

# ClearVision™

Complete HWD/HMD and EFVS Solution

- SVS, EVS & CVS Options
- Forward-Fit & Retrofit Solution for Helicopter Platforms
- Enhanced Safety in Degraded Visual Environments
- Expands Envelope of Natural Vision







## Intuitive Head-Up Avionics Suite

ClearVision is a complete Enhanced Flight Vision System (EFVS) solution providing head-up symbology combined with enhanced vision (EVS) and Synthetic Vision System (SVS). It features an unlimited field of view, with the brightest and highest resolution Helmet-Mounted Display (HMD) and Head-Wearable Display (HWD) solutions for rotorcraft in the market. ClearVision's unique pilot-friendly split screen display allows the user to change between the two background imagery areas for optimal control. With the ClearVision system, overcome extreme weather conditions and low visibility situations – day, night and Night Vision Goggle (NVG). Intuitive head-up, eyes-out flying is now possible.

As a Level A certified solution, the ClearVision suite is the market's proven solution, selected by leading helicopter platform manufacturers, and corporate transport and mission operators around the world.

### Features

- Highly integrated solution
- Forward-fit and retrofit platforms
- Easy installation & integration
- Day, night, and NVG capabilities
- System configuration options for corporate transport and mission operators



## SkyVis™ / SkyVis NVG Helmet-Mounted Display for Mission Operations

The SkyVis Helmet-Mounted Display (HMD) offers the latest in commercially certifiable Line-Of-Sight (LOS) technology. It includes day, night and Night Vision Goggle (NVG) capabilities with enhanced safety for 'round-the-clock' mission support for SAR, EMS, parapublic, offshore, and day-to-day utility operators. The system enables "eyes out" operation during all phases of flight and an unparalleled view of the outside world with aircraft, mission, terrain, flight, obstacle, and navigation data.

SkyVis uses a helmet-mounted, monochrome, monocular display, which augments the operator's vision with HUD symbology, as well as optional SVS, EVS-4000, or CVS imagery. The display module does not require helmet modification and mounts directly to existing NVG mounting hardware. The SkyVis NVG option also mounts to the helmet's existing mounting hardware and provides NVG compatible display symbology.

SkyVis and SkyVis NVG displays are adjustable to accommodate multiple Inter Pupil Distances (IPD) and are compatible with prescription eyeglasses.



*SkyVis Helmet-Mounted Display*

- Synthetic and sensor images with flight symbology
- Conformal imagery and intuitive symbology
- Increased safety in conditions where natural vision is impaired
- Customizable solution
- NVG option

## SkyLens™ Head-Wearable Display for Corporate Operators

SkyLens is a revolutionary Head-Wearable Display (HWD), ideal for anyone seeking an easy-to-install, retrofittable, and flexible HUD solution. High-resolution symbology, SVS, and EVS are presented on a high-transparency visor, as intuitive as wearing a pair of sunglasses. The easy-to-wear device provides superior see-through transmission for corporate transport operations in all weather conditions, day and night, and unlimited field of view. The wide-viewing angle allows the pilot to look 180 degrees to the left or right to view panoramic SVS imagery for unprecedented situational awareness. In addition, the pilot is not constrained to sitting in a specific position as is necessary with a traditional HUD.

SkyLens uses a head-harnessed, monochrome, visor display, augmenting the operator's vision with HUD symbology, as well as optional SVS, EVS-4000, or CVS imagery.

SkyLens' design allows operators to wear prescription eyeglasses and to use a standard aviation headset.



