

Embedded Computing & I/O Solutions

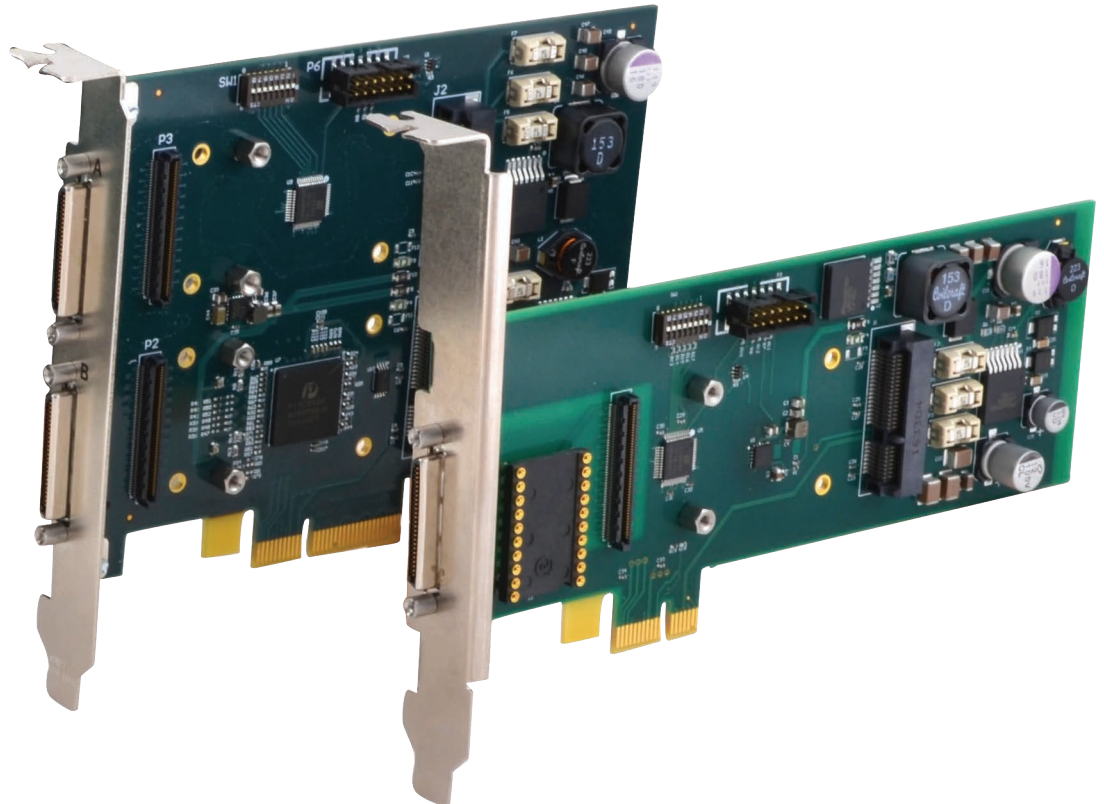
PCIe Products Catalog

AcroPack®

Industry Pack

PMC

XMC



**Non-intelligent Carrier Cards for XMC,
PMC Industry Pack and AcroPacks**

Depend on Acromag



Experience counts – especially when engineering the right embedded solution. And with more than 60 years experience, Acromag can help you reduce your costs and increase your productivity.



Acromag: The I/O Leader

Acromag is focused on developing embedded computing solutions that provide the best long term value in the industry. Compare and you will find that Acromag offers an unmatched balance of price, performance, and features.

60+ Years of I/O Experience

With over 60 years of industrial I/O design experience, Acromag stands alone in the high-performance bus-board market. Developing VMEbus I/O boards since 1984, we combine our process control expertise with extensive experience in embedded computing. This background gives us unrivaled insight to many unique concerns when interfacing computer systems to various sensors and controllers in a wide range of applications.

Acromag processor, FPGA, and I/O products are commonly used in these industries:

- military/defense
- aerospace
- transportation
- manufacturing
- semiconductors
- scientific
- communication
- research labs

Quality You Can Count On

We take every measure to guarantee dependable operation with ISO9001 and AS9100 certified quality management. State-of-the-art manufacturing with industrial-grade components adds extra ruggedness. Advanced inspection and testing further ensure that Acromag I/O performs at or beyond their rated specs.

Technical Support

Drawing on a wealth of embedded I/O experience, our sales engineers are well qualified to support you in the use of our products in your end-applications. We take pride in our highly experienced staff that excels at after-sale technical support.

Global Representation

Great care has been put into building a team of highly skilled representatives and distributors. They are located around the world to service your needs.

Online Ordering

Find full documentation and pricing information online. You can get quotes and even order directly on our website.



ISO9001
AS9100



Experience
Reliability
Extended Temperature
Extended Life Cycle



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Acromag, Incorporated ■ 30765 South Wixom Road ■ Wixom, Michigan 48393 ■ USA

AcPC424 Digital I/O (Differential & TTL) and Counter/Timers

The AcPC424 provides 24 differential input/outputs, 16 TTL input/output channels, and four 16-bit multi-function counter/timers.

The 16 TTL input/output channels can be programmed as inputs or as outputs on an individual channel basis. The 24 differential input/output channels are programmed as inputs or outputs on an 4-channel port basis. All input channels can be enabled for change of state, low, or high level transition interrupts.

Four 16-bit multifunction counters/timers can be configured for pulse width modulated output, watchdog timer, event counter, frequency measurement, pulse width measurement, period measurement, or one shot pulse output. The four 16-bit counters can also be configured into two 32-bit counter/timers.

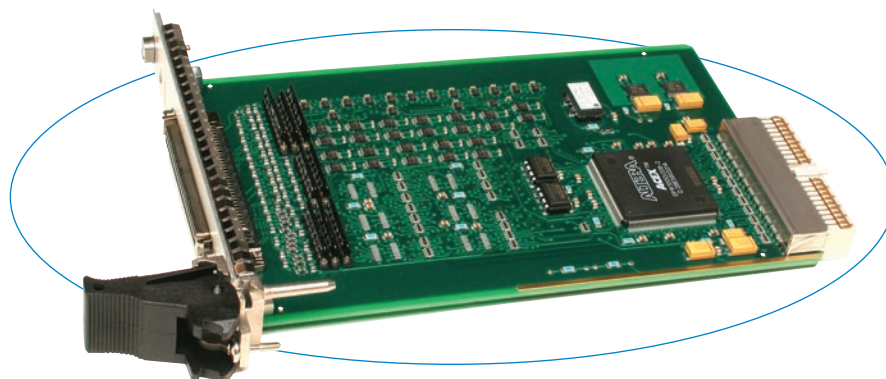
Features

Digital I/O

- 40 digital input/output channels:
 - 24 differential input/outputs
 - 16 TTL input/output channels
- Programmable change of state/level interrupts
- Input signal filtering debounce logic

Counter/Timer

- Four 16-bit or two 32-bit counter/timer channels (control lines shared with 16 TTL I/O channels)
- Six operating modes:
 - Pulse width modulation
 - Watchdog timer
 - Event counter
 - Frequency measurement
 - Pulse width or period measurement
 - One-shot and repetitive one-shot
- TTL-compatible thresholds
- Power-up and system reset are failsafe



This module saves money and CompactPCI slots by combining differential I/O, TTL I/O, and counter/timer functions on one card.

