# PESA TECHNOLOGY

ANTENNA RESEARCH ASSOCIATES

## PESA-2835-101S

Passive Electronically Scanned Array (PESA) technology, also known as passive phased array, is a phased-array antenna where the beam of radiowaves can be electronically steered to point in different directions, in which all the antenna elements are connected to a single transmitter and/or receiver. The antenna is capable of producing multiple beams that can be optimized to steer without changing the antenna's orientation. Beams are formed by shifting the phase of the signal emitted from each radiating element to provide constructive (or destructive) interference to steer the beams in the desired direction.

The different electrical lengths between a specific input and all output ports generate linear progressive phase shifts across the output ports of the lens. Dummy ports are also an integral part of the Rotman lens and serve as an absorber for the spillover of the lens. This reduces multiple reflections and standing waves that typically deteriorate the lens performance.

The PESA-2835-101S is a lightweight, high-gain antenna that operates in the S-band frequency ranging from 2.8 to 3.5 GHz. It is designed for outdoor operation on a moving platform on land and at sea.

## Features

- High-gain PESA
- 768-element dipole array
- Frequency range: 2.8 to 3.5 GHz
- Vertical polarization
- 68 dBW, 8kW input
- 2.5 m x 1.4 m x 1.6 m
- AZ-wide scanning +/-60°
- Increased time on target
- Programmable scanning options
- Increased MBTF
- Interrogator agnostic
- Ease of operation

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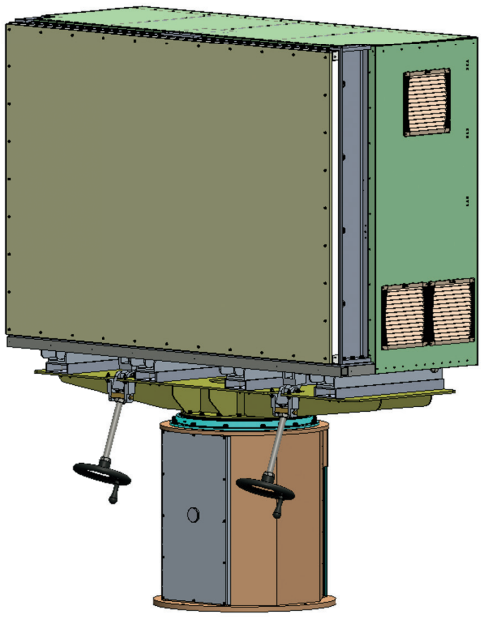
| Specifications | |
|---|---|
| Frequency | 2.8 to 3.5 GHz |
| VSWR | 2.0:1 max |
| Beamwidth | 2.3°<br>0° scan @ 3.25 GHz |
| AZ Steering | +/-60° |
| EL Steering | Mechanical |
| Polarization | Vertical |
| Operation | Tx<br>Rx (half-duplex only) |
| Power Handling | 8kW |
| Antenna Shape | Rectangular |
| Operating Temperature | -5° to +50°C |
| Dimensions | ~2.5 m x 1.4 m x 1.6 m |
| Weight | 2,000 lbs<br>(max antenna array) |





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