

ESM Manager 2

Easy to Use Interface Software

User Manual

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1 Introduction

ESM Manager 2 (ESMM2) software is a Windows application that provides an easy to use interface for all our current products. Features include the ability to upload, view and run scripts as well as extract data, manage folders and files, directly control peripherals and set the integral real-time clock. ESMM2 eliminates the need to used third party terminal emulators and learn the system command syntax.

To operate any of our products you will also have to use or be familiar with the appropriate Operating Manual. If you intend to modify or develop your own scripts then you will need to refer to the Eco-Script Manual for details of the scripting keywords, syntax and conventions.

1.1 Buttons – Quick Reference

You will quickly become familiar with the ESMM2 interface and the toolbar buttons. For those that prefer a very quick start the buttons are described below. Each button is also replicated as a menu command if menus are preferred. The interface is designed to me intuitive and has a minimal learning curve. Each button also shows a “tool tip” when you “mouse over”.

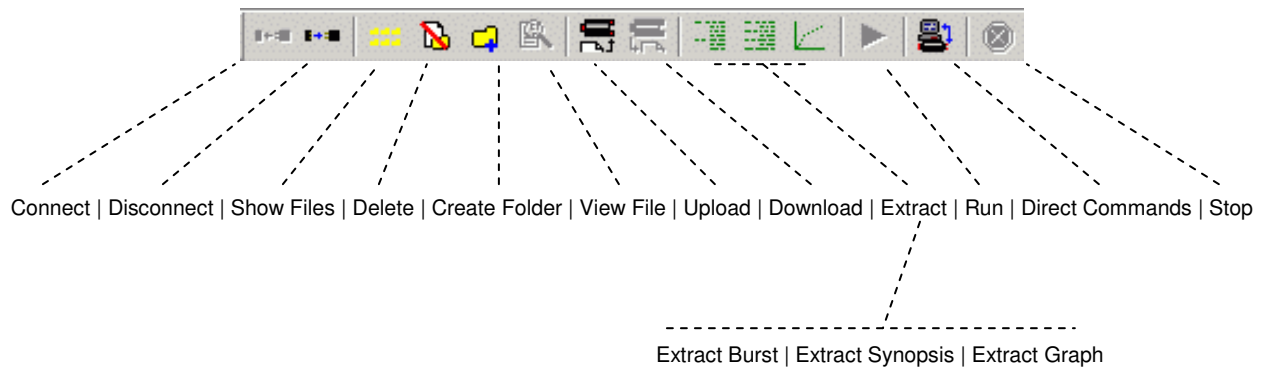


Figure 1 – Toolbar buttons

1.2 Minimum system requirements

ESMM2 has been designed to be light on PC resources so that it will run on old and new desktop and laptop computers.

Windows 98, NT, ME, 2000, XP
Processor 600 Mz
RAM 128 Mb
1 spare serial (RS232) COM port

ESMM2 has been tested with a wide range of USB to RS232 converters and PC card RS232 adapters, particularly models from Radio Shack and National Instruments.

2 Installation

ESM Manager 2 will be supplied as either a .zip or .exe file dependent on whether it was received via email, downloaded or supplied on a CD. If you have a .zip file select the “extract all” option and extract the compressed files to the any Windows folder of your choice.

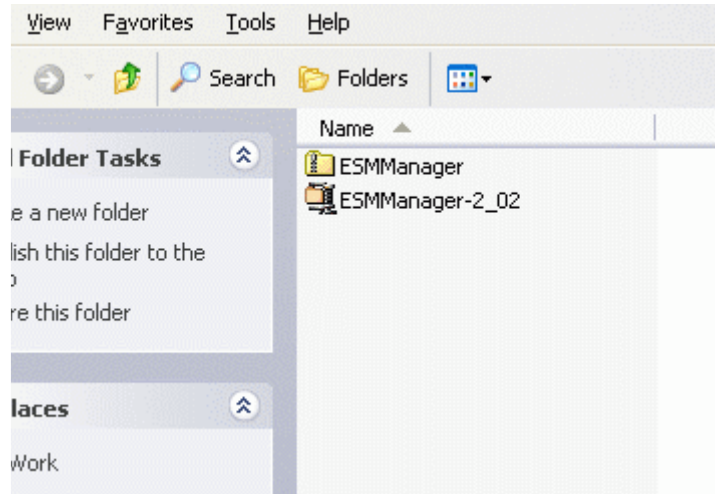


Figure 2 – ESMM2 .zip and .exe files

To start the installation process use the mouse to double-click on the .exe file or application. This will display the dialog below and start a standard Windows installation with the normal series of screens. At the appropriate time enter you name and organization into the boxes.

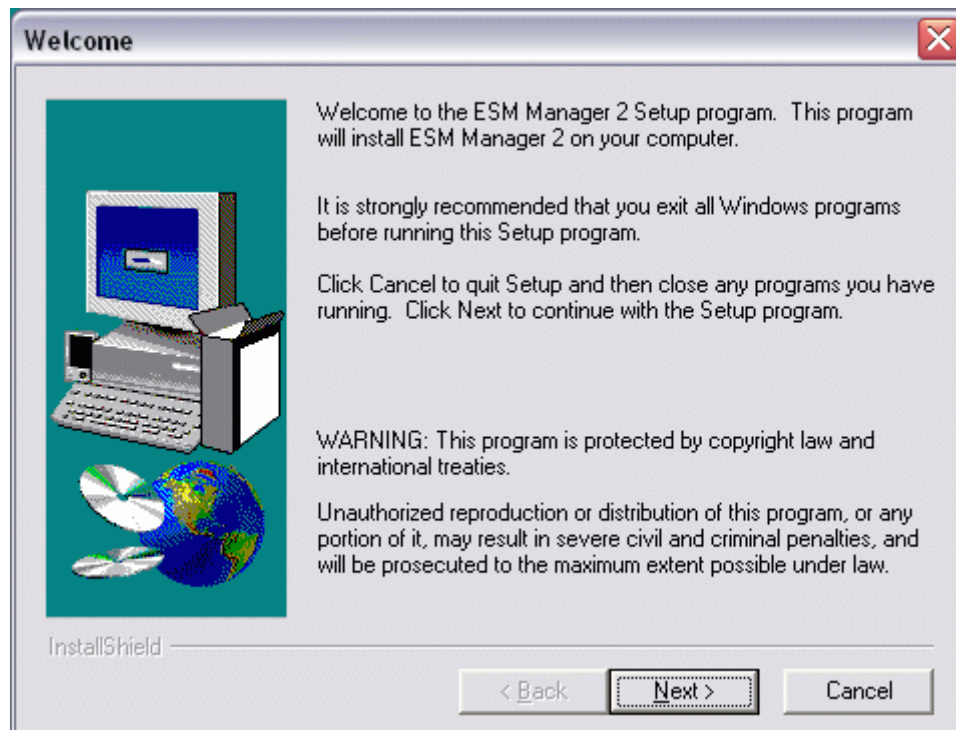


Figure 3 – Installation dialog

When the installation completes you will be given the option to launch the application. ESM Manager 2 is installed on the Windows Start Menu in the EnviroTech LLC folder.

