CIB™ Comparator Interface & Logic I/O Module for MCN™ Monitoring and Control Systems

CTI Products, Inc.

1211 West Sharon Road
Cincinnati, Ohio 45240
USA

phone

+1.513.595.5900

fax

+1.513.595.5983

e-mail

info@ctiproducts.com

www.ctiproducts.com
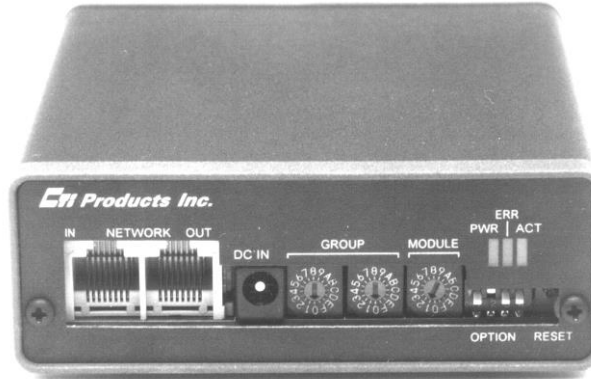
Introduction

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 displayed on the screen, saved on the disk, or printed out 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 kit 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

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.

CIB Comparator Interface & Logic I/O Module

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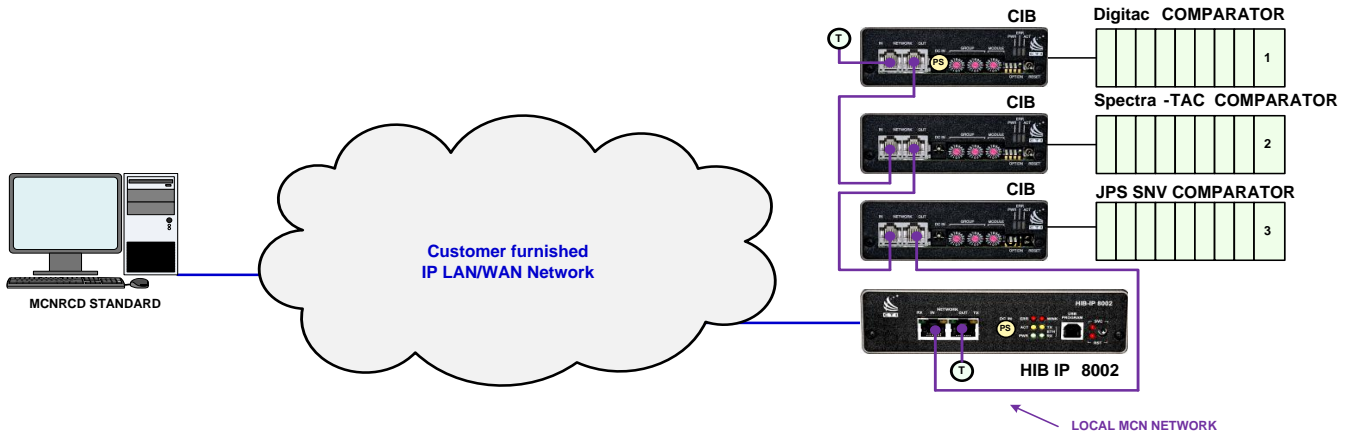
Typical MCN Remote Comparator Display System

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 operator commands (*Force-Vote* and *Disable*) are passed from the PCs through the network to the CIB modules. A PC connects to the MCN network over IP by using a HIB-IP 8002 module.

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 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 to help technicians diagnose system problems.

Software Compatibility
The CIB module is compatible with the following MCN software:

- MCNRCD Standard
- MCN Server Software
- MCN Advanced Server Software
- MCN Server 8000 Software

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 ºC
Humidity:	10- 95% non-condensing
Receivers controlled:	8 per CIB module
Total I/Os:	32 total: 24 Bidirectional I/Os, 8 pairs of unidirectional Inputs & Outputs
Inputs:	Comparator Applications: 4 inputs per receiver: Vote, Receive, Disable, and Fail Alarm Input Applications: 32 Inputs per Module Logic levels, active low with internal +5V pullup
Outputs per receiver:	Comparator Applications: 2 per Rx: Force Vote, Disable Other Applications: 32 per module 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
Emissions Compliance:	FCC part 15, Class A IC (DOC), Class A (Canada) EN55022, Class A
Susceptibility Compliance:	IEC 801-2, 3, 4 EN50082-1