A 3D, all-weather, day/night airborne vision system for a variety of missions, including search and rescue, special operations and aerial refueling.

Around the globe, aircraft operators are carrying out missions in intense, unpredictable environments, often with the highest stakes. Whether it’s a stormy search-and-rescue operation, VIP transport in heavy fog or a special-operations mission under cover of darkness – when the call comes in, readiness is everything.

Clearer vision for tasks in this environment can save one of the most valuable commodities in such situations: time. The Rockwell Collins Tactical 3D Airborne Vision System provides this clearer vision with advanced, innovative technologies.

The Tactical 3D Airborne Vision System has three primary subsystems:
- 3D display
- Vision graphic
- Vision sensor

In an aerial refueling application, the combined subsystems enable the boom operator to watch the outside world from a remote, 3D display station in the front of the aircraft, rather than in a “Boom Pod” in the aircraft’s aft section (as with the KC-135 and KC-10).

The system gives the operator a clear view of the refueling boom, the receiver aircraft and other external visual cues on a stereoscopic display, simplifying completion of the primary mission – refueling U.S. and coalition aircraft.

With its enhanced vision capability, the Tactical 3D Airborne Vision System also can provide added capability for search-and-rescue and low-light ground operations, as well as providing low-level visual cues during special operations missions.

It’s a mature, low-risk, best-value solution combining our industry-leading technology, visual systems expertise and best practices in developing mission-critical equipment that operates with proven performance in the harsh airborne environment.
Building trust every day.

Rockwell Collins delivers innovative aviation and high-integrity solutions to commercial and government customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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KEY FEATURES AND BENEFITS

- A robust user interface that enables the operator to see 3D with free movement of the head within limits of 4.5 by 3 inches, thus reducing fatigue
- 1.8 megapixel, full-frame rate progressive video
- A sensor-to-display latency of 60 milliseconds
- The system is permanently aligned, including both 3D displays and sensors, requiring no field alignment
- 3D display has variable-depth overlays that can appear at the same apparent depth as the actual object, reducing eye strain and resulting in low operator eye fatigue
- Fielded experience in integration and alignment of the Remote Vision System sensor systems
- Proven product line management and a system that combines proven, high Technology Readiness Level baseline products with Rockwell Collins’ exceptional product development experience
- An open architecture, partitioned system featuring high growth potential, variability isolation and obsolescence management
- Low-latency, high-quality 3D video on permanently dry-bonded displays combined with high-quality design and production will result in low operator fatigue, fewer maintenance issues and, ultimately, a higher mission-capable rate
- Advanced sensor technology supports high-resolution image capture in a wide range of lighting conditions, such as bright sun to moonless night, without damaging the sensors
- Commercial off-the-shelf sensors keep costs low while offering high resolution, high speed and low noise
- Open architecture design permits technology advances with proven low impact on other subsystems
- Sensor suite ruggedization, providing environmental protection to key optical components and temperature/fire discretes for go/no-go user feedback

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

REMOTE VISION SYSTEM

3D display subsystem
- Large viewing headbox
- Real time 3D encoding for low latency +pixel response time
- Field tested
- 1680 x 1050 progressive resolution avoids line loss
- Fixed pixel alignment at factory
- Off the shelf

Vision graphic subsystem
- Reuse of off-the-shelf components with existing DO-253 artifacts
- Proven performance with ruggedized military airborne video processing
- Low latency <40 ms
- Open architecture software design

Vision sensor subsystem
- Proven performance with military airborne sensor integration
- Single frame latency
- Extensive in-house test facilities

Building trust every day.