

**CURTISS
WRIGHT** **Controls**
Embedded Computing



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Airborne Surveillance Equipment

SKYQUEST

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WRIGHT Controls
Embedded Computing

ABOVE & BEYOND

SKYQUEST

Airborne Surveillance Equipment

Curtiss-Wright Controls Embedded Computing offers complete, total-solution airborne surveillance systems for rotary and fixed wing aircraft. Our industry-leading rugged displays, video distribution and recording equipment are used worldwide by military, police, search and rescue, coast guard, customs, border patrol, and air ambulance organizations.

Scalable, interoperable, easy to install and configure, our Skyquest products are part of a complete system solution that maximizes the effectiveness of airborne surveillance missions.



The comprehensive selection of Skyquest mission displays range in size from 4" through to 20". Our displays are available in both standard and widescreen formats and many have the option for high-definition video inputs. Other options available on most displays include touch screen, soft keys, NVG filtering, picture-in-picture, quad view and even an embedded high speed PC.

OPPOSITE PAGE:

The Skyquest Video Management System (VMS) uniquely delivers video switching, recording, and display capabilities within the aircraft. It provides extensive, flexible video management capability including touch screen control, multiple video sources on any display, and direct control of recorders, all from any of the on-board rugged video displays. Skyquest VMS is currently fielded with leading law enforcement and military customers throughout the world, including UK MOD, most UK law enforcement operators, and the US Army Air National Guard. Pictured at right is London's Metropolitan Police installation.

The Skyquest portfolio of products shown on the following pages can all be used as part of a VMS, or individually in a stand alone installation. The system can be customized to customer requirements or offered in a standard configuration.

Please review the promotional VMS video at www.cwembedded.com/vmsatwork for further information.



Navigation display showing a map of London and surrounding areas. The map includes labels for "LONDON/CITY", "STAPLEFORD", "LIPP HILL", and "CHINGFORD". The display also shows flight information such as "LON: 51.505 N", "122.8 W", and "POS: 2.05SE WALTHAM A". The display is surrounded by various control buttons and labels, including "ZOOM IN", "ZOOM OUT", "NAV MENU", and "SEARCH".





Skyquest 4" video display, AVDU-1010 series, typically used as a repeater screen in cockpit space. Shown on left fitted to both pilot and co-pilot positions in Falcon 2000 aircraft for EVS application.





The Skyquest AVDU-1616 multi-function 6.4" display.

These two displays can be used either stand alone or in conjunction with a VMS.

The Skyquest AVDU-1626 multi-function 6.4" display system.





VOA 1 2 3 4 5 6 PIP



SELEX Sensors and Airborne Systems

PIP SELECT

1 VID 1

2 VID 2

PIP/ESH WINDOW POSITION

E-O VIDEO SELECT

PC VIDEO A VIDEO B PIP PIP ZOOM PIP ZOOM CONT CONT

PC VIDEO A VIDEO B PIP PIP ZOOM PIP ZOOM CONT CONT

PWR PARK BIT ARM

HOLD SLAVE CAGE POL GOLF MAN

SCAN VIDI + GATE ADJUST

SET VIDEO COR CAL

PANEL LIGHTS BRIGHT DIM OFF

RADAR MASTER OFF

RADAR SCANNER NORMAL INHIBIT

INS/GPS NAV OFF



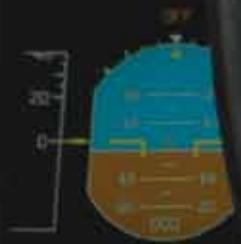


The 6.4" AVDU-1626 and 8.4" AVDU-2126 landscape split display are available for installations where depth of unit is critical. The display is essentially supplied in two units: the display head and the electronics box.

Shown here fitted to an EC145 helicopter, the screen can be folded away for take off and landing. During flight the pilot can select a number of inputs including moving maps, mission computer and video inputs.



G-MPSC



- MAP
- VIEW 1
- VIEW 2
- VIEW 3
- SLAY
- MAP
- PAUSE
- HOME
- BACK
- FORWARD
- SEARCH
- POWER
- POWER
- POWER



MONITOR MUST BE STORED FOR SEASIDE AND SANDWICH





The 8.4" range of displays are available for normal console mounting, or as a hand held unit with the connector on the bottom or top face, enabling side pocket storage in the aircraft.



Skyquest equipment is successfully installed on a number of the leading aircraft manufacturer platforms.
Pictured here is the AS365 and the EC-135.



Agusta Westland's AW101



Skyquest AVDU-2112 8.4" mission display in Agusta Westland's AW139 cockpit.

OPPOSITE PAGE:
Rear operator console in a typical EC135 helicopter installation.



AVDU-2111, 2112 and 2113 were initially designed for the central cockpit display in the AW139. The operator can call up moving map (shown), video, hoist camera and radar images.





