

'MANTIS' 1.9m Flyaway Antenna System

Available in Single, Dual, Tri and Quad band configurations for C, X, Ku, Ka and DBS bands

- The MANTIS 190 1.9m Flyaway antenna is manufactured using the latest carbon fibre materials to provide a lightweight rugged system accommodated in only 2 flight cases. Electronics are available in single thread, power combined or 1:1 redundant configurations.
- Only 2 lightweight carbon fibre flight cases
- Easily deployed by a single user
- Flight cases IATA baggage compliant option
- Constructed from latest carbon fibre composite materials for minimum weight
- Multiple band operation
- In operation worldwide
- Motorized tracking available for inclined orbit operation
- Intelsat type approved at C band



Specification

RF

Type

Circular (axially symmetric) Segmented

Diameter

1.9 meter (74.8 inches)

Configuration

Prime focus

FREQUENCY

C: Tx 5.85 to 6.425 GHz
(Option 6.65 & 6.725 GHz)
Rx 3.625 to 4.2 GHz
(Option from 3.4 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
(Optional 18.4 GHz)
Rx 10.70 to 12.75 GHz

Ka: Tx 27.5 to 30 GHz
Rx 18.2 to 20.2 GHz
or Tx 30 to 31 GHz
Rx 20.2 to 21.2 GHz

GAIN

C: Tx 40.1 dBi typ. @ 6.25 GHz
Rx 36.1 dBi typ. @ 3.95 GHz

X: Tx 42.4 dBi typ. @ 8.15 GHz
Rx 41.6 dBi typ. @ 7.4 GHz

Ku: Tx 47.2 dBi typ. @ 14.25 GHz
Rx 45.2 dBi typ. @ 11.2 GHz

DBS: Tx 49.2 dBi typ. @ 17.85 GHz
Rx 45.2 dBi typ. @ 11.2 GHz

Ka: Tx 53.3 dBi typ. @ 28.75 GHz
Rx 50.1 dBi typ. @ 19.7 GHz

G/T

C: 3.95GHz = 16.0dBK
(Assumes LNB 60dB Gain 0.3dB NF)

X: 7.40GHz = 19.3dBK
(Assumes LNA 50dB Gain 0.8dB NF)

KU: 11.20GHz = 23.3dBK
(Assumes LNB 60dB Gain 0.7dB NF)

DBS: 11.20GHz = 23.3dBK
(Assumes LNB 60dB Gain 0.7dB NF)

Ka: 19.70GHz = 27.3dBK
(Assumes LNB 55dB Gain 1.1dB NF)

OFF-AXIS GAIN MEETS REQUIREMENTS OF:

STANAG 4484
INTELSAT IEES-601
EUTELSAT EESS-400
MIL STD 188-164A
(as applicable)

Polarization

Linear orthogonal / circular

Feed

Linear
1 Tx port 1 Rx port
2nd Rx port (optional)

Circular
1 Tx port 2 Rx port

Cross polar isolation

C / Ku-Band Linear
30 dB Tx / Rx

C-Band Circular
30 dB Tx (axial ratio 1.07)
20 dB Rx (axial ratio 1.22)
(all relative to co-polar gain within 1 dB contour)

PORT TO PORT ISOLATION

C-Band Linear
Tx / Rx 5.85-6.425 GHz
35 dB (90 dB incl Filter)
Rx / Tx 3.625-4.2 GHz
35 dB

C-Band Circular
Tx / Rx 5.85-6.425 GHz
20 dB (80 dB incl Filter)
Rx / Tx 3.625-4.2 GHz
20 dB

X-Band
Tx/Rx
Circular 20 dB (100 dB incl. Filter)

Ku-Band
Tx / Rx 13.75-14.5 GHz
40 dB (110 dB incl Filter)
Rx / Tx 10.7-12.75 GHz
30 dB

DBS-Band
Tx / Rx 17.3-18.4 GHz
40 dB (110 dB incl Filter)
Rx / Tx 10.7-12.75 GHz
30 dB

MECHANICAL

Mount

Elevation over Azimuth

Operation

Manual

Motorized Azimuth/Elevation (optional)

INTERFACE

C-Band

Tx

WR137 Quick Release

Rx

Linear

SMA (N-type with LNB fitted)

Circular

N-Type

Ku-Band

Tx

WR75 Quick Release

Rx

WR75 (Optional Quick Release / N-type with LNB fitted)

MOVEMENT

Azimuth adjustment

± 45° coarse adjust, ± 2.5° fine adjust

Elevation adjustment

0° to 90° (with additional Mount elevation)

Pol. adjustment

± 95° (linear polarization only)

DIMENSIONS

Mount Case

21.3 inches x 21.3 inches x 20 inches

Segment Case

31.9 inches x 31.9 inches x 19.3 inches

WEIGHT

Mount Case

55 pounds

Segment Case

119 pounds

TEMPERATURE

Operational

-68 to +140°F

Transport

-104 to +158°F

Windspeed

35.8 miles/hour operational

60.4 miles/hour survival

Pointing Stability

< ± 0.2°

Humidity

0 to 100% RH

These specifications are accurate at the time of issue but may be subject to change and will not form part of any contract.

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