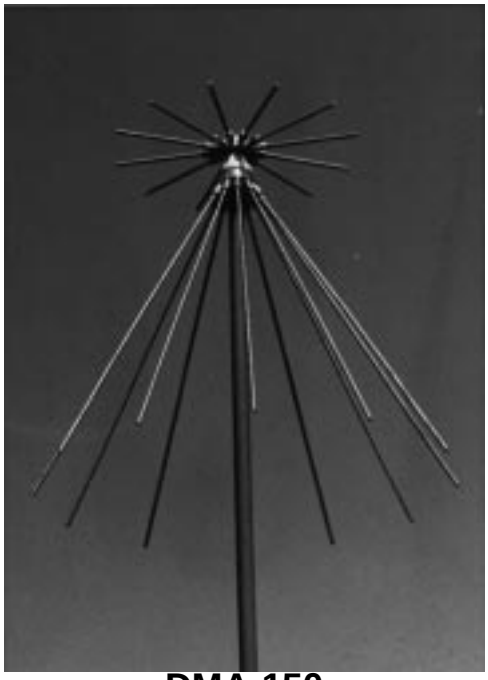
CONICAL MONOPOLES

Our **CMA** antennas are broadband discone-type antennas designed for both indoor and outdoor applications. The ground plane is supplied with the antenna, enabling vehicle or fixed site mounting. **Passive CMA** antennas are capable of substantial power handling. The **CMA series** antennas, with the optional radome installed, are capable of withstanding 100-mph winds with 2" of radial ice, and will operate at temperatures from -55° C to +125°C.

Model **CMA-710** is supplied with two sets of elements for optimum performance over the full band of operation. The **CMA-710 and CMA-750** antennas may be used over significantly wider frequency ranges (down to about 30 MHz) for receive only and surveillance applications, with or without a preamplifier. Sturdy construction and an epoxied seal of the feed point protect the **CMA-112/A** from environmental extremes.

The **CMA-350A/A** is an active conical monopole. The low-noise amplifier is powered through the RF cable by a remote supply that employs a decoupling circuit. All **CMA series** antennas can be supplied with slant linear polarization so that the antenna detects horizontal, vertical, RHCP, and LHCP.



DMA-150

Our **DMA series** discone type antennas are 8:1 bandwidth discone antenna that are designed for mounting on the threaded end of a mast or pipe. The individual radial elements used in antenna models below 1 GHz are replaced by a solid conductor in models operating above 1 GHz. The **DMA-324** uses a solid disc element. All other models and elements are aluminum rod separated by a durable dielectric. Brass is also available for special applications.
(Option /B for Brass)

SPECIFICATIONS:

DIRECTIVITY: Omni directional IMPEDANCE: 50 ohms

	CMA-710	CMA-750	CMA-350A/A	CMA-112/A	CMA-118/A	DMA-150	DMA-324
FREQUENCY (MHZ)	70 - 1000	70 - 500	30 - 1000	1000 - 12000	1000 - 18000	150 - 1200	300 - 2400
VSWR	< 2.5 : 1	< 2.5 : 1	< 2 : 1	2.0 : 1 typ.	2.0 : 1 typ.	2.0 : 1 typ.	2.0 : 1 typ.
POWER	250 W cw, 500 W peak	400 W cw, 800 W peak	N/A	100 W cw	50 W cw	100 W cw	100 W cw
CONNECTOR	N Female	N Female	N Female	SMA Female	SMA Female	N Female	N Female
RADOME	No	Optional	Optional	Included	Included	No	No
SIZE (D x H)	40" x 23"	42" x 25"	42" x 25"	8" x 2.8"	8" x 2.8"	25" x 24"	13" x 12"
WEIGHT (LBS/KG)	30 / 14	30 / 14	30 / 14	3 / 1.4	3 / 1.4	4 / 1.8	2 / 1.1
			Active Receive Only				