Specifications

Differential Digital I/O

I/O channel configuration: 24 bidirectional differential signals. Direction is controlled as a 4-channel group.

Differential driver output voltage with 50 ohm load: 2V minimum, 5V maximum.

Common mode output voltage: 3V maximum:

Minimum input resistance: 12K ohms.

Termination resistors: 120 ohm termination resistor networks are installed in sockets.

TTL Digital I/O

I/O channel configuration: 16 bidirectional TTL transceivers with direction controlled independently (shared as counter/timer control signals).

Reset/power-up condition: All channels default to input.

Digital Input

Input voltage range: 0 to 5V DC.

Input signal threshold, low to high: 3.5V typical.

Input signal threshold, high to low: 1.5V typical.

Digital Output

Output voltage range: 0 to 5V DC.

Output ON current range: -32 to 32mA.

Output pullups: 4.7K ohm socketed resistors.

Input Interrupts

40 channels of interrupts are available for high-to-low, low-to-high, or any change-of-state event type.

Debounce: Selectable for each channel. User-selectable (5.6μS, 50.4μS, 408.8μS, or 3.276mS).

Counter/Timers

Counter/timer configuration: Four 16-bit counters can be configured into two 32-bit counters.

Counter input: Each counter has an IN_A , IN_B , and IN_C port. These TTL input signals control start/stop, reload, event input, external clock, trigger, and up/down operations.

Counter output: Each counter has one output signal. The TTL output is used for waveform output, watchdog active indicator, or 1.6μS pulse upon counter function completion. Programmable as active high or low.

Counter clock frequencies: Selectable for 20MHz, 10MHz, 5MHz, 2.5MHz, 1.25MHz or external up to 8MHz.

Minimum I/P event: 100nS (debounce disabled).

Minimum pulse measurement: 100nS (debounce disabled).

Minimum period measurement: 200nS (debounce disabled).

Minimum gate/trigger pulse: 100nS (debounce disabled).

CompactPCI bus Compliance

Meets PCI spec. V2.2 and PICMG 2.0, R3.0.

Data transfer bus: Slave with 32-bit, 16-bit, and 8-bit data transfer operation.

Interrupts (INTA#): Interrupts requested on Interrupt A.

Plug-and-Play: The system maps the base address into the PCI bus 32-bit memory space.

Environmental

Operating temperature: 0 to 70°C (AcPC424) or -40 to 85°C (AcPC424E)

Storage temperature: -55 to 125°C.

Relative humidity: 5 to 95% non-condensing.

MTBF: Consult factory.

Power: 216mA at +5V, typical.

Ordering Information

CompactPCI Boards

AcPC424: Digital I/O and counter/timer module

AcPC424E*: Same as AcPC424 plus extended temp. range

*Consult factory for long-term availability.

Software

PMCSW-API-VXW: VxWorks® software support pkg.

PCISW-API-WIN32: 32-bit Windows® DLL Driver software package

PCISW-API-WIN64: 64-bit Windows® DLL Driver software package

PCISW-API-LNX: Linux™ support (website download only)

Accessories

5025-288: Termination panel, SCSI-3 connector, 68 screw terminals

5028-432: Cable, shielded, SCSI-3 connector both ends
[Visit web page for more information](#)

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AcPC464 Digital I/O and Counter/Timers

The AcPC464 module provides 64 digital input/output channels and four 16-bit multifunction counter/timers.

All 64 I/O channels, when set as inputs, support configuration for interrupts on either a change-of-state or on a high-to-low or low-to-high transition. A debounce timer is selectable to help filter out false transitions.

Four 16-bit multifunction counters/timers are configurable for pulse width modulated output, watchdog timer, event counter, frequency measurement, pulse width measurement, period measurement, or one shot pulse output. The four 16-bit counters can also be configured into two 32-bit counter/timers.

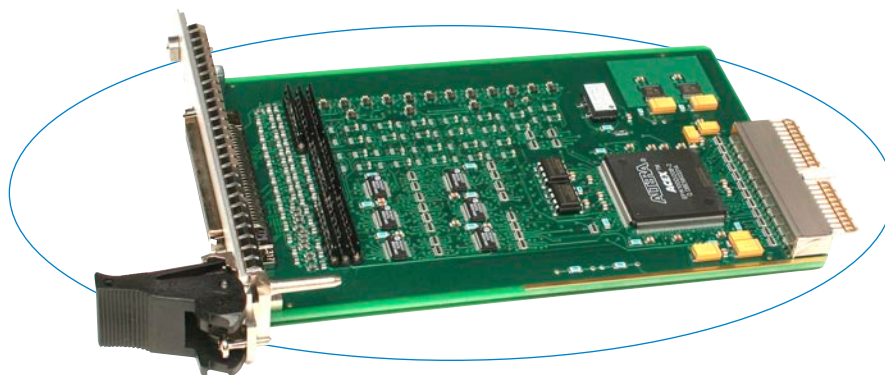
Features

Digital I/O

- 64 digital input/output channels:
 - 16 individually programmable channels
 - 48 channels configured on an 8-bit port basis
- Programmable change of state/level interrupts
- Input signal filtering debounce logic

Counter/Timer

- Four 16-bit or two 32-bit counter/timer channels (control lines shared with 16 TTL I/O channels)
- Six operating modes:
 - Pulse width modulation
 - Watchdog timer
 - Event counter
 - Frequency measurement
 - Pulse width or period measurement
 - One-shot and repetitive one-shot
- TTL-compatible thresholds
- Power-up and system reset is failsafe



This module saves money and CompactPCI slots by combining digital I/O and counter/timer functions on a single card.

Specifications

Digital I/O

I/O channel configuration:

64 bidirectional TTL transceivers.

Channels 0-47: Direction controlled on a port basis.

Channels 48-63: Direction controlled independently (shared as counter/timer control signals).

Reset/power-up condition: All channels default to input.

Digital Input

Input voltage range: 0 to 5V DC.

Input signal threshold (channels 0-47):

Low to high: 2.0V typical.

High to low: 0.8V typical.

Input signal threshold (channels 48-63):

Low to high: 3.5V typical.

High to low: 1.5V typical.

Interrupts: 64 channels of interrupts for high-to-low, low-to-high, or any change-of-state event types.

Debounce: Selectable for each channel. User-selectable (5.6μs, 50.4μs, 408.8μs, or 3.276ms).

Digital Output

Output voltage range: 0 to 5V DC.

Output ON current range (channels 0-47): -15 to 64mA.

Output ON current range (channels 48-63): -32 to 32mA.

Output pullups: 4.7K ohm socketed resistors.

Counter/Timers

Counter/timer configuration: Four 16-bit counters can be configured into two 32-bit counters.

Functions: Pulse width modulation, watchdog timer, event counting, frequency measurement, period measurement, pulse width measurement, and one-shot/repetitive.

Counter input: Each counter has an IN_A , IN_B , and IN_C port. These TTL input signals control start/stop, reload, event input, external clock, trigger, and up/down operations.

Counter output: Each counter has one output signal. The TTL output is used for waveform output, watchdog active indicator, or 1.6μs pulse upon counter function completion. Programmable as active high or low.

