

Copyright

Microsoft, Windows 98-SE/ME, Windows NT, Windows 2000/XP, Excel, are registered trademarks of Microsoft Corporation.

This manual and the software are copyrighted with all rights reserved. Under the copyright laws, neither the documentation nor the software may be copied, photocopied, translated, or reproduced in any way without the written consent of Eltek Ltd.

Information in this manual is given to the user for guidance only. Eltek does not accept any liability for damage or loss incurred directly or indirectly as a result of the use of this software or documentation.

Copyright © 1998-2006 Eltek Ltd.
All rights reserved.

Darca software is for a single user. The conditions of the licence can be found at Help/About/View Licence. For multiple user licence please contact Eltek Ltd or your local distributor.

TM1020GB 21/04/06

Due to our policy of continuous improvement, we reserve the right to modify this program at any time.

Overseas customers should direct any enquiries to their local distributor.

Eltek Ltd.
35 Barton Road
Haslingfield
Cambridge
CB3 7LL
UK

Telephone +44 (0)1223 872111
Fax +44 (0)1223 872521

Website: <http://www.eltekdataloggers.co.uk>

We would welcome any comments on this product by email to darca@eltekdataloggers.co.uk

Note:

Squirrel is the generic name given to all Eltek wired (450/850 and 1000 series) and wireless data loggers and includes all GenII receiver loggers RX250.

Modem refers to landline and GSM modems. In either case a telephone number/data number is required

Contents

| | |
|--|----|
| Introduction | 4 |
| Online Help | 5 |
| System Requirements | 5 |
| Installation..... | 6 |
| Overview | 7 |
| Darca Plus and Darca Light | 7 |
| The Main Window | 8 |
| The Contact Wizard | 9 |
| The Contact Window | 10 |
| The Status Bar | 11 |
| Menus..... | 11 |
| File Menu | 12 |
| Contact Menu..... | 15 |
| Settings Menu | 17 |
| Squirrel Menu..... | 18 |
| View Menu | 19 |
| Help Menu | 20 |
| The Graph Window..... | 21 |
| The Offline Graph Toolbar..... | 21 |
| The Online Graph Toolbar..... | 22 |
| GenII Transmitter setup | 23 |
| Automated Contact with a Squirrel..... | 24 |

Introduction

The CD contains the suite of programmes as below;

Darca is the program for setting up, downloading, and translating data from Eltek Squirrels. Features include:

- Multiple channels can be edited simultaneously.
- Squirrels can be contacted directly or via modem.
- Phone list makes accessing a number of Squirrels straightforward.
- Set-ups can be saved to disk and uploaded to Squirrels.
- Wired Squirrel settings can be changed off-line and uploaded later.
- Channels can be renamed for easy identification when metering.
- Alarms can be set up and metered - even on Squirrels without alarms.
- Data can be graphed using powerful graphing tools. (Darca Plus only)
- GenII transmitters can be configured (Darca Plus only).
- Phone number list for GSM text messaging on alarm

Shed is the utility for automating contact with Squirrels

Rep Conf is the program for configuring the GenII RP250GD repeater.

Online Help

The majority of the documentation for Darca is kept online in the Help system. For more information on any item within the program, click Help, or press the F1 key. The Help file also contains a detailed tutorial.

Note: The Squirrel display must off to allow communication.

System Requirements

System requirements are:

- PC running Windows 98-SE/ME or 2000/XP.
- CD ROM disk drive (for installation).
- One unused serial port (or USB port with serial to USB adaptor).
- Windows compatible modem, (for dialling up remote Squirrels – if required).
- LC68 cable (Logger to PC serial lead).
- LC-TX3 cable (for configuring transmitters via Darca on a GenII system).

Installation

1. Insert CD in CDROM drive and the installation program should automatically run. If it does not:
From the **Start Menu**, choose **Run...**
Type **x:\setup** (where x is CDROM drive) and press return
2. Follow the on-screen instructions.
3. To run **Darca**, select the Darca icon from the **Programs Menu**.
4. To launch **Shed** automatically every time Windows is started, create a shortcut to Shed in the **StartUp** group.
5. To run **Rep Conf** select the icon from the **Programs Menu**

Darca creates two sub-folders within its main program folder:
'Setup' – which is used for storing Squirrel setup files.
'Squirrels' – which keeps a database of information about every Squirrel contacted in order to speed up contact time.

These sub-folders are for the storage of Squirrel settings and data, and may be moved to a different location - provided that the relevant details are updated in the Folders tab of the Settings/Preferences dialog box.

