easat
RADAR SYSTEMS

EA5325 Antenna

The EA5325 shaped reflector radar antenna is designed to provide local or terminal area coverage using a modified cosecant^2 elevation pattern 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 main and auxiliary beam and a cross polarised output is available on both beams that is used as a receive weather channel.

Key features include:-	
• Low cost of ownership • High angle of coverage up to 35º • 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	5.3 x 2.5 m
Total weight (incl. turning gear & motor, excluding LVA)	3.3 tonnes
Height incl. Pedestal & stand	3.8 m
Max Swept radius	3.4 m
Rotation rate (typical)	Up to 15 r.p.m
Design Life	20 years

Environmental	
Wind Speed	140 km/hr with 10 mm ice 240 km/hr with 40 mm ice (non rotational)
Temp.	-30ºC - + 70ºC (incl 18º solar) -50ºC - + 70ºC (optional)
Humidity	5% 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)	32 dBi at rotary joint	34 dBi at rotary joint
VSWR (average / peak)	1.40:1	
Frequency Range	'S' Band - 2.7 -3.2 GHz	
Circular Polarisation (both beams)	20 dB min ICR measured in the principal azimuth and elevation planes	
Azimuth Beamwidth (-3dB)	1.5º ± 0.1º	1.5º ± 0.1º
Azimuth Sidelobes (both beams)	-26.0 dB Max (from 0º to ± 10º) -32.5 dB Max (from ±10º to ± 30º) -35.0 dB Max (from ± 30º to ± 180º)	
Elevation Beamwidth (-3dB)	6.0º nominal	4.5º nominal
Signal Outputs (both beams)	Target – Co-polar signal : Weather – Cross Polar signal	
Vertical Beam Separation	Between peaks of the Aux. and Main beam is 5.5º ± 1º	

Options
SSR/MSSR Co-mounting capability; dual redundant motors; choice of encoders or Inductosyn®; choice of Rotary Joint; obstruction lights.

Specifications are subject to change as part of Easat's ongoing improvement policy. Customers are advised to confirm specification prior to contract

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