

OEM Video Frame Grabber

Our OEM Video Frame Grabber is a cost-optimized solution for customized digital video products. Application examples are Ethernet-based camera servers, video memories, video-based graphical user interfaces etc.

It is based on MOTOROLA's 32-Bit COLDFIRE RISC-Controller, a circuit with a very good price/performance ratio. Several on-chip peripheral components facilitate highly integrated and extreme compact systems with low power consumption. The video signal is captured by a simple 8-bit ADC (13.5MHz) and written via a reconfigurable FPGA (XILINX Spartan-II) directly to the DRAM, using DMA (Direct Memory Access). This avoids the need for a separate video interface chip with external memory. Additionally, the sync signal detection and active gain control is performed by the FPGA. The further video processing is done by software using the COLDFIRE DSP features. In the opposite direction, video signals may be generated by software and emitted by a simple 8-bit DAC. This is a very cheap solution for video-based Graphical User Interfaces (GUI).



Using Embedded Linux and/or JControl/OS as operating system, very robust system software becomes possible. Application software may be developed in „C“ or JAVA. Free software development tools are offered to support the software development, including a Project Manager, Picture Editor, Font Editor or Melody Editor. Our configurable Simulator allows to examine the usability and system behaviour of the device before the hardware is finished.

Technical Data

Hardware

- Motorola ColdFIRE family (low-cost 32-Bit controllers, e.g. MCF5206e, MCF5272)
- 4MB - 16MB DRAM
- 1MB - 4MB FLASH
- DMA-based video frame grabber with FPGA and 8-Bit ADC
- DMA-based video signal generator with FPGA and 8-Bit DAC
- Optional 10/100 BaseT ethernet interface
- RS232
- Various field bus interfaces
- BDM/JTAG (in-circuit flash programming, in circuit testing etc.)
- I²C

Software

- EmbeddedLinux, JControl/OS
- Optimized software for composite video processing (352x288 pixel)
 - Converting video frames into YUV color space
 - Converting YUV frames into composite video frames
- JPEG
- Various device drivers available
- JAVA programming support
- Bootloader with Power-On-Self-Test (POST)
- WebServer with JAVA-interface for automatic generation of HTML pages



domo:logic

Home Automation GmbH
Rebenring 33
D-38106 Braunschweig
GERMANY

Phone: +49 (0) 531-3804-340

Fax: +49 (0) 531-3804-342

E-Mail: info@domologic.de

Internet: www.domologic.de

