**Campbell Scientific Software Overview**

Whether you're a new user with one datalogger or a long-time user with networks of dataloggers, Campbell Scientific provides a software solution for your application. Our software packages range from introductory packages for simple applications to full-featured packages for sophisticated measurement and control capabilities and computer-to-computer data distribution. We also have software packages that allow our dataloggers to communicate with an iOS or Android device, as well as software packages that provide comprehensive, easy-to-use software support for specific applications.

### Starter Software

These are easy-to-use software products intended for first time users or applications that don’t require sophisticated communications or datalogger program editing.

**Short Cut Starter Programming**
- Creates straightforward programs that measure sensors and control multiplexers and the AVW200-series Vibrating Wire Interfaces
- Allows user entered calculations
- Supports our dataloggers as well as our ET107, ET106, and MetData1 Weather Stations
- Includes a reference crop evapotranspiration calculation module and many other useful calculation modules such as heat index or wind chill
- Provides a head start on developing new programs by letting you import Short Cut programs into CRBasic or Edlog, our more sophisticated editors

### PC200W Starter Communications

- Supports communications between a computer and a Campbell Scientific datalogger
- Communicates via a direct link
- Collects data with a push of a button (scheduled data collection not supported)
- Provides numeric display of measurements and final storage data
- Creates line graphs, xy plots, histograms, rainflow histograms, and FFT from a data file
- Includes Short Cut Programming Software for datalogger program generation

### Datalogger Support Software

Our general purpose datalogger support software packages provide more capabilities than our Starter Software. Each of these software packages contains program editing, communications, and display tools that can support an entire datalogger network.

**PC400**

PC400, our mid-level datalogger support software, provides a simple user interface that:
- Supports all contemporary dataloggers and many retired dataloggers (e.g., CR510, CR23X, CR10X)
- Generates/edits datalogger programs used to measure sensors and control multiplexers, SDM devices, and relays
- Collects data with a push of a button (scheduled data collection not supported)
- Retrieves data via direct connect, phone modems, Ethernet, radios (UHF, VHF, spread spectrum), or multidrop modems (combinations of communication options not supported)
- Provides numeric display of measurements and final storage data
- Creates line graphs, xy plots, histograms, rainflow histograms, and FFT from a data file

### Software on our Website

Our starter software, patches, and trial software is available, at no charge, from [www.campbellsci.com/downloads](http://www.campbellsci.com/downloads). Patches provide updates within versions (e.g., 2.0 to 2.1). Trial software allows the user to test drive the software before purchasing the entire package.
RTDAQ

RTDAQ is an ideal solution for industrial and real-time users desiring to use reliable data collection software over a single telecommunications medium, and who do not rely on scheduled data collection. RTDAQ’s strength lies in its ability to handle the display of high speed data. RTDAQ is compatible with most of our CRBasic dataloggers.

Features/Benefits:

› Provides noninvasive field calibration of sensors—including the appropriate multipliers and offsets into the datalogger program
› Monitors real-time data using the Graph, Fast Graph (similar to PC9000’s virtual oscilloscope), Histogram Viewer, Fast Fourier Transform (FFT) Viewer, Rainflow Viewer, Table Monitor (similar to the PC9000 Field Monitor), and XY Plot Viewer
› Displays historical data files including specialized engineering data such as FFTs and histograms
Clients

Clients add functionality to LoggerNet or LoggerNet Admin. RTMC-based clients can also add functionality to RTDAQ.

CSI OPC Server

The CSI OPC Server feeds datalogger data into third-party OPC-compatible graphic packages. A trial version of CSI OPC Server is offered.

LNDB

LNDB moves data from one LoggerNet server into a single database. The two main components of LNDB are LNDB Manager and LNDB Engine. LNDB Manager is used to set up a database and select the datalogger data tables that will be stored in the database. It also provides tools to monitor the LNDB Engine and to review the database data. LNDB Engine runs as a service and sends the selected data from the LoggerNet data cache to the database. Additionally, LNDB includes utilities for importing and exporting data, and generating simple reports from your database data.