AVDU-2111 8.4" mission display



AVDU-2655 10.4" multi-function display with built in matrix and high-definition inputs as standard.





AVDU-2649 is a standard option as the central cockpit display on the Eurocopter Dolphin and Puma helicopters.





Typical installation in an EC145. The Skyquest AVDU-2650 10.4" multi-function display offers great flexibility to the user.

Shown left as front mission display and above as rear cabin mission display in fold-down installation.





Curtiss-Wright Controls Embedded Computing can adapt the button legends on any Skyquest display to match the mission equipment used on the aircraft, and to meet specific customer requirements.





10.4" mission display installed in a Eurocopter AS350 helicopter.



London's Metropolitan Police EC145 Helicopter.

OPPOSITE PAGE:

Typical rear installation of a Skyquest Video Management System inside the Metropolitan Police's EC145, shown here with two 15" displays, a single 10" display and video recorder.





10.4" AVDU-2650 mission display. Note video recorder control buttons on top edge and LED lights to confirm video recording status to operator.



Any display can show any input on board the aircraft when part of a Video Management System. The above image shows an AVDU-2650 displaying a quad image from a video distribution unit.





Quad view is available on any display when fitted to a VDSU, as part of a Video Management System installation. The quad image allows the user to receive all the important mission information at a single glance. When combined with a touchscreen, the operator can simply touch one of the quads to bring the selected image to full screen.



FIDIR MFOV Enh1: Cold Whit DOE Cent- GeoPnt
 LRF: Lat: N 45° 33.576' Lon: W 73° 32.933' Slant Range: 3035 m
 LRF Armed 3035 m
 LP Armed
 -180°
 TLat N 45° 33.576' TLon W 73° 32.933' Alt 1311 S Rng: 0m Ins Nav Hdglncert=0.07
 Lat: N 45° 34.499 Lon: W 73° 31.526'
 08-Apr-2008 15:14:0

Factory Golden Valley
 Hotel
 Bamfurlong
 Gloucestershire Airport
 NO FIX POSSIBLE
 0.30nm TRK:003 GS: 0 UNNAMED ROAD



Rear mission console in MD902 helicopter used by Greater Manchester Police in the UK. Skyquest AVDU-5008 20" high-definition mission display (left) and AVDU-3824 15" display (right) along with integrated QWERTY keyboard with NVG backlighting.



HELICOPTER MONITORING

• MONITOR ELECTRICAL LOADS WITH SEARCHLIGHT
• REMAIN WITHIN ELECTRICAL LOADS WITH SEARCHLIGHT
• TURN OFF SEARCHLIGHT CONTINUOUS OPERATING LIMITS
• RETURN SEARCHLIGHT TO REMOTE BEFORE LANDING
• DO NOT OPERATE SEARCHLIGHT WITH SEARCHLIGHT
• REMAIN WITHIN ELECTRICAL LOADS WITH SEARCHLIGHT
• TURN OFF SEARCHLIGHT CONTINUOUS OPERATING LIMITS
• RETURN SEARCHLIGHT TO REMOTE BEFORE LANDING



VRDV-3000 digital video recorder. Offers playback in flight with simultaneous recording of evidential video onto the removable CompactFlash card.

OPPOSITE PAGE:

VRDV-3000 and VRDV-4010 digital CompactFlash video recorders installed in center console of a Eurocopter EC145.



The VRDV-5002 (pictured) is capable of full high-definition video capture from the latest EO Sensors. The single channel HD-SDI recorders use CompactFlash card storage media, allow playback in flight and can be controlled by Skyquest displays.



The VDSU-1407 is the heart of the Skyquest Video Management System and offers complete flexibility to users on board aircraft with complex airborne surveillance systems. The unit is capable of distributing video from multiple sources such as EO Turrets and digital moving maps and actively switching them to any display or recorder, at any time during the mission.

Please review the promotional VMS video at www.cwembedded.com/vmsatwork



The Skyquest cargo hook camera system can be used in a variety of ways to send pictures of external operations to operators inside the aircraft. Specially developed optics offer a unique field of view designed specifically for hoist, cargo and similar operations.

