

### Type Specification

The EA7401M is the latest offering from Easat and uses production techniques developed from cellular radio technology to provide excellent RF performance.

Adopting technology from the antenna which is being supplied to the FAA' as part of the ASDE-X program, the 'M' designation depicts the EA7401M's ability to operate with single, dual or dual diversity magnetron based transceiver systems.



The antenna offers sub 0.31° azimuth beamwidth giving excellent range and azimuth resolution and provides operation with 40ns pulse width without pulse distortion. The antenna also offers zero squint with frequency, making it particularly suitable for use with frequency agile, frequency diverse systems or FMCW systems

Offering a high standard specification, the antenna includes circular polarisation for weather penetration and inverse cosec<sup>2</sup> beam shaping to minimise effects of rain clutter. Additionally, a coverage to -40° below the horizon, low weight and low noise characteristics make the EA7401M ideal for mounting atop Visual Control Rooms.

#### Key features include:-

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| <ul style="list-style-type: none"> <li>• Low cost of ownership</li> <li>• Sub 0.31° azimuth beamwidth</li> <li>• Circular polarisation and Inverse Cosec<sup>2</sup> beamshape</li> <li>• Coverage to -40° below the horizon</li> </ul> | <ul style="list-style-type: none"> <li>• No squint with frequency</li> <li>• Low wind resistance</li> <li>• Wide bandwidth</li> </ul> |
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General & Mechanical	
Type	'Linear Array'
Nominal dimensions (m)	7 x 0.25 x 0.5
Total weight (incl. turning gear & motor) (kg)	350
Stand Weight (steel) (kg)	100
Height incl. Pedestal & stand (m)	1.35
Max Swept radius (m)	3.625
Rotation rate (typical)	60 rpm
Design Life	20 years

Environmental	
Wind Speed	150 km/hr (operational) 240 km/hr (survival)
Temperature	-30°C - + 70°C (incl 18° solar) -50°C - + 70°C (optional)
Humidity	Up to 100%
Altitude	SL to 2500 m
Protection	Suitable for Coastal Environment.

Electrical Specification	
Beam Characteristics	'X' Band, Squintless, operating between 9.1 - 9.5 GHz
Gain	≥35 dBi
VSWR	1.40:1 @ 2 spot frequencies within the operating frequency
Backlobes	-40 dB
Azimuth Sidelobes (peak)	-25 dB
Elevation Beamshape	Inverse Cosec <sup>2</sup> to -40° below horizon
Azimuth (-3 dB) Beamwidth	≤ 0.31°
ICR	>15 dB min ICR in principal azimuth and elevation planes
Polarisation	Circular

#### Options

Single or dual 4096 or 8192 count encoders; gearbox heaters for -50° C Operation