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Find the *RadiSys EXM-10A* at our website: ***Click HERE***

Third Party EXMs

Third party EXM expansion modules offer a variety of functionality

System Overview

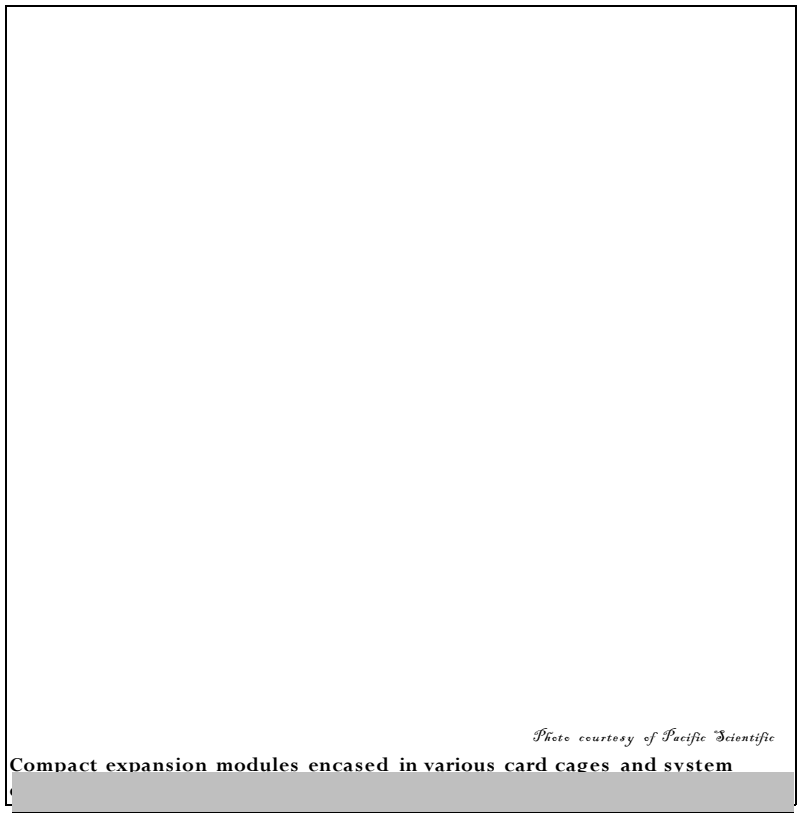


Photo courtesy of Pacific Scientific

Compact expansion modules encased in various card cages and system

Many third party companies have utilized the EXM expansion interface specifications document to design and manufacture EXM compatible modules and the list is growing.

The EXM expansion interface was developed by RadiSys Corporation as a viable solution for local I/O expansion for a variety of system form factors such as RadiSys' VME, VXI and EMC systems. The EXM expansion interface standardizes the local expansion of embedded PCs in a modular, reliable, space effective, and cost effective manner. Because the EXM expansion interface is electrically similar to the standard PC ISAbus, standard PC software can be used with EXM modules.

For more details on specifications and RadiSys modules, contact RadiSys for an EXM data sheet.

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RadiSys CORPORATION

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CODEM-900011

EXM Extender Card

The Codem 900011 Extender card provides for a bus extension out of the EMC-CH10, EMC-CH8, EMC-CH6D and EMC-CC4 enclosures. The extender card allows for the board under test to be mounted with either the component or solder side available for any type of test equipment connection. Convenient test points are provided for GROUND, +5, +12, -12 and SYSCLK.

ORDER CODE

CODEM-900011

COMPATIBILITY

The 900011 Extender Card extends all of the EXM signals out of the chassis (including EXMID and all 15 grounds) and conforms to the EXM Expansion Interface Specification.