Skyquest Product Line Summary

Displays

Part Number	AVDU-1618	AVDU-1626	AVDU-1805	AVDU-2112	AVDU-2105	AVDU-2126	AVDU-2649	AVDU-2650	AVDU-2655	AVDU-3076	AVDU-3085	AVDU-3820	AVDU-3824	AVDU-5008
Size	6.4"	6.4"	7"	8.4"	8.4"	8.4"	10.4"	10.4"	10.4"	12.1"	12.1"	15"	15"	20"
Format	4:3	4:3	16:9	4:3	4:3	4:3	4:3	4:3	4:3	4:3	4:3	4:3	4:3	16:9
Resolution	640x480	640x480	1280x768	800x600	800x600	800x600	1024x768	1366x768						
Brightness (cd/m ²)	1600	1600	200	800	800	800	800	800	800	800	800	800	800	450
Video Inputs														
1x Composite Input	X	X	X	X	●	X	X	X	X	X	●	X	X	X
2x Composite Inputs	●	●	●	●	X	●	●	●	●	●	X	●	●	●
2x Y/C Inputs	●	●	●	●	X	●	●	●	●	●	X	●	●	●
1x RGsB Input	●	●	●	●	X	●	●	●	●	●	X	●	●	●
1x VGA Input	●	●	●	●	●	●	●	●	●	●	X	●	●	●
1x HD-SDI Input	X	X	X	X	X	□	□	□	X	□	X	F	X	X
2x HD-SDI Input	X	X	●	X	X	X	X	X	●	X	X	X	□	●
DVI Input	X	X	X	X	X	X	X	□	X	□	X	F	□	□
Functions														
Touchscreen	□	□	X	X	X	X	X	□	□	□	□	X	□	□
NVG Filtering	□	□	□	□	□	□	□	□	□	□	□	□	□	□
Dual LED Backlight	X	X	□	X	X	X	X	□	□	F	X	X	□	□
RS422 Interface	F	X	X	X	X	X	X	□	●	□	X	X	□	●
RS232 Interface	F	X	X	X	X	X	X	□	●	□	X	X	□	●
PS2 Interface	□	X	X	X	X	X	X	□	●	□	X	X	□	●
Heaters	F	F	F	F	F	F	F	□	X	F	X	F	□	□
Switching Matrix	X	X	X	X	X	X	X	X	●	X	X	X	X	□
Switching Matrix with in Built Quad Generator	X	X	X	X	X	X	X	X	X	X	X	X	X	□
Embedded PC	X	X	X	X	X	X	X	X	X	X	●	X	X	□

Note:
All of the above displays are available with various options, such as Night Vision Goggle filtering, touchscreen control and internal heaters. For detailed information on any of the above products and available options, please visit www.cwembedded.com/skyquest.

Key
 ● = Standard
 □ = Option (Note that it may not be possible for certain option combinations on a single display – please consult the factory for details)
 X = Not available
 F = Consult factory. This option may be possible.

Video Distribution

Part Number	VDSU-1407	VADU-9110	VADU-9111	VADU-9112
Description	Full video management unit	Simple video distribution unit	HD and SD Video splitter	Video distribution unit
Weight	5.6kg (option dependant)	2kg	1.2kg	2.5kg
Dimensions (mm) DxWxH	257x153x215	217x188x67	217x120x82	217x188x67
Standard or High-Definition	SD	SD	Both	SD
Inputs	<ul style="list-style-type: none"> • 22x Composite or Y/C • 8x RGBHV 	32 inputs configurable to either composite, Y/C or RGBHV	2x HD or SD Comp video	32 inputs configurable to either composite, Y/C or RGBHV
Outputs	<ul style="list-style-type: none"> • Up to 5 displays and 4 fixed BNC composite video outputs • Plus additional outputs for video recorders and downlinks 	Up to 3 displays plus recorder	<ul style="list-style-type: none"> • 4 outputs per input • Total of 8 output 	<ul style="list-style-type: none"> • Up to 10 displays • Output connectors also output 28V DC • Designed to work in conjunction with the AVDU-2105 display
1x Switching Matrix	●	●	✘	●
2x Switching Matrix	□	✘	✘	✘
3x Switching Matrix	□	✘	✘	✘
4x Switching Matrix	□	✘	✘	✘
1x Quad Generator	□	F	✘	✘
2x Quad Generator	□	✘	✘	✘
3x Quad Generator	□	✘	✘	✘
4x Quad Generator	□	✘	✘	✘

Video Recorders

Part Number	VRDV-3000	VRDV-4000	VRDV-4010	VRDV-5002	VRDV-5004
Dimensions (mm) DxWxH	225x146x57	155x146x38	155x146x38	231x146x57	140x146x57
Weight (approx.)	1kg	0.8kg	0.8kg	1.5kg	1.3kg
Dzus Mounted	●	●	●	●	●
Capabilities					
PAL	●	●	●	F	F
NTSC	□	□	□	F	F
Composite Input	●	●	●	F	F
Y/C Input	□	□	□	F	F
HD-SDI Input	✘	✘	✘	●	●
Single Channel	●	●	✘	●	●
Dual Channel	✘	✘	●	✘	✘
Playback in Flight	●	✘	✘	●	●
Playback in Flight without Interrupting Recording	●	✘	✘	✘	✘
Controllable From a Skyquest Display	●	●	●	●	●

