P R O D U C T P R O F I L E

DigiBoard PC/Xi and MC/Xi

Intelligent I/O Subsystems for Small to Medium Workgroups

DigiBoard offers two intelligent, high-speed multichannel serial communication boards that, together with DigiWARE® software, provide a complete and powerful serial communications solution. The DigiBoard® PC/Xi™ offers rapid data transfer rates and the most flexible configuration. The DigiBoard® MC/Xi™ is functionally similar to the PC/Xi but has been optimized for the IBM Micro Channel® Architecture® and fitted with a Micro Channel bus interface.

The Intelligent Advantage

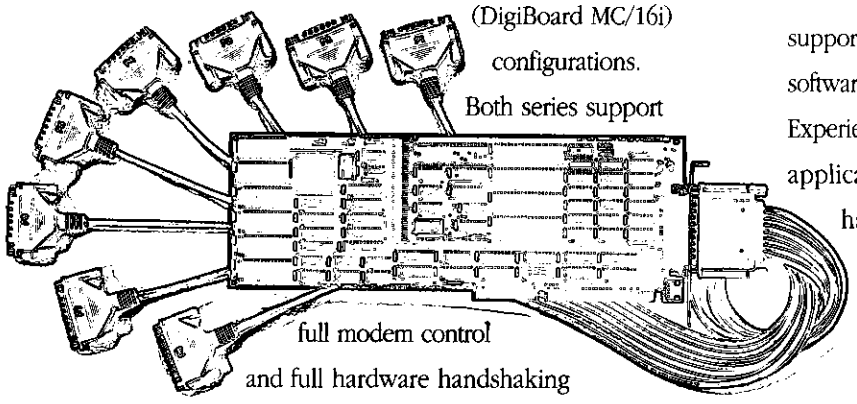
Intelligent serial boards offer a distinct advantage over their non-intelligent counterparts. The on-board processing capabilities of intelligent boards significantly reduce host CPU overhead—typically to less than one half of one percent per thousand characters. This frees up processing power, allowing the host to devote more CPU time to application software.

The PC/Xi and MC/Xi provide a dedicated I/O processor, on-board RAM and Front End Processor/ Operating System (FEP/OS) which work to relieve the host computer of most of the processing burden associated with multichannel communications. Both of these boards provide fast, dependable and reliable solutions for multiuser workgroup computing needs and are ideal for multiple-point data acquisition, remote LAN access and office and factory automation. Terminals, printers, modems, plotters, mice and most other asynchronous serial peripherals are supported by both the DigiBoard PC/Xi and MC/Xi.

S E R I A L C O N N E C T I V I T Y

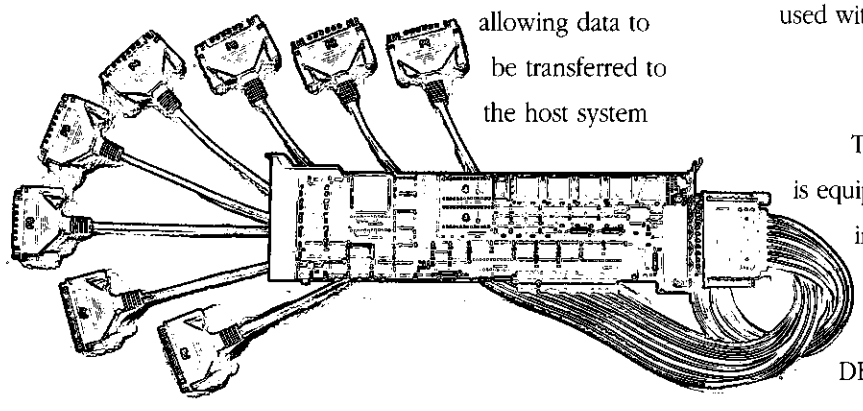
DigiBoard PC/Xi and MC/Xi Hardware Features

The DigiBoard PC/Xi and MC/Xi are designed for maximum flexibility. The PC/Xi is available in eight-port (DigiBoard PC/8i) or 16-port (DigiBoard PC/16i) configurations. The MC/Xi is available in four-port (DigiBoard MC/4i), eight-port (DigiBoard MC/8i) or 16-port (DigiBoard MC/16i) configurations. Both series support full modem control and full hardware handshaking (CTS, RTS, DSR, DTR and RI) on all channels. Both boards are available with an RS-232 communication interface and either DB-25 or RJ-45 connector options; the PC/16i and MC/16i are available only with DB-25 connectors. Each asynchronous channel offers independently selectable data transfer rates, ranging from 50bps to 115Kbps, as well as independently definable character widths, stop-bits and parity.