HARDWARE INTERFACE	
Memory space used	none
User-selectable base address	none
User-selectable IRQs	none
User-selectable DMA channels	none

POWER REQUIREMENTS	
+5V	
+12V	
-12V	

CODEM-900012

Synchro/Resolver to Digital Converter Module

The Codem 900012 Synchro/Resolver to Digital (SR/D) Converter Module provides four channels of 16 bit synchro/resolver to digital conversion. Each channel is directly and independently read from its own 16 bit I/O port. Because the board uses four individual SR/D converters, any port may be read at any time with no delay to the processor nor need to loop on a data ready condition. The board is provided in various configurations which cover the spectrum of standard and precision industrial synchros and resolvers from 2V RMS to 90V RMS L-L. The reference frequency may be from 0 to 40,000 Hz.

The 900012 is ideal for motor control, antenna positioning, machine control or any other application where measurement of rotational position is required.

ORDER CODE

CODEM-900012

COMPATIBILITY

The 900012 Synchro/Resolver to Digital Converter module conforms completely to the EXM Expansion Interface Specification. User programmable I/O Bases address assures compatibility with all other EXM cards installed in the system.

HARDWARE INTERFACE	
Memory space used	none
User-selectable base address	000h-3F0h (4 16 bit ports used - 8 bytes)
User-selectable IRQs	none
User-selectable DMA channels	none

POWER REQUIREMENTS		
	Typical	Maximum
+5V	450 mA	750 mA
+12V		
-12V		

Codem Systems, Inc.
7 Executive Drive
Merrimack, NH 03054
Tel: 603-429-0111
Fax: 603-429-0155
Contact: Steve Brian, ext. 23

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CODEM-900013

EXM Motion Controller Card

The Codem 900013 Motion Control Card provides the interfaces necessary to drive and read the postion of 3 axis servo-motor systems. The 900013 provides a simple I/O port interface to the following functions:

- Three -8V to +8V 5mA 12-bit D/A converters
- Three 16 bit differential or TTL quadrature encoders with zero pulse
- High and low termperature alarm (low: 10° C, high: 50° C)
- Eight TTL outputs
- Six TTL inputs

The 900013 is ideal for motion control applications where the designer wishes to have direct access to the control drives and position feedback inputs and is used in complex applications where simple PID loops will not apply. The board may also be used in other applications that require multiple D/A and digital I/O points.

ORDER CODE

CODEM-900013

COMPATIBILITY

The 900013 Motion Control Card conforms completely to the EXM Expansion Interface Specification. User programmable I/O base address assures compatiblity with all other EXM cards installed in the system.

HARDWARE INTERFACE	
Memory space used	none
User-selectable base address	000h-3F0h (16 8-bit ports used)
User-selectable IRQs	none
User-selectable DMA channels	none

POWER REQUIREMENTS		
	Typical	Maximum
+5V	500 mA	750 mA
+12V	.25 mA	1 mA
-12V	.25 mA	1 mA

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EXM-NSS10

EXM to LonTalk Network Management

The EXM-NSS10 functions as the network manager and interface to a host system, providing the mechanism, or link, to move data between an EXM system and a LonWorks network. The EXM-NSS10 uses Echelon's Network Services Server, the Neuron 3150 Chip, Flash EEPROM, and database firmware and logic. All standard media types are supported, including twisted pair, free topology, power line, and RF.

ORDER CODE

EXM-NSS10 Specify transceiver type.

COMPATIBILITY

The EXM-NSS10 supports all standard EXM hardware, and is compatible with DOS/Windows. Other software options may be available. Please call for more information.

HARDWARE INTERFACE	
Memory space used	none
User-selectable port address	dipswitch
User-selectable base address	NA
User-selectable IRQs	5, 9, 15, none
User-selectable DMA channels	NA

POWER REQUIREMENTS		
	Typical	Maximum
+5V	350 mA	450 mA

LonTalk Network Management Interface

EXM-LTNI

EXM to LonTalk Network Interface

The EXM-LTNI makes it possible to add a LonWorks interface to a complete, PC compatible, embedded computer capable of managing and monitoring a LonWorks distributed control network. An interface suitable for high-end applications is created by using Echelon's MIP/DPS for the Neuron 3150 Chip. The EXM-LTNI also supports all the most popular transceiver types, including twisted pair, free topology, power line, RF, and TP-RS485.

