# Skye

## SkyeLynxComms
## DataHog Communications Software



**SkyeLynxComms**

## SKLS 990

**www.skyeinstruments.com**

## Iss. 1

# Skye Instruments Ltd.

Skye Instruments is based in the UK and we are very proud to be celebrating being in business since 1983. Our products are designed and built in the UK. We have a very wide product base and our sensors & systems are used for plant & crop research; micro-climate, global climate change studies; environmental monitoring and controlled environment installations.

Products include light sensors & systems, weather monitoring sensors, automatic weather stations, plant research systems, soil and water research systems.

Feel free to contact us via our e-mail, or any of the methods below:

| | | | |
|---|---|---|---|
| Skye Instruments Ltd. | @SkyeInstruments | Skye.Instruments | SkyeInstrumentsVideo |

Skye Instruments Ltd.

Click on the icons to browse to the sites, or search for the usernames below.

*Have a Smartphone? Scan this QR code to access our website for more information about your product:*

*Please be aware that the information in this manual was correct at time of issue, and should be 100% relevant to the accompanying product. We take great pride in our ever-evolving range of products, which means that sometimes the product may change slightly due to re-design.*

*If you have any queries, please do not hesitate to contact our technical team by any of the methods above.*

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# SkyeLynxComms

## 1. INTRODUCTION

SkyeLynxComms is PC software designed for communicating with the Skye DataHog2 via a comm port on a PC. The software is compatible with all Windows platforms from Windows XP.

In 'default mode', SkyeLynxComms connects to the DataHog and downloads the data, using a fast binary offload routine. Also in this mode it is easy access to some of the popular DataHog routines.

In 'Advanced Mode' the complete DataHog menu is available for full configuration options and settings.

The downloaded data files are a space delimited text file which can be imported into most third party graphing software programmes, as well as spreadsheet softwares such as Excel and Open Office.

## 2. GETTING STARTED

### 2.1 Installing the Software

i) Uninstall any previous versions Of SkyeLynxComms

ii) SkyeLynxComms requires the .Net framework to be already installed.  Windows 7 and Windows 8 have this framework. On many XP and Vista machines, the .Net framework may have been installed as part of another software installation.  However, if a screen similar to this one is displayed when you try to install SkyeLynx Comms,
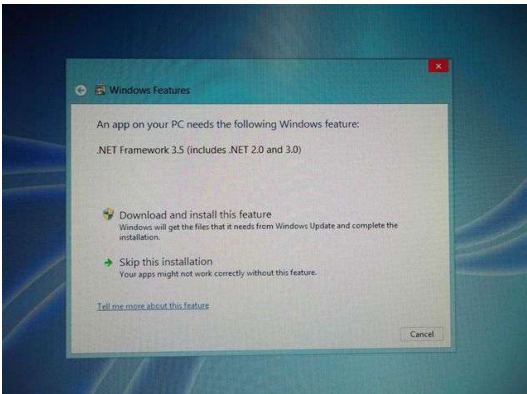


then go to http://www.microsoft.com/net and install .NET.

iii) Install the SkyeLynxComms software by either:

a) Inserting the CD in the computer CD drive.  It should auto-run and automatically start the installation process.  If the CD does not 'autorun', then navigate to the CD drive from My Computer, Windows Explorer or File Explorer and double-click SETUP,EXE.  Follow the on-screen instructions

<u>OR</u>

b) If you have downloaded the programme as a zip file from our website, then extract the files, double click SETUP.EXE and follow the on-screen instructions.

The installation routine creates an icon on the desktop



SkyeLynx
Comms

# SkyeLynxComms

## 2.2 Connecting to the DataHog

The DataHog is connected to a PC by an RS232 cable supplied by Skye. One end is fitted with an 8 pin plug which is screwed into the RS232 socket on the DataHog and the other end is fitted with a 9pin serial connector.


*RS232 socket on the DataHog2*


*RS232 cable with USB converter*

Most PCs today do not have serial ports, so Skye supplies a serial to USB converter so that connection can be made to a USB port instead.

The Serial to USB converter requires a driver to be installed on the PC. If you have already been using and offloading DataHogs, then this driver will already have been installed. However, if you change the type of USB converter, then a new driver will need to be installed - drivers are specific to a USB type. If you have purchased a new DataHog, then details on how to install the driver will be supplied with the USB converter.

A few seconds after plugging the cable into the DataHog RS232 socket the DataHog will start beeping. If this does not happen, please refer to the "Troubleshooting Section"
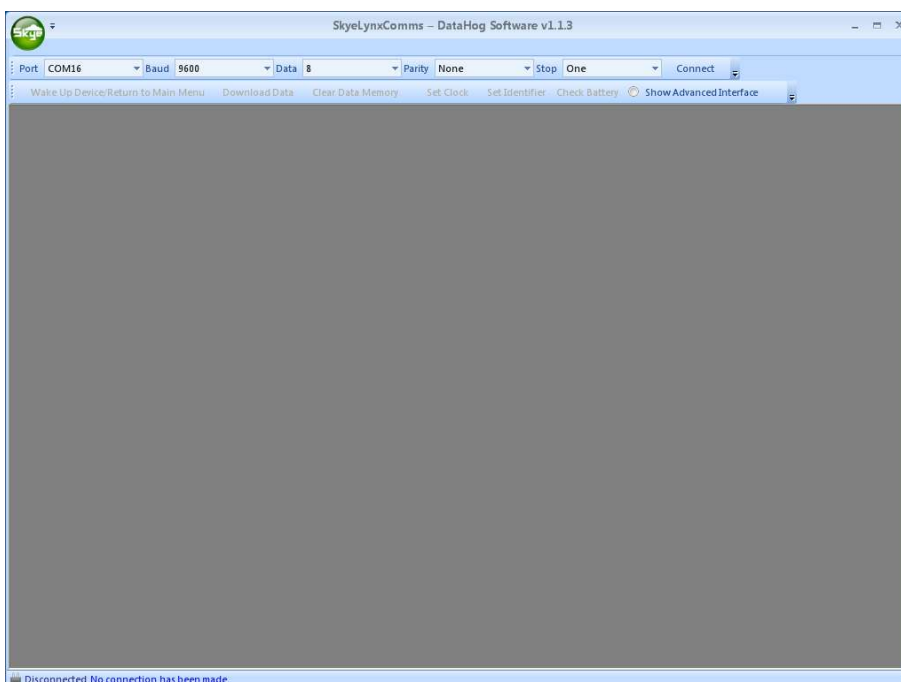
## 3. STARTING SKYELYNXCOMMS

i) Double-click the [SkyeLynx Comms icon] icon on the Desktop



The following screen will be displayed and the message on the bottom bar will show Disconnected No connection has been made

