



# 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 stands out as the ultimate solution for any scenario demanding a compact, durable, and swiftly deployable multi-band antenna that requires no tools for setup. Its standout feature is the innovative multi-band feed arm, enabling frequency band changes in seconds through a simple swap of the quick-release feed cartridge. The antenna's design incorporates the transmit waveguide and receives coax termination at the reflector's rear for efficiency.

Compatible with the FA-180, FA-240, and FA-370 series, the interchangeable feed cartridges come in an array of frequency ranges and port configurations, catering to diverse needs with options like standard dual port Tx/Rx, dual port Rx/Rx for receive only, and simultaneous band multiport Tx/Rx for versatile applications.

Crafted from carbon fiber, the reflector combines lightweight convenience with formidable strength, ensuring it maintains its shape even after numerous assemblies. Its axially symmetric, prime focus feed design not only minimizes the antenna's packed size compared to similar gain products but also simplifies maintenance - each identical antenna petal can be easily replaced if damaged.

Designed with fully adjustable legs for superior stability across various terrains, the FA-240 guarantees precise targeting with its zero backlash, zero back drive gears across three axes. The antenna is available as a manual point version or with full motorization while maintaining full manual override on all 3 axis. Paired with the STC-100 antenna controller, it achieves automatic acquisition and tracking, including for satellites in inclined orbits.

For ease of transport, the FA-240 is packed into two flight cases. The extensive use of carbon fiber in the reflector, feed arm, mount, and even the flight cases significantly reduce the overall weight, making transport as effortless as possible.

# 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<br>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<br>FA-240/70<br>FA-240/140<br>FA-240/180<br>FA-240/300       | 5.85 to 7.025GHz<br>7.9 to 8.4GHz<br>12.75 to 14.5GHz<br>17.3 to 18.4GHz<br>27.5 to 31GHz   |
| 3dB Beamwidth           | <1.5° at 5.85GHz                                                       |                                                                                             |
| Transmit Power          | 1.5kW max.                                                             |                                                                                             |
| Off Axis Transmit Gain  | <29-25 logθ dBi                                                        |                                                                                             |
| VSWR                    | 1.3:1                                                                  |                                                                                             |
| Receive                 |                                                                        |                                                                                             |
| Receive Bands           | FA-240/60<br>FA-240/70<br>FA-240/140<br>FA-240/180<br>FA-240/300       | 3.4 to 4.2GHz<br>7.25 to 7.75GHz<br>10.7 to 12.75GHz<br>10.7 to 12.75GHz<br>17.7 to 22.2GHz |
| Power                   |                                                                        |                                                                                             |
| Power Requirement       | 90 to 264V AC Power Supply (option)<br>+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<br>(60km/h with gust to 72km/h)                                   |
|                         | Survival (stowed)                                                      | 75mph<br>(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<br>(0.95 x 0.95 x 0.6m) |
|                                                      | Box 2 37.4 x 37.4 x 23.6 in<br>(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<br>X-band: 2 port Tx/Rx<br>Ka-band: 2 port Tx/Rx |
| X/Ka | X/Ka Simultaneous 6-port feed<br>X-band: 2 port Tx/Rx<br>Ka-band: 4 port Tx/Rx |

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



Quick Release Feed



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

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