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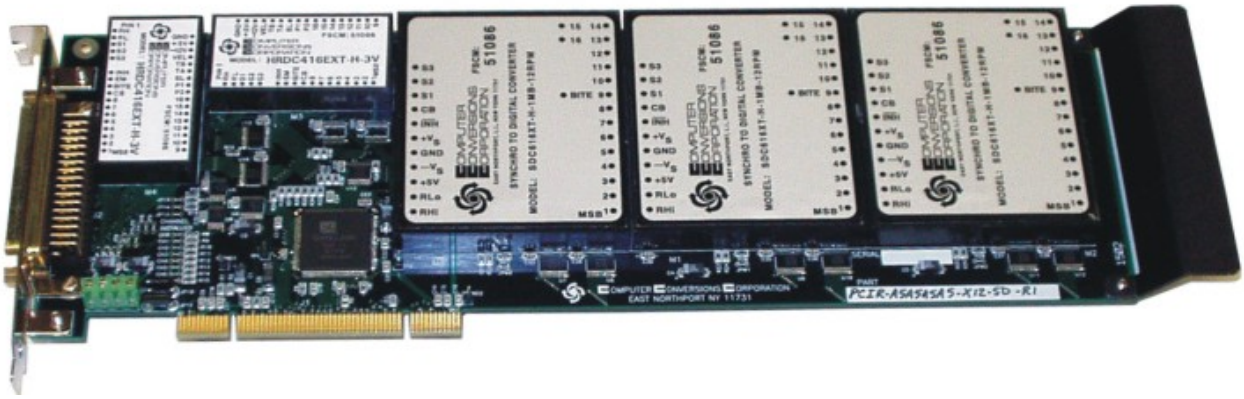
Find the *Computer Conversions PCI-K4-X12-3WR* at our website: *Click HERE*

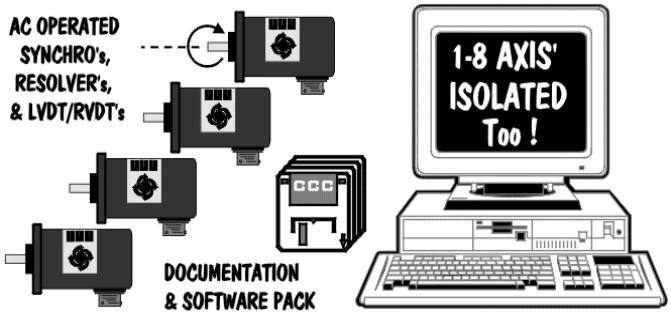
PCI-SYNCHRO™ SERIES

PCI 2.2 COMPLIANT

SYNCHRO/RESOLVER/ENCODER/LVDT

PCI BUS CARD OVERVIEW





FEATURES
Synchro, Resolver & LVDT Converters
Mix/Match 8 In. 3/Output Sets/Card
100% Transformer Isolated I/O Option
Card with Resident Force Test Ability
Proven Standard "Whole" Converters
Reliable Register Based "LSI" Logic
Incremental Encoder Output Options
True 32 Bit Long-Word Level Interfaces
No External Supplies Required
Software 98/NT + Driver & Demo Pack

Overview

The PCI-Synchro™ Series" product line are full size **PCI 2.2 compliant** synchro, resolver, and LVDT I/O cards, and resolver-sensor card sets are used as absolute encoder systems.

These cards are ideally suited for both industrial and COTS military concerns using any PCI bus compatible computer for simulation, ATE, "Absolute" position sensing and motion control, coordinates & process control, navigation, GPS, data acquisition, radar, ships speed indicators, antenna & targetting applications.

The PCI-Synchro™ Series converters provide up to 4 and **8 channels** of **Isolated Synchro/Resolver LVDT/RVDT** or **absolute encoder** interface on a single, standard full size 2 PCI printed circuit card.