Counter clock frequencies: Selectable for 20MHz, 10MHz, 5MHz, 2.5MHz, 1.25MHz or external up to 8MHz.

Minimum I/P event: 100ns (debounce disabled).

Minimum pulse measurement: 100ns (debounce disabled).

Minimum period measurement: 200ns (debounce disabled).

Minimum gate/trigger pulse: 100ns (debounce disabled).

CompactPCI bus Compliance

Meets PCI spec. V2.2 and PICMG 2.0, R3.0.

Data transfer bus: Slave with 32-bit, 16-bit, and 8-bit data transfer operation.

Interrupts (INTA#): Interrupts requested on Interrupt A.

Plug-and-Play: The system maps the base address into the PCI bus 32-bit memory space.

Environmental

Operating temperature: 0 to 70°C (AcPC464) or -40 to 85°C (AcPC464E)

Storage temperature: -55 to 125°C.

Relative humidity: 5 to 95% non-condensing.

MTBF: Consult factory.

Power: 160mA at +5V, typical.

Ordering Information

CompactPCI Boards

AcPC464: Digital I/O and counter/timer module

AcPC464E*: Same as AcPC464 plus extended temp. range

* Consult factory for long-term availability.

Software

PMCSW-API-VXW: VxWorks® software support package

PCISW-API-WIN32: 32-bit Windows® DLL Driver software package

PCISW-API-WIN64: 64-bit Windows® DLL Driver software package

PCISW-API-LNX: Linux® support (website download only)

Accessories

5025-288: Termination panel, SCSI-3 connector, 68 screw terminals

5028-432: Cable, shielded, SCSI-3 connector both ends

[Visit web page for more information](#)

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AcPC48x Counter/Timer with Quadrature

- AcPC482: Ten 16-bit counters – TTL
- AcPC483: Four 16-bit counters – TTL, and Four 32-bit counters – RS422
- AcPC484: Six 32-bit counters – RS422

Several models with a variety of configurations provide up to ten counter/timer channels for counting events, generating waveform control signals, measuring pulse-widths, periodic rates, or quadrature position and monitoring operations.

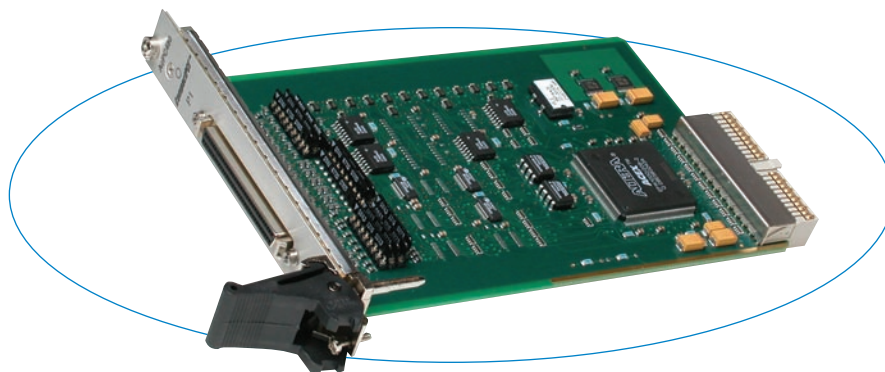
Support for internal or external triggering simplifies the synchronization of operations to specific events. Counter functions can use internally generated clocks or an externally supplied clock.

Features

- Ten 16-bit counter/timers (AcPC482 only) or six 32-bit counter/timers (AcPC484 only)
- Two 16-bit counters can be combined to create one 32-bit counter
- Available with both TTL and RS422 driver interface (AcPC483 only)
- 16 bi-directional digital I/O
- 20MHz clock time base
- Counter/timer functions:
 - Quadrature position measurement
 - Pulse width modulation
 - Watchdog timer
 - Event counting
 - Frequency measurement
 - Period/pulse-width measurement
 - One-shot/repetitive
- Extended temperature option (-40 to 85°C)

Benefits

- Most configuration is handled by a single register which minimizes programming.
- Pullups are socketed for easy adjustment.



These modules are very flexible and available in several varieties to accommodate a broad range of counter/timer applications.

Specifications

Counter/Timers

Counter/timer configuration:

- AcPC482: Ten 16-bit counters – TTL
- AcPC483: Four 16-bit counters – TTL
Four 32-bit counters – RS422
- AcPC484: Six 32-bit counters – RS422
- Other I/O mixes can be made available as specials.

Clock frequency: 20MHz.

Field I/O: Front panel SCSI-3 connector.

Speed (with 20MHz internal clock):

- Maximum output pulse/square wave freq.: 200nS.
- Minimum event pulse width: 100nS.
- Minimum pulse width measurement: 100nS.
- Minimum period measurement: 200nS.

Mode accuracy (with external clocking):

- Waveform generation: Period is ± 125 nS.
- Watchdog: Timeout occurs within ± 1 clock cycle.
- Pulse/period measurement: ± 1 clock cycle.

Internal clocks: Programmable 1.25, 2.5, 5, 10 or 20MHz via the counter control register.

External clocks: Supported on a per-counter basis via clock line. Maximum frequency 8MHz.

Interrupts: Supported for watchdog timer time-out, event count complete, pulse width or periodic rate measurement complete, pulse wave complete (one-shot mode), successive waveform generation (continuous).

Triggering/gate: Programmable via register write or external trigger. Minimum pulse width 100nS. Line may be used for gating of counter.

Counter trigger: Interface for triggering counter functions. Input level is TTL or RS422 differential digital.

Counter input: Interface for events and pulse/period measurements. Also triggers load of watchdog timer register. Level is TTL or RS422 differential digital.

TTL compatibility: $V_{IH} = 2.0$ V and $V_{IL} = 0.8$ V. Inputs are buffered and include 4.7K ohm pull-ups to +5V.

Counter output: Level is TTL or RS422 differential digital.

Digital I/O

I/O channel configuration:

- 16 bi-directional TTL transceivers.
- Direction controlled as 16 independent channels.

CompactPCI bus Compliance

Meets PCI spec. V2.2 and PICMG 2.0, R3.0.

Data transfer bus: Slave with 32-bit, 16-bit, and 8-bit data transfer operation.

Interrupts (INTA#): Interrupt A is used to request an interrupt.

Plug-and-Play: The system maps the base address into the PCI bus 32-bit memory space.

Environmental

Operating temperature:

0 to 70°C or -40 to 85°C (E versions)

Storage temperature: -55 to 125°C.

Relative humidity: 5 to 95% non-condensing.

Power: 320mA at +5V, typical.