The only setting that may need changing is the Comm PORT.  If you are only have one Comm port, then the software will automatically select the correct port.  If other ports exist, then select the correct port from the drop down box.
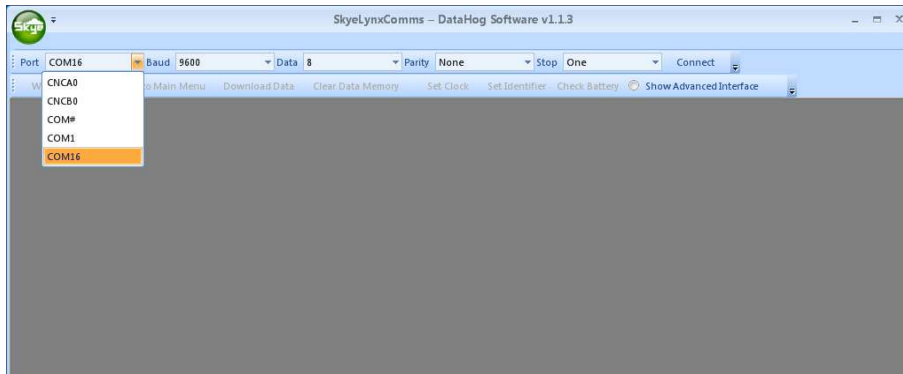


## 3.1  CONNECTING TO THE DATAHOG

To establish a communication between the DataHog and the Comm Port click CONNECT.

After a connection has been made the message bar at the bottom will read "Connected DataHog currently in logging mode" (If the message says something different please refer to the Troubleshooting section of this manual)
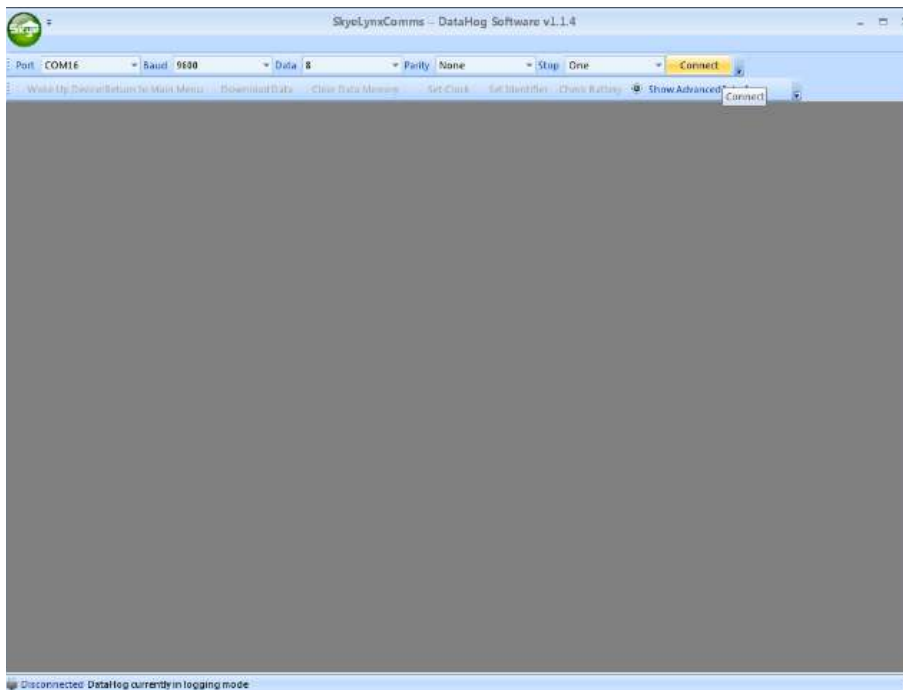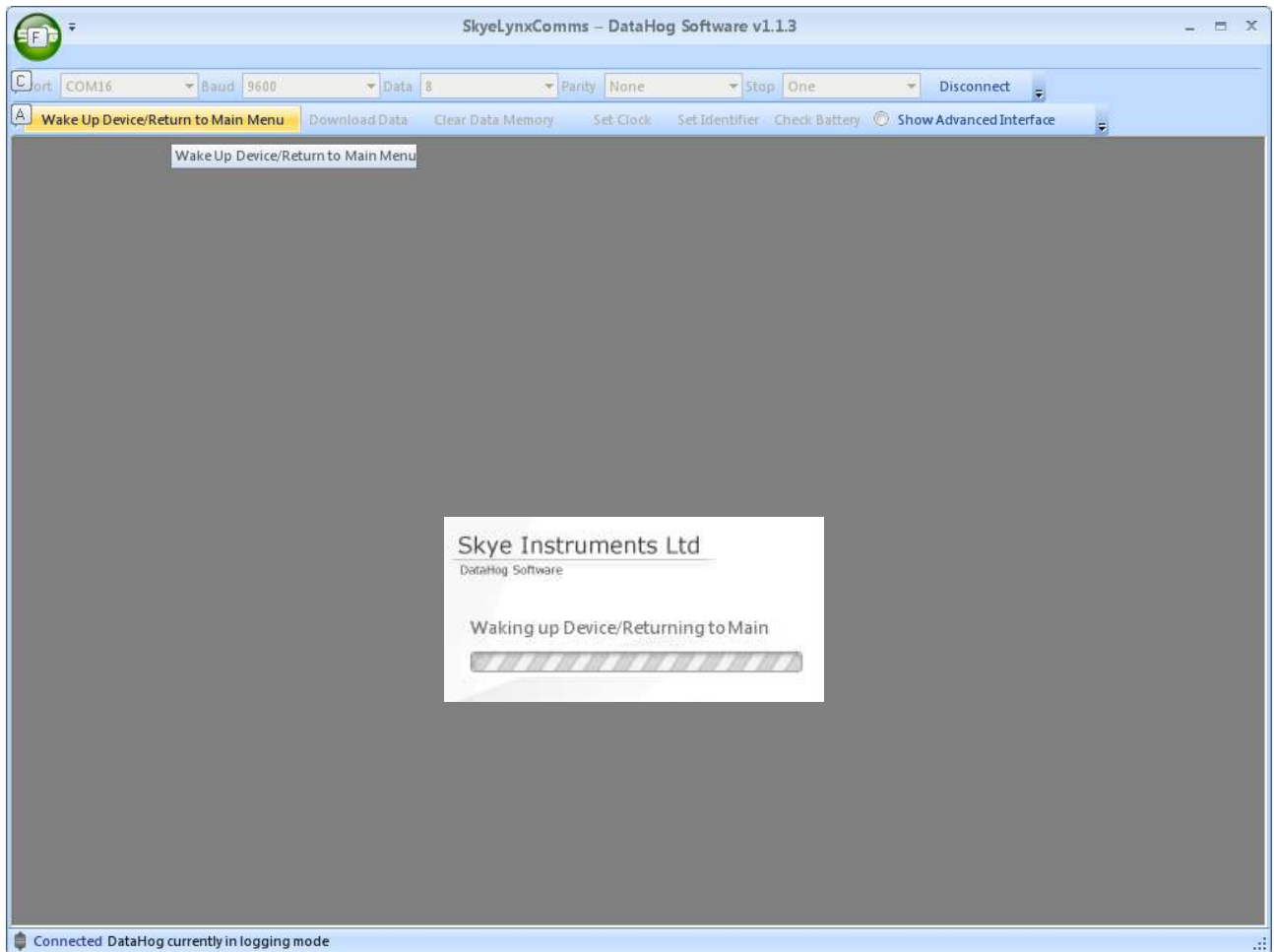
# SkyeLynxComms

