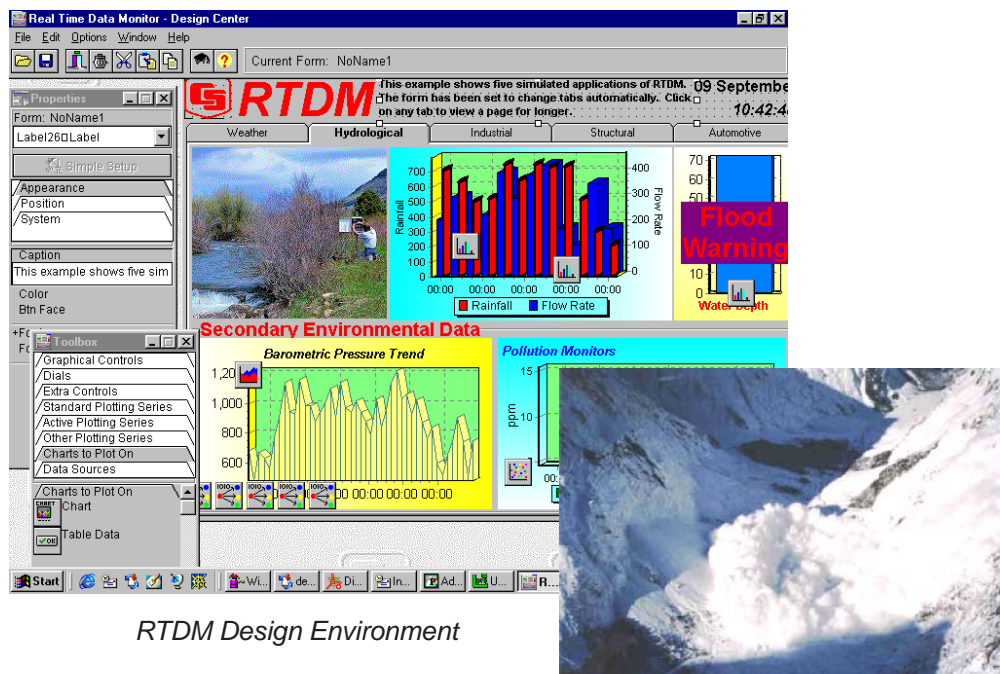# CAMPBELL SCIENTIFIC®

WHEN MEASUREMENTS MATTER

Real Time Data Monitor
Version 2.1

RTDM Design Environment

Create professional real-time displays and control screens for your Campbell Scientific data

Description

Real Time Data Monitor (RTDM) is a powerful program that allows you to design display screens on which you can view real-time*, show alarm conditions and also control settings in remote dataloggers.

The RTDM designer environment gives you complete control over how your data is displayed and allows the creation of attractive, professional displays by means of colour, images and drawing tools.

RTDM includes comprehensive, context-sensitive on-line help and a demonstration display to illustrate some of the capabilities of the program.

RTDM is being used in New Zealand for avalanche monitoring – see overleaf

What data will RTDM display?

RTDM is designed to collect data from Campbell Scientific's LoggerNet package, which can be running on the same PC or on a remote PC connected via a TCP/IP network. Data from any datalogger supported by LoggerNet can be displayed by RTDM, including the status of ports and flags. Additionally RTDM supports reading of data from files that are scanned for updates at specified intervals.

RTDM allows the designer to display data from multiple stations on one screen.

See over for a description of plot types and other features of RTDM.

"Real-time" refers to current readings. See overleaf for more information on display update speed.

Key Features

Powerful, versatile display software

Compatible with data collected from all dataloggers supported by LoggerNet

Multiple chart types supporting multiple traces per chart

Full range of design tools

Powerful alarm functions, including changing the state of variables, in the same or other dataloggers

Automated graphic export for web page display

Data can be processed before display

Demonstration version available to download (see overleaf)

Computer Requirements

- A Pentium PC running Windows 95/98/ME/XP/ 2000/NT with 64Mb RAM*.

- VGA monitor (SVGA 800 x 600 with 256 colours or greater recommended)

More memory may be needed if other applications (e.g. LoggerNet) are running at the same time as RTDM on some machine configurations.

August 2003

Design Tools

Plot Types

Standard plot types include strip, bar, line, pie charts, wind rose, area and point. Active plot types process the data before display, and include curve fitting, average and moving average. Other data displays include numeric label, formatted text and meter.

Graphical Controls

The designer has full control over the size, colour and position of every element. Displays can be enhanced with boxes, lines, panels and images. Charts can be split between several pages of a tabbed notebook. Any font present on the PC can be used in the display.

Interactive Controls

Controls are included that allow the user to manipulate values within a datalogger via the LoggerNet server. The user can toggle and manipulate ports and flags; slider and setpoint controls allow values to be edited in input locations.

