



The SWE-DISH® DA180T Drive-Away is a vehicle mounted antenna system that can be integrated on a DSNG uplink vehicle or, in its military version, mounted on a military satcom vehicle. It is a high quality system designed for worldwide Ku-, C- and X-band uplink operation. The antenna is rapidly deployed and stowed and automatically aligns towards the satellite, everything operated from inside the vehicle.

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

The DA180T is a Gregorian dual reflector antenna for Ku-band and a one piece prime focus offset antenna for C- and X-band. A quick release mechanism allows the complete feed and waveguide assembly to be rapidly exchanged, making band change fast and easy. The reflector is compressed-molded for strength and surface accuracy. The antenna backing structure and feed arm is made of high-grade aluminum in a strong box structure.

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

The proven and easy-to-use Antenna Control Unit (ACU3000) allows a non-expert operator to automatically deploy and stow the antenna. Several interlocks in the ACU3000 assures safe and reliable operation.

#### **STRAIGHT FORWARD INTEGRATION**

The DA180T is designed to be permanently attached and integrated to the vehicle roof. The cable connections to the vehicle interior are made via hard-wired weatherproof cable runs making integration easy. During transportation, the antenna is stowed with the reflector pointing towards the rear of the vehicle, or pointing forward and resting in the cradle of a wind breaker. The DA180T offers you rugged, reliable, and easy-to-use tri-band capability.

# KEY FEATURES

- Tri-band operation
- Automatic satellite pointing
- Simple, reliable operator interface
- Automatic rapid deployment and stowing
- Easy integration on any vehicle

