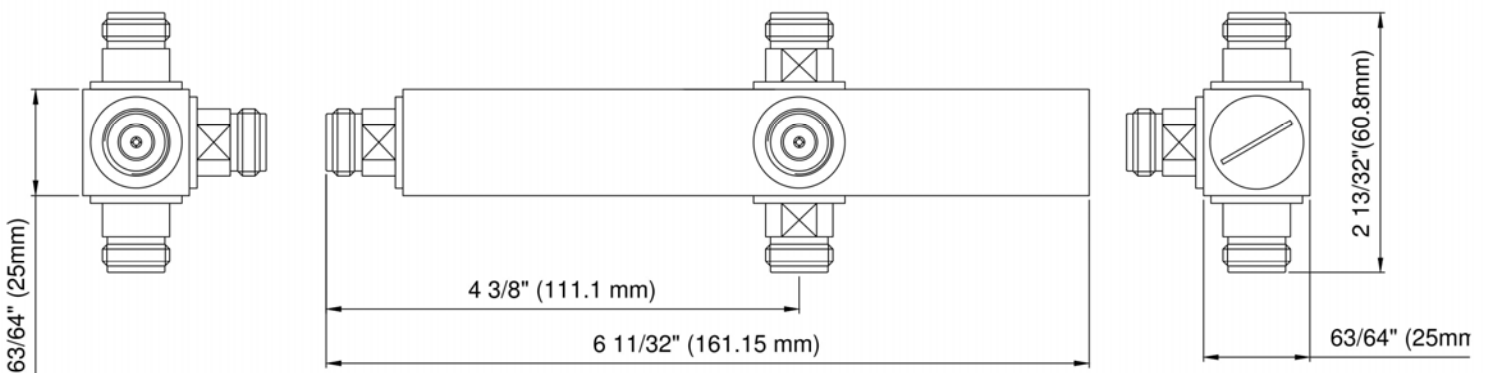
We offer a full line of splitters covering the frequency range of 350-2700 MHz. Available in a 2-way or 3-way configuration.

- Low insertion loss. Low-PIM versions available with DIN 7/16 Connector
- Compact dimensions: 6.3 x 1.0 x 2.4 in.
- 5 dB values
- Average power of 300 Watts and with supplied mounting bracket

Electrical Specifications		27-35-03-NF	
Frequency Range, MHz		350-2700	
Insertion Loss, dB		< 0.1	
VSWR		1.2:1	
Power Rating, Watts		300	
PIM, dBc		150 (2 x 20W carriers)	
Nominal Impedance – In/Out, Ohms		50	
Environmental Specifications		27-35-03-NF	
Temperature Range, °C		-35 to +75	
Mechanical Specifications		27-35-03-NF	
Dimensions (H x W x D), in. (mm)		2.4 x 6.3 x 1.0 (60.8 x 161.15 x 25)	
Connectors		N Female	
Mounting Information		Mounting bracket supplied	
Model	Frequency Range	Split Ratio (dB)	Power Ratio (%)
27-35-03-NF	350-2700 MHz	5.0	33



Mounting Bracket



27-13-0X-NF

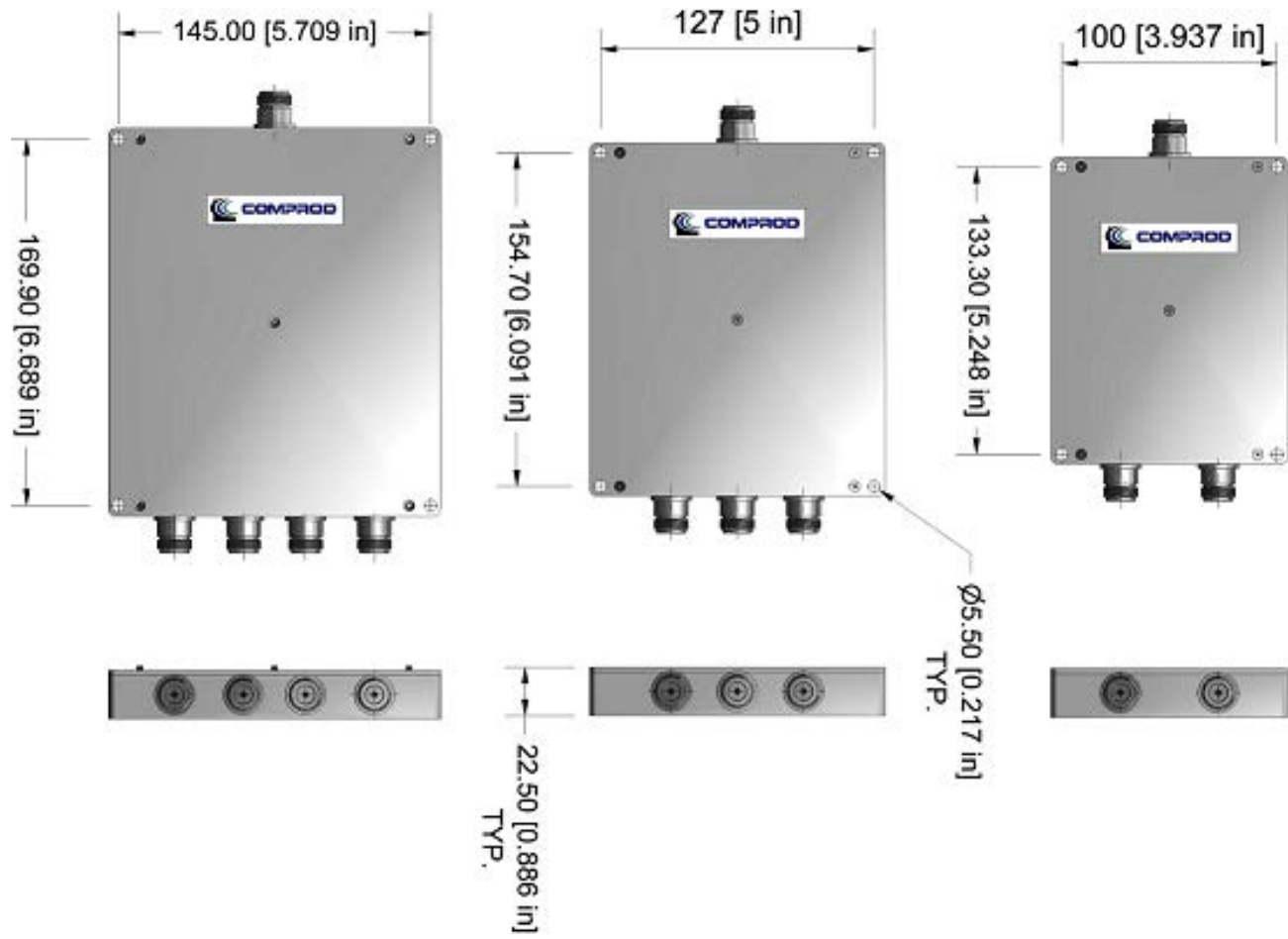
The Wide-band design series 27-13-0X-NF covers the range of 130-1000 MHz

