

DCPB-2140

JPEG 2000 DCI decoder board



Features

- PCIe board, 4 lanes
- Input: DCI-compliant j2c codestream
- Output: uncompressed images or video in RGB or XYZ format
- Custom image size up to DCI 4K in a single tile
- RCT/ICT support
- Real-time 2K decoding at 48 fps
- Lossless decompression support
- Windows and Linux SDK, including drivers and API

The DCPB-2140 is a PCI-Express acceleration board for performing JPEG 2000 decompression. It is compatible with the Digital Cinema Initiative (DCI) and can process 48 frames per second in 2K (2048x1080) resolution. Supporting all the features defined in the DCI specification, the DCPB-2140 combines performance, robustness and high quality to provide a solution for decoding digital cinema content.

Its compactness makes the DCPB-2140 an excellent alternative to PC clusters, offering real-time decoding capability in a PCIe form factor. Moreover it is built on FPGA technology, which offers the advantages of flexibility and upgradeability.

The DCPB-2140 can be used at different stages in the digital cinema workflow, including production, archiving and projection. The uniqueness of the DCPB-2140 is reinforced by support of true 4K resolution, available as an option.

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Technical specifications

General Data

Power	+3.3V @ 4A maximum +12V @ 1A maximum
Interface	Revision 1.1 compliant x1, x2 or x4 PCIe endpoint compatible
Dimensions	241mm x 111mm "three-quarter length" max component height 15mm
Temperature	Operational: +5...+35°C, humidity <95% non-condensing Storage: -20...+50°C, humidity <95% non-condensing

Interfaces

Through a software API

Inputs:	Compressed j2c codestream, compliant with DCI
Outputs:	Uncompressed RGB/XYZ image of any resolution up to 4096x2160, in 4:4:4 color format

Parameters

Decompression parameters are obtained from the JPEG2000 codestream requiring no user interaction

Performances

DCI 2K @ 48 fps
DCI 4K @ 12 fps

Software support

PCIe drivers for Windows XP, Vista and for Linux
SDK with API for controlling the compression parameters and handshaking the compressed input and image output
Example applications

Options

Support of 4K resolution
Additional 4:2:2 support
Encoder + decoder functionality

Request more information

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