



FA-240 Antenna

A 2.4m FLYAWAY ANTENNA FOR MULTI-BAND TRANSMISSIONS

Features

- Assembles in less than 10 minutes
- No tools required
- Only 2 cases <100kgs
- Multi-band feeds changed in minutes
- Intelsat/Eutelsat compliant for commercial bands
- WGS, SkyNet, XTAR, Inmarsat and MIL-STD-810G certified
- Complete, integrated systems available
- Flyaway antennas available from .23m to 3.7m diameter

Overview

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 θ .

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

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

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

The FA-240 packs into two conveniently sized flight cases and carbon fibre is used not only on the reflector and feed arm but also in the mount and flight cases keeping the weight down to an absolute minimum for transportation.

Technical Specification

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 Isolations	90dB typical (with TRF)

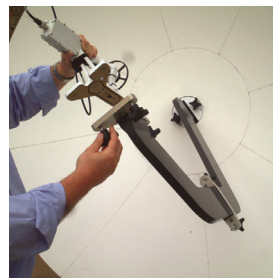
Transmit		
Transmit Bands	FA-240/60 FA-240/70 FA-240/140 FA-240/180 FA-240/300	5.85 to 7.025GHz 7.9 to 8.4GHz 12.75 to 14.5GHz 17.3 to 18.4GHz 27.5 to 31GHz
3dB Beamwidth	<1.5° at 5.85GHz	
Transmit Power	1.5kW max.	
Off Axis Transmit Gain	<29-25 log θ dBi	
VSWR	1.3:1	
Transmit Gain	FA-240/60 FA-240/70 FA-240/140 FA-240/180 FA-240/300	41.6dBi mid-band 44.1dBi mid-band 48.9dBi mid-band 50.8dBi mid-band 55.0dBi mid-band

Receive		
Receive Bands	FA-240/60 FA-240/70 FA-240/140 FA-240/180 FA-240/300	3.4 to 4.2GHz 7.25 to 7.75GHz 10.7 to 12.75GHz 10.7 to 12.75GHz 17.7 to 22.2GHz
Receive Gain	FA-240/60 FA-240/70 FA-240/140 FA-240/180 FA-240/300	37.4dBi mid-band 43.3dBi mid-band 47.2dBi mid-band 47.2dBi mid-band 51.9dBi mid-band

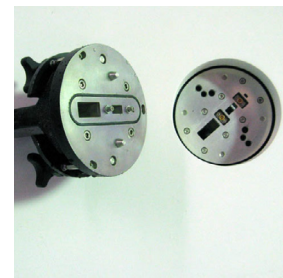
Power	
Power Requirement	90 to 264V AC Power Supply (option) +24V DC (option)

Environmental		
Temperature	Transportation & Storage	-40 to +70°C
	Operational	-20 to +60°C
	Optional low temperature pack	-40 to +60°C
Humidity	100%	
Altitude	14,763ft (4,500m)	
Wind Rating	Operational	60km/h with gust to 72km/h
	Survival (stowed)	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
Weights above are for manual, baseline configuration		



Quick Release Feed



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