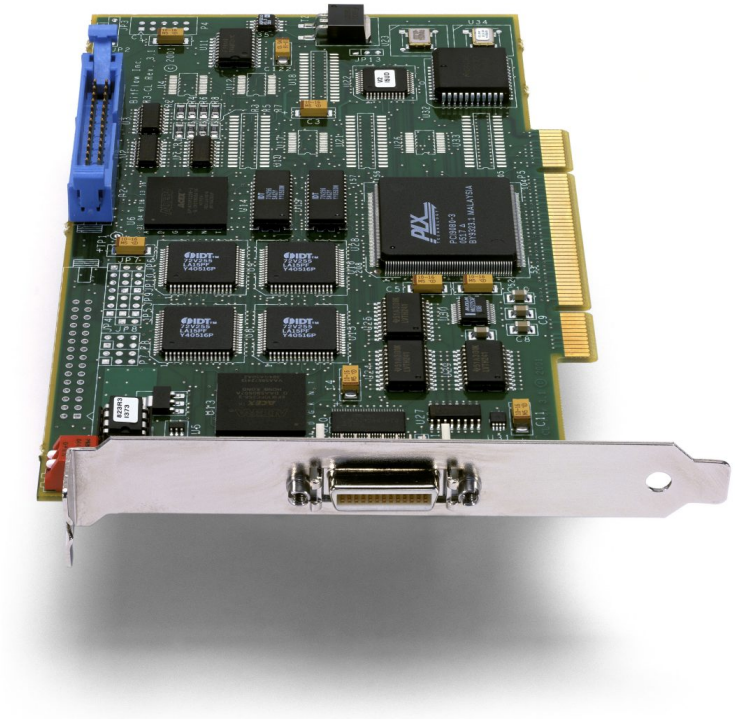
ADVANTECH BitFlow

Frame grabbers for machine vision



**R3-CL**

The R3 frame grabber family has been designed to simplify the task of interfacing with today's Camera Link cameras to a wide array of imaging applications. The R3-CL can acquire from almost every Base CL camera manufactured. Combining the power of a proven, sophisticated acquisition/DMA engine with a flexible camera interface and control architecture, the R3-CL is our most affordable Camera Link interface and is an excellent choice for end-users, system integrators, and OEMs.

The R3-CL is the second generation of BitFlow frame grabbers that uses

our FlowThru technology. The principle here is to do away with the frame buffer that traditional frame grabbers are built around and instead optimize the data path so that the images flow through the board and into the host's memory with no latency and zero CPU usage. The only on-board storage is a FIFO to handle the asynchronous nature of the PCI bus. Finally, the entire system is interrupt based, so modern, multi-threaded, applications need not waste processing resources on controlling acquisition.

## Specifications

- Half-size, 32-bit/33MHz PCI 2.2 compliant card
- Supports both 5 V and 3.3 V PCI slots
- Base Camera Link interface for a single area or line scan camera with 1, 2 or 3 channels of up to 24, 12 or 8 bits per channel respectively
- Flow-Thru architecture featuring a Scatter/Gather DMA engine that supports the direct transfer of data to memory in real-time
- Acquires image sizes up to 512K pixels by 32K lines (vertical size is unlimited for line scan cameras)
- Efficient packing of 24-bit pixels
- On-the-fly reformatting for multi-channel cameras
- 11 user-programmable I/O signals (4 in/7 out)
- MDR Camera Link connector
- Up to 50MHz acquisition
- Optional 16-bit in/16-bit out LUT
- Serial port communications
- Version 1.1 compliant serial DLL
- Drivers and DLLs for Windows NT, 2000, XP and Server 2003
- Supported by BitFlow SDK 3.00 or higher