

# DCPB-2120

## JPEG 2000 HD encoder board



### Features

- PCIe board, 4 lanes
- Input: uncompressed images or video in YCbCr 4:2:2 format
- Output: j2c codestream (adapted Digital Cinema Profile)
- Custom image size up to 1920x1080 in a single tile
- Real-time encoding up to 1080p60
- Multi-stream capability
- Configurable rate allocation: constant bitrate or constant quality
- Configurable number of quality layers
- Lossless compression support
  
- Windows and Linux SDK, including drivers and API

The DCPB-2120 is a PCI-Express acceleration board for performing JPEG 2000 compression. It can process one stream of 1080p60, or multiple streams at lower resolutions, in real time.

Featuring a unique rate allocation module, the DCPB-2120 can encode untiled images with resolutions up to 1080p. Moreover, its programmable configuration in constant bitrate or constant quality modes allows the user to generate high-quality JPEG 2000 codestreams at various bitrates.

Its compactness makes the DCPB-2120 an excellent alternative to PC clusters, offering real-time encoding capability in a PCIe form factor. In addition, it is built on FPGA technology, which offers the advantages of flexibility and upgradeability.

The DCPB-2120 can be used for various broadcast or other applications, including Acquisition, Storage, Archiving, Production and Contribution.

**BARGO**

Visibly yours

# 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:	Uncompressed YCbCr image of any resolution up to 1920x1080, in 4:2:2 color format
Outputs:	Compressed j2c codestream

## Parameters

Frame size  
Sample precision, up to 12 bits  
Number of wavelet decompositions, up to 6  
Wavelet kernel (5/3 or 9/7)  
Rate allocation mode (constant bitrate or quality) and target bitrate/quality  
Number of quality layers  
CSF weighting  
Lossy/lossless

## Performances

Single-channel  
1080p60  
Multi-channel  
1080i60, 1080p30, 720p, 576i, 480i

## Software support

PCIe drivers for Windows XP, Vista and for Linux  
SDK with API for controlling the compression parameters and  
handshaking the image input and j2c output  
Example applications

## Options

Additional 4:4:4 support  
Encoder + decoder functionality

## Request more information

Barco Silex N.V.  
Scientific Park  
Rue du Bosquet 7  
B-1348 Louvain-la-Neuve  
Belgium  
Phone: +32 10 454 904  
Fax: +32 10 454 636  
E-mail: [barco-silex@barco.com](mailto:barco-silex@barco.com)