- Available in 2 way, 3-way or 4-way configuration.
- 300-Watt power Handling
- Airline design to achieve minimum insertion loss
- Low-PIM Available
- Suitable for outdoor and indoor applications
- RoHS 2.0 compliant



Model	No of Splits	Insertion Loss (dB)	Input Return Loss (dB)
27-13-02-NF	2	3.1 ± 0.15	>18 (16@130-140MHz)
27-13-03-NF	3	4.8 ± 0.3	>18
27-13-04-NF	4	6.15±0.3	>18

Electrical Specifications	
Frequency Range, MHz	130-1000 MHz
Impedance	50 Ω
Power Rating	300 avg., 1 Kw PK.
Power Rating, Watts	300
Connector	N(f)
Environmental Specifications	
Temperature Range, °C	-35 to +75
Power handling @room temperature, sea level	300 W max. Avg; 1000 W max. peak
Lightning Test	± 5 kA 8/20 us
30 day salt fog testing	GR-487- CORE
Dust & Immersion Testing	IP67
Relative Humidity	5% - 95%
MTBF	>1,000,000 hours
EMC	ETS 300 342-3
RoHS	RoHS 2.0 compliant
Mechanical Specifications	
Dimensions (H x W x D), in. (mm)	See outline drawings
Surface Treatment	Passivated Aluminum
Protection ground	M6 Screw
Connectors	N Female



26-13-0X-NF

The Wide-band design series 26-13-0X-NF covers the range of 130-1000 MHz

- 300-Watt power Handling
- Airline design to achieve minimum insertion loss
- Low-PIM Available
- Suitable for outdoor and indoor applications
- RoHS 2.0 compliant

