

'MANTIS' 1 metre Single Box Antenna

Available X, Ku, DBS and Ka Band

- The Mantis 1 metre antenna is specifically designed to be ultra lightweight, and folds into a single “suitcase” style package at under 20 Kg. It easily meets the latest airline limits for checked baggage.

Aimed at the professional user, Broadcast, Military, or Commercial, the Mantis 1 metre antenna combines with the Vislink EXOS encoder/RF system to provide a truly versatile total solution for Video, Data and IP. The Mantis/EXOS system is entirely waterproof and rugged for outdoor operation; and it sets new standards for ultra lightweight Flyaway satellite uplink operations.

Electrical performance is superb; the Mantis 1 metre complements the larger Mantis 1.2, 1.9 and 2.4 metre antennas

- <20 Kg total weight
- Suitcase style packaging easily meets latest airline limits for checked baggage
- Single flight case
- New lightweight design
- Easily deployed by a single user
- IATA checked baggage compliant
- Constructed from latest carbon fibre composite materials for minimum weight
- Multiple band operation available



Specification

RF

Diameter
1.0 m

Configuration
Offset fed

Frequency

Tx
13.75 to 14.5 GHz (Option for 13.0 GHz)
or 7.9 to 8.4 GHz
or 17.3 to 18.4 GHz
or 30 to 31 GHz
or 27.5 GHz to 30 GHz

Rx
10.95 to 12.75 GHz
or 7.25 to 7.75 GHz
or 18 to 21 GHz

Gain

Tx
42 dBi (min. 14.0 GHz) (42.7 typ.)
44 dBi (min. 17.7 GHz)
48.6 dBi (min. 30 GHz)
37 dBi (min. 8 GHz)

Rx
39.4 dBi (min. 10.95 GHz) (41.7 typ.)
45.1 dBi (min. 20 GHz)

Waveguide Loss

Tx
0.5 dB (Feedarm / OMT)

Rx
0.2 dB (OMT/Filter)

Off-Axis Gain

Tx
Exceeds the requirements of:

Intelsat

29-25 log θ dBi for $100\lambda/D^\circ < \theta < 20^\circ$
-3.5 dBi for $20^\circ < \theta < 26.3^\circ$
32 - 25log θ dBi for $26.3^\circ < \theta < 48^\circ$
-10 dBi for $48^\circ < \theta < 180^\circ$

Eutelsat

29 - 25 log θ dBi for $2.5^\circ < \theta < 7^\circ$
+8 dBi for $7^\circ < \theta < 9.2^\circ$
32 - 25 log θ dBi for $9.2^\circ < \theta < 48^\circ$
-10 dBi for $48^\circ < \theta < 180^\circ$

FCC

29 - 25 log θ dBi for $1.25^\circ < \theta < 7^\circ$
+8 dBi for $7^\circ < \theta < 9.2^\circ$
32 - 25 log θ dBi for $9.2^\circ < \theta < 48^\circ$
-10 dBi for $48^\circ < \theta < 180^\circ$

Rx

Exceeds the recommendations of:

29-25 log θ dBi for $100\lambda/D^\circ < \theta < 20^\circ$
-3.5 dBi for $20^\circ < \theta < 26.3^\circ$
32 - 25log θ dBi for $26.3^\circ < \theta < 48^\circ$
-10 dBi for $48^\circ < \theta < 180^\circ$

Polarisation

X band circular
Ku band linear
DBS band linear
Ka band linear or circular

Feed

1 Tx port 1 Rx port

Cross polar isolation

> -35 dB relative to co-polar gain within 1 dB contour

VSWR

Tx
1.2:1

Rx
1.3:1

Port to port isolation

Tx / Rx
40 dB (110 dB including Filter)

Rx / Tx
30 dB

MECHANICAL

Mount
Elevation over Azimuth

Operation

Manual
Motorised Azimuth/Elevation (optional)

Interface

Tx
Waveguide Quick Release

Rx

Waveguide Quick Release
(N-Type with LNB fitted)

MOVEMENT

Azimuth adjustment
340°

Elevation adjustment

10° to 91°

Pol. adjustment

$\pm 95^\circ$ (linear polarisation only)

DIMENSIONS

Single Case
800 mm x 600 mm x 250 mm

Weight

Single Case
< 20 Kg

TEMPERATURE

Operational
-20 to +50°C

Transport

-40 to +70°

Windspeed

21 m/s operational
30 m/s survival

Pointing Stability

< $\pm 0.2^\circ$

Humidity

0 to 100% RH

Mantis 1.0 Metre stowed in suitcase

