
DatScan EP3 Data Manager User Guide



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INTRODUCTION

EP3 Data Manager is a wireless storage device for collecting data from the Q54 and WDL Data Logger modules in the field, for later transfer to a PC for analysis. The data retrieved from the Q54 or WDL Data Logger modules in a binary (RAW) format and is stored in both RAW format and CSV format on the SD card of the Data Manager. The EP3 converts the RAW format to CSV format when it retrieves the log file.

The display on the EP3 Data Manager is a touch sensitive mono-colour LCD. Its various screens and functions are accessible through softkeys at the bottom of the display.

Optionally, QTech's DatScan Analyser software can then be used to import the CSV files from the Data Manager to the desktop PC for easy graphical analysis. Alternatively, MS Excel can be used to perform your own custom data processing. Refer to "DatScan Analyser User Guide" for details.

QTech's DatScan Analyser software can also import the RAW format file, if required.

This user guide applies to EP3 Data Manager software version 1.01.

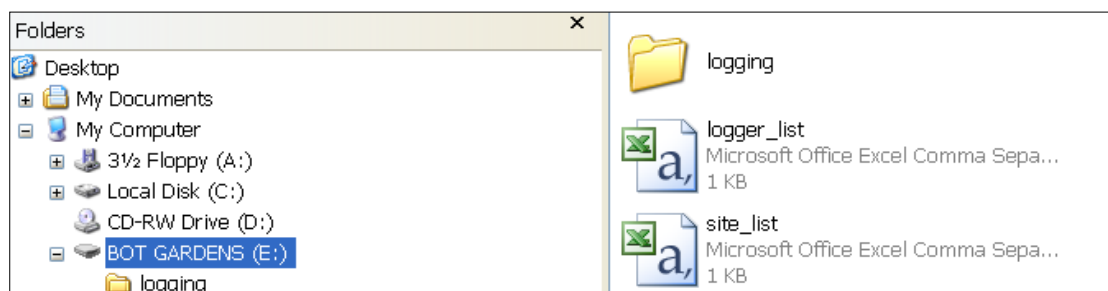


SD MEMORY CARD

The EP3 Data Manager accepts an 8 Gigabyte SD memory card (supplied) which is plugged into the device with the bevelled corner closest to the USB port.

If the device is connected to a PC via a USB 2.0 A to B Type cable the Data Manager will display the USB Connection screen, then the SD card should appear in the Windows File Explorer as a Mass Storage Device, thus allowing the data to be copied to the PC.

Alternatively, the files may be transferred from the SD memory card to a PC using a suitable SD card reader.



The SD card should contain the file structure shown above. The logger_list.csv and site_list.csv are configuration files that the EP3 uses to define sites, loggers and their associated radio addresses. Imported files from Datalogger modules will appear in the logging folder.

CONFIGURATION FILES

The configuration files are simple comma separated variable files and can be manually edited with any text editor program such as Microsoft Notepad.

Site List Configuration File

File name: site_list.csv

This file is used to define the content and order of entries that appear on the main site screen. It's a comma separated variable file that only requires one field and therefore each site name is defined on each new line (no comma delimiter is required for this file).

Site Names should be limited to 20 characters so that they display correctly on the screen. Names longer than 20 characters will be truncated. Any alphanumeric and space characters are acceptable, trailing and leading spaces will be ignored.

Logger List Configuration File

File name: logger_list.csv

This file is used to define specific logger information as there can be multiple loggers (maximum of 5) at the same site. The first parameter must match the associated name in the site list.

It's a comma separated variable file that has the following format:

[Site Name],[Logger Name],[Logger Shortname],[Address],[Customer Number],[Logger Type]

e.g. Botanical Gardens,Ladies,BGL,101,1234,Q54

Field	Data Type	Max. Field Size \ Valid Range	Description
Site Name	Alphanumeric	20 characters	This field must match a site name defined in the site_list.csv file.
Logger Name	Alphanumeric	15 characters	This defines a name for the logger
Logger Shortname	Alphanumeric	4 uppercase characters	This field is a short name for the logger that appears in brackets on the Site screen.
Address	Numeric	0-999	This field forms part of the radio address
Customer Number	Numeric	0-999	This field is assigned by QTech and must not be changed as it forms part of the radio address.
Logger Type	Alphanumeric	"Q54" or "WDL"	This field defines which model the logger is, either an old type Q54 or new Wireless Data Logger model

USING EP3 DATA MANAGER

Splash Screen

The splash screen is the first screen you will see when you turn on the EP3 Data Manager, pressing the OK button will take you to the Home screen.