Overview

Darca stands for **D**ownloading **a**nd **R**emote **C**ontrol **A**pplication.

It is designed to communicate with Squirrel data Loggers. It performs four main functions:

1. Downloading Squirrel data.
2. Exporting Squirrel data into spreadsheets or Graphing data.
3. Remote configuration of Squirrel settings and channel setup.
4. GenII Squirrel and Transmitter setup.

These may be achieved either through a direct RS232 connection, or via a modem (excludes GenII transmitter setup).

Darca Plus (ver 3.0) and Darca Lite (ver 2.0)

This brochure covers two versions of Darca: Darca Plus and Darca Lite. These two versions are exactly the same except that Darca Plus contains graphing tools, GenII transmitter setup and modem contact.

The documentation that comes with Darca, such as the online help, will refer to the features available in Darca Plus as well as the standard features common to both versions. These extra features should be ignored by users of Darca Lite.

The Main Window

The Main Window is the first window that appears when Darca is launched. The top of the Main Window carries a menu bar through which all of the program's functions can be accessed. The Status Bar at the bottom displays information about the status of communication between Darca and the Squirrel. Between the Menu Bar and the Status Bar is the Control Panel. The buttons that appear depend upon the current connection status.



Export Data — Converts a Squirrel Data file (.DAT) into a text file suitable for importing into spreadsheet programs.



View Graph— Displays a graph of a DAT file.
(Darca Plus)



View Export— Displays exported data in a table.
(Darca Lite)



Preferences— Makes changes to the way Darca operates



Contact Wizard—Goes through the steps of establishing contact with the Squirrel, allowing configuration of the way the Squirrel will be contacted.

The Contact Wizard

Contact Wizard Step 1 provides options for Darca to contact the Squirrel.

Manual - (Contact Wizard Step 2)-Use direct connection (LC68 lead) or Modem and follow the steps to get to the Contact window.

Automated – (Contact Wizard Step 2) -Use direct connection (LC68 lead) or Modem. A connection session can be created enabling a quick set-up routine for frequent connection to the Squirrel. See P20 for more details.

Offline – Creates logger setup files and is for **wired Squirrels only** with no logger connected and takes you directly to a cut down Contact Window. Set-ups can be down loaded to a logger or same type loggers when needed.

GenII/Transmitter Set-up – (Contact Wizard Step 2) - Once a GenII Squirrel has been contacted this option directs you to four Squirrel/Transmitter setup options. See Page 23 for details.

Contact Window

The Contact Window appears once a Squirrel has been contacted. Settings in the Squirrel can be changed online, logging can be started and stopped, runs can be downloaded from the Squirrel and the Squirrel's memory can be cleared. The Meter Channels window can also be opened. Various combinations of the following buttons can appear in the Contact window.



Download Runs — Displays the Download dialog box



Meter Channels — Displays the current input of all selected channels in diagrammatic form (Darca Plus only)



Squirrel Settings — Configures various aspects of the Squirrel using Darca



Channel Setup—Configures the channels on the Squirrel



Start/Stop logging

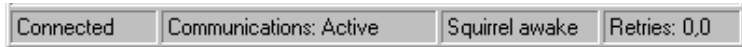


Squirrel/Transmitter Setup



Clear memory

The Status Bar



The Status Bar at the bottom of the window contains four areas that indicate the status of the connection between the Squirrel and Darca:

- The left-hand box shows whether or not a connection has been made.
- The next box shows the current state of communications through the selected serial port.
- The third box is the state of the Squirrel. This can be asleep or awake. Darca must wake the Squirrel before communications can start.

Note the LCD screen must be blank so that Darca can contact the logger.

- The right hand box shows 'Retries' followed by two numbers. The first number is the number of times Darca has failed to wake up the Squirrel. The second number is the number of times Darca has not had a response from a transmitted command.

Menus

The menus provide access to all of the functions and options of Darca. Some of the menu items are just alternative ways of getting to the same functions that the buttons provide.

File Menu

The File Menu contains the options for all the file-based operations in Darca. It also contains the option to quit the program.

Edit Wired Setup Offline

not applicable to GenII Squirrels

This option can be used when no Squirrel is connected to Darca. In this context, Darca will open the file in offline mode. This allows the settings within the file to be changed without the need to connect a Squirrel. See 'offline contact' in the online help for more information.

Send Wired Squirrel Setup

not applicable to GenII Squirrels

This option is available when Darca is connected to a Squirrel. This allows Darca Squirrel Setup files (*.dss) for wired Squirrels to be loaded from disk. If this option is selected when Darca is in contact with a Squirrel, then the selected Squirrel setup is sent to the Squirrel. Note that the setup file can only be sent to the same model of Squirrel for which it was created.