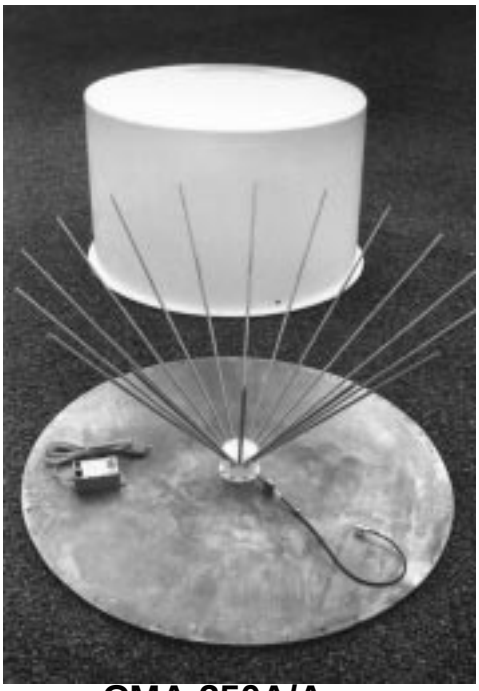
OPTIONS

1) Remote Power Supply (Regular, Rack mountable or Rechargeable)
2) 230 VAC operation (115 VAC is standard)
3) 100-foot RF cable with N Male Connectors
4) 10-foot RF cable with ferrite sleeves
5) Tripod Mounting Adaptor (CMA-112/A & CMA-118)

CMA-118/A

CMA-118/A Typical VSWR and Gain		
Frequency (GHz)	VSWR	Gain (dBi)
1.0	1.5	2.9
2.0	1.25	3.0
3.0	1.5	2.0
4.0	2.1	3.0
5.0	1.8	4.2
6.0	1.5	3.6
7.0	1.4	3.4
8.0	1.4	3.3
9.0	2.0	6.1
10.0	2.1	5.7
11.0	2.2	5.1
12.0	2.1	4.7
18.0	1.9	4.5

Typical E-field Antenna Factor and Gain						
Frequency MHz	CMA-750		CMA-350A/A		CMA-710	
	AFE dB M^{-1}	Gain dBi	AFE dB M^{-1}	Gain* dBi	AFE dB M^{-1}	Gain dBi
30			-0.5	0.3		
40			-5.0	7.3		
50			-5.9	10.1		
60			-6.8	12.6	Long Elements	
70	7.3	-0.2	-5.5	12.6	7.3	-0.2
80	7.7	0.6	-4.4	12.7	7.7	0.6
100	9.4	0.8	-3.0	13.2	9.4	0.8
125	11.1	1.1		13.2	11.1	1.1
150	12.8	1.0	0.3	13.4	12.8	1.0
					Short Elements	
200	15.2	1.1	2.6	13.6	15.5	0.8
300	20.0	-0.2	6.4	13.4	18.8	1.0
400	22.5	-0.2	9.3	12.9	21.3	1.0
500	25.0	-0.8	11.6	12.6	23.4	0.8
600			13.5	12.3	24.5	1.3
700			15.1	12.0	22.7	4.4
800			16.8	11.5	26.0	2.3
900			18.1	11.2	28.6	0.7
1000			19.2	11.0	29.7	0.5



CMA-350A/A

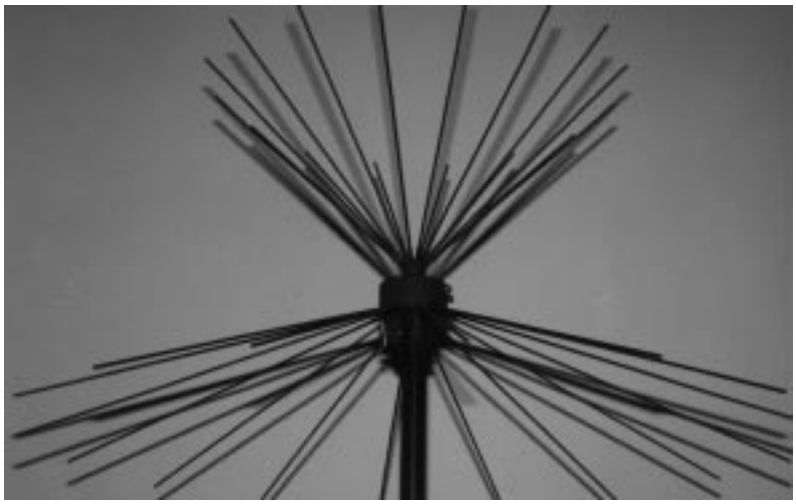
*with pre-amplifier

CMA-5240

The CMA-5240 is an upgraded version of our popular CMA-5100/A antenna, described below. CMA-5240 offers a wider bandwidth, .5 to 2400 MHz, and it has the capability of disabling the active circuitry in a high field environment. The active circuit can be described by removing the DC supply voltage, which causes the antenna to enter a passive fail-save mode. The CMA-5240 is ruggedized for outdoor and field applications. All elements fold to create a minimum travel volume and extremely fast deployability. Both sets of elements are detachable for easy field replacement. Set-up time for the CMA-5240 is reduced to 3 minutes.

