

VP7 LCD Controller

High fidelity analog or digital video conversion, re-sizing, and frame rate conversion for resolutions up to UXGA.



VP7 LCD Controller

The VP7 LCD Controller provides a direct connection between analog and digital DVI video sources and a wide range of AMLCD display modules.

User Programmable

With fully customizable input and output timing parameters, the VP7 can be configured for your application. If your display or video input source changes, simply reconfigure the VP7.

Optimized for Embedded Applications

The VP7 is designed with embedded applications in mind. With its low profile design and locking high-density Hirose connectors, the VP7 is ideal for space-constrained displays. The RS-232 interface allows easy updates even after the VP7 is installed in your display.



Supports Standard and Custom Video

In addition to converting analog RGB and DVI for TFT panels, the VP7 is great for digitizing interlaced video formats such as RS-343, RS-170, and STANAG. The VP7 can also be programmed to support custom or non-standard video formats.

Powerful Configuration Utility

The VP7 configuration utility allows you to

- Configure a VP7 for a unique application
- Change the timing or electrical parameters to account for a new video requirement or a new TFT panel
- Make adjustments to optimize the VP7 for a particular installation, and much more...

Features

Based on state-of-the-art processing technology, the VP7 LCD Controller capabilities include:

Video Conversion

- Digitization of computer-generated video sources with separate syncs or sync-on-green
- Drives commercial AMLCDs and inverters
- Supports up to UXGA displays
- Non-interlaced and interlaced RGB inputs and outputs
- DVI (TMDS) inputs
- Digitization and de-interlacing of consumer video formats, including NTSC and PAL (with optional mezzanine board)
- Frame rate conversion
- Output can be free-running or genlocked to input

Scaling, Windowing, and Area-of-Interest Control

- Independent horizontal and vertical scaling
- Programmable image position within larger background area for both input and output
- Incoming video gain and offset adjustments
- Image can be reversed left to right
- Image can be flipped top to bottom

Programmable

- Remote interface for both initial configuration and, if required, operational control
- Programmable power sequencing to display
- Fine phase clock adjustment for pixel sampling
- Interfaces to most common inverters

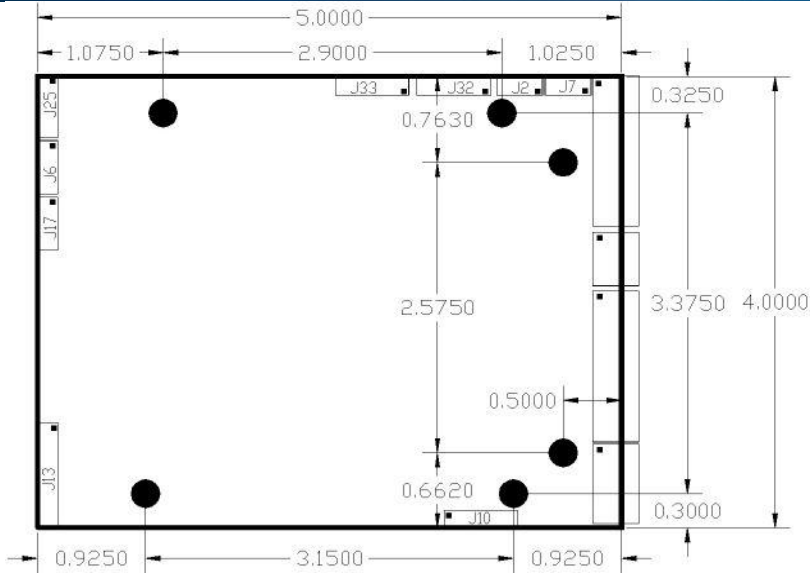


Figure 1: VP7 Mounting Hole Dimensions

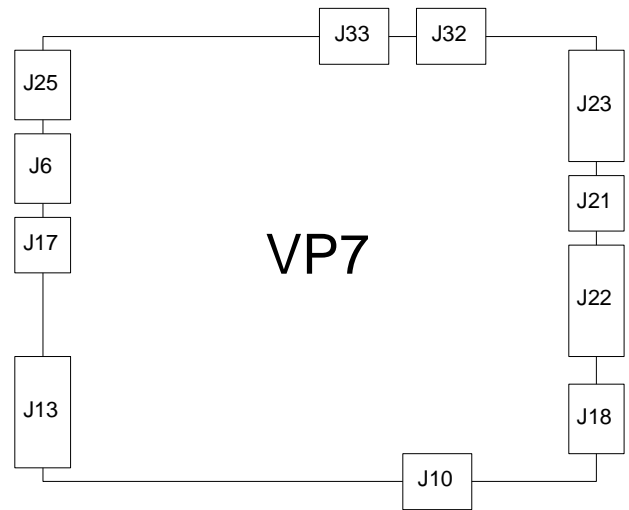


Figure 2: VP7 Connector Diagram

Spec Summary

Physical Dimensions	5" x 4" x 0.8"
Temperature Range	Operating: 0°C to +70°C (additional data available) Storage: -40°C to +100°C
Video Inputs	Computer - Up to UXGA resolutions @ 60Hz - Analog Input (162 MHz) DVI Input (165 MHz) - Standard and custom timing - Syncs (Digital Separate, Digital Composite, Analog Composite) NTSC and PAL (with optional mezzanine)
Video Outputs	Single (24 bit panel): Dual (48 bit) bus panels: Single / Dual LVDS outputs Pixel rate single = 135 MHz Pixel rate dual = 162 MHz
Synchronization	Free run (up to 162 MHz), Genlock (up to 135 MHz)
Input Power	+12 VDC or +5VDC, 5.5 Watts
Control Interface	RS-232

Connector	Hirose	Description
J6	10 Pin DF11	RS-232 Control
J10	14 Pin DF11	Backlight Inverter Control
J13	22 Pin DF11	Power and Contrast
J17	10 Pin DF11	Analog Video Input
J18	16 Pin DF11	Discrete I/O Output
J21	10 Pin DF11	Control Output to Display
J22	32 Pin DF11	Digital Data Output
J23	32 Pin DF11	Digital Data Output
J25	12 Pin DF11	TMDS Input
J32	14 Pin DF11	LVDS Output
J33	14 Pin DF11	LVDS Output

VP7 Configuration

The VP7 Configuration utility is supplied to VP7 customers. VP7configure is installed on Windows XP platforms, and connects to the VP7 via an available RS-232 serial cable. The utility uses a 4-step process to set up the VP7 for your application:

1. Setup the input timing and electrical parameters
2. Setup the output timing and electrical parameters
3. Define the areas of interest within the input image and the mapping to the output resolution, thereby defining windowing and scaling functions
4. Setup the video and display power sequence

VP7 Operation

Typically, the VP7 operates as follows:

1. Upon power up, the VP7 configures itself based on its internal BIOS
2. When valid video signal is detected, the VP7 applies power to the display per the power sequence defined in the setup BIOS.
3. When loss of video is detected, the display can: power down, drive a pre-defined color (blue-screen), or some other function as defined in the BIOS created with the configuration utility.

Additional Resources

To view our full line of LCD Controllers or other products, visit our website at:

www.westardisplaytechnologies.com

Contact Us

Call us for product information and pricing. **+1 (636) 300-5164**