Computer Conversions' full line of standard, proven "whole" Synchro/Resolver input and output type converters, **CT's and CDX's etc** ... are used to populate the same standard PCI compliant CCA's.

Differing **converters may be mixed** to minimize real estate of any type. Both industrial and COTS military grade **(extended) temperature** range versions are available.

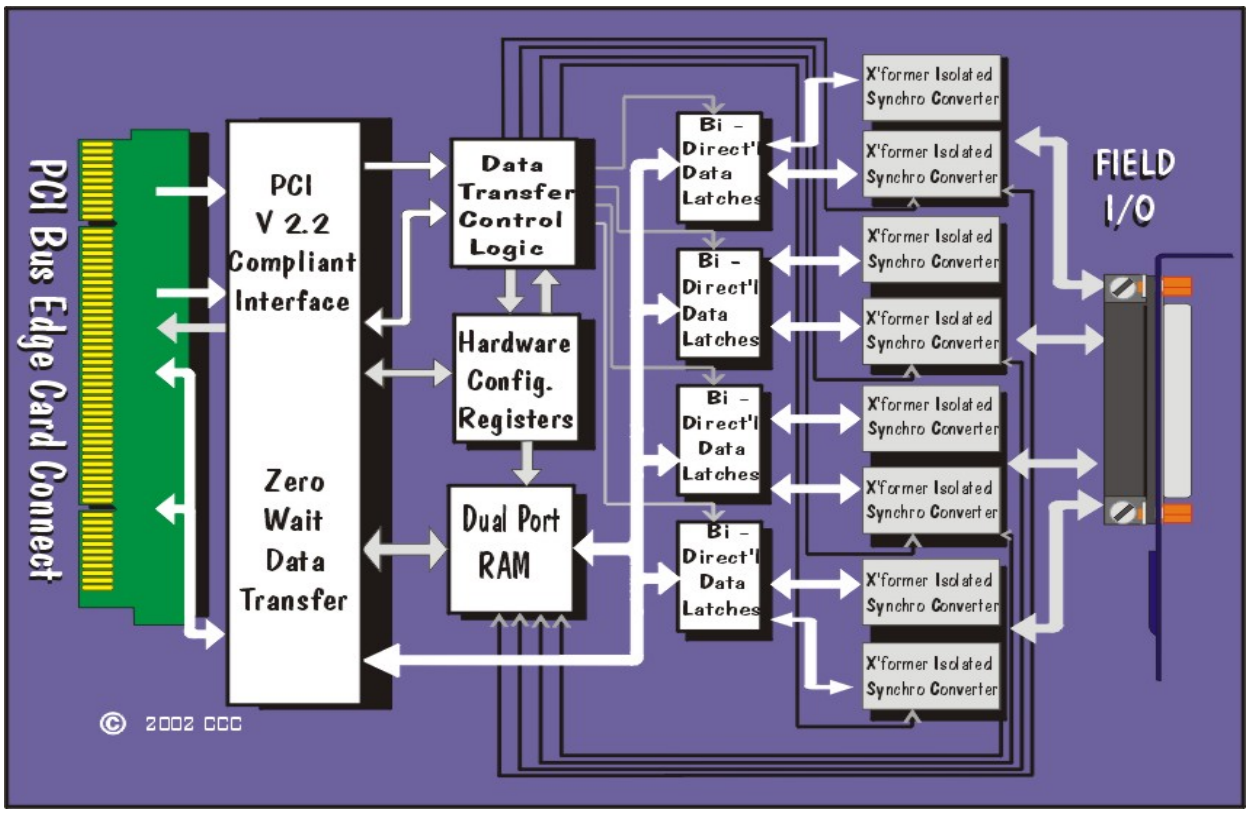
100% Transformer **Isolation** is offered for **all** AC **I/O**, and various Isolated DC converters are available as standard product, **eliminating** concerns for **ground-loops,** ground interjected (intermittent and ghostly) **field noise**, **inductive surges**, differing potentials, and **high voltage field transients** from **effecting** the card itself, **the sensitive PCI bus backplane** and **any other device** or **system sharing these signals**.