3 Connecting

Launch ESM Manager 2 from the EnviroTech LLC folder on the Windows Start Menu. The main screen will be displayed and the title bar will display the status “Disconnected” as shown below.

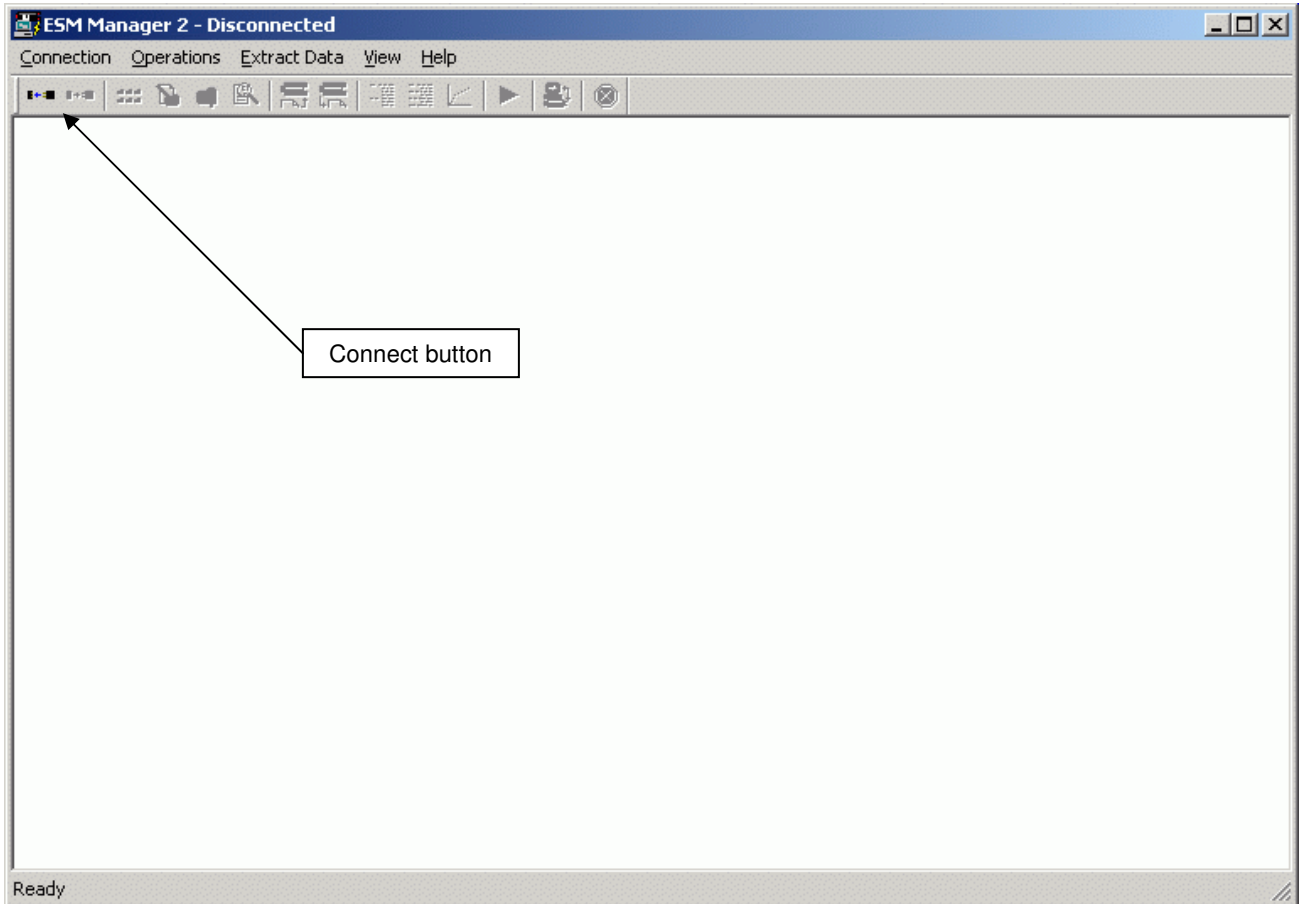


Figure 4 – Main screen (disconnected)

Apply power to the instrument and then immediately select the connect button from the extreme left hand end of the toolbar. This will show the Connect dialog box.

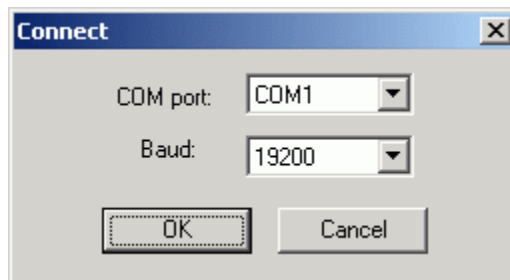


Figure 5 – Connection dialog

Select the correct COM port and Baud rate from the drop down boxes. The COM port with often be COM1, especially on laptop computers, and the default baud rate is 19200. Press the OK button to connect to your instrument. You must press the “OK” button within 20 seconds (default) of applying power to avoid running the AUTOSCRIPT (see the Eco-Script Manual for full details).

Also note that connecting will wake-up the instrument if it is asleep and terminate any logging cycle that might be running.

After a few seconds the software will connect, the connect button will be grayed-out and the title bar status will change to “Connected”.