Key

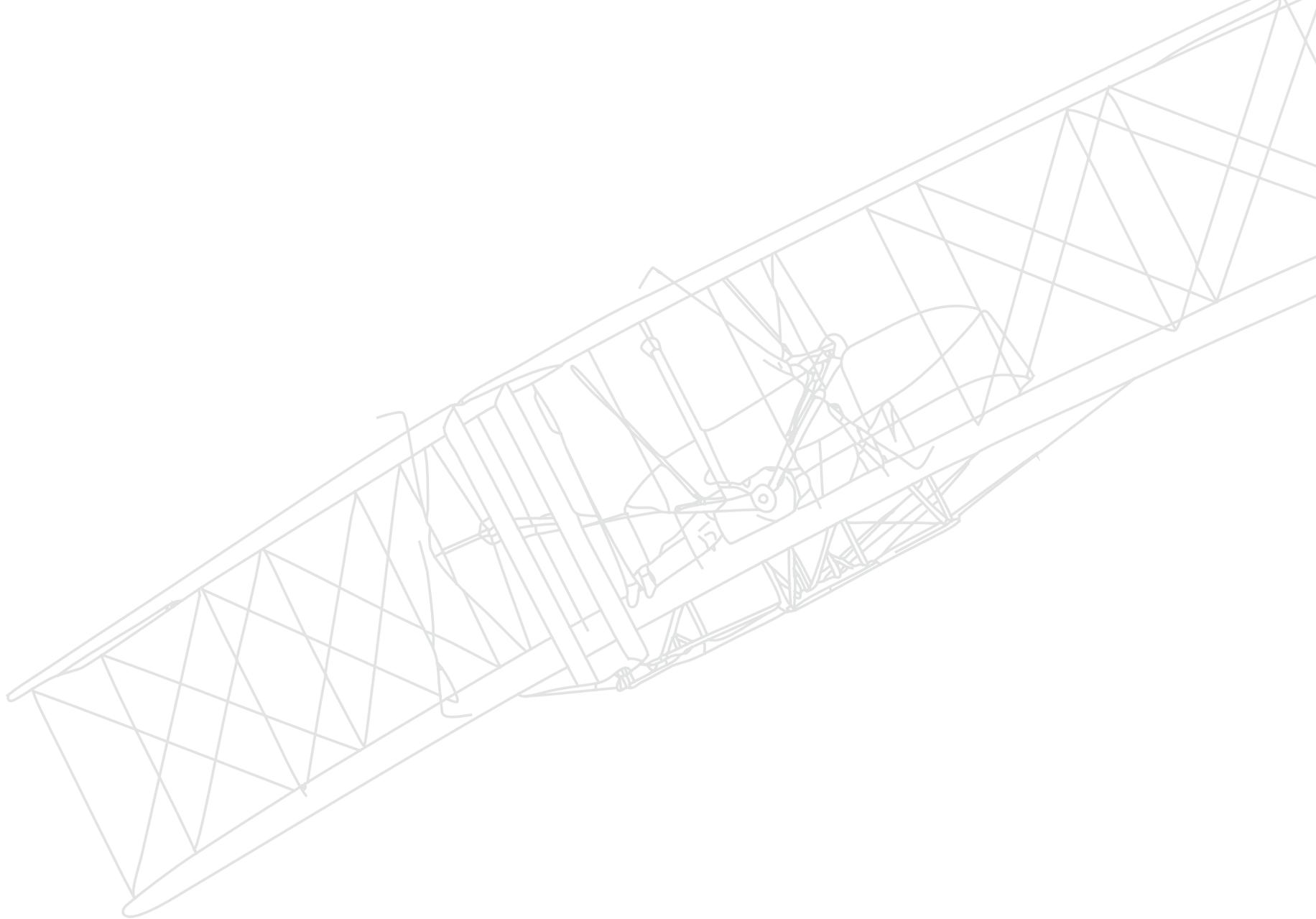
- = Standard
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- ✘ = Not available
- F = Consult factory. This option may be possible.

About Curtiss-Wright Controls Embedded Computing

Curtiss-Wright Controls Embedded Computing is the industry's most comprehensive and experienced single source for deployed embedded system solutions and development platforms. Our product offerings range from building blocks like processing, graphics & video, data communications, signal acquisition and rugged displays, to qualified and tested system sets.

We offer Modified COTS services for custom application needs and specialize in ruggedization and high reliability. We are experts in addressing size, weight and power (SWaP) considerations, and support open standards such as VPX, OpenVPX, VME and cPCI. Whether for air, ground or sea platforms, Curtiss-Wright Controls Embedded Computing has the expertise in boards, systems or customization to meet your aerospace or defense system integration challenges.





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