VP4E LCD Controller

Interfaces with 3ATI displays and other commercial TFT panels requiring a small form factor

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The VP4E LCD controller interfaces with 3ATI displays and other commercial TFT panels requiring a small form factor. The VP4E allows you to use RGB PC video as a source for your display. Other video formats are supported as well. VP4E supplies both single channel parallel RGB and single channel LVDS outputs, making it suitable for many panels up to XGA and beyond.

Supports Video Rotation

For special applications that require video to be rotated, the VP4E supports video rotation in 90 degree increments.

Features

Based on state-of-the-art processing technology, the VP4E LCD Controller capabilities include:

Video Conversion
- Digitization of computer-generated video sources with separate syncs or sync-on-green
- Supports up to SXGA displays
- Optional power conversion boards for ancillary power or special connectors
- Frame buffering allows the display to be driven at a different pixel clock rate than the source video

Video Rotation and Area-of-Interest Control
- Programmable area of interest is captured from larger active area in source video
- Video rotation in 90 degree increments
- 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
- Programmable input and output discretes

Interfaces with many 3ATI display devices

The VP4E has broad capabilities needed to interface to many 3ATI display devices (see table below). In some cases, such as the Korry KDM-340, the VP4E can directly drive the display. Westar offers an ancillary power board to drive the APC 340 display from American Panel Corporation.

<table>
<thead>
<tr>
<th>Display Manufacturer</th>
<th>3ATI Model</th>
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<tbody>
<tr>
<td>American Panel Corporation (APC)</td>
<td>APC 340</td>
</tr>
<tr>
<td>International Display Consortium (IDC)</td>
<td>3ATI</td>
</tr>
<tr>
<td>Korry</td>
<td>KDM-340</td>
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Optimized for Embedded Applications

The VP4E is designed with embedded applications in mind. With its low profile design, locking high-density Hirose connectors, and 3"x3" form factor, the VP4E is ideal for 3ATI displays or space-constrained displays. The RS-232 interface allows easy updates even after the VP4E is installed in your display.
Spec Summary

<table>
<thead>
<tr>
<th>Spec Summary</th>
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<tbody>
<tr>
<td><strong>Physical Dimensions</strong></td>
<td>3.1&quot; x 3.1&quot; x 0.7&quot;</td>
</tr>
<tr>
<td><strong>Temperature Range</strong></td>
<td>Operating: 0°C to +70°C (additional data available) Storage: -40°C to +100°C</td>
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<tr>
<td><strong>Video Inputs</strong></td>
<td>Computer</td>
</tr>
<tr>
<td></td>
<td>- Up to SXGA resolutions (110 MHz pixel clock)</td>
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<td></td>
<td>- Standard and custom timing</td>
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<td></td>
<td>- Syncs (Separate sync or sync-on-green)</td>
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<tr>
<td><strong>Video Outputs</strong></td>
<td>Single LVTTL (24 bit panel), up to 110MHz: Single link LVDS outputs (up to 85MHz)</td>
</tr>
<tr>
<td><strong>Input Power</strong></td>
<td>+9 to +28 VDC</td>
</tr>
<tr>
<td><strong>Control Interface</strong></td>
<td>RS-232</td>
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VP4E Configuration

The VP4E Configuration utility is supplied to VP4E customers. VP4E Configure is installed on Windows XP platforms, and connects to the VP4E via an available RS-232 serial cable. The utility uses a 4-step process to set up the VP4E 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
4. Setup the video and display power sequence

VP4E Operation

Typically, the VP4E operates as follows:

1. Upon power up, the VP4E configures itself based on its internal BIOS
2. When valid video signal is detected, the VP4E applies power to the display per the power sequence defined in the 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 additional product information and pricing.

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