ORDER CODE

EXM-LTNI Specify transceiver type.

COMPATIBILITY

The EXM-LTNI supports all standard EXM hardware, and is compatible with DOS/Windows. Other software options may be available. Please call for more information.

HARDWARE INTERFACE	
Memory space used	16K reserved, 8K used
User-selectable port address	100h - 103h
User-selectable base address	dipswitch
User-selectable IRQs	3, 4, 5, 6, 7, 9, 11, 12, 14, 15
User-selectable DMA channels	NA

POWER REQUIREMENTS		
	Typical	Maximum
+5V	300 mA	450 mA

Engenuity Systems
4908 E McDowell, Suite 100
Phoenix, AZ 85008-4228
Tel: 602-275-3363, 800-375-3363
Fax: 602-275-3477

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HEXM-DIO1

Digital I/O Controller

The HEXM-DIO1 provides the opto-isolated 16 bit output and 16 bit input channels for general purpose I/O operation. Its features include:

- Using photo-coupler the I/O pins are isolated to EXM bus
- One common ground is provided for 8 channels of input or output port
- Input circuit can be connect to both sink and source type circuit
- IN7(input) line can generate IRQ5 or IRQ12 interrupt

ORDER CODE

HEXM-DIO1

COMPATIBILITY

HEXM-DIO1 has two 8 bit output port latches and two 8 bit gates for input. One other byte is assigned for interrupt handling. I/O programming is possible by accessing this hardware directly. There is no library or device driver available for any operating system. Multiple HEXM-DIO1s can work in the same EXM bus.

HARDWARE INTERFACE	
Memory space used	none
User-selectable base address	100h-3F8h (8 bytes step)
User-selectable IRQs	5, 12, none
User-selectable DMA channels	none

POWER REQUIREMENTS		
	Typical	Maximum
+5V	300 mA	500 mA
-12V	60 mA	100 mA

HEXM-PPD2

Motion Controller

The HEXM-PPD2 provides 2 axis positioner card. By sourcing the output pulses in to the stepping motor driver or DC/AC servo motor driver, HEXM-PPD2 can control the positioning easily. Its features include:

- Immediate stop
- Deceleration and stop
- Rapid preset operation with accel/deceleration
- Constant speed preset operation (linear constant speed positioning)
- Rapid operation
- JOG operation
- Rapid origin
- Constant speed origin
- Speed override

ORDER CODE

HEXM-PPD2

COMPATIBILITY

HEXM-PPD2 has PCL-240MK as its controller LSI. The module is programmed by accessing its registers directly. There are no library or device drivers available for any operating system. Multiple HEXM-PPD2s can work in the same EXM bus.

HARDWARE INTERFACE	
Memory space used	none
User-selectable base address	100h-3F0h (16 bytes step)
User-selectable IRQs	3, 5, 9, none
User-selectable DMA channels	none

POWER REQUIREMENTS	
	Maximum
+5V	750 mA

HiverTec
Daiyu Bldg, 4-8-1 Ryogoku, Sumida-ku
Tokyo 130, Japan
Tel: (03)3846-3801
Fax: (03)3846-3773
Contact: Osamu Saito

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HEXM-CTR2

Two Channel Counter

The HEXM-CTR2 provides two high speed 24 bit up/down counter channels. Its features include:

- 2 channel, binary 24 bits up/down counter
- Count range: +8,388,606 ~ -8,388,608
- Count speed:
  Individual order input and pulse input with direction: 1MHz max
  Phase difference input: 400KHz max
- Preset
- Read on the fly
- 3 way counting method.
  Individual order input (UP, DOWN, PULSE)
  Pulse input with direction (Direction, PULSE)
  Phase difference (A, B)

ORDER CODE

HEXM-CTR2

COMPATIBILITY

HEXM-CTR2 has CCL-48M as its controller LSI. The module is programmed by accessing its regitsters directly. There are no library or device driver available for any operating system. Multiple HEXM-PPD2s can work in the same EXM bus.

