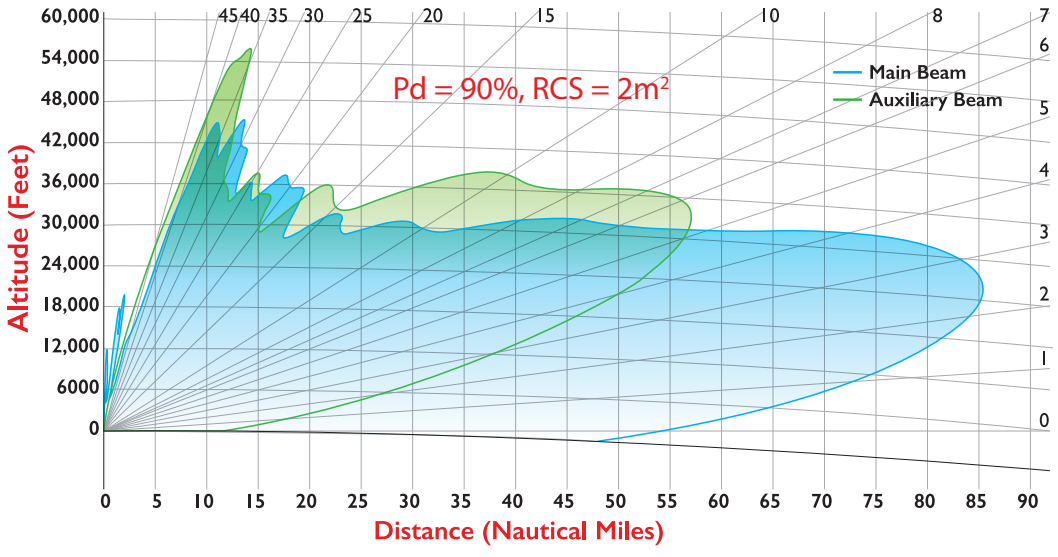
easat®
RADAR SYSTEMS

PSR

ADVANCED S-BAND SOLID-STATE PRIMARY SURVEILLANCE RADAR SYSTEM

- Facility to Top-Mount LVA for MSSR or IFF Interrogation
- High Angle of Coverage
- Excellent Beam Shaping and Sidelobe Control
- Polarisation switching (Linear, Circular and Elliptical) on Auxiliary & Main Beams
- Robust Build for Low Life Cycle Costs
- No Radome Requirement
- Dual Drive Pedestal
- Dual Optical 14 or 16 bit Azimuth Encoders
- Transportable Versions Available
- Tailored Spares, Maintenance & Upgrade Packages available

Easat PSR Blake Chart*



easat.com
info@easat.com

Easat's Primary Surveillance Radar (PSR) systems are optimised for aircraft approach and long-range en-route air traffic applications.

Easat PSR radars offer excellent system stability, effective clutter attenuation and elimination of false targets enabling high probability of target detection out to ranges of 85 NM.

The high precision dual-beam of Easat's PSR antennas ensures reliable coverage even under severe ground clutter conditions. Advanced algorithms and beam switching techniques mitigate dynamic high-speed clutter, such as wind turbines, trains and road traffic.

Easat PSR radars include independent high-resolution weather channels, providing precise information on weather conditions (US-NWS 6 level).

Easat PSR radars feature advanced modular design, full solid-state technology and comprehensive integrated BITE systems, ensuring low running costs and minimal maintenance requirements.

Easat provides complete turn-key solutions, to include a range of antenna tower options, civils works, installation and after-sales service.

General & Mechanical*

Type	Cosecant^2 Shaped Reflector (PSR)
Aperture Size	4.9x 3.1 m
Total weight (incl. Turning Gear & Motor, Excluding LVA)	4000kg
Height	4.7 m
Height including Pedestal & SSR	6.2 m
Max Swept Radius	3.6 m
Drive Type	Dual Redundant 15 kw
Rotation Rate (Typical)	6 to 15 RPM
Design Life with Planned Maintenance	20 years
PSR Antenna Tilt	-5° to +5°
Azimuth Coverage	360°
Elevation Coverage	0° to +45°
MTBF	>36,000 Hours
Noise Level @20 m	63 dB

Environmental*

Wind Speed (Operational)	With MSSR LVA: 167 KPH (90 Knots) with 12mm Ice
Wind Speed (Survival)	With MSSR LVA: 223 KPH (120 Knots) with 12mm Ice
Temperature	-40°C to +49°C (incl 1,160 Watts Solar Radiation)
Humidity	100%RH
Altitude	Sea Level to 3,500 m
Protection	Suitable for Coastal Environment
Sand & Dust	MIL-STD-810 (or Equivalent)
Hail	Up to 30mm Diameter
Precipitation	100mm per Hour

Electrical Specification: S-Band*

Beam Characteristics	Low (Main) Beam	High (Aux) Beam
Gain (including Microwave Loss)	≥34dB	≥32.5 dB
VSWR (Average / Peak)	≤1.5 : 1	
Side Lobes	<-2.5 dB	
Frequency Range	'S' Band · 2.7 ·2.9 GHz	
Circular Polarisation (Both Beams)	≤ -19 dB ICR Measured in the Principal Azimuth and Elevation Planes	
Azimuth Beamwidth (-3dB)	1.45° + 0.1°	1.45° ± 0.1°
Azimuth Sidelobes (Referenced to the Peak of the Main Beam)	≤ -25 dB from 0° to ± 10° ≤ -30 dB (from ±10° to ± 30°) ≤ -35 dB (from ±30° to ± 180°)	
Elevation Beamwidth (-3dB)	≤4°	≤ 6°
Signal Output.s (Both Beams)	Target-Co-Polar Signal: Weather- Cross Polar signal	