

SWE-DISH DA150K Drive-Away



A high performing, easy to use, rugged satellite system.

The Rockwell Collins SWE-DISH DA150K Drive-Away is a unique concept for vehicle mount antenna systems. During transportation, you see an elegant looking car-box on top of a SUV or a van. At site, the antenna deploys gracefully, and automatically points towards the selected satellite. Typically within 10 minutes you are on air, transmitting your DSNG contribution back to base. The DA150K Drive-Away is your choice for Ku-band high data rate and high power DSNG applications, from anywhere. Lower data rate/power applications are also common, e.g. military satellite communication from remote sites.

High performing antenna

The high performing elliptical 1.5 m Gregorian offset antenna is of course the heart of the DA150K Drive-Away – the dual optics and accurate carbon fiber reflector surfaces provide exceptional low side lobes and good cross-polar performance. The antenna mount is a large diameter turntable, totally backlash free in both elevation and azimuth.

Straightforward integration

The rooftop integration capabilities are unsurpassed. You can have anything from a 16 W transceiver, 2 x 50 W SSPA, to the really high power configuration – two phase combined 400 W TWTA's plus integrated AirCon unit – beaming up to 69 dBW EIRP towards the bird. Fitting to the roof is easy thanks to a supporting frame that distributes the load.

Ease of use

Operation is extremely easy if the GPS/compass option is fitted. Simply get to the site, jacks down, press "Deploy" on the full featured SWE-DISH ACU3000 keyboard,

select "Satellite" and press "Locate." Lean back and watch the antenna peak up on the selected satellite - maybe via the pod-mounted video camera/spotlight. The proven Easy Control & Monitoring (ECM) unit helps the not-so-well-trained operator to configure and set up the system – followed by step-by-step support during line up towards the satellite.

Rugged design

The pod encapsulates the antenna, antenna mechanics, feed arm and RF components, to reduce wear and tear from brushes or dust during transportation. At the same time all parts are easily accessible for repair. Extra care has been taken to make all mechanics resistant to sand, dust, and grit. The DA150K Drive-Away is in use with broadcasters the world over, and has also successfully performed in combat operations.

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KEY FEATURES

- Low drag and nonconspicuous – low profile
- No dedicated vehicle needed – no cable feed through roof needed and self-contained pod
- Rugged – all equipment is totally encapsulated during transportation
- Low weight – ideal for all vehicle types; carboncomposite construction optimizes weight budget
- Wide choice of configurations – automatic alignment with GPS, step tracking, single thread, redundant, phase combined, integrated aircon system
- High EIRP operation – exceptional antenna performance
- FCC compliant, Intelsat/Eutelsat compliant, individual station approval applies

SPECIFICATIONS

Antenna performance

Antenna model	SWE-DISH 150K EDD
Antenna concept	Gregorian type dual optics antenna Elliptical main reflector in carbon fiber with size 1.5 x 1.35 m (59.1 x 53.1 in) folding feed arm and sub reflector
Side lobe performance	29-25 log Ø dBi
Polarization	Linear orthogonal, <1° accuracy
Polarization performance	XPD >35 dB

Transmit performance

Transmit frequency	13.75 to 14.50 GHz
Transmit gain at mid-band	45.0 dBi

Receive performance

Receive frequency	10.70 to 12.75 GHz
Receive gain	43.2 dBi
G/T	23 dB/K at 20° elevation and 20°C (68°F), clear sky

EIRP capability

DSNG EIRP capability	69 dBW with 400 W TWTA 66 dBW with 200 W TWTA 59 dBW with 40 W SSPA
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Antenna control unit ACU3000 capabilities

Lowest level of operation	Automatic stow and deploy movements. Two speed manual jog in azimuth, elevation and polarization with position readouts.
Next level of operation	Select preset locations (Lat/Long), enter vehicle heading, select "Locate" for automatic antenna pointing - without GPS or fluxgate compass
Fluxgate compass	Select preset locations (Lat/Long), vehicle heading is given by fluxgate compass option
Normal level of operation	GPS and fluxgate compass options are included, allowing automatic antenna pointing towards selected satellite
Advanced operation	Step tracking of inclined orbit satellites (military X-band satellites) Tracking mode: Intelli-Search™, Step Track and Program Track Tracking accuracy: 0.1-3.0 dB, selectable

General characteristics – antenna travel range

Azimuth range	+/- 180°
Azimuth drive	Worm-gear driven turntable Resolution: 0.05° Fast mode: 2.0°/s Slow mode: 0.3°

Elevation range	13° to 80°
Elevation drive	Harmonic drive gear Resolution: 0.05° Fast mode: 2.0°/s Slow mode: 0.3°/s
Deployment and stow	Automatic, by command from Antenna Control Unit ACU3000
Antenna sensors	True elevation inclinometer in elevation, multi-turn sensor in azimuth. Antenna position displayed on ACU.
Environmental specification	
Ambient temperature	Operational: -20°C to +55°C (-4°F to +131°F) Storage: -30°C to +70°C (-22°F to +158°F)
Solar radiation	Operational up to 1,200 W/m2
Wind speed	Operational up to 15 m/s (33 mph) Survival stowed up to 150 km/h (93 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	Pod in glass-fiber reinforced polyester
Interface to vehicle	The DA150K Drive-Away sub-frame can be permanently or temporarily attached to standard vehicle roof rails or directly to vehicle roof
Weight	140 kg (309 lbs)
Dimensions	231.2 x 153.5 x 45.1 cm (91.0 x 60.4 x 17.8 in)

Approvals

Eutelsat/Intelsat compliant, individual station approval applies, FCC compliant

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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