



FA-240 Antenna

A 2.4m flyaway antenna for multi-band transmission on military and commercial satellites

Features

- Assembled in less than 10 minutes
- No tools required
- Only 2 cases < 100kgs
- Multi-band feeds changed in minutes
- WGS certified for X and Ka bands
- Skynet and XTAR certified for X-band
- Intelsat/Eutelsat compliant for commercial bands
- MIL-STD-810G Certified Version
- Modem agnostic, L-band interface
- Complete, integrated, systems available

The FA-240 is designed specifically for any application requiring a compact, rugged multi-band antenna which is rapidly deployable with no tools.

The FA-240 has a unique multi-band feed arm allowing a change of frequency band in a matter of seconds simply by swapping out a quick release feed cartridge. Termination of transmit waveguide and receive coax is in a safe position at the back of the reflector.

The reflector itself is moulded from carbon fibre honeycomb, ensuring light weight and maximum strength with no deformation, even after being re-assembled hundreds of times.

The axially symmetric design with prime focus feed was chosen because of its overall compact dimensions which make the packed size of the antenna smaller than any other comparable product of similar gain.

It also means that unlike offset fed designs, each antenna petal is identical allowing simple replacement in case of damage.

Intelsat/Eutelsat compliance is guaranteed, including side lobe performance better than $29-25 \log \theta$.

Operators in the field face difficulties and the attention to detail found in the FA-240 antenna greatly assists.

Features such as fully adjustable, wide spreading legs for high stability on any terrain.

Once deployed, zero backlash, zero back drive gears in all three axes ensure the antenna will remain on target.

The FA-240 can be fully motorised and when combined with the GigaSat STC-100 antenna controller it can automatically acquire and track, even on inclined orbit satellites, comfortably meeting WGS tracking specifications.

The FA-240 packs into two conveniently sized flight cases, which also serve as the 3 axis pedestal. These are also moulded from carbon fibre honeycomb keeping the weight down to an absolute minimum for transportation.

WGS/Skynet/XTAR certified.

GigaSat

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Specifications

General

Antenna Type	Circular, axially symmetric with centre hub plus ten petals	
Diameter	2.4m	
Configuration	Prime focus	
Polarisation	Linear, orthogonal transmit & receive. (Optional circular left & right)	
Cross Polarisation	-35dB within the -1dB co-polar contour (linear)	
Port-to-Port Isolation	35dB (Linear)	

Transmit

Transmit Bands	FA-240/60	5.85 to 7.025GHz
	FA-240/70	7.9 to 8.4GHz
	FA-240/140	12.75 to 14.5GHz
	FA-240/180	17.3 to 18.4GHz
	FA-240/300	27.5 to 31GHz
3dB Beamwidth	<1.5° at 5.85GHz	
Transmit Power	1.5kW max.	
Off Axis Transmit Gain	<29-25 log θ dBi	
VSWR	1.3:1	
Transmit Gain	FA-240/60	42.0dBi mid-band
	FA-240/70	44.2dBi mid-band
	FA-240/140	49.0dBi mid-band
	FA-240/180	51.2dBi mid-band
	FA-240/300	54.6dBi mid-band

Receive

Receive Bands	FA-240/60	3.4 to 4.2GHz
	FA-240/70	7.25 to 7.75GHz
	FA-240/140	10.7 to 12.75GHz
	FA-240/180	10.7 to 12.75GHz
	FA-240/300	17.7 to 22.2GHz
Receive Gain	FA-240/60	37.5dBi mid-band
	FA-240/70	43.7dBi mid-band
	FA-240/140	47.0dBi mid-band
	FA-240/180	47.0dBi mid-band
	FA-240/300	51.1dBi mid-band

Power

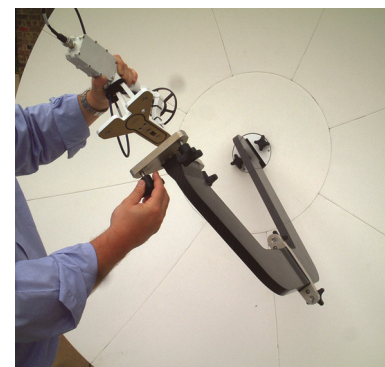
Power Requirement	90 to 264V AC Power Supply (option) +24V DC (option)
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Environmental

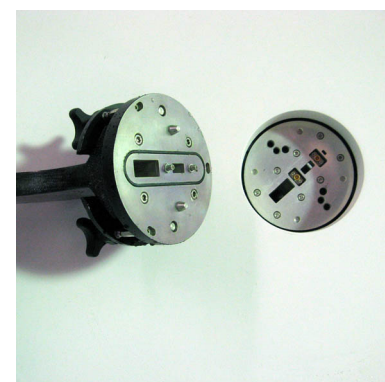
Temperature	-40 to +70°C - Transportation & Storage -20 to +60°C - Operational	
Humidity	100%	
Altitude	4,500m	
Wind Rating	Operational	60km/h with gusts to 72km/h
	Survival	121km/h

Physical

Elevation Adjustment	0 to 90°	
Azimuth Adjustment	+/-180°	
Polarisation Adjustment	+/- 95°	
Packed Size	Box 1	0.95 x 0.95 x 0.6m
	Box 2	0.95 x 0.95 x 0.6m
Weight	Box 1	48kgs
	Box 2	49kgs



Quick Release Feed



Quad-band Feed arms—C/X, Ku & Ka
(C/X, Ku/DBS & Ka available as an option)

Ultra Electronics reserves the right to vary these specifications without notice.

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