# The CTI Toolbox

## Products for Public Safety Communications

**Issue: IWCE 2008**

CTI Products, Inc., 1211 W Sharon Rd, Cincinnati, OH 45240
www.ctiproducts.com sales@ctiproducts.com 513-595-5900

### Inside This Issue



## What's New

We are excited to be announcing two important product offerings from CTI Products during this IWCE Show.

The first new product for 2008 is our **System Performance Toolkit**. This set of software tools helps to ensure that your radio system continues to operate at peak performance, just as it did on "day one". As a manager or user of public safety communications, there is nothing worse than discovering your communications system is not performing at 100% during an emergency. This set of tools continuously analyzes channel activity, and indicates possible problem areas.

Please see *System Performance Toolkit*, on page 3.

The second new product is a series of **General Purpose I/O** modules. These offer a convenient way of connecting alarms and controls for site management, generator control, microwave loop monitor and control, and much more.

Please see *General Purpose I/O* on page 3.

## Vote in our "Primary"

With the primary season in swing, we could not resist the temptation to bring our Voting Booth to IWCE. Come in for some fun. See how the "voting" is progressing for your favorite candidate. Then support your man (or lady) by participating in our straw poll. Come to **Booth 454.**

## Wonderful Widgets

*Small solutions for large problems*

Have you ever said, "If only somebody made a thingamajig, my life would be easy"? Well, we have thingamajigs and widgets and doohickeys to solve all sorts of audio interfacing and switching problems. Here are just a few examples.

- The Diode Matrix Plug connects to a punch block to simplify field wiring when a signal is required to drive multiple inputs.
- The CIB-T Test Board includes 32 switch outputs and corresponding LED indicators to provide a host of I/O debugging solutions.
- The RYB-8 relay board consists of eight DPDT relays configured to switch circuit pairs. Jumper fields provide flexibility for driving multiple relays and enabling output terminations.
- The PBB-6x4 Passive Bridge Board provides six balanced, 600 Ohm, 4-port passive audio bridge circuits, with switchable terminations.

Call us to see if one of our widgets will solve your latest project challenge.

*We've got widgets on the shelf, waiting to help solve your latest project challenge.*

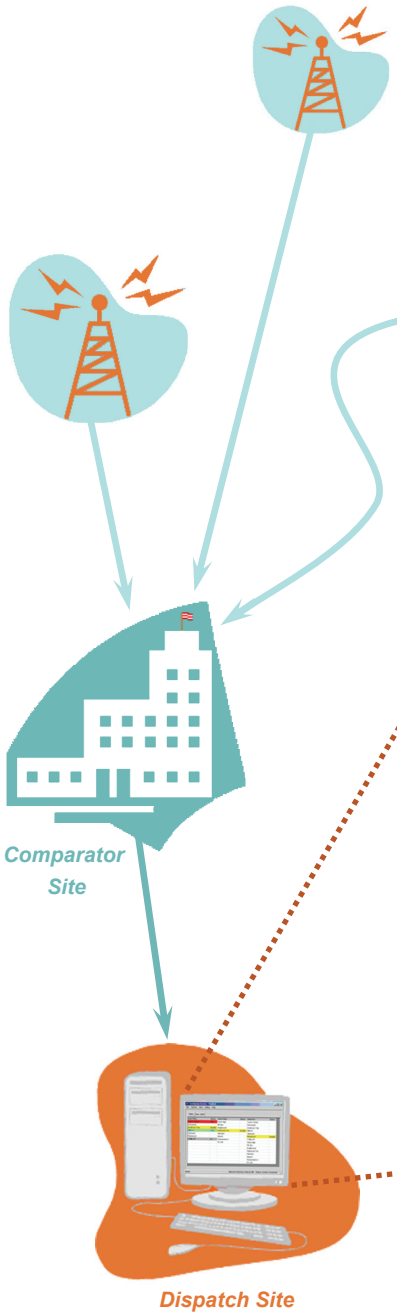
# Monitor and Control Network (MCN™)