## 3.2 WAKING UP THE DATAHOG

The DataHog is 'asleep' when not taking measurements in order to conserve power.  The DataHog 'wakes up' every 10 seconds.  If it does not receive a numeric key within the 'wake-up' period, then the DataHog returns to sleep mode.

To 'wake up' the DataHog click WAKE UP DEVICE.  This will send a numeric key within the 'wake-up' period to the DataHog and will wake it up.
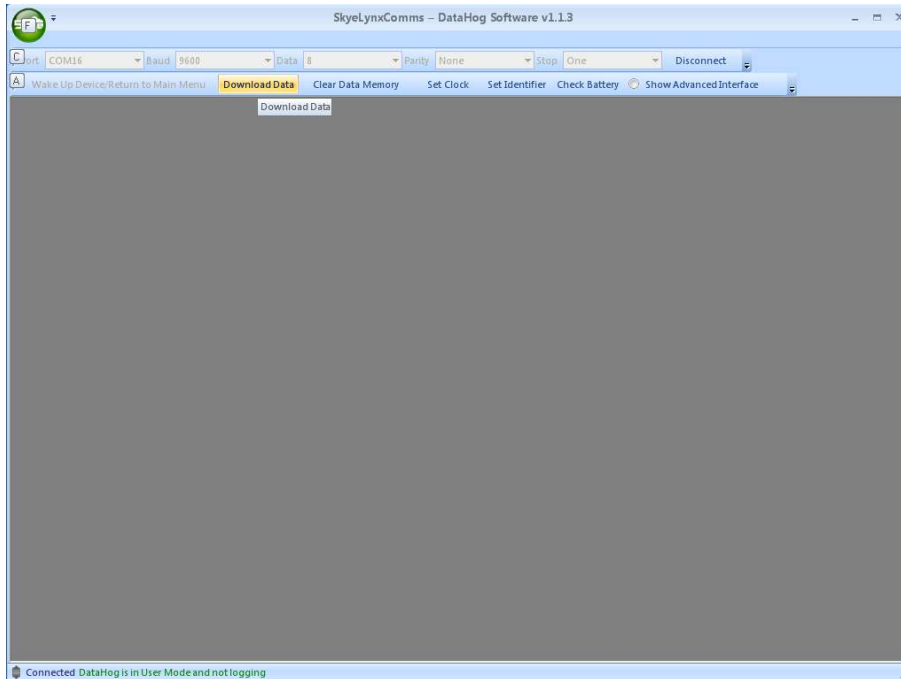


When the DataHog has 'woken up' the bottom message bar will change and read Connected DataHog in User Mode and not logging
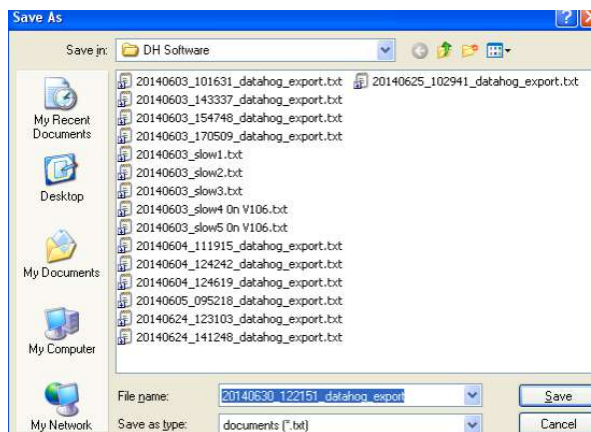
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# SkyeLynxComms

## 3.3 DOWNLOADING DATA

The 'Download Data' routine available via the default menu is a 'fast offload' and only takes a few minutes to download a full memory.

Click 'Download Data' to start this routine



A 'SAVE AS' box appears, so choose a location and file name and click OK.



A progress box is displayed.

