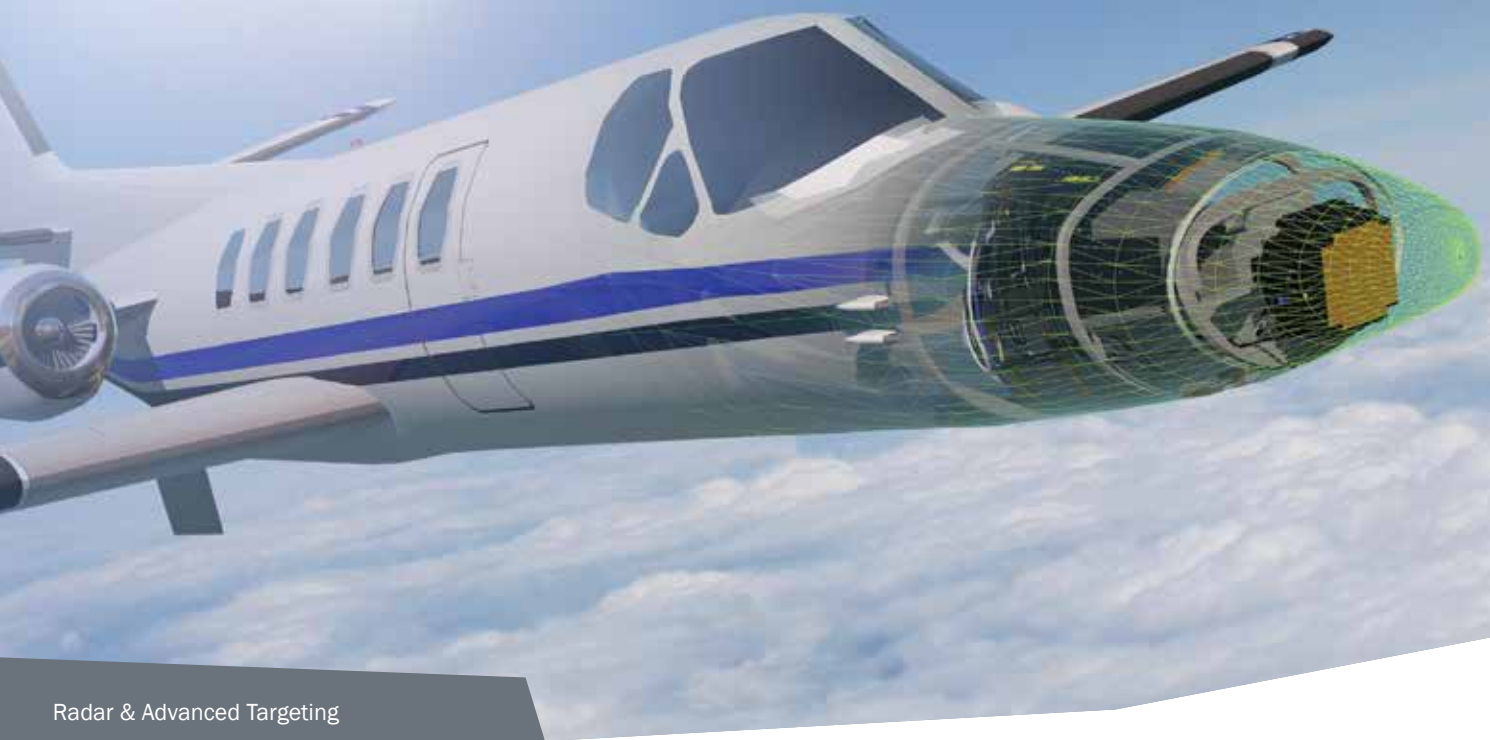


VIXEN 500E



Radar & Advanced Targeting

VIXEN 500E COMPACT MULTI-ROLE ACTIVE ELECTRONICALLY SCANNED ARRAY (AESA)

Vixen 500E is a compact, lightweight, AESA Radar that combines Fire Control, Surveillance and Reconnaissance search capabilities, along with target acquisition, tracking and prosecution capability for a variety of platforms and applications. These include Fighter, lead-in Fighter Trainer, Air Intercept and Homelands Security or any aircraft requiring a combined intelligence/surveillance capability along with target tracking and prosecution.