RTMC Pro

RTMC Pro is an enhanced version of the RTMC client. RTMC Pro provides additional capabilities and more flexibility, including multi-state alarms, email on alarm conditions, hyperlinks, and FTP file transfer.

RTMCRT

RTMCRT allows you to view and print multi-tab displays of real-time data. The displays are created in RTMC or RTMC Pro.

Software Development Kits (SDKs)

Campbell Scientific software development kits (SDKs) permit software developers to create custom applications that communicate with our dataloggers.

BMP5-SDK

- Allows users to create custom software clients that support communications with one PakBus® datalogger using an RS-232 or IP Port connection.
- Provides a simple call-level API (SimplePB.DLL) that acts as a wrapper for the included PakBus communications engine (coralib3d.dll)
- Available at no charge from our website

LoggerNet-SDK

- Allows software developers to create custom applications that communicate through a LoggerNet server with any datalogger supported by LoggerNet
- Includes a limited LoggerNet Server communications DLL that only allows communication with a single datalogger via an RS-232 or IP Port connection
- Provides six ActiveX® controls that encapsulate the fundamental communication tasks most applications require
- Targeted at developers who want to create a custom client application for an existing LoggerNet server

LoggerNet Server-SDK

- Allows software developers to create custom applications that communicate through a LoggerNet server with any datalogger supported by LoggerNet
- Includes the full-function LoggerNet Server DLL
- Provides six ActiveX® controls that encapsulate the fundamental communication tasks most applications require
- Targeted at developers who want to create a custom datalogger support package for our dataloggers

Java-SDK

- Allows software developers to write Java applications or applets that use the PakBus protocol to communicate directly with dataloggers in a PakBus network
- Supports the creation of applets that enable users to access data and control the network via a web browser
- Provides an option for developers who do not want to use Microsoft Windows products

CSI Web Server

The CSI Web Server allows RTMC projects to be published to either a computer website or to an HTTP-enabled datalogger. With this software, users can configure the web server, check the status of the web server, and easily browse to sites running on the web server. The CSI Web Server is included with RTMC Pro. It can be purchased separately for use with the standard RTMC Development application that is bundled with LoggerNet, LoggerNet Admin, and RTDAQ.

CSI Web Server was used to simultaneously display data from multiple dataloggers on one web page.
Application-Specific Software

Application specific software supports use of Campbell Scientific dataloggers in common but specialized applications where customized software is of substantial benefit.

VisualWeather Weather Station
- Supports the ET107, Toro T.107, ET106, MetData1, and custom weather stations
- For pre-configured weather stations, automatically generates program as sensors and communication path are selected
- Includes Short Cut for programming custom Campbell Scientific weather stations
- Supports direct, short haul, phone, phone-to-RF, RF, and TCP/IP communications
- Collects data on demand or by schedule
- Provides a large variety of reports
- Targeted at developers who want to create a custom datalogger support package for our dataloggers
- Calculates ETo, Growing Degree Days, crop watering needs, wind chill, dew point, and chill hours

Software for Mobile Devices

The following apps allow an iOS or Android device to communicate with our products. They are available, at no charge, through the Apple Store or Google Play.

LoggerLink
LoggerLink Mobile apps allow an iOS or Android device to communicate with our CR300, CR310, CR800, CR850, CR6, CR1000X, CR1000 CR3000, or CR200X dataloggers via an IP device. LoggerLink for Android also supports Bluetooth communication for these same dataloggers using an RS-232-Bluetooth adapter. The apps support field maintenance tasks such as viewing and collecting data, setting the clock, and downloading programs.

