

ADVENT Mantis MSAT



Features

- X, Ku and Ka bands
- 65, 90 or 120cm reflector
- 12.5kg (65cm), 15kg (90cm) or 19kg (120cm)
- Mains / Battery Operation
- Fully integrated man portable design
- Interchangeable modem options
- Over 2Mbps data rate for the 65cm, over 5Mbps for the 90cm and over 10Mbps for the 120cm version
- Less than 5 minute set-up time to satellite acquisition
- Graphical interface control
- ITAR Free

Mantis MSAT Portable Data Terminal

Overview

The ADVENT Mantis MSAT Man Portable Data Terminal is a highly portable tri-band satellite antenna system designed for rapid deployment in hostile environments.

Available with either a 65, 90 or 120cm reflector its small size and weight make it ideal for secure and non-secure satellite communications for a variety of applications:

- Secure Military Communications
- First on Scene Broadcast
- Emergency Services
- Special Operations
- Disaster Recovery
- Mining

Specification

X-Band Specification

Tx Frequency Band.....7.9–8.4 GHz
Rx Frequency.....7.25–7.75 GHz
EIRP_(sat) @ 8.15 GHz.....45.3 dBW
G/T @ 7.5 GHz.....10.1 dB/K
Polarisation.....
Tx–RHCP or LHCP configurable
Rx–Orthogonal to Tx
Axial Ratio.....<2.0 dB (Tx), <1.21 dB (Rx)
Tx Spurious <-60 dBc
BUC Power (saturated)20 W
**** 90cm version:**
EIRP_(sat) @ 8.15 GHz.....48.1 dBW
G/T @ 7.5 GHz13 dB/K
**** 120cm version:**
EIRP_(sat) @ 8.15 GHz.....51.0 dBW
G/T @ 7.5 GHz15.5 dB/K

Ku-Band Specification

Tx Frequency Band.....13.75–14.5 GHz
Rx Frequency Bands from.....
.....10.7–12.75 GHz
EIRP_(sat) @ 14.125 GHz.....
46.2dBW (8W)
G/T @ 11.7 GHz.....14.1 dB/K
Polarisation.....Linear H/V
Tx orthogonal to Rx
X-polar30 dB
Tx Spurious <-60 dBc
BUC Power.....3W – 40W
**** 90cm version**
EIRP_(sat) @ 14.125 GHz.....
54.2dBW (25W)
G/T @ 11.7 GHz.....18 dB/K
**** 120cm version**
EIRP_(sat) @ 14.125 GHz.....
58.8dBW (40W)
G/T @ 11.7 GHz.....20.5 dB/K

Ka-Band Specification

Tx Frequency Band.....27–31 GHz
*(Frequency available in 1GHz bandwidth steps depending on BUC)
Rx Frequency Band.....18.7–22.2 GHz
*(Frequency available in 1GHz bandwidth steps depending on LNB)
EIRP_(sat) @ 30.5 GHz.....50.7 dBW (5W)
G/T @ 20.7 GHz.....18.5 dB/K
Polarisation.....
Tx–RHCP or LHCP configurable
Rx–Orthogonal to Tx
Linear (Optional)
Axial Ratio.....<1.0 dB (Tx), 1.5 dB (Rx) dB
Tx Spurious<-60 dBc
BUC Power (saturated)4, 5 or 10W
**** 90cm version:**
EIRP_(sat) @ 30.5 GHz.....56.6 dBW (10W)
G/T @ 20.7 GHz.....21.3 dB/K
**** 120cm version:**
EIRP_(sat) @ 30.5 GHz.....59.1 dBW (10W)
G/T @ 20.7 GHz.....24.0 dB/K

Common Specification

Power Requirements

90–260 VAC
External Battery Pack Option for DC Units
*Note: 10-36V DC (only available with 20W X band and 8W (and lower) Ku band terminals).

Interfaces

AC Power
L–Band Tx Interface (External Modem)
L–Band Rx Monitor
L–Band Modem Output
RJ45 Ethernet (1 or 2 based on modem option)
EIA–530 (Modem dependant)
DVE Encoder version with SDI Input

Modems

Modems may be exchanged at base level maintenance.

Modem Options

iDirect e850 mp
Comtech DMD1050
Paradise–Q-Lite modem
Elbit – Shiron modem

Encoder option

Advent DVE5100 (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)
**** 90cm version:**
15 kg / <33lbs (without carry case)
**** 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

3000 m

Survival Altitude

4500 m

Operating Wind Speed

11.16 ms (25mph / 40.23kph) – no ballast
20.11 ms (45mph / 72.42kph) – with ballast

Shock

MIL–810F Method 513.5 procedure IV

Vibration

MIL–810F Method 514.1 procedure I

Sand / Dust

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

Water Ingress

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

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



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