



AFD120 & AFD150 FlyDrive Motorized Antenna System

High Performance Solution for Rapid Response

The FlyDrive Antenna design allows it to function as a traditional flyaway as well as a semi-permanent vehicle mounted system. It draws on technology and design innovations from the field proven Mantis Flyaway and NewSwift antennas.

The FlyDrive design enables single person transportation, setup and operation, offering full 3 axis motorized control with manual backup, satellite auto-acquisition and tracking, with GPS if required.

The FlyDrive can be fitted easily to most vehicle roof racks using standard fittings. The IATA weight compliant flight cases allow the FlyDrive to be transported on a commercial airline.

The FlyDrive is fully adjustable, to +/- 200° azimuth, elevation 6° to 92° and polarization adjustment +/- 95°.

The drive control unit (DCU5000) is housed within the main antenna case, which makes this antenna very compact for operation in the field.

The units in 's 5000 range of electronics package compliments the FlyDrive perfectly. The 5000 series are half the width of a standard 19" rack mounted unit, a major advantage where space and weight are critical. See the 5000 series datasheet for full information.



Key Features

- Available with 1.2 m or 1.5 m reflector options
- Bands available:
 - 1.2m - X, Ku, DBS & Ka
 - 1.5m - C, X, Ku, DBS & Ka
- IATA weight compliant (1.2 m two cases, 1.5 m three cases)
- Satellite auto acquisition & tracking packages available
- Easily deployed by a single user
- Flyaway or semi-permanent vehicle mounted antenna system
- Drive control housed within main antenna case
- Combines with half rack 5000 series system electronics
- Software upgradeable for Auto-Acquire (ACU5216) and integral ASI Demod
- Option for multi-band capability by feed cartridge exchange
- Option for integral BUC with antenna for single thread operation enabling HPA FSK control via TX L-Band

Typical Applications

- Satellite Newsgathering
- Remote Newsgathering
- Event Coverage



AFD150 FlyDrive Frequency

- C:**
- Tx 5.85 to 6.65 GHz
 - Rx 3.4 to 4.2 GHz
 - or
 - Tx 6.725 to 7.025 GHz
 - Rx 4.5 to 4.8 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 12.75 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
- Ka:**
- Tx 27.5 to 30.0 GHz (option 30.0 to 31.0 GHz)
 - Rx 18.2 to 21.2 GHz

TX Gain

- C:**
- Tx 38.0 dBi typ @ 6.25 GHz
- X:**
- Tx 40.3 dBi typ @ 8.15 GHz
- Ku:**
- Tx 45.2 dBi typ @ 14.25 GHz
- DBS:**
- Tx 47.2 dBi typ @ 17.85 GHz
- Ka:**
- Tx 51.3 dBi typ @ 28.75 GHz

GT

- C:**
- 3.95 GHz = 13.5 dBk (*LNA 50 dB gain 0.5 dB NF)
- X:**
- 7.40 GHz = 17.3 dBk (*LNA 50 dB Gain 0.8 dB NF)

- Ku:**
- 11.20 GHz = 21.4 dBk (*LNB 60 dB gain 0.7 dB NF)

- DBS:**
- 11.20 GHz = 21.4 dBk (*LNB 60 dB Gain 0.7 dB NF)

- Ka:**
- 19.70 GHz = 24.0 dBk (*LNB 55 dB Gain 1.6 dB NF)

Port-to-Port Isolation

- C:**
- Tx / Rx 40 dB (110 dB incl. filter)
 - Rx / Tx 30 dB

- X:**
- Tx / Rx 20 dB (100 dB incl. filter)
 - Rx / Tx 20 dB

- Ku:**
- Tx / Rx 40 dB (110 dB incl. filter)
 - Rx / Tx 30 dB

- DBS:**
- Tx / Rx 40 dB (110 dB incl. filter)
 - Rx / Tx 30 dB

- Ka:**
- Tx / Rx 35 dB (110 dB incl. filter)
 - Rx / Tx 35 dB.

