

# RTMS

REAL - TIME MONITORING SOFTWARE

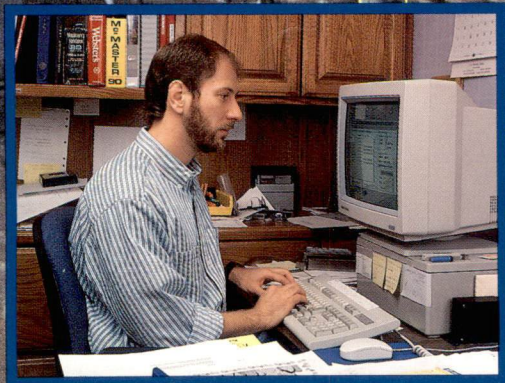
RTMS is a multi-tasking software package that supports automated, real-time data acquisition, graphical monitoring, and control of Campbell Scientific CR10T datalogger networks.

Air quality site

Water quality site

Equipment  
monitoring and  
control

Weather station  
site



**CAMPBELL SCIENTIFIC, INC.**

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# System Hardware

Real-Time Monitoring Software (RTMS) manages data acquisition and control of CR10T datalogger networks.

## Field Sites



Sensor measurement, data processing/storage, and on-site control functions are performed by a CR10T datalogger. The CR10T features the same measurement and control hardware as the CR10, but contains table-oriented final data storage, which provides more efficient data transfer through modems to the RTMS computer.

## Communication Links

UHF/VHF Radio  
Telephone  
Coaxial cable  
2 twisted-pair wire  
RS-232 cable

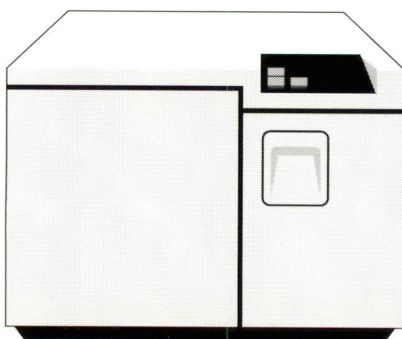
Interrogation rates and maximum number of sites per serial port are listed on page 4.

## Computer Running RTMS



RTMS runs on a personal computer with an OS/2 operating system. Computer requirements are listed on page 4.

## Optional Link to Mainframe



Where system requirements dictate routing data to a separate computer—such as a VAX, HP, IBM—RTMS optionally supports communication via a TCP/IP link.

# System Software

RTMS uses OS/2's multi-tasking capability to collect, display, analyze, route, and archive data simultaneously.

## RTM

Supports real-time display of raw or processed data

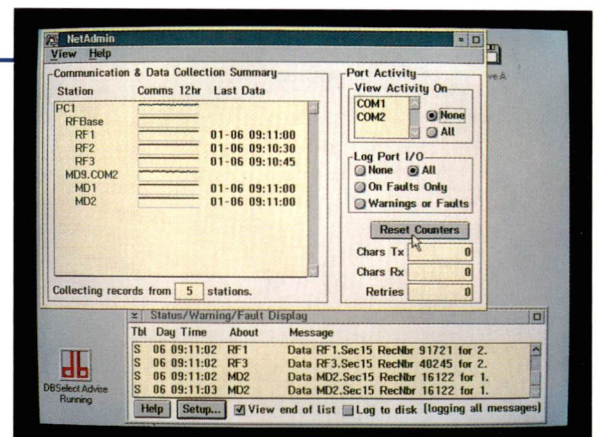
- Displays data in bar charts, X-Y charts, strip charts, and numeric windows; displays real-time data from multiple sites on the same screen.
- Shows high and low threshold alarms. Can log events to a file and require user acknowledgment of alarms.
- Plots scalable strip charts, each with up to twelve parameters.
- Creates, saves, and runs individual RTM screens on demand.
- Displays status of devices under datalogger control; provides override capability.



## NetAdmin

Provides software functions needed to set up and maintain the datalogger network

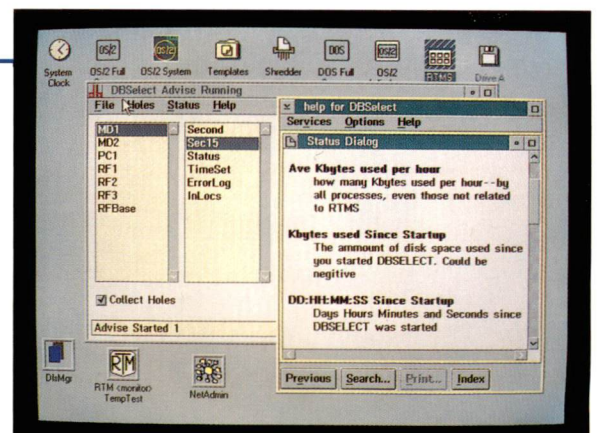
- Maintains 12-hour display of network communication status.
- Displays and optionally logs status, warning, or fault conditions.
- Checks and sets datalogger clocks manually or automatically; downloads datalogger programs.
- Provides access to datalogger functions via telecommunications; runs RF link tests.
- Displays and allows editing of network hierarchy and communication parameters.
- Optionally maintains COM port activity log.



## DBSelect

Specifies and manages collection of datalogger data; provides several options to access the data

- Routes data to ASCII files or an Acknowledged Named Pipe.
- Simplifies creation of user-written programs that route data to modelling programs or commercial databases.
- Optionally available TCP/IP example programs demonstrate routing of collected data to remote computers.





# Specifications

Communication Link	Sites Supported 250 maximum	Baud Rate	Data Points/ Second	Switching Time Between Sites
<b>Radio(RF)</b> RF232T at base to RF95T modems at field sites	150 per RF232T base; additional bases require separate serial ports and radio frequencies	9600	~100	1 second; add 5 seconds per repeater
<b>Coaxial cable</b> MD9 to MD9s	~200 depending on coax cable length	9600	~440	1 second
<b>Phone</b> Hayes-compatible modem to DC112 modems	Up to 250	1200	~55	10-20 seconds depending on phone dialing
Phone-to-RF	Same as RF networks	1200	~55	Phone dialing plus RF switching
Phone-to-MD9	Same as MD9 networks	1200	~55	Phone dialing plus MD9 switching time
<b>Direct</b> SC32A RS-232 Interface or SRM6A modems (two twisted-pair wire)	One per serial port, limited by number of serial ports	9600	~440	None; COM ports can be used simultaneously

# Computer Requirements

Computer Hardware	Minimum	Recommended
Processor	386	486
Memory	8 Megabytes	16 Megabytes depending on requirements of network support, other programs
Hard Disk	40 Megabytes of free space	40+ Megabytes of free space depending on data storage needs
Mouse	OS/2-Compatible	
Serial port(s)	Use of more than 2 serial ports requires a special card with OS/2 drivers	
Operating System	OS/2 2.1	
Monitor	VGA color	



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