# SkyeLynxComms

When the Download has finished a confirmation box is displayed
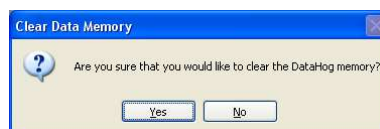


Click OK

## 3.4 CLEAR THE DATA MEMORY OF THE DATAHOG

When configuring the DataHog, there is a choice of what to do when the data memory is full. The memory can start over-writing when it is full, or the DataHog can stop logging when the memory is full.. Ensure that you are clear as to which option your DataHog has been set up with. The decision to 'clear the data memory' when the data has been downloaded is a choice of the user. If the memory is cleared after a download, then this will ensure that every download will always contain new data points. If you do not 'clear the data memory', then every download will contain data that has already been downloaded as well as the new data. It will also take longer.

Click 'CLEAR DATA MEMORY
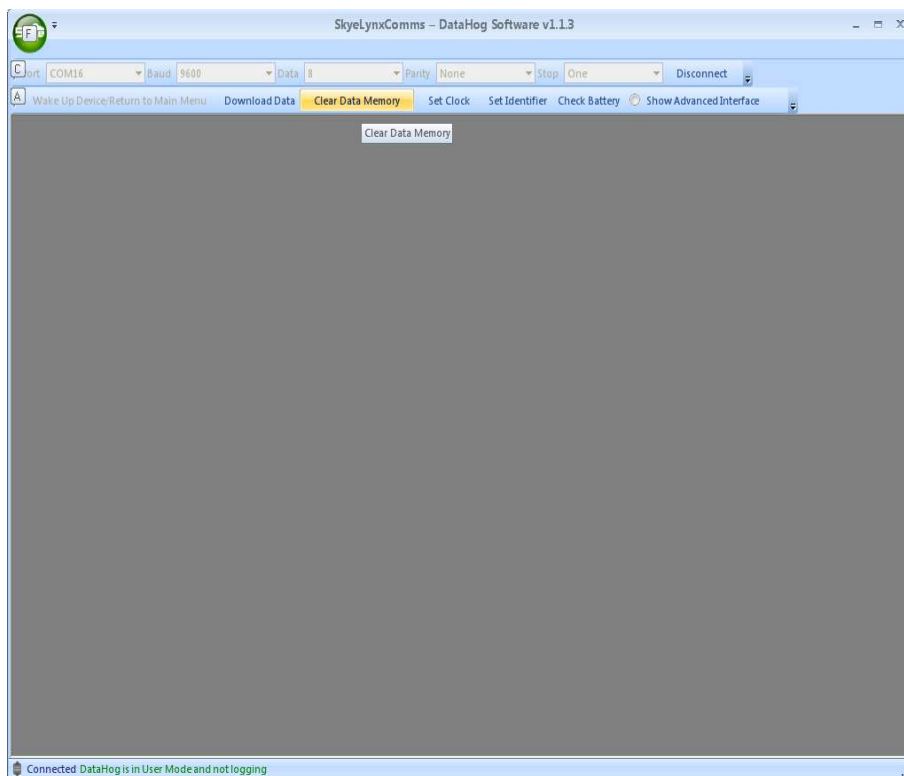


A message box will appear asking for confirmation that you wish to clear the memory.



Click OK if you wish to clear the memory. The following box is then displayed.
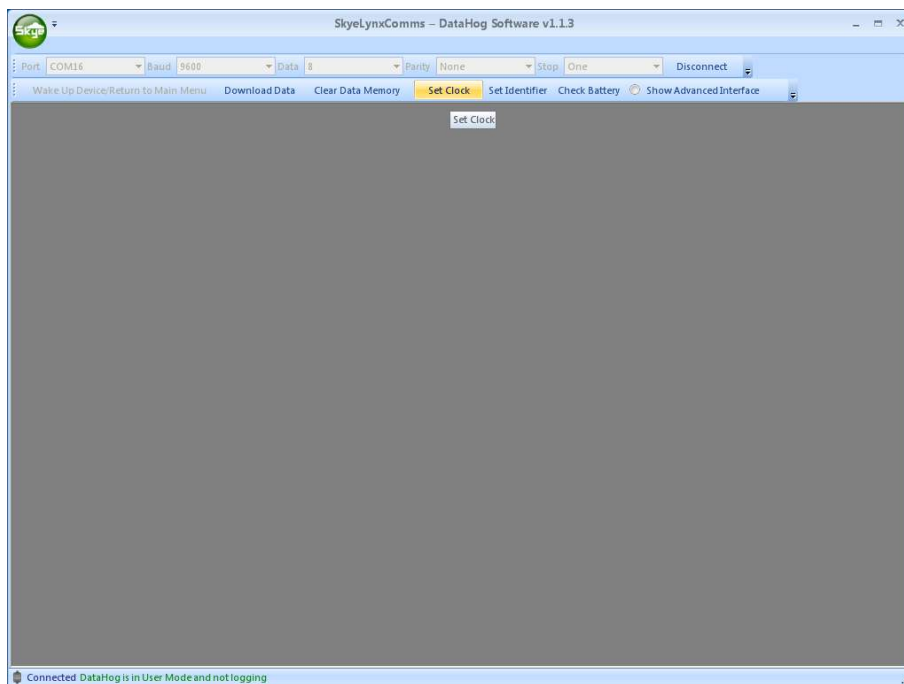


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## 3.5 SET DATE AND TIME

The DataHog has a built-in real-time clock which provides the date and timestamp on the datafiles. This date and time feature is user configurable. When a DataHog is first supplied, the date and time is set as GMT. You may wish to change this to your local date and time,

Click SET CLOCK



The following message box informs you that the date and time shown in the box is that of your computer and NOT the date and time setting of your DataHog. If you wish your DataHog to be programmed with the date and time of your PC, then click OK. If you want to use a different date and time, then enter this in the box in the required format. Click OK

## 3.6 SET DATAFILE IDENTIFIER

The DataHog is programmed with a unique Datafile Identifier. This is used to identify datafiles with their DataHog. Downloaded datafiles always have the datafile identifier on the first line of the download. The default Datafile Identifier of a DataHog when it leaves the factory is the serial number of the DataHog with txt as the last three characters. There always has to be 12 characters, eg 12345xxxxtxt.

However, the Datafile Identifier can be changed to a more meaningful name for your installation.