MTBF: Hours at 25°C, MIL-HDBK-217F, notice 2

AcPC482 1,744,259; AcPC483 1,727,707;

AcPC484 1,708,729

Ordering Information

CompactPCI Boards

AcPC482: Ten 16-bit counters – TTL

AcPC482E: AcPC482 with extended temperature range

AcPC483: Four 16-bit counters – TTL,
Four 32-bit counters – RS422

AcPC483E: AcPC483 with extended temperature range

AcPC484: Six 32-bit counters – RS422

AcPC484E: AcPC484 with extended temperature range

Software

PMCSW-API-VXW: VxWorks® software support package

PCISW-API-WIN32: 32-bit Windows® DLL Driver
software package

PCISW-API-WIN64: 64-bit Windows® DLL Driver
software package

PCISW-API-LNX: Linux™ support (website download only)

Accessories

5025-288: Termination panel, SCSI-3 connector,
68 screw terminals

5028-432: Cable, shielded, SCSI-3 connector both ends

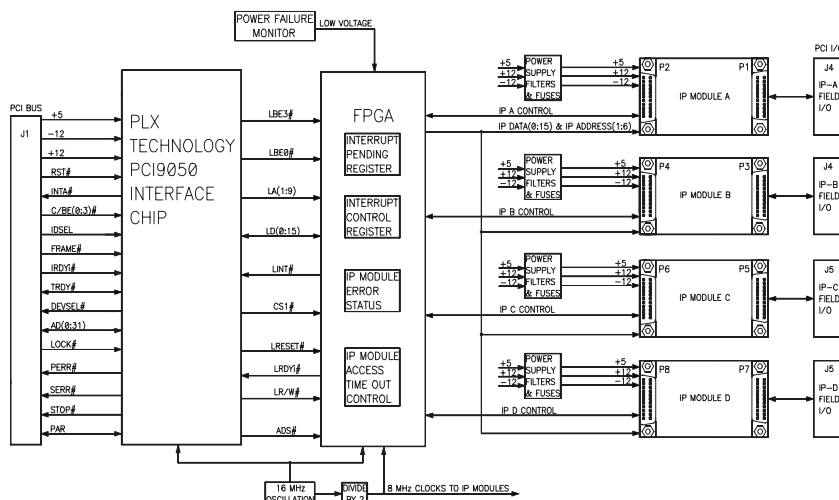
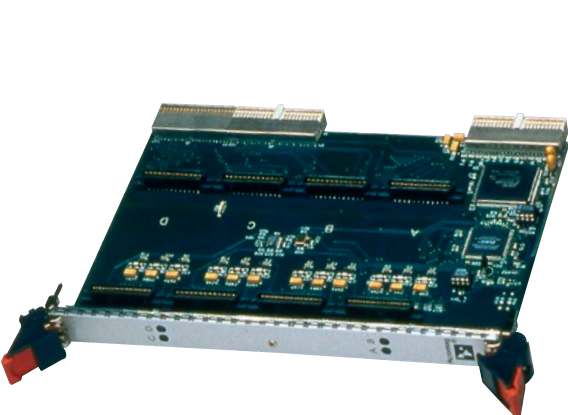
[Visit web page for more information](#)

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Industry Pack Carrier Cards

AcPC8625A CompactPCI Carrier Cards for Industry Pack Modules

24 HOUR STOCK ITEM
2 YEAR WARRANTY



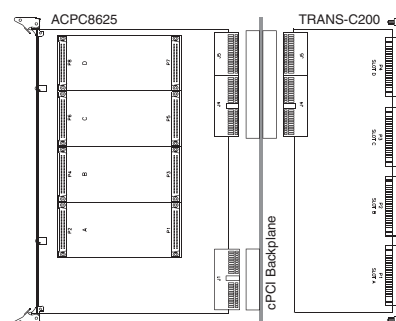
Four Industry Pack mezzanine module slots ♦ Non-Intelligent carrier card ♦ CompactPCI bus interface

Description

The AcPC8625A is a non-intelligent slave board that interfaces four IP modules to the CompactPCI (cPCI) bus. All 200 I/O points are brought out the rear J4 and J5 connectors. This convenience eliminates messy cables from hanging out the front of the cage. In addition to a more efficient cage wiring design, it is also much easier to insert and replace boards. And with Acromag's 80mm transition module (TRANS-C200), all 200 I/O points are easily ported out the back of the cage.

Key Features & Benefits

- Four industry-standard IP module slots
- Board resides in memory space
- Supports 8 and 32MHz operation
- Supports IP module I/O, ID, INT, and MEM spaces
- 200 I/O points with rear access
- High-density rear connectors
- Compatible with all CompactPCI CPUs
- Plug-and-play carrier configuration and interrupt support
- Two interrupts per IP module
- Front panel LEDs
- Supervisory circuit for reset generation
- Individually filtered and fused power to each IP
- Ruggedized with ESD strip and EMC front panel
- Easily integrate IPs with your software using RTOS VxWorks, Linux, or Win DLL for Windows® 2000/XP/Vista/7 32-bit systems.
- Clean system cabling.
- Easy board replacement.
- Simplified debugging with status LEDs.



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Tel 248-295-0310 ■ Fax 248-624-9234 ■ solutions@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA

Industry Pack Carrier Cards

AcPC8625A CompactPCI Carrier Cards for Industry Pack Modules

Performance Specifications

■ General

Acromag's carrier boards provide full data access to the IP module's I/O, ID, interrupt spaces, and memory. With full access to the programmable registers, you can easily configure and control the operation of the IP modules from the CompactPCI bus.

Up to two interrupt requests are supported for each IP module. All board interrupts are mapped to PCI bus INTA# signal.

Individual passive filters on each IP power supply line provide optimum filtering and noise isolation between the IP modules and the carrier board.

IP Compliance (ANSI/VITA 4)

Meets IP specs per ANSI/VITA 4-1995 (8MHz and 32MHz) and IP I/O mapping to PICMG 2.4 R1.0.

Electrical/mechanical interface

Supports single or double size IP modules.

32-bit IP modules are not supported.

IP Module I/O space, ID space, INT space, and MEM space supported.

Interrupts

Supports two interrupt requests per IP module and interrupt acknowledge cycles via access to IP INT space.

CompactPCI bus Compliance

Meets PCI spec. V2.1 and PICMG 2.0, R2.1.

Data transfer bus

Slave with 32-bit, 16-bit, and 8-bit data transfer operation 32-bit read/write accesses are implemented as two 16-bit transfers to the IPs.

Interrupts

CompactPCI bus INTA# interrupt signal. Up to two requests sourced from each IP mapped to INTA#. Interrupt vectors come from IP modules via access to IP module INT space.

Plug-and-Play

The system maps the base address into the PCI bus 32-bit memory space.

■ Power Requirements

Power

+3.3V (±5%): 300mA maximum.

+5V (±5%): 30mA maximum.

±12V (±5%): 0mA (not used).

Plus IP module load.

MTBF

Contact factory

■ Environmental

Operating temperature

-25 to 85°C (AcPC8625)

or -40 to 85°C (AcPC8625E models).

Storage temperature

-25 to 85°C (AcPC8625)

or -40 to 85°C (AcPC8625E models).

Relative humidity

5 to 95% non-condensing.

Ordering Information

Carrier Cards

AcPC8625A

CompactPCI carrier. Holds four IP modules.

AcPC8625AE

Same as AcPC8625A plus extended temp. range.

Accessories

5028-438

Cable, SCSI-2 to SCSI-2, shielded.

5028-378

Termination panel, SCSI-2 connector, 50 screw terminals.

TRANS-C200

Transition module

See www.acromag.com for more information.