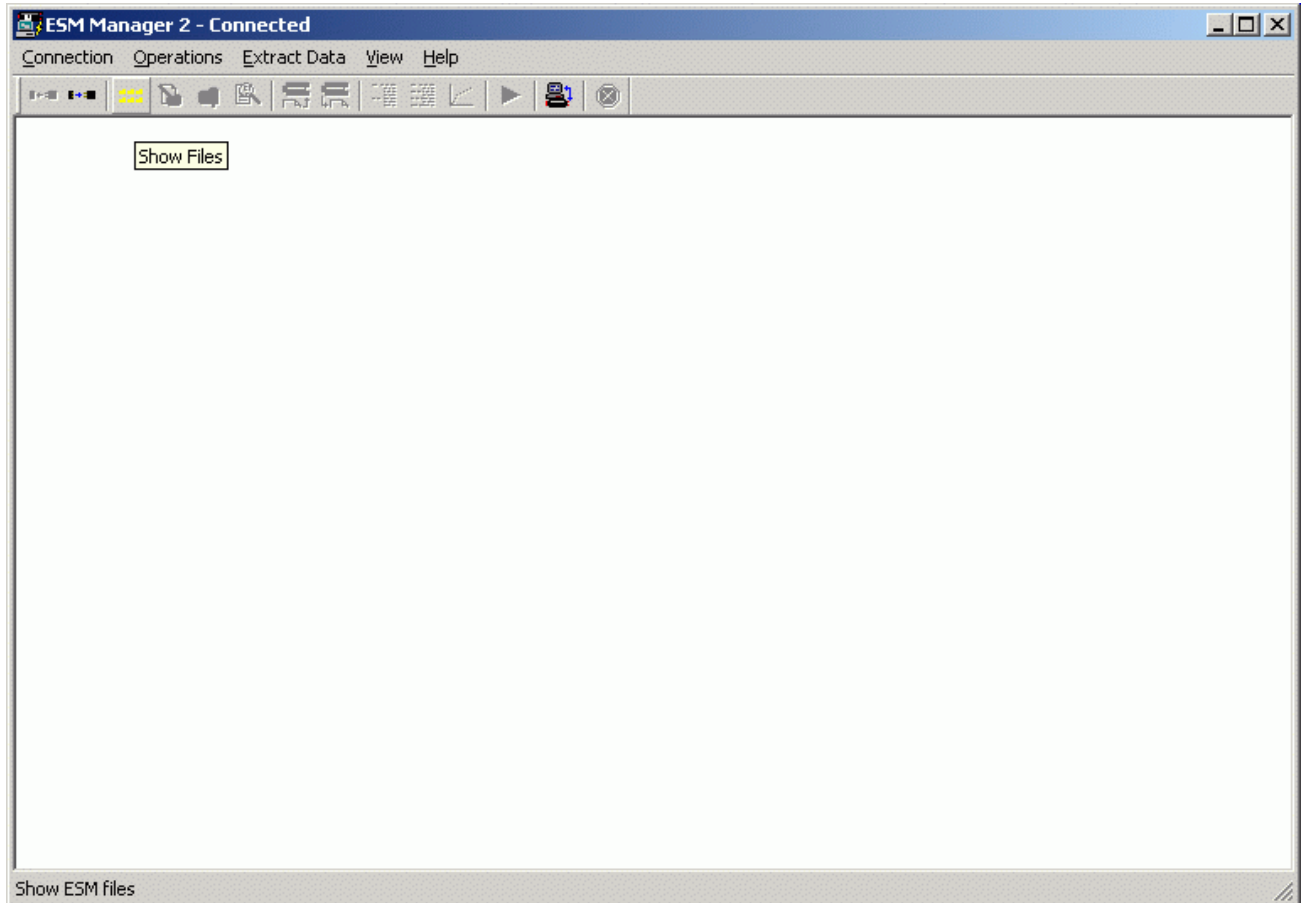


Figure 6 – Main screen (connected)

If the software fails to connect to the instrument check the following:

1. The instrument is powered-up (check leads and connections). If using a battery check the voltage on the battery or lead terminals.
2. The deck-lead is properly connected and to the right COM port
3. You selected the correct COM port when you attempted to connect to the instrument
4. The Baud rate is correct (unless this has been changed after delivery it will be 19200)
5. The COM port you have selected is working properly (check in the Windows / Settings / Control Panel / System / Hardware dialog)

If you are having difficulty please contact the factory for your distributor for technical support (see section the Technical Support section).

3.1 Disconnecting

The software can be disconnected from the instrument by pressing the Disconnect button.



... Disconnect button

You may wish to disconnect if you are operating multiple instruments with only one COM port (you may run multiple instances of ESM Manager with multiple COM ports).

Pressing the disconnect button has the effect of resetting the instrument. If the instrument remains powered then after the preset delay (20 seconds by default) the unit will attempt to run the AUTOSCRIPPT file and start a deployment (see the Eco-Script Manual for further details). Even if the AUTOSCRIPPT file is not set the unit will return to the first prompt regardless of the connection state of ESMM2.

To avoid starting a deployment or draining the battery unnecessarily please switch-off the power to the instrument or unplug the battery unless you intend to immediately reconnect.

4 Navigation

Once the software has connected to the instrument press the yellow “Show Files” button on the toolbar to display the folders. The screen below shows the default view.