LoggerNet Mobile Connect
LoggerNet Mobile Connect apps allow an iOS or Android device to communicate with any station in your LoggerNet network. They let you connect to any LoggerNet server that is accessible via TCP/IP. The apps can be used to check LoggerNet and datalogger status as well as view and collect data from individual dataloggers. Field maintenance tasks such as setting the clock, sending programs, and changing station settings (including variables) are also supported. To use LoggerNet Mobile Connect, a licensed copy of LoggerNet or LoggerNetAdmin needs to be running on a computer that is accessible via TCP/IP.

You can use VisualWeather software to create a wind rose report that displays the distribution of wind directions at various wind speeds.
## Starter and Datalogger Support Software

Select the software that best suits your needs...

<table>
<thead>
<tr>
<th></th>
<th>Short Cut (see note 1)</th>
<th>PC200W (see note 1)</th>
<th>PC400 (see note 1)</th>
<th>LoggerNet (see note 1)</th>
<th>RTDAQ (see note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATA STORAGE</strong></td>
<td>mixed-array, table</td>
<td>mixed-array, table</td>
<td>mixed-array, table</td>
<td>mixed-array, table</td>
<td>table</td>
</tr>
<tr>
<td><strong>METHOD SUPPORTED</strong></td>
<td>entry</td>
<td>entry</td>
<td>entry to intermediate</td>
<td>intermediate to advanced</td>
<td>intermediate to advanced</td>
</tr>
<tr>
<td><strong>SOFTWARE LEVEL</strong></td>
<td>entry</td>
<td>entry</td>
<td>entry to intermediate</td>
<td>intermediate to advanced</td>
<td>intermediate to advanced</td>
</tr>
<tr>
<td><strong>Sensors Supported</strong></td>
<td>over 100 sensors (including generic measurements)</td>
<td>includes Short Cut for programming</td>
<td>most commercially available sensors</td>
<td>most commercially available sensors</td>
<td>most commercially available sensors</td>
</tr>
<tr>
<td><strong>Communication Devices Supported</strong></td>
<td>N/A (program generator only)</td>
<td>direct connect</td>
<td>direct connect, Ethernet, short-haul, phone modems (land-line, cellular, voice synthesized), RF transceivers (UHF, VHF, and spread spectrum), multidrop modems</td>
<td>direct connect, Ethernet, short-haul, phone modems (land-line, cellular, voice synthesized), RF transceivers (UHF, VHF, and spread spectrum), multidrop modems</td>
<td>direct connect, Ethernet, short-haul, phone modems (land-line, cellular, voice synthesized), RF transceivers (UHF, VHF, and spread spectrum), multidrop modems</td>
</tr>
<tr>
<td><strong>COMBINATIONS OF</strong></td>
<td>N/A (program generator only)</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td><strong>Communication Devices Supported</strong></td>
<td>multiplexers, AVW200-series Vibrating Wire Interfaces, CDM-A100-series</td>
<td>see Short Cut</td>
<td>SDMs, multiplexers, relays, vibrating wire interfaces, CDMs</td>
<td>SDMs, multiplexers, relays, vibrating wire interfaces, CDMs</td>
<td>SDMs, multiplexers, relays, vibrating wire interfaces, CDMs</td>
</tr>
<tr>
<td><strong>MEASUREMENT AND CONTROL PERIPHERALS SUPPORTED</strong></td>
<td>see Short Cut</td>
<td>microSD cards, CompactFlash cards, PC cards</td>
<td>ET107, ET106, MetData1, microSD cards, CompactFlash cards, PC cards</td>
<td>ET107, ET106, MetData1, microSD cards, CompactFlash cards, PC cards</td>
<td>ET107, microSD cards, CompactFlash cards, PC cards</td>
</tr>
<tr>
<td><strong>OTHER PRODUCTS</strong></td>
<td>ET107, ET106, MetData1, 5C115, microSD cards, CompactFlash cards, PC cards</td>
<td>microSD cards, CompactFlash cards, PC cards</td>
<td>ET107, ET106, MetData1, microSD cards, CompactFlash cards, PC cards</td>
<td>ET107, ET106, MetData1, microSD cards, CompactFlash cards, PC cards</td>
<td>ET107, microSD cards, CompactFlash cards, PC cards</td>
</tr>
<tr>
<td><strong>SCHEDULED DATA</strong></td>
<td>N/A (program generator only)</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td><strong>COLLECTION</strong></td>
<td>N/A (program generator only)</td>
<td>numeric, Boolean, View Pro</td>
<td>numeric, Boolean, View Pro</td>
<td>numeric, graph, table, Boolean, View Pro, RTMC</td>
<td>numeric, graph, table, Boolean, View Pro, RTMC</td>
</tr>
</tbody>
</table>