Close Wired Setup

not applicable to GenII Squirrels

Closes an open Squirrel Setup File. If the file has not been saved, a prompt appears to confirm the action.

View Export

Enables the viewing of exported Squirrel data in text or tabular form.

View Graph

Displays a graph of a Squirrel data file together with summary information.

Save Wired Setup

not applicable to GenII Squirrels

Stores the current Squirrel setup to disk. If the current setup has not yet been named, the Save Setup As dialog appears.

Save Wired Setup As

not applicable to GenII Squirrels

Stores the current Squirrel setup to disk after prompting for a filename.

Download

Only available during contact with a Squirrel, this option initiates the transfer of recorded data from the Squirrel to the computer.

Export

Once data has been downloaded from the Squirrel, it may need to be processed into a form that can be read by a spreadsheet application. Choosing this option brings up a dialog from which the data file can be selected. Darca then processes the data in accordance with the current Export Settings and writes it into a new Export file. Note that in Settings Menu/Preferences Darca can be configured to automatically export the data immediately after a download.

Memory Card Utils

Some special Squirrels use PC Memory (SRAM) Cards to store data. These utilities enable preparation and management of the card and its data.

Exit

Quits the program.

Contact Menu

The Contact Menu contains the available options for contacting Squirrels.

Direct

Initiates contact with a Squirrel connected to the computer's serial port. The correct serial port must be selected and a compatible baud rate must first be chosen from the Communications option in the Settings menu.

Note: Eltek Squirrels with serial numbers greater than 6,000 operate at 34,800 baud.

Modem

Jumps to the Contact Wizard Step 2, and selects the Modem option. A phone number to be entered. Once done, the Next>> button starts the modem dialling, and initiates the contact. It is important to configure the Squirrel modem correctly, see Darca's on line help for more information.

Automated

To minimise connection time, and execute a predetermined set of actions on a Squirrel, Darca can be configured to carry out contacts automatically. The tasks can be specified in the Preferences option on the Settings menu.

Contact Wizard

See The Main Window for more information.

Disconnect

Stops all communication between Darca and the Squirrel, and returns Darca to the Contact Window. In offline contact this option closes the current Squirrel Setup File and returns Darca to the Main Window.

Settings Menu

The Settings Menu contains options that configure Darca. Options for changing the Squirrel's settings are found in the Squirrel Menu.

Preferences

Displays a multi-tabbed dialog box from which most of Darca's settings can be changed. Nearly all of these settings are stored when Darca is exited. This includes password protection for Squirrel settings.

Communication

All of the communication settings for Darca are displayed in the communications dialog box. These settings are stored when Darca is exited. Settings for the modem can also be changed from here, though any changes in these will not be retained when the program is exited.

Setup Transmitter Channels

Modify transmitter channel assignments and transmitter settings.

Phone List

A list of descriptions, phone numbers and Squirrel serial numbers can be stored in the phone list. The Tool Bar at the top of the phone list window has buttons to enable entries to be added, edited and removed. Clicking on one of the headings will sort the entries by the selected column.

Squirrel Menu

The Squirrel Menu only appears when Darca is in contact with a Squirrel. It contains all of the options for changing the settings of the Squirrel.

Refresh Status

Periodically, the Squirrel Status window is updated with the current status of the Squirrel. This option forces Darca to update this window immediately and re-open it if it has been closed.

Log

The Squirrel's current logging state is shown by this menu item. A tick mark next to this option indicates that the Squirrel is currently logging. Selecting this option will change the logging state by either starting or stopping the Squirrel logging (depending on the current state). The logging state can also be changed from the central control panel of the Contact Window.

Clear Memory

This option will clear all the readings from the Squirrel's memory and is not available when the Squirrel is logging. The memory can also be cleared from the central control panel of the Contact Window.

Settings

All of the Squirrel's settings (with the exception of the channel setup) are controlled from a single tabbed dialog box, accessed by selecting this option. If the Squirrel is not reset, there will be some settings that cannot be changed. Some settings are not applicable to GenII Squirrels.

View Menu

The items in the View Menu are all for showing non-dialog windows for either displaying Squirrel information or changing channel settings. Any or all of the windows opened from the View Menu may be open simultaneously. Reselecting an already open window will bring that window to the front.

