



The SWE-DISH® FA180T Fly-Away antenna system is developed for Ku- and C-band. A military version also includes X-band. The proven design meets the exacting demands of both DSNG and military operations. The light-weight antenna has a unique antenna design that combines high performance, reliability and ease of use. It is designed for minimum package size, maximum efficiency and to be rugged and sturdy enough for the toughest assignments.

#### **TRI-BAND CAPABILITY**

The FA180T is a high performance tri-band antenna system. Band change is easily done by changing the complete feed arm assembly. The antenna has dual optics design for low cross-polarization at Ku-band, and prime focus feeds at X- and C-band. It has manual coarse and fine adjustment of elevation and azimuth.

#### **EASE-OF-USE**

The set-up of the FA180T is straight forward and the satellite is acquired in less than 10 minutes. It can be transported by car, flown by scheduled services or by helicopter. The total weight is approximately 345 kg (760 lb) depending on options and can easily be set up by one person. The FA180T will cost you less to transport, and less to set up and operate.

#### **RUGGED CONSTRUCTION**

The FA180T consists of seven transport cases and virtually every transported kilo is used in operation. It has a rugged and durable construction with a four piece antenna mounted on top of a stable tripod. The FA180T is currently used for uplinks both for commercial DSNG and military applications the world over.

# KEY FEATURES

- Lightweigh and stable tripod antenna mount with levelling
- Elevation over azimuth pan & tilt head with coarse and fine adjustment
- Durable construction
- Quick set-up time
- Easy band change by change of complete feed arm assembly

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## SPECIFICATIONS: SWE-DISH® FA180T FLY-AWAY SYSTEM

<b>KU-BAND ANTENNA</b> Antenna model SWE-DISH FA180K Antenna concept Gregorian dual reflector offset antenna, main reflector aperture 1.8 m circular, 4 piece main reflector, 2 port feed with linear polarization, dual optics for improved cross-polar rejection Polarization Linear orthogonal, manually adjusted +/-100°		EIRP capability (max) •62.0 dBW with 140W tri-band HPA SWE-X140T •66.6 dBW with 400W X-band HPA SWE-X400X Option Step Tracking of inclined orbit satellites
<b>KU-BAND TRANSMIT PERFORMANCE</b> Transmit frequency 13.75 to 14.5 GHz Transmit gain at mid-band 47.0 dBi - 3 dB beam width 0.8° @ Tx 14.3 GHz and 1.0° @ Rx 12.0 GHz Antenna pattern, co-polar 2.5° ≤ θ ≤ 7°, 29 - 25 log θ dBi 7° < θ ≤ 9.2°, 8 dBi 9.2 < θ ≤ 48°, 32 - 25 log θ dBi 48° < θ ≤ 180°, Typical - 10 dBi Cross-polar rejection > 35 dB within 1 dB contour		<b>C-BAND ANTENNA</b> Antenna model SWE-DISH FA180C Antenna concept Prime focus offset antenna, main reflector aperture 1.8 m circular, 4 piece main reflector, 2 port feed with circular polarization RHCP/LHCP Polarization Circular polarization, switchable LHCP/RHCP
<b>KU-BAND RECEIVE PERFORMANCE</b> Receive frequency 10.7 to 12.75 GHz Receive gain at mid-band 45.5 dBi Antenna noise temp 48K @ 10°, 34K @ 20° and 33K @ 30° elevation G/T 24.8 dB/K at 20° elevation using 58K (0.8 db NF) PLL LNB		<b>C-BAND TRANSMIT PERFORMANCE</b> Transmit frequency 5 850 to 6 425 MHz Transmit gain at mid-band 39.5 dBi Antenna pattern co-polar 2.8° ≤ θ ≤ 20°, 29-25 log θ dBi 20° < θ ≤ 26.3°, - 3.5 dBi 26.3 < θ ≤ 48°, 32-25 log θ dBi 48° < θ ≤ 180°, Typical -10 dBi Axial ratio Tx 2.3dB max
<b>KU-BAND OTHER FEATURES</b> VSWR 1.3:1 max Isolation, Tx to Rx 80 dB min Feed interface Tx WR75, Rx WR75 EIRP capability (max) •65.1 dBW with 95W tri-band HPA SWE-X140T •71.2 dBW with 400W Ku-band HPA SWE-X400K Option 3 port feed with diplexer for co-polar operation		<b>C-BAND RECEIVE PERFORMANCE</b> Receive frequency 3 625 to 4 200 MHz Receive gain at mid-band 35.4 dBi Axial ratio 3.0 dB max Antenna noise temp 41K @ 10°, 36K @ 20° and 33K @ 30° elevation G/T 20.5 dB/K at 20° elevation with 50K LNA with 50 dB gain
<b>X-BAND ANTENNA</b> Antenna model SWE-DISH FA180X Antenna concept Prime focus offset antenna, main reflector aperture 1.8 m circular, 4 piece main reflector, circular polarisation RHCP/LHCP Polarization Circular polarization, switchable LHCP/ RHCP		<b>C-BAND OTHER FEATURES</b> VSWR 1.3:1 max Isolation, Tx to Rx 60 dB min Feed interface Tx & Rx Tx CPR-137 or type N, Rx CPR-229 EIRP capability (max) •58.4 dBW with 100W tri-band HPA SWE-X140T •64.3 dBW with 400W C band HPA SWE-X400C Options •Extended C band and extended Insat C-band coverage •Linear cross-polar polarization •Linear co-polar polarization
<b>X-BAND TRANSMIT PERFORMANCE</b> Transmit frequency 7 900 to 8 400 MHz Transmit gain at mid-band 41.9 dBi Antenna pattern co-polar Compliant with CCIR 580-1 Axial ratio 2.0 dB max		<b>MECHANICS</b> Mount type Elevation over azimuth Adjustment range Az +/- 90° coarse, +/- 10° fine. Elevation < 10 to 80° coarse and +/- 10° fine. Fine adjustment with az turnbuckle. Fine EI with hand crank actuator rod
<b>X-BAND RECEIVE PERFORMANCE</b> Receive frequency 7 250 to 7 750 MHz Receive gain at mid-band 41.2 dBi Antenna noise temp 48K @ 10°, 36K @ 20° and 33K @ 30° elevation G/T with 50K LNA 18.3 to 19.3 dB/K at 10° elevation depending on TRF option		Material Compression molded GRP main reflector, aluminum Ku band subreflector, aluminum mount Finish Two component paint Operational wind speed 15 m/s, tied down Ambient temperature -30° to +55° C (-22 F to +131 F) Solar radiation 1100 W/m² Humidity Up to 100% condensation, heavy rain Environmental As encountered in coastal and industrial areas Transportation weight 7 transport cases 345 kg ( 760 lb)
<b>X-BAND OTHER FEATURES</b> VSWR 1.4:1 max Isolation, Tx to Rx 18 dB min without Tx Reject Filter (TRF), 60 to 100 dB with TRF (different options) Feed Interface Tx & Rx CPR-112G waveguide flange		Specifications are subject to change without notice.