AFD120 & AFD150 FlyDrive Motorised Flyaway Antenna

High performance solution for rapid response

Overview

The ADVENT FlyDrive Antenna is the newest in the range of antenna solutions on offer. The FlyDrive is designed to function as a traditional flyaway as well as a semi-permanent vehicle mounted system. The FlyDrive draws on technology and design innovations of the well known and field proven Mantis Flyaway and NewSwift antennas.

Advent has made its FlyDrive as easy as possible to operate. It offers full 3-axis motorised 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 FlyDrive is easily transported in IATA weight compliant flight cases so that it can be taken on a commercial airline, for quick deployment by a single user anywhere in the world.

ADVENT's FlyDrive is fully adjustable, to +/- 200° azimuth, elevation 6° to 92° and polarisation 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 electronics for ADVENT FlyDrive's are available in single thread, power combined or 1:1 redundant configurations. Advent'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. For further information on the 5000 series of electronics please see separate datasheet.

Features

- Available with 1:2m or 1.5m relfector
- Bands available
  - 1.2m - X, Ku, DBS & Ka
  - 1.5m - C, X, Ku, DBS & Ka
- IATA weight compliant
  - 1.2m - two cases
  - 1.5m - three cases
- Satellite auto acquistion & tracking packages available
- Easily deployed by a single user
- Can be used as a 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

Specifications

Configuration
Offset fed

Mount
Elevation over azimuth

Meets The Requirements of
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°

Polarisation Adjustment
+/- 95°

Antenna Control Unit
- Serial remote interface
- 'One touch' stow & deploy
- Fast / med / slow motor drive system
- Simultaneous positional feed-back 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)

Humidty:
0 to 100% RH

Options
- GPS based auto-acquire upgrade package

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
(assumes LNA 50 dB Gain 0.8 dB NF)
Ku:. . . . . 11.20 GHz = 19.4 dBk
. (assumes LNB 60 dB gain 0.7 dB NF)
DBS: . . . . . 11.20 GHz = 19.4 dBk
.(assumes LNB 60 dB Gain 0.7 dB NF)
Ka:. . . . . 19.70 GHz = 22.0 dBk
.(assumes LNB 55 dB Gain 1.6 dB NF)

Cross Polarisation 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)

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

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

G/T
C: . . . . . 3.95 GHz = 13.5 dBk
. (assumes LNA 50 dB gain 0.5 dB NF)
X; . . . . . 7.40 GHz = 17.3 dBk
(assumes LNA 50 dB Gain 0.8 dB NF)
Ku:. . . . . 11.20 GHz = 21.4 dBk
. (assumes LNB 60 dB gain 0.7 dB NF)
DBS: . . . . . 11.20 GHz = 21.4 dBk
.(assumes LNB 60 dB Gain 0.7 dB NF)
Ka:. . . . . 19.70 GHz = 24.0 dBk
.(assumes LNB 55 dB Gain 1.6 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
Ka Band
. . . . . Consult factory
. . (all relative to co-polar gain within 1 dB contour)

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

WEIGHTS / DIMENSIONS / WIND SPEED

Dimensions / Weights
FlyDrive 120
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)

FlyDrive 150
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

Windspeeds
Operational . . . . . 20 m/s (45 mph)
Degraded roofrack. . . 25 m/s (56 mph)
Degraded flyaway. . . . 30 m/s (67 mph)
Survivial . . . . . 50 m/s (112 mph)

VISLINK

www.vislink.com

© 2009 Vislink Group. All rights reserved. All other products or services referenced herein are identified by the trademarks or service marks of their respective companies or organizations.
Note: Vislink reserves the right to change specifications without notice. Please contact your representative to confirm current specifications. 4/1/2010