*SkyLens Head-Wearable Display*

- High-resolution symbology and computer flight guidance
- "Real World" view of terrain and obstacles
- Enhanced safety with "see and avoid" in limited visibility
- Clear and tinted visor options
- Improved visibility for helipads



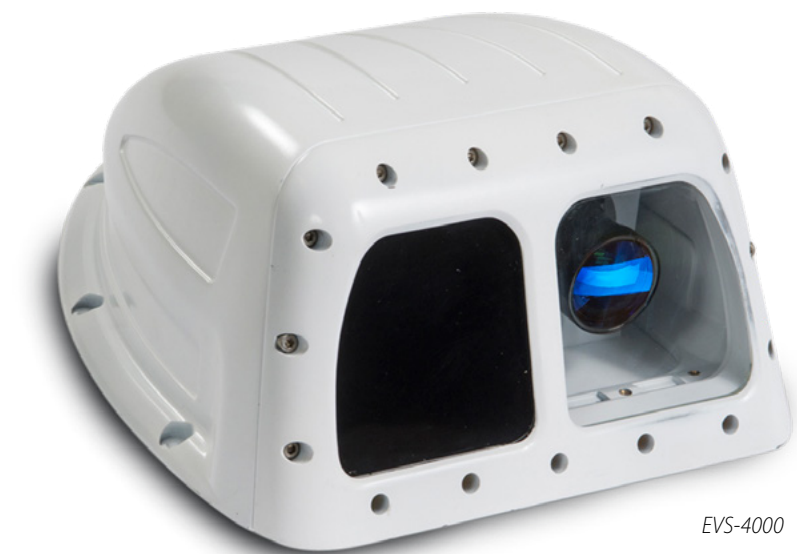
# Optional Components

## EVS-4000 Multispectral Camera

The EVS-4000 ClearVision Enhanced Vision System provides a superior visual solution augmented with real-time synthetic information, designed to expand the safety and operational capabilities of your HMD / HWD system. With its advanced real-time visual processing, EVS-4000 merges the input of high-definition visual cameras, with sophisticated fusion algorithms and a range of bands including visible light and Near Infrared (NIR). The result is a superior visual solution, expanding your situational awareness in any weather condition like never before.

EVS-4000 is designed to increase platform efficiency and safety, with the latest visual-processing technology, meeting all FAA/EASA/ICAO/CAAC EVS or EFVS civil certification requirements.

- Projected onto SkyVis HMD or SkyLens HWD
- Multispectral technology for improved imaging details
- High-resolution, high-contrast
- Terrain awareness video
- Detects both incandescent and LED lighting from oil rigs, helipads, and runways
- Provisions to support color display
- Standalone configuration available
- Supports projection onto head-down displays
- Small and lightweight



EVS-4000



EVS-4000



Reference



EVS-4000

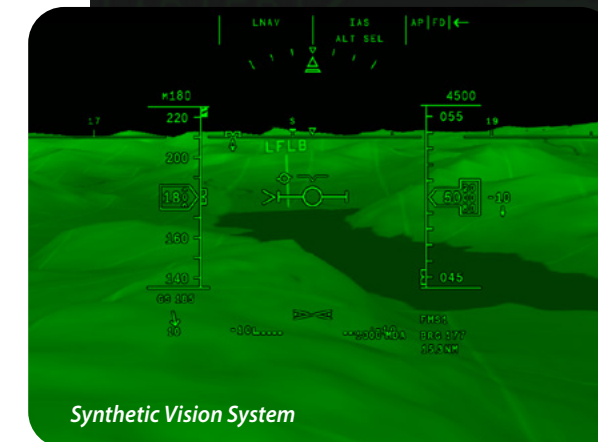


Reference

## Synthetic Vision System Terrain and Obstacle Images

The ClearVision Synthetic Vision System (SVS) provides synthetic 3D images generated from a database of runways/helipads, obstacles, terrain, and flight plan information. Ready to be displayed on-time and on-need, the SVS offers enhanced terrain awareness throughout the flight operation.

- Projected onto SkyVis HMD or SkyLens HWD
- Better detection of obstacles and enhanced terrain awareness in all weather conditions
- Worldwide airport database
- Accurate visualization
- Better spatial orientation and movement perception



Synthetic Vision System

## Combined Vision System

ClearVision's Combined Vision System is a unique and optimized solution for helicopter operations. Setting a new standard, the CVS combines both EVS-4000 and SVS, providing a high-fidelity view of the outside world even when actual visibility is close to zero. This improves the pilots' ability to safely fly the aircraft and land, reducing the risks of Controlled Flight Into Terrain (CFIT) accidents.

