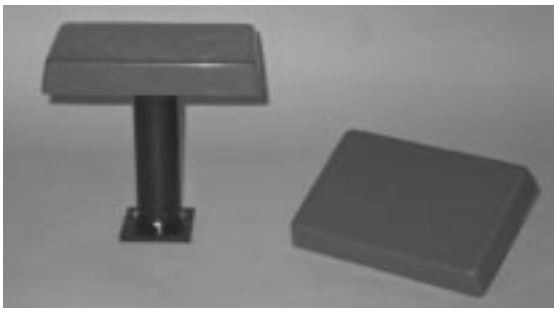
PRINTED DIPOLES

Printed dipole antennas and dipole antenna arrays are available for cellular band (890 - 960 MHz), PCN networks (1.7 to 2.3 GHz and other frequency bands) and other applications. Cellular base station antennas are available in low profile radomes for an aesthetically pleasing appearance. The **DDA-900** is a bidirectional dipole antenna. The **CDA-900** is a cavity-backed antenna that is used as a unidirectional cellular base station antenna. This unit can be mounted to interior or exterior walls of buildings, railroad cars and bus stations, shopping malls and office complexes. Co-linear dipole corner reflector antennas for cellular radio base stations are also available.



DDA-900 & CDA-900

SPECIFICATIONS:

MODEL	FREQUENCY (MHZ)	INPUTS	ELEV. BEAM (MIN. DEG.)	POWER GAIN (DBI)	LENGTH (IN)	DIAMETER (RADOME)	WEIGHT (LBS / KG)
DDA-900	900	1	65º	0	12	N/A	3 / 1.4
CDA-900	900	1	40º	3	12	N/A	3 / 1.4

STACKABLE DIPOLES

SDA series stackable dipoles may be stacked vertically and interconnected electrically in the field. The stacked antennas are well isolated from each other. Each unit offers either high gain (typical 4 dB) or two non-contiguous output bands. Internal feedthrough interconnection cables are used for minimal degradation of individual **SDA series** antennas stacked together. These antennas are lightweight and hermetically sealed in dielectric radomes for use in harsh environments. Symmetrically flanged mounting bases are standard on **SDA** antennas.

SPECIFICATIONS: STACKABLE DIPOLES

VSWR: 2.0 : 1 Typ.
Polarization: Vertical
Connectors: Type N female

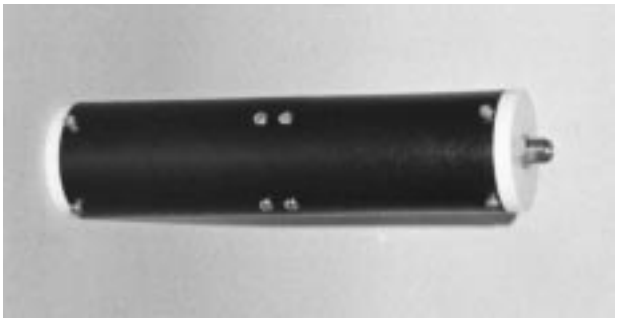
Azimuth Pattern: Omni directional
Wind and Ice: 100 mph with 1" radial ice

	FREQUENCY MHZ	GAIN DBI	ELEVATION BEAMWIDTH	ISOLATION DB	LENGTH (IN)	WEIGHT (LBS/KG)	BASE FLANGE DIA. (IN)	POWER (W)
SDA-242	225 - 400	4.0	>30º	25	60	55 / 22	12	300
SDA-122	116 - 150	4.0	>35º	25	120	70 / 32	12	300

DIPOLE ANTENNAS
PASSIVE

CO-LINEAR DIPOLES

Our **VDA series** co-linear antennas are designed for ground-to-air, point-to-point and mobile communication applications. One or more vertically polarized dipoles are mounted on a common axis and integrated into a dielectric radome. The sealed radome offers mechanical stability and environmental protection. One to three inputs are available in various combinations covering the frequency range from 100 MHz to 2.0 GHz.



VDA-46

A partial list of **VDA series** dipoles is given in the specification table here. Other frequency bands and higher gain versions are also available. Multiport dipoles have at least 30-dB isolation between ports. Internal matching network keeps all antenna parts at DC ground potential. The **VDA series** antennas may be mounted on a 1¼ or 2½ diameter mast using the mounting hardware supplied with each antenna.