HARDWARE INTERFACE	
Memory space used	none
User-selectable base address	100h-3F0h (16 bytes step)
User-selectable IRQs	3, 5, 9, 12, none
User-selectable DMA channels	none

POWER REQUIREMENTS	
	Maximum
+5V	750 mA

HiverTec
Daiyu Bldg, 4-8-1 Ryogoku, Sumida-ku
Tokyo 130, Japan
Tel: (03)3846-3801
Fax: (03)3846-3773
Contact: Osamu Saito

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EXM/DSP

C-Programmable Motion Controller

The EXM/DSP is MEI's motion controller for the RadiSys EXM form factor. One EXM/DSP board supports up to four axes and 20 user I/O lines, and drives both servo and step motors. The EXM/DSP uses MEI's standard C-function libraries for fast and efficient programming. An on-board 40MHz DSP performs calculation-intensive motion control functions, offloading non-realtime functions to the host. The EXM/DSP supports 2-axis circular interpolation, 4-axis linear interpolation with contouring and trapezoidal, parabolic, and S-curve motion profiles.

C-Programmable Motion Controller

ORDER CODE

EXM/DSP

COMPATIBILITY

The EXM/DSP conforms to the RadiSys EXM form factors for embedded PCs and VME daughter boards. Supported operating systems include DOS, Windows 3.x, Windows 95, Windows NT, QNX, Lynx/OS, and OS-9.

HARDWARE INTERFACE	
Memory space used	NA
User-selectable port address	NA
User-selectable base address	x200-3FF
User-selectable IRQs	2, 3, 4, 5, 10, 11, 12, 15

POWER REQUIREMENTS	
	Maximum
+5V	0.6 A
+12V	4 mA
-12V	14 mA

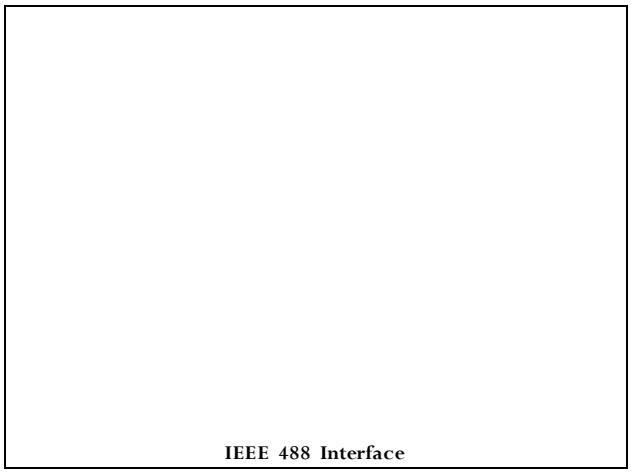
Motion Engineering, Inc.
33 S La Patera Lane
Santa Barbara, CA 93117
Tel: 805-681-3300
Fax: 805-681-3311
Contact: Geoff Grow or Catherine Kay

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EXM-GPIB

IEEE 488 Interface

The EXM-GPIB is a low-cost, high-performance IEEE 488 interface for RadiSys embedded PC systems - VME, VXI or EMC - equipped with 16-bit EXM slots. The National Instruments NAT4882 and Turbo488 ASICS make the EXM-GPIB a maximum performance IEEE488.2 interface board. An EXM computer equipped with an EXM-GPIB interface is a high performance IEEE488 controller for numerous applications in laboratory testing, production testing, and process monitoring and control.



IEEE 488 Interface

ORDER CODE

EXM-GPIB

COMPATIBILITY

Includes NI-488.2 software for DOS and Windows, compatible with National Instruments LabVIEW and LabWindows/CNI application programming environments.