Click SET IDENTIFIER
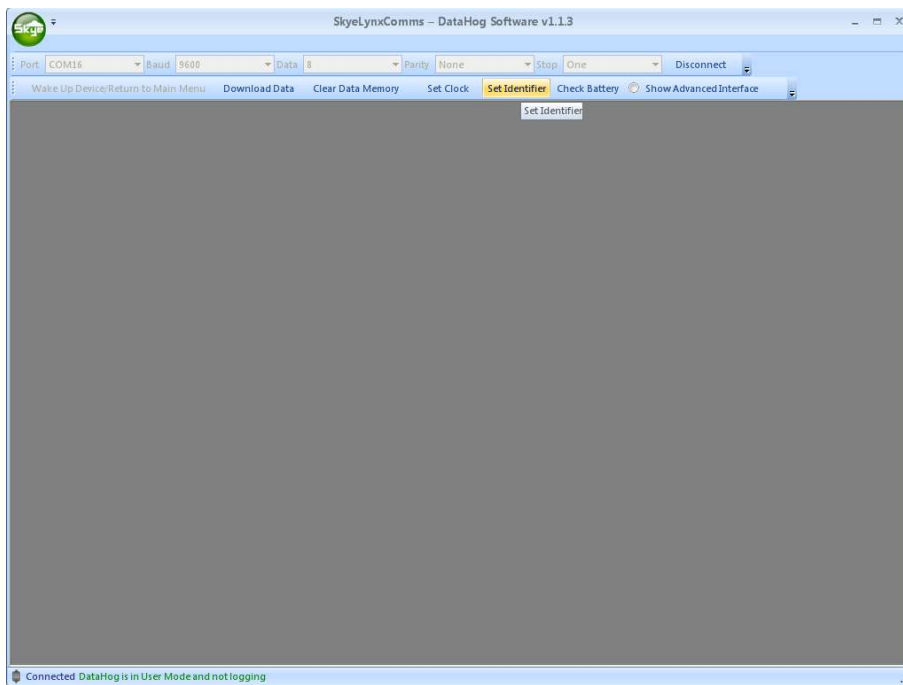


The following box appears:



Enter your 12 character name and click OK

## 3.7 CHECK BATTERY

The DataHog is fitted with 6 'C' cells providing a 9 volt battery power supply. There are additional power supply options available, ie solar and mains.. The 'Check battery' option displays the current highest power supply voltage available to the DataHog from connected power supply sources.
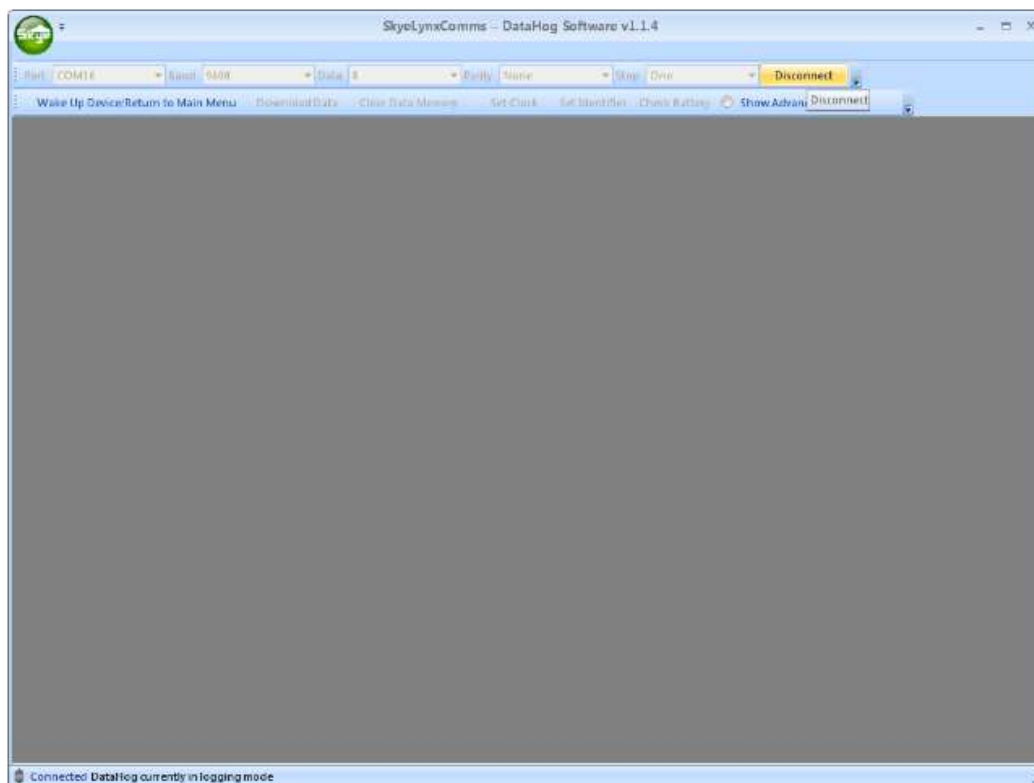
Click CHECK BATTERY
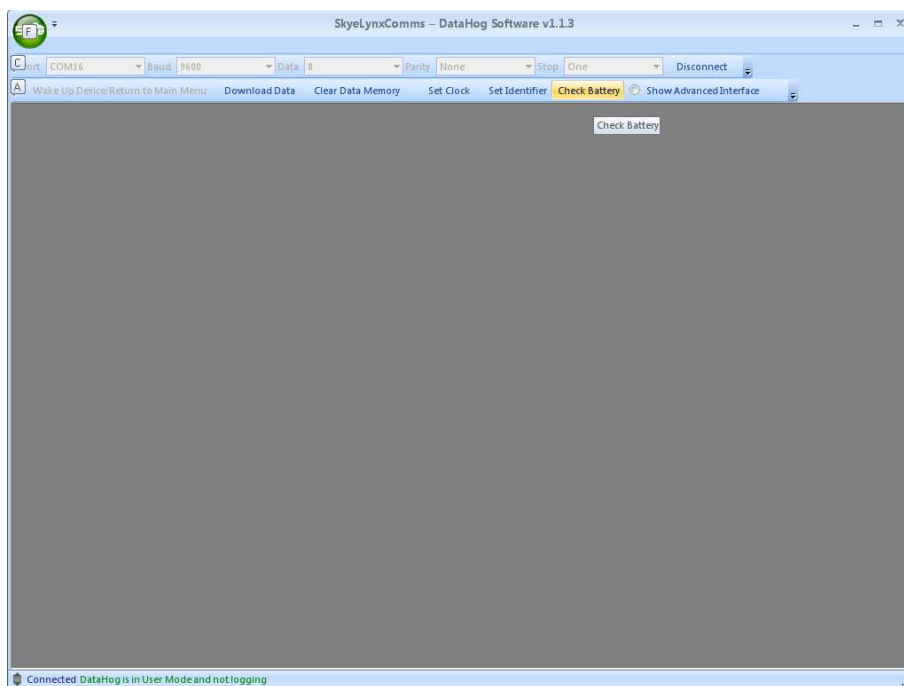


