AA2030 FIXED SITE VHF/UHF ANTENNA

- 20 - 3000 MHz frequency coverage
- Ruggedized, weatherized construction
- Fixed site operation
- Three adcock arrays for VHF/UHF and high UHF frequency ranges
- One year warranty on parts and labor

A Broad Frequency Fixed Site Adcock DF Antenna

The AA2030 antenna is a stacked adcock, fixed site array which combines a VHF and two UHF arrays to provide 360 degree monitoring, and is designed to supply inputs to a Direction Finding (DF) system over the 20 MHz to 3000 MHz frequency spectrum.

The antenna is composed of three main sections, the UHF section, the VHF array and the antenna control box. The UHF section is made up of two arrays enclosed in the same housing that attaches to the upper mast section. The VHF mast section with hub assembly attached supports the entire antenna. The control box, located at the bottom of the VHF mast section contains the VHF combiner and supplies connection between the system equipment and antenna.

The antenna has internal RF pre-amplifiers and signal processing which combine received signals for output to the receiver. All power and control signals to the antenna are provided through one 8-conductor control cable from the DF processor. The received signal with bearing information encoded, is routed to the receiver through a RF coaxial cable.

The antenna is designed to be mounted on a cement pad or on top of a tower either at a strategic location in the city or at remote mountain top sites. The antenna is weatherized to withstand extreme conditions.

CUBIC DEFENSE APPLICATIONS, INC.

An ISO 9001:2000 Certified Company

AA2030 FIXED SITE VHF/UHF ANTENNA

SPECIFICATIONS

Frequency Range:	20 - 200 MHz 200 - 2500 MHz (to 3.0 GHz with degraded performance)
Azimuthal Coverage:	360°
Bearing Accuracy:	VHF: 20 - 200 MHz, 2.5° rms typical/3° rms maximum UHFLow: 200 - 1000 MHz, 4° rms typical/5° rms maximum 1000 - 1400 MHz, 9° rms typical/12° rms maximum UHF High: 1400 - 2500 MHz, 9° rms typical/15° rms maximum Bearing accuracy may be improved with site calibration (Note 1) (Note 3)
Power:	Voltage: 11.5 - 16 VDC Current: 350 mA VHF, 250 mA UHF, 450 mA UHF high
Typical DF Sensitivity:	VHF: 20 MHz: 6.5 µV/m 70 MHz: 1 µV/m 90 MHz: 10 µV/m 135 MHz: 1 µV/m 200 MHz: 3 µV/m UHF Low: 200 MHz: 6 µV/m 500 MHz: 2 µV/m 1000 MHz: 10 µV/m UHF High: 2000 MHz: 20 µV/m 2500 MHz: 20 µV/m (Note 2)
Output Impedance:	50 ohms nominal
Polarization:	Vertical
Mechanical:	Height: 137” (348.0 cm) Diameter: 40.3” (102.4 cm) Weight: 123 lbs (55.8 kg)
Environmental:	Operating: -40°C to +60°C Storage: -40°C to +70°C Humidity: 95% RH non-condensing per MIL-STD-810D (507.2)

Note 1: DF bearing accuracy is measured on an ideal site with no bias over specified azimuthal and frequency range with specified polarization at 0° elevation. Bearing accuracy improvement will depend on the physical characteristics of the particular site chosen. Actual production acceptance testing performed at Cubic test site using standard deviation to eliminate site bias.

Note 2: System sensitivity is specified for an incident field strength in microvolts per meter for direction finding processor output with 6° standard deviation bearing jitter, minimum integration time of 200 msec and an IF bandwidth of 6 kHz.

Note 3: DF bearing accuracy is the rms value of all frequencies at all azimuth points as a single calculation.

$$RMS = \sqrt{\frac{\sum_{i=1}^{n} (AM_i - AT_i)^2}{n}}$$

i = index
n = # of points (frequency • azimuth)
AM = measured azimuth
AT = true azimuth

Ordering Information

Model No.	Part No.	Description
AA2030	0253-1000-7	VHF/UHF Fixed Site Antenna, 20 - 2500 MHz, supplied with interconnect cables. Color: Grey

CUBIC DEFENSE APPLICATIONS, INC.
A member of the Cubic Corporation family of companies

9333 Balboa Ave, San Diego, CA 92123
PHONE: 858.505.2024 FAX: 858.505.1523
www.cubic.com