Maximum **versatility** has been employed on all PCI-Synchro^{TM} products to assure the universal compatibility in adressing, timing, system, and specific computer **hardware, software, and backplane independence.**

All PCI-Synchro^{TM} cards are configured with full plug and play capabilities, and are ideally suited to real-time applications because there is no PCI-Bus latency. The interface is a solidly-reliable / high-speed, true **32 bit "Long-Word-Level"** register access.

Status registers are provided for various levels of **fault indication, Built-in-Test** (where applicable), and configuration criteria.

A sample demonstration program written in Visual C++ is provided with source code, which may be easily modified by the user for his/her particular application.



The demonstration program (with source code) is provided for **Out-Of-The-Box testing, without any user programming required.**

All cards may be user configured **completely Bus-Powered**, with **no external power supplies required**. Power souirce jumpers are provided to select the +/- 12vdc power source as "Bus-Powered" or as external inputs via the onboard terminal block.

The use of "proven whole converter" modules assures the user of garunteed systen accuracy and dynamics ability, long term conversion integrity and stability.

All wiring is made through standard or 50 pin "D" style connectors.

Isolated D-A/A-D Converters, Digital Modulators, Demodulators, AC Referencs Supplies, & related function converters may be used with these cards The availability of synchro/resolver I/O on the PCI Bus, allows the user to configure his systems with resident test ability, switched manual or automatic self test, and simulation type programs.

PCI-SYNCHRO™ SERIES

SYNCHRO,RESOLVER, & LVDT

INPUT CHANNELS

APPLICATIONS

- Antenna Monitoring
- Closed Loop Servo Controls
- Fire Control Systems
- Avionic & Naval Systems
- Conveyor Controls
- Wind Speed Indications
- Machine Control Systems
- Shaft Angle Encoding
- Engine Test Stands
- Material Handling Systems
- High Speed Data Aquisition

FEATURES

- Direct Synchro/Resolver/LVDT/Inputs
- Transformer Isolated I/O Options
- High Speed, Stable, Ratiometric, Tracking Converters
- High Noise Immunity/Insensitive to Amplitude and Frequency Variations
- No External Parts or Power Required
- On-Board Reference Supply Options
- 10-20 Bit Resolution, & Multispeeds
- Incremental Encoder Output Options
- True 16 Bit Word Level Interface
- Force Self-Test Option (-WS Units)

Description

The **PCI-Synchro™** cards facilitate up to 8 isolated input chanels, and are 1-8 continuously tracking synchro or resolver to **IBM PC/AT™** card converters, employing type 2 ratiometric tracking converters for **high performance** applications.

They will accept any group of upto 8 individual, or 4 sets of paired multispeed; 3-wire **Synchro**, or 4-wire **Resolver** inputs, **or 2-4 wire LVDT/RVDT inputs**; over a frequency range of **50Hz. to 10KHZ**., and convert them into 10-16 bit words of natural binary data.

Data is addressable in a **long word 32 bit format** over the IBM PC/AT™ backplane. Data made available to

the bus is continuously updated (tracking) without interruption; output **data is accurate, monotonic, and always fresh** up to the maximum tracking rate of the converter.

When the address is applied, and normal bus variables are set; the converters **data bits are latched simultaneously into separate buffered registers to prevent false reads.**

A Forced Self-test feature is optioned "-WS" that allows on program command an internal disconnect of inputs to read a 30^{o} fixed analog test.

A continuous Built-In Test (BIT) output representing the tracking mode, Loss of signals, Loss of Reference, **for status report are provided for each input channel.**

No external transformers, modules or signal conditioners are **required**. The synchro/resolver converters used feature **internal** solid-state or **Transformer Isolated** Scott T's that accept **direct field voltage inputs**.

Isolation

Transformer isolated units are **completely isolated from each other and the backplane** for all the reference and signal lines.