SPECIFICATIONS:

AZIMUTH PATTERN: Omni directional ± 1 dB
POWER: 300 Watts
INPUT IMPEDANCE: 50 ohms
VSWR (MAX): 2 : 1
WIND: 100 mph with 1/2" radial ice
POLARIZATION: Vertical
CONNECTOR: Type N
ISOLATION BETWEEN PORTS: 30 dB

MODEL	FREQUENCY (MHz)	INPUTS	ELEV. BEAM (MIN. DEG.)	POWER GAIN (DBI)	LENGTH (IN)	DIAMETER (RADOME)	WEIGHT (LBS / KG)
VDA-10/2	100 - 156, 100 - 156	2	65º	0	160	3.5"	2.5 / 11.5
VDA-12/2	116 - 150, 116 - 150	2	65º	0	155	2.5"	15 / 6.9
VDA-11/2	118 - 136, 118 - 136	2	65º	0	150	2.5"	15 / 6.9
VDA-15/2	145 - 175, 145 - 175	2	65º	0	120	2.5"	14 / 6.7
VDA-24/2	225 - 400, 225 - 400	2	65º	0	92	2.5"	10 / 4.6
VDA-45/2	400 - 500, 400 - 500	2	65º	0	60	2.5"	10 / 4.6
VDA-46/2	450 - 590, 450 - 590	2	65º	0	55		10 / 4.6
VDA-102	100 - 156	1	40º	4	128	3.5"	21 / 9.8
VDA-122	116 - 150	1	40º	4	125	2.5"	14 / 6.7
VDA-112	118 - 136	1	40º	4	134	2.5"	15 / 6.9
VDA-242	225 - 400	1	40º	4	78	2.5"	6 / 2.7
VDA-452	400 - 500	1	40º	3	60	2.5"	6 / 2.7
VDA-462	450 - 590	1	40º	4	60	2.5"	6 / 2.7
VDA-1024	100 - 150, 225 - 400	2	65º	0	100	3.5"	18 / 8.4
VDA-1224	116 - 150, 225 - 400	2	65º	0	92	2.5"	10 / 4.6
VDA-1124	118 - 136, 225 - 400	2	65º	0	95	2.5"	10 / 4.6
VDA-2446	225 - 400, 450 - 590	2	65º	0	75	2.5"	8 / 3.6
VDA-244	225 - 400	1	18º	6	144	2.5"	15 / 6.9
VDA-1024/2	100 - 156, (225 - 400) x2	3	65º	0	150	3.5"	30 / 13.8
VDA-2412/2	225 - 400, (116 - 150) x2	3	65º	0	170	3"	20 / 9.2

HORIZONTALLY POLARIZED OMNIS

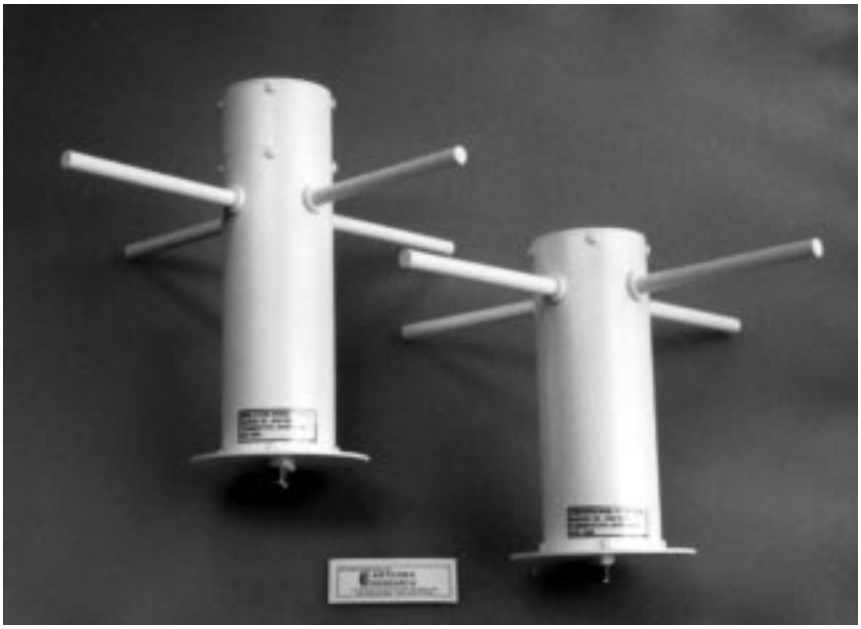
Antenna Research offers a wide range of active and passive dipole antennas. For horizontal polarization only and omni coverage in azimuth, we offer the **ADC series** antennas. These are active antennas ideally suited for broadband spectrum surveillance and direction finding applications.