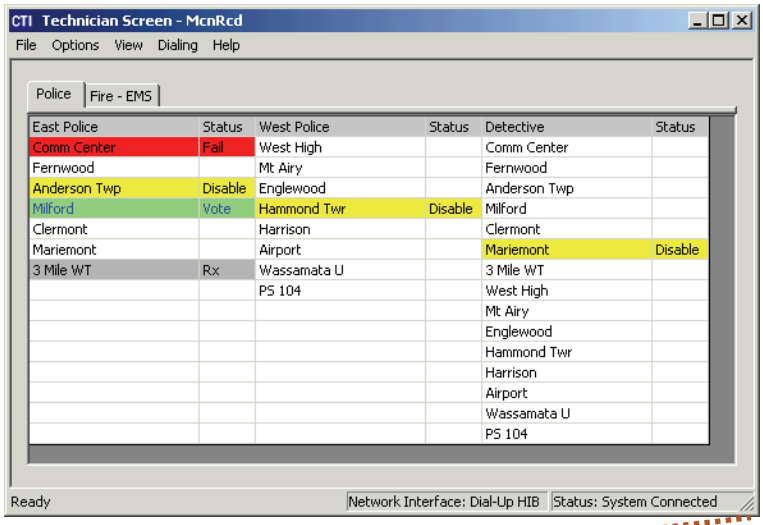
*Remote Real-Time System Monitor and Control*

The Monitoring and Control Network (MCN™) from CTI Products provides remote monitoring and control for voting receiver systems, as well as for site alarms and facility equipment. In the case of comparators and voters, it extends the status indicators for display on a PC or a console, and allows an operator or technician to force-vote and disable receivers. The MCN system makes it possible to monitor and control multiple comparators from a single point or multiple points. Monitor and control functions can be provided either locally (in the same physical building as the comparator) or remotely using WAN, LAN, PSTN, T1 Channel Banks, or microwave channels.

The MCN comparator display system consists of MCN hardware modules to connect a comparator device to a monitor and control station (such as a PC or console). It may also include MCN RCD (Remote Comparator Display) software to provide status monitoring and control from a PC.

The following PC display shows the type of status information possible when using the MCN system with RCD (Remote Comparator Display) software.




The MCN System is targeted for the following applications:

- Systems that need comparator display for dispatchers
- Systems that need remote comparator display and control for technicians
- Critical comparator systems which require failure logging
- Large comparator systems (wide area or large number of channels)
- Analog Trunking systems with voting receivers
- ASTRO-TAC systems that require display of comparator status for a dispatcher or technician on a PC or a console
- Any voting system that needs rapid maintenance and diagnostics

# System Performance Toolkit

## *Tools to keep your system running smoothly*

This set of performance monitoring and analysis tools allows you to keep your radio system running at its peak. They work in tandem with our MCN Remote Comparator Display (RCD) Server software, constantly analyzing radio channel activity for receiver performance and channel loading. Now you can know that your system is running as well as it did when first installed.

### *System Watchdog*

Standard voting systems include failure indications for receivers. These Fail outputs indicate gross problems such as broken telephone lines or receivers that are completely dead. However, other serious problems can occur that simply cannot be detected by the Fail indication of standard voters. Nevertheless, the **System Watchdog** will generate an alert in response to conditions such as:

- Noisy telephone lines
- Faulty RF, IF, or Audio Sections of a receiver
- Damaged or noisy antennas
- Receivers that never receive or vote
- Defective or missing input modules on a comparator

*This set of tools will help keep your voting system running smoothly, just as it did when first installed.*

### *Data Miner*

This tool analyzes radio channel activity to indicate:

- Channel loading statistics
- Receiver performance
- Needed radio maintenance

It is also useful for receiver site-selection planning and administrative reports. In addition, data can be exported for use by other programs.

### *System Rewind*

This utility replays the historical record of events of a radio system. This helps in determining cause-and-effect relationships, leading to a quicker remedy.