**Notes:**
1. Short Cut is bundled with PC200W, PC400, LoggerNet, and RTDAQ, and is also available from our website.
2. Customers can use flash storage modules with PC200W, PC400, or LoggerNet by downloading SMS Storage Module Support Software, at no charge, from our website.
3. Computer requirements and more detailed information are provided in our product brochure for the specific software package.
## Data Graphics and Analysis Software

Select the software that best suits your needs...

<table>
<thead>
<tr>
<th></th>
<th>View Pro</th>
<th>QuickReports</th>
<th>RTMC</th>
<th>RTMC Pro</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purchased Separately</strong></td>
<td>no (included in PC200W, PC400, LoggerNet, and RTDAQ)</td>
<td>no (included in LNDB)</td>
<td>no (included in RTDAQ, LoggerNet, and LoggerNet Admin)</td>
<td>yes (as an enhancement to RTMC)</td>
</tr>
<tr>
<td><strong>Data Storage Method Supported</strong></td>
<td>mixed-array, table</td>
<td>mixed-array, table</td>
<td>mixed-array, table</td>
<td>mixed-array, table</td>
</tr>
<tr>
<td><strong>Design Goal</strong></td>
<td>graphically appealing, flexible, powerful</td>
<td>simple report generator using an LNDB database</td>
<td>starter software, simple, yet graphically appealing</td>
<td>graphically appealing, flexible, powerful</td>
</tr>
<tr>
<td><strong>Real-Time Updates</strong></td>
<td>no (historic only)</td>
<td>no (historic only)</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Alarms</strong></td>
<td>none</td>
<td>none</td>
<td>real time, visual, audible</td>
<td>real time, visual, audible, multi-level alarms possible, alarm log, launch programs, email notifications</td>
</tr>
<tr>
<td><strong>Designer Tool Kit</strong></td>
<td>tables, graphs with multiple traces, FFTs, histograms</td>
<td>tables, graphs with multiple traces</td>
<td>alarms, COM check, gages, charts, images, labels, digital displays, set points, sliders, status bars, table displays, time displays, switches</td>
<td>all the tools included in RTMC, as well as additional alarm types, switches, layout components, hot spots, launch commands, FTP file transfer, run cora commands, xy chart, oscilloscopes</td>
</tr>
<tr>
<td><strong>Create Files for Export to Website</strong></td>
<td>yes (see note 1)</td>
<td>no</td>
<td>(see note 2)</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Trial Version Available</strong></td>
<td>yes (see note 3)</td>
<td>yes (see note 4)</td>
<td>yes (see note 3)</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Run-Time Version Available</strong></td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes:**
1. Graphic files created in View Pro can be exported to a website on demand.
2. Projects created in RTMC or RTMC Pro can be displayed on a website using CSI Web Server. For the standard RTMC Development application, CSI Web Server needs to be purchased separately. CSI Web Server is included with RTMC Pro.
3. A trial version of View Pro and RTMC is included in the trial version of both LoggerNet and RTDAQ.
4. A trial version of QuickReports is included in the trial version of LNDB.
5. Computer requirements and more detailed information are provided in our product brochure for the specific software package.
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Other Locations: Sales and support are provided in many other locations through an extensive network of international reps. For the full list, please visit www.campbellsci.com/directory.