Specifications:

	ADC-120/A	ADC-2100/A	ADC-2200/A
FREQUENCY (MHZ)	1.5 - 30	20 - 1000	20 - 2000
POLARIZATION	Horizontal	Horizontal	Horizontal
RADIATION PATTERN	Omnidirectional	Omnidirectional	Omnidirectional
IMPEDANCE (OHMS)	50	50	50
POWER SUPPLY	Remote Decoupling, 12 VDC		
CONNECTOR	Type N Female	Type N Female	Type N Female (2)
1 DB COMPRESSION	3 V / m	3 V / m	3 V / m
SIZE (L W H)	48 ↕ 48 ↕ 24 cm	40 ↕ 40 ↕ 24 cm	40 ↕ 40 ↕ 30 cm
MATERIAL	Aluminum, Fiberglass	Aluminum, Fiberglass	Aluminum, Fiberglass
WEIGHT (LBS / KG)	4 / 1.8	3 / 1.36	3.7 / 1.68
MOUNTING	4 Mounting Holes in Base Plate		
OPERATING TEMP.	- 40°C to + 55°C	- 40°C to + 55°C	- 40°C to + 55°C
FINISH	Tropicalized	Tropicalized	Tropicalized
COLOR	ARA White	ARA White	ARA White
WIND	150 km/h	150 km/h	150 km/h

OPTIONS:

Decoupling Power Supply, PSD-12/A. 115 or 230 VAC input.



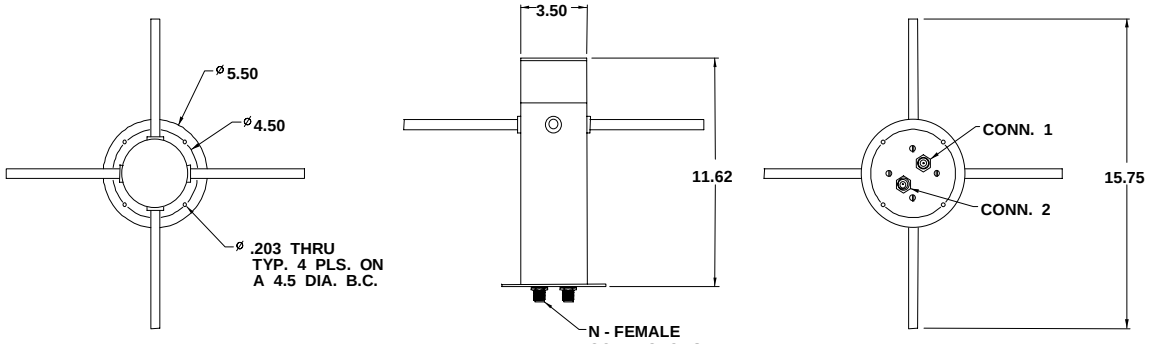
ADC SERIES ANTENNAS

MODEL ADC-2200/A TYPICAL ANTENNA FACTOR	
Frequency MHz	**AFE (dB/m)**
LOW BAND	
20	18.9
40	23.9
60	21.4
80	15.1
100	20.1
150	13.0
200	5.0
250	2.6
300	0.0
400	5.4
500	9.0
600	10.0
700	12.0
850	13.8
1000	18.6
HIGH BAND	
1000	36.0
1500	41.4
2000	45.0