Cross Polarization 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

Ka Band:

- Consult factory
- (All relative to co-polar gain within 1 dB contour)

AFD120 Flydrive Frequency

- 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 12.75 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

- Ka:**
- Tx 27.5 to 30.0 GHz (option 30.0 to 31.0 GHz)
 - Rx 18.2 to 21.2 GHz

TX Gain

- X:**
- Tx 38.4 dBi typ @ 8.15 GHz
- Ku:**
- Tx 43.3 dBi typ @ 14.25 GHz
- DBS:**
- Tx 45.2 dBi typ @ 17.85 GHz

- Ka:**
- Tx 49.4 dBi typ @ 28.75 GHz

G/T

- X:**
- 7.40 GHz = 15.3 dBk (LNA 50 dB Gain 0.8 dB NF)

- Ku:**
- 11.20 GHz = 19.4 dBk (LNB 60 dB gain 0.7 dB NF)

- DBS:**
- 11.20 GHz = 19.4 dBk (*LNB 60 dB Gain 0.7 dB NF)

- Ka:**
- 19.70 GHz = 22.0 dBk (*LNB 55 dB Gain 1.6 dB NF)

Port-to-Port Isolation

- X:**
- Tx / Rx 20 dB (100 dB incl. filter)
 - Rx / Tx 20 dB

- Ku:**
- Tx / Rx 40 dB (110 dB incl. filter)
 - Rx / Tx 30 dB

- DBS:**
- Tx / Rx 40 dB (110 dB incl. filter)
 - Rx / Tx 30 dB

- Ka:**
- Tx / Rx 35 dB (110 dB incl. filter)
 - Rx / Tx 35 dB

Cross Polarization Isolation

- X Band Circular:**
- 30 dB Tx (axial ratio 1.07)
 - 20 dB Rx (axial ratio 1.22)

- Ku and DBS Band Linear**
- -35 dB

Ka Band

- Consult factory.
- (All relative to co-polar gain within 1 dB contour)

Configuration:

- Offset fed
- Mount**
- Elevation and Azimuth

Meets the Requirements:

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

- Antenna Position Control**
- Full 3 axis motor control with manual override mechanism

- Azimuth Adjustment**
- +/- 200°

- Elevation Adjustment**
- 6° to 92°

- Polarization Adjustment**
- +/- 95°

Antenna Control Unit

- Serial remote interface
- One touch' stow & deploy
- Fast / med / slow motor drive system
- Simultaneous positional feedback of Azimuth / Elevation / Polarisation axis with true elevation reading from calibrated inclinometer
- GPS based auto satellite acquisition package

Temperature

- Operational:**
- -20°C to +60°C (-4°F to 140°F)

- Transport:**
- -40°C to +70°C (-40°F to 158°F)

- Humidity:**
- 0 to 100% RH

- Options:**
- GPS based auto-acquire upgrade package

Dimensions / Weights & Wind Speed

FlyDrive120:

- Case 1:**
- 944 x 540 x 358 mm 31.5 Kg
 - (37 x 21.2 x 14 inches 69.4lbs)

- Case 2:**
- 990 x 580 x 400 mm 31.5 Kg
 - (39 x 22.8 x 15.7 inches 69.4lbs)

FlyDrive150:

- Case 1:**
- 944 x 540 x 358 mm 31.5 Kg
 - (37 x 21.2 x 14 inches 69.4lbs)

- Case 2:**
- 990 x 580 x 400 mm 26 Kg
 - (39 x 22.8 x 15.7 inches 57.3lbs)

- Case 3:**
- 990 x 580 x 250 mm 29.5 Kg
 - (39 x 22.8 x 9.8 inches 65lbs)

Non-IATA 2-Case configuration is available

Wind-speeds

- Operational:**
- 20 m/s (45 mph)

- Degraded roof rack:**
- 25 m/s (56 mph)

- Degraded flyaway:**
- 30 m/s (67 mph)

- Survival:**
- 50 m/s (112 mph)