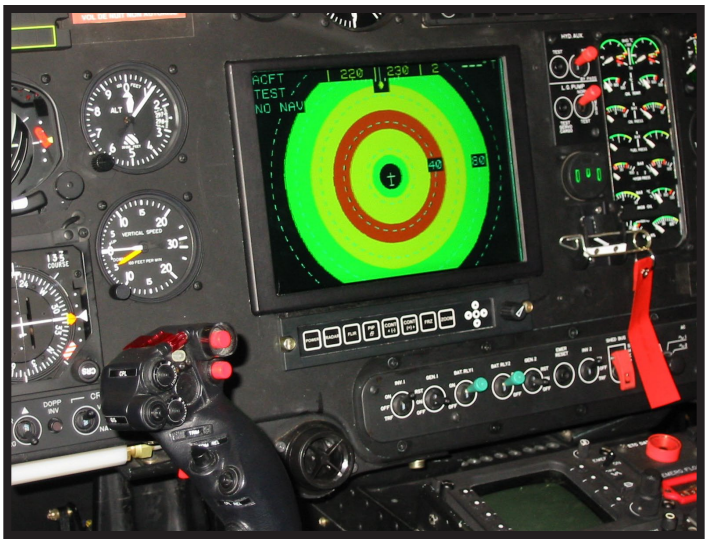
Data Sheet

AVDU-2649

10.4" High-brightness XGA Resolution Aircraft LCD Display



Features

- XGA resolution high-brightness display
- Picture-in-Picture (PIP), sized and positioned on the screen by user menu
- Multiple video inputs, with instant switching inputs to view
- Digital freeze frame
- SCALAR digital zoom
- NVG option
- Compact and light weight design
- Remote control for full functionality with user defined button legends
- High definition video input option

The AVDU-2649 is a compact multi-function LCD display designed for airborne use. It offers a wide range of video and VGA compatibility and gives the user a choice of inputs to suit most applications. As standard, the display offers excellent video quality and features such as PIP, video freeze frame, video zoom and full range dimming.

Specific to this model is its compact size, designed to aid users who require the largest possible display in the smallest possible physical space.

The unit can be supplied with a remote control module to enable full control of all monitor functions.

Learn More
Web / sales.cwcembedded.com
Email / sales@cwcembedded.com

ABOVE & BEYOND

SKYQUEST AVIATION

CURTISS WRIGHT Controls
Embedded Computing
cwcembedded.com

Remote Control Module RCMP-1080

Full control of the display's functions can be gained via an optional remote control panel.

Two remote control units are offered, one with DZUS rail fasteners and another for attachment on or close to the display. Either unit can be mounted vertically or horizontally.

Control & Display Functionality

The remote is fitted with a membrane row of backlit control buttons, along with a rotary brightness control and a set of small direction arrow keys used for maintenance and setup. All control buttons can be factory programmed to meet a variety of user or installer requirements. Standard layout is shown below in Figure 2.

Figure 3 shows the RCMP-1080 with functionality for an installation that includes a FLIR dual sensor camera (thermal and daylight) radar and a moving map.

Button Backlighting Control

The buttons are backlit with specially designed NVG compatible lighting. The user can dim the backlighting to suit the prevailing environment by using the simple setup menu. Backlighting can be easily changed to meet differing requirements. For example, in early evening full backlighting brightness may be selected whereas for nighttime use (perhaps with NVG goggles) very dim dim backlighting can be set.

Figure 1: Remote Control functions, with backlighting control

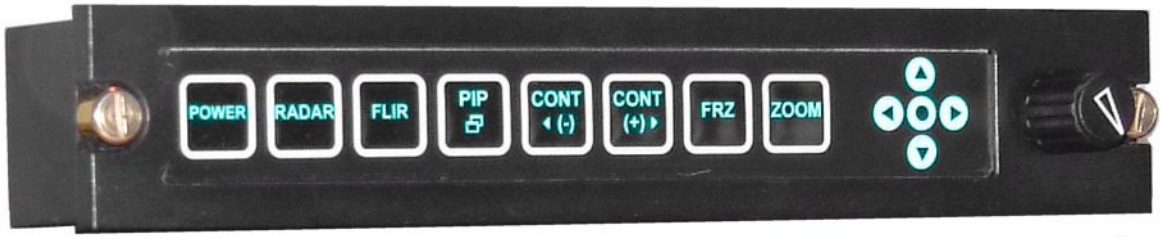


Figure 2: In this standard factory setting, zoom is controlled by the direction arrow keys

Figure 3: In this example, the zoom and freeze frame functions are controlled from the direction arrow keys



Screen Brightness Control

The rotary brightness knob gives the user easy control over the brightness of the screen. The unit has been designed to offer the most precise and controllable adjustment at the 'dim' end where users need to make fine changes.

Menu & Setup

An on-screen menu can be called up by depressing the center direction membrane key for three seconds. Usually the menu is only needed for resizing and repositioning the PIP window, however a number of other user defined options are available. The PIP window can be moved anywhere on the screen and enlarged or reduced to fit the users requirements. Once a setting is selected and stored, the display remembers this setting each time the unit is powered on and off.

Cockpit Master Dimming

The displays can be wired to enable the master cockpit lighting controller to dim and brighten the display in line with other avionics in the cockpit. This feature can be used or left unused as required by the installer or user.

