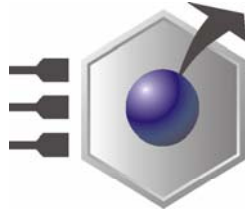


EmbeddedDNA[®]



EuroTech
THE COMPLETE EMBEDDED PC SOLUTION

An0047

CTR-1471; JPEG2000 COMPRESSOR. Board capabilities

Rev. 1.0

Jan. 2005

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CTR-1471

**PC/104-Plus JPEG-2000 Compressor with 8 independent
videocomposite input**

Understanding the board capabilities

CTR-1471

PC/104-Plus form factor, ruggedly designed for high reliability surveillance systems in transport, aviation and defense applications.

- ❑ 8 NTSC/PAL/SECAM 1Vpp Analog Video Input Channels (for up to 8 Cameras)
- ❑ NTSC Compression Rates:
 - 352x240 @ 120fps
 - 720x480 @ 30fps
- ❑ PAL Compression Rates:
 - 352x288 @ 100fps
 - 720x576 @ 25 fps
- ❑ 8 Video JPEG2000 encoder Channels
- ❑ Programmable or Automatic Static Gain Control for each CVBS Channel
- ❑ Video Recording Path: Full Frame for 1 Channel or 120 FPS for Four Channels at CIF Resolution
- ❑ Motion Detection Functionality
- ❑ System File Formats: JPEG2000
- ❑ 1 Analog Video Output Channel for monitoring

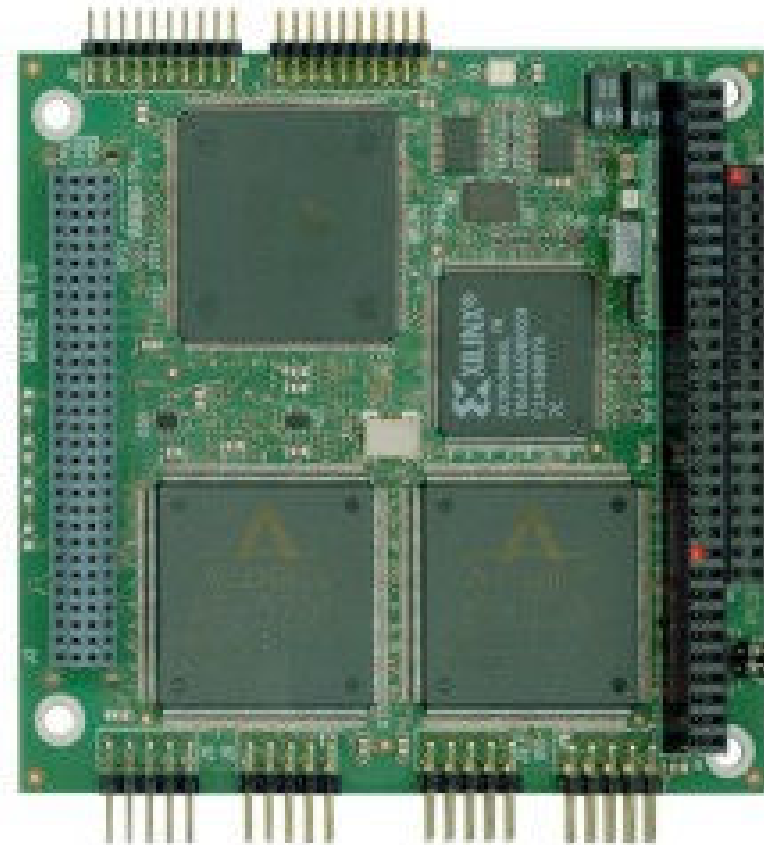
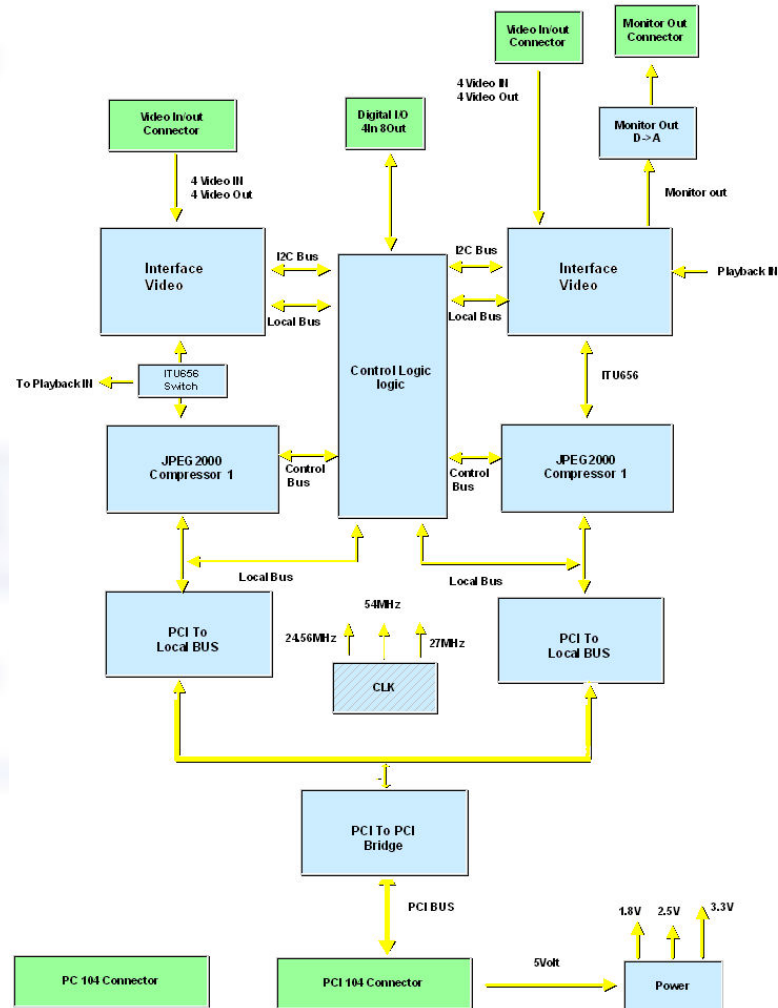
- ❑ 16 Digital I/O

