

Mantis 190/240 Flyaway Antenna System

The World's Most Popular Flyaway Solution

OVERVIEW

A comprehensive range of lightweight, compact satellite terminals for all transportable applications.

BENEFITS

- Mantis is available in 1.9m and 2.4m antenna sizes
- Available in single, dual, tri and quad band configurations
- Bands available:
 - 1.9m - C, X, Ku & DBS
 - 2.4m - C, X, Ku & DBS
- Fully compliant with all satellite operator specifications
- Motorised tracking option for inclined orbit operation
- Electronics available in single thread, power combined or 1:1 redundant configuration
- Antennas are approved for use with most Satellite operators
- Variety of uplink electronics packages available
- Available in most colours to order
- Co-polar Rx available on Ku antennas
- Second Rx port available on C Band linear antennas



Key Features

- Manufactured using latest carbon fibre composite materials for minimum weight
- Easily deployed by a single user
- Compact design, IATA weight compliant options

Typical Applications

- Satellite Newsgathering
- Remote Newsgathering



1.9m MANTIS

TYPE

- Circular (axially symmetric) segmented

CONFIGURATION

- Prime focus

MEETS THE REQUIREMENTS OF

- ITU-R S.580-6
- ITU-R S.465-5
- INTELSAT IESS-601
- EUTELSAT ESS-502
- MIL STD 188-164A
- STANAG 4484 (as applicable)

MECHANICAL

Mount:

- Elevation over azimuth

OPERATION

- Manual and/or 2 axis motorisation

MOVEMENT

Azimuth adjustment:

- +/- 180° coarse adjust (restricted elevation), +/- 2.5° fine adjust

Elevation adjustment:

- 0° to 90° (with adjustable mount elevation)

Polarisation adjustment:

- +/- 95° (Linear polarisation only)

FREQUENCY

C CP:

- Tx 5.85 to 6.425 GHz
- Rx 3.625 to 4.2 GHz

C LP:

- Tx 5.85 to 6.65 GHz (option to 6.725 GHz)
- Rx 3.40 to 4.2 GHz

X:

- Tx 7.9 to 8.4 GHz
- Rx 7.25 to 7.75 GHz

Ku:

- Tx 13.75 to 14.5 GHz (option from 13.0 GHz)
- Rx 10.70 to 12.75 GHz

DBS:

- Tx 17.3 to 18.1 GHz (option to 18.4 GHz)
- Rx 10.70 to 12.75 GHz

TX GAIN

C:

- Tx 40.1 dBi typ @ 6.25 GHz

X:

- Tx 42.4 dBi typ @ 8.15 GHz

Ku:

- Tx 47.2 dBi typ @ 14.25 GHz

DBS:

- Tx 49.2 dBi typ @ 17.85 GHz

G/T

C:

- 3.95 GHz = 15.0 dBk (assumes LNB 60 dB Gain 0.5 dB NF)

X:

- 7.40 GHz = 19.3 dBk (assumes LNA 50 dB Gain 0.8 dB NF)

Ku:

- 11.20 GHz = 23.3 dBk (assumes LNB 60 dB gain 0.7 dB NF)

DBS:

- 11.20 GHz = 23.3 dBk (assumes LNB 60 dB Gain 0.7 dB NF)

CROSS POLARISATION ISOLATION

C Band Linear

- -30 dB Tx / Rx

C and X Band Circular

- 30 dB Tx (axial ratio 1.07)
- 20 dB Rx (axial ratio 1.22)

Ku and DBS Band Linear

- -35 dB

PORT TO PORT ISOLATION

C Band Linear

- Tx / Rx 35 dB (90 dB incl filter)
- Rx / Tx 35 dB

C Band Circular

- Tx / Rx 20 dB (80 dB incl filter)
- Rx / Tx 20 dB

X Band

- Tx / Rx 20 dB (100 dB incl filter)
- Rx / Tx 20 dB

Ku Band

- Tx / Rx 40 dB (110 dB incl filter)
- Rx / Tx 30 dB

DBS Band

- Tx / Rx 40 dB (110 dB incl filter)
- Rx / Tx 30 dB

STANDARD DIMENSIONS & WEIGHTS

Mount case

- Dimensions
- 540 x 540 x 510 mm [21.2" x 21.2" x 20 in"]
- Weight
- 25 kg [55.1 lbs]

Segment case

- Dimensions
- 810 x 810 x 490 mm [31.9" x 31.9" x 19.2"]
- Weight
- 54 kg [119 lbs]

IATA DIMENSIONS & WEIGHTS

Mount case

- Dimensions
- 540 x 540 x 510 mm [21.2" x 21.2" x 20"]
- Weight
- 29.5 kg [65 lbs]

Hub & Segment case

- Dimensions
- 810 x 810 x 490 mm [31.9" x 31.9" x 19.2"]
- Weight
- 29.9 kg [67 lbs]

