NewSwift CF Motorised Antenna

High performance compact integrated solution

Overview

The NewSwift CF antenna is a highly compact integrated satellite terminal designed for rapid deployment.

The NewSwift CF design allows for two HPAs, variable power combiner, redundancy switching and two upconverters to be integrated into the antenna assembly close to the feed, thereby minimising the waveguide loss and maximising the available EIRP.

The fully weatherproof RF equipment is further protected from the weather by a removable cover thus ensuring reliable operation whatever the environmental conditions.

Features

- Available with 1.2m, 1.5m or 1.8m reflector
- Bands available:
  - 1.2m - X, Ku, DBS & Ka
  - 1.5m - C, X, Ku, DBS & Ka
  - 1.8m - C, X, Ku, DBS & Ka
- Full 3 axis control includes 360° azimuth range
- GPS based auto satellite acquisition packages avaliable
- 800 City database controller
- Tracking option with beacon receiver
- Full remote control
- Many models are Eutelsat and/or Intelsat type approved
- All models are approved for use with the majority of Satellite Providers
- Type - offset fed
- Configuration - prime focus
- Mount - elevation over azimuth
- Software upgradeable to auto-acquire (ACU5216) and integral ASI Demod
- Option for multi-band capability by cartridge exchange
- Available in any custom colour scheme

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Specifications

GENERAL

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
Linear Polarisation: Full 3 axis motor control with manual override mechanism

Circular Polarisation: Full 2 axis motor control with manual override mechanism

Azimuth Adjustment
. . . . . 360°

Elevation Adjustment
. . . . . 6° to 91°

Polarisation Adjustment
Linear:. . . . . +/- 90°
Circular: . . . . . None

Antenna Control Unit

- Compact half width rack unit
- Serial remote interface
- 'One touch" stow & deploy
- Fast / med / slow motor drive system
- Simultaneous positional feedback of Az / El / Pol axis with true elevation reading from calibrated inclinometer

Options

- GPS based auto-acquire upgrade package
- Rotary joint for azimuth axis
- Co-polar receive facility for Ku Band

Two HPAs located within the antenna assembly

1.2M NEWSWIFT

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
. . . . . .Rx 18.2 to 20.2 GHz
. . .(option Tx 30 to 31 GHz, Rx 20.2 to 21.2 GHz)

Gain
X: . . . . . Tx 38.4 dBi typ @ 8.15 GHz
. . . . . Rx 37.6 dBi typ @ 7.4 GHz
Ku:. . . . . .Tx 43.3 dBi typ @ 14.25 GHz
. . . . . Rx 41.2 dBi typ @ 11.2 GHz
DBS: . . . . . Tx 45.2 dBi typ @ 17.85 GHz
. . . . . Rx 41.2 dBi typ @ 11.2 GHz
Ka:. . . . . Tx 49.4 dBi typ @ 28.75 GHz
. . . . . Rx 46.1 dBi typ @ 19.7 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

Weights
Antenna 95Kg (209lbs)

Temperature
Operational:. . . . . .-20°C to +60°C
. . . . . .(-4°F to 140°F)
Transport:. . . . . .-40°C to +70°C
. . . . . (-40°F to 158°F)

Windspeed
Operational:. . . . . 21 m/s (47 mph)
Degraded . . . . . .28 m/s (63 mph)
Survival:. . . . . 50 m/s (112 mph)

Humidty
. . . . . 0 to 100% RH

1.5M NEWSWIFT

Frequency
C; . . . . . .Tx 5.85 to 6.65 GHz
. . . . . .Rx 3.4 to 4.2 GHz
. . . . . .(option Tx 6.725 to 7.025 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
. . . . . .Rx 18.2 to 20.2 GHz
. . .(option Tx 30 to 31 GHz, Rx 20.2 to 21.2 GHz)

