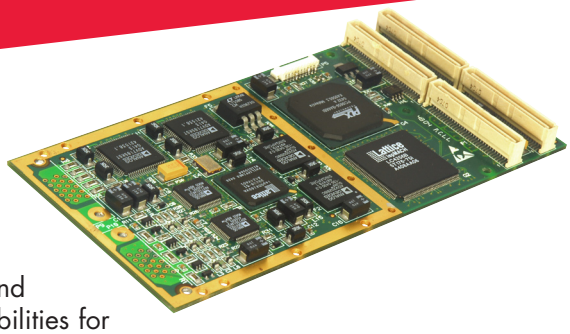
Fact Sheet

Orion

JPEG2000 Real-time Video Compression & Decompression



- Dual-channel JPEG2000 compression/ decompression
- Low-power air-and conduction-cooled PMC modules designed for deployment in a wide range of defense and aerospace applications
- Full frame rate encoding of standard NTSC and PAL video
- Ten video input channels with two selectable for compression
- Programmable compression ratios
- Part of Curtiss-Wright Controls Embedded Computing's Sentric2/VDS family of products for video recording and distribution over networks

Orion provides real-time JPEG2000 video compression and decompression capabilities for video distribution and recording applications.

As an industry-standard PMC module the Orion brings high-performance video compression to a variety of system architectures including those with VME, CompactPCI, and VPX host-cards and, with the use if a PCI PMC carrier to standard PC systems. Air- and conduction-cooled variants of the PMC variant make the Orion ideal for applications ranging from naval ship-wide video distribution systems through to rugged recording applications on vetronics, fast-jet and helicopter platforms.

Orion provides a dual-channel capability for the compression or decompression of video at standard NTSC and PAL resolutions. Each channel can be configured as either an input or output channel. This allows Orion to be configured to provide simultaneous record and replay functionality by using one of the two channels for each function.

In Input mode, Orion can accept up to 10 analog video inputs and select two for simultaneous compression, with JPEG2000 compliant data streams output to the PCI bus.

In Output mode, the card receives up to two JPEG2000 data streams across the PCI bus, decompressing to give two independent PAL or NTSC video output signals through the front panel (air-cooled PMC only) and the PMC Pn4 connector.

JPEG2000 offers excellent performance for real-time video sequences giving high compression ratios with the added benefit of low latency and minimal resynchronize times.

Orion is available with driver and board support library supported under Windows®, Wind River® GPP Linux® and Wind River® VxWorks® OS environments. Orion is fully supported by Curtiss-Wright Controls Sentric2/VDS making it a key component for systems that need to record, play and/or distribute video over a network.

Learn More
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Video Inputs

- Ten video inputs with two selectable for use
- Each PAL/ NTSC with support for composite or Y/C
- Front panel (air-cooled boards only) or P4 video input

Video Output

- Two video output channels
- Each PAL/ NTSC with support for composite or Y/C
- Front panel (air-cooled boards only) or P4 video output

Video Compression

- JPEG2000 compression technology
- 4:2:2 video coding
- Two independent channels configurable as input or output
- Configurable compression ratio
- JPEG2000 compressed data input / output via PCI interface

PCI Interface

- PCI Revision 2.2 Compliant Master/ Target PMC module
- Signaling: +3.3V or +5V
- 64-bit 66MHz PCI

Software Support

- Fully integrated into Curtiss-Wright Controls' Sentric2 and VDS systems software
- Driver support for Windows®, Wind River® GPP Linux® and Wind River® VxWorks®
- For detailed OS support information please consult factory

Available in the following Curtiss-Wright Controls environmental grades:

- Air-cooled Level 0
  - Operating temperature 0°C to +50°C
  - Storage temperature -40°C to +85°C
- Conduction-cooled Level 200
  - Operating temperature -40°C to +85°C
  - Storage temperature -55°C to +125°C
- Rear transition modules and PCI carrier assemblies are Level 0 only
- For further details please see the Curtiss-Wright Ruggedization Table at http://www.cwcembedded.com/0/0/208.html

Figure 1: Orion Functional Block Diagram