



# FA-180 Antenna

A 6ft (1.8m) FLYAWAY ANTENNA FOR MULTI-BAND TRANSMISSIONS

## Features

- Assembles in less than 10 minutes
- No tools required
- Only 2 cases <200lbs (90kgs)
- Multi-band feeds changed in seconds
- Intelsat/Eutelsat compliant for commercial bands
- SkyNet and MIL-STD-810G certified
- Complete, integrated system available
- Flyaway antennas available from 8in to 12ft (0.23m to 3.7m) diameter

## Overview

The FA-180 is designed specifically for any application requiring a compact, rugged, multi-band antenna which is rapidly deployable with no tools.

It includes a multi segmented carbon fiber honeycomb reflector, 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.

The FA-180 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.

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

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

The FA-180 can be fully motorised and when combined with the STC-100 antenna controller it can automatically acquire and track, even on inclined orbit satellites.

For transportation the FA-180 packs into its own mount which splits into two conveniently sized flight cases. There are no other cases required.

# Technical specification

General	
Antenna Type	Circular, axially symmetric with centre hub plus eight petals
Diameter	6ft (1.8m)
Configuration	Prime Focus
Polarisation	Linear Orthogonal transmit & receive. (Optimal circular left & right)
Cross Polarisation	-35dB within the -1dB co-polar contour (linear)
Port-to-Port Isolation	90dB typical (with TRF)

Transmit		
Transmit Bands	FA-180/60 FA-180/70 FA-180/140 FA-180/180 FA-180/300	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	<2.0° at 5.85GHz	
Transmit Power	1.5kW max.	
Off Axis Transmit Gain	<29-25 log $\theta$ dBi	
VSWR	1.3:1	
Transmit Gain	FA-180/60 FA-180/70 FA-180/140 FA-180/180 FA-180/300	39.0dBi mid-band 41.5dBi mid-band 46.3dBi mid-band 48.3dBi mid-band 52.8dBi mid-band

Receive		
Receive Bands	FA-180/60 FA-180/70 FA-180/140 FA-180/180 FA-180/300	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-180/60 FA-180/70 FA-180/140 FA-180/180 FA-180/300	34.9dBi mid-band 40.8dBi mid-band 44.7dBi mid-band 44.7dBi mid-band 49.4dBi mid-band

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 34.6 x 34.6 x 20in (0.88 x 0.88 x 0.51m)
	Box 2 34.6 x 34.6 x 20in (0.88 x 0.88 x 0.51m)
Weight	Box 1 86 lbs (39kgs)
	Box 2 108 lbs (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)