Squirrel Status

This window is automatically shown when contact is established. It is recommended that this window is left open permanently, and moved to a convenient location on the screen. It can then be quickly referred to at any time for the current status of the Squirrel. This window will be automatically opened to confirm significant changes to the Squirrel settings (e.g. whenever the Squirrel is set to start logging).

Meter

The Meter Window shows all the current input states of all the currently enabled channels. The interval at which it is updated can be changed in the Settings/Preferences dialog box. The appearance of the meters can be controlled from the context menu, which is brought up by right clicking anywhere on the Meter Window.

To view either Meter and/or Graph go to Settings/Preferences/Metering and select the appropriate option from the drop down box.

Channel Setup

A spreadsheet style grid shows each Squirrel channel and its corresponding settings. Ranges, Wired EU (Engineering Unit) Settings, and Alarms can be reconfigured for individual or multiple channels from the Channel Setup Window. A context menu (which can be brought up by right clicking on the Channel Setup Window) shows the available options for the currently selected channel(s). Selecting Edit Channel brings up a tabbed dialog box from which all of the changes are made.

Transmitter Status

This feature is for use with Eltek Telemetry Squirrels only. It displays information about the transmitters connected to the Squirrel.

Help Menu

The Help Menu contains all of the normal help menu items for the program. A comprehensive on-line help system (including a tutorial section) gives all the information needed to get the most out of Darca

The Graph Window

The Graph Window can appear in two forms;

Offline – Squirrel not connected – will display or graph saved data.

Online – Squirrel connected – will display graph and meter (effectively real time) from the Squirrel. To graph and /or meter go to Preferences/Metering and select from the drop down menus.

The Offline Graph Toolbar

Graph Appearance

This window allows general graph settings such as colour, gridlines, 3D graphing options and plot type to be configured.

Chans / Axes

This window provides control over the ranges of the graph axes and the selection of which channels are to be plotted on the graph and their assigned colour and axis.

Cursor

The graph cursor window displays the data values of a point on the graph.

Thresholds

Graph thresholds allow the plotting of threshold limits alongside the channels' data on the graph.

Summary

The summary window shows information about the Squirrel used to create the data, the data itself, and statistics calculated from the data.

Note

In order to identify meaningful points on the graph, notes may be drawn onto the graph. A note consists of a line at the relevant point together with a text label.

The Online Graph Toolbar

The online graph toolbar contains many of the same tools as the offline graph toolbar. However, there are two additional ones:

Save

This saves all the data plotted on the online graph into a Squirrel DAT file which may be viewed later once contact is finished.

Pause

Pauses the flow of data onto the graph and stops it scrolling until pausing is finished, whereupon data received during the paused period will be plotted onto the graph.

GenII / Transmitter Setup

Once Darca has contacted the Squirrel the Contact Wizard Step 1 can be opened with following options:

Modify the Transmitter setup based on the current Squirrel setup (Normal) — The connected Squirrel's setup will be loaded into Darca. Changes to transmitter channel and settings can be made. (Click on Transmitter Setup, follow instructions and connect all transmitters in turn and then Click on Send to Squirrel)

Modify the transmitter setup based on a Squirrel setup File

The transmitter setup can be modified using saved Squirrel setup file.

Save a Squirrel setup file from a Squirrel

Update the PC configuration file to the current setup of the Squirrel. Use if the Squirrel button panel or another PC was used to change settings.

Update the Squirrels setting from a file

Update the Squirrel to the current configuration stored in the PC

Note: Squirrel setup files (including transmitter setups) are saved as **Squirrel Information files (*.sqi)**

Automated Contact with a Squirrel

Darca's Automated Contact feature allows you to specify a number of tasks which you wish to be performed during a contact with a Squirrel. This is particularly useful if you have a number of Squirrels which all require a set series of operations to be performed during contact, or if you are using a modem to connect to your Squirrel and wish to minimise the length of the phone call. Automated Contacts can be scheduled for multiple Squirrels using Shed (See below). There are four tasks which may be performed on a Squirrel during automated contact: Download All Runs (the most recent run is always downloaded), Clear And Restart, Set up Squirrel and Update Time And Date. The Set up Squirrel option allows you to configure a wired Squirrel exactly as you require using a previously saved wired setup file.

Scheduling Automated Contacts using Shed

Shed allows you to perform scheduled automated contacts by launching Darca at a specified time. It is possible to specify the exact type of automated contact using command-line parameters, more details of which can be found in Darca's online help. You may schedule repeated automated contacts with a Squirrel by using the 'frequency' setting in Shed.

Shed is a program supplied with Darca and must be installed when required for the first time.