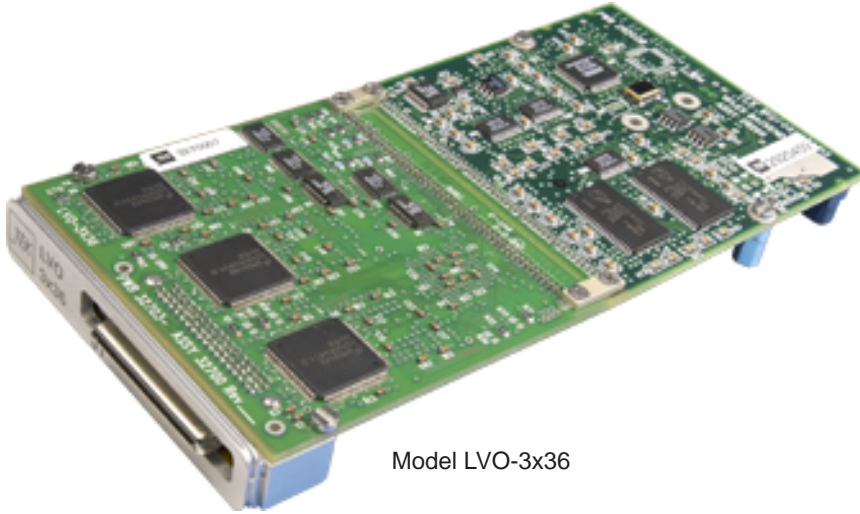


Channel Link I/O Modules

## LVO-2x28 and LVO-3x36



Model LVO-3x36

Tekmicro's family of LVDS Channel Link modules – the LVO-2x28 and LVO-3x36 – are recommended when high speed parallel data transfer between two systems without the burden of traditional parallel cabling is required.

These PMCs use the National Semiconductor Channel Link family of LVDS transmitters to implement an EIA-644 interface between two systems. The LVO-2x28 implements two DS90CR285 28-bit interfaces and supports burst data rates up to 1.848 Gbps per 28-bit channel. The LVO-3x36 implements three DS90CR483 48-bit (36 bits utilized) interfaces for burst data rates up to 4.032 Gbps.

The LVO-2x28 and LVO-3x36 modules maximize data throughput while minimizing cabling. The LVO-2x28 and LVO-3x36 connect to the LVI-2x28 and LVI-3x36 modules respectively and provide quick and efficient system to system links.

As with almost all Tekmicro I/O modules, the LVO and LVI modules are designed using Tekmicro's unique Back-End/Front-End architecture, as described in the I/O Modules data sheet. The LVO-3x36 and LVO-2x28 are available with either the 32-bit Back-End or the faster 64-bit Back-End, which supports sustained data rates up to 267 MB/s. The LVO is often used in applications that require extremely fast transfer of data in real-time such as silicon wafer inspection, mine detection and seismic research.

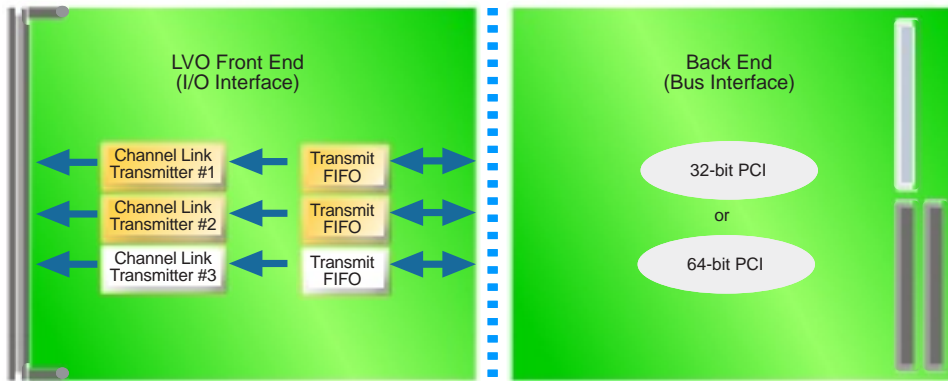
Tekmicro's Channel Link PMCs are fully compatible with the current generation of PMC-enabled VMEbus Single Board Computers. Tekmicro also offers turnkey solutions for RACEway and Channel Link PMC users on its own PowerRACE and JazzStream I/O Controller and Processor Cards. Details of supported configurations can be found at [www.tekmicro.com](http://www.tekmicro.com) on the Host Support datasheet.

## Integration Examples

Camera interface

CCD sensor interface

# LVO



## I/O Connectors\*:

LVO-2x28:  
 J1: 9 pin Micro D  
 J2: 68 pin Ultra+VHDCI

LVO-3x36:  
 J1: 68 pin Ultra+VHDCI

\* Pinout varies by product configuration. See user manual for details.

## Specifications:

### Front End:

I/O Interface	LVO-2x28: Two channels, 5 signal pairs each LVO-3x36: Three channels, 7 signal pairs each
Burst Data Rate	LVO-2x28: Up to 1.848 Gbps per 28-bit channel LVO-3x36: Up to 4.032 Gbps per 36-bit channel

### Back End:

Bus Interface	32-bit, 33MHz PCI 2.1 (standard) 64-bit, 33MHz PCI 2.1 (special order)
Burst Rate Over Bus	231 MB/s (LVO-2x28) 297 MB/s (LVO-3x36)
Sustained Throughput (max)	250 MB/s (all models)
Memory Capacity	1 MB (256K x 32) for 32-bit back end 512 KB (128K x 32 dual port) for 64-bit back end
Interrupt Support	Programmable through FPGA
DMA Support	Two integrated linked-list DMA controllers

### General:

Mechanical	Single-wide PMC module
Power Requirements	+5 Volts, 1000 mA
Operating Temperature	0° to +55°C (Commercial) -40° to +70°C (Rugged Level 2)
Storage Temperature	-40° to +85°C (Commercial) -55° to +85°C (Rugged Level 2)
Ruggedization	Available commercial grade and Rugged Level 2. See Tekmicro Ruggedization Data Sheet for definition of environmental performance specifications.
Warranty	One year limited hardware warranty Ninety day limited software warranty

## Features

Fully compliant with PCI 2.1 specification

Interoperable with supported hosts. Drop-in integration with RACEway and MC/OS using Tekmicro's PowerRACE carrier card.

2x28 and 3x36 input versions available

Compatible with data sources using the National DS90CR286 or DS90CR484 transmitter

Onboard clock synthesizers

Supports exact generation of arbitrary clock frequencies to match interface requirements

Memory buffer

Allows zero wait state DMA block transfers; supports custom applications which require lookup or temporary memory

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