Feedarm & Segment case

- Dimensions
- 900 x 765 x 365 mm [35.4" x 30.1" x 14.4"]
- Weight
- 28.7 kg [66 lbs]

ENVIRONMENTAL

TEMPERATURE

Operational:

- -20°C to +60°C (-4°F to 140°F)

Transport:

- -40°C to +70°C (-40°F to 158°F)

WINDSPEEDS

Operational:

- 12 m/s (27 mph)

Survival:

- 20 m/s (45 mph)

HUMIDITY

- 0 to 100% RH

2.4m MANTIS

Type

- Circular (axially symmetric) segmented

Configuration

- Prime focus

Meets The Requirements of

- ITU-R S.580-6
- ITU-R S.465-5
- INTELSAT IESS-601
- EUTELSAT ESS-502
- MIL STD 188-164A
- STANAG 4484 (as applicable)

Frequency

C CP:

- Tx 5.85 to 6.425 GHz
- Rx 3.625 to 4.2 GHz

C LP:

- Tx 5.85 to 6.65 GHz (option to 6.725 GHz)
- Rx 3.40 to 4.2 GHz

X:

- Tx 7.9 to 8.4 GHz
- Rx 7.25 to 7.75 GHz

Ku:

- Tx 13.75 to 14.5 GHz (option from 13.0 GHz)
- Rx 10.70 to 12.75 GHz

DBS:

- Tx 17.3 to 18.1 GHz (option to 18.4 GHz)
- Rx 10.70 to 12.75 GHz

Tx Gain

C:

- Tx 42.1 dBi typ @ 6.25 GHz

X:

- Tx 44.4 dBi typ @ 8.15 GHz

Ku:

- Tx 49.3 dBi typ @ 14.25 GHz

DBS:

- Tx 51.2 dBi typ @ 17.85 GHz

G/T

C:

- 3.95 GHz = 17.0 dBk (assumes LNB 60 dB Gain 0.5 dB NF)
- X:7.40 GHz = 21.4 dBk (assumes LNA 50 dB Gain 0.8 dB NF)

Ku:

- 11.20 GHz = 25.4 dBk (assumes LNB 60 dB gain 0.7 dB NF)

DBS:

- 11.20 GHz = 25.4 dBk (assumes LNB 60 dB Gain 0.7 dB NF)

Cross Polarisation Isolation

C Band Linear

- -30 dB Tx / Rx

C and X Band Circular

- 30 dB Tx (axial ratio 1.07)
- 20 dB Rx (axial ratio 1.22)

Ku and DBS Band Linear

- -35 dB

Port to Port Isolation

C Band Linear

- Tx / Rx 35 dB (90 dB incl filter)
- Rx / Tx 35 dB

C Band Circular

- Tx / Rx 20 dB (80 dB incl filter)
- Rx / Tx 20 dB

X Band

- Tx / Rx 20 dB (100 dB incl filter)
- Rx / Tx 20 dB

Ku Band

- Tx / Rx 40 dB (110 dB incl filter)
- Rx / Tx 30 dB

DBS Band

- Tx / Rx 40 dB (110 dB incl filter)
- Rx / Tx 30 dB

Mechanical

Mount:

- Elevation over azimuth

Operation

- Manual and/or 2 axis motorisation

Movement

Azimuth adjustment:

- +/- 180° coarse adjust, (restricted elevation) +/- 2.5° fine adjust

Elevation adjustment:

- 0° to 90° (with adjustable mount elevation)

Polarisation adjustment:

- +/-95° (Linear polarisation only)

Standard Dimensions & Weights

Mount case

- Dimensions
- 540 x 540 x 670 mm [21.2" x 21.2" x 26.4"]
- Weight
- 26 kg [57.3 lbs]

Segment case (qty 2)

- Dimensions
- 990 x 990 x 490 mm [39" x 39" x 19.2"]
- Weight
- 49 kg [108 lbs]

IATA Dimensions & Weights

Mount case

- Dimensions
- 540 x 540 x 670 mm [21.2" x 21.2" x 26.4"]
- Weight
- 29 kg [63 lbs]

Hub case:

- Dimensions
- 990 x 990 x 490 mm [39" x 39" x 19.5"]
- Weight
- 31 kg [68.3 lbs]

Segment softbag (qty 3)

- Dimensions
- 1030 x 960 x 440 mm [40.5" x 37.8" x 17.3"]
- Weight
- 25.3 kg [55.7 lbs]

Feedarm & cartridge case (C-band only)

- Dimensions
- 1130 x 650 x 185 mm [44.5" x 25.6" x 7.2"]
- Weight
- 29.5 kg [65 lbs]

Temperature

Operational:

- -20°C to +60°C (-4°F to 140°F)

Transport:

- -40°C to +70°C (-40°F to 158°F)

Windspeeds

Operational:

- 14 m/s (30 mph)

Survival:

- 27 m/s (60 mph)

Humidity

- 0 to 100% RH