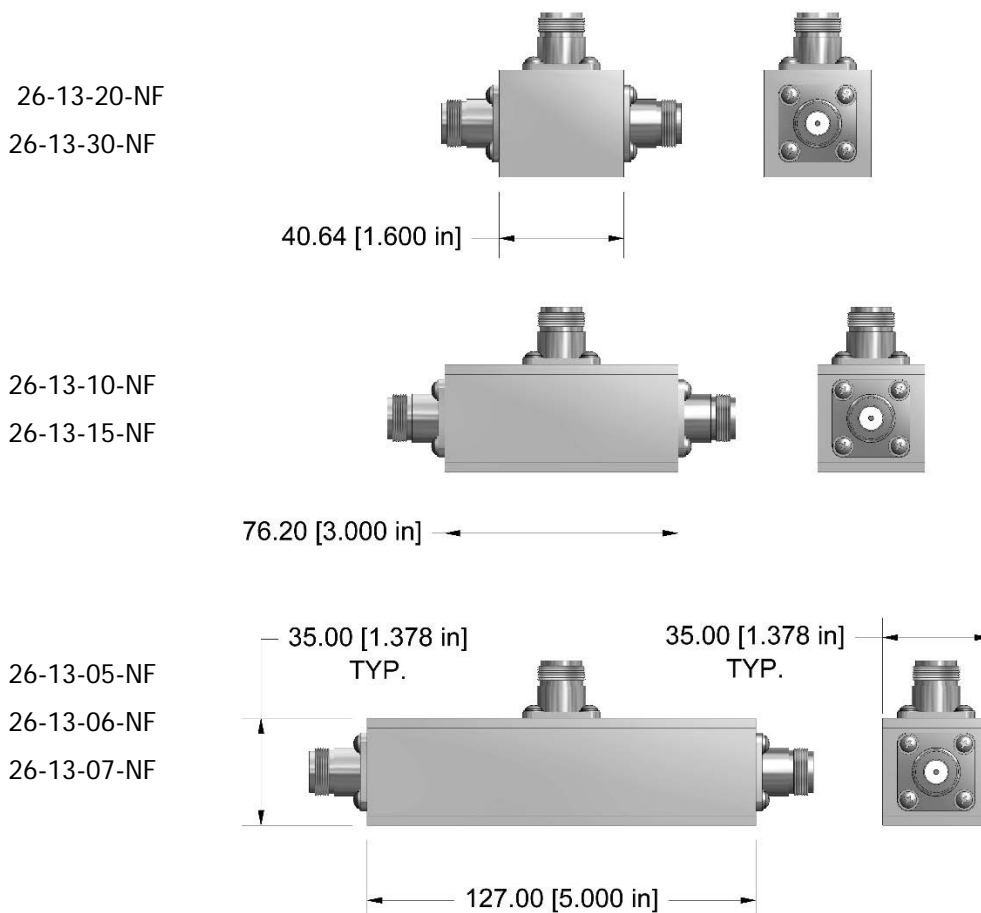


Model	Coupling (dB)		Main Line Insertion Loss (dB)	Unit Length L. (in)
	130-300 MHz	300-1000 MHz		
26-13-05-NF	6.5 ± 0.5	5 ± 0.8	1.65	5
26-13-06-NF	7.2 ± 0.8	6 ± 0.8	1.25	5
26-13-07-NF	8.0 ± 0.8	7 ± 0.6	0.97	5
26-13-10-NF	11 ± 1.0	10 ± 0.5	0.45	3
26-13-15-NF	15 ± 1.0	15 ± 1.0	0.14	3
26-13-20-NF	20 ± 1.0	20 ± 1.0	0.04	1.6
26-13-30-NF	30 ± 1.0	30 ± 1.0	0.004	1.6
Electrical Specifications				
Frequency Range, MHz	130-1000 MHz			
Input RL	>20 dB typ., 17 dB min			
Impedance	50 Ω			
Power Rating	300 avg., 1 Kw PK.			
Connector	N(f) Triplate			
Environmental Specifications				
Temperature Range, °C	-35 to +75			
Power handling @room temperature, sea level	300 W max. Avg; 1000 W max. peak			
Lightning Test	± 5 kA 8/20 us			
30-day salt fog testing	GR-487- CORE			
Dust & Immersion Testing	IP67			
Relative Humidity	5% - 95%			
MTBF	>1,000,000 hours			
EMC	ETS 300 342-3			
RoHS	RoHS 2.0 compliant			

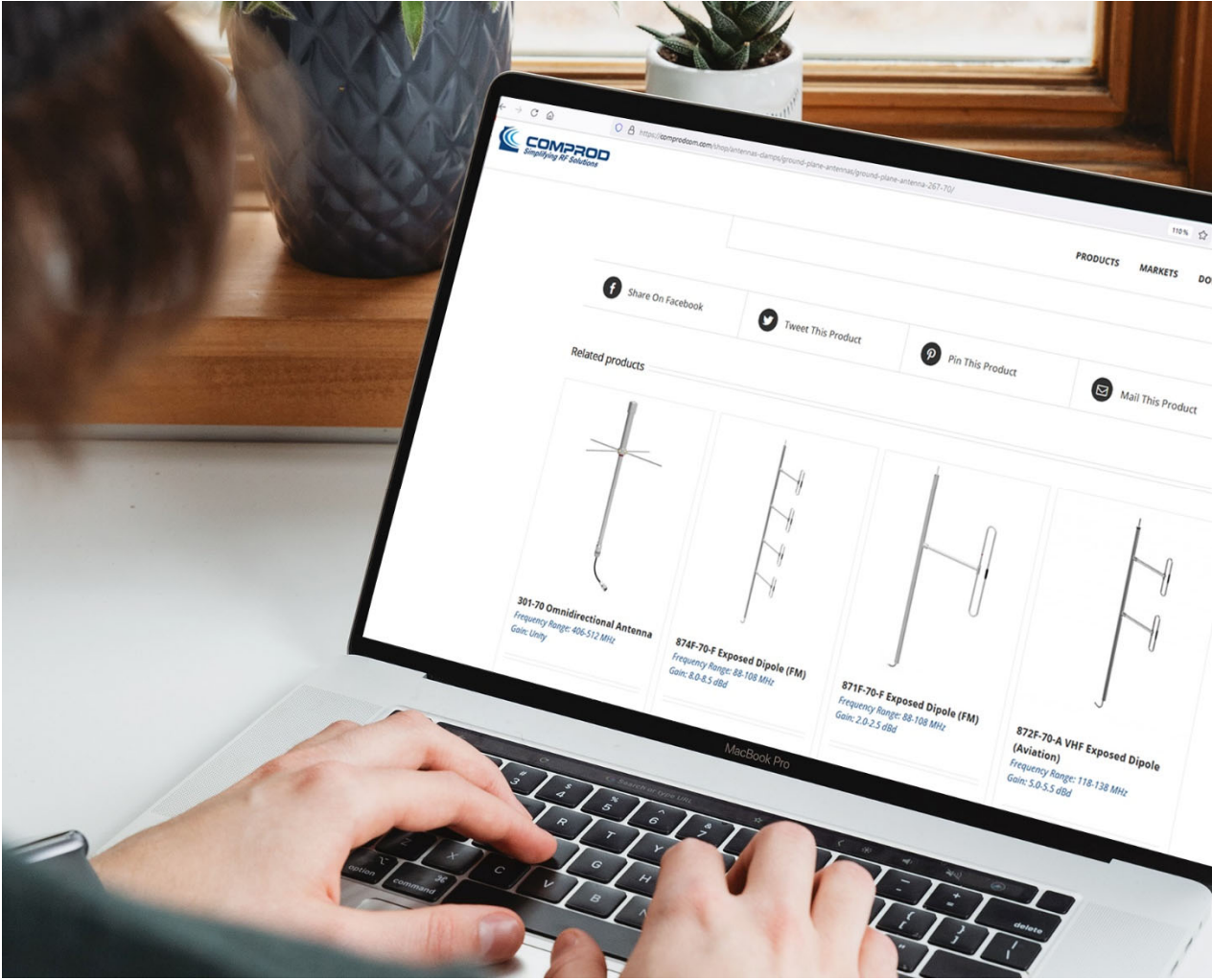


26-13-0X-NF

Mechanical Specifications	
Dimensions (H x W x D), in. (mm)	See outline drawings
Surface Treatment	Passivated Aluminum
Protection ground	M6 Screw
Connectors	N Female



Ordering Information



Base Station Antennas

GROUND PLANE ANTENNA

Page 10

Order Information	Black Anodized	406-430 MHz	430-450 MHz	450-470 MHz	118-136 MHz	136-148 MHz	148-174 MHz
265-70		N/A			265-70*1	265-70*2	265-70*3
266-70		N/A			266-70*1	266-70*2 (136-174 MHz)	
267-70	267-70-B	N/A			267-70	N/A	
268-70	N/A	268-70*1	268-70*2	268-70*3	N/A		