Compatibility:

RTDM v2.1 forms are fully compatible with v2.0, and v1 forms are also automatically converted with only minor user correction being required. RTDM v2.1 can be used with LoggerNet, to display data passed from data files. It can also be used with PC208W, but note that, unlike LoggerNet, you *cannot* set or change variables in dataloggers when using PC208W.

Site Map
Scale 1:29,940

Run-time Operation

Speed

When configured to run with LoggerNet, RTDM receives new data as TCP/IP messages within milliseconds of it being received by LoggerNet. A near-real-time display can therefore be achieved. However, in many applications an update every few minutes (or less) is sufficient, and will reduce the time for which the PC must be on-line to the datalogger. The maximum speed of operation will depend on the communication link to the datalogger and the specification of the PCs involved.

Alarms

RTDM can alert you when any data values go out of range; alarm conditions are specified by a mathematical expression. In response to an alarm condition, RTDM can flash a warning control on the form or pop up a dialogue box, forcing the user to acknowledge the condition. Alarms raised can also be logged to disk, thus allowing program control based on alarms. A sound file can be played to attract the user's attention, or any other program can be launched (perhaps to send a warning by fax or email).

Historical Data

RTDM gives you full power to scroll charts back to see old values, or to zoom in to points of interest. The charts have an "auto-freeze" function which holds the chart steady while you examine old data. (Optional "auto-continue" restores real-time display after a designer-specified interval.)

Graphic (JPG, BMP, GIF & PNG) Export for Internet Web Page Displays

Any chart or combination of charts can be configured to automatically generate (and periodically update) an appropriate image. This image can then be referenced by an HTML page for display on your Internet or Intranet Web site.
For more information, visit the Campbell Scientific Web site (www.campbellsci.co.uk)
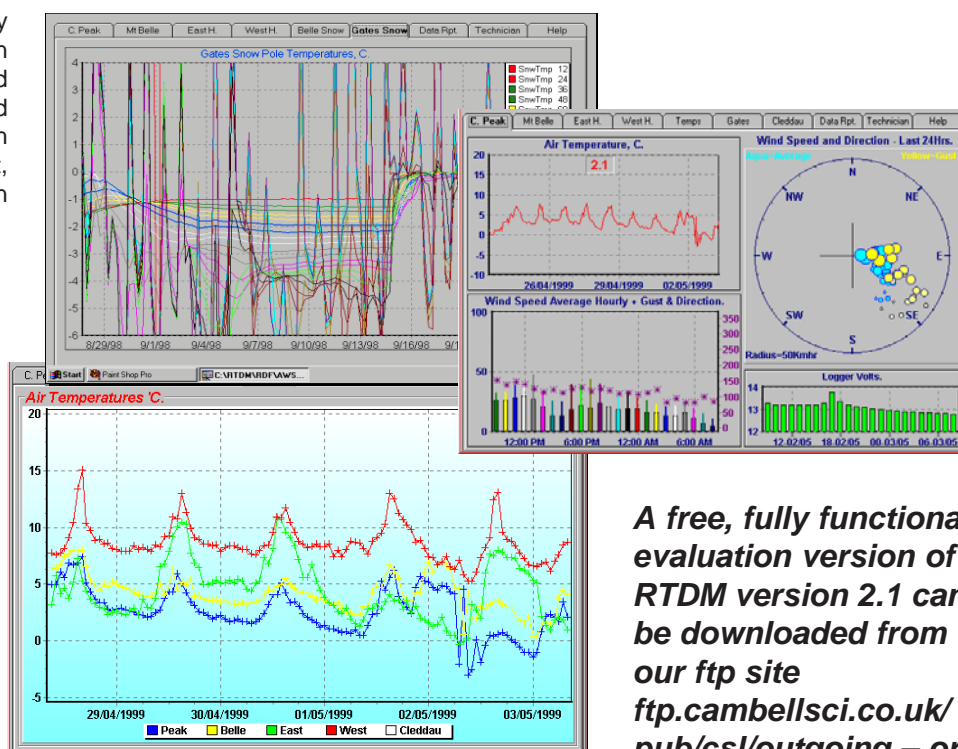
A free, fully functional evaluation version of RTDM version 2.1 can be downloaded from our ftp site ftp.cambellsci.co.uk/ pub/csl/outgoing – or you can call us or visit our website at www.campbellsci.co.uk

RTDM Used in New Zealand Avalanche Control Program

The pictures above are taken from an actual RTDM program being used by Works Civil Construction Ltd. in New Zealand in their avalanche control program.

The company makes extensive use of Campbell Scientific dataloggers and weather stations to acquire data from 12 separate sites in the South Island, and uses RTDM to produce effective and instant displays of the data collected – which can be viewed from the comfort of the base station office!

Campbell Scientific products are available from: