

RCX C-Link



Description

The EDT RCX C-Link is a fiber optic adapter for Camera Link cameras. It is similar to the EDT RCX module, a fiber optic adapter for use with parallel differential cameras.

The EDT RCX C-Link attaches directly to the back of the camera, taking little more room than a Camera Link cable connector. An LC duplex fiber optic cable plugs into the RCX C-Link to allow communication with a PCI DV FOX fiber optic frame grabber board. EDT software drivers provide the same programmer interface to the PCI DV FOX as to the standard PCI DV C-Link board.

Cameras operating in Camera Link medium- or full-mode have two connectors on the back, so two separate RCX C-Link modules are required. Each RCX C-Link communicates with one of the ports of a PCI DV FOX frame grabber. (Full mode with the PCI DV FOX frame grabber is of limited use due to its 200 megabytes per second limitation.)

Two RCX C-Link modules may be used to form a fiber optic extension cord, with one module at the camera and the other module at the frame grabber. A medium- or full-mode extension cord uses additional RCX C-Link pairs.

The block diagrams show some of the ways the RCX C-Link (and PCI DV FOX) can be configured. These are only a few examples; many more combinations are possible.

Features

- Attaches directly to the MDR-26 connector at the back of the camera (no Camera Link cables required)
- Sends data to an EDT PCI DV FOX frame grabber
- Two RCX C-Link modules can be used to form a fiber optic extension cord
- Long range, up to 300 meters standard at 1.25 gigabaud, 10 kilometers with extended range option
- Electrically isolates camera from computer
- Data rates approaching 250 megabytes per second when operating at 2.5 gigabaud; can approach 750 megabytes per second in full-mode configuration

Applications

- Intelligent traffic systems
- Manufacturing/Inspection
- Security
- Remote scientific monitoring
- Medical
- Nuclear
- Multimedia
- Astronomy

Cameras Supported

Virtually all AIA format RS-422 or LVDS cameras that supply line-valid and frame-valid signals and a continuous pixel clock. See www.edt.com/cameras for an up-to-date list of cameras we've tested.

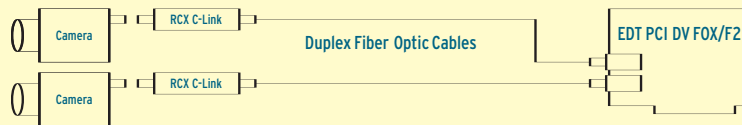
Software

Device Drivers for Solaris 2.7+ (Intel and SPARC platform), Windows NT/XP/2000/-2003, Red Hat Linux 9.0, Red Hat Enterprise v3-v4, SuSE Linux 9.1-10, are included with the board. Mac OS X and VxWorks drivers are also available.

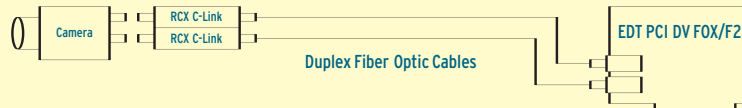
Support

EDT provides engineer-to-engineer customer support, from phone consultation to custom design of hardware, firmware, or software. Technical support is also available through the Technical Information section of our web site.

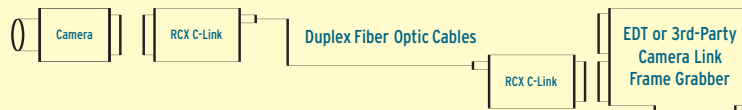
Single or Multiple Base-Mode Camera Link to PCI DV FOX Fiber Optic Frame Grabber



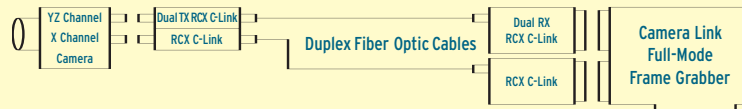
Medium-Mode Camera Link to Fiber Optic Frame Grabber



Base-Mode Camera Link with RCX C-Link Pair Extension Cord



Full-Mode Camera Link to Fiber Optic Frame Grabber



Ordering

Ordering options are listed below. To order, contact our sales department or your distributor. Be sure to specify which cable will be needed (if any).

RCX C-Link

Camera Link mode options: **base**, **medium**, **full**
Options: **extended range**, **extended temperature**
Connector options: **coaxial** or **7-pin Lemo** for auxiliary signaling
Transceiver option: **single-fiber (bidirectional)**

Bold denotes standard

Specifications

| | | |
|--|---|---|
| Compliance | Bit Rate Over Fiber | 1.25 and 2.5 GBaud, field selectable |
| | Maximum Data Bandwidth Over Fiber | Approximately 250 megabytes per second (PCI DV FOX limited to 200 megabytes per second over PCI bus) |
| | Range | 100 meters to 10 kilometers or more. Varies with fiber used, 1.25 vs. 2.5 GBaud selection, number of fiber optic interconnects, which transceiver is stuffed. |
| | Optical Power Budget | Standard 850 nm transceiver minimum launched power is -10 dBm, receiver sensitivity is -15 dBm maximum, so can lose a maximum of 5 dB in the fiber. |
| | Camera Link Pixel Clock Ranges | 20 to 60 MHz, 60 to 80 MHz (field selectable) |
| | Power | 4.75 to 18 V DC, 3 watts max |
| | Fiber Optic Connector Type | LC duplex |
| | Wavelength Used Over Fiber | 850 nm (1300 nm extended range option available) |
| | Laser Safety | Class 1 |
| | Camera Link Connector | 3M MDR-26 plug, entire RCX C-Link module mounts directly to camera |
| Camera Link Mode | Base mode uses one RCX C-Link module at the camera end. Medium- and full-mode require additional modules. | |
| Indicator | One LED, shows the state of the fiber optic link | |
| EU Compliance | CE | Low Voltage Directive 73/23/EEC EMC Directive 2004/108/EC |
| Configuration | May be configured in the field for these modes of operation: Camera pixel clock rate: up to 80 MHz Fiber optic link data rate: 1.25 GBaud or 2.5 GBaud Camera vs. frame grabber end if used as an extension cord | |
| Possible Custom Features | Auxiliary UART port, other custom I/O Other supply voltage ranges Transforms to camera data (e.g., de-interleave, black level adjust) Customer-specified transceivers installed (CWDM or single fiber bidirectional) | |
| Fiber Optic Cables and Transceivers | Not included; 62.5/125 micron MMF for standard 850 nm transceiver is recommended (use 8/125 micron SMF with 1300 nm extended range option). Both use LC duplex transceivers. | |
| Power Supply for RCX C-Link | Dimensions | 2.4" x 4.5" x 1.5" |
| | Weight | 10 oz. |
| | Voltage In | 100-240 V, 50-60 Hz from AC mains |
| | Voltage Out | 5V DC, 1 A |
| | Connector Used on Power Supply Cable | Switchcraft 760 K (option for Latching 7-pin, Lemo FGG.0B.307.CLAD.56 for auxiliary UART port or other signaling) |
| Physical | Dimensions | 1.575" x 0.75" x 2.33" (the LC fiber needs an additional 2.2" beyond the RCX box for a 90° bend) |
| | Weight | 4 oz. |
| Environment | Temperature | Operating: 0° to 40° C Non-operating: -20° to 60° C |
| | Humidity | Operating: 20 to 80% non-condensing at 40° C Non-operating: 95% non-condensing at 40° C |
| System Requirements | Intel, AMD, SPARC, or PowerPC computer with 66 MHz PCI Bus or faster (will run in 33 MHz slot with reduced performance) | |

Contact

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