

XPLORE

MISSION-EFFECTIVE AIRBORNE SWAP-C IMAGING RADAR



IMPROVED MISSION EFFECTIVENESS AND SAFETY

Xplore is a low cost, low SWaP software-defined millimeter-wave (MMW) radar, designed for 3D terrain mapping and obstacle detection. Xplore, developed by Elbit Systems, leverages Commercial Off-The-Shelf (COTS) technology to provide a high resolution, high-frame rate, multi-mode, 4D imaging solution, which improves pilotage capabilities in Degraded Visual Environment (DVE) conditions (fog, dust, smoke, clouds, low-light etc.).

Xplore augments standard NVG or FLIR imagery with terrain and obstacle 3D symbology and improves situational awareness and flight safety.

Improve mission success probability with high-fidelity terrain imaging and obstacle data, fused with a Synthetic Vision System (SVS) and 3D conformal color symbology.

OPERATIONAL BENEFITS

- Improved situational awareness
- Allows the pilot to perform Nap-Of-the-Earth missions in full degraded-visibility environments (DVE)
- Improves mission effectiveness and flight safety
- Provides intuitive augmented symbology and imagery
- Reduces spacial disorientation
- Supports navigation in GPS denied areas

ELBIT AMERICA'S VERTICAL LIFT TEST BED



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OPERATIONAL MODES

The Xplore radar updates the 3D terrain map database to create a high-fidelity terrain map (white and green grid respectively in the images to the right).

SEE-THROUGH MODE

In reduced visibility conditions, the Xplore terrain grid, obstacles and mission data are georeferenced to the outside world via the Helmet Mounted Display.

AUGMENTED REALITY MODE

Fusion of FLIR, NVG imagery, terrain grid, obstacles and mission data are overlaid on the HMD providing increased situational awareness and flight safety.

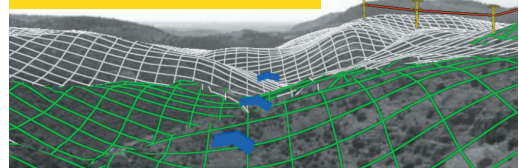
SATELLITE IMAGE MODE

Xplore data is continuously fused with satellite imagery to provide the aircrew with a real-time terrain model, providing a day-like image with obstacles to enhance pilotage in day, night, or adverse conditions.

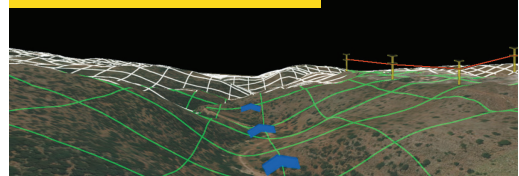
SEE-THROUGH MODE



AUGMENTED REALITY MODE



SATELLITE IMAGE MODE



KEY FEATURES

- K-Band 2D array
- Range of 1 NM
- Wide FOV (100° x 50°, H x V)
- Enables terrain following applications
- Penetrates DVE (fog, dust, smoke, clouds etc.)
- Moving targets detection
- Supports mid-air collision avoidance



XPLORE



PROCESSING UNIT

SYSTEM ADVANTAGES

- No mechanical scanning
- Seamless integration with DVE systems
- Compatible with the world's leading HMDS
- Full scalability and upgradability
- Low SWaP, low maintenance



X-SIGHT

OR



HDTs