

VSP150/70 High-End Video Board



Platform for Video & Surveillance Application

The development platform VSP150/70 has been designed in cooperation with ViCos (Visual Communication Systems GmbH) and makes it possible to easily and efficiently realize video & surveillance applications.

The VSP family is characterized by comprehensive video interfaces and offers the possibility of individual extensions via additional slots.

Besides FPGA for image processing a further slot is available where an additional module, e.g. for data compression (H. 264), may be integrated. The system also comprises an expansion slot for applications requiring a very large bandwidth. 12 Gbit/s are supported in full-duplex operation.

Typical applications

- Conversion of video formats
- Video data filtering/modification
- Actuation of several displays
- Picture-in-picture applications
- OSD (On Screen Display) applications
- Compression of video data
- Transmission of video data via Gbit Ethernet
- Picture stabilisation

Plug & Play

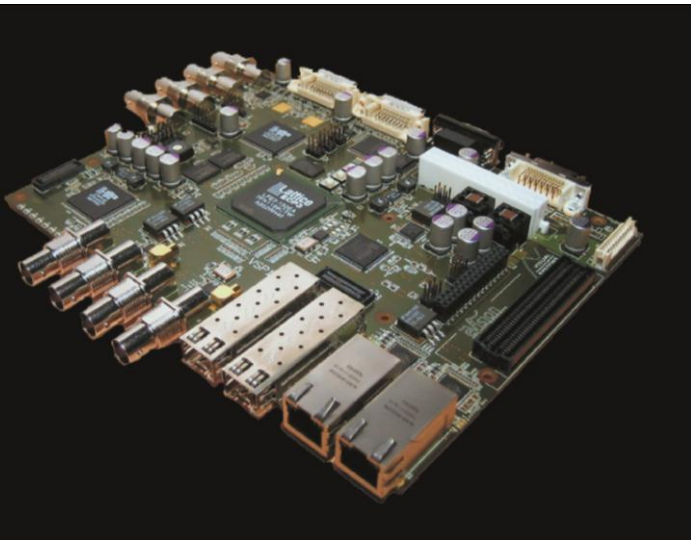
As delivered the FPGA is pre-configured with a design example for the setup of the board. Several signal sources are displayed in multiview on a HDTV monitor. A standard PC monitor with 1920x1080 pixels may be used.

Active ports (in the design example):

- PC monitor via DVI and/or analog RGB
- 3G SDI port of the multiview image

Evaluation IP Cores for the design example:

- Scaler
- Synchronizer
- FPMC (DDR2 Flexport Memory Controller)
- Multiview display controller



When choosing components great importance has been attached to choosing high quality components for creating a stable and versatile platform. The new ECP3 150/70 FPGA components by Lattice Semiconductor represent the core of the system.

These components are also suitable for the prototyping of comprehensive FPGA applications since they offer up to 150 000 lookup tables, comprehensive DSP structures for filters, a maximum of 7-Mbit memory for numerous line memories and the high quality SERDES channels which are required for HD-SDI applications.

Technical Details

Version 1.0

Interfaces

Video input:

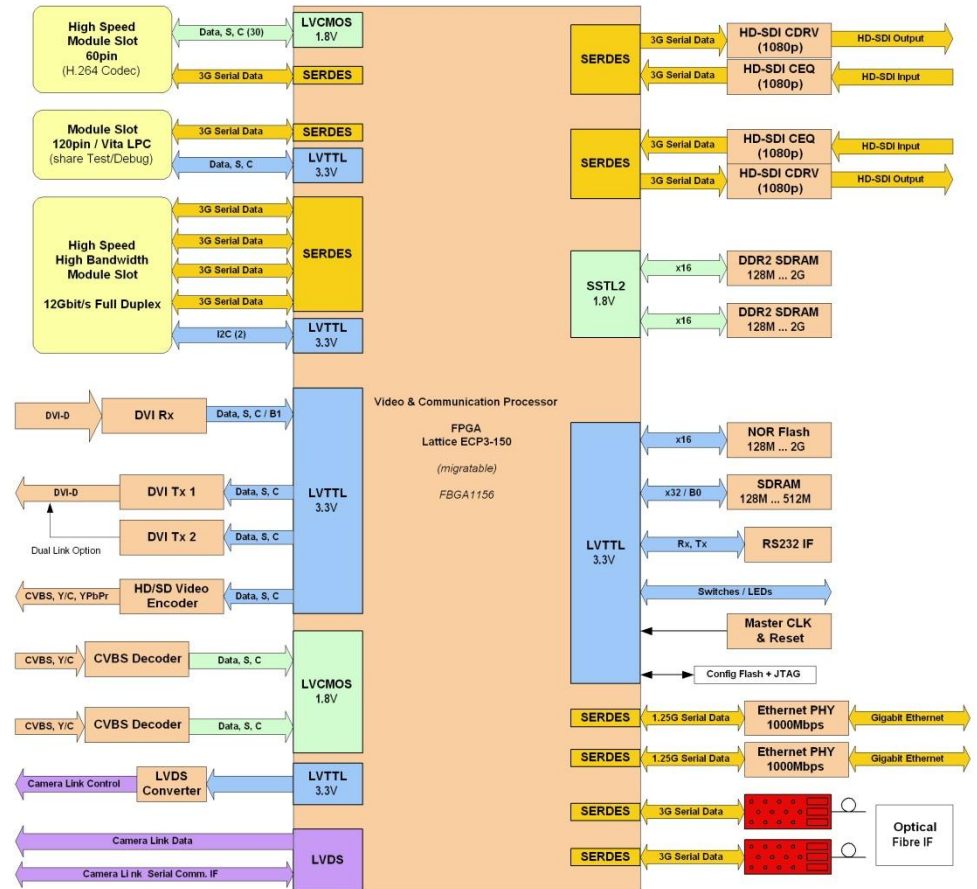
- DVI
- 2x 3G SDI (1080p)
- 2x Gbit Ethernet
- 2x analog CVBS
- Camera link (LVDS)

Video output:

- 2x 3G SDI
- PC monitor via DVI (dual link)
- analog (CVBS)
- Gbit Ethernet
- Displays up to 4k x 2k resolution (with suited adapter)

Memory

- FLASH: 128 Mbit
- SDRAM: 256 Mbit und 32 bit Databus
- DDR2 RAM: per 2x 512 Mbit, e.g. 32 bit RAM-interface at FPGA



Block-diagram video & surveillance platform – VSP

The FPGA may be configured directly using JTAG or the on-board FLASH.

IP4Video

The VSP platform is also suitable for the evaluation of ViCos IP cores. To this end several video processing blocks are available, such as:

- Scaler
- Multi-channel memory controller
- Low-latency compression (factor 1.2 - 8)
- OSD (On Screen Display)
- PiP (Picture in Picture) multiview
- Deinterlacer

More information about Vicos IP-cores and the design services you will get directly from eVision Systems.

Price information

	VSP70	VSP150
LUT	67.000	149.000
EBR SRM (kbits)	4.420	6.850
18x18 Multiplier	128	320
Price	1.995,- €	2.349,- €

Scope of delivery:

Board, power supply, 2 DVI cables, documentation and bitstream for restoring the initial configuration (default setting)