

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. Options for an internal modem or H.264/MPEG2 encoder, make the MSAT ideal for a variety of applications.



Key Features

- 65, 90, 120 cm Reflectors
- X, Ku & Ka Frequency bands:
 - X-Band (65, 90 cm only)
 - Ku-Band (all)
 - Ka-Band (65cm only)
- Man Portable, IATA Compliant
- Mains or Battery Operation
- 5-Minutes to Air
- ITAR Free

Typical Applications

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



datasheet

at the heart of the action

X-Band

Tx Frequency Band:

- 7.9 - 8.4 GHz

Rx Frequency:

- 7.25 - 7.75 GHz

BUC Power (saturated):

- 25 W or 40 W

EIRP (sat) @ 8.15GHz

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

Typical G/T @ 7.5GHz

- 9.5 dB/K (65 cm version)
- 12.3 dB/K (90 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

Typical G/T @ 11.7 GHz:

- 13.7 dB/K (65 cm version)
- 16.8 dB/K (90 cm version)
- 19.3 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 Specifications

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 in small chassis and 16W Ku in the large chassis.

Certification:

- Skynet 5 (X-Band)
- Avanti (Ka-Band)

Physical Specifications

Transportability:

- IATA compliant

Packing:

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

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)

Weight:

- 65 cm (iDirect small chassis) version:
- 17 kg / 37 lbs. (without carry case)

Modems:

- Modem exchange possible at base-level maintenance.

Modem Options:

- iDirect e850mp/950mp
- Comtech DMD1050
- Paradise-Q-Lite modem
- Elbit – Shiron modem

Video Encoder Option

- DVE 5100 (H.264/MPEG2)

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.

Environmental Specifications

Operating Temperature:

- -20°C to 55°C (-40F to 122oF)

Storage Temperature:

- -40°C to 80°C (-40oF to 176oF)

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