This completely isolates the card and effectively the whole computer from all field wiring, and especially from any other device sharing these signals: eliminating concerns over; troublesome ground loops, ground induced noise, differing potentials, ground interjected spikes, and ghostly filed noise that so frequently takes down entire systems.

Bus Powered

No external supplies required ! All units are available as **completely bus powered via the PCI backplane** or as external inputs for the ±12VDC supplies. Power required is ±12, +3, and +5VDC, and the source is for the ±12VDC is strap selectable for power sourcing via the ISA backplane or as external power via the I/O connector.

Options currently available include: DC velocity outputs, internal reference supplies, quadrature pulse train outputs, high reliability and mil-grade extended temperature range units. Units with on-board DC-to-DC converters also available.

Additionally, PC/AT cards can be configured to meet particular OEM requirements. Many perspective custom applications can be configured with 100% standard product.

PCI-SYNCHRO^{TM} SERIES

OUTPUT CHANNELS

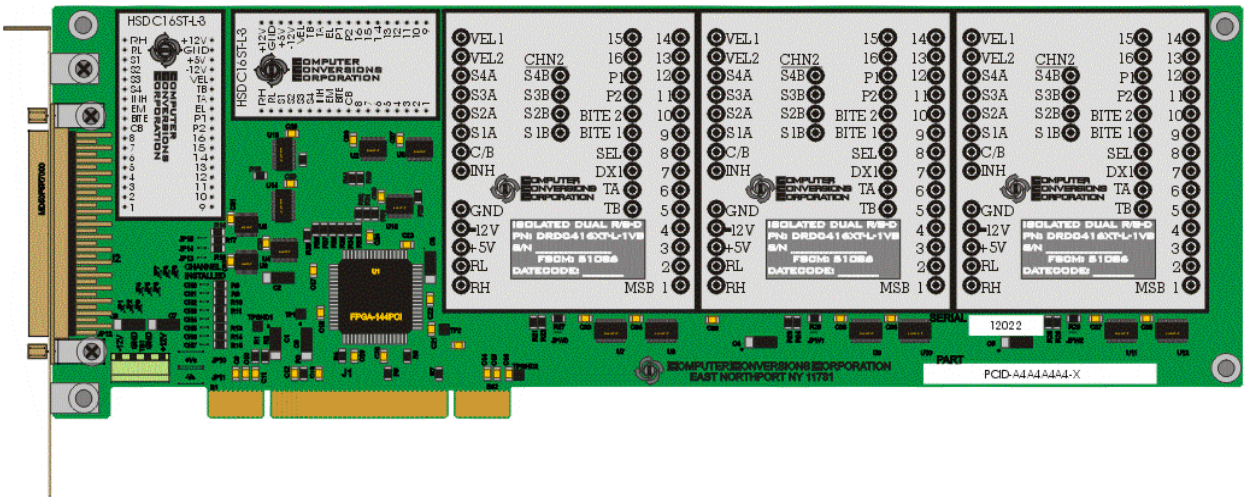
FUNCTIONS

- Digital to Synchro/Resolver
- Vector Generators (& DC Sine/Cos)
- Solid State Control Transformers
- Dual Channel Synchro Amplifiers
- Isolated D-A's, Mod's/LVDT out's
- Mix/Match w/ S-D/RD's On-Board
- Real Time, In-the-Loop, Active Control Differential's, CDX's
- Reference Powered D-S's
- Dynamic S/R & Vector Rotators

FEATURES

- Proven "Whole" Std. Converters
- Optimized Thermal Management
- 100% Transformer Isolated I/O
- No External Parts or Power Req.'d
- Reference Powered (NAVAL) Options
- 10-16 Bit Resolution Programmable
- Virtually Indestructable Outputs
- 1.2 to 4.5 VA Models
- True 16 Bit Word Level Interface
- Mix/Match Input & Output Types
- Simultaneous Fine/Coarse
- Transmit For Multispeed Outputs

OPTIMUM THERMAL MANAGEMENT



VIRTUALLY INDESTRUCTABLE OUTPUTS

Description

The **PCI-Synchro**^{TM} output channels are complete **PCI to Synchro and Resolver** output converters used for self-test, simulation, and control in military and industrial applications.

