



# FA-240 Antenna

AN 8ft (2.4m) FLYAWAY ANTENNA FOR MULTI-BAND TRANSMISSIONS

## Features

- Assembles in less than 10 minutes
- No tools required
- Only 2 cases <220lbs (100kgs)
- Intelsat/Eutelsat compliant for commercial bands
- WGS, SkyNet, XTAR, Inmarsat and MIL-STD-810G certified
- GovSat registered
- Complete, integrated systems available
- Flyaway antennas available from 9in to 12ft (.23m to 3.7m) diameter
- Wide range of multi-band interchangeable feed cartridges

## 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 at the rear of the reflector.

The interchangeable feed cartridges for the FA-180, FA-240 and FA-370 antenna series are available in a wide range frequencies and port types including standard dual port Tx/Rx , receive only dual port Rx/Rx and simultaneous band multiport Tx/Rx.

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.

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	8ft (2.4m)	
Configuration	Prime Focus	
Polarisation	Linear orthogonal transmit & receive Optional circular left & right	
Cross Polarisation	-35dB typical within the -1dB co-polar contour	
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 $\theta$ dBi	
VSWR	1.3:1	
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
Power		
Power Requirement	90 to 264V AC Power Supply (option) +24V DC (option)	
Environmental		
Temperature	Transportation & Storage	-40 to +158°F (-40 to +70°C)
	Operational	-4 to +140°F (-20 to +60°C)
	Optional low temperature pack	-40 to +140°F (-40 to +60°C)
Humidity	100%	
Altitude	14,763ft (4,500m)	
Wind Rating	Operational	37mph with gusts to 45mph (60km/h with gust to 72km/h)
	Survival (stowed)	75mph (121km/h)

Physical	
Elevation Adjustment	0 to 90°
Azimuth Adjustment	+/-180°
Polarisation Adjustment	+/-95°
Packed Size	Box 1 37.4 x 37.4 x 23.6 in (0.95 x 0.95 x 0.6m)
	Box 2 37.4 x 37.4 x 23.6 in (0.95 x 0.95 x 0.6m)
Weight	Box 1 106 lbs (48kgs)
	Box 2 108 lbs (49kgs)
Weights above are for manual, baseline configuration	

## FA-180/240/370 ANTENNA FEED CARTRIDGES

Band	Standard Dual Port Tx /RX feeds
C	C-band linear only 2-port Tx/Rx feed
	C-band linear/circular 2-port Tx/Rx feed
X	X-band circular 2-port Tx/Rx feed with optional Low PIM
Ku	Ku-band linear 2-port Tx/Rx feed
Ka	Ka-band linear 2-port Tx/Rx feed

Band	Simultaneous Multi-band Feeds
X/Ka	X/Ka Simultaneous 4-port feed X-band: 2 port Tx/Rx Ka-band: 2 port Tx/Rx
X/Ka	X/Ka Simultaneous 6-port feed X-band: 2 port Tx/Rx Ka-band: 4 port Tx/Rx

Band	Dual Port Receive Only Feeds
S	Circular feeds & Linear feeds
C	C Band Rx only Circular and Linear feeds
X	X Band Rx only Circular feed
Ku	Ku Band Rx only Circular and Linear feeds
Ka	Ka Band Rx only Circular and Linear feeds



Quick Release Feed



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

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