The following Battery Status indicator is displayed, with guidance on the battery health

# SkyeLynxComms

## 3.8 DISCONNECT

Clicking DISCONNECT will send the DataHog back to sleep. and terminate the connection between the PC and the DataHog so that access to menu options is no longer available.



After clicking DISCONNECT the message bar at the bottom of the screen will say:
Disconnected DataHog should currently be in logging mode

## 4 ADVANCED INTERFACE

All settings and configurations for the DataHog are accessible via the 'Advanced Interface'. In everyday usage, it is not necessary to access this option - the DataHog is supplied 'Ready configured'.

However, if you need to change any of the configurations, calibration factors or logging intervals, then this can be accomplished via the Advanced Interface. Please visit our Technical Support site http://www.skyeinstruments.com/technical-datasheets-dataloggers/ for instructions on how to undertake these changes. It is also possible to check the settings of the DataHog via this menu.
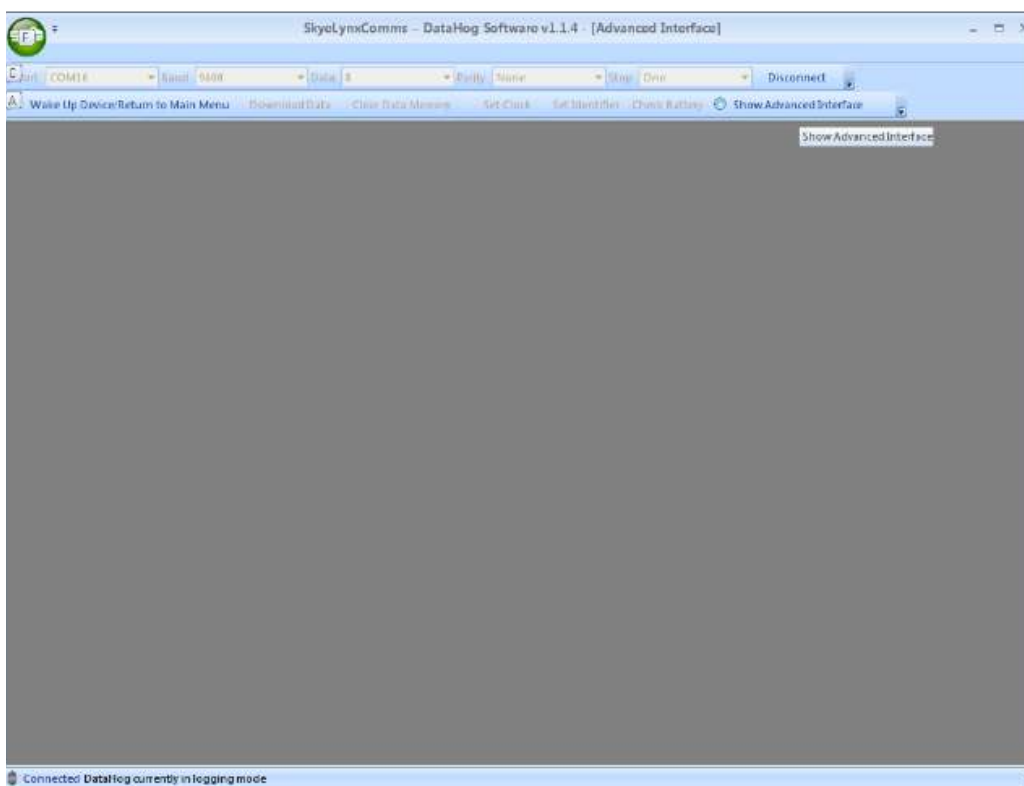


When you click ADVANCED INTERFACE, a white terminal screen will be displayed. The content of the screen will depend upon the status of the DataHog.

If the DataHog is asleep, then the following screen will be displayed:

