



FA-370 Antenna

A 3.7m FLYAWAY ANTENNA FOR MULTI-BAND TRANSMISSIONS

Features

- Assembles in less than 30 minutes
- No tools required
- Only 5 cases <470kgs
- 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 0.23m to 3.7m diameter

Overview

The FA-370 is a compact ultra high gain antenna which can be easily deployed with no tools in less than 30 minutes.

All major components of the antenna including the multi-segmented reflector plus integrated 3 axis mount and flight case system are moulded from carbon fibre, which makes it more practical to transport than many much smaller antennas, yet the 3.7m diameter allows for an uplink EIRP previously unachievable from a flyaway earth station.

Ultra's high precision manufacturing process ensures excellent surface accuracy on the dish and guarantees no deformation, even after being assembled hundreds of times.

The FA-370 is ideal for any rapid deployment broad band communications requirement such as MCPC digital video or multiple SCPC transmission. Secure Government Communications, Emergency Restoration, Sporting Events and Major news stories are obvious applications.

Each FA-370 antenna has a four piece segmented feed arm which allows operation at C, X, Ku, DBS and Ka band frequencies.

Band changes are achieved simply by clipping the relevant feed cartridge into position.

The axially symmetric prime focus feed system was chosen because of its overall compact dimensions and commonality of spare parts. A spares holding of only two petals is all that's required to repair a reflector in case of damage. Compliance with all satellite authority specifications is guaranteed, including side lobe performance better than $29-25 \log \theta$.

Vernier adjustments with clear scales are included for all three axes including fine and course adjustment for elevation and in common with all FA series antennas the FA-370 has a full 0 to 90 degree elevation capability.

Technical specification

General	
Antenna Type	Circular, axially symmetric with centre hub plus eighteen petals
Diameter	3.7m
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)

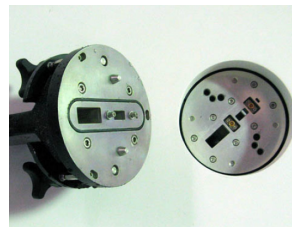
Transmit		
Transmit Bands	FA-370/60 FA-370/70 FA-370/140 FA-370/180 FA-370/300	5.85 to 7.025GHz 7.9 to 8.4GHz 12.75 to 14.5GHz 17.3 to 18.4GHz 27.5 to 31GHz
3dB Beamwidth	<1.0° at 5.85GHz	
Transmit Power	1.5kW max.	
Off Axis Transmit Gain	<29-25 log θ dBi	
VSWR	1.3:1	
Transmit Gain	FA-370/60 FA-370/70 FA-370/140 FA-370/180 FA-370/300	45.3dBi mid-band 47.7dBi mid-band 52.5dBi mid-band 54.6dBi mid-band 58.4dBi mid-band

Receive		
Receive Bands	FA-370/60 FA-370/70 FA-370/140 FA-370/180 FA-370/300	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-370/60 FA-370/70 FA-370/140 FA-370/180 FA-370/300	40.9dBi mid-band 47.0dBi mid-band 50.8dBi mid-band 50.8dBi mid-band 54.8dBi 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	1 to 100%	
Altitude	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, 2 & 3	1.23 x 1.23 x 0.55m
	Box 4 & 5	1.23 x 1.23 x 0.5m
Weight	Box 1	77kgs
	Box 2	77kgs
	Box 3	107kgs
	Box 4	118kgs
	Box 5	83kgs
Weights above are for manual, baseline configuration		



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