- ❑ Ideal for Windows CE and Linux Applications



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Block Diagram



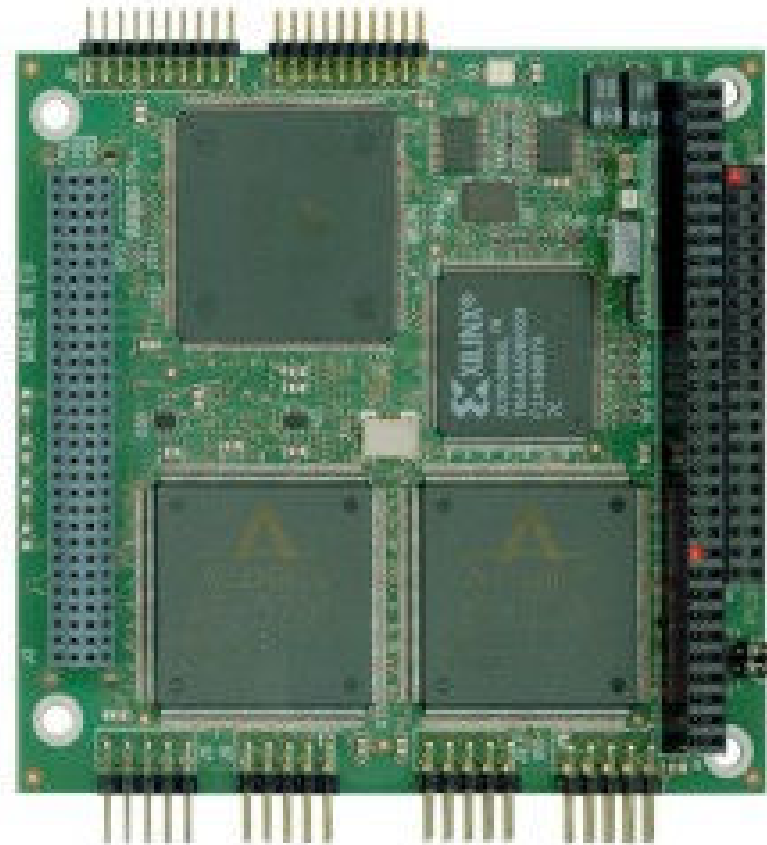
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CTR-1471

Video

- ❑ 8 NTSC/PAL/SECAM 1Vpp Analog Video Input Channels (for up to 8 Cameras) J4 & J5 connector
- ❑ NTSC Compression Rates:
 - 352x240 @ 120fps
 - 720x480 @ 30fps
- ❑ PAL Compression Rates:
 - 352x288 @ 100fps
 - 720x576 @ 25 fps
- ❑ Motion Detection Function
- ❑ Embedded font RAM for color OSD(each display/record path)
- ❑ Video Output direct on J8 & J9 connector for connecting an external monitor



