

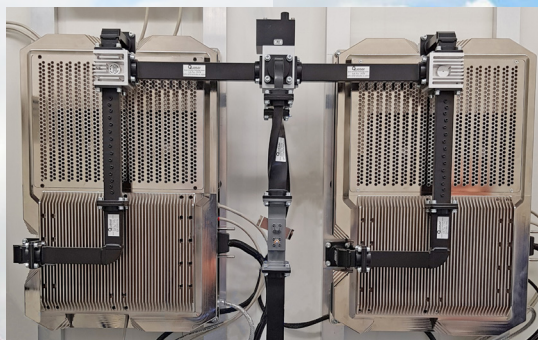
**easat**<sup>®</sup>  
RADAR SYSTEMS

**SMR**

**SURFACE  
MOVEMENT  
RADAR SYSTEM**

- Suitable for Integration with A-SMGCS System
- Printed Parallel-Fed Array – Zero Squint with Frequency
- Circular polarisation for weather penetration and Inverse Cos<sup>2</sup> beamshape to minimise effects of rain clutter
- Solid state transceiver - frequency selection across 9.0 to 9.5 GHz X-band for maximum flexibility
- Parallel feed array - no squint with frequency
- Sub 0.33 degree azimuth beamwidth
- Gain: 35.5 dBi at 9.5GHz
- Rotation rate (typical): 60 RPM
- Anti-Icing Option Available
- Tailored Spares, Maintenance & Upgrade Packages available

Easat Solid-State, Dual Redundant X-Band Transceiver



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The Easat X-Trac Surface Movement Radar (SMR) provides Radar Surveillance of Aircraft, vehicles and other objects within the Airport Perimeter (Runways, Taxiways, Parking, and Apron Areas) for the Air Traffic Controllers. The Design of the Radar System helps ensure Detection and Tracking of very small targets in severe clutter (Rain, Fog, Snow) and other Reduced Visibility Conditions.

Easat's X-Trac SMR can be supplied as a stand-alone Surface Movement Radar System or integrated into Advanced Surface Movement and Guidance Control System (A-SMGCS) without any modification or enhancements required.

Easat's State-of-the-Art SMR Radar Sensor, 79 in operation worldwide, includes Several Unique Beneficial Features:

- Printed Parallel-Fed Array – No Squint with Frequency
- Simple, IP66, Lightweight, Low-Cost Installation without the need for a Radome
- Narrow Azimuth Beam-Width for high resolution on small targets
- Circular Polarisation
- Inverse Cosec<sup>2</sup> Beam-Shape
- Sub 0.4° Narrow Azimuth Beam-Width
- Coverage to -40° below the Horizon

	Range	500m	1,000m	1,500m	2,000m
<b>EA7401M</b>		2.7m	5.4m	8.1m	10.8m
<b>21ft SWG</b>		3.3m	6.6m	9.9m	13.2m
<b>Improvement over 21ft Slotted Waveguide Antenna</b>		<b>0.6m</b>	<b>1.2m</b>	<b>1.8m</b>	<b>2.4m</b>

## Specifications\*

RF Frequency Range	9.0 - 9.5 GHz
Output Peak Power, >	50 W
Pulse Width, Short	25 ns
Azimuth Coverage	360°
Antenna Rotation Speed	60 RPM
Processing Delay (Raw Video)	<250 ms
Overall Dynamic Range	140 dB
Noise Figure	Amplifier Noise 2 dB Overall Noise figure ≤ 4 dB built-in circulator and limiter
Range Cell Size	1.875 m
Range Resolution	≤ 5 m
Range Accuracy	≤ 3.5 m
Azimuth Resolution (up to 2 Km)	≤ 15 m
Azimuth Accuracy (up to 2 Km)	≤ 5 m
Report position accuracy as Defined by ICAO (up to 2 Km)	≤ 5 m
Target Displacement Detection in any Direction (up to 3 Km)	≤ 5 m
Temperature Range	<b>Transceiver</b> 0 to +35 °C <b>SMR</b> -40 to +55 °C
Relative Humidity	10 - 80 %

