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Find the *WinSystems PCM-COM4A-16-2* at our website: *Click HERE*



PC/104 (PC104) Bus Products Manufactured by WinSystems

PC104 Four Channel Serial Module - PCM-COM4A

- Four independent 8250 compatible serial channels
- 16 byte transmit FIFO
- 16 byte receive FIFO with error flags
- Modem control signals: CTS, RTS, DSR, DTR, RI and DCD on each channel
- Programmable serial interface characteristics for each channel
  - 5-, 6-, 7-, or 8-bit character lengths
  - Even, odd, or no parity generation and checking
  - 1, 1.5, or 2 stop bits
  - Local internal loopback for diagnostics
- Shared interrupt capability with status ID register
- RS-232 and optional RS-485 and RS-422 electrical interface levels on all channels
- Asynchronous data rates to 115,200 bps
- Software programmable baud rate generator
- Jumper selectable board I/O address
- +5 volt only operation
- Small size: 3.6" x 3.8" (90mm x 96mm)
- Operating temperature: -40°C to +85°C



OVERVIEW

The PCM-COM4A is a 4 channel serial INS8250 compatible PC/104 module based on the 16C554. It is ideally suited for applications running DOS programs or languages that require exact register compatible hardware for program execution on software such as Greenleaf Comm Library, CROSSTALK, etc. Each channel supports RS-232 with optional RS-485 and RS-422 electrical levels to interface to a wide variety of serial communications devices such as modems, data collection equipment, and distributed I/O terminals. The PCM-COM4A will operate over the full industrial temperature range of -40° to +85°Centigrade.

FUNCTIONAL CAPABILITY

Serial Controller - A 16C554 serves as the serial communication controller. It is an improved version of the 16C450 UART with higher operating speed and lower access time. It has four independent, double buffered, asynchronous channels that are 8250 hardware compatible. The unit contains on-chip software programmable baud rate generators selectable through 115,200 bits per second. Each channel has a 16 byte transmit and receive FIFO for use with high speed data communications. A FIFO register is used to enable the FIFOs, clear the FIFOs, and set the receiver FIFO trigger level. Each channel will support 5-, 6-, 7-, or 8-bit characters with even, odd or no parity generation and checking. It will handle 1, 1.5, or 2 stop bits. Each channel can be set up to provide internal diagnostics such as loopback and echo mode on the data stream.

Electrical Interface Levels - The board is shipped in a standard configuration that supports RS-232. Only +5 volts is required for the board since the Maxim MAX208 chip is used which generates the plus and minus voltages required for RS-232.

Optionally, RS-422/485 electrical levels can be support-ed on all 4 channels. The RS-422/485 configuration provides separate balanced transmit and receive signal pairs. For RS-485 multidrop

lines, one signal pair can be used for "party line" networks.

The PCM-COM4A is designed to properly disable the transmitter upon reset to prevent potential lock-up problems caused by a transmitter stuck in the ON mode. Both the RS-22/485 transmitter and receiver lines permit user installable termination resistors for impedance matching and biasing.

WinSystems' CK-75176-2 chip kit can be ordered for each channel that contains two 75176B devices. The parts can be easily installed by the user.

All serial channels are configured as Data Terminal Equipment (DTE) and wired to two 20-pin right angle connectors. WinSystems offers the optional CBL-173-1 which adapts each serial channel pair to two standard 9-pin male D type connectors. Two cables are required to support all 4 channels.

Interrupts - Interrupts are generated on error conditions or receive/transmit buffer status for each of the serial channels. Each of the 4 channels can be routed to the PC/104 Bus connector. Alternatively, all four channels can share one interrupt line. The PCM-COM4A supports IRQ channels 2, 3, 4, 5, 6, 7, 10, 11, 12, 14 and 15. The PCM-COM4A also contains a Read Only Interrupt Status Register to allow quick identification of the UART channel(s) needing service.

PC/104 Interface - The PCM-COM4A is I/O mapped. Each channel requires 8 port addresses and each is independently decoded within the I/O map. The Interrupt Status Register also requires one I/O port. The addresses are decoded in a PAL and jumper selectable with 8 different I/O maps.

The PCM/104 card is an 16-bit stackthrough card supporting 8-bit data transfers only.

Custom Configurations - For OEM applications, the PCM-COM4A can be shipped from the factory with your specific RS-232 and RS-422/485 configuration. Contact the factory for details.

SPECIFICATIONS

Electrical

PC/104 Bus: 16-bit, stackthrough
Serial: 4 RS-232 asynchronous channels.
Optional RS-422/485 with the CK-75176-2 installed per channel
Vcc = +5V ±5% @ 80mA

Mechanical

Dimensions: 3.6" x 3.8" (90mm x 96mm)
PC board: 4 layer FR4 epoxy glass with screened component legend

Connectors

Serial: Two, 20-pin 0.100" grid
PC/104: 64-pin, 0.100" (32-pin double row)
40-pin, 0.100" (20-pin double row)
Jumpers: 0.025" square posts

Environmental

Operating Temperature: -40° to +85°Celsius
Non-condensing relative humidity: 5% to 95%

ORDERING INFORMATION

PC/104 MODULE	
PART NUMBER	**DESCRIPTION**
PCM-COM4A-8-2	FOUR CHANNEL, RS-232 SERIAL PC/104 MODULE WITH 8-BIT INTERFACE
PCM-COM4A-16-2	FOUR CHANNEL, RS-232 SERIAL PC/104 MODULE WITH 16-BIT INTERFACE
PCM-COM4A-8-4	FOUR CHANNEL, RS-422/485 SERIAL PC/104 MODULE WITH 8-BIT INTERFACE
PCM-COM4A-16-4	FOUR CHANNEL, RS-422/485 SERIAL PC/104 MODULE WITH 16-BIT INTERFACE
CABLES	
PART NUMBER	**DESCRIPTION**

CBL-173-1	20-PIN RIBBON TO TWO MALE 9-PIN "D" CONNECTOR ADAPTER CABLE
MISCELLANEOUS	
PART NUMBER	**DESCRIPTION**
CK-75176-2	RS-422/485 CHIP KIT FOR 1 CHANNEL

DOWNLOADS

PDF DATASHEET	
PRINTABLE DATASHEET IN PDF FORMAT	PCMSX (PDF)
SOFTWARE EXAMPLES	
WINDOWS NT/2000/XP REGISTRY CHANGES FOR USING SHARED INTERRUPTS WITH PCM-COM4A AND PCM-COM8	NTCOM4EXAMPLE HTML
MANUAL	
ELECTRONIC PRODUCT MANUAL IN PDF FORMAT (REQUIRES LOGIN)	MANUAL PDF

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