FPGA Based Digital Video Adapter

- **Receive or transmit DVI digital video**
- **Receive or transmit HOTLink serial data**
- **Front panel I/O for HOTLink 1**
- **Support for popular chassis including VME and cPCI**
- **Fully programmable FPGA for unique interface requirements**
- **Stand-alone desktop capable**
- **Supports AH-64D DVI-I, DVI-II, and DVI-III (MTADs and Displays)**
- **Supports F/A-18 MFCDU**
- **Supports AIM-9x seeker interfaces**
- **Air-cooled and conduction-cooled versions available**

The GDVA is a versatile digital video adapter. It allows for the real-time conversion of avionics standard digital video formats transmitted over HOTLink physicals to be converted to standard commercial DVI formats. This enables commercial DVI monitors to be used in development and testing instead of high cost avionics grade displays. The GDVA also enables standard PC video to be used in place of actual platform video data sources or sensors. This capability can be used to generate a DVI video test pattern that can be output to the avionics display.

The GDVA unit integrates a Xilinx Virtex II FPGA with PanelLink and HOTLink transceivers. The board is managed by a Microchip PIC controller. Both the PIC and the FPGA are fully programmable to support many unique user configurations. The PanelLink and HOTLink transceivers can be configured in any combination of receiver and/or transmitter.

The unit is available in a desktop version as well as air-cooled, 3U CPCI and 6U VME conduction cooled optional configurations.

Engineering Solutions for Critical Environments

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GDVA

Specification

Hardware Specification

Video Standards Supported
- DV1 I, II, and III
- VESA

FPGA
- Xilinx Virtex II Pro
- Up to 400+ MHz clock rate
- Full duplex RocketIO™ serial transceivers

HOTLink II
- Cypress, serial transceiver
- Up to 1.5Gb/s serial data rate
- Second generation HOTLink, backward compatible
- Supports 8B10B encoding
- Built-in self-test
- Low Power

PanelLink
- Silicon Image, DVI video transceiver
- DVI 1.0 and VESA compliant
- Supports 24-bit/pixel, 16.7M true color
- I^2C slave programming interface
- Up to 165 Mpixel/second

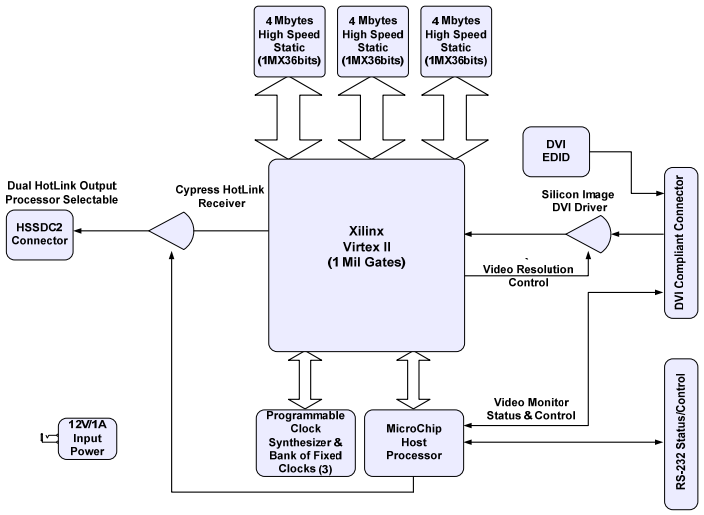
Microcontroller
- Microchip PIC18
- 40 MHz clock rate
- 16 Kbytes RAM, 32 Kbytes Flash
- Enhanced USART
- I^2C Master and Slave modes
- 100,000 write cycles
- Low Power

Software Support

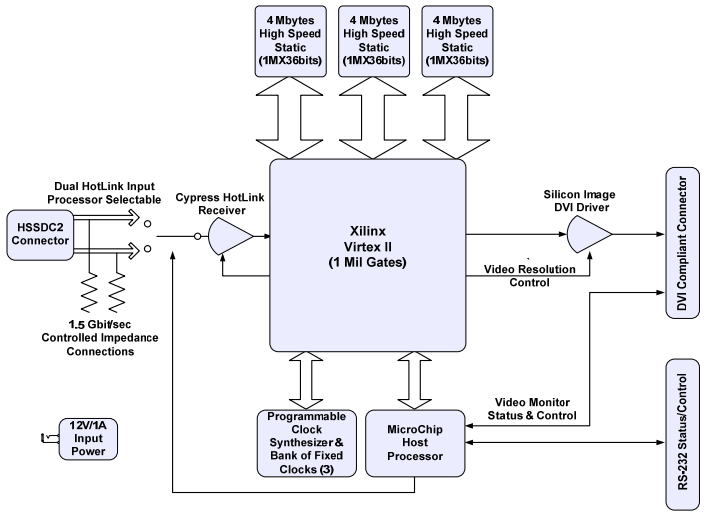
FPGA
- Xilinx Integrated Software Environment (ISE)
- Extensive DSP library
- Over 200 IP cores available

Microcontroller
- Tools
- Extended ISA

GECO GDVA Transmit Digital Video Adapter



GECO GDVA Receive Digital Video Adapter



GECO can provide off-the-shelf units pre-programmed to your specific requirements, or we can provide the development tools required for you to implement your own unique requirements.

For more information on how GECO can work with you to meet your product or system needs, or offer design services to complement your own staff, please contact us.

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