VP7-3ATI LCD Controller

High fidelity analog or digital video conversion, re-sizing, and frame rate conversion in a 3ATI form factor.

VP7-3ATI LCD Controller

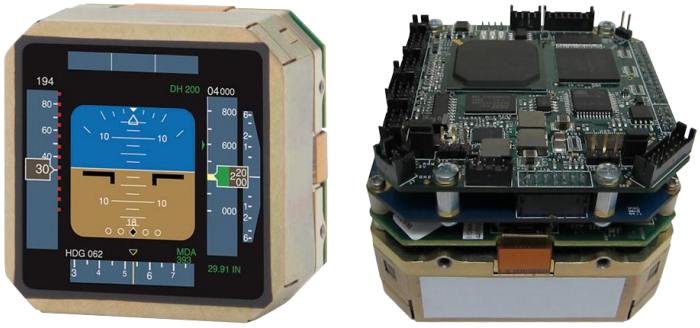
The VP7-3ATI LCD Controller interfaces with 3ATI displays and other commercial TFT panels requiring a small form factor.

Supports Standard and Custom Video

In addition to converting analog RGB and DVI for TFT panels, the VP7-3ATI is great for digitizing interlaced video formats such as RS-343, RS-170, and STANAG. The VP7-3ATI can also be programmed to support custom or non-standard video formats.

Optimized for Embedded Applications

The VP7-3ATI is designed with embedded applications in mind. With its low profile design, locking high-density Hirose connectors, and 3”x3” form factor, the VP7-3ATI is ideal for 3ATI displays or space-constrained displays. The RS-232 interface allows easy configuration updates even after the VP7-3ATI is installed in your display.



Korry Display Module KDM340H 3ATI
Image courtesy of Esterline Technologies Corporation

Interfaces with many 3ATI display devices

The VP7-3ATI has interfaces to many 3ATI display devices. In some cases, such as the Korry KDM-340 Series, the VP7-3ATI directly drives the display. Westar offers an ancillary power board to drive the APC 340 display from American Panel Corporation.

Display Manufacturer	Part Number
American Panel Corporation (APC)	APC 340
International Display Consortium (IDC)	3ATI
Korry	KDM-340SLED
Pixel Scientific™	various

Features

Based on state-of-the-art processing technology, the VP7-3ATI 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 SXGA displays
- Non-interlaced and interlaced RGB inputs and outputs
- DVI (TMDS) inputs
- Digitization and de-interlacing of consumer video formats, including RS-343 formats
- Frame rate conversion

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

User Programmable

With fully customizable input and output timing parameters, the VP7-3ATI can be configured for your application. If your display or video input source changes, simply reconfigure the VP7-3ATI.

Powerful Configuration Utility

The VP7 configuration utility allows you to

- Configure a VP7-3ATI 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 VP7-3ATI for a particular installation, and much more

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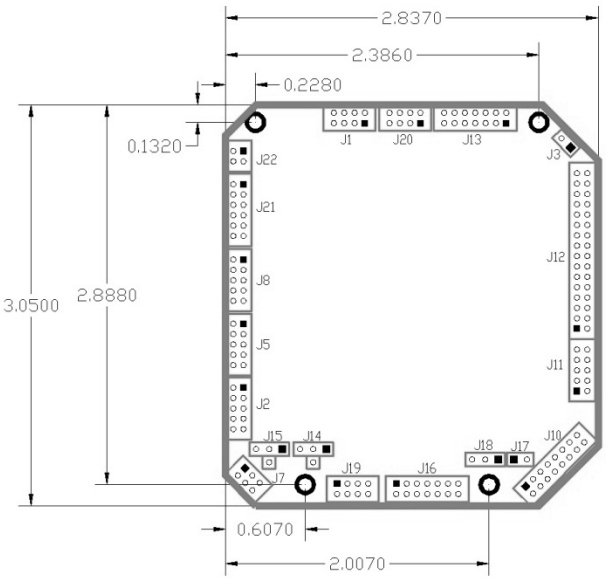
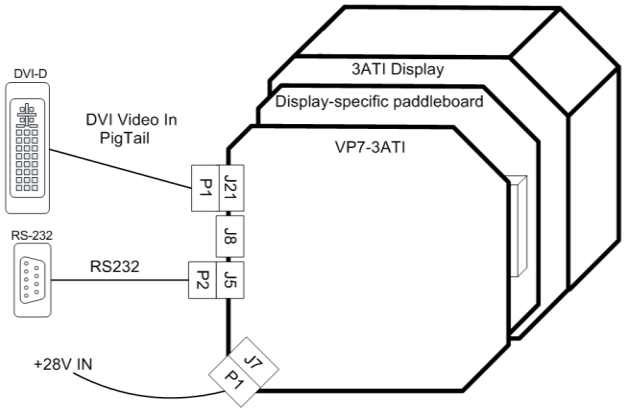


Figure 1: VP7-3ATI Dimensions and Connector Diagram



Note: VP7-3ATI-S configuration with connectors J10, J11, and J12 moved to the back of the board

Figure 2: Typical Connection for a 3ATI display with a specific paddleboard to mate the VP7-3ATI to the display

Spec Summary

Physical Dimensions	2.9" x 3.0" 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 SXGA resolutions @ 60Hz - Analog Input (162 MHz) DVI Input (165 MHz) - Standard and custom timing - Syncs (Digital Separate, Digital Composite, Analog Composite)
Video Outputs	Single LVTTL (24 bit panel): Single LVDS outputs Pixel rate single = 108 MHz
Input Power	+7 to +28 VDC, 4W power consumption @ XGA resolution (does not include panel and backlight requirements)
Control Interface	RS-232

Connector	Hirose	Description
J1	8 Pin DF11	Discrete In and Contrast
J2	10 Pin DF11	FPGA Configuration
J5	10 Pin DF11	RS-232 Control
J7	6 Pin DF11	Power Input
J8	10 Pin DF11	Analog Video Input
J10	16 Pin DF11	Discrete I/O to Display
J11	10 Pin DF11	Control to Display
J12	32 Pin DF11	Digital Data Output
J13	14 Pin DF11	LVDS Output
J16	14 Pin DF11	Backlight Inverter Control
J19	8 Pin DF11	BIOS Table Select
J20	8 Pin DF11	External LED Connection
J21	12 Pin DF11	TMDS Input
J22	4 Pin DF11	EDID Interface

VP7-3ATI Configuration

The VP7 Configuration utility is supplied to VP7-3ATI customers. VP7configure is installed on Windows XP platforms, and connects to the VP7-3ATI 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

VP7-3ATI Operation

Typically, the VP7-3ATI operates as follows:

1. Upon power up, the VP7-3ATI configures itself based on its internal BIOS
2. When valid video signal is detected, the VP7-3ATI 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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