OMNIDIRECTIONAL ANTENNA SERIES

Page 12

Order Information	30-35 MHz	35-40 MHz	40-45 MHz	45-50 MHz	50-174 MHz	406-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	740-900 MHz	806-960 MHz
201-70	201-70*1	201-70*2	201-70*3	201-70*4	201-70*5	N/A					
301-70	N/A					301-70*1	301-70*2	301-70*3	301-70*4	N/A	
401-70	N/A									401-70*1	401-70*2

COLLINEAR OMNIDIRECTIONAL ANTENNA

Page 14

Order Information	746-806 MHz	806-869 MHz	885-960 MHz
928-70	928-70*1	928-70*2	928-70*3

EXPOSED DIPOLE ANTENNA

Page 16

Order Information	30-32 MHz	32-34 MHz	34-36 MHz	36-38 MHz	38-41 MHz	41-44 MHz	44-47 MHz	47-50 MHz	Black Anodized
531-70	531-70*1	531-70*2	531-70*3	531-70*4	531-70*5	531-70*6	531-70*7	531-70*8	
532-70	532-70*1	532-70*2	532-70*3	532-70*4	532-70*5	532-70*6	532-70*7	532-70*8	
531-70-HD	531-70-HD*1	531-70-HD*2	531-70-HD*3	531-70-HD*4	531-70-HD*5	531-70-HD*6	531-70-HD*7	531-70-HD*8	531-70-HDB
532-70-HD	532-70-HD*1	532-70-HD*2	532-70-HD*3	532-70-HD*4	532-70-HD*5	532-70-HD*6	532-70-HD*7	532-70-HD*8	531-70-HDB

FM EXPOSED DIPOLES

Order Information	Adjustable	Heavy Duty	Side Mount	Top Mount	Black Anodized	Low-PIM
871F-70-F	871A-70-F	871F-70-FHD	871F-70-FSM	871F-70-FTM	871F-70-FHDB	871F-70-FHDP
872F-70-F	872A-70-F	872F-70-FHD	872F-70-FSM	872F-70-FTM	872F-70-FHDB	872F-70-FHDP
874F-70-F	874A-70-F	874F-70-FHD	874F-70-FSM	874F-70-FTM	874F-70-FHDB	874F-70-FHDP

VHF EXPOSED DIPOLES (870 Series Aviation)

Order Information	Adjustable	Heavy Duty	Side Mount	Top Mount	Black Anodized	Low-PIM
871F-70-A	871A-70-A	871F-70-AHD	871F-70-ASM	871F-70-ATM	871F-70-AHDB	871F-70-AHDP
872F-70-A	872A-70-A	872F-70-AHD	872F-70-ASM	872F-70-ATM	872F-70-AHDB	872F-70-AHDP
874F-70-A	874A-70-A	874F-70-AHD	874F-70-ASM	874F-70-ATM	874F-70-AHDB	874F-70-AHDP

VHF EXPOSED DIPOLES (870 Series)

Order Information	Adjustable	Heavy Duty	Side Mount	Top Mount	Black Anodized	Low-PIM
871F-70	871A-70	871F-70HD	871F-70SM	871F-70TM	871F-70HDB	871F-70HDP
872F-70	872A-70	872F-70HD	872F-70SM	872F-70TM	872F-70HDB	872F-70HDP
874F-70	874A-70	874F-70HD	874F-70SM	874F-70TM	874F-70HDB	874F-70HDP

VHF EXPOSED DIPOLES (870 LM Series) – Without Mast

Order Information	Heavy Duty	Black Anodized	With Mast
871A-70-LM	871A-70-LMHD	871A-70-LMHDB	871A-70
872A-70-LM	872A-70-LMHD	872A-70-LMHDB	872A-70
874A-70-LM	874A-70-LMHD	874A-70-LMHDB	874A-70

VHF EXPOSED DIPOLES (830 Light Duty Series)

Order Information	148-162 MHz	160-174 MHz
832-70	832-70*1	832-70*2
834-70	834-70*1	834-70*2

VHF EXPOSED DIPOLE ARRAY

Order Information	Heavy Duty	Black Anodized	Low-PIM
882-70-A	882-70-AHD	882-70-AHDB	882-70-AHDP
884-70-A	884-70-AHD	884-70-AHDB	884-70-AHDP

VHF EXPOSED DIPOLES (780 Series)

Order Information	Heavy Duty	Black Anodized	Low-PIM
882-70	882-70-HD	882-70-HDB	882-70-HDP
884-70	884-70-HD	884-70-HDB	884-70-HDP

220MHz EXPOSED DIPOLES

Order Information	Heavy Duty	Side Mount	Top Mount	Black Anodized	Low-PIM
871F-70-2	871F-70-2HD	871F-70-2SM	871F-70-2TM	871F-70-2HDB	871F-70-2HDP
872F-70-2	872F-70-2HD	872F-70-2SM	872F-70-2TM	872F-70-2HDB	872F-70-2HDP
874F-70-2	874F-70-2HD	874F-70-2SM	874F-70-2TM	874F-70-2HDB	874F-70-2HDP

UHF EXPOSED DIPOLES (770 Series)

Order Information	406-470 MHz	450-512 MHz	Side Mount	Top Mount	Heavy Duty	Black Anodized	Low-PIM
771-70	771-70 (406-512 MHz)		771-70-SM	771-70-TM	771-70-HD	771-70-HDB	771-70-HDP
772-70	772-70 (406-512 MHz)		772-70-SM	772-70-TM	772-70-HD	772-70-HDB	772-70-HDP
774-70	774-70 (406-512 MHz)		774-70-SM	774-70-TM	N/A	774-70-HDB	774-70-HDP
778-70	778-70*1	778-70*2	778-70-SM	778-70-TM	(Available as HD and	778-70-HDB	778-70-HDP