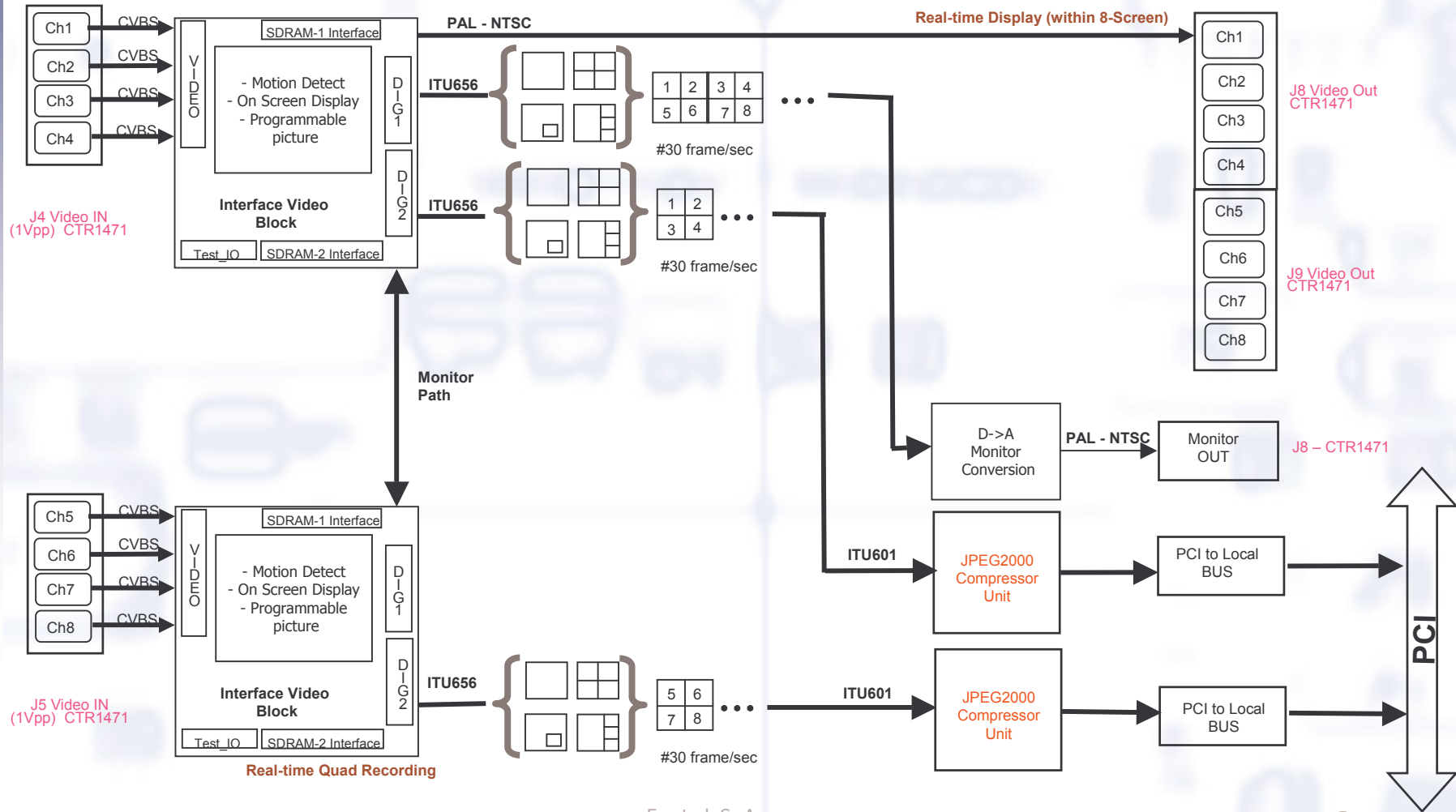
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Video Interface Block

- Built-in 8 channel NTSC/PAL/SECAM Video Decoders
- 8 channel analog input for camera
 - 8 channel real time display, 2 channel record and 1 channel playback
 - full size 30 frame, Quad size 120 frame record output
- Motion Detection Function:
 - Programmable Detection window, motion velocity and motion sensitivity
- Built-in High Quality Scaler(1/2, 1/3, 2/3, 1/4)
- Random position high quality linear ZOOM(2X~4X) function
- High flexibility record output function
 - N-field switching, external trigger switching
 - Priority recording, Random Sequence recording
 - QUAD recording, DVR-QUAD recording, DVR-DUAL recording
- Image enhancement function
- Embedded font RAM for color OSD(each display/record path)
- Camera Loss Processing: Last Image Capture
- Programmable picture size/position/panning/tilting/freeze
- Split border and background color setting
- Video full erase with specified color
- ABCD(A Blind Camera Detection) function
- Support 8 channel triplex system with 2 chip
- Channel index information access/control by host interface

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CTR-1471 Video (Interface Video Block)



