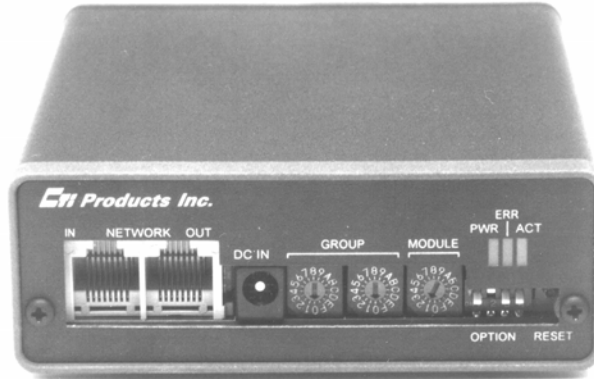




CIB™ Comparator Interface Module for MCN™ Monitoring and Control Systems



Introduction

The CIB Comparator Interface Module is part of CTI Product's MCN™ Monitoring and Control Network. It connects a voting system comparator to the MCN Network. It extends the comparator lights and switches over the network to a remote display position (either a PC or a console display).

The CIB Comparator Interface Module is compatible with:

- Motorola Digitac, Spectra-TAC, and TAC Comparators
- JPS SNV-12 Voters
- M/A-Com / Ericsson / G.E. Voters.
- Doug Hall Electronics 4RV/2 Voters
- Contact closures for alarm inputs

Get Control of Your Comparator!

A dispatcher or technician can see at a glance which receivers are receiving, voted, disabled, or failed. A Force-Vote function permits audio monitoring of each receiver site. A Disable function shuts down bad receivers until repairs are made.

Repair Voting System Problems Efficiently!

With the MCN Remote Comparator Display, your operators can provide a technician with an accurate description of the system failure. By isolating a failure to a specific voting receiver, valuable technician time is saved and receiver down-time is reduced.

System noise, interference, and phone line problems can be difficult to find in a comparator system. The Remote Comparator Display is an effective trouble-shooting tool that helps diagnose system problems fast.

Intermittent system problems can be extremely tough to find. The Remote Comparator Display shows which receiver is bad while the problem still exists. This can eliminate repeated service calls to the comparator just to isolate a bad receiver.

PC Display

The PC display features real-time receiver status monitoring. The Force-Vote and Disable are controlled with a mouse or keyboard. The receiver names and screen positions are user-configurable.

Receiver errors can be logged to the screen, disk, or printer to provide an audit trail of bad or intermittent receivers.

Console Display

MCN System modules are also available to provide logic inputs and outputs to interface to radio console equipment.

System Options

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

- Quad Mounting Rack for mounting 4 CIBs or other size A MCN modules
- Digitac Mounting kits for mounting CIB to back of Digitac Comparator. Includes "T" ribbon cable for connecting CIB & External Cable to Digitac.
- AC Power supplies for 120 or 240 VAC
- DC Power Cables
- Network cables and terminators
- HIB Host Interface Modules, PCLTA Modules and PC MCN Remote Comparator Display Software
- Routers/Repeaters, System Extenders

How the System Works

The MCN Remote Comparator Display includes two basic parts: the Comparator Interface Modules and the Operator Interface.

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.

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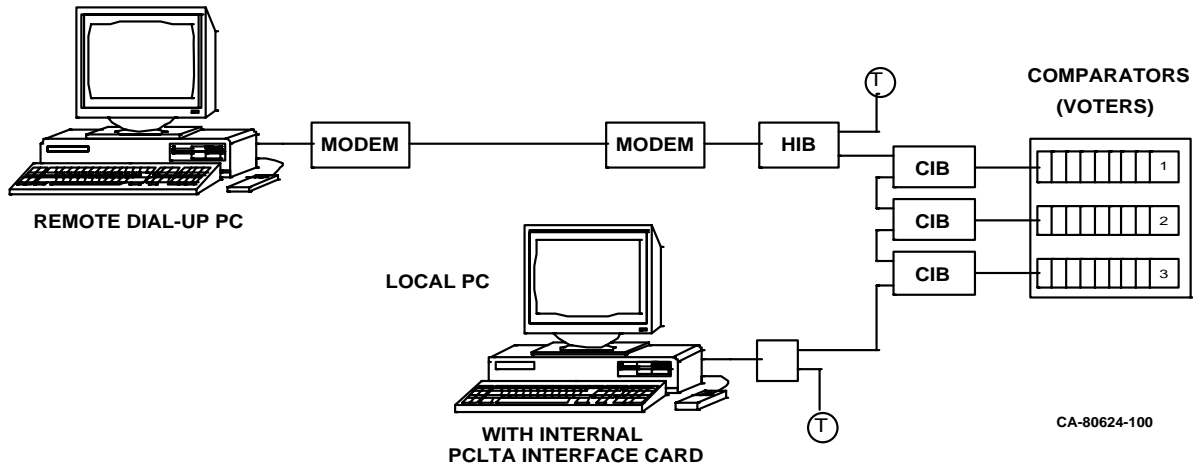
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Typical MCN Remote Comparator Display System

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

The receiver data is passed over the network to Operator Interfaces. The diagram shows a dial-up PC connected to the network via modems and a HIB Host Interface Module. It also shows a local PC with an internal PCLTA network interface card connected directly to the network. The operator commands (*Force-Vote* and *Disable*) are passed from the PCs through the network to the CIB modules.

As shown above, the PCs can control multiple comparators. Other system configurations support multiple remote comparator sites.

The MCN Remote Comparator Display software can run on Dispatch Console PCs. Alternately, modules are available to connect the system to consoles via console Input/Output modules.

Multiple Displays

The MCN System offers full parallel status and control at multiple PC Operator Interfaces. PC Displays and Console Displays may be mixed in a single system with some limitations.

Dial-Up Applications

For maintenance purposes, the PC display can be used over dial-up lines with HIB-232 modules. 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 PC and dial-up modem.

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
Receivers controlled:	8 per CIB
Inputs per receiver:	4: Vote, Receive, Disable, Fail Logic levels, active low pull-up to +5 or +12-15V
Outputs per receiver:	2: Force Vote, Disable Logic Levels, active low
Max I/O voltage:	+30 VDC
Comparator Connector	50 pin Telco style, Female
Network Connectors:	(2) RJ-45 (1 in, 1 out)
Max. network segment:	4000 ft. without repeaters
Max. CIB modules:	16 per network segment (Larger, multi-segment systems can be custom-configured.)
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