UHF EXPOSED DIPOLES (780 Series)

Order Information	Heavy Duty	Black Anodized	Low-PIM	406-470MHz	450-512MHz
782-70	782-70-HD	782-70-HDB	782-70-HDP	782-70*1	782-70*2
784-70	784-70-HD	784-70-HDB	784-70-HDP	784-70*1	784-70*2

DUAL EXPOSED DIPOLE ARRAY

Order Information	Frequency	Equivalent to	40 dB Isolation	Side Mount	Top Mount	Heavy-Duty	Black Anodized	Low-PIM
776-70	406-512MHz	Dual 772-70	776-70-40	776-70-SM	776-70-TM	776-70-HD	776-70-HDB	776-70-HDP
876-70	138-174MHz	Dual 872-70	876-70-40	876-70-SM	876-70-TM	876-70-HD	876-70-HDB	876-70-HDP

DUAL ANTENNA ARRAY

Order Information	Side Mount	Top Mount	Black Anodized	Low-PIM
F-3676	F-3676-SM	F-3676-TM	F-3676-B	F-3676-P
F-3661	F-3661-SM	F-3661-TM	F-3661-B	F-3661-P
F-3647	F-3647-SM	F-3647-TM	F-3647-B	F-3647-P

VHF EXPOSED DIPOLES WITH REFLECTORS

Order Information	Side Mount	Top Mount	Black Anodized	Low-PIM
F-3729	F-3729-SM	F-3729-TM	F-3729-SMB	F-3729-P
F-3713	F-3713-SM	F-3713-TM	F-3713-SMB	F-3713-P
F-3766	F-3766-SM	F-33228 (Mid Mount)	F-3766-SMB	F-3766-P

790 SERIES ENCLOSED DIPOLE

Order Information	746-896MHz	Low-PIM
792-70	792-70	792-70-P
794-70	794-70	794-70-P
799-70	799-70	799-70-P

790 SERIES ENCLOSED DIPOLE WITH REFLECTOR

Order Information	746-960MHz	Low-PIM
792-70-R	792-70-R	792-70-RP
794-70-R	794-70-R	794-70-RP
799-70-R	799-70-R	799-70-RP

VHF YAGI ANTENNA

Order Information	End Mount	Extended Boom	Center Mount	Heavy Duty	Black Anodized	(2) Stacked
291-70	291-70	N/A		291-70-HD	291-70-B	N/A
295-70	295-70	N/A	295-70-CB	295-70-HD	295-70-B	N/A
290-70	290-70	290-70-EB	290-70-CB	290-70-HD	290-70-B	298-70
250-70	250-70	250-70	N/A	250-70-HD	250-70-B	Call

220MHz YAGI ANTENNA

Order Information	Extended Boom	Heavy Duty	Black Anodized	(2) Stacked
291-70-2	291-70-2EB	291-70-2HD	291-70-2HDB	N/A
295-70-2	295-70-2EB	295-70-2HD	295-70-2HDB	N/A
290-70-2	290-70-2EB	290-70-2HD	290-70-2HDB	298-70-2

UHF YAGI ANTENNA

Order Information	380-400 MHz	406-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz	Black anodized	(2) Stacked	(4) Stacked
F-3872	N/A	F-3872*1	F-3872*2	F-3872*3	F-3872*4	F-3872*5	F-3872-B	N/A	
433-70	N/A	433-70*1	433-70*2	433-70*3	433-70*4	433-70*5	433-70-B	N/A	
430-70	430-70*6	430-70*1	430-70*2	430-70*3	430-70*4	430-70*5	430-70-B	431-70	(4)430-70
480-70	N/A	480-70*1 (406-470MHz)		480-70*2 (450-512MHz)			480-70-B	(2)480-70	(4)480-70
437--70	N/A	437-70*1		437-70*2			437-70-B	(2)437-70	(4)437-70

980 YAGI ANTENNAS SERIES

Order Information	746-806 MHz	764-870 MHz	806-869 MHz	824-896 MHz	896-960 MHz	Black anodized	(2) Stacked
982-70	900-930 MHz offered						N/A
983-70	983-70*1	N/A	983-70*2	983-70*3	983-70*4	983-70-B	N/A
980-70	980-70*1	980-70*5	980-70*2	980-70*3	980-70*4	980-70-B	981-70
987-70	987-70*1	N/A	987-70*2	987-70*3	987-70*4	987-70-B	(2)987-70

490 HEAVY-DUTY YAGI ANTENNAS SERIES

Order Information	806-869 MHz	824-896 MHz	896-960 MHz	Black Anodized	(2) Stacked	With Radome
490-70-HD	490-70-HD*1	490-70-HD*2	490-70-HD*3	490-70-HDB	491-70-HD	490-70-HDR (See below)

RADOME YAGI ANTENNA

Order Information	(2) Stacked	(4) Stacked	406-430 MHz	430-450 MHz	450-470 MHz	806-869 MHz	824-896 MHz	896-960 MHz
425-70-HDR	(2)425-70-HDR	(4)425-70-HDR	425-70-HDR*1	425-70-HDR*2	425-70-HDR*3	N/A		
426-70-R	(2)426-70-R	(4)426-70-R	426-70-R*1	426-70-R*2	426-70-R*3	N/A		
490-70-HDR	(2)490-70-HDR	(4)490-70-HDR	490-70-HDR*4 (746-806MHz)			490-70-HDR*1	490-70-HDR*2	490-70-HDR*3

UHF CORNER REFLECTOR

Order Information	406-470 MHz	448-512 MHz	406-430 MHz	430-450 MHz	450-470 MHz
440-70	440-70*1	440-70*2	N/A		
440-70-HD	440-70-HD*1	440-70-HD*2	N/A		
442-70-HD	442-70-HD*1	442-70-HD*2	N/A		
365-70-HD	N/A		365-70-HD*1	365-70-HD*2	365-70-HD*3

