Compact Video Processor

Applications

- Security and surveillance
- Land vehicle
- UAV
- Tactical processing
- Mission recording
- Single board video processor
- Single board GPP
- Low SwaP installations
- Camera platforms
- Dumb' display upgrade

Capabilities

- Low latency video processing
- Multi channel processing
- Video compression
- Video streaming
- Hardware acceleration

The Compact Video Processor (CVP) has been designed to complement General Dynamics UK's Compact Modular Computing (CMC) platform.

The CVP is an XMC format module that delivers top-end system performance through the integration of a high performance Xilinx FPGA with embedded dual-ARM processors.

This highly flexible combination provides a customisable platform to meet the video signal processing needs of modern embedded systems.

Key to the CVP flexibility is the ability to tailor the module to optimally meet the performance requirements of the system – eg ARM processors supported by FPGA hardware acceleration, or standalone FPGA video processing.

Key features

- XILINX System On Chip (SoC)
- Dual Embedded ARM Cortex A9™ cores
- ZYNQ XC7Z030, XC7Z045, XC7Z100FPGA
- Low latency video switch fabric architecture
- Graphics and symbology generation
- Wide range of video I/O types and standards
- FPGA parallel processing
- Dual DVI output up to WQXGA 2560 x 1600
- H264 low latency compression and de-compression
- PCIe, SATA, USB, GbE interfaces
- Dual channel audio

Specification

Video processing IP

- Adaptive contrast enhancement
- Edge enhancement
- Image stabilisation
- Re-scaling
- Standards conversion
- Image stitching
- Adaptive de-interlacing
- Picture-in-Picture
- Low latency H.264 AVC100
- Video streaming

Operating modes

- Stand Alone FPGA
- FPGA Co-Processor
- Stand Alone ARM Processor
- System On Chip

The FPGA and ARM cores have dedicated I/O allowing them to operate individually or in tandem to provide a video processing platform that best fits the system performance and latency trade offs.

Features

ZYNQ SoC FPGA

- Vertical scaling XC7Z030, XC7Z045, XC7Z100
- Dual ARM® Cortex™-A9 up to 1.0GHz
- 1GB DDR3 dedicated to processor cores
- 1GB DDR3 dedicated to programmable logic
- Soft-core processor capability, eg. Xilinx Microblaze

Video Audio Interfaces

- STANAG 3350B (Mono)
- Composite or S Video PAL / NTSC
- RGB input up to 1280 x 1024
- Dual SD/HD/3G-SDI inputs
- Dual SD/HD/3G-SDI outputs
- Stereo audio codec

Other Interfaces

- Gigabit Ethernet
- USB2
- PCIe / XAUI / Rocket I/O
- UART
- JTAG

Characteristics

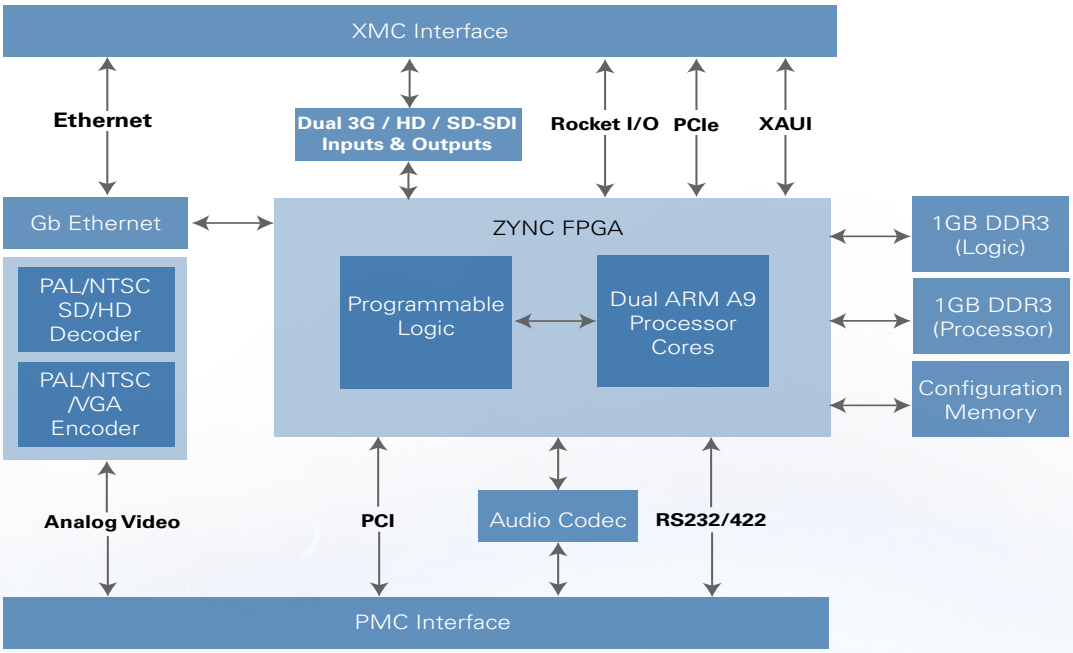
- XMC format
- Dimensions 150 x 75 x 12mm (L x W x H)
- -40 to +85°C operational
- -55 to +125°C storage
- 1B31 conformal coating (option)
- MTBF 25,000hrs Fast Jet MIL-HDBK-217E
- Power dissipation 15W (typical)
- Conduction cooled

Documentation Set

- Hardware User Guide
- Interface Control Document
- Certification pack (option)

Software Support

- Linux
- GDMS-UK EAStack (ASAAC)
- GDMS-UK Recorder Software Suite
- GDMS-UK IP Library



Castleham Road, St Leonards-on-Sea
East Sussex, TN38 9NJ, United Kingdom

Tel: +44 (0)1424 853781 Fax: +44 (0)1424 798009

Email: enquiries@gd-ms.uk

www.gd-ms.uk

GDUK3537 07/17