Screen Navigation

Generally, the screens will have a HOME button to return directly to the HOME screen or a BACK button to return to the previous screen.



The Home screen shows a list of available functions:

- STAT** (System Status)
- CNFG** (Configuration)
- USB** (USB connection)
- SITE** (Site List)



The System Status screen shows

- current date and time
- Presence of an SD Memory Card
- Indication of EP3 battery health

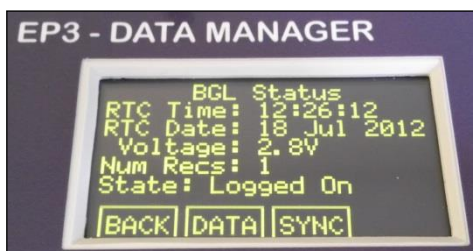


The Site List screen shows a list of configured sites as defined in the site_list.csv file, which can be navigated using the **UP** and **DOWN** buttons and selected with the **SEL** button.



The Site screen.

By selecting a configured site, we can see an overview of the data loggers at those sites as defined in the logger_list.csv file. E.g. Botanical Gardens has three loggers called *Gents* and *Ladies* and *Disabled*. *BGG* is the logger's short name that is used when generating the CSV file name.



The Logger Status screen displays information from the connected logger:-

- Current time and date
- Battery voltage reading
- Number of blocks of data
- "Logged On" or "Disconnected" state

SYNC (synchronize logger time & date with EP3)

DATA (Used for retrieving all the data from the logger)



The Data screen.

GET (retrieves the RAW & CSV data and stores it on the SD memory card)

Once a logger has been successfully read and its data has successfully been saved on the EP3 Data Manager the Q54 log is cleared ensuring that you will not receive the same data twice.



Note that the date used in the filename for each logger is taken from the EP3 Data Manager and not the Q54 or WDL module. This represents the date when the **GET** button was pressed.

Setting Time and Date

To set the time and date, from the **HOME** screen press **CNFG** button and then **TIME** button and the following screen will be displayed.



Increment or decrement the time and date as required using the **INCR** and **DECR** buttons and press **SAVE** button when complete.

Pressing **SAVE** will also return to the previous screen.

If you notice that the time is not being retained, it could mean that the internal soldered-in button battery needs replacing or its associated jumper has been displaced.

Retrieving the Data

Data is transferred from the Q54 or WDL logger in the RAW file format and stored on the SD Card.

Once the RAW file has been transferred to the EP3 the logger memory is erased.

The EP3 then converts the RAW file to a CSV file, which it also stores on the SD card. The SD card can be used to transfer the files to a PC. Alternatively, the EP3 can be plugged into a USB port of a PC and it will be treated as a mass storage device so that data can be transferred.

QTech’s DatScan Analyser software can be used to import the RAW file format (either via SD card or USB mass storage connection). This is also useful if the CSV file is corrupted.

Alternatively, QTech provides utility programme “EP3 CSV Converter” to convert the RAW file to CSV format. The utility runs in a windows command shell. Contact QTech to obtain the application.

CSV Filenames

The filenames are built up of the following components:

[Logger Shortname]_[YYYY-MM_DD]_[Index].csv

E.g.

BGL_2012-08-31_01.csv

Logger Shortname	This is a unique 3 or 4 character name shown in brackets on the DatScan software (BGL = Botanical Gardens Ladies)
YYYY-MM_DD	Today's date
Index	An incrementing value such that if the logger is read a second time on the same day then the CSV file will not be over-written.