PARABOLIC DIRECTIONAL ANTENNA

Frequency	Order Information	Black Anodized	With Radome
764-836 MHz	965-70-HD*1	965-70-HDB*1	965-70-HDBR*1
824-896 MHz	965-70-HD*2	965-70-HDB*2	965-70-HDBR*2
896-960 MHz	965-70-HD*3	965-70-HDB*3	965-70-HDBR*3

LOG PERIODIC ANTENNA (VHF)

Order Information	End Mount	Center Mount
635-70	635-70	636-70
655-70 (2) Stacked	655-70	N/A
638-70	638-70	N/A

Order Information	406-440MHz	435-470MHz	406-470MHz	450-470MHz	470-512MHz
415-70	415-70*1	415-70*2	N/A		415-70*3
465-70	N/A		465-70*1	465-70*2	

Filters

Order Information	Single			Dual			Triple		
4" x 4" Cavity	61-FF-41			61-FF-42			61-FF-43		
6.625" Cavity	61-FF-71			61-FF-72			61-FF-73		
10" Cavity	61-FF-01			61-FF-02			61-FF-03		

Order Information	138-150 MHz	148-174 MHz	308-406 MHz	406-420 MHz	420-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz
61-FF-X1	61-14-X1		61-38-X1						
61-FF-X2	61-13-X2	61-14-X2	61-38-X2	61-40-X2	61-42-X2	61-43-X2	61-45-X2	61-47-X2	61-49-X2
61-FF-X3	61-13-X3	61-14-X3	61-38-X3	61-40-X3	61-42-X3	61-43-X3	61-45-X3	61-47-X3	61-49-X3

Order Information	Single			Dual			Triple		
4" x 4" Cavity	62-FF-41			62-FF-42			62-FF-43		
6.625" Cavity	62-FF-71			62-FF-72			62-FF-73		
10" Cavity	62-FF-01			62-FF-02			62-FF-03		

Order Information	138-150 MHz	148-174 MHz	308-406 MHz	406-420 MHz	420-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz
62-FF-X1	62-14-X1		62-38-X1						
62-FF-X2	62-13-X2	62-14-X2	62-38-X2	62-40-X2	62-42-X2	62-43-X2	62-45-X2	62-47-X2	62-49-X2
62-FF-X3	62-13-X3	62-14-X3	62-38-X3	62-40-X3	62-42-X3	62-43-X3	62-45-X3	62-47-X3	62-49-X3

NOTCH CAVITY

Order Information	Single	Dual	Triple
4" x 4" Cavity	63-FF-41	63-FF-42	63-FF-43
6.625" Cavity	63-FF-71	63-FF-72	63-FF-73
10" Cavity	63-FF-01	63-FF-02	63-FF-03

Order Information	138-150 MHz	148-174 MHz	308-406 MHz	406-420 MHz	420-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz
63-FF-71	63-13-71		63-38-71						
63-FF-72	63-13-72	63-14-72	63-38-72	63-40-72	63-42-72	63-43-72	63-45-72	63-47-72	63-49-72
63-FF-73	63-13-73	63-14-73	63-38-73	63-40-73	63-42-73	63-43-73	63-45-73	63-47-73	63-49-73

XMF BAND PASS MULTICOUPLER VHF (4" x 4")

Order Information	138-150 MHz	148-174 MHz
60-FF-43	60-13-43	60-14-43

XMF BAND PASS MULTICOUPLER VHF (7")

Order Information	138-150 MHz	148-174 MHz
60-FF-71	60-13-71	60-14-71
60-FF-72	60-13-72	60-14-72
60-FF-73	60-13-73	60-14-73

XMF BAND PASS MULTICOUPLER UHF (4" x 4")

Order Information	308-406 MHz	406-420 MHz	420-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz
60-FF-43	60-38-43	60-40-43	60-42-43	60-43-43	60-45-43	60-47-43	60-49-43

XMF BAND PASS MULTICOUPLER UHF (7")

Order Information	308-406 MHz	406-420 MHz	420-430 MHz	430-450 MHz	450-470 MHz	470-490 MHz	490-512 MHz
60-38-71				60-38-71			
60-FF-72	60-38-72	60-40-72	60-42-72	60-43-72	60-45-72	60-47-72	60-49-72
60-FF-73	60-38-73	60-40-73	60-42-73	60-43-73	60-45-73	60-47-73	60-49-73

PASS-REJECT DUPLEXER

Order Information	138-150 MHz	148-174 MHz	308-406 MHz	406-430 MHz	430-450 MHz	450-470 MHz	470-512 MHz
66-FF-74	66-13-74	66-14-74	66-38-74	66-40-74	66-43-74	66-45-74	66-47-74
66-FF-76	66-13-76	66-14-76	-	-	-	-	-

2-INCH CAVITY PASS-REJECT DUPLEXERS (66-FF-2P)

Order Information	138-150 MHz	148-174 MHz	138-150 MHz	148-174 MHz
66-FF-2P	66-13-24	66-14-24	66-13-36	66-14-26
Wall Mount	66-13-24-WM	66-14-24-WM	66-13-36-WM	66-14-26-WM

4-INCH CAVITY PASS-REJECT DUPLEXERS (66-FF-44)

Order Information	138-174 MHz	380-406 MHz	406-512 MHz	746-806 MHz	806-896 MHz	896-960 MHz
66-FF-44	66-13-44	66-38-44	66-40-44	66-74-44	66-80-44	66-89-44
Wall Mount	66-13-44-WM	66-38-44-WM	66-40-44-WM	66-74-44-WM	66-80-44-WM	66-89-44-WM

4-INCH CAVITY PASS-REJECT DUPLEXERS (66-FF-46)

Order Information	138-174 MHz	380-406 MHz	406-470 MHz	470-512 MHz	746-806 MHz	806-896 MHz	896-960 MHz
66-FF-46	66-13-46	66-38-46	66-40-46	66-47-46	66-74-46	66-80-46	66-89-46
Wall Mount	66-13-46-WM	66-38-46-WM	66-40-46-WM	66-47-46-WM	66-74-46-WM	66-80-46-WM	66-89-46-WM

