

SWE-DISH FA150T Mil Fly-Away



Intelligent packaging and quick to deploy.

The combat proven Rockwell Collins SWE-DISH FA150T Mil Fly-Away is designed from the bottom up to be a rugged, easy to transport and quick to deploy satellite earth terminal. The lightweight antenna design is optimized to keep package size down and efficiency up, without compromising strength and durability. The sturdy construction makes it suitable for fast moving field groups with high requirements on quick and easy deployment. Tri-band capability (Ku, X, and C) increases the flexibility.

Smart packaging

The rugged cage has integrated wheels and can be used as a trolley, with the electronics flight cases stacked on top. The integrated skid plate is used for the same purpose on softer ground like grass, sand, mud or snow. Every transported pound is used to create a stable antenna platform, leaving no empty crates or lids lying around after deployment. The antenna sits close to the ground for increased wind stability.

Quick deployment

Deployment and assembly of the antenna requires no tools, and can be done "gloves on" under severe environmental conditions. The FA150T Mil Fly-Away is quickly deployed in field, and the satellite typically can be acquired in less than 10 min. The integrated True Elevation Meter makes the antenna pointing fast, easy and accurate. The FA150T Mil Fly-Away has been granted a patent for smart transformation from transportation to operation.

High performing antenna

The high performing elliptical 1.5 m (59 in) Gregorian offset antenna is the heart of the FA150T Mil Fly-Away. It consists of a four piece, segmented carbon fiber composite reflector that is easily stored and lightweight. The dual optics Gregorian antenna concept allows a small antenna size, combined with exceptional efficiency, low side lobes and good cross polarization/axial ratio performance. The FA150T Mil Fly-Away is DISA certified for operations on DSCS X-band space segment.

Broadband capability

The FA150T Mil Fly-Away gives tri-band satellite communication capabilities to mobile command posts, theatre broadcast or incident response. Data capability ranges from 64 kbps to 60 Mbps and allows for IP encrypted traffic. The FA150T Mil Fly-Away also features tracking of inclined orbit satellites, e.g. for X-band operation. The FA150T Mil Fly-Away is in use worldwide, often under the most demanding conditions.

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KEY FEATURES

- › Combat proven
- › Smart packaging – no superfluous crates – minimum volume and weight – skid plate and wheels
- › Helicopter transportable
- › High performance antenna – Gregorian offset and carbon fiber
- › Rugged and durable construction designed to military specifications, compliant with MIL-STD-810E environment
- › Low profile platform for stable operation in MIL-SPEC high wind conditions
- › Quick deployment – satellite acquisition typically occurs in less than 10 minutes

SPECIFICATIONS

General

Azimuth range	Manual coarse: $\pm 360^\circ$ Turnbuckles mounted: $\pm 25^\circ$ coarse, $\pm 10^\circ$ fine Actuators mounted: $\pm 10^\circ$
Elevation range	0-90° for X and Ku-band, 25-87° for C-band
Pitch and roll	Built-in compensation for pitch and roll by using platform independent reference to true vertical/horizontal
Ambient temperature	Operational -30°C to +55°C (-22°F to +131 F) Storage -40°C to +70°C (-40°F to +158°F)
Solar radiation	Operational up to 1,100 W/m ²
Wind speed	Operational up to 20m/s (44 mph), windstays mounted
Operational humidity	Up to 100% condensing
Rainfall	Maximum 100 mm/h (2 in/h), excluding link budget effects
Sealing	All flight cases are sealed to IP65 during transport and storage
Altitude	Operational up to 3,000 m (9,850 ft) Survival up to 10,000 m (32,800 ft)
Material/construction	Carbon fiber antenna components, stainless steel antenna platform/cage, miscellaneous aluminum parts (anodized)
Weight	FA150T antenna: 73 kg (160.9 lbs) including Ku-band feed chain with PLL LNAs actuators, accessories: 86 kg (189.6 lbs)
Dimensions	FA150T antenna cage: 120 x 76 x 53 cm (47.0 x 29.9 x 20.9 in)
Antenna concept	Gregorian type dual optics antenna on Ku and X-bands. Prime focus offset on C band. Elliptical 4-piece main reflector in carbon fiber with size 1.5 x 1.35 m (59.1 x 53.1 in), folding feed arm and subreflector
Approvals	Eutelsat/Intesat compliant, station approval. FCC license (E980294) DISA certified.

Ku-band antenna performance

Side lobe performance	29-25 log \emptyset dBi
Polarization	Linear $< 1^\circ$ accuracy

Polarization	XPD > 35 dB within 1dB cone performance
Transmit frequency	13.75 to 14.50 GHz
Transmit gain at mid-band	45.0 dBi
Receive frequency	10.70 to 12.75 GHz
Receive gain at mid-band	43.2 dBi
G/T	23 dB/K at 20° elevation and 20°C (68°F), clear sky
EIRP capability	68.6 dBW with 325 W tri-band TWTA

X-band antenna performance

Side lobe performance	32-25 log \emptyset dBi
Polarization	Circular polarization, RHC Tx and LHC Rx
Polarization performance	Axial ratio < 1.1 dB
Transmit frequency	7.90 to 8.40 GHz
Transmit gain at mid-band	39.5 dBi
Receive frequency	7.25 to 7.75 GHz
Receive gain at mid-band	39.0 dBi
G/T	16.5 dB/K at 20° elevation and 20°C (68°F), clear sky
EIRP capability	65.5 dBW with 450W tri-band TWTA

C-band antenna performance

Side lobe performance	32-25 log \emptyset dBi
Polarization	Selectable circular/linear without change of feed arm
Polarization performance	Axial ratio < 1.3 dB, XPD > 27 dB
Transmit frequency	5.850 to 6.425 GHz
Transmit gain at mid-band	36.6 dBi
Receive frequency	3.625 to 4.200 GHz
Receive gain at mid-band	33.3 dBi
G/T	13.1 dB/K at 20° elevation and 20°C (68°F), clear sky
EIRP capability	60.6 dBW with 325 W tri-band TWTA

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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