



## HIB-232™ Network Interface Module for MCN™ Monitoring and Control Systems



### Introduction

The HIB Host Computer Interface Module is part of CTI Products' Monitoring and Control Network (MCN™) System. It connects a PC to the MCN Network to let the PC monitor and control devices on the network. It can be used for fixed or dial-up PCs.

### Remote Comparator Display Systems

The HIB module works with CTI's MCN Remote Comparator Display (MCNRCD) software to turn a PC into a Remote Comparator Display position. It extends the comparator lights and switches from comparator interface modules such as CIBs and AIBs over the network to a remote display position. It can also be used to display and control other I/O devices using CIB and IOB modules.

The MCN Remote Comparator Display software features real-time receiver status monitoring. Receivers can be force-voted and disabled from the PC. When used on fixed PCs, receiver errors can be logged to the screen or the disk to provide an audit trail of bad or intermittent receivers.

### Multiple Display Locations

CTI's MCN Control System is a modular system which uses distributed processors to monitor and control points remotely. The HIB module connects to the network to provide a PC access port.

Multiple HIB modules can be connected to a MCN network to provide multiple PC control and monitoring positions for the system. Full parallel status and control on all PCs is supported. PC Displays and Console Displays may be mixed in a single system with some limitations.

### Dial-Up Operation

To connect a single PC to a MCN network that is located remotely, leased line or dial-up modems can be used between the PC and the HIB module.

### Multiple Remote PCs

If multiple remote PCs are located at a location, they can be connected back to the comparators with our EXB Network Extender modules over leased lines, Asynchronous Data channels, Ethernet, or Fiber.

### System Options

The following are some of the MCN system options available to work with the HIB module:

- Quad Mounting Rack (1.75" high) for mounting 4 HIB or other size A MCN modules
- AC Power supplies for 120 or 240 VAC
- Network cables and terminators
- CIB & AIB Comparator Interface Modules
- Network Extenders & Routers

### How the System Works

The system diagram on the next page shows a typical system with both a local PC and a remote PC. The remote PC may be connected via leased-line or dial-up modems.

The CIB Comparator Interface Modules mount near the comparator and control and monitor up to 8 receivers each. They pass the *Vote*, *Receive*, *Disable*, and *Fail* indications from the voting comparator to the MCN network. The receiver data is passed over the network to the HIB modules and then on to the PCs.

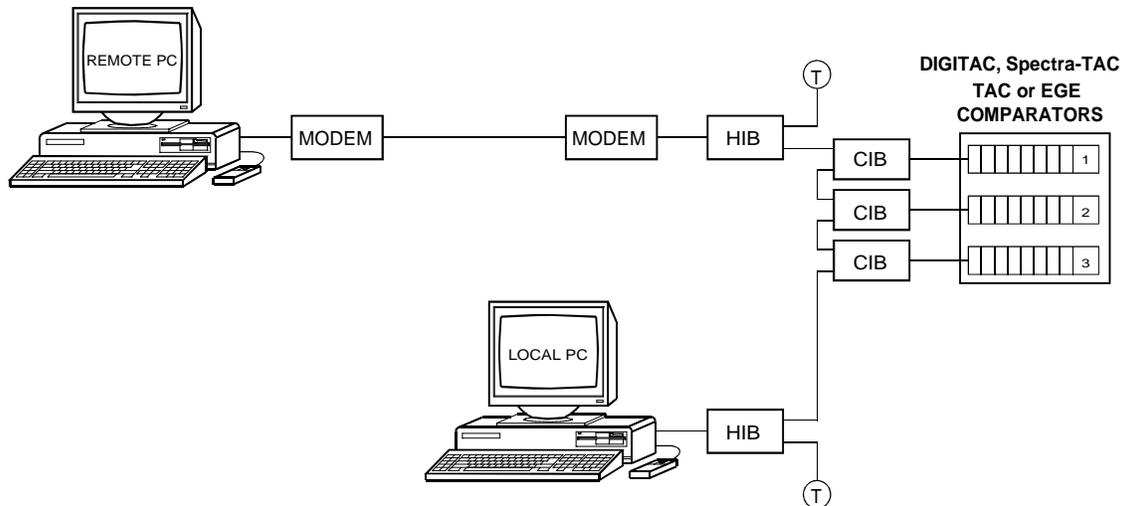
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Typical MCN Remote Comparator Display System

**System Operation**

The system diagram above shows a typical system with both a local PC and a remote PC. The remote PC may be connected via leased-line or dial-up modems.

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The receiver data is passed over the network to the HIB modules and then on to the PCs. The *Force-Vote* and *Disable* control commands from the PC are passed through the HIB module through the MCN network to the CIB modules.

The CIB modules accept the *Force-Vote* and *Disable* commands from the network and generate the Force Vote and Disable outputs to the comparator.

**Dial-Up Applications**

For maintenance purposes, the PC display can be used over dial-up lines. Since the PC does not have to be dedicated, it may be used for other applications when not monitoring the comparator. Technicians can even diagnose after-hours system problems from home using a properly equipped portable PC and dial-up modem.

**Alternate Network Interfaces**

CTI Products has other MCN network interfaces for various applications:

- **PCLTA** Internal PCI card.  
Available in 78 kB standard speed and 1.25 Mb high speed versions.  
Eliminates the need for a serial port.
- **HIB-IP** Remote Network Interface that connects over an IP network.

**General Specifications**

Size (MCN Size A):	5.5" x 4.2" x 1.5" (140 x 107 x 38 mm)
Weight:	16 oz, (455 g)
Temperature:	0-50 °C
Humidity:	10- 95% non-condensing
PC Interface	RS-232C, DE-9F, DCD
Baud Rates Supported	9.6 Kbps – 38.4 Kbps
Network Connectors:	(2) RJ-45 (1 in, 1 out)
Max. network segment:	4000 ft. without repeaters
Network Cabling	4 Pair Level 4 UTP
Power Input	12 to 30 VDC / 2 W
Safety Approvals to:	UL 1950, CSA 1950 EN60950-1992 (CE)
Emissions Compliance:	FCC part 15, Class A IC (DOC), Class A (Canada) EN55022, Class A
Susceptibility Compliance:	IEC 801-2, 3, 4 EN50082-1