HARDWARE INTERFACE	
Memory space used	none
I/O space used	32 bytes, default 0x2C0-20F
User-selectable IRQs	3, 5, 12
User-selectable DMA channels	5, 6

POWER REQUIREMENTS		
	Typical	Maximum
+5V	0.6 A	0.8 A

National Instruments
6504 Bridge Point Parkway
Austin, TX 78730-5039
Tel: 512-794-5498
Fax: 512-794-5569
Internet: http://www.natinst.com
Contact: Laura Golla

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EXM-ADC

Multipurpose Data Acquisition Board

The ADC module is a multipurpose data acquisition board with a 12 channel 20 bit A/D converter, with a maximum throughput of 160 KHz. The module also incorporates 2 channels of RS-232 serial ports, 3 timer channels, a Controller Area Network (CAN) bus controller, and a quadrature encoder interface for either single ended or differential encoder inputs.

ORDER CODE

EXM-ADC

COMPATIBILITY

The ADC is supplied with a combination of source and/or linkable object code for DOS applications. The CAN physical interface is compatible with ISO/OSI 11898 standard.

HARDWARE INTERFACE	
Memory space used	none
User-selectable base address	200h, 240h, 280h, 2C0h, 300h, 340h, 380h, 3C0h
User-selectable IRQs	3, 5, 7, 9, 11, 12, 15 (Interrupts can be shared.)
User-selectable DMA channels	none

POWER REQUIREMENTS	
	Maximum
+5V from EXM bus	0.6 A
+/-5V, +/-15V clean analog supply	250 mA

Multipurpose Data Acquisition Board

EXM-CANPC-SM

Controller Area Network Interface

The CANPC-SM interface module incorporates four Controller Area Network (CAN) bus interfaces and one programmable interrupt timer. CAN provides a serial control bus, sometimes called a “sensor/actuator” bus. This allows up to 40 separate CAN nodes to be connected as a serial chain on a single bus, or 160 nodes per CANPC-SM.

ORDER CODE

EXM-CANPC-SM

COMPATIBILITY

The CANPC-SM is supplied with C language object software drivers for DOS. The CAN physical interface is compatible with the ISO/DIS 11898 standard. The CANPC-SM can be used as a general purpose CAN interface, or for controlling Omnitech’s CANAMP servo motor controller, and CANIO analog and digital input/output board.

HARDWARE INTERFACE	
Memory space used	none
User-selectable base address	200h-3FFh
User-selectable IRQs	5, 7, 9 available for each CANbus and timer; 11 available for CAN busses 2 and 3 only (Interrupts can be shared.)
User-selectable DMA channels	none

POWER REQUIREMENTS	
+5V	
+12V	

Controller Area Network Interface

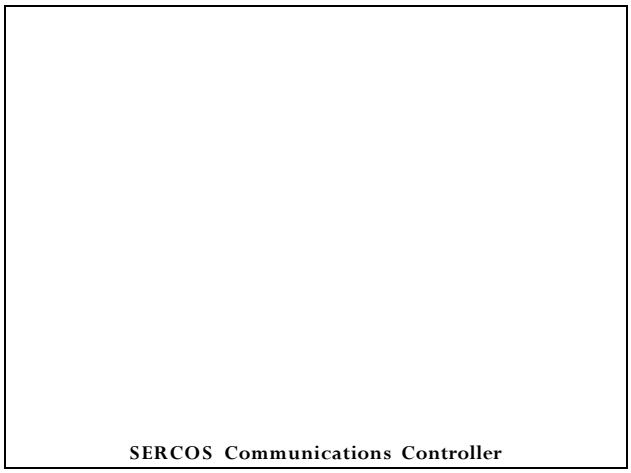
OMNITECH ROBOTICS
2640 S Raritan Circle
Englewood, CO 80110
Tel: 303-922-7773
Fax: 303-922-7775
Contact: Hemant Sardar

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EXM-15A

SERCOS Communications Controller

Manufactured using advanced surface mount technology, the EXM-15A SERCOS Communications Controller provides a modular approach to SERCOS based motion control systems for the OEM machine builder. The interface card is plug compatible with a broad line of VME and EXM industrial personal computer products available from both RadiSys Corporation and Pacific Scientific.