The PCI card is populated by 1-3 **Industry Standard Digital to Synchro and/or Digital to Resolver Converters, CT's or CDX's** mixed as specified for the application.

32 Bit long word level double buffered inputs are provided **on each channel** and addressable via independent or successive address.

The **true 32 Bit architecture** allows the converters to be written to as single word writes, **without** any ear of low-byte/high-byte **ambiguities**.

All of these converters feature **virtually indestructibel short-circuit proof outputs, overvoltage, and transient protection, internal solid-plate heat sinks, and automatic thermal cutoff.**

Complete transformer isolation is porvided on all reference inputs ad signal outputs to: eliminate ground loops, differing potentials, and to keep any high voltage transients from affecting the PCI backplane.

Both **low cost "DSL/DRL Series" and referenced powered "DSP Series" converters** are offered to drive on board **loads up to 4.5VA** and external "booster amplifiers" are available to drive **loads up to 150VA.**

DSL/DRL TYPE CONVERTERS

The **DSL/DRL** series are **low cost models** that are powered from either ±15VDC or optionally ±12VDC supplies. The DC supply source may ve field selected as sourced by and external input or **Bus Powered for the PC/AT backplane** . The power supplies should be verified as capable of providing the required current.

Stadard ±12VDC units drive 1.2VA loads, and standard ±15VDC units drive 1.5VA loads. Higher drive models are available.

Frequencies of 400Hz. and higher require no external components , and two different types of output transformers are offered for 50-60Hz. units.
These units occupy one full size with a singlewidth slot.

Absolute value, vector units "active" Differentials, Dynamic Rotators, & 2-10HZ. models are available as standards for motor control apparatus and realtime simulators.

DSP TYPE CONVERTERS

DSP series 60Hz. units don't require any external transformers, and drive all 50, 60, & 400 Hz. loads.

Standard Synchro Loads

MIL-STD Class MIL-S-20708	Impedence ZSO	Load VA
26v 08 CT 4c	100+j490	0.2784
26 v 11 CT 4d	21.0+j132	1.0414
11CT 4e	838+j4955	1.6118
15 CT 4b, & c	1600+j9300	0.8584
15 CT 6b, & c	1170+j6780	1.1773
18 CT 4b, & c	1420+j13260	0.6074
18 CT 6b, & d	1730+j510	4.491
23 CT 4, & a	1460+j11050	0.7267
23 CT 4b, & c	1950+j14000	0.573
23 CT 6, & a	1250+j3980	1.9417
23 CT 6c, & d	1350+j4300	1.7972

Notes: 1) 6=60 Hz. , 4=400 Hz. Units
2) 26V=26V System, 11.8VL-L Signals else;
115V Systems, 90VL-L Signals Typ.

The **DSP series** derives the output **power from the reference (RH,RL)** input and **requires no ±15 or ±12VDC supplies**. This series features a very efficient, internal pulsating power supply that converts the reference input into a high-power, angle-weighted, synchro output format.
400Hz. **DSP** units **drive up to a full 4.5VA load**, and 60Hz. units drove a full 1.5VA load direct without requiring external output transformers.
The DSP units occupy one full size doublewidth slot (DSP modules are .8H).

OTHER CONVERTERS

By looking at the model selection guide you will notice the PCI Series models, allow the choice of both Read and Write type Converters. Units with Isolated Digital to Analog, or LVDT converters, multispeed conversion, Vector Generators, Control Transformers, and Differentials etc...can be configured by requesting "IBB Series Extended Model Selection Guide" from the factory.

For more information contact us today.
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