Vixen 500E is capable of detection and tracking small targets such as low flying slow moving air vehicles over difficult terrain in line with emerging border protection threats.

Building on over 60 years of surveillance and fire control radar experience, Vixen 500E is part of a family of AESA Radars delivering greater performance and higher reliability than comparable mechanically scanned radars and offers all the advantages of a multi-function AESA array with significant through life cost savings.

Key features

The Vixen 500E Radar has been designed from the outset to meet worldwide combined radar surveillance and target tracking needs within one efficient modular system. The Vixen 500E builds on common modular units for a scalable system architecture to meet the needs of fire control and intercept radar operational requirements whilst remaining resistant to radar countermeasures.

Vixen 500E comprises three Line Replaceable Units (LRUs), easing installation and minimising the system volume. This makes it ideal for small to medium size platforms. Specifically tailored LRU's such as Cooling and Navigation are available as an option to meet customer platform needs.

Vixen 500E's highly flexible digital waveform generation supports optimised performance in all modes of operation. Instantaneous beam repositioning is achieved via electronic beam steering of the AESA antenna



A Finmeccanica Company

selex-es.com

VIXEN 500E

and provides opportunities for mode interleaving and enhanced performance. The use of multiple, solid state Transmit/Receive Modules (TRM) makes the Vixen 500E radar considerably more reliable than conventional mechanically scanned radar systems.

The open and expandable architecture provides simple communication for controls and displays via standard ethernet interfaces. Human Machine Interface (HMI) software is available for standalone operation or to support integration with other platform sensors including EO/IR Turret, Digital Map, Data Links.

Key benefits

- Excellent performance
- Low cost of ownership
- Superior reliability
- Multi-mode operation
- Ease of installation
- Easy to use
- Integrated HMI solution

Superior reliability

At the core of the AESA radar design is the ability to tolerate individual item failure. Component failures in the array result in graceful performance degradation rather than complete system failure, delivering high operational availability when compared with conventional radar systems. Significant cost benefits over the life of the system are realised due to the high reliability, increased availability and reduced maintenance requirements.



Radar LRU's
(Cooling, Nav, Power, Processor)



Vixen 500E
AESA Antenna

Modes and capabilities

The mode set allows the system to deliver the functional capabilities of a surveillance, reconnaissance Radar within a significantly reduced volume. This is combined with the full capabilities of a detection, tracking and prosecution system to meet the needs of the emerging new world threats.

The system utilises all the benefits of an electronically scanned array to deliver:

- Significantly enhanced performance relative to similar sized systems with the same weight, volume and power
- Comparable performance to larger mechanically scanned system whilst offering reduced weight and power

TECHNICAL SPECIFICATIONS

Frequency	X Band
Scan coverage	> +/- 60
Scan velocity	Instant beam switching
Mean Time Between Failure (MTBcF)	> 1000 hrs
Cooling	Liquid cooled Antenna and Power Supply (optional liquid cooling unit available) Air cooled Processor
Weight	86kg radar (core LRU's)
Input power	< 3.4 kVA
Antenna dimensions	Height 429mm Width 496mm Depth 236mm
Key interfaces	Ethernet Mil Std 1553 (optional)

Functions	
Track While Scan	Automatic
Track identification	AIS or TCAS integration (optional)
Mode interleaving	Simultaneous dual-mode operation

Key parameters	
Track While Scan	20 targets tracked and displayed
SAR resolution	< 1m

Modes and capabilities	
Detect & Track (Air-Air)	Track While Scan Single Target Track
Detect & Track (Air-Surface)	Sea Surface Search Ground Moving Target Indication
Mapping	Real Beam Ground Mapping Weather

Imaging	
Synthetic aperture	SpotSAR Radar mapping (standard and high resolution) StripSAR Inverse SAR



Follow us on:



For more information please email infomarketing@selex-es.com

Selex ES Ltd. - A Finmeccanica Company

Crewe Toll - 2 Crewe Road North - Edinburgh - EH5 2XS - United Kingdom - Tel: +44 (0) 131 3322411

This publication is issued to provide outline information only and is supplied without liability for errors or omissions. No part of it may be reproduced or used unless authorised in writing.

We reserve the right to modify or revise all or part of this document without notice.