Software Development Tools

IPSW-API-VXW

VxWorks® software support package

IPSW-API-WIN32

32-bit Windows® DDL driver and demo software

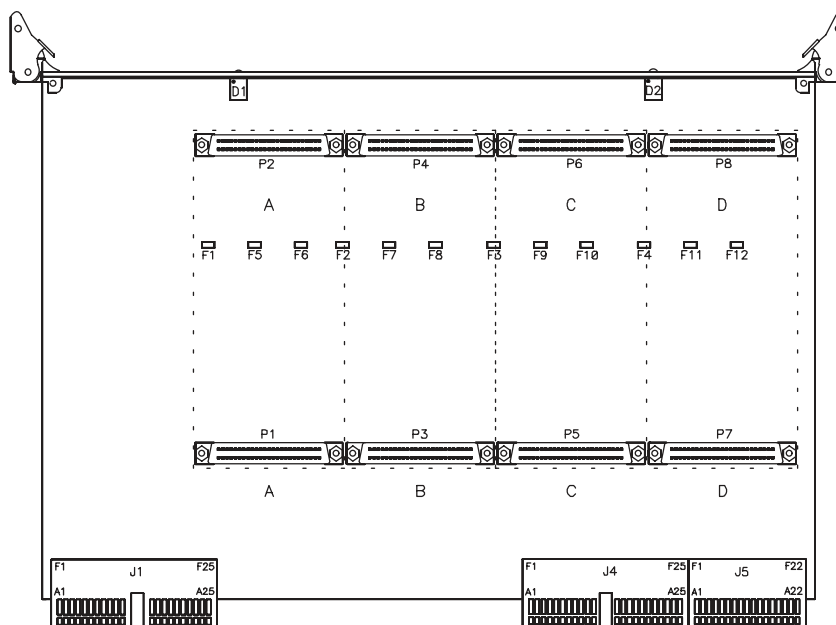
IPSW-API-WIN64

64-bit Windows® DDL driver and demo software

IPSW-API-LINUX

Linux™ support (website download only)

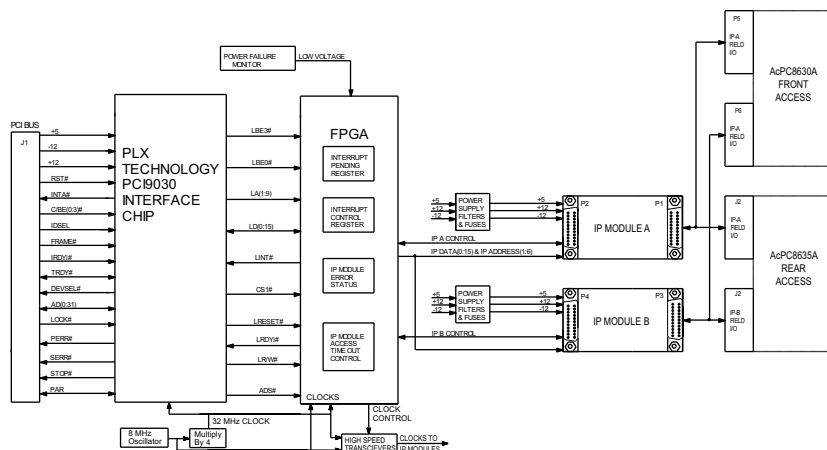
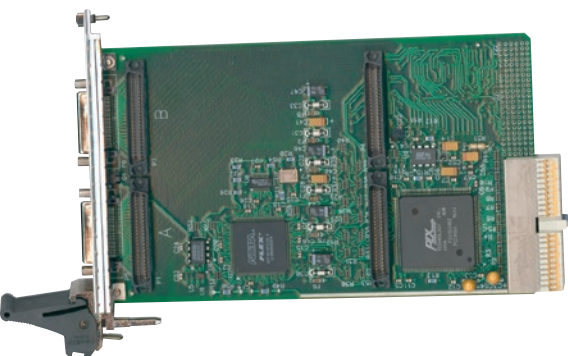
See www.acromag.com for more information.



Industry Pack Carrier Cards

AcPC8630A CompactPCI Carrier Cards for Industry Pack Modules

24 HOUR STOCK ITEM
2 YEAR WARRANTY



Two Industry Pack mezzanine module slots ♦ Non-Intelligent carrier card ♦ CompactPCI bus interface

Description

The AcPC8630A is a non-intelligent slave board that interfaces two IP modules to the CompactPCI® (cPCI) bus. All 100 I/O points are brought out the front connectors for easy cable access.

Key Features & Benefits

- Two industry-standard IP module slots
- Board resides in memory space
- Supports 8 and 32MHz operation
- Supports IP module I/O, ID, INT, and MEM spaces
- 100 I/O points with front access
- High-density front connectors
- Compatible with all CompactPCI CPUs
- Compatible with 32-bit and 64-bit CompactPCI® and PXI™ backplane
- Plug-and-play carrier configuration and interrupt support
- Two interrupt channels per IP module
- Front panel LEDs
- Supervisory circuit for reset generation
- Individually filtered and fused power to each IP
- Ruggedized with ESD strip and EMC front panel
- Easily integrate IPs with your software using RTOS VxWorks, Linux, or Win DLL for Windows® 2000/XP/Vista/7 32-bit systems.

- Easy access to I/O cables.
- Quick development of custom I/O boards.
- Flexibility to mix and match I/O functions as requirements change.

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Industry Pack Carrier Cards

AcPC8630A CompactPCI Carrier Cards for Industry Pack Modules

Performance Specifications

■ General

Acromag's carrier boards provide full data access to the IP module's I/O, ID, interrupt and memory spaces. With full access to the IP module's programmable registers, you can easily configure and control their operation from the CompactPCI bus.

Up to two interrupt requests are supported for each IP module. All board interrupts are mapped to PCI bus INTA# signal.

Individual passive filters on each IP power supply line provide optimum filtering and noise isolation between the IP modules and the carrier board.

IP Compliance (ANSI/VITA 4)

Meets IP specs per ANSI/VITA 4-1995 (8MHz and 32 MHz operation) and IP I/O mapping to the front panel.

Electrical/mechanical interface

Supports single or double size IP modules.

IP Module I/O space, ID space, INT, and MEM space supported.

Interrupts

Supports two interrupt requests per IP module and interrupt acknowledge cycles via access to IP INT space.

CompactPCI bus Compliance

Meets PCI specification V2.1 and PICMG 2.0, R2.1.

Data transfer bus

Slave with 32-bit, 16-bit, and 8-bit data transfer operation. 32-bit read/write accesses are implemented as two 16-bit transfers to the IPs.

Interrupts

CompactPCI bus INTA# interrupt signal. Up to two requests sourced from each IP mapped to INTA#. Interrupts come from IP modules via access to IP module INT space.

32-bit memory space

Upon power-up the system auto-configuration process (plug & play) maps the carrier's base address (for a 1K byte block of memory) into the PCI bus 32-bit memory space.

■ Power Requirements

Power
+3.3V (±5%): 300mA maximum.
+5V (±5%): 30mA maximum.
±12V (±5%): 0mA (not used).
Plus IP module load.

MTBF
Contact factory

■ Environmental

Operating temperature
0 to 70°C (AcPC8630A model)
or -40 to 85°C (AcPC8630AE model).

Storage temperature
-55 to 100°C.

Relative humidity
5 to 95% non-condensing.

Ordering Information

Carrier Cards

AcPC8630A
CompactPCI carrier. Holds two IP modules.

AcPC8630AE
Same as AcPC8630A with extended temperature range.