Both boards come equipped with a dedicated Intel™ 12.5MHz 80186 I/O processor (16MHz is optional), providing powerful on-board I/O processing power while eliminating excessive host CPU overhead.

The PC/Xi also supplies 128K (expandable to 256K or 512K) of zero wait-state static RAM and the MC/Xi supplies 256K RAM for data storage and buffering. This RAM may be accessed by both the board and the host system's own processor, thereby allowing data to be transferred to the host system in blocks through the memory buffer, rather than writing single bits out through a UART. Another 16K (expandable to 64K or 128K on the MC/Xi only) of zero wait-state static RAM is dedicated to the execution of the FEP/OS, the intelligence behind the board's operation . This additional RAM is not dual-ported, allowing for faster execution of the code.



While most popular operating systems are supported through DigiBoard's powerful device driver software, the DigiBoard PC/Xi is also fully programmable. Experienced programmers can write their own custom applications to take advantage of specific PC/Xi hardware features.

DigiBoard PC/Xi and MC/Xi I/O Interface

Host Computer I/O Port. The user's host computer and the DigiBoard PC/Xi and MC/Xi each have a one-bit I/O port for the system interface. The host's port is used to Reset or Interrupt the board. On the PC/Xi, the I/O port is mapped to any one of eight locations set with DIP switches. On the MC/Xi, the I/O port is mapped to the host computer's memory at any one of four locations set with the IBM POS configuration program.

Interrupt Line. If needed, the configuration DIP switches may be set by the user to select the host computer-PC/Xi interrupt line. The options are IRQ3, IRQ4, IRQ5, IRQ7, IRQ10, IRQ11, IRQ12 and IRQ15. Note that no interrupts are used with UNIX and XENIX drivers. On the MC/Xi, the POS configuration program is used to select the interrupt line between the host computer and the board. Note that no interrupts are used with the AIX driver.

Connectors

The endplate of the DigiBoard PC/Xi and MC/Xi is equipped with a female 78-pin D-style connector, into which can be plugged a shielded RJ-45 connector box, a DB-25 connection box or a cable assembly terminating in standard DB-25 male connectors.

DB-25 Connectors

Each DB-25 connector is labeled with the appropriate channel number and uses EIA RS-232 voltage levels, with the following signals at the pins specified below:

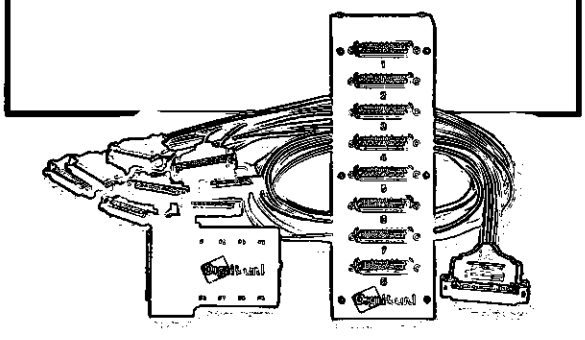
Pin #	Signal	Description
2	TXD	Transmit Data
3	RXD	Receive Data
4	RTS	Request To Send
5	CTS	Clear To Send
6	DSR	Data Set Ready
7	SG	Signal Ground
8	DCD	Data Carrier Detect
20	DTR	Data Terminal Ready
22	RI	Ring Indicator

(All other pins of the DB-25 connector are not used.)

RJ-45 Connectors

A shielded RJ-45 connector box may alternately be attached to the 78-pin output connector. Each RJ-45 connector uses EIA RS-232 voltage levels, with the following signals at the pin number specified below:

Pin#	Signal	Description	Pins in Connector			
			10	8	6	4
1	RI	Ring Indicator	X	-	-	-
2	DSR	Data Set Ready	X	X	-	-
3	RTS	Request to Send	X	X	X	-
4	C.GND	Chassis Ground	X	X	X	X
5	TXD	Transmit Data	X	X	X	X
6	RXD	Receive Data	X	X	X	X
7	SG	Signal Ground	X	X	X	X
8	CTS	Clear to Send	X	X	X	-
9	DTR	Data Terminal Ready	X	X	-	-
10	DCD	Data Carrier Detect	X	-	-	-



DigiBoard PC/Xi and MC/Xi Firmware Features

The DigiBoard PC/Xi and MC/Xi share on-board firmware that provides extensive diagnostic capability and high-level shared-memory interface to provide optimum system performance. The firmware consists of two modules:

BIOS (Basic Input/Output System). The BIOS is a diagnostic/utility program that performs power-up self-test procedures, and will service requests to do low level manipulation of the board's hardware. The BIOS may also be used to download special purpose software, to access device/memory registers and to debug code.

