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# FA-370 Antenna

## A 12FT (3.7m) FLYAWAY ANTENNA FOR MULTI-BAND TRANSMISSIONS

## Features

- Assembles in less than 30 minutes
- No tools required
- Only 5 cases < 1040lbs (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 9in to 12ft (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 12ft (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 logθ.

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 | 12ft (3.7m) |
| Configuration | Prime Focus |
| Polarisation | Linear orthogonal transmit & receive<br>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<br>FA-370/70<br>FA-370/140<br>FA-370/180<br>FA-370/300 | 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 | <1.0° at 5.85GHz | |
| Transmit Power | 1.5kW max. | |
| Off Axis Transmit Gain | <29-25 logθ dBi | |
| VSWR | 1.3:1 | |
| Transmit Gain | FA-370/60<br>FA-370/70<br>FA-370/140<br>FA-370/180<br>FA-370/300 | 45.3dBi mid-band<br>47.7dBi mid-band<br>52.5dBi mid-band<br>54.6dBi mid-band<br>58.4dBi mid-band |

| Receive | | |
|---|---|---|
| Receive Bands | FA-370/60<br>FA-370/70<br>FA-370/140<br>FA-370/180<br>FA-370/300 | 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 |
| Receive Gain | FA-370/60<br>FA-370/70<br>FA-370/140<br>FA-370/180<br>FA-370/300 | 40.9dBi mid-band<br>47.0dBi mid-band<br>50.8dBi mid-band<br>50.8dBi mid-band<br>54.8dBi mid-band |

| Power | |
|---|---|
| Power Requirement | 90 to 264V AC Power Supply (option)<br>+24V DC (option) |

| Environmental | | |
|---|---|---|
| Temperature | Transportation & Storage | -40 to +158°F<br>(-40 to +70°C) |
| | Operational | -4 to +140°F<br>(-20 to +60°C) |
| | Optional low temperature pack | -40 to +140°F<br>(-40 to +60°C) |
| Humidity | 1 to 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, 2 & 3 | 48.4 x 48.4 x 21.7 in (1.23 x 1.23 x 0.55m) |
| | Box 4 & 5 | 48.4 x 48.4 x 19.7 in (1.23 x 1.23 x 0.5m) |
| Weight | Box 1 | 170lbs (77kgs) |
| | Box 2 | 170lbs (77kgs) |
| | Box 3 | 236lbs (107kgs) |
| | Box 4 | 260lbs (118kgs) |
| | Box 5 | 182lbs (83kgs) |
| | Weights above are for manual, baseline configuration | |
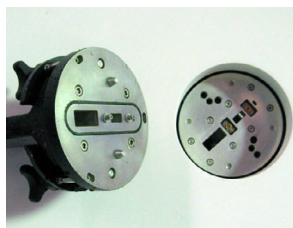


Quad-band Feed arms − C/X, Ku & Ka
(C/X, Ku/DBS & Ka available as an option)

ULTRA Intelligence & Communications