Motorized Mantis MSAT

Man Portable Satellite Terminal

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

The Motorized Mantis MSAT is a lightweight. Satellite terminal that can be set-up anywhere to provide secure and non-secure data and video transmissions. The system supports X and Ku-Band configurations, ensuring worldwide coverage at all times. Frequency bands are swappable in the field, in under a minute. Designed for rapid deployment in hostile environments, now includes full, single-button, auto-acquire functionality.

The Motorized Mantis MSAT is available with a 90 cm 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

- 1-Button Auto Acquire
- 3-Axis simultaneous motorization
- X, Ku Frequency Bands
- Mains or Battery Operation
- 5-Minutes to Air
- 90, 120cm Reflectors
- ITAR Free, IATA Compliant

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 or 40 W

EIRP (sat) @ 8.15GHz
• 48.1 dBW (90 cm version)
• 51.0 dBW (120 cm version)

Typical G/T @ 7.5GHz
• 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
• 90 cm version
 • 16.8 dB/K
• 120 cm version
 • 19.3 dB/K

EIRP (sat) @ 14.125 GHz
• 90 cm version:
 • 54.2 dBW (25 W)
• 120 cm version:
 • 58.8 dBW (40 W)

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
• 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)

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

Video Encoder Option
• DVE 5100 (H.264/MPEG2)

Control Interface
• Embedded web server for control and management using external PC for initial base level configuration. Simple operator interface for field level control.

Alignment
• One button auto acquire, using integrated GPS, compass and beacon / carrier receiver.

Physical Specification

Transportability
• IATA compliant

Packing
• Optional Rucksack or rugged carry case in two box solution

Weight (DVE Version)
• 90 cm version:
 • 24 kg / 53 lbs (without carry case)

• 120 cm version:
 • 26 kg / 57 lbs (without carry case)

Environmental Specification

Operating Temperature:
• -20°C to 55°C (-4oF to 122oF)

Storage Temperature:
• -40°C to 80°C (-40oF to 176oF)

Operating Altitude:
• 3000 m

Survival Altitude:
• 4500 m

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 (90 & 120cm)
• FCC 25.209 with 25.212 (90 & 120 cm)
• ETSI EN 301.358 (90 & 120cm)
• INTELSAT IESS-601 (90cm)
• INTELSAT IESS-602 (90cm)
• Registered with Intelsat, Eutelsat, Optus and Arabsat