4-INCH CAVITY MOBILE DUPLEXERS

Order Information	144-155 MHz	150-165 MHz	160-174 MHz	406-435 MHz	430-470 MHz
534-90	534-90*1	534-90*2	534-90*3	-	-
504-90	-	-	-	504-90*1	504-90*2

6-INCH CAVITY MOBILE DUPLEXERS

Order Information	144-155 MHz	150-165 MHz	160-174 MHz	406-435 MHz	430-470 MHz	470-512 MHz
536-90	536-90*1	536-90*2	536-90*3	-	-	-
506-90	-	-	-	506-90*1	506-90*2	506-90*3

BASE STATION DUPLEXERS

Order Information	Frequency range MHz	Frequency Spacing MHz	Cavity Size, in (H x W x D)
66-13-44-RE	138-174	2	4 x 4 x 10
66-40-34-RE	406-512	5	4 x 3 x 6

X-PASS CAVITY

Order Information	Single
4" x 4" Cavity	68-FF-41
6.625" Cavity	68-FF-71
10" Cavity	68-FF-01

EXPANDABLE TRANSMIT COMBINER (7" and 10") 108-1000 MHz

Order Information	Single Channel	2 - Channel	3 - Channel	4 - Channel	5 - Channel	6 - Channel	8 - Channel
4" Cavity	XTC-FF-41D	XTC-FF-42D	XTC-FF-43D	XTC-FF-44D	XTC-FF-45D	XTC-FF-46D	XTC-FF-48D
6.625" Cavity	XTC-FF-71D	XTC-FF-72D	XTC-FF-73D	XTC-FF-74D	XTC-FF-75D	XTC-FF-76D	XTC-FF-78D
10" Cavity	XTC-FF-01D	XTC-FF-02D	XTC-FF-03D	XTC-FF-04D	XTC-FF-05D	XTC-FF-06D	XTC-FF-08D

up to 12 channels configuration available

8N - FF - 8X ILX ILB P I

8N	1,2	Number of Cavities per TX
FF	First 2 digits of Freq.	38-94=380-940 MHz
8X	1-6	Number of Channels
ILX	A=1 B=1.5 C=2	X Pass Insertion Loss
ILB	A=None B=0.5 C=1 D=1.5	Band Pass Insertion Loss
P	L/H	Power level (Low = 60W, High = 100W)
I	S/D	Single or Double Isolator Stages

Example: Model # 81-45-84BAHD

TX Combiner, 1 cavity per channel, UHF 450-470MHz, 4 Channel, Each X-pass cavity set @ 1.5 dB, No BP Cavity, 100-Watt system, Dual Isolators

Order Information	Rack Mount	Cavity Mount	Tray Mount	Power Supply	Preselectors
XRM-13-02	XRM-13-02-RM	XRM-13-02-CM	XRM-13-02-TRM	XRM-13-02-PS	XRM-13-02-P
XRM-13-04	XRM-13-04-RM	XRM-13-04-CM	XRM-13-04-TRM	XRM-13-04-PS	XRM-13-04-P
XRM-13-08	XRM-13-08-RM	XRM-13-08-CM	XRM-13-08-TRM	XRM-13-08-PS	XRM-13-08-P
XRM-13-16	XRM-13-16-RM	XRM-13-16-CM	XRM-13-16-TRM	XRM-13-16-PS	XRM-13-16-P
XRM-13-32	XRM-13-32-RM	XRM-13-32-CM	XRM-13-32-TRM	XRM-13-32-PS	XRM-13-32-P

*with preselectors, the receiver multicoupler is offered in frequency splits. (138-150MHz or 148-174MHz)

Order Information	Rack Mount	Cavity Mount	Tray Mount	Power Supply	Preselectors
XRM-38-02	XRM-38-02-RM	XRM-38-02-CM	XRM-38-02-TRM	XRM-38-02-PS	XRM-38-02-P
XRM-38-04	XRM-38-04-RM	XRM-38-04-CM	XRM-38-04-TRM	XRM-38-04-PS	XRM-38-04-P
XRM-38-08	XRM-38-08-RM	XRM-38-08-CM	XRM-38-08-TRM	XRM-38-08-PS	XRM-38-08-P
XRM-38-16	XRM-38-16-RM	XRM-38-16-CM	XRM-38-16-TRM	XRM-38-16-PS	XRM-38-16-P
XRM-38-32	XRM-38-32-RM	XRM-38-32-CM	XRM-38-32-TRM	XRM-38-32-PS	XRM-38-32-P

*with preselectors, the receiver multicoupler is offered in frequency splits. (380-406MHz, 406-430MHz, 450-470MHz or 470-512MHz)

RECEIVER MULTICOUPLER (806-896 MHz)

Page 120

Order Information	Rack Mount	Cavity Mount	Tray Mount	Power Supply	Preselectors
XRM-80-02	XRM-80-02-RM	XRM-80-02-CM	XRM-80-02-TRM	XRM-80-02-PS	XRM-80-02-P
XRM-80-04	XRM-80-04-RM	XRM-80-04-CM	XRM-80-04-TRM	XRM-80-04-PS	XRM-80-04-P
XRM-80-08	XRM-80-08-RM	XRM-80-08-CM	XRM-80-08-TRM	XRM-80-08-PS	XRM-80-08-P
XRM-80-12	XRM-80-12-RM	XRM-80-12-CM	XRM-80-12-TRM	XRM-80-12-PS	XRM-80-12-P
XRM-80-16	XRM-80-16-RM	XRM-80-16-CM	XRM-80-16-TRM	XRM-80-16-PS	XRM-80-16-P
XRM-80-32	XRM-80-32-RM	XRM-80-32-CM	XRM-80-32-TRM	XRM-80-32-PS	XRM-80-32-P

