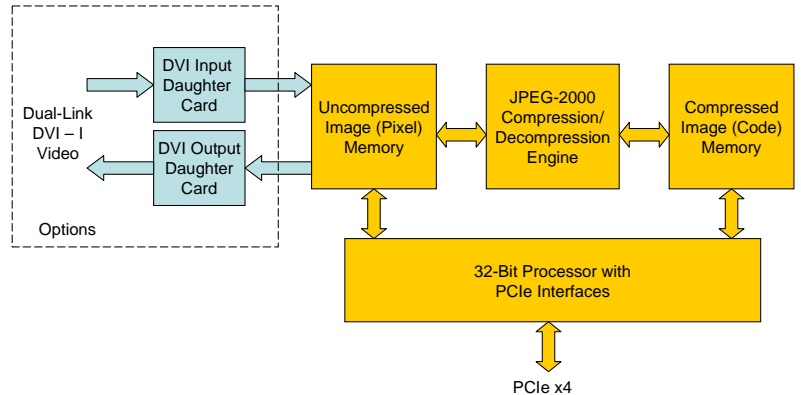


HRED-J2000 High-Resolution JPEG-2000 Encoder Decoder Card

- JPEG-2000 Compression / Decompression
- Processes up to 6 simultaneous streams
- Up to two Dual-link DVI-I video interfaces
- Video resolutions up to 2560x1600, 1-4 component
- Compressed images available via 4x PCIe



Westar's HRED-J2000 is a high-performance JPEG-2000 compression / decompression card. The card operates as a PCI Express plug-in to a host PC to provide simultaneous encoding and decoding of up to six simultaneous video streams. The card can process 1 to 4 component video images at multiple resolutions up to 2560x1600.

Video Input and Output Daughter Cards: The HRED-J2000 can accept up to two optional video input or output daughter cards. The HRED-J2000 supports any combination of two inputs or outputs. Each daughter card provides a dual-link DVI-I (digital or analog) video interface capable of the following video formats.

Video Formats:

| RGB analog and Digital Dual-link DVI: | Digital DVI only: |
|---------------------------------------|-------------------|
| 1920x1080, 60Hz* | 2560x1600, 60Hz* |
| 1600x1200, 60Hz | 1920x1200, 60Hz* |
| 1440x1050, 60Hz | 1280x720, 60Hz |
| 1280x1024, 60Hz | |
| 1024x768, 60Hz | |

*Updated at 30Hz max

With two daughter cards the HRED-J2000 occupies two PC card slots.

PCI Express Operation: As a PCI Express card, the HRED-J2000 functions as a plug-in compression/ decompression coprocessor card. The 4-lane PCIe interface supports fast transfers of image data between the host PC and the card via two scatter-gather DMA engines. The card transfers compressed JPEG-2000 images to or from the host PC over the PCIe interface. Uncompressed images can be transferred over the PCIe interface or as DVI-I video via one of the optional DVI daughter cards. The PCIe interface supports transfers of 1-4 component uncompressed images.

Performance: The HRED-J2000 card achieves enhanced system performance through the following:

- Twelve ADV212 JPEG compression chips are used to provide up to 780Mpixels/sec throughput
- System throughput is increased by providing image tiling and component separation/merging support in hardware.
- Color space conversion from RGB to YCrCb 4:2:2 is available in hardware to increase throughput and compression ratios.

Key Specifications

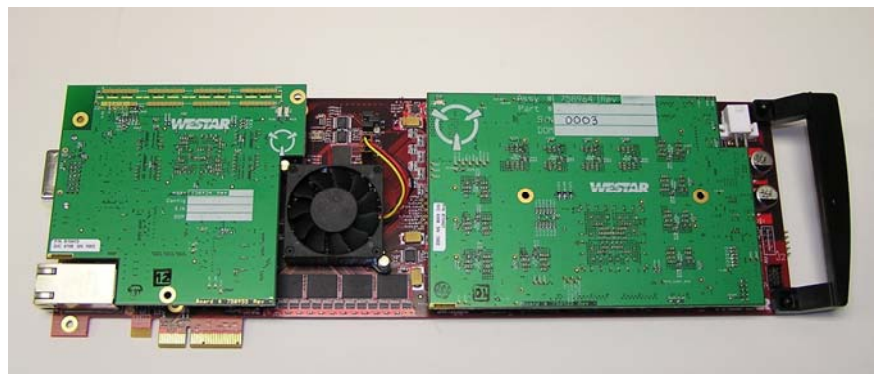
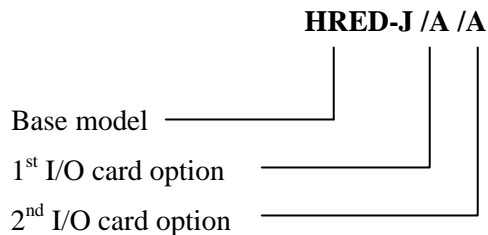
| | |
|------------------|---|
| Size: | Full-length PCIe card (single width with one DVI daughter card, double width with two) |
| Power: | 35W |
| Video I/O: | Dual-link DVI, up to 2560x1600, 60Hz Analog RGB, up to 1920x1080, 60Hz |
| Bus interface: | 4-lane PCIe |
| Compression: | JPEG2000 |
| Peak throughput: | 780Mpsps |

Software: The HRED-J2000 card is provided with drivers for Linux kernel version 2.6. The drivers support stream creation and management and the creation of multiple endpoints. Each endpoint can be configured as a source or destination and as a compressed or uncompressed video endpoint.

Windows drivers will be available in the future.

Ordering Information:

Example part number:



I/O Card Options:

- A= Dual-link DVI-I Input
- B = DVI Output (future)