FEP/OS (Front End Processor/Operating System). The BIOS transfers control to the FEP/OS shortly after start-up. The FEP/OS is the control program used by the host to perform serial I/O tasks. This firmware provides a high-level, circular queue-based shared-memory interface to the host. It relieves the host from all device interrupt handling, performs all processing, and handles all hardware and software flow control.

DigiBoard Driver Software

DigiBoard's driver software is specifically engineered to work in concert with multiuser operating systems from AIX to XENIX. All UNIX drivers offer the DigiBoard MenuPort Interface (MPI)™, menu-driven software designed to provide faster and easier installation. MPI also allows users to access DigiBoard Port Authority (DPA)™, a software diagnostic tool that allows users to easily monitor the status of both the FEP/OS and the individual ports.

In addition, all UNIX drivers support DigiSCREEN™, a multiscreen feature that lets you hotkey among several virtual screens, and DigiPRINT™, our transparent printing utility. DigiPRINT allows you to connect a printer to the auxiliary port of each terminal on the system and print without interrupting the work on the terminal.

Features/Specifications

Features

- Available for ISA or Micro Channel platforms
- 4, 8 or 16 asynchronous serial ports
- 12.5 MHz 80186 processor (16 MHz processor optional)
- PC/Xi: 128K dual-ported, zero wait-state RAM (expandable to 512K)
- MC/Xi: 256K dual-ported, zero wait-state RAM
- 16K zero wait-state static local program RAM (PC/Xi: expandable to 64K, MC/Xi: expandable to 128K)
- 8530 serial communications controller
- 38.4 Kbps performance

System Requirements

- One full-length 16-bit slot
- 64K unused memory space for static RAM
- One unused I/O port address

Board Dimensions

PC Xi		MC/Xi	
Length	13.1 in (33 cm)	Length	11.6 in (29 cm)
Width	4.8 in (12 cm)	Width	3.475 in (8.8 cm)
Height	0.6 in (1.5 cm)	Height	0.6 in (1.5 cm)
Weight	1.0 lb (0.45 Kg)	Weight	0.75 lb (0.34 Kg)

Certification

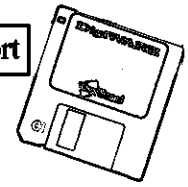
Both the PC/Xi and MC/Xi are FCC Class B certified.

Please call your DigiBoard representative for more information regarding additional certification.

Environmental Requirements

Ambient temp.	50°F to 130°F (10°C to 55°C)
Relative humidity	5% to 90%
Air movement	30 CFM forced
Altitude	0 to 12,000 ft (0 to 3660 m)

DigiWARE® Software Support



SCO UNIX, Solaris X86, UNIX SVR3, UNIX SVR4, DOS, OS/2

Microsoft Windows 3.X, Windows NT
Novell® NetWare® Connect™

For an updated list of software support via DigiBoard and other Third Party vendors, please contact your DigiBoard representative.

Power Requirements

DigiBoard PC/Xi	DigiBoard MC/4i
+5 vdc, 1.2 Amps maximum	+5 vdc, 1 Amp maximum
+12 vdc, 300 mA maximum	+12 vdc, 12.5 mA maximum
-12 vdc, 200 mA maximum	-12 vdc, 12.5 mA maximum

DigiBoard MC 8i	MC 16i
+5 vdc, 1.2 Amps maximum	+5 vdc, 1.4 Amps maximum
+12 vdc, 25 mA maximum	+12 vdc, 300 mA maximum
-12 vdc, 25 mA maximum	-12 vdc, 300 mA maximum

Warranty and Technical Support

DigiBoard serial communication products have an unmatched field failure rate of less than one-half-of-one percent. Plus they are backed by a comprehensive five year warranty to ensure that you will have a fully functional board for the life of your system. And when you need help, DigiBoard technical support is always as close as your phone.

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