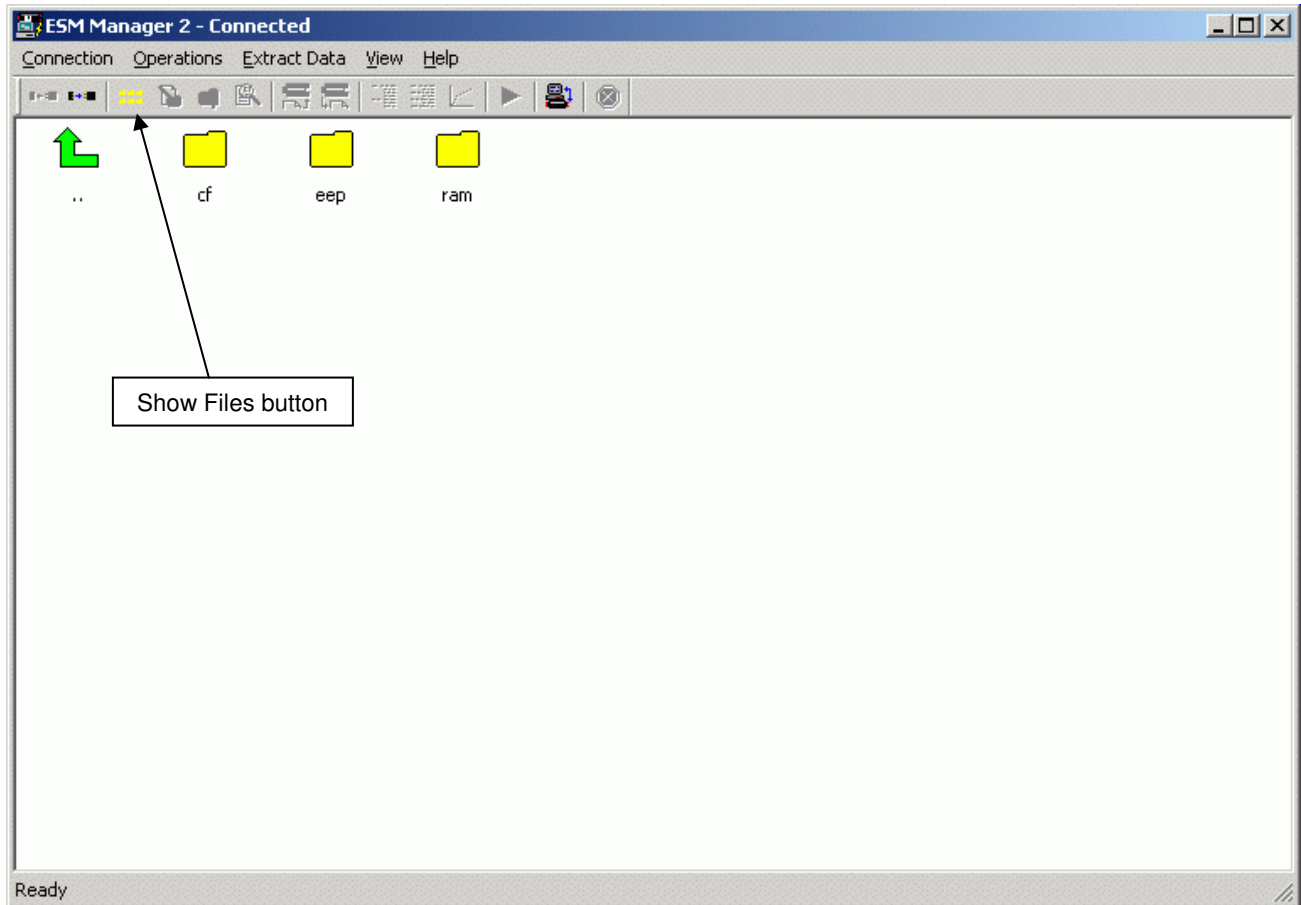


Figure 7 – Show folders (default view)

Double-clicking on a folder with your mouse will navigate “down” and display the contents of the folder, which may be further sub-folders, files or both.

From within any folder double-clicking on the large green arrow to the top-left of the folders will navigate “up” and show the contents of the parent folder.

The top level folders are:

/cfg ... for configuration files such as main.cfg (read-write)

/store ... parent folder for storage of scripts and data (write protected)

Read-write folders are:

- /cfg ... for configuration files such as main.cfg
- /cf ... for storage of scripts and data (removable compact flash)
- /flash ... for storage of scripts and data (non-removable)
- /eep ... for storage of scripts and data (only 22 kb & non-removable)
- /ram ... do NOT use (scratch pad for the system during run-time)

From the default view (shown in Figure 7) you can navigate down into the /cf (or /flash) folders to show scripts and data folders. Data folders are displayed with the special binary symbols and script folders are plain yellow.