*with preselectors, the receiver multicoupler is offered in frequency splits. (806-824MHz or 824-849MHz)

RECEIVER MULTICOUPLER (896-960 MHz)

Page 121

Order Information	Rack Mount	Cavity Mount	Tray Mount	Power Supply	Preselectors
XRM-90-02	XRM-90-02-RM	XRM-90-02-CM	XRM-90-02-TRM	XRM-90-02-PS	XRM-90-02-P
XRM-90-04	XRM-90-04-RM	XRM-90-04-CM	XRM-90-04-TRM	XRM-90-04-PS	XRM-90-04-P
XRM-90-08	XRM-90-08-RM	XRM-90-08-CM	XRM-90-08-TRM	XRM-90-08-PS	XRM-90-08-P
XRM-90-12	XRM-90-12-RM	XRM-90-12-CM	XRM-90-12-TRM	XRM-90-12-PS	XRM-90-12-P
XRM-90-16	XRM-90-16-RM	XRM-90-16-CM	XRM-90-16-TRM	XRM-90-16-PS	XRM-90-16-P
XRM-90-32	XRM-90-32-RM	XRM-90-32-CM	XRM-90-32-TRM	XRM-90-32-PS	XRM-90-32-P

*with preselectors, the receiver multicoupler is offered in frequency splits. (89-901 MHz)

RECEIVER MULTICOUPLER

Page 122

138-225 MHz	380-512 MHz	760-940 MHz
XRM-13-02-RM-DCM	XRM-38-02-RM-DCM	XRM-70-02-RM-DCM
XRM-13-04-RM-DCM	XRM-38-04-RM-DCM	XRM-70-04-RM-DCM
XRM-13-08-RM-DCM	XRM-38-08-RM-DCM	XRM-70-08-RM-DCM
XRM-13-16-RM-DCM	XRM-38-16-RM-DCM	XRM-70-16-RM-DCM
XRM-13-32-RM-DCM	XRM-38-32-RM-DCM	XRM-70-32-RM-DCM

EXPANDABLE RECEIVER MULTICOUPLER

9	W	-	FF	-	PP	C	BB	
9	Series 90							
W	1,2		Number of Pass Windows					
FF	79		794-806 MHz					
	80		806-824 MHz					
	First 2 digits of Freq. 38/40/43/45/47		380-512 MHz					
PP	2,4,8,16,24		Number of Ports					
C	N/B		N or BNC Connectors					
BB	02/03/06/12/15/18/30		Bandwidth in MHz					

Example: Model # 91-85-8N18
 RX Multicoupler, 1 Pass Window, 806MHz,
 8 Output Ports, N female, 18 MHz Bandwidth

TOWER TOP AMPLIFIER (TTA) Page 126

Order Information	TTA-40-00	TTA-70-00	TTA-79-00	TTA-80-00	TTA-90-00
Frequency, MHz	406-512	794-806	792-824	806-824	896-902

RECEIVER AMPLIFIERS Page 127

Order Information	58-13-19	58-40-19	58-74-19
Frequency MHz	138-174	406-512	740-960

LOW POWER SINGLE ISOLATORS (21-FF-PP) Page 128

Order Information	5-Watt Load	25-Watt Load	60-Watt Load	100-Watt Load	150-Watt Load
21-13-XX	21-13-05	21-13-25	21-13-60	21-13-100	21-13-150
21-40-XX	21-40-05	21-40-25	21-40-60	21-40-100	21-40-150
21-76-XX	21-76-05	21-76-25	21-76-60	21-76-100	21-76-150

XX = load size

LOW POWER DUAL ISOLATORS (22-FF-PP)

Page 129

Order Information	5-Watt Load	25-Watt Load	60-Watt Load	100-Watt Load	150-Watt Load
22-13-XX	22-13-05	22-13-25	22-13-60	22-13-100	22-13-150
22-40-XX	22-40-05	22-40-25	22-40-60	22-40-100	22-40-150
22-76-XX	22-76-05	22-76-25	22-76-60	22-76-100	22-76-150

XX = load size

HIGH POWER SINGLE ISOLATORS (41-FF-PP)

Page 130

Order Information	5-Watt Load	25-Watt Load	60-Watt Load	100-Watt Load	150-Watt Load
41-13-XX	41-13-05	41-13-25	41-13-60	41-13-100	41-13-150
41-40-XX	41-40-05	41-40-25	41-40-60	41-40-100	41-40-150
41-76-XX	41-76-05	41-76-25	41-76-60	41-76-100	41-76-150

XX = load size

HIGH POWER DUAL ISOLATORS (42-FF-PP)

Page 131

Order Information	5-Watt Load	25-Watt Load	60-Watt Load	100-Watt Load	150-Watt Load
42-13-XX	42-13-05	42-13-25	42-13-60	42-13-100	42-13-150
42-40-XX	42-40-05	42-40-25	42-40-60	42-40-100	42-40-150
42-76-XX	42-76-05	42-76-25	42-76-60	42-76-100	42-76-150

XX = load size

X-BAND COUPLER

Page 138

Order Information	19" Rack Mount	Tower Mount	Tray Mount	Without Bracket
XBC-02-38	XBC-02-38-RM	XBC-02-38-TM	XBC-02-38-TRM	XBC-02-38-WB
XBC-02-38R	XBC-02-38R-RM	XBC-02-38R-TM	XBC-02-38R-TRM	XBC-02-38R-WB
XBC-38-80	XBC-38-80-RM	XBC-38-80-TM	XBC-38-80-TRM	XBC-38-80-WB
XBC-38-80R	XBC-38-80R-RM	XBC-38-80R-TM	XBC-38-80R-TRM	XBC-38-80R-WB
XBC-38-80RX	XBC-38-80RX-RM	XBC-38-80RX-TM	XBC-38-80RXTRM	XBC-38-80RX-WB



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