MODEL ADC-2200/A TYPICAL SENSITIVITY (MINIMUM DETECTABLE E-FIELD, MDF) (REFERENCED TO 1 KHZ BANDWIDTH)	
Frequency MHz	**MDF (dBμ V/m)**
LOW BAND	
20	-2.9
40	1.4
60	-0.8
80	-7.3
100	-1.7
150	-10.5
200	-19.4
250	-20.1
300	-24.6
400	-19.7
500	-16.8
600	-14.3
700	-13.6
850	-13.0
1000	-8.2

For Typical Antenna Factor of **ADC-2100/A**, see low band performance of **ADC-2200/A** in Table given above. Typical sensitivity of **ADC-2100/A** is the same as the sensitivity of **ADC-2200/A**. High band of **ADC-2200/A** is passive.

MECHANICAL OUTLINE OF THE ADC-2200/A



Note: Same hole pattern and bottom view for **ADC-2100/A**

DIPOLE ANTENNAS
ACTIVE RECEIVE ONLY

BROADBAND HF/VHF/UHF ANTENNAS

Our **ADA series** active dipole antennas are electrically small transportable antennas ideally suited for measuring electric fields and for broadband surveillance applications. A broadband balun and a low-noise amplifier are integral parts of an **ADA** antenna. The active circuit design provides a near perfect balance eliminating the need for a ground plane in the measurement. A calibration port is provided for verifying the proper performance of the antenna. For applications where antenna sensitivity is critic

The detectable dipole elements and relatively light weight of **ADA** antennas make them ideal for areas of limited space as well as for handling and transportation. **ADA series** antennas are available with or without rechargeable batteries and an internal ac power supply. The built-in power supply permits operation under practically any conditions with a minimum amount of setup time.

...

ADA-120/A

SPECIFICATIONS:

	ADA-3010/A	ADA-120/A
FREQUENCY	30 MHz - 1 GHz	1 kHz - 200 MHz
POLARIZATION	Linear, Continually Adjustable	Linear, Continually Adjustable
IMPEDANCE	50 Ohm	50 Ohm
POWER SUPPLY	AC / Internal Rechargeable	AC / Internal Rechargeable
CONNECTORS	Type BNC Female	Type BNC Female
WEIGHT (LBS/KG)	10 / 4.5	10 / 4.5
SIZE	37"H × $19^{1/2}$" Dipole	37"H × $19^{1/2}$" Dipole
	Active Receive Only	Active Receive Only

OPTIONS: 1) Tripod, TP-5 2) Carrying Case 3) 230 V AC Operation

DIPOLE ANTENNAS
1 kHz - 1 GHz

ADA-120/A
Typical Sensitivity
(Minimum Detectable E-field, MDF)
(Referenced to a 1 kHz Bandwidth)

Frequency	MDF (dB μV/m)
1 kHz	41.4
2 kHz	37.3
5 kHz	29.2
10 kHz	23.0
20 kHz	19.3
50 kHz	10.9
100 kHz	6.6
200 kHz	2.1
500 kHz	-1.6
1 MHz	-2.1
2 MHz	-2.2
5 MHz	-2.6
10 MHz	-2.5
20 MHz	-3.9
30 MHz	-5.9
40 MHz	-6.2
50 MHz	-6.1
60 MHz	-6.0
70 MHz	-6.3
80 MHz	-7.1
100 MHz	-6.1
125 MHz	-5.1
150 MHz	-5.4
200 MHz	-6.5

ADA-3010/A
Typical Antenna Factor

Frequency MHz	AFE ($dB\ m^{-1}$)
30	17.8
40	16.6
50	15.4
80	13.1
100	10.1
200	4.8
300	9.3
400	15.8
500	20.8
600	25.5
700	30.5
800	32.1
900	33.0
1000	32.7

ADA-3010/A
Typical Sensitivity
(Minimum Detectable E-field, MDF)
(Referenced to a 1 kHz Bandwidth)

Frequency MHz	MDF (dB μV/m)
30	-5.8
40	-7.2
50	-8.8
80	-11.5
100	-15.1
200	-20.0
300	-15.8
400	-10.6
500	-6.2
600	1.8
700	3.1
800	4.6
900	5.0
1000	5.0

ADA - 120/A - Typical Electric Field Antenna Factor