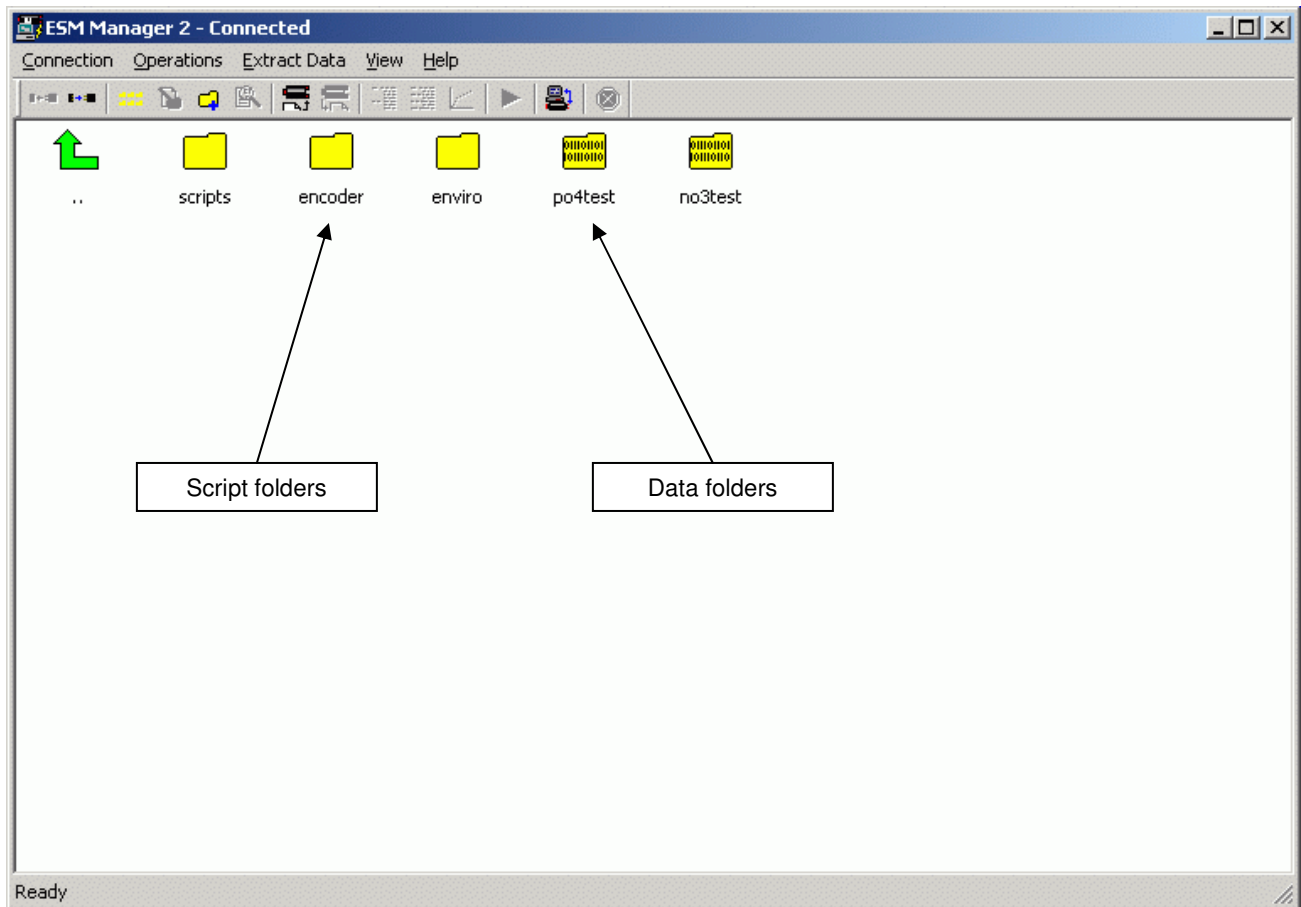


Figure 8 – Script and data folders

Further navigation downwards into the scripts folder (for example) will display scripts files. These can be viewed or run as described in the next section.

5 Viewing and running scripts

Script and configuration files are contained within read-write folders in the instruments memory. Both script and configuration files can be viewed and downloaded from the main screen, but only script files can be run. Configuration files are only found in the /cfg folder.

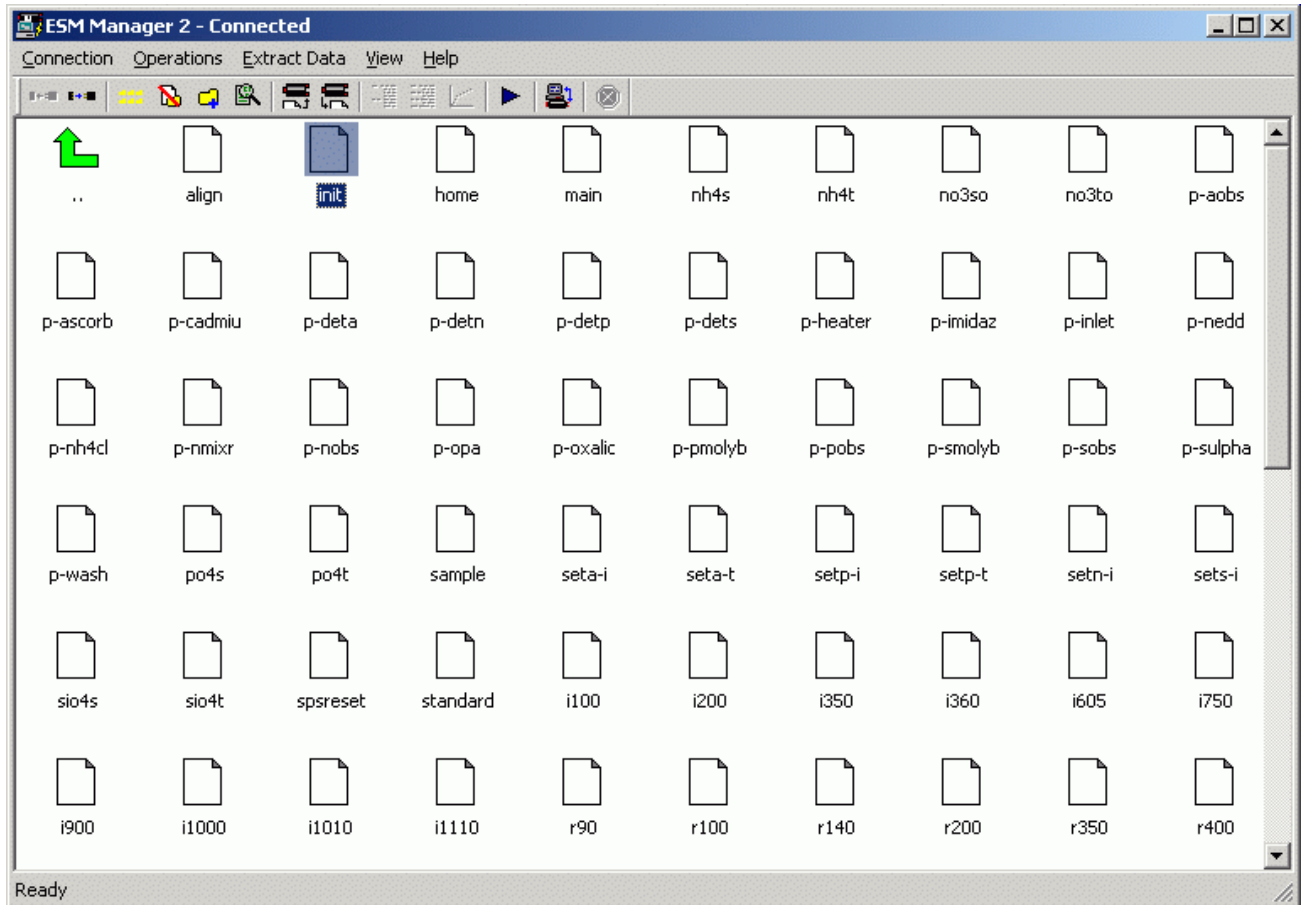
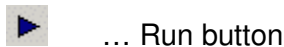


Figure 9 – Scripts

To run a script simply select the file and press the run button on the toolbar.



In the screen above the "init" script is selected. When the run button is pressed a display box will pop-up and any output from the script or its sub-scripts such as comments (e.g. "Sampling") and data readings will be displayed as the script runs.

Closing the run pop-up run window will stop the script (a confirmation warning is displayed). A comment is shown when the script completes and pop-up window is dismissed by pressing the "Close" button.

Any script or configuration file can be viewed from the main screen. Select the file and then press the View button on the toolbar.



A pop-up window will display the contents of the file and you can scroll using the vertical scroll bar on the right hand side.

It is not possible to edit files from the View window.