Clearly divided into upper and lower windows, pilots can adjust the split between SVS on the top and EVS-4000 on the bottom to obtain the most useful imagery as weather and visibility conditions change. SVS and EVS-4000 image brightness are individually adjustable as well as EVS contrast and overall HMD / HWD brightness. A CVD on/off button quickly clears the HMD / HWD of anything that might distract from the view out the windshield.

- 3D perspective view of topography
- Video mixed with thermal and day imaging
- Constant daytime view of flight path
- Intuitive situational awareness cues



Combined Vision System

ILS1  
CRS 180  
0.9 NM





# System Components & Architecture



**SkyVis Helmet-Mounted Display**

- Monocle or Binocular (NVG) Display Unit
- Optical Tracker Unit
- Fiber to Copper Converter (for display)
- Control Panel HCCU (CPC)



**SkyLens Head-Wearable Display**

- Clear or Tinted Visor
- Optical Tracker Unit
- Fiber to Copper Converter (for display)
- Control Panel HCCU (CPC)



**EVS-4000**

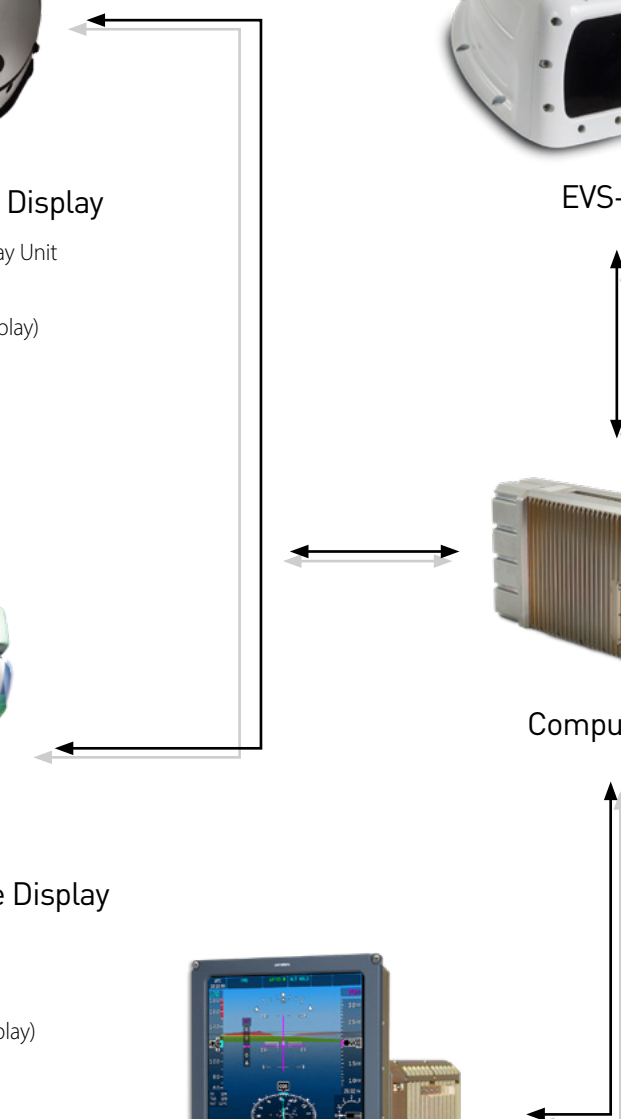


**Computer Unit**



**Flight Instruments**

i.e. InSight™ Display System  
 EFI-890R Advanced Flight Display or  
 Third Party Flight Instruments



**UNIVERSAL™ AVIONICS**  
an *Elbit Systems* Company

**Corporate Offices**

3260 E. Universal Way  
Tucson, Arizona 85756 USA  
+1 520 295 2300 / 800 321 5253  
Fax: +1 520 295 2395

**Internet**

uasc.com  
E-mail: [info@uasc.com](mailto:info@uasc.com)



UASC-7-62  
01-23-2020