# General Purpose I/O

## *Modules that easily solve your interface challenges*

These new General Purpose I/O modules easily interface to our MCN Monitor and Control Network. Using MCN RCD software, facilities can be monitored and controlled as easily as comparator systems. Here are just a few of the possibilities:

- Generators
- Doors / Intrusion Alarms
- Door Locks
- Gate Controls
- Power Fail
- Temperature Alarms
- Microwave / T1 Link Status
- Tower Lights

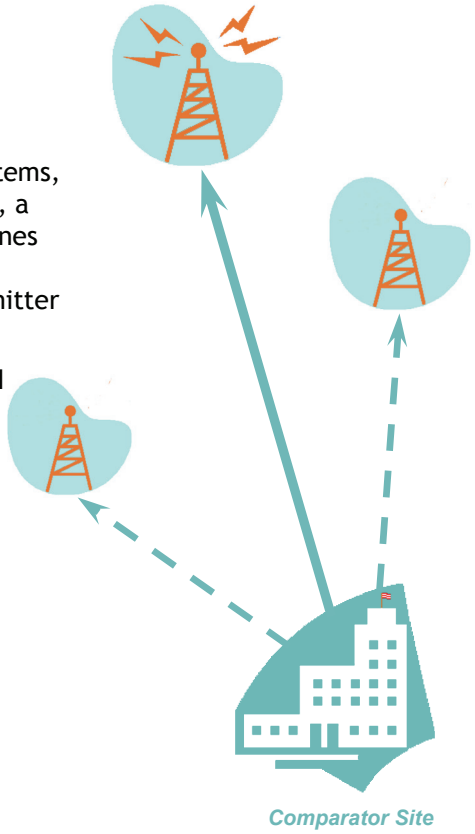
*Now it's possible to monitor and control comparators as well as site facilities from the same software tool.*

Several models are available to suit the application. Inputs are optically isolated and accept voltage inputs of 12 - 24 VAC/VDC. Output choices include solid-state SPST relays, or mechanical SPDT relays. Latching or momentary outputs are controlled in the MCN RCD software on the PC.

# Transmitter Steering

*Economically extend radio system talk-out range*

The TSAM Transmitter Steering Unit works with standard voting receiver systems, consoles, and base stations. When a mobile or portable calls the dispatcher, a comparator selects the best receiver site. The TSAM uses "Vote-Indicate" lines from the comparator to determine the best transmitter to use for the next transmission. The TSAM routes the transmit audio to the appropriate transmitter and provides a *steered-transmitter* indication to the console.




The TSAM is a microprocessor-controlled unit that is field programmable and incorporates electronic audio switching for high reliability. It generates all necessary transmitter keying and control tones, and provides the following features:

- Routes audio between eight transmitters and eight receivers
- Expansion capabilities allow eight TSAM units to be interconnected
- Selectable steering decision algorithms
- Generates Positive Mode Control (PMC) keying tones
- Manually selectable transmitter via "force" override
- PTT relay outputs
- Repeater operation

# Custom Interface Design

*Start-to-finish product design and build*

CTI Products has been solving customers' custom circuit design needs since 1995. Our in-house expertise allows us to design, document, and build a product - start to finish. We then support custom products with the same first-class attention we give our standard product line, including unlimited phone support, and quick turn-around on repairs.

Some of the custom design services available include:

- Analog Circuit design
- Digital Circuit design
- Product-based Firmware
- PC-based Software Applications
- Product Packaging

Following the design phase, we can build both prototype and production runs of your custom product.

Each of our customers can relate a success story. Some customers you will recognize include Motorola, New York City, and the City of Boston. We have been helping our customers find solutions to their specific needs for over a dozen years. Our degreed engineers have over 100 years of combined design experience. Experience, training, and a PE (Professional Engineer) License will all contribute to a successful custom product.

**CTI Products, Inc**
1211 W Sharon Rd
Cincinnati, OH 45240

**Phone:** 513-595-5900
**Fax:** 513-595-5983
**E-mail:** sales@ctiproducts.com
**Web:** www.ctiproducts.com

CTI products