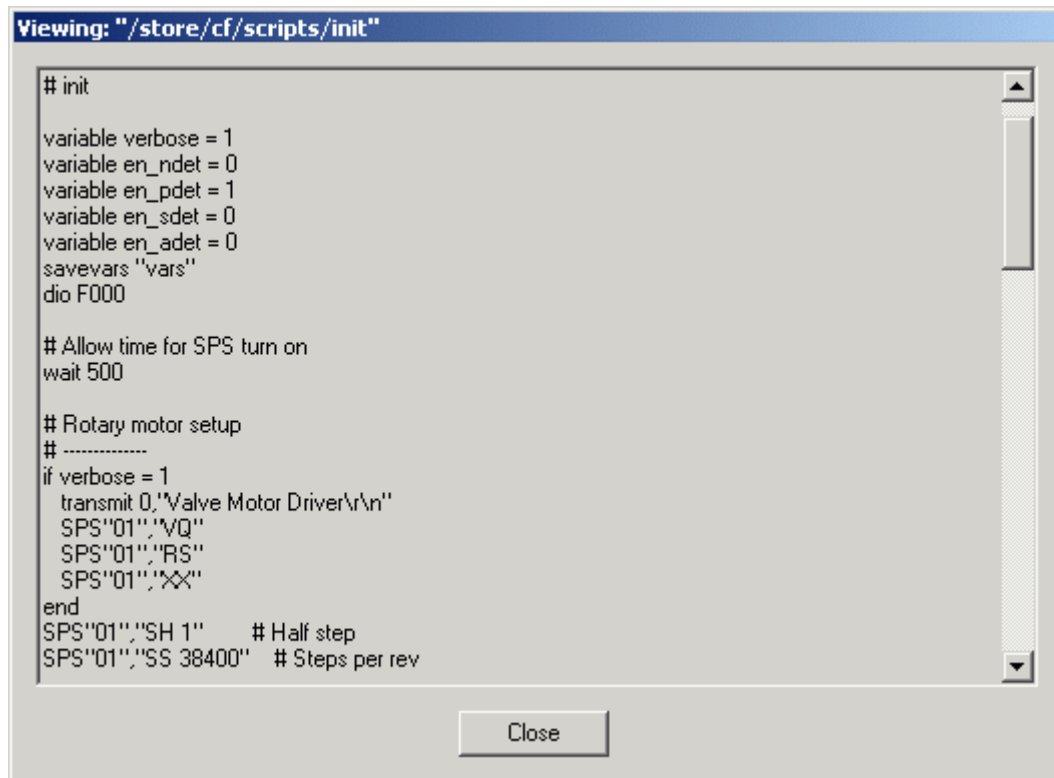


Figure 10 – File view window

Once you have finished viewing the file press the “Close” button to dismiss the view window.

6 Creating and deleting files and folders

6.1 Creating folders

New sub-folders can be created in any read-write folder such as /cf or /flash. To do this, navigate to the folder you wish to make a sub-folder in and press the New Folder button. This will display a pop-up box as shown below.



... New Folder button

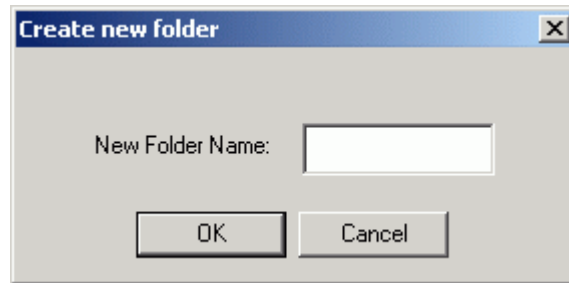


Figure 11 – New folder dialog

Enter the sub-folder name (e.g. myfiles) with a maximum of eight characters and then press the “OK” button. A new folder will be created and displayed in the main screen. You may then navigate down into the new folder and subsequently upload scripts into it (see the following section on uploading)

6.2 Deleting files and folders

To delete a file or folder navigate to the appropriate folder and select the file or sub-folder. Now press the Delete button.



... Delete button

A confirmation dialog box will be displayed. Press “Yes” to proceed. The file or folder will be deleted and be removed from the main screen. Deleting a folder will remove all contents of the folder including files and subfolders.

Please proceed with care as this action cannot be undone.

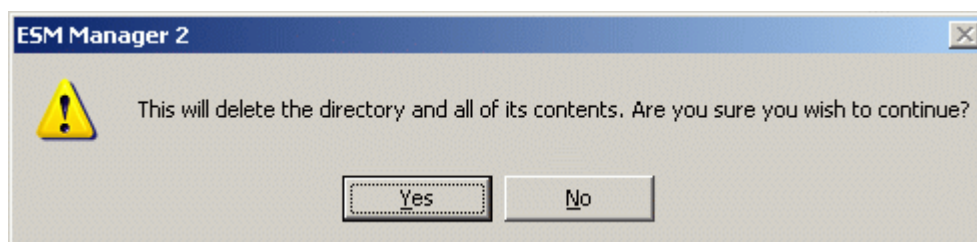


Figure 12 – Confirm deletion of folder (or files)

7 Uploading scripts and config files

Scripts and configuration files can be created in any text editor and uploaded to any read-write folder on your instrument. The ConTEXT editor is highly recommended and supplied with each of our products. A language definition file is also provided with ConTEXT and when installed scripts have a default extension of .eco. This allows ConTEXT to color-code or contextually display Eco-Script syntax to make editing easier. Once you have edited your scripts in ConTEXT (or any other good text editor) they may be uploaded to your instrument and run.

7.1 Uploading files

To upload a script first navigate to the target folder on the instrument for uploading (e.g. /cf/scripts). Then press the upload button to display the upload dialog (shown below).



... Upload button

Select the file or files to be uploaded and press the “Open” button. The file(s) will be uploaded and an egg-timer will be displayed until the upload process is complete.