Accessories

5028-372
Cable, SCSI-2 to CHAMP connection

5028-378
Termination panel, SCSI-2 connector,
50 screw terminals

See www.acromag.com for more information.

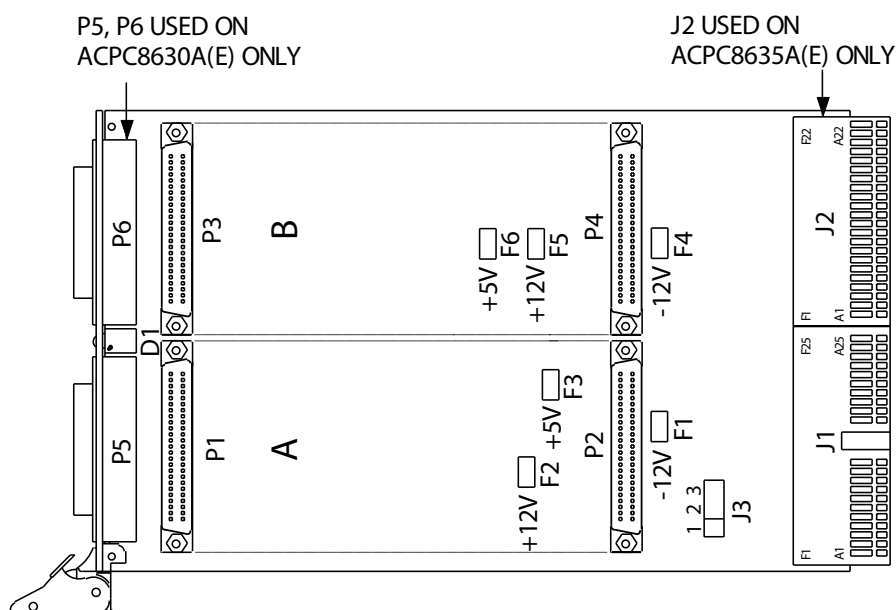
Software Development Tools

IPSW-API-VXW
VxWorks® software support package

IPSW-API-WIN32
32-bit Windows® DDL driver and demo software

IPSW-API-WIN64
64-bit Windows® DDL driver and demo software

IPSW-API-LINUX
Linux™ support (website download only)
See www.acromag.com for more information.



ISO9001
AS9100

MADE IN USA

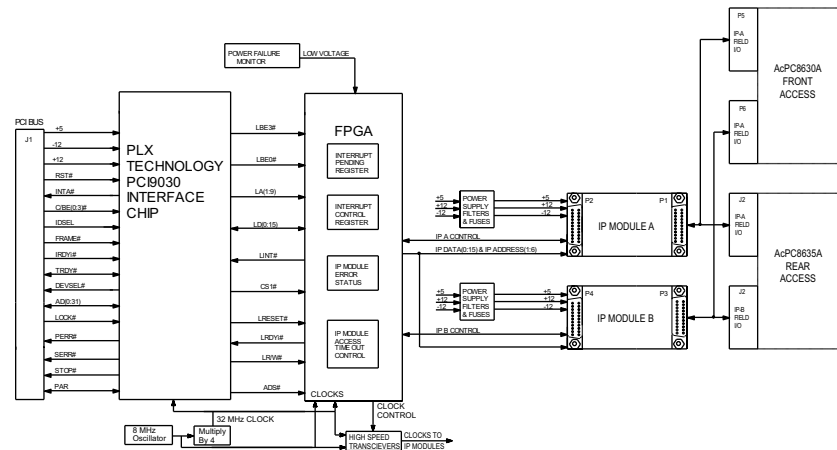
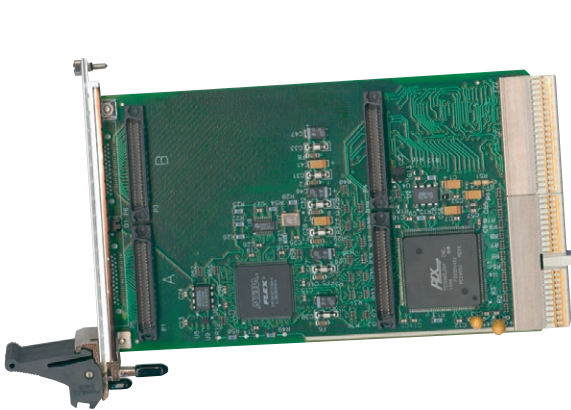
Acromag 
THE LEADER IN INDUSTRIAL I/O

Tel 248-295-0310 ■ Fax 248-624-9234 ■ solutions@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA

Industry Pack Carrier Cards

AcPC8635A CompactPCI Carrier Cards for Industry Pack Modules

24 HOUR STOCK ITEM
2 YEAR WARRANTY



Two Industry Pack mezzanine module slots ♦ Non-Intelligent carrier card ♦ CompactPCI bus interface

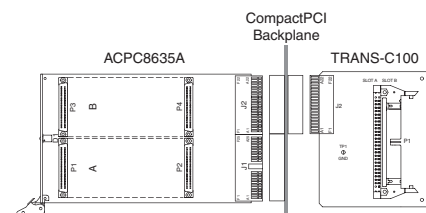
Description

The AcPC8635A is a nonintelligent slave board that interfaces two IP modules to the CompactPCI® (cPCI) bus. All 100 I/O points are brought out the rear J2 connector. This convenience eliminates messy cables from hanging out the front of the cage. In addition to a more efficient cage wiring design, it is also much easier to insert and replace boards.

Key Features & Benefits

- Two industry-standard IP module slots
- Board resides in memory space
- Supports IP module I/O, ID, INT, and MEM spaces
- Supports 8 and 32 MHz operation
- 100 I/O points with rear access
- High-density rear connectors
- Compatible with 32-bit CompactPCI® backplane
- Plug-and-play carrier configuration and interrupt support
- Two interrupt channels per IP module
- Front panel LEDs
- Supervisory circuit for reset generation
- Individually filtered and fused power to each IP
- Ruggedized with ESD strip and EMC front panel
- Easily integrate IPs with your software using RTOS VxWorks, Linux, or Win DLL for Windows® 2000/XP/Vista/7 32-bit systems.
- Clean system cabling.

- Easy board replacement as I/O needs change.
- Simplified debugging with status LEDs.
- Quick development of custom I/O boards.
- Flexibility to mix and match I/O functions as requirements change.
- Easy access to I/O cables.



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Industry Pack Carrier Cards

AcPC8635A CompactPCI Carrier Cards for Industry Pack Modules

Performance Specifications

■ General

Acromag's carrier boards provide full data access to the IP module's I/O, ID and interrupt spaces. With full access to the programmable registers, you can easily configure and control the operation of the IP modules from the cPCI bus.

Up to two interrupt requests are supported for each IP module. All board interrupts are mapped to PCI bus INTA# signal.

Individual passive filters on each IP power supply line provide optimum filtering and noise isolation between the IP modules and the carrier board.

IP Compliance (ANSI/VITA 4)

Meets IP specs per ANSI/VITA 4-1995 (8MHz operation only) and IP I/O mapping to J2 per PICMG 2.4 R1.0.

Electrical/mechanical interface

Supports single or double size IP modules.

IP Module I/O space, ID space, INT, and MEM space supported.

Interrupts

Supports two interrupt requests per IP module and interrupt acknowledge cycles via access to IP INT space.