CSV Contents

The CSV files can be loaded directly into Excel:

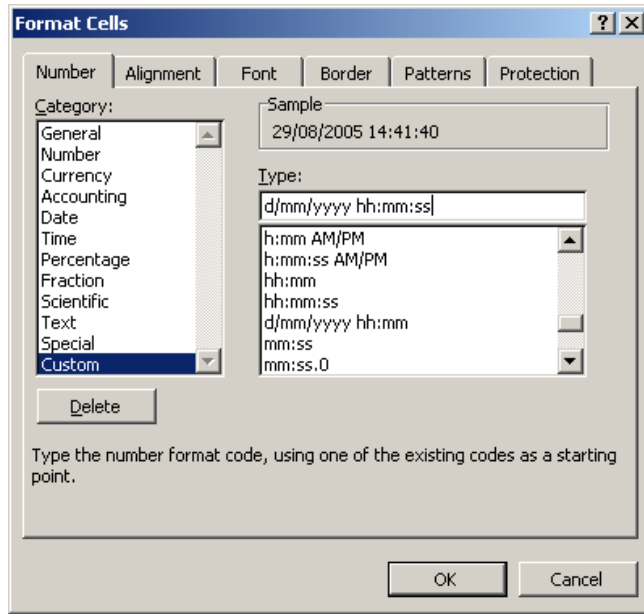
	A	B	C	D
1	1	#####	Log Reset	
2	2	#####		1
3	3	#####		0
4	4	#####		1
5	5	#####		0
6	6	#####		1

Column B needs to be stretched such that the date fits and is displayed

	A	B	C	D
1	1	30/04/2007 15:12	Log Reset	
2	2	30/04/2007 15:13		1
3	3	30/04/2007 15:13		0
4	4	30/04/2007 15:13		1
5	5	30/04/2007 15:13		0
6	6	30/04/2007 15:13		1

Notice that the seconds are still missing.

Right mouse click on Column B and select *Format Cells* from the popup menu.



Select the Category to be *Custom* and enter an appropriate date format that includes seconds (see example)

	A	B	C	D
1	1	30/04/2007 15:12:40	Log Reset	
2	2	30/04/2007 15:13:50		1
3	3	30/04/2007 15:13:51		0
4	4	30/04/2007 15:13:56		1
5	5	30/04/2007 15:13:57		0
6	6	30/04/2007 15:13:58		1

All of the log information is now displayed.

Column A is an index field that can be used to re-order the data back to its original state if it has been sorted by any of the other columns.

Column B is the timestamp of when the event occurred.

Column C describes what the event was.

The possible events are:

- Log Reset This is always the first event it shows that the log file has been reset purposely as opposed to the logger losing the data.
- 1 The PIR has detected motion
- 0 The PIR has stopped detection motion
- Power Cycle This event is created on power up of the Q54 logger and is most probably a result of the batteries being changed.
- Old Time This is the time on the Q54 logger before the time was changed. This event is always followed by a New Time event. Possible reasons for a time change are: daylight saving or maybe an engineer is reconfiguring the device.
- New Time This is the time the Q54 logger was changed to.



Note that Excel can corrupt the original file if saved in this new format. We recommend making a backup of the original file before making any modifications.

Recommended Retrieval Practices

The following list provides the steps that should be considered when reading the data from the Data Logger units:

1. Position yourself within range of the data logger **but not** underneath it as the PIR will then log your presence. The range varies from 2 to 10 metres depending on location.
2. Navigate to the correct site and data logger on the EP3 and it will immediately attempt to connect. If successful the logger status screen information will be displayed.
3. Press the appropriate "Get" button on the EP3 to retrieve the data to the SD Card. The EP3 will indicate if transfer was successful.
4. The battery voltage of the data logger will now be shown on the EP3. Make a note of any locations whereby the battery voltage is less than 2.4V. This signifies that the 2 x AA batteries in the unit will need replacing. Note that the batteries should last around 6 months but this will depend on how busy the site is.
5. Check the data logger for any vandalism. This may be in the form of a blockage covering the PIR slot or the antenna broken off. If the antenna is broken off it will mean that you will have to be closer to the unit in order to read the data from it.
6. **Do not** move out of range of the data logger while transferring data. Once the data has been successfully read and then stored on the SD card a further command is sent to the data logger to instruct it to clear its logs.
7. When you have returned to the office and the data has been retrieved from the SD card onto a desktop computer, **make a backup** of this data before modifying it in any way **to avoid data loss**.

EP3 Battery

The EP3 is powered using 2 x AA batteries.



IMPORTANT NOTE: Please only use 'Energizer Ultimate Lithium' AA Batteries.

WARRANTY

The EP3 Data Manager hardware and software is covered by QTech Limited Warranty Agreement and software End User License Agreement, respectively.

Please refer to the QTech Limited Product Warranty Agreement, which may be downloaded from the QTech website: www.qtech.co.nz

USER NOTES



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