CMA-5100/A

The **CMA-5100/A** is a conical monopole antenna, which operates over the band from 1 to 1000 MHz. The antenna is designed for optimum antenna factor and signal to noise ratio performance across this entire bandwidth. The pattern of the antenna is omnidirectional in azimuth due to the circular symmetry of the elements. In elevation, the pattern is similar to that of a monopole antenna. The unique design gives excellent horizon coverage.



CMA-5100/A

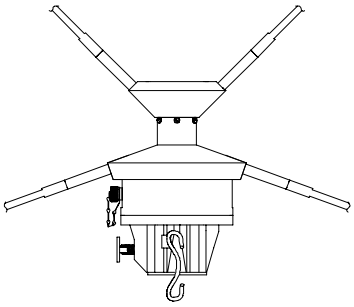
The CMA-5100/A antenna is protected from the weather via o-ring seals. The antenna and elements are coated with a durable polyurathane finish.

Antenna assembly is achieved by inserting the 32 elements into the antenna head and tightening them by hand.

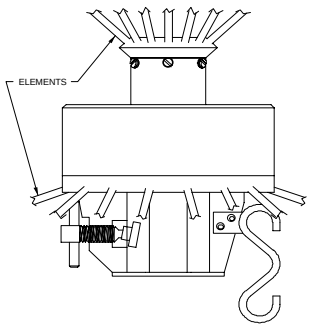
The antenna is secured to a mast using the mast clamp at the base of the antenna. The mast clamp is adjustable for use with masts of various sizes. The power and RF cables can be secured to the supplied cable hook for stress relief on the connectors. The cables should be routed straight down and beneath the ground plane elements to reduce possible interference with the antenna performance. It is suggested that ferrite sleeves be used on the cables to attenuate stray currents and crosstalk on the cable shields.

SPECIFICATIONS:

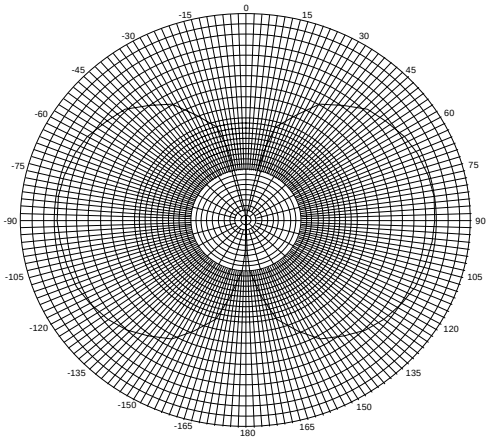
	CMA-5100/A	CMA-5240
FREQUENCY RANGE	.5 to 1000 MHz	0.5to 2400 MHz
RADIATION PATTERN	Omni-directional	Omni-directional
POLARIZATION	Vertical	Vertical
ELEVATION BEAMWIDTH	40 degrees nominal	40 degrees nominal
ANTENNA FACTOR		
1 TO 20 MHZ	3 dB/m	3 dB/m
30 MHZ	-2 dB/m	-2 dB/m
40 MHZ	-5 dB/m	-5 dB/m
50 TO 82 MHZ	-5 dB/m	-5 dB/m
98 TO 1000 MHZ	8 dB/m	-4 dB/m to 18 dBm
1 - 2.4 GHZ	N/A	18 dBm to 25 dBm
2ND ORDER INTERCEPT	+ 50 dBm	+ 40 dBm
3RD ORDER INTERCEPT	+ 35 dBm	+ 30 dBm
NOISE FIGURE	3 dB	4 to 6 dB
VSWR	2.0 : 1 typical	2.5 : 1 Typical
OUTPUT IMPEDANCE	50 ohm	
RF CONNECTOR	N Female	
SUPPLY CONNECTOR	MS - Type	
INPUT VOLTAGE (VDC)	11.4 - 14.5	
CURRENT DRAIN	550 mA	550 mA



CMA-5240
OUTLINE DRAWING



CMA-5100/A
OUTLINE DRAWING



CMA-5100/A
ELEVATION RADIATION PATTERN
AT 70 MHZ