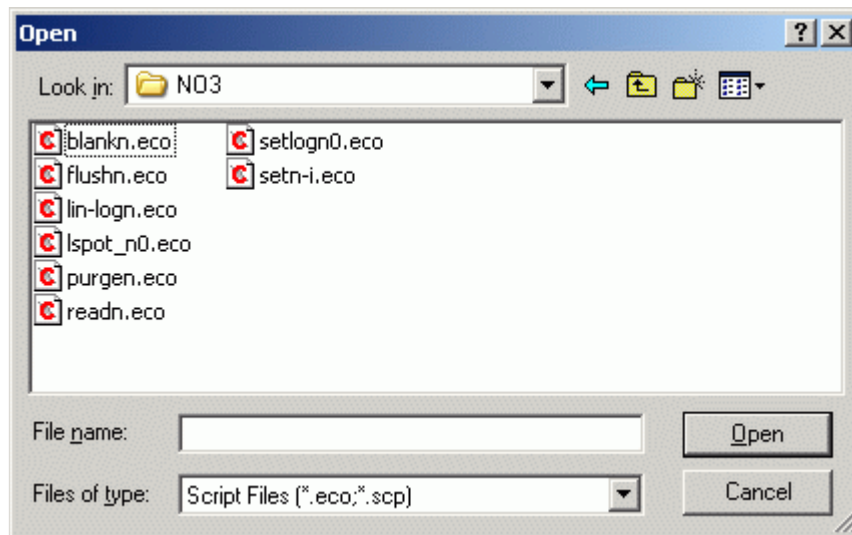


Figure 13 – Upload file selection dialog

When any files are uploaded the .eco extension is stripped-off to make calling a sub-script with the execute command as simple as possible (e.g. execute “../myscript” instead of execute “../myscript.eco”).

During editing and when saving scripts on your PC hard drive file names should be limited to eight characters as any additional characters will be truncated. It is also recommended that all scripts in one project are stored in a single folder on your PC hard drive to take advantage of the batch upload features of ESMM2.

Batches of scripts may be easily uploaded in one go. Simply select the first script and then either use CTRL-A to select all the scripts in the upload dialog box.

Or you can choose a specific selection of files by holding down the CTRL button on your keyboard and single-clicking on each of the files you wish to upload. If you select a file by mistake simply keep your finger on the CTRL button and single-click on the file again to clear the selection.

7.2 Downloading files

Scripts may be downloaded from the instrument to your hard drive for editing or back-up. Simply navigate to the file you wish to download and select the “Download” button from the toolbar.



... Download button

A pop-up dialog will be displayed. You can navigate to the location on your PC hard where you wish to save the file. Then enter the file name with the appropriate .eco or .cfg extension and press the “Open” button. The file will be downloaded and an egg-time will be displayed until the operation is complete.

FAQ: When is this useful?

For example, if you have designed, edited and uploaded scripts on your desktop PC and you now wish to make some changes with your laptop (possible in the field) and you do not have the original scripts on the laptop hard drive this feature allows you to access and edit the files. They can subsequently be re-uploaded and then run.

8 Direct commands

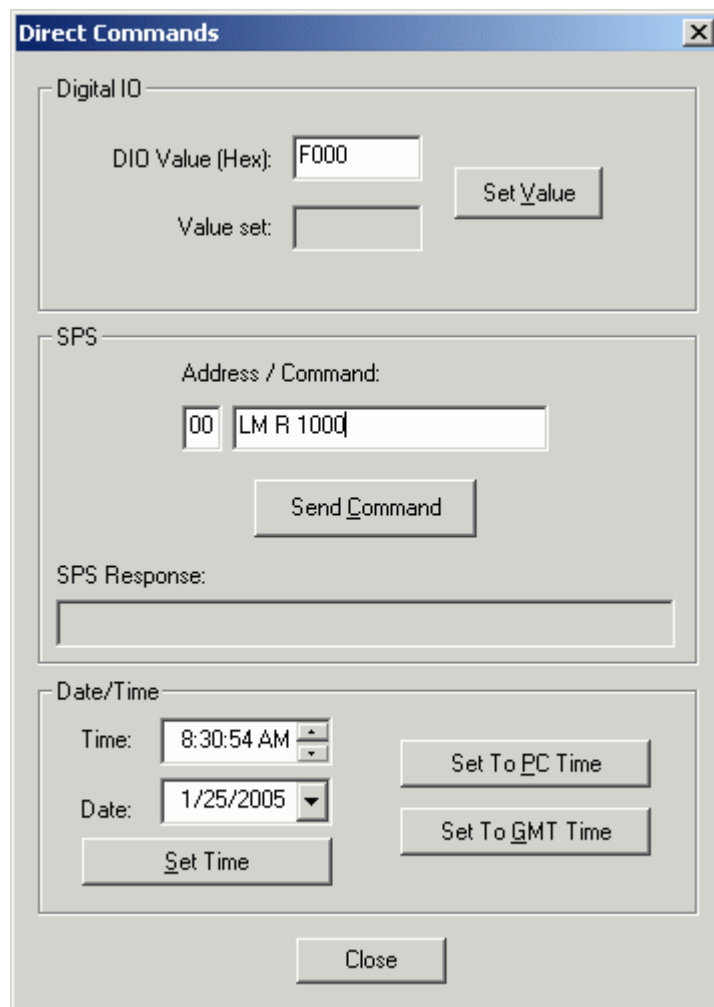
The user has specific control of some of the hardware and peripherals in the instrument system via the Direct Command box. Direct commands allow the various power switches and digital outputs (often used for sensor gain control) to be manually controlled. In addition all SPS devices (typically motor and detectors) can be operated from the SPS boxes and the real-time clock in the instrument can be set. The Direct Commands panel is opened by pressing the Direct Commands button on the toolbar.



... Direct Commands button

8.1 Digital IO

For most products the DIO value F000 will turn-on all SPS devices in the system. DIO 0000 turns them all off. To power-up the SPS devices enter “F000 in the DIO Value (Hex):” box and press the “Set Value” button.



The screenshot shows a window titled "Direct Commands" with three main sections: "Digital IO", "SPS", and "Date/Time".

- Digital IO:** Contains a text box for "DIO Value (Hex):" with the value "F000" entered, a "Set Value" button, and a "Value set:" text box.
- SPS:** Contains a text box for "Address / Command:" with "00 LM R 1000" entered, a "Send Command" button, and an empty "SPS Response:" text box.
- Date/Time:** Contains a "Time:" spinner box set to "8:30:54 AM", a "Date:" spinner box set to "1/25/2005", a "Set Time" button, a "Set To PC Time" button, and a "Set To GMT Time" button.

A "Close" button is located at the bottom center of the window.

