

Type Specification

The EA5025 antenna is a high performance 'S' - band antenna, purpose built to meet the stringent requirements of air traffic control. The antenna is a composite variant of the proven EA5325 aluminium antenna offering lower unit costs whilst maintaining excellent 'S' Band performance and the ability to co-mount an LVA.

The EA5025 shaped reflector radar antenna is designed to provide a modified cosecant squared elevation pattern and operate in conjunction with a radar system giving constant returns from aircraft flying at constant altitude. A dual beam receive capability is given to enhance high angle performance and minimise short range ground returns. Polarisation switching between Linear and Circular is provided on both low and high beams and a cross polarised output is available on both beams which can be used as a receive weather channel.



Key features include:-

- Low cost of ownership
- High angle of coverage up to 35°
- Excellent beam shaping and sidelobe control
- Polarisation switching on auxiliary & main beams
- Robust build for low life cycle costs
- No radome requirement
- Transportable versions available
- Accepts LVA's from a variety of Suppliers

General & Mechanical	
Type	Shaped reflector
Aperture Size	5.0 x 2.5 m
Total weight (incl. turning gear & motor, excluding LVA)	3,846 kg
Height incl. Pedestal & stand	3.48 m
Max Swept radius	2.72 m
Rotation rate (typical)	5 - 20 rpm
Design Life	20 years

Environmental	
Wind Speed *	157 km/hr (operational) 240 km/hr (survival)
Temperature	-40°C - + 55°C
Humidity	Up to 100%
Altitude	SL to 3500 m
Protection	Suitable for Coastal Environment.
	* With 1.25 cm ice on PSR

Electrical Specification		
Beam Characteristics	Auxiliary Beam	Main Beam
Gain (incl. Microwave Loss)	30.5 dB at Customer Interface	33.5 dB at Customer Interface
VSWR	1.35:1 Max	1.35:1 Max
Frequency Range	'S' Band - 2.7 -2.9 GHz	
Circular Polarisation (both beams)	20 dB min ICR measured in the principal azimuth and elevation planes	
Azimuth Beamwidth (-3dB)	1.5° ± 0.1°	1.5° ± 0.1°
Azimuth Sidelobes	First 3 s/l -25 dB using linear pol. -23 dB using circular pol.	-25 dB using horizontal pol. -24 dB using circular pol.
	All other s/l -30 db	-30 db
Elevation Beamwidth (-3dB)	7.5° Max.	5° Max.
Signal Outputs (both beams)	Target – Co-polar signal : Weather – Cross Polar signal	

Options

12, 13 or 14 bit encoders or Inductosyn; Gearbox heaters; Single or Dual drive with a range of motor power options;