CompactPCI bus Compliance

Meets PCI spec. V2.1 and PICMG 2.0, R2.1.

Data transfer bus

Slave with 32-bit, 16-bit, and 8-bit data transfer operation. 32-bit read/write accesses are implemented as two 16-bit transfers to the IPs.

Interrupts

CompactPCI bus INTA# interrupt signal. Up to two requests sourced from each IP mapped to INTA#. Interrupts come from IP modules via access to IP module INT space.

32-bit memory space

Upon power-up, the system auto-configuration process (plug & play) maps the carrier's base address (for a 1K byte block of memory) into the PCI bus 32-bit memory space.

■ Power Requirements

Power
+3.3V (±5%): 300mA maximum.
+5V (±5%): 30mA maximum.
±12V (±5%): 0mA (not used).
Plus IP module load.

MTBF

Contact factory

■ Environmental

Operating temperature
0 to 70°C (AcPC8635A model)
or -40 to 85°C (AcPC8635AE model).

Storage temperature

-55 to 100°C.

Relative humidity

5 to 95% non-condensing.

Ordering Information

Carrier Cards

[AcPC8635A](#)

CompactPCI carrier. Holds two IP modules.

[AcPC8635AE](#)

Same as AcPC8635A with extended temperature range.

Accessories

[5025-550](#)

Cable, unshielded, 50-pin header both ends

[5025-552](#)

Termination panel, 50-pin connector, 50 screw terminals

[TRANS-C100](#)

Transition module

Software Development Tools

[IPSW-API-VXW](#)

VxWorks® software support package

[IPSW-API-WIN32](#)

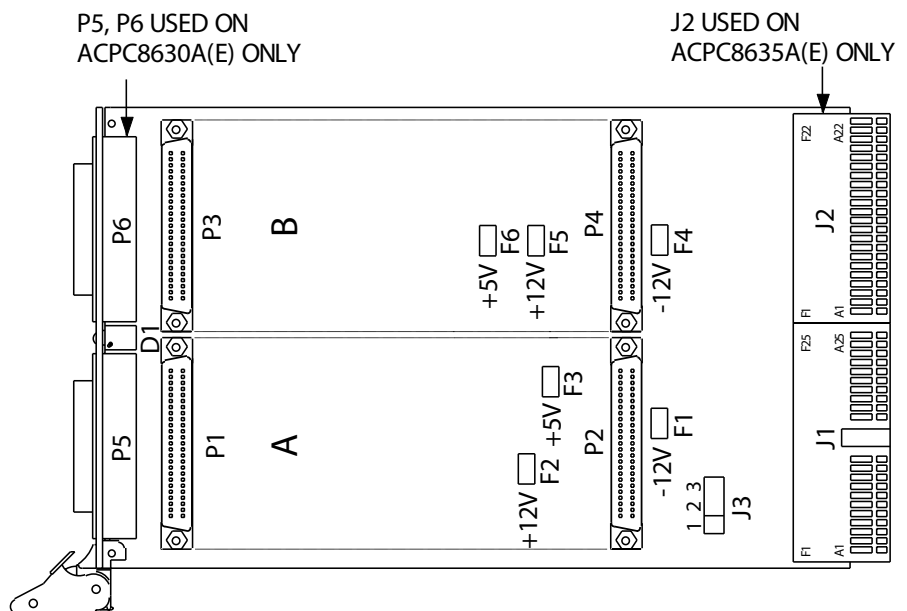
32-bit Windows® DDL driver and demo software

[IPSW-API-WIN64](#)

64-bit Windows® DDL driver and demo software

[IPSW-API-LNX](#)

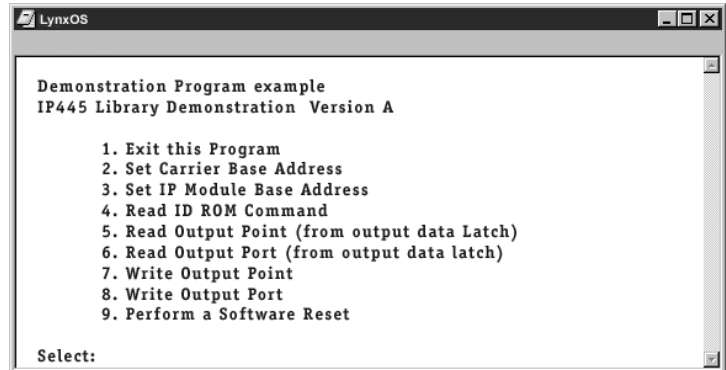
Linux™ support (website download only)



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Linux® Libraries I/O Function Routines



This free software utility is available for download from Acromag's website.

Simplify interfacing between Acromag I/O boards and your software ♦ Demonstration Program

Description

IPSW-API-LNX

Support for Industry Pack modules and carriers

PCISW-API-LNX

Support for PCI/CompactPCI boards and PMC modules

APSW-API-LNX

Support for AcroPack® modules and carriers

Application Programming Interface (API)

Acromag's software development tools greatly simplify the interface between the I/O boards and your software application program. The Linux libraries are supplied as "C" source code. These libraries provide easy-to-use function routines that quickly integrate with your application. Function routines are ready for use "as-is," but they are also easily customized for your unique application.

Demonstration Program

This powerful program lets you fully exercise the libraries and your hardware before running the actual application. These diagnostics will save you hours troubleshooting and debugging your applications. You can set addresses, set up registers, read real-world inputs, or drive outputs. The demonstration program steps you through the exact functions that are called in your application.

Key Features & Benefits

- Easy installation procedure
- Readme files with step-by-step instructions
- Programming tools for most Acromag I/O boards (excludes serial I/O and VME products)
- Demonstration program
- Downloadable at no charge from the Acromag website
- Source code provided to ensure maximum flexibility in implementing your driver
- Verify operation of your I/O modules and carrier cards with a demonstration program to ensure proper hardware operation before attaching your application

Ordering Information

NOTE: This unsupported software is available ONLY by download from Acromag's website.

[IPSW-API-LNX](#)

Linux example libraries for Industry Pack modules and PCI/CompactPCI carrier cards

[PCISW-API-LNX](#)

Linux example libraries for PCI, CompactPCI, and PMC modules.

[APSW-API-LNX](#)

Linux example libraries for AcroPack® modules and carriers.

