X-Sight

Wide Field of View, Color, Binocular HMD for Helicopter Pilots

Technology at a Glance

Display

- Binocular color display with wide Field of View (FOV) - 62ºx30º
- High resolution - 1920x1200 pixels
- Variable Transmittance Visor (VTV)

Module

- Integrated night vision camera
- No visual obscuration
- Detachable module
- HGU-56P compatible
- Low-latency, level A certified hybrid opto-inertial head tracker

Data Fusion

- "Zero Latency" image processing
- 3D imagery
- Synthetic Vision Symbology (SVS) capabilities

Elbit Systems Ltd.
Advanced Technology Center, P.O.B. 539, Haifa 31053, Israel
E-mail: aerospace@elbitsystems.com   www.elbitsystems.com

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Expanding Your Horizons

With an unparalleled field of view and high-resolution, color binocular display, X-Sight leverages sensor outputs to create and present an intuitive view of the aircraft's operational surroundings. Fusing active sensor data with tactical flight and mission data, X-Sight creates an overlay of intuitive, 3D conformal symbology and Synthetic Vision Symbology (SVS), presented on top of visual sensor imagery. When supported by the helicopter's sensors, X-Sight can also provide 'transparent cockpit' functionality, allowing pilots to see beyond cockpit boundaries, displaying a 360-degree view with no visual obstacles. In doing so, X-Sight delivers the ultimate situational awareness, optimizing mission capabilities, while increasing survivability, efficiency and safety.

Ultimate Flight Vision Technology

Realizing Elbit Systems' proven operational fligh concept, X-Sight presents aircrew with an enhanced, multi-layered panoramic image of the world outside the cockpit. The unified picture is comprised of both real and synthetic information, beginning with the aircraft visual sensors, including night vision sensor, Distributed Aperture Systems (DAS), Electro-Optic Payloads (EOP), X-Sight's own integrated night vision camera and more. The aircraft's active sensors, including LIDAR, TF/TA Radar, obstacle warning systems and others, are then used to create conformal 3D imagery. Enhancing the visual environment even further, X-Sight completes the real-world view with applications such as Synthetic Vision Symbology (SVS), Low Visibility Landing (LVL) symbology, obstacle awareness, collision avoidance, flight and mission symbology, virtual training and more. The various layers of information are presented on the X-Sight advanced display, tailored to meet cutting-edge visual requirements.

X-Sight Highlights

Wide field of view

High-resolution video

Binocular display

Supports legacy NVG

Compatible with next generation NVG cameras

Compatible with standard, off-the-shelf military helicopter helmets

Operational Benefits

Display
- **Binocular display** simplifies usability and minimizes learning curve
- **Peripheral vision** enhances mission efficiency and safety
- **Proprietary photochromic technology** changes visor transmittance according to light exposure, even behind the cockpit canopy

Module
- **Integrated night vision camera with sophisticated image processing** enables night operation independent of external sensors or NVG
- **Unique design and lightweight structure** reduce physical burden and improve center of gravity
- **Market leading, robust and accurate hybrid helmet tracker** synchronizes pilot's real-time line-of-sight with sharp, high-quality synthetic imagery
- **Detachable module** improves flight safety and reduces number of required units

Data Fusion
Unification and synthesis of all sensors and data sources
- **Enhanced multi-layered presentation** reduces pilot workload and improves situational awareness
- **Advanced navigation assistance** creates a virtual landing zone in difficult terrain
- **Deep learning algorithms** enable real-time obstacle detection, classification and warning