Figure 14 – Direct commands panel

8.2 SPS devices

To control an SPS device first ensure that it is powered-up (see above). Enter the correct address (e.g. 00 for the linear or syringe motor) and then type in the command you wish to send to the SPS device. Now press the “Send Command” button. The response from the SPS device will be shown in the “SPS Response” box. This will be “OK” for operations such as motor movements and light settings. For device queries such as GS (get sample) the reading or value will be displayed.

8.3 Date/Time

The date and time of the real-time clock onboard your instrument may be set to a specific time, the PC clock or GMT. Please note that the GMT setting is simply offset from your PC clock and any errors in the PC clock setting with respect to local time will be reflected in the GMT setting.

Please set your PC clock accurately before using the “Set To PC Time” or “Set To GMT Time” buttons.

9 Extracting data

After running a script and recording data in can be downloaded to your PC hard drive using one of the “Extract” buttons. There are three extract modes:

- Burst ... all headers and individual data readings within each burst
- Synopsis ... the headers and the average of data readings within each burst
- Graph ... the time stamp and the average of data readings within each burst

Each mode is selected from an individual Extract button as shown below.

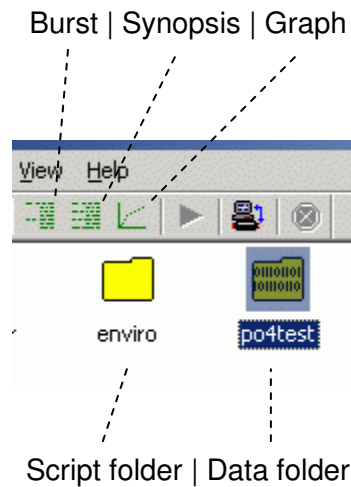


Figure 15 – Extract buttons and data folders

To start a download navigate to the parent folder containing your data folder and select the data folder. (The data folder will be created by the script the first time it records a reading). Now press the Extract button for the type for download format you require. A pop-up box will be displayed and you can navigate to the folder on your PC hard drive where you wish to save the downloaded data.

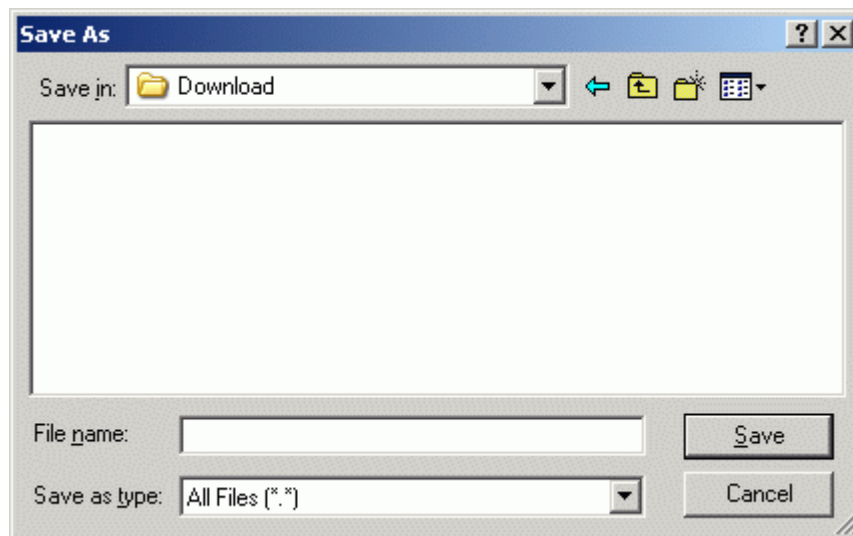


Figure 16 – Download dialog

Enter a valid Windows file name and press the “Save” button. It is recommended that you append the extension .txt as the downloaded file will be a pure text file. This way the file will automatically open in your default text editor when you later double-click on it using Windows Explorer.

An egg-timer will be displayed until the download is complete.

If you selected the Graph format at the end of the download a further selection box will pop-up. This allows you to convert the file to CSV format. CSV is an acronym for comma separated variable and is a format that is very easily imported and graphed in applications such as Microsoft Excel and other data plotting software. The CSV file is created in addition to the raw download text file.

To create a CSV file press the “Yes” button. A dialog box will appear.

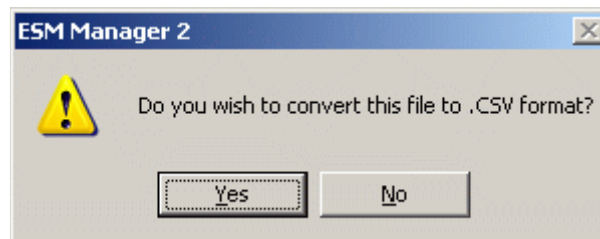


Figure 17 – Toolbar buttons

Enter the filename with the .csv extension. We recommend that you enter the same file name as the original .txt file, but with the .csv extension, but this is purely optional.

10 Technical support

If you have any problems with ESM Manager 2 software or your instrument please do not hesitate to contact us for technical support via one of the options below:

- **On-line FAQ library**

We have an extensive and searchable on-line library of frequently asked questions. This database is continuously updated. The FAQ's can be viewed by selecting the "Browse FAQs" button on our website Help Page.

- **On-line Help Desk**

You can enter a trackable trouble-ticket at our on-line Help Desk by selecting the "Contact Help!!" button on our website Help Page. Your request will be automatically routed to the best people to help you. Help tickets entered this way will never get lost or be forgotten. Please help us to help you by using this facility.

- **Email Help Desk queries**

As an alternative to the on-line Help Desk a new trouble-ticket can simply be emailed to our help email address.

- **Telephone contact**

Please feel free to contact us via telephone during business hours (8:00 – 5:00 US Eastern Standard Time)

- **Emergency contact**

For emergencies and especially out of hours assistance please use our automatic pager system by sending a short email to our emergency contact address. The maximum message length should be 130 characters and please include your name and a contact number where we can get back to you.

Website Help Page

Browse FAQ's or enter a trouble ticket
www.n-virotech.com/help.htm

Help Desk system email

help@n-virotech.com

Phone and fax

T: 757 549 8474

F: 757 410 2382

Hours of business 8:00 - 5:30 US EST

Emergency Out of Hours Pager

In an emergency send a very short email message starting with contact details to:
emergency@n-virotech.com

11 Warranty, licence and disclaimer

11.1 Warranty

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