



HE-1920 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 100K hours.

The HE-1920 is a fully buffered multi-sync interface controller for providing analog and digital connection for a wide range of TFT LCD panels up to WUXGA resolution. Featuring full screen image expansion of lower resolutions, image flip and invert function and onscreen PIP functions, the HE-1920 also supports an optional High-Definition Serial Digital Interface (HD-SDI) adaptor for professional and broadcast video applications. The HE-1920 is part of DigitalView's "Professional Class" video controller family featuring advanced capabilities, support and custom development paths for OEM clients.

Panel Connectivity

TFT:	•1920x1200	•1440x900	•1024x768
	•1920x1080	•1366x768	•800x480
	•1680x1050	•1280x1024	•800x600
	•1600x1200	•1280x768	•640x480

Input

Analog RGB: •60Hz at WUXGA
•75Hz at SXGA, WXGA, XGA, SVGA, VGA

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

DVI-D: •60Hz at WUXGA
•60Hz at UXGA
•75Hz at SXGA, WXGA, XGA, SVGA, VGA

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

Reliability

Calculated Mean Time Between Failures - In excess of 100,000 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: System Information, OSD position, Scaling to fill screen and fill to aspect ratio, OSD timeout, Factory reset, OSD menu transparency, Horizontal & Vertical image inversion, Picture in Picture.

Power Requirements: +12VDC $\pm 5\%$, 10W (controller only)

Panel Power: Supports 3.3V, 5V, 12V & 18V panels.

Panel Signal: Dual channel TTL & LVDS support.

Inverter Support: DPMS Enable pin (3.3V or 5V), 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 $+80^{\circ}\text{C}$ **

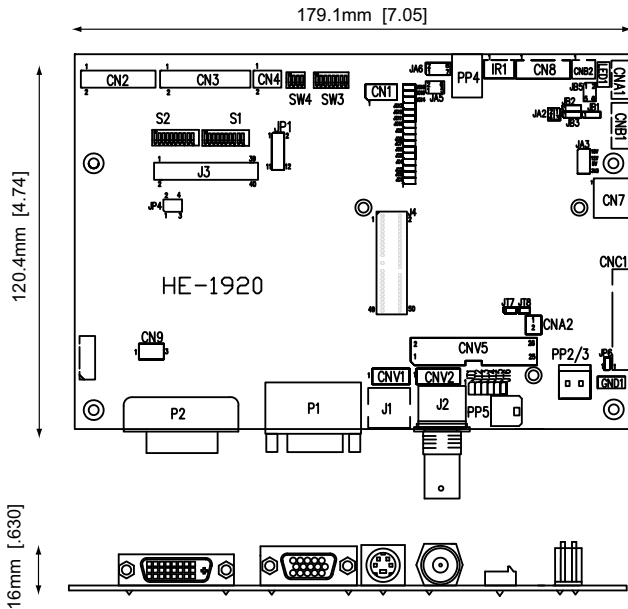
Storage Temperature: -40°C to 85°C

Coating: Silicone resin conformal coating. (MOD) DEF-STAN 59/47 Issue 4 & UL QMJU2 compliant

Options

HD-SDI Daughter board, Infra-Red Remote handset, 2W per channel Audio amplifier.

Custom Engineering Services - custom input timing, panel timing, splash screen, OSD Menu, layouts etc.


Connector Definitions

CN2	TTL panel signal
CN3	TTL panel signal
CN4	TTL panel signal
CN7	Audio board connector
CN8	RS-232 serial control
CN9	Ambient light sensor connector
CNA1	Auxiliary power output
CNA2	Auxiliary +5VDC output
CNB1	Backlight inverter
CNB2	Backlight status input connector
CNC1	OSD controls
CNV1	Alternate video in
CNV2	Component video in
CNV5	Auxiliary video input
J1	S-video in
J2	Composite video in
J3	Panel signal for LVDS panel
J4	HD-SDI adaptor board interface connector
IR1	Infra-red sensor connector
LED1	Dual color LED connector
P1	VGA analog input
P2	DVI-D input
PP2/PP3	Power input (alternate)
PP4	External panel power input
PP5	Power input

Accessories

416013310-3 / 416013410-3	HD-SDI Adaptor Board (HD-2000/HD-1000)
Kit 60110-3	OSD Button Board
Kit 60121-3	OSD Membrane Kit
Kit 60125-3	OSD Membrane Kit
416040010-3	Inverter Interface board
416940020-3	Audio Amplifier
559000104-3	IR remote control

*See accessories page on website for details.

** Available upon request.

*** Laboratory certification report available at http://www.digitalview.com/support/downloads/HE-1920_report.pdf.
Overall suitability for usage in critical applications must be independently tested and verified by the user.

Available Documentation

Instruction Manual
Serial Port Programming Manual**
Firmware Upgrade Manual**
MTBF Analysis**
Certified Laboratory test results***

Mechanical Drawing

Dimensions: 179mm x 120.4mm (7" x 4.74")
Form Factor: DV standard & mounting holes

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