

SWE-DISH DA150D Mil Drive-Away



A rugged design for challenging environments.

The Rockwell Collins SWE-DISH DA150D Mil Drive-Away is a combat proven, vehicle mounted pod antenna system for quick to air situations. It is designed for military and government applications. During transport the antenna is totally encapsulated to protect the equipment, giving a non-conspicuous installation with low profile.

The integration of the pod to the vehicle roof is straight forward and stainless steel welded subframes distribute the weight over the complete roof surface. The installation can be permanent or temporary.

High performing antenna

The high performing elliptical 1.5 m Gregorian offset antenna is the heart of the DA150D Mil Drive-Away - the dual optics and accurate carbon composite reflector surfaces provide exceptional low side lobes and good cross-polar performance. The short feed arm enables high stability and easy packing/stowing into a uniquely compact unit. The antenna mount is a large diameter turntable, totally backlash free in both elevation and azimuth.

Dual band

The DA150D Mil Drive-Away is for operation on Ku- and X-band and is designed for ease of band change in field. Frequency band reconfiguration with Ku- and X-band replaceable feed system and SSPB waveguide runs with integrated filters and quick release waveguide clamps.

High power

Inside the pod a 100 W SSPA for extended Ku-band or 150 W SSPB for X-band is fitted, which is the standard configuration for DA150D. The maximum HPA integration capability is band specific 2 x 400 W TWTAs, dual single thread or single band 1:1 redundant.

Ease of use

The DA150D Mil Drive-Away is fitted with the full featured ACU3000M antenna control unit and navigational sensor (GPS/compass) as a standard feature. Automatic satellite acquisition, meaning antenna pointing and subsequent satellite identification, is supported by the ACU3000M. If the same satellite and polarization are used frequently, the operation reduces to “two button operation.” When arriving at site, the “Locate” button is pressed; before leaving the “Stow” button is pressed – that’s ease of use.

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KEY FEATURES

- Encapsulated pod - protection of installed equipment on vehicle roof
- A tough rugged antenna complete with auto-acquisition and de-icing (optional)
- High performing antenna
- Dual band system - ease of band change in field
- Standard RF configuration for meeting military program requirements
- Combat proven - non-conspicuous and low profile

SPECIFICATIONS

General

Antenna model	SWE-DISH 150K EDD
Antenna concept	Gregorian type dual optics antenna. Elliptical main reflector in carbon composite with size 1.5 x 1.35m (59.1 x 53.1 in), folding feed arm and subreflector
Azimuth range	+/- 180°
Azimuth drive	Worm-gear driven heavy duty turntable Resolution: 0.05°. Fast mode: 2.0°/s. Slow mode: 0.2°/s
Elevation range	13° to 80°
Elevation drive	Harmonic drive final gear Resolution: 0.05°. Fast mode: 2.0°/s. Slow mode: 0.2°/s.
Deployment and stow	Automatic, by command from
Antenna	Control unit ACU3000M
Antenna sensors	True elevation inclinometer in elevation, multi-turn sensor in azimuth, pulse encoders for azimuth and elevation for fine peaking
Ambient temperature	Operational: -20°C to +55°C (-4°F to +122°F) Storage: -30°C to +70°C (-22°F to +158°F)
Solar radiation	Operational up to 1,200 W/m ²
Wind speed	Operational up to 20 m/s (44 mph) Survival stowed up to 200 km/h (124 mph)
Rainfall	Maximum 125 mm/h (5 in/h), excluding link budget effects
Operating humidity	Up to 100% condensing
Sealing	All parts/units are sealed to IP65
Altitude	Operational: up to 3,000 m (9,850 ft) Survival: up to 10,000 m (32,800 ft)

Mechanical

Finish, paint system	NATO green or black anodized, compliant with STANAG 2338
Weight	220 kg (485 lbs) including RF, Ku- and X-band feed chain, excluding de-icing
Dimensions	Stowed 231 x 154 x 45 cm (L x W x H) 91 x 60 x 18 in (L x W x H) Deployed antenna max H 191 cm (76in)

Approvals

Eutelsat/Intelsat compliant, individual station approvals, FCC compliant.

Ku-band antenna performance

Transmit frequency	Extended 13.750 to 14.500 GHz Optional 12.75-14.50 GHz
Transmit gain at mid-band	45.0 dBi
Side lobe performance	29-25 log Ø dBi
Polarization	Linear orthogonal, <1° accuracy
Polarization performance	XPD >35 dB within 1 dB cone
Receive frequency	10.700 to 12.750 GHz
Receive gain	43.2 dBi
Polarization cross-pol	Linear orthogonal, +/- 100° range, <1° accuracy, motorized
G/T cross-pol	23 dB/K at 20° elevation and 20°C (68°F), clear sky
EIRP capability	63 dBW with 100 W SSPB

X-band antenna performance

Transmit frequency	7.900 to 8.400 MHz
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Transmit gain at mid-band	39.8 dBi
Side lobe performance	32-25 log Ø dBi for 3.1°
Polarization	Circulation polarization RHCTx and LHCRx interchangeable
Receive frequency	7.250 to 7.750 MHz
Receive gain	39.3 dBi
Polarization cross-pol	Axial ratio <1.1 dB
G/T	16.5 dB/K at 28 elevation and 20°C clear sky
EIRP capability	60 dBW with 150W SSPB

Antenna control

Antenna control unit	Military ruggedized ACU3000M for 3 axis antenna control
User interface	Screen and keyboard, advisory messages for ease of use
Standard configuration	GPS and fluxgate compass are included, allowing automatic antenna pointing towards selected satellite
Antenna pointing	Final pointing based on pulse encoders, polarization compensation for vehicle tilt
Auto-acquisition	Conditional automatic antenna pointing and satellite identification using carrier detect
Option	Proven step tracking of inclined orbit satellites. Tracking mode: Intelli-Search™, Step Track and Program Track

De-icing optional feature

Components de-iced	Antenna reflectors, feed system, and platform plates
Operation	Automatic controlled by snow sensor or manual, selectable antenna only or all components. De-ice controller (2u) combined with key operated stow prevention switch
Capability	Melts already formed ice, proven performance

Electrical interface

Signal, control and RF	Interface panel with circular mil connectors, type N connectors for RF
Prime AC power	Standard is 115V AC due to the de-icing system. Other equipment have switchable or universal prime power input. 230V AC de-icing is optional.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

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Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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