# SPECIFICATIONS: SWE-DISH® DA180T DRIVE-AWAY SYSTEM

<p><b>KU-BAND ANTENNA</b></p> <p>Antenna model SWE-DISH DA180K</p> <p>Antenna concept Gregorian dual reflector offset antenna, main reflector aperture 1.8 m circular, 2 port feed with linear polarization, dual optics for improved cross-polar rejection</p> <p>Polarization Linear orthogonal, adjustable +/-100°, motorized</p>		<p>Feed Interface Tx &amp; Rx CPR-112G waveguide flange</p> <p>EIRP capability (max) •62.0 dBW with 140W tri-band HPA SWE-X140T •66.6 dBW with 400W X-band HPA SWE-X400X</p> <p>Option Step tracking of inclined orbit satellites</p>	
<p><b>KU-BAND TRANSMIT PERFORMANCE</b></p> <p>Transmit frequency 13.75 to 14.5 GHz</p> <p>Transmit gain at mid-band 47.0 dBi</p> <p>- 3 dB beamwidth 0.8° @ Tx 14.3 GHz and 1.0° @ Rx 12.0 GHz</p> <p>Antenna pattern 29 - 25 log θ dBi</p> <p>Cross-polar rejection &gt; 35 dB within 1 dB contour</p>		<p><b>C-BAND ANTENNA</b></p> <p>Antenna model SWE-DISH DA180C</p> <p>Antenna concept Prime focus offset antenna, main reflector aperture 1.8 m circular, one piece main reflector, 2 port feed with circular polarization RHCP/LHCP.</p> <p>Polarization Circular polarization, switchable LHCP/ RHCP</p>	
<p><b>KU-BAND RECEIVE PERFORMANCE</b></p> <p>Receive frequency 10.7 to 12.75 GHz</p> <p>Receive gain at mid-band 45.5 dBi</p> <p>Antenna noise temp 48K @ 10°, 34K @ 20° and 33 K @ 30° elevation</p> <p>G/T 24.8 dB/K at 20° elevation using 58K (0.8 db NF) PLL LNB</p>		<p><b>C-BAND TRANSMIT PERFORMANCE</b></p> <p>Transmit frequency 5 850 to 6 425 MHz</p> <p>Transmit gain at mid-band 39.5 dBi</p> <p>Antenna pattern 29 - 25 log θ dBi</p> <p>Axial ratio Tx 2.3dB max</p>	
<p><b>KU-BAND OTHER FEATURES</b></p> <p>VSWR 1.3:1 max</p> <p>Isolation, Tx to Rx 80 dB min</p> <p>Feed Interface Tx WR75, Rx WR75</p> <p>EIRP capability (max) •65.1 dBW with 95W tri-band HPA SWE-X140T •71.2 dBW with 400W Ku-band HPA SWE-X400K</p> <p>Options •3 port feed with diplexer for co-polar operation •Transmit band starting at 12.75 GHz (broadband OMT) •Step tracking of inclined orbit satellites</p>		<p><b>C-BAND RECEIVE PERFORMANCE</b></p> <p>Receive frequency 3 625 to 4 200 MHz</p> <p>Receive gain at mid-band 35.4 dBi</p> <p>Axial ratio 3.0 dB max</p> <p>Antenna noise temp 41K @ 10°, 36K @ 20° and 33 K @ 30° elevation</p> <p>G/T 20.5 dB/K at 20° elevation with 50K LNA with 50 dB gain</p>	
<p><b>X-BAND ANTENNA</b></p> <p>Antenna model SWE-DISH DA180X</p> <p>Antenna concept Prime focus offset antenna, main reflector aperture 1.8 m circular, one piece main reflector</p> <p>Polarization Circular polarization, switchable LHCP/RHCP</p>		<p><b>C-BAND OTHER FEATURES</b></p> <p>VSWR 1.3:1 max</p> <p>Isolation, Tx to Rx 60 dB min</p> <p>Feed Interface Tx &amp; Rx Tx CPR-137 or type N, Rx CPR-229</p> <p>EIRP capability (max) •58.4 dBW with 100W tri-band HPA SWE-X140T •64.3 dBW with 400W C-band HPA SWE-X400C</p> <p>Options •Extended C-band and extended Insat C-band coverage •Linear cross-polar polarization, motorized •Linear co-polar polarization, motorized •Step tracking of inclined orbit satellites</p>	
<p><b>X-BAND TRANSMIT PERFORMANCE</b></p> <p>Transmit frequency 7 900 to 8 400 MHz</p> <p>Transmit gain at mid-band 41.9 dBi</p> <p>Antenna pattern co-polar Compliant with CCIR 580-1</p> <p>Axial ratio 2.0 dB max</p>		<p><b>MECHANICAL PERFORMANCE</b></p> <p>Mount type Elevation over azimuth</p> <p>Polarization range &gt;+/- 90° skew range, &lt;1° accuracy</p> <p>Azimuth travel range +/- 100°, subject to no obstructions at low elevation</p> <p>Elevation travel range 10° to 90° elevation</p> <p>Material Compression molded GRP main reflector. Aluminum antenna structure and mount</p> <p>Finish Two component paint finish, light gray</p> <p>Operational wind speed 15 m/s</p> <p>Ambient Temperature -20° to +55° C (-4 F to +131F)</p> <p>Solar Radiation 1120 W/m<sup>2</sup></p> <p>Rain fall Operation and survival in heavy rain</p> <p>Environmental The electrical wiring system is sealed to IP65 for outdoor use and has extensive screening and earth bonding for compliance with EMC requirements.</p>	
<p><b>X-BAND RECEIVE PERFORMANCE</b></p> <p>Receive frequency 7 250 to 7 750 MHz</p> <p>Receive gain at mid-band 41.2 dBi</p> <p>Antenna noise temp 48K @ 10°, 36K @ 20° and 33 K @ 30° elevation</p> <p>G/T with 50K LNA 18.3 to 19.3 dB/K at 10° elevation depending on TRF option</p>		<p>Specifications are subject to change without notice.</p>	
<p><b>X-BAND OTHER FEATURES</b></p> <p>VSWR 1.4:1 max</p> <p>Isolation, Tx to Rx 18 dB min without Transmit Reject Filter (TRF), 60 to 100 dB with TRF (different options)</p>			