



2.3 Meter Weather Satellite Receive Antenna



Features

- 2.3 meter (7.5 ft.) antenna diameter
- 10.5 dB typical G/T at 1691 MHz
- Integrated cavity dipole feed and low noise 45K block downconverter
- Integrated signal level meter for easy alignment
- 2.3 meter tripod platform for stability
- Leveling adapter allows operation on a 20 deg. tilt
- Only a single tool (allen driver) required for setup
- Elevation over Azimuth configuration
- Acme screw elevation adjustment provides quick release and manual fine adjustments
- Six petal reflector of heavy tubing and heavy mesh
- Mount components are hard black anodized
- Antenna petals are powder coated
- Total antenna and tripod weight is 45 Kg (100 lbs)

Description

The Tactical Antenna is designed for easy transport and setup for reception of worldwide high resolution weather satellite transmissions. The antenna provides a typical 10.5 G/T which allows it to be used for reception of downlinks from GOES, Meteosat, Meteosat Second Generation, GMS, MTSAT and other similar satellites.

The Tactical Antenna consists of a heavy duty wide base tripod mount, leveling adapter to allow setup and operation on a 20 degree tilt, elevation over azimuth mount with both quick release and manual fine adjustment to track inclined orbit satellites, a heavy duty custom manufactured six petal mesh reflector, a high performance dipole

buttonhook feed with integrated low noise downconverter and an integrated signal level meter for easy alignment.

The mount is made of heavy duty hard black anodized aluminum for scratch resistance and durability. The antenna petals are manufactured of heavy wall aluminum tubing and heavy mesh for enhanced durability. The petals are powder coated.

The Tactical Antenna can be setup and operational in under 15 minutes. Almost all components including the antenna petals pin together with captivated pins. A few components require an allen driver which is also captivated in the elevation over azimuth mount. Provisions are made

for tie-downs, stakes and sand bags to stabilize the base.

The system includes a signal meter that is powered via the IF coax, along with the integrated feed/downconverter. The meter does not require feedback from the receiver. The feed polarity is easily adjusted and locked from the rear of the antenna with provided allen driver.

A typical tactical receive system would include a ruggedized lunchbox computer fitted with a MetCom DSP SG multi-mode receiver with options installed for all current and near future weather satellite transmissions



Specifications (subject to change with out notice)

Antenna Specifications

Antenna Diameter	2.3 meter (7.5 ft.)
Antenna Construction	6 petal heavy duty mesh, 0.06" wal aluminum tubing black powder coat
Antenna Gain	29.1 dB nominal
Antenna Noise Temperature	25 K nominal above 20 degrees elevation
Antenna 3dB beamwidth	5.5 degrees nominal
Antenna F/D	0.375
Azimuth Adjustment Range	Unlimited, 360 degrees
Elevation Adjustment Range	0 to 90 degrees
Mount Base Diameter	2.3 meters (7.5 ft.)
Mount Construction	Heavy duty hard black anodized
Leveling Adapter	20 degree range, 2-axis adjustment with built-in bubble level
Stability Options	Tie-down holes provided in botom of mast, Stake holes provided in tripod feet, Sand bags on tripod feet and legs

Integrated Feed / Downconverter Specifications

Feed Construction	Cavity dipole
Feed Efficiency	55% nominal
Noise Temperature	45 K typical
Input Center Frequency	1691.000 Nhz
Local Oscillator Frequency	1533.500 Mhz
Output Center Frequency	137.500 Mhz
Converted Bandwidth	50 Mhz @ 3 dB typical
Conversion Gain	>50 dB, 52 dB typical
Image Rejection	>60 dB typical
Output Impedance	50 ohms
Output 1dB Compression Point	> +10 dBm
Local Oscillator Stability	+ - 2.5 ppm (-30 to +60 degC)
Phase Noise	-94 dBc/Hz @ 10 KHz typical -114 dBc/Hz @ 100 KHz typical
Input Voltage	+10 to +15 VDC @ 350 ma typical
Output Connector	Type N female

Environmental Specifications

Temperature (operating)	-40 to +60 °C (-40 to 140 °F)
Humidity	

* Preselected Block Downconverter is available as an option for high EMI areas

