Rugged Video Distribution System Serves Deployed Surveillance Platforms

Curtiss-Wright Controls Embedded Computing [1] (CWCEC), a business group of Curtiss-Wright Controls and a leading designer and manufacturer of commercial off-the-shelf (COTS) VME, VPX, OpenVPX and CompactPCI products for the rugged deployed aerospace and defense market, has introduced the newest addition to its industry leading Skyquest family of rugged video management system [2] (VMS) products, the Skyquest VDSU-1407 [2] Video Distribution System Unit [3] (VDSU).

The VDSU-1407 is a comprehensive video conversion [2] and distribution unit designed to simplify the routing of multiple video and VGA signals on airborne and ground military, paramilitary and search & rescue surveillance platforms. Each VDSU-1407 features nine (9) D38999 connectors and four (4) BNC connectors for video output connectivity. The compact VDSU is designed for applications where multiple video inputs, from a multi-sensor gyro-stabilized camera system for example, and additional signals from moving maps, mission computers, video recorders and up/down links need to be routed to multiple displays in the aircraft or ground vehicle. Curtiss-Wright rugged VDSU's are built for optimal performance in harsh environments, including extreme temperature and high shock and vibration conditions. It speeds and simplifies the integration of high performance HD video distribution [3] into space, weight and power (SWaP) constrained airborne and ground military, paramilitary, and search & rescue platforms.

"Our Skyquest VDSU-1407 brings rugged multi-channel video distribution to aerospace and defense air and ground platforms, greatly enhancing the flexibility of surveillance missions," said Lynn Bamford, vice president and general manager of Curtiss-Wright Controls Embedded Computing.

Curtiss-Wright VDSUs significantly improves the distribution and performance of on-platform video display and recording by providing a central switch that enables original source video signals to be routed and switched to every on-board display and video recorder, and down-linked to remote users. Because it uses a single multi-core cable, the VDSU-1407 reduces complex wiring and simplifies installation and maintenance, resulting in both cost and weight savings.

Skyquest Video Distribution

The VDSU-1407 can manage many individual video signal inputs, including composite video S-Video (Y/C), RGB Video or STANAG 3350/B/C, each of which can be actively switched to any of up to six (6) displays, multiple video recorders and video downlinks. It also features an additional four (4) fixed composite outputs for sending to other equipment on the aircraft or ground vehicle.

An optional quad card allows up to four (4) composite images to be scaled to fit into a single display. The quad display has proven invaluable in missions where the user requires all video information to be viewable in a single glance. When combined with a touchscreen display, quad display provides users with the ability to instantly select an image of interest from the four images and expand it to full screen, by simply touching the appropriate quad sector.

The unit is controlled using a remote bus connected to all the other Skyquest LRU's in the system. Any Skyquest display linked into the system has the ability to select what channel to view, full control over the video recorders and allows video routing to be changed in flight to select a different signal to go to the recorders or downlinks.

Skyquest VDSU-1407 Performance Features

· Provides comprehensive video routing and switching

· Integral part of a Skyquest Video [4] Management System (VMS) when combined with Skyquest rugged video displays and video recorders.

· Ensures maximum video signal strength when routing to multiple displays

· Converts VGA to video to enable images such as moving maps to be recorded or transmitted in composite

· Enables multiple video sources to be viewed simultaneously on multiple users' displays

· Supports multiple video inputs including composite video and S-Video (Y/C).

· Video inputs utilize three (3) D38999 connectors

· Video outputs use nine (9) D38999 connectors and four BNC connectors

· Single multi-core cable eliminates complex wiring

· Enables video routing to be changed in flight (for example, the user can select which signal to send to video recorders or downlinks “on the fly”)

· Provides touch screen control from any onboard display to any peripheral

· Quad image generation (option)

The lightweight, compact VDSU-1407 is housed in a rugged all-aluminum chassis. Designed for SWaP constrained applications, the VDSU-1407 measures 257mm x 153mm x 215mm, and weighs 5.6 kg.

The VDSU-1407, when used with other Skyquest products comprises a full Video Management System (VMS) and offers one of the most advanced and effective mission system available in the air and ground surveillance market today.

Skyquest Rugged Video Displays

The Skyquest VDSU-1407 is designed for optimum operation with Curtiss-Wright’s Skyquest family of rugged video displays, such as the new AVDU-5008. Skyquest rugged displays support soft keys that can be configured to remotely control connected mission equipment such as the Skyquest VRDV-5002 HD video recorder. The soft keys can be used to start/stop video recording and to control play back of recorded video during the mission.

Skyquest Video Recorders

The VDSU-1407 is supported by Curtiss-Wright’s Skyquest VRDV family of rugged video recorders [5], including the Skyquest VRDV-5002 HD video recorder. Curtiss-Wright’s Skyquest line of video recorders is designed for capturing mission video in demanding environments. Whether this is Composite or S-Video in PAL or NTSC format or the latest HD video from the leading EO sensor systems, the VRDV series will have a recorder to meet the requirement. These high performance video recorders deliver industry leading, broadcast quality MPEG2 recording onto CompactFlash® cards, giving users several hours of full quality recording capability.

For a full video demonstration of the Curtiss-Wright VMS in action, please visit our website at http://www.skyquest.com/vmsdemo.html [6]

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