



HE-1600

Harsh Environment LCD Controller

Digital View is the leading supplier of LCD interface solutions for application specific OEM display products. The HE range of COTS controllers are designed to aid in compliance of the strict standards required for Harsh Environment applications. Featuring wide-tolerance power supplies ($\pm 25\%$), low mass tantalum capacitors for maximum vibration and shock tolerance, conformal coating, laboratory certified*** operating temperature range from -40°C to $+80^{\circ}\text{C}$, plus calculated MTBF in excess of 150K hours.

The HE-1600 is a fully buffered, multi-sync interface controller providing direct analog and digital connection to a wide range of TFT LCD panels up to UXGA resolution. Key features include a flexible port architecture that provides inputs for DVI, dual VGA channels, Composite, S-Video and Component Video across both 4:3 and 16:9 format panels. The HE-1600 supports the Digital View serial protocol allowing all controller functions and parameters to be controlled via the built-in serial port.

Panel Connectivity

TFT:	•1600x1200	•1280x800	•800x600
	•1366x768	•1280x768	•640x480
	•1280x1024	•1024x768	

Input

- Analog RGB:**
- 60Hz at UXGA
 - 75Hz at SXGA, WXGA, XGA, SVGA, VGA
 - 1152 x 900 @66Hz
 - 1152 x 900 @76Hz
 - 1280 x 1024 @76Hz

With auto detect of Digital Separate Sync, Sync-On-Green & Composite Sync. Auto detects VGA-UXGA, interlaced & non-interlaced.

- DVI-I:**
- 60Hz at UXGA
 - 75Hz at SXGA, WXGA, XGA, SVGA, VGA

- Video:**
- NTSC/PAL/SECAM (Interlaced)
 - Composite Video • S-video • RGB Video
 - Component Video (YCbCr)

Reliability

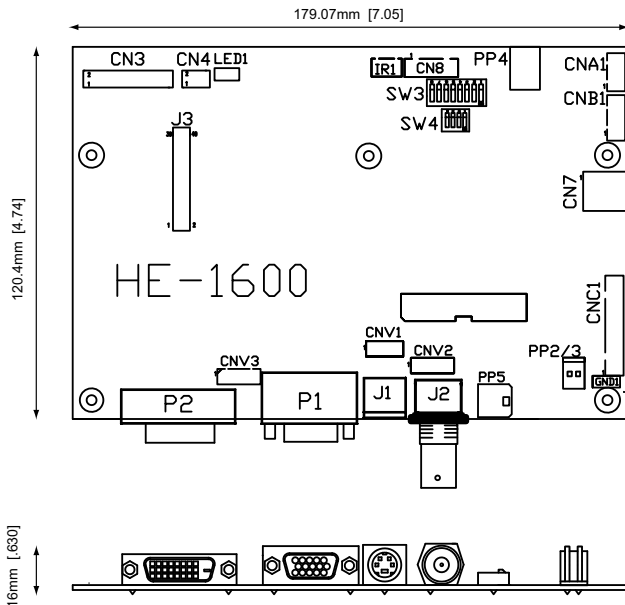
Calculated Mean Time Between Failures - In excess of 150,000 hours. Warranty - 3 years.

Features

- Colors:** Up to 8 bit per color, ie 16.7 million colors.
- Functions:** On Screen Display (OSD) menu.
- Function Controls:** External buttons, Infra-Red controls, Serial Port control.
- Image Scaling:** Up/Down scaling to fit input to panel resolution.
- Image Control:** Auto configuration, Brightness, Contrast, Clock, Phase, Color temperature, Image position, Saturation, Hue, Gamma.
- Other Features:** Auto picture setup, Auto color gain, Auto power, OSD timeout position and transparency, Programmable hot keys.
- Dimensions:** 179mm x 120.4mm (7" x 4.74")
- Form Factor:** DV standard & mounting holes.
- Power Requirements:** +12VDC $\pm 25\%$, 10W (controller only)
- Panel Power:** Supports 3.3V, 5V & 12V panels.
- Panel Signal:** TTL (Single pixel) & LVDS.
- Inverter Support:** DPMS, Analog or PWM brightness control, serial port controller brightness
- Plug & Play:** DDC 1,2/b compatible
- Status Indicator:** Dual color LED support.
- Operating Temperature:** -40°C to $+80^{\circ}\text{C}$ **
- Storage Temperature:** -40°C to 85°C
- Coating:** Silicone resin conformal coating. (MOD) DEF-STAN 59/47 Issue 4 & UL QMJU2 compliant

Options

2W per channel stereo amplifier, Infra-Red controller.



Connector Definitions

CN3	TTL panel signal
CN4	TTL panel signal
CN7	Audio board connector
CN8	RS-232 serial control
CNA1	Auxiliary power output
CNB1	Backlight inverter
CNC1	OSD controls
CNV1	Alternate video in
CNV2	Component video in
CNV3	ARGB 2 input
J1	S-video in
J2	Composite video in
J3	Panel signal for LVDS panel
IR1	Infra-Red sensor connector
LED1	Dual color LED connector
P1	VGA analog input
P2	DVI-I input
PP4	External panel power input
PP5	Main power input ^{##}
PP2/3	Power input (alternative)

Accessories*

Kit 60110-3	OSD Digital Button Board Kit
Kit 60121-3	OSD Vertical Membrane Kit
Kit 60125-3	OSD Horizontal Membrane Kit
416940020-3	Audio Amplifier
416040010-3	Inverter Interface board
426013800-3	Power-Input Cable ^{##}
426090200-3	RS-232 Cable
559000104-3	IR Remote Control

Available Documentation

Instruction Manual
 Revision control documentation
 Schematic diagrams (Subject to NDA)
 Mechanical Drawings
 Serial Port Programming Manual**
 Firmware Upgrade Manual**
 MTBF Analysis**

* See accessories page on website for details.

** Available upon request

*** Laboratory certification report available at http://www.digitalview.com/support/downloads/HE-1600_report.pdf. Overall suitability for use in critical applications must be independently tested and verified by the user.

Customer Engineering Services

Digital View offers a wide range of customization for OEM customers. Services range from unique part number and configuration control, custom layouts and features.

Digital View offers managed product lifecycles with extended product lifetime options and EOL planning. US manufacturing is available on all Digital View products.

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