# PCI-8132

## Entry-level 2-axis Stepper & Servo Motion Control Card with 32-CH GPIO

ADLINK
GREEN
RoHS Compliant

Line | T-Curve | S-Curve | Pulser | TRO | Servo Interface | Speed Override

DI/O | Mechanism Interface

## Features

- **32-bit PCI bus, Rev2.2, 33 MHz**
- **Pulse output rate up to 2.4 MHz**
- **Pulse output options: OUT/DIR, CW/CCW**
- **Encoder input frequency up to 2.4 MHz under 4 x AB mode**
- **2 axes linear interpolation**
- **Programmable acceleration and deceleration time**
- **Trapezoidal and S-curve velocity profiles**
- **Easy interface to any stepping motors, AC or DC servo, linear or rotary motors which have pulse train input mode**
- **28-bit up/down counter for incremental encoder**
- **All digital inputs and outputs are 2500 VRMS isolated**
- **Change speed override**
- **Multi-axis, simultaneous start/stop**
- **Dedicated I/O interface for PEL, MEL, ORG, EZ, INP, ERC, ALM**
- **Programmable interrupt sources**
- **Manual pulser input interface**
- **Supports up to 12 cards in one system**
- **Hardware position compare and trigger pulse output**
- **16-CH general purpose input/16-CH general purpose output**
- **3 home return modes**
- **More than 100 thread safe API functions**

## Software Support

### Windows® Platform
- Available for Windows Vista (32-bit)/XP/2000
- Recommended programming environments: VB/VC++/BCB/Delphi
- Various sample programs with source codes
- Customized API functions

### LabVIEW® VIs
- Motion VIs of the PCI-8132 for LabVIEW are available.

### Linux Platform
- Redhat 9, kernel 2.4.x
- Fedora Core 3, kernel 2.6.9
- Fedora Core 4, kernel 2.6.11
- Fedora Core 5, kernel 2.6.15

### MotionCreatorPro™
MotionCreatorPro™ assists motion system developers in debugging any cabling problems and resolving complex system configuration before programming.

## Specifications

| Pulse Type Motion Control | |
|---|---|
| Number of Axes | 2 |
| Pulse Output Rate | 0.03 pps to 2.4 Mpps programmable |
| Pulse Command Output | DIR/OUT, CW/CCW |
| Max. Acceleration Rate | 91 Mpps$^2$ |
| Speed Resolution | 16-bit |
| Encoder Input Rate | 2.4 MHz @ 3 M cable |
| Encoder Counter Resolution | 28-bit |
| Positioning Range | -134,217,728 to +134,217,727 pulses (28-bit) |
| Max. Number of Cards in One System | 12 |
| **Motion Interface I/O Signals** | |
| Position Latch Input Pin | LTC (1 kHz for continous triggering) |
| I/O Pin | Differential and 2500 VRMS optically isolated |
| Incremental Encoder Signals Input Pin | DIR/OUT, EA/EB |
| Encoder Index Signal Input | EZ |
| Mechanical Limit Switch Signal Input Pin | ±EL, ±SD, and ORG |
| Servomotor Interface I/O Pin | INP, ALM, ERC |
| General DO Pin | SVON |
| General DI Pin | RDY |
| Pulser Signal Input | PA and PB |
| Simultaneous Start/Stop Signal I/O Pin | STA and STP |
| **General-purpose I/O** | |
| 16-CH input & 16-CH output | |

## Ordering Information

**PCI-8132**
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## Accessories

See section 14 for more information on Accessories.

### Terminal Boards

**DIN-812M0**
Terminal board for Mitsubishi MR-J2S-A servo amplifier

**DIN-100S-01**
Terminal board with one 100-pin SCSI-II connector and DIN-rail mounting

### Cabling

**ACL-102100-1**
100-pin SCSI-II cable
(mating with AMP-787082-9), 1 M

## Pin Assignment

### PCI-8132 Pin Assignment of the 100-pin SCSI-type Connector

| Signal | # | # | Signal |
|---|---|---|---|
| VPP+5V | 1 | 51 | DO COM+ |
| EXGND | 2 | 52 | EXGND |
| OUT1+ | 3 | 53 | DO0 |
| OUT1- | 4 | 54 | DO1 |
| DIR1+ | 5 | 55 | DO2 |
| DIR1- | 6 | 56 | DO3 |
| SVON1 | 7 | 57 | DO4 |
| ERC1 | 8 | 58 | DO5 |
| ALM1 | 9 | 59 | DO6 |
| INP1 | 10 | 60 | DO7 |
| RDY1 | 11 | 61 | DO8 |
| EXGND | 12 | 62 | DO9 |
| EA1+ | 13 | 63 | DO10 |
| EA1- | 14 | 64 | DO11 |
| EB1+ | 15 | 65 | DO12 |
| EB1- | 16 | 66 | DO13 |
| EZ1+ | 17 | 67 | DO14 |
| EZ1- | 18 | 68 | DO15 |
| VPP+5V | 19 | 69 | EXGND |
| EXGND | 20 | 70 | EXGND |
| OUT2+ | 21 | 71 | DI COM+ |
| OUT2- | 22 | 72 | DI COM- |
| DIR2+ | 23 | 73 | DI0 |
| DIR2- | 24 | 74 | DI1 |
| SVON2 | 25 | 75 | DI2 |
| ERC2 | 26 | 76 | DI3 |
| ALM2 | 27 | 77 | DI4 |
| INP2 | 28 | 78 | DI5 |
| RDY2 | 29 | 79 | DI6 |
| EXGND | 30 | 80 | DI7 |
| EA2+ | 31 | 81 | DI8 |
| EA2- | 32 | 82 | DI9 |
| EB2+ | 33 | 83 | DI10 |
| EB2- | 34 | 84 | DI11 |
| EZ2+ | 35 | 85 | DI12 |
| EZ2- | 36 | 86 | DI13 |
| PEL1 | 37 | 87 | DI14 |
| MEL1 | 38 | 88 | DI15 |
| PSD1 | 39 | 89 | EXGND |
| MSD1 | 40 | 90 | EXGND |
| ORG1 | 41 | 91 | PA+ |
| EXGND | 42 | 92 | PA- |
| PEL2 | 43 | 93 | PB+ |
| MEL2 | 44 | 94 | PB- |
| PSD2 | 45 | 95 | EXGND |
| MSD2 | 46 | 96 | CMP1 |
| ORG2 | 47 | 97 | CMP2 |
| EXGND | 48 | 98 | EXGND |
| EXGND | 49 | 99 | VPP+24V |
| EXGND | 50 | 100 | VPP+24V |