RADIENT EV-CXP COAXPRESS FRAME GRABBER

RADACCPAK01
Accessory kit for Radient eV-CXP



- 2 or 4 CXP-6 interfaces
- PoCXP - Power over CoaXPress
- Reliable delivery by way of PCIe 2.0 x8

PRODUCT DESCRIPTION

The Matrox Radient eV-CXP is a cost-effective CoaXPress (CXP) frame grabber with specific models supporting up to two (Dual) or four (Quad) simultaneous connections. By combining a field proven design with the new CXP interface, the Matrox Radient eV-CXP is a dependable high-performance image capture solution for today and into the foreseeable future.

CoaXPress is a new camera interface standard that takes advantage of common coax cabling to transmit images at rates and distances above and beyond previous standards. With CXP, image data can be transmitted at up to 6.25 Gbps using a single coaxial cable and up to 25 Gbps using four cables to a maximum of 40 meters3. CXP's high-bandwidth makes it the right match for a new generation of cameras with larger and faster image sensors.

CXP's full duplex design enables the transmission of camera configuration and control along with image data on the same cable. The Power over CoaXPress (PoCXP) capability further simplifies cabling by providing a camera with up to 13W per cable. This unified cabling facilitates the upgrade of legacy imaging systems from analog to digital.

The Matrox Radient eV-CXP provides two (Dual) or four (Quad) independent CXP connections through BNC connectors. This allows for simultaneous capture from up to two (Dual) or four (Quad) cameras each running at different CXP speeds (i.e., 1.25, 2.5, 3.125, 5.0 or 6.25 Gbps). For high-bandwidth applications, the Radient eV-CXP frame grabber can also capture from a single camera transmitting image data at up to 12.5 Gbps (Dual) or 25 Gbps (Quad) using connection aggregation.

Specifications:

- half-length full-height board
- PCIe® 2.0 x 8 host bus interface
- 1/2/4 GB of DDR3 SDRAM
- CoaXPress (CXP) acquisition
  - JIIA NIF-001-2010 Ver. 1.0 certified
  - two (Dual) or four (Quad) independent CXP connections (up to 6.25 Gbit/s)
    - BNC connector
    - Power over CXP (PoCXP) with Safe Power (up to 13W)
    - Auto connection speed detection
    - LED indicator of connection state
- supports frame and line scan sources
- on-board image reconstruction
- on-board color space conversion
  - input formats
    - 8/16-bit mono/Bayer
    - 24/48-bit packed BGR
  - output formats
    - 8/16-bit mono
    - 24/48-bit packed/planar BGR
    - 16-bit YUV
    - 16-bit YCbCr
    - 32-bit BGRa
- on-board look-up tables (LUTs)

    - 8/10/12 bit support
- on-board Bayer conversion
    - GB, BG, GR and RG pattern support
- on-board peak location for 3D profiling2
    - up to 3 peaks per frame
    - maximum frame height of 512 lines
- Up to four (4) DBHD-15 male GPIO connectors (one (1) on main board through MiniDP adaptor cable and three (3) on separate brackets)
    - three (3) TTL configurable auxiliary I/Os
    - two (2) LVDS auxiliary inputs
    - one (1) LVDS auxiliary output
    - two (2) opto-isolated auxiliary inputs
- support for one (1) quadrature rotary encoder per CXP connection
- MIL License fingerprint and storage