



MCN™ System Watchdog System Performance Tool

**MCN System Watchdog
Real-Time Window**

Server	Description	LAN	Status
E:	Test Server	Ok	Unknown

---Date---	--Hour--	Error-----	MCN Server	G:M:R	Receiver Name	Channel / Description
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:5:6	700 RAMPART	AREA WIDE 6
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:5:6	700 RAMPART	AREA WIDE 6
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:5:7	ELGINS COLL	AREA WIDE 7
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:5:7	ELGINS COLL	AREA WIDE 7
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:6:1	N M-ELGINS C	SHERIFF S
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:6:1	N M-ELGINS C	SHERIFF S
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:6:2	N S-HILLS D	SHERIFF S
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:6:2	N S-HILLS D	SHERIFF S
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:6:3	S M-HILLCREST	SHERIFF S
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:6:3	S M-HILLCREST	SHERIFF S
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:6:4	S S-ELGINS H	SHERIFF S
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:6:4	S S-ELGINS H	SHERIFF S
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:6:5	HOPE HOUSE	SHERIFF S
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:6:5	HOPE HOUSE	SHERIFF S
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:6:6	HEARTBREAK HOTEL	SHERIFF S
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:6:6	HEARTBREAK HOTEL	SHERIFF S
07-11-2003	15:00:00	No RX Act	>MCNRCD #1	34:6:7	W.T. 75	SHERIFF S
07-11-2003	15:00:00	No Vote Act	>MCNRCD #1	34:6:7	W.T. 75	SHERIFF S

MCN System Watchdog System Error Log

Introduction

The **MCN™ System Watchdog** program enhances the diagnostic capability of the MCN Remote Comparator Display (MCNRCD) system. This program works in concert with the MCNRCD system to provide diagnostics based upon **System Activity**.

Standard Fail Indications

Standard voting systems include failure indications for receivers. These Fail outputs indicate gross problems such as broken telephone lines or receivers that are totally dead.

Other System Problems

Other serious system problems can occur that simply cannot be detected by the Fail indication of standard voters. Some of these problems include:

- Noisy Telephone Lines
- Bad Receivers (Bad RF, IF, Audio sections)
- Bad Antennas (Causing low range or no receive)
- Poorly performing receivers
- Receivers that never receive
- Receivers that never vote
- Defective or missing input modules on the comparator.

Because most voting systems are designed with overlapping coverage areas on receivers, adjacent receivers can provide partial

coverage for a poorly performing receiver. It may be weeks or months before you notice the **system degradation** associated with some of these problems. You may not even notice it until an adjacent receiver fails or a field unit gets into a particular critical location.

System Activity Analysis

The **MCN System Watchdog** program analyzes system activity to alert you to possible system problems that are not flagged by standard voting systems. It takes a high-level system view of your system, monitoring hourly activity files generated by the MCNRCD program. And it generates an alert when it detects inactivity on receivers for a period of time.

MCN System Watchdog Features

- Alerts on **No Receive** Activity
- Alerts on **No Vote** Activity
- User-Programmable Look-Back Time for activity
- User defines channels & receivers to watch
- Alerts logged on Screen, Disk, & Printer
- Can monitor multiple MCNRCD PCs
- Builds Activity Summary File for **MCN Data Miner** program
- Alerts if the MCNRCD program is not running.

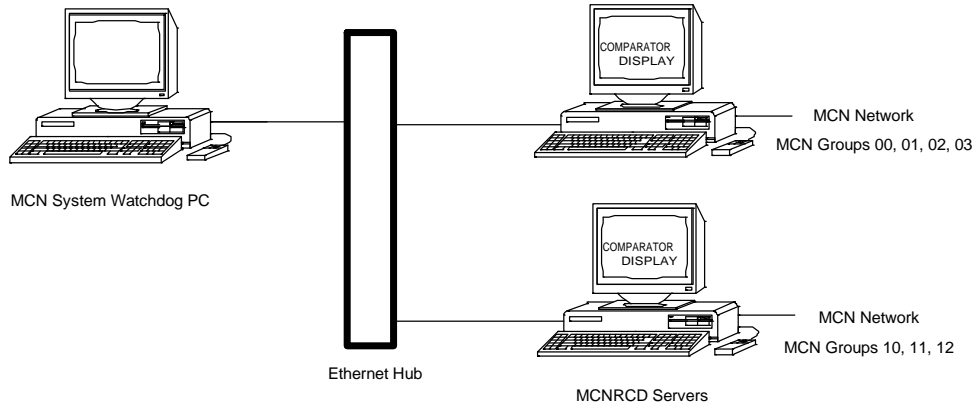
CTI Products, Inc.
1211 West Sharon Road
Cincinnati, Ohio 45240
USA

phone
+1.513.595.5900

fax
+1.513.595.5983

e-mail
info@ctiproducts.com

www.ctiproducts.com



MCN System Watchdog System with 2 MCNRCD Servers

Output to MCN Data Miner

The **MCN System Watchdog** builds Activity Summary Files for the past 1000 hours. This activity data can be viewed by the **MCN Data Miner** program, which is available as a separate program. The **MCN Data Miner** program can also extract system activity data for further analysis with third party programs such as Microsoft Excel. See the **MCN Data Miner** brochure for further details.

System Operation

MCN Remote Comparator Display (MCNRCD) software runs on a PC(s) and connects to the MCN network to monitor & control Comparator Interface Modules over the MCN network. The MCNRCD program generates hourly System Activity Files that hold system traffic information.

The **MCN System Watchdog** is a separate program, running on either the MCNRCD PC or a separate PC. The user configures the program to watch receivers on one or more MCNRCD servers. Every hour, the **MCN System Watchdog** program analyzes the Activity Files from each of the MCNRCD servers that it is watching.

When the program detects that a receiver has been inactive for a user-configurable time, it will issue an audio alert. It will also log the error to the screen, a printer, and disk.

The Error Log includes a time and date stamp, server name, error type, receiver name & description (see screen capture on previous page). It retrieves the receiver name & description from the MCNRCD database.

While the **MCN System Watchdog** program can't identify the exact cause of the problem (such as bad antenna, unplugged comparator input board, etc.), it can alert your technicians to the fact that there has been no activity on a particular receiver. It can give you a heads up about possible system problems before they escalate into larger ones.

System statistics and Coverage Planning

As part of its operation, the **MCN System Watchdog** maintains an Activity Summary File. This file can be viewed with the **MCN Data Miner** program (available separately). The **MCN Data Miner** program can also export this data for further analysis by programs such as Microsoft Excel for channel loading, system expansion, and site selection planning.

General Specifications

Application type	Native 32 Bit Windows Application
Operating Systems	Windows NT 4.0, 2000, XP
PC Requirements (min.)	Pentium III 350 MHz, 512 MB
Requires	MCN Comparator Display System and MCNRCD program (for DOS) version 3.70 or above
Runs on	PC running MCNRCD program or separate PC connected over LAN
Alerts Based on	No Vote or No Receive activity (selectable)
Activity Look-Back Time	Global, 1 to 100 Hours, user configured
Receiver Configuration	- Receiver configuration retrieved from MCNRCD database. - User specifies which receivers to watch or ignore.
Alert Outputs	Selectable .WAV File
Logging	Errors logged to Screen, Printer, Disk
Activity Summary File (Viewable with MCN Data Miner)	1000 hours Time (seconds) and Counts for: -Vote -Receive -Disable -Fail - Transmit Select (with TIBs)