SERCOS Communications Controller

Connections are provided on the front panel for transmit and receive fiber optic cables as specified by the SERCOS interface standard. Two LEDs (one red, one green) give visual indication of the current state of the optical ring. An additional connector, in the form of a DB-9, provides access to low level test points for diagnosis of telegram activity. Physical jumpers are not required for installation since all configuration of the card is performed under host software control.

The EXM-15A includes a single copy runtime license for the SERCOS Runtime eXecutive (SRX™) available from Pacific Scientific. Software tools required for developing applications are also available. The product is offered in six possible software license configurations, depending on the number of drives addressed on the SERCOS ring. The following axis versions are available: 4, 8, 12,16, 24, and 32.

ORDER CODE

Contact Pacific Scientific for order information.

COMPATIBILITY

The EXM-15A contains a 2KB dual port RAM, which is mapped to any 2KB boundary in the C or D page of the standard personal computer memory map. An interrupt signal generated by the EXM-15A must be mapped to one of eight possible interrupt assignments on the EXM bus.

HARDWARE INTERFACE	
Memory space used	4 K
User-selectable base address	any 2K boundary
User-selectable IRQs	2, 5, 6
User-selectable DMA channels	none

POWER REQUIREMENTS	
	Typical
+5V	200 mA

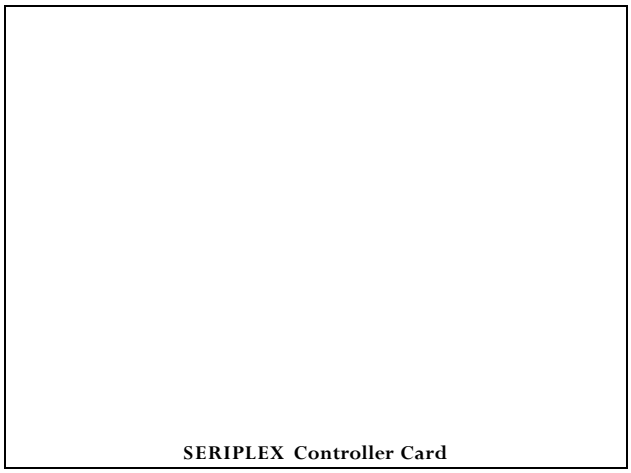
Pacific Scientific
Motion Technology Division
110 Fordham Road
Wilmington, MA 01887
Tel: 508-988-9800
Fax: 508-988-9940
Contact: Customer Support

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SPX-EXM-INTF

SERIPLEX® Controller Card

The SERIPLEX EXM Controller Card allows software control and monitoring of hundreds of remote analog and digital input and output devices through a SERIPLEX control bus cable, saving up to 70% of the installation cost of traditional discrete I/O control wiring. The SPX-EXM-INTF provides a SERIPLEX port, Status & Fault LEDs and full support of all SERIPLEX bus features. Drivers are available for many popular control software products, and a C library is provided to aid custom driver development.



SERIPLEX Controller Card

ORDER CODE

SPX-EXM-INTF

COMPATIBILITY

Full EXM compatibility.

HARDWARE INTERFACE	
Memory space used	2 KB
User-selectable port address	none, memory mapped
User-selectable base address	any 2K boundary 80000F to FF800h
User-selectable IRQs	3, 4, 5, 7, 11, 12, 15
User-selectable DMA channels	none

POWER REQUIREMENTS		
	Typical	Maximum
+5V	200 mA	225 mA

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