NVG

Using the latest NVG technology, Skyquest displays offer high-quality NVG compatibility. The filter, in combination with the smooth dimming control, allows the user to comfortably work in a night vision goggle environment.

Standard Display Features

Video Freeze Frame

By pressing the freeze frame button, the currently displayed picture is frozen in perfect quality on the screen. To return to live video, the freeze button is pressed again. Once frozen, an image can be electronically zoomed using the zoom function.

Video Zoom

The displayed video image can be zoomed using a built in mathematical SCALAR zoom. This offers users true video zoom capability rather than pixel replication. The zoom function can be used on any freeze frame image.

Picture-in-Picture

PIP mode selects the currently viewed video image and places it as a window (the user can set size and position of PIP window) on top of the VGA or RGB image (for example, a live FLIR or video image can be placed in a window on top of the moving map or radar image).

Contrast

Adjusts the contrast of the display to give optimum viewing of video and FLIR images.

Video Compatibility

Each Skyquest display offers multiple video, RGB and VGA inputs so almost any installation configuration can be handled using a standard unit. Switching between inputs is as simple as pressing the button required. The display will switch to the selected input.

Table 1: Ordering Information

Part Number	Description
AVDU-2649-01	Standard display
AVDU-2649-01-HD	with HD input option
AVDU-2649-02	with NVG filter option
AVDU-2649-02-HD	with NVG filter and HD input option
RCMP-1050-yy	Remote control panel (horizontal orientation). yy=keys configuration number which should be discussed with your Curtiss-Wright sales person
RCMP-1080-yy	Remote control panel (vertical orientation). yy=keys configuration number which should be discussed with your Curtiss-Wright sales person



Table 2: General Specifications

Physical	
Dimensions	251mm (w) x 183mm (h) x 88mm (d)
Weight	4.1kg
Finish	Matte black
Electrical	
Input Voltage	28V DC
Power Dissipation	50 watts (max)
Temperature	
Operating	-25°C (-13°F) to + 55°C (131°F)
Storage	-30°C (-22°F) to +80°C (176° F) (internal heater as standard)
Video and Graphic Signals	
Video Input Standards	Composite video, S-video (Y/C) and Component video (R,G,B/Y,Cr,Cb) or STANAG 3350/B/C. PAL 50 Hz, NTSC 60 Hz
Graphic Input Standards	Standard XGA, auto scaling of VGA, SVGA, SXGA and UXGA
Connectors	
Video In	2 x BNC (isolated)
Power	D38999/20WB 98PN
Signal	D38999/20WD 35PN
Remote	D38999/20WB 35SN
HD In/Out (option)	2x BNC
Display Performance	
Resolution	1024 x 768 pixels XGA (auto scaling from VGA - UXGA)
Viewing Area	210.432mm (w) x 157.824mm (h) 8.285" (w) x 6.213" (h)
Pixel Pitch	0.2055mm (w) x 0.2055mm (h) 0.008" (w) x 0.008" (h)
Pixel Configuration	RGB Vertical Stripe
Color Capacity	6-bits per color; 256K colors
Grey Scale Capacity	64 grey scale
Viewing Angle	Horizontal: +/-55° Vertical: +40° to -35°
Luminance at Optimum Viewing Angle	Max: >800 cd/m² Min: <7 cd/m² (max 1200 cd/m²)
Contrast Ratio at Optimum Viewing Angle	>200:1

Table 3: Environmental Performance (to EUROCAE/ED-14D and RTCA/DO-160D)

Section	Category
4 - Temperature & Altitude	Category A1 This unit is considered satisfactory for operation up to an altitude of 25,000ft. un-pressurised.
5 - Temperature Variation	Category C
6 - Humidity	Category A
7 - Operational Shocks & Crash Safety	Category B Operating: 6g 11/ms Non-operating: 15g/11ms
8 - Vibration	Category R + U (equiv: DO-160C Helicopter -Test curve 'N', 1.5g p-p)
9 - Explosion Proofing	N/A Category A Equipment located within the passenger cabin.
10 - Waterproofing	Category W
11 - Fluid Susceptibility	Category X
12 - Sand & Dust	Category D
13 - Fungus Resistance	N/A Category F
14 - Salt Spray	N/A Category X
15 - Magnetic Effect	Category A The unit has no perceivable effect when mounted within 460mm (18") of an aircraft magnetic compass.
16 - Power Input	Category B
17 - Voltage Spike	Category A
18 - Audio Frequency	Category A + Z
19 - Induced Susceptibility	Category Z
20 - RF Susceptibility (Radiated & Conducted)	Category U
21 - RF Emission	Category B
22 - Lightning Induced Transients	Not considered
23 - Lightning Direct Effects	Not considered
24 - Icing	Category X
25 - Electrostatic Discharge	Not considered



Warranty

This product has a one year warranty.

Contact Information

To find your appropriate sales representative, please visit:

Website: www.cwcembedded.com/sales

Email: sales@cwcembedded.com

Technical Support

For technical support, please visit:

Website: www.cwcembedded.com/support1

Email: support1@cwcembedded.com

The information in this document is subject to change without notice and should not be construed as a commitment by Curtiss-Wright Controls Embedded Computing. While reasonable precautions have been taken, Curtiss-Wright Controls assumes no responsibility for any errors that may appear in this document. All products shown or mentioned are trademarks or registered trademarks of their respective owners.