[IPSW-VME-LNX](#)

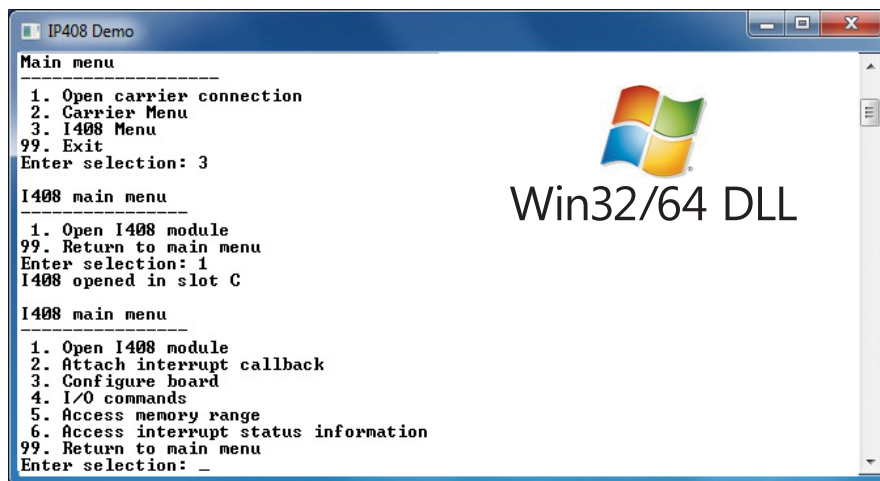
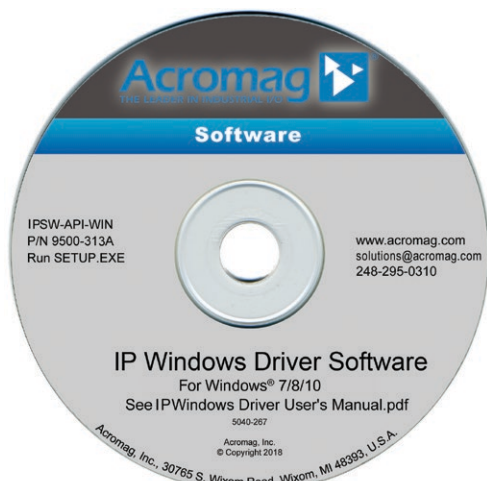
Linux example libraries, works with TSI148 chipset for models XVME-6300, XVME-6400, Industry Pack modules, and VME carriers.

[IPSW-A7VME-LNX](#)

VxWorks® 7.0 64-bit, software support package for Acromag Series XVME6500 and XVME6700 SBC when used with Industry Pack modules and VME carriers. Supplied on CD-ROM.

Software Support

IPSW AcroPack® and Industry Pack Driver Software for Windows® Operating Systems



For Windows 10 / 8 / 7 ♦ Supports Acromag AcroPack & Industry Pack modules & carriers ♦ Includes DLLs

Description

Application Programming Interface

Acromag's software development tools greatly simplify the interface between the I/O boards and your Windows-based application program. These packages provide DLL driver level support for Acromag's line of Industry Pack products. In addition, "C" source demonstration programs provide easy-to-use tools to test the operation of the module.

Demonstration Programs

Powerful programs let you fully exercise your hardware before developing the actual application. These diagnostics will save you hours troubleshooting and debugging your applications. You can set addresses, set up registers, read real-world inputs, or drive outputs. The demonstration programs step you through the exact functions that are called in your application.



Windows Embedded
Standard



Microsoft
Visual Studio

ISO9001
AS9100



Key Features & Benefits

- Easy installation procedure
- Documentation with step-by-step instructions
- Support for active Acromag Industry Pack I/O and Industry Pack FPGA modules and carriers
- Support for 32-bit and 64-bit systems
- Demonstration Programs
- Driver level support for desktop and embedded Windows level programming environments
- Compatible with Windows Embedded Standard applications
- Verifies operation of your I/O boards with a demonstration program to ensure proper hardware performance before attaching your application

User-Friendly Licensing

Acromag's PCI Windows driver software is provided with a full site license. This allows anyone at your location to use this software without any additional charges. No run-time license is required.

You do not need to order additional software for different models within the family.

Ordering Information

■ Software

For more information, see www.acromag.com.

APSW-API-WIN

64-bit and 32-bit Windows® DLL driver and demonstration software for AcroPack Modules and PCIe carriers on CD ROM.

IPSW-API-WIN

64-bit and 32-bit Windows® DLL driver and demonstration software for Industry Pack Modules, PCI, and cPCI carriers.

IPSW-VME-WIN

64-bit and 32-bit Windows® driver software package for Industry Pack modules with DLLs and demonstration programs for VME carrier models. Works with TS1148 chipset including the XVME-6300 and XVME-6400. Supplied on CD-ROM.

IPSW-A7VME-WIN

64-bit and 32-bit Windows software package for Industry Pack modules and VME carriers. Works with Acromag Series XVME6500 and XVME6700 SBCs. Supplied on CD-ROM.

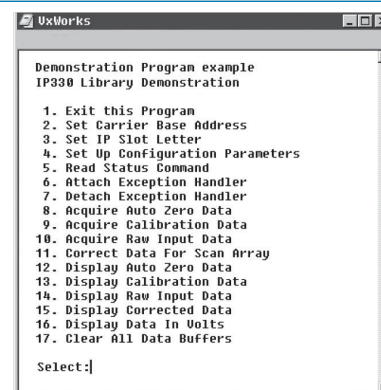
NOTE: For PMC, XMC, PCI, and cPCI modules and carrier cards support software, please refer to PCISW-API-WIN.

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VxWorks® Libraries I/O Function Routines



The VxWorks software libraries provide a simple API to quickly integrate Acromag's I/O boards with your application program.

Supports any CPU target with quick modification ♦ API easily convertible for any operating system

Description

Application Programming Interface (API)

Acromag's software development tools greatly simplify the interface between the I/O boards and your software application program. VxWorks libraries are supplied as "C" source code. These libraries provide easy-to-use function routines that quickly integrate with your application. Function routines are ready for use "as-is," but they are also easily customized for your unique application.

This powerful program lets you fully exercise the libraries and your hardware before running the actual application. These diagnostics will save you hours troubleshooting and debugging your applications. You can set addresses, set up registers, read real-world inputs, or drive outputs. The demonstration program steps you through the exact functions that are called in your application.

Target any CPU

Acromag provides direct support for VxWorks when using PowerPC, x86 and 68000 CPU boards. The VxWorks C Library includes support for x86 PCI, MV167 and MV2700 CPU boards. Each library contains detailed information on integrating with the CPU's Board Support Package (BSP). The libraries also include instructions for implementing this software with other manufacturer's CPU board BSPs. Use with Industry Pack carriers from third-party board vendors is also supported.

The IPSW-API-VXW library package offers support for Acromag carriers. Other carriers are compatible, but require some minor modifications. Acromag uses a very innovative modular programming technique. This allows new carrier files to be created without affecting any of the complex IP module files or interrupt service routines.

User-Friendly Licensing

Acromag's VxWorks software libraries are provided with a full site license. This allows anyone at your location to use this software without any additional charges. Additionally, no run-time license is required either.

The VxWorks software libraries include support for the full family of boards or modules, not just certain models unless otherwise noted.

Key Features & Benefits

- Easy installation procedure
- Readme files with step-by-step instructions
- Quickly creates libraries
- Targeted support for Power PC, x86, and 68000 series CPUs
- Supports any CPU target with quick modification
- API easily convertible for any operating system
- Source code provided to ensure maximum flexibility in implementing your application
- Ability to verify operation of your modules and carriers with a demonstration program to ensure proper hardware operation before attaching your application

Ordering Information

APSW-API-VXW

VxWorks software support package for AcroPack modules and carriers.

IPSW-A7VME-VXW

VxWorks software support package for Acromag VME SBC Series XVME6500 and XVME6700 when used with Industry Pack modules.

IPSW-API-VXW

VxWorks software support package for Industry Pack modules and carriers.

PMCSW-API-VXW

VxWorks software support package for XMC, PMC, PCI, and CompactPCI products (supports all Acromag PMC modules and PCI or cPCI boards except IP carriers).



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