Gain
C: . . . . . .Tx 38 dBi typ @ 6.25 GHz
. . . . . .Rx 34 dBi typ @ 3.95 GHz
X: . . . . . Tx 40.3 dBi typ @ 8.15 GHz
. . . . . Rx 39.5 dBi typ @ 7.4 GHz
Ku:. . . . . .Tx 45.2 dBi typ @ 14.25 GHz
. . . . . Rx 43.1 dBi typ @ 11.2 GHz
DBS: . . . . . Tx 47.2 dBi typ @ 17.85 GHz
. . . . . Rx 43.1 dBi typ @ 11.2 GHz
Ka:. . . . . Tx 51.3 dBi typ @ 28.75 GHz
. . . . . .Rx 48 dBi typ @ 19.7 GHz

G/T
C: . . . . . .3.95 GHz = 13.5 dBk
. . . . . (assumes LNB 60 dB Gain 0.5 dB NF)
X; . . . . . .7.40 GHz = 17.3 dBk
. . . . . (assumes LNB 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 dBk
. . . . . (assumes LNB 55 dB Gain 1.6 dB NF)

Cross Polarisation Isolation
C Band Linear . . . . . -30 dB Tx/Rx
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
Antenna 105Kg (231lbs)

Temperature
Operational:. . . . . .-20°C to +60°C
. . . . . .(-4°F to 140°F)
Transport:. . . . . .-40°C to +70°C
. . . . . (-40°F to 158°F)

Windspeed
Operational:. . . . . 21 m/s (47 mph)
Degraded . . . . . .28 m/s (63 mph)
Survival:. . . . . 50 m/s (112 mph)

Humidty
. . . . . 0 to 100% RH

1.8M NEWSWIFT

Frequency
C: . . . . . .Tx 5.85 to 6.65 GHz
. . . . . .Rx 3.4 to 4.2 GHz
. . . . . .(option Tx 6.725 to 7.025 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
. . . . . .Rx 18.2 to 20.2 GHz
. . .(option Tx 30 to 31 GHz, Rx 20.2 to 21.2 GHz)

Gain
C: . . . . . Tx 39.6 dBi typ @ 6.25 GHz
. . . . . Rx 35.6 dBi typ @ 3.95 GHz
X: . . . . . Tx 41.9 dBi typ @ 8.15 GHz
. . . . . Rx 41.1 dBi typ @ 7.4 GHz
Ku:. . . . . .Tx 46.8 dBi typ @ 14.25 GHz
. . . . . Rx 44.7 dBi typ @ 11.2 GHz
DBS: . . . . . Tx 48.7 dBi typ @ 17.85 GHz
. . . . . Rx 44.7 dBi typ @ 11.2 GHz
Ka:. . . . . Tx 52.9 dBi typ @ 28.75 GHz
. . . . . Rx 49.6 dBi typ @ 19.7 GHz

G/T
C: . . . . . .3.95 GHz = 15.0 dBk
. . . . . .(assumes LNB 60 dB Gain 0.5 dB NF)
X; . . . . . .7.40 GHz = 18.8 dBk
. . . . . .(assumes LNA 50 dB Gain 0.8 dB NF)
Ku:. . . . . 11.20 GHz = 23 dBk
. . . . . .(assumes LNB 60 dB gain 0.7 dB NF)
DBS: . . . . . 11.20 GHz = 23.0 dBk
. . . . . .(assumes LNB 60 dB Gain 0.7 dB NF)
Ka:. . . . . 19.70 GHz = 25.6 dBk
. . . . . .(assumes LNB 55 dB Gain 1.6 dB NF)

Cross Polarisation Isolation
C Band Linear . . . . . -30 dB Tx/Rx
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
Antenna 115Kg (253lbs)

Temperature
Operational:. . . . . .-20°C to +60°C
. . . . . .(-4°F to 140°F)
Transport:. . . . . .-40°C to +70°C
. . . . . (-40°F to 158°F)

Windspeed
Operational:. . . . . 17 m/s (38 mph)
Degraded . . . . . .23 m/s (52 mph)
Survival:. . . . . 40 m/s (90 mph)

Humidty
0 to 100% RH

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