CTR-1471

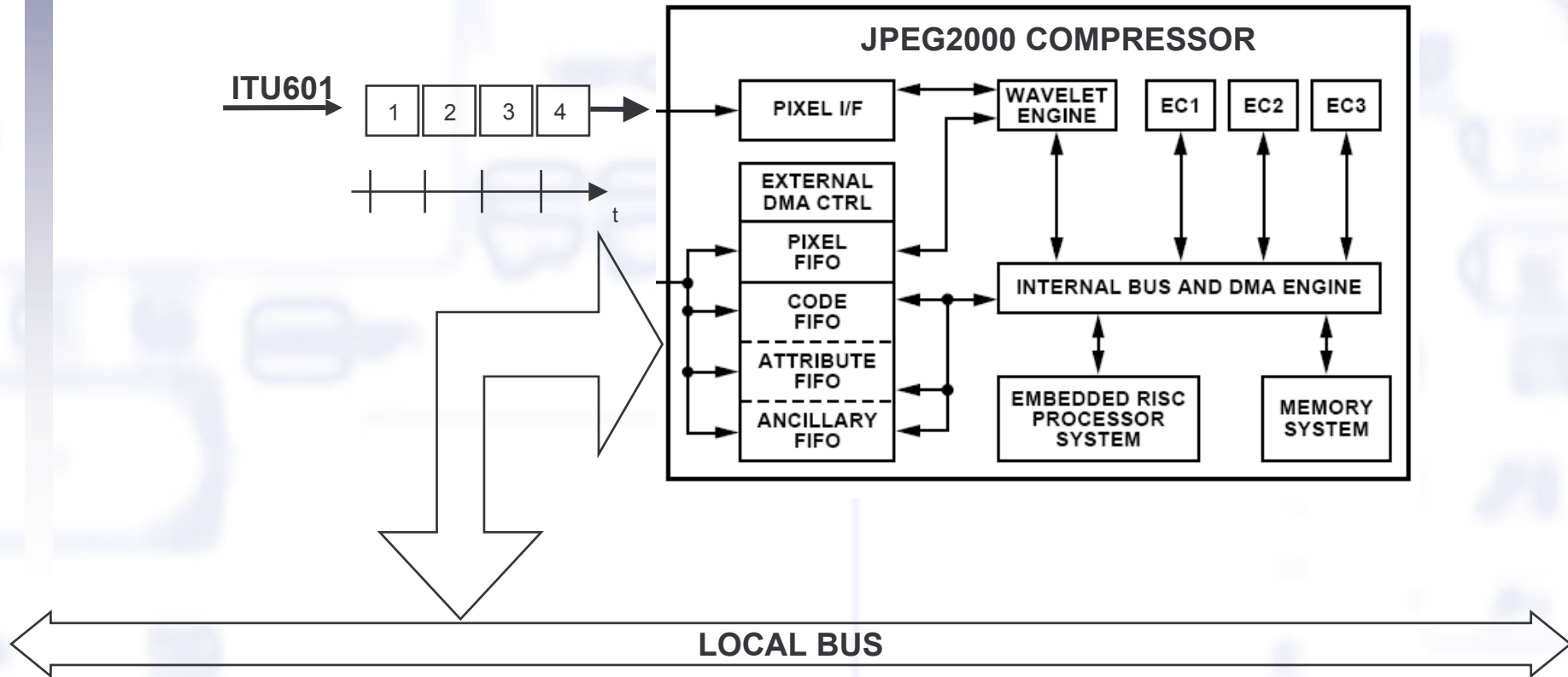
CTR-1471 JPEG2000 Compressor section

VIDEO PROCESSING

- Real-Time JPEG2000 Video Encoding**
- ISO/IEC 15444, JPEG2000**
- 525/60(NTSC) up to 720x480 @ 30fps**
- 625/50(PAL) up to 720x576 @ 25fps**

CTR-1471

CTR-1471 – JP2000 Video Compressor section



Drivers

To allow users starting developing faster application without entering detailed hardware architecture drivers are going to be released for the following O.S:

- Linux
- Win CE
- Win XP
- Win XP Embedded

Detailed informations on the driver interface are contained in the driver documentation

Glossary

- ❑ **NTSC:** Short for *National Television System Committee*. The NTSC is responsible for setting television and [video standards](#) in the United States (in Europe and the rest of the world, the dominant television [standards](#) are PAL and SECAM). The NTSC standard for television defines a [composite video](#) signal with a [refresh](#) rate of 60 half-frames (interlaced) per second. Each frame contains 525 lines and can contain 16 million different colors.
- ❑ **PAL:** (1) Short for *Phase Alternating Line*, the dominant television standard in Europe. The United States uses a different standard, [NTSC](#). Whereas NTSC delivers 525 lines of resolution at 60 half-frames per second, PAL delivers 625 lines at 50 half-frames per second. Many [video adapters](#) that enable computer [monitors](#) to be used as television screens support both NTSC and PAL signals.
- ❑ **DVR:** Short for *digital video recorder*, another name for a [personal video recorder](#)
- ❑ **JPEG2000:** is a new image coding system that uses state-of-the-art compression techniques based on wavelet technology. Its architecture should lend itself to a [wide range of uses](#) from portable digital cameras through to advanced pre-press, medical imaging and other key sectors