

Mantis MSAT

Man Portable Data Terminal

This satellite antenna system is specifically designed for speed, ease of use and portability.

The Mantis MSAT is a lightweight. Satellite terminal that can be set-up anywhere to provide secure and non-secure data and video transmission in as little as five minutes. It supports X, Ku and Ka-Band configurations ensuring worldwide coverage is available at all times. Frequency bands can be swapped in the field in under a minute.

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



Key Features

- X, Ku, Ka Frequency Bands
- Man Portable, IATA Compliant
- Mains or Battery Operation
- 5 Minutes to Air
- 65, 90, 120cm Reflectors
- ITAR Free

Typical Applications

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



SPECIFICATIONS

X-Band

Tx Frequency Band

- 7.9-8.4 GHz

Rx Frequency

- 7.25-7.75 GHz

EIRP (sat) @ 8.15GHz

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

G/T @ 7.5GHz

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

Polarisation

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

Axial Ratio

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

Tx Spurious (Carrier Related)

- <-60 dBc

Tx Spurious (Non Carrier Related)

- <-60 dBm

BUC Power (saturated)

- 25 W

Ku-Band

Tx Frequency Band

- 13.75-14.5 GHz

Rx Frequency Bands

- From 10.7-12.75

EIRP (sat) @ 14.125GHz

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

G/T @ 11.7GHz

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

Polarisation

- Linear H/V
- Tx orthogonal to Rx

Cross Polarization Isolation

- 30db

Tx Spurious (Carrier Related)

- <-60dBc

Tx Spurious (Non Carrier Related)

- <-70dBc

BUC Power

- 3W - 40W

Ka-Band

Tx Frequency Band

- 29.5–31 GHz
- (Option 27–29.5 GHz)

Rx Frequency Band

- 20.2–21.2 GHz
- (Option 18.7 GHz–20.2 GHz)

EIRP (sat) @ 30.5GHz

- 50.7 dBW (5W) (65cm version)
- 56.6 dBW (10W) (90cm version)
- 59.1 dBW (10W) (120cm version)

G/T @ 20.7GHz

- 18.5 dB/K (65cm version)
- 21.9 dB/K (90cm version)
- 24.0 dB/K (120cm version)

Polarisation

- Tx – RHCP or LHCP configurable
- Rx – Orthogonal to Tx
- Linear (Optional)

Axial Ratio

- <1.0dB (Tx), 1.5dB (Rx) dB

Tx Spurious (Carrier Related)

- <-60dBc

Tx Spurious (Non Carrier Related)

- <-70dBc

BUC Power (saturated)

- 4, 5 or 10W

Common Specification

Power Requirements

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

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

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

- Modems may be exchanged at base level maintenance.

Modem Options

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

Video Encoder Option

- Advent DVE 5100 (H.264)

Certification

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

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

- Interactive user interface providing look angle directions for the selected satellite using positional information from an internal GPS receiver. Integrated beacon receiver provides signal strength for peaking..

Physical Specification

Transportability

- One airline checkable case

Packing

- Optional Rucksack or rugged carry case in one or two box solution depending on reflector size

Weight

65cm version:

- 12.5 kg / 27.5lbs (without carry case)
- IATA compliant

90cm version:

- 15 kg / < 33lbs (without carry case)
- IATA compliant

120cm version:

- 19 kg / < 42lbs (without carry case)
- IATA compliant

Environmental Specification

Operating Temperature:

- -20°C to +55°C

Storage Temperature:

- -40°C to +80°C

Operating Altitude:

- 3000m

Survival Altitude:

- 4500m

Operating Wind Speed (No ballast)

- 25mph

Operating Wind Speed (With ballast)

- 45mph

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 & 120cm)
- FCC 25.209 with 25.212 (65, 90cm & 120cm)
- ETSI EN 301.358 (65 & 90 & 120cm)
- ETSI EN 301.35 (65cm)

- MIL-STD-188-164A (65cm)

- INTELSAT IESS-601 (90cm)

- INTELSAT IESS-602 (90cm)

- Eutelsat ESS502 (Ku 90 & 120cm Planned)

- Registered with Intelsat, Eutelsat, Optus and Arabsat