# SkyeLynxComms
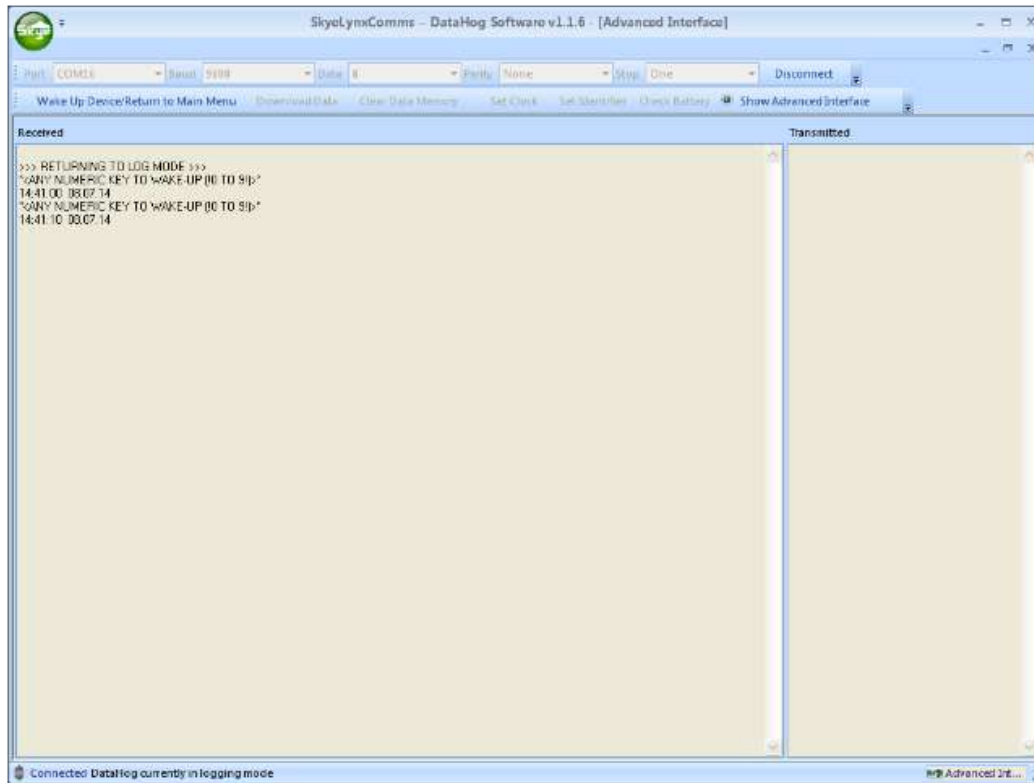


To use the Advanced Interface the DataHog needs to be woken up. This can either be achieved automatically by clicking WAKE UP DEVICE or by entering a numeric key in the terminal (Received) window (the numeric key will need to entered a few times during the 'wake-up' period in order to allow the DataHog time to recognise it during the 'wake-up' period). You will see the chosen key appear in the 'Transmitted' window

When the DataHog has woken up, or if the DataHog is already awake when you enter the 'Advanced Interface mode' the following terminal screen will be displayed - the DataHog Main Menu mode:

# SkyeLynxComms
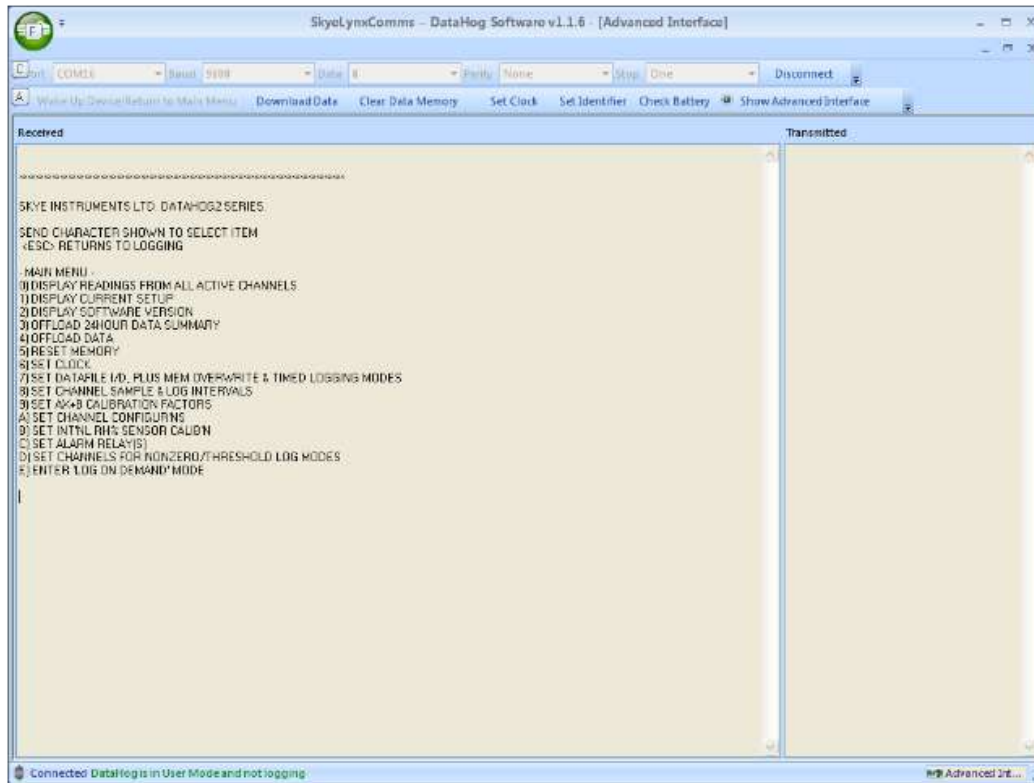


It is an easy-to-use and intuitive menu with on-screen instructions. The left hand part of the screen shows information received from the DataHog and the right-hand section shows the characters which have been transmitted to the DataHog.

**N.B. While the DataHog is in MAIN MENU MODE or a SUB-MENU, no logging is taking place**.

All menu options are available by entering the relevant alpha-numeric key in 'Received' screen. Use this menu for changing any settings, or for checking settings and configurations.

If you want to save any of the information that appears on the 'Received' screen, then please refer to section 5 for details of how to accomplish this.

When you have finished the DataHog must be sent 'back to sleep'. This can be accomplished by sending an ESC character from your keyboard. Confirmation will appear on-screen to let you know that the DataHog has returned to LOG MODE.
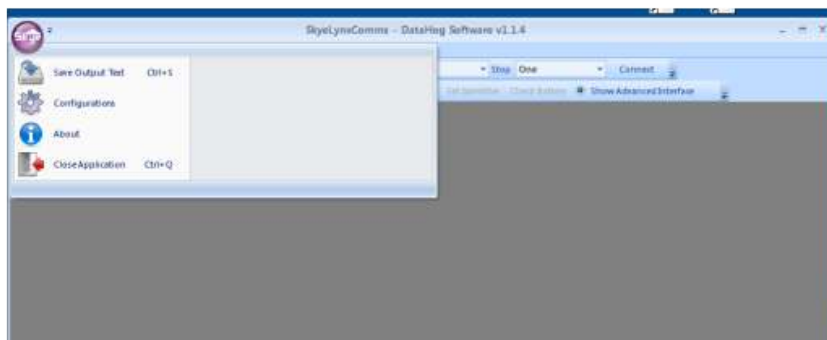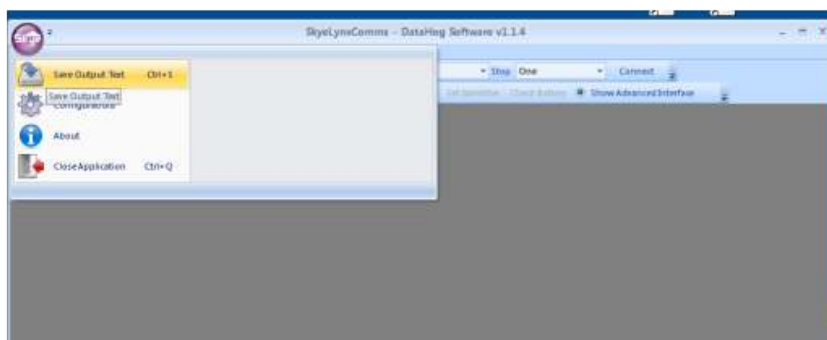
# 5 OTHER MENU OPTIONS VIA THE SKYE LOGO

