

## Mantis MSAT

### Man Portable Satellite Terminal

The easy to use, lightweight, highly portable, Mantis MSAT satellite antenna enables you to arrive at the scene, deploy and be up and running in as little as five minutes.

The design of the Mantis MSAT satellite system allows for rapid deployment in hostile environments. The unit can be set-up anywhere, providing secure and non-secure data and video transmissions. The unit supports X, Ku and Ka-band configurations, ensuring worldwide coverage at all times. Frequency band swaps are completed in-field, in under a minute.

The Mantis MSAT is available with a 65, 90 or 120 cm reflector, making it ideal for a variety of applications.



### Key Features

- 4K UHD HEVC very low latency video encoding
- X, Ku (Ka – 65cm only) Frequency Bands
- Man Portable, IATA Compliant
- Mains or Battery Operation
- 5-Minutes to Air
- 65, 90, 120 cm Reflectors
- ITAR Free

### Typical Applications

- Satellite News-gathering
- Secure Military Communications
- First on Scene Broadcast
- Emergency Services
- Disaster Recovery

## X-Band

### Tx Frequency Band

- 7.9-8.4 GHz

### Rx Frequency

- 7.25-7.75 GHz

### BUC Power (saturated)

- 25 W

### EIRP (sat) @ 8.15GHz

- 45.3 dBW (65cm version)
- 48.1 dBW (90 cm version)
- 51.0 dBW (120 cm version)

### G/T @ 7.5GHz

- 12.8 dB/K (65 & 90 cm version)
- 15.5 dB/K (120 cm version)

### Polarisation

- Tx – RHCP or LHCP configurable
- Rx – Orthogonal to Tx

### Axial Ratio

- <2.0 dB (Tx), <1.2 dB (Rx)

### Tx Spurious (Carrier Related)

- <-60 dBc

### Tx Spurious (Non Carrier Related)

- <-60 dBm

## KU-Band

### Tx Frequency Band

- 13.75-14.5 GHz

### Rx Frequency Bands

- From 10.7-12.75 GHz

### G/T @ 11.7 GHz

- 14.1 dB/K (65 cm version)
- 19.0 dB/K (90 cm version)
- 20.5 dB/K (120 cm version)

### EIRP (sat) @ 14.125 GHz

- 46.2 dBW (8W) (65 cm version)
- 54.2 dBW (25 W) (90 cm version)
- 58.8 dBW (40 W) (120 cm version)

### Polarization

- Linear H/V
- Tx orthogonal to Rx

### Cross Polarization Isolation

- 30 db

### Tx Spurious (Carrier Related)

- <-60 dBc

### Tx Spurious (Non Carrier Related)

- <-70 dBc

### BUC Power

- 3W – 40 W

## Common Specification

### Power Requirements

- 10 – 36V DC
- 90 – 260 VAC
- 280 W (Max)
- External Battery Pack Option for DC Units

Note: 10-36V DC available with 20W X Band and 8W (and lower) Ku Band terminals)

### Certification

- Skynet 5 (X-Band)
- WGS (X & Ka Band) –Planned

### Interfaces

- DC Power (Configuration dependent)
- AC Power
- L- Band Tx Interface (External Modem)
- L-Band Rx Monitor
- L-Band Modem Output
- RJ45 Ethernet (x2)
- EIA-530 (Modem dependant)
- DVE Encoder version with SDI Input

### Modems

- Modem exchange possible at base-level maintenance.

### Modem Options

- iDirect e850mp
- Comtech DMD1050
- Paradise-Q-Lite modem
- Elbit – Shiron modem

### Video Encoder Option

- Advent DVE 6100 (HEVC)

### Control Interface

- Simple two-button operator interface for field level control.
- Embedded web server for control and management using external PC for initial base level configuration.

### Alignment

- Look angle directions for selected satellite provided using internal GPS receiver.
- Signal strength readings via integrated beacon receiver.

## Physical Specification

### Transportability

- One airline checkable case

### Packing

- Optional Rucksack or rugged carry case in one or two box solution (reflector size dependent)

### Weight

- 65 cm version:
  - 12.5 kg / 27.5 lbs. (without carry case)
  - IATA compliant
- 90 cm version:
  - 15 kg / < 33 lbs. (without carry case)
  - IATA compliant

- 120 cm version:
  - 19 kg / <42 lbs. (without carry case)
  - IATA compliant

## Environmental Specification

### Operating Temperature

- 20°C to 55°C (-4°F to 122°F)

### Storage Temperature

- 40°C to 80°C (-40°F to 176°F)

### Operating Altitude

- 3000 m (9842 ft.)

### Survival Altitude

- 4500 m (14763 ft.)

### Operating Wind Speed (No ballast)

- 25 mph (40 kph)

### Operating Wind Speed (With ballast)

- 45 mph (72 kph)

### IP Rating

- IP65

### Shock

- MIL-810F (in transport packaging)

### Vibration

- MIL-810F (in transport packaging)

### Sand/Dust

- DEF STAN 00-35, Pt 3, Iss 4, Test CL25

### Water Ingress

- DEF STAN 00-35, Pt 3, Iss 4, Test CL27

### Humidity

- MIL-810F

### EMC

- BS EN61000-6-3-2007
- BS EN61000-6-1-2007

### CE Marked Radiation Pattern Compliance

- ITU-R S.465.5 and S.580-6 (65, 90 & 120 cm)
- FCC 25.209 with 25.212 (65, 90 & 120 cm)
- ETSI EN 301.358 (65, 90 & 120 cm)
- ETSI EN 301.35 (65 cm)
- MIL-STD-188-164A (65 cm)
- INTELSAT IESS-601 (90 cm)
- INTELSAT IESS-602 (90 cm)
- Registered with Intelsat, Eutelsat, Optus and Arabsat