



The FA-120 Antenna

## General

<b>Antenna type</b>	Elliptical with centre hub plus eight petals
<b>Diameter</b>	1.2m
<b>Configuration</b>	Offset feed
<b>Polarisation</b>	Linear, orthogonal transmit and receive.
<b>Cross Polarisation</b>	-35dB within the -1dB co-polar contour
<b>Port to Port Isolation</b>	40dB

## Specifications

### Transmit

<b>Transmit Bands</b>	FA-120/80	7.90 to 8.40GHz
	FA-120/140	13.75 to 14.50GHz
	FA-120/180	17.30 to 18.40GHz
	FA-120/300	27.50 to 31.00GHz
<b>3dB Beamwidth</b>	<1.8° at 13.75GHz	
<b>Transmit Power</b>	1kW max.	
<b>Off Axis Transmit Gain</b>	<29-25 logθ dBi	
<b>VSWR</b>	1.3:1	
<b>Transmit Gain</b>	FA-120/80	39.0dBi mid band
	FA-120/140	43.0dBi mid band
	FA-120/180	45.0dBi mid band
	FA-120/300	49.5dBi mid band

### Receive

<b>Receive Bands</b>	FA-120/80	7.25 to 7.75GHz
	FA-120/140	10.70 to 12.75GHz
	FA-120/300	19.20 to 21.20GHz
<b>Receive Gain</b>	FA-120/80	38.0dBi mid band
	FA-120/140	41.0dBi mid band
	FA-120/300	46.5dBi mid band

### Environmental

<b>Operating Temperature</b>	-40 to +80°C
<b>Humidity</b>	100%
<b>Altitude</b>	4,500m
<b>Wind Rating</b>	100km/h survival

### Physical

<b>Elevation Adjustment</b>	0 to 90°
<b>Azimuth Adjustment</b>	+/-180°
<b>Polarisation Adjustment</b>	+/-95°
<b>Packed Size</b>	0.60 x 0.60 x 0.38m
<b>Weight</b>	31kgs

At the time of writing the FA-120 antenna is believed to be the lightest most compact 1.2m flyaway antenna available. It is intended primarily for Satellite Newsgathering, but is equally well suited to any other application where a one man lift is mission critical or transportation as checked baggage is vital.

The FA-120 is almost entirely manufactured from moulded carbon fibre and durable light weight plastics to ensure that even with 3 axis motorisation, packed weight comes in at less than 32Kgs and the highly innovative "Russian Doll" reflector design has kept the packed dimensions to easily manageable proportions comparable with many much smaller antennas.



At GigaSat we understand the difficulties faced by operators in the field and this is reflected in the attention to detail found in the FA-120 antenna.

Composite legs, integral to the overall dimensions of the antenna when packed, fold down and ratchet into multiple positions for high stability on any terrain with an incline up to 15 degrees and stake holes allow the antenna to be pinned down for high wind operation. The mount case, empty when the antenna is deployed can also be loaded with ballast.

As a manual antenna the FA-120 can easily be pointed using the three axis vernier adjusters. A spirit bubble is provided to level the antenna and clear scales are provided for azimuth, elevation and pole.

When specified, motors, inclinometer, potentiometers and digital control unit all fit neatly within the weatherproof housing and allow comprehensive control via RS485, using either the GigaSat STC-100 antenna controller or a range of third party controllers.

A convenient +12VDC primary power allows the antenna to be powered from the standard accessory socket on a car or an external weatherproof power supply can be provided if required.

Within minutes of arrival at site the FA-120 can automatically point, peak and track, even on highly inclined satellites. However, in the unlikely event that the motorisation or power should not be available the antenna can easily be manually overridden at any time using the 13mm/1/2" hand crank supplied.



Note: Specifications are subject to change without notice  
Please check with the factory 11/2006

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