The background colour to the SKYE logo is green in normal operating mode.  When you hover the mouse over the logo the colour changes to red, indicating that it is an active button
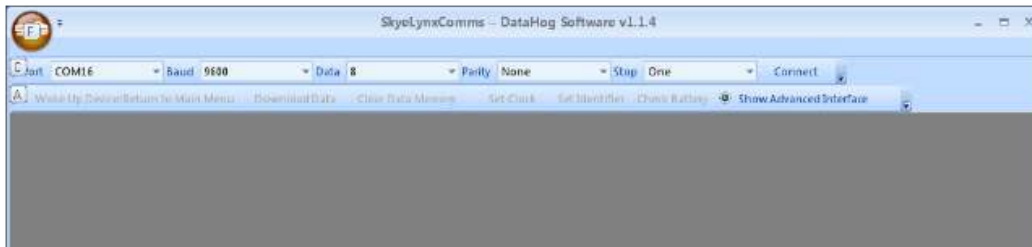


Click the logo and the colour changes to purple and a sub menu is displayed



# 5.1 SAVE OUTPUT TEXT



This option saves everything that has been received from the DataHog which is showing on the terminal screen.  This includes the datafile if you have chosen to download the data using the 'slow method via menu option 4.

When you click SAVE OUTPUT TEXT, a 'save as' box appears and you can choose the location and filename.
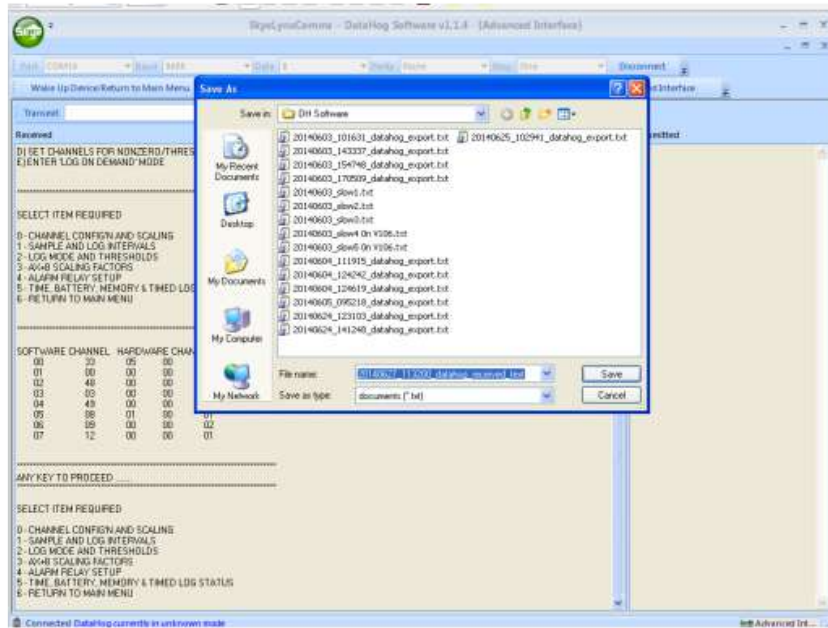
## 5.2 CONFIGURATIONS

All DataHogs are supplied with a Configuration certificate similar to the one below:

**Skye Instruments Ltd,**
21 Ddole Enterprise Park, Llandrindod Wells,
Powys, LD1 6DF, UK
Tel: 01597 824811
Email: skyemail@skyeinstruments.com
Web: www.skyeinstruments.com

### HARDWARE CONFIGURATION AND CALIBRATION CERTIFICATE

DATAHOG2 TYPE: SDL 5300   SERIAL NO.: 44246   Certifcate Issue Date: 18/06/2014

| Software Channel No. | Hardware Channel No. | Socket No. | Configured for Input Type | Gain Code | Termination Code | Scale Code | Full Scale Value | Zero Offset | Units | Sensor Serial No and/or Calibration Factor (when supplied by Skye) |
|---|---|---|---|---|---|---|---|---|---|---|
| 00 | 33 | 1 | Light | 01 | n/a | 01 | 3994.5 | +0000 | W/m⁻² | SKS 1110/I 44252, 0.04935 µA / W m⁻² |
| 01 | 00 | 2 | Temperature | 00 | 00 | 02 | 2000.0 | +0000 | °C | SKTS 200/I 44258 |
| 02 | 48 | 3 | Raingauge | n/a | n/a | 01 | 3762.0 | +0000 | mm | ARG100/STD I 42262, 0.198 mm / TIP |
| 03 | 05 | 4 | Tensiometer | 01 | 00 | 01 | 4103.8 | +0135** | hPa | SKT605/I 44255, 20.519 hPa /mV, zero offset = -0.14 mV |
| 04 | 06 | 5 | RH & Air Temperature | 00 | 00 | 02 | 2000.0 | +0000 | °C | SKH 2070/I 44128 |
| 05 | 09 | 5 | RH & Air Temperature | 00 | 00 | 01 | 200.00 | +0000 | % RH | SKH 2070/I 44128 |
| 06 | | | | | | | | | | |
| 07 | | | | | | | | | | |
| 08 | | | | | | | | | | |

**Assumes the tensiometer is being used vertically

Feedback Resistors Fitted for Current Type Channels

| Gain | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| Resistor Value | kΩ 5.267 | kΩ 10.146 | kΩ 51.18 | kΩ 99.85 | kΩ 514.6 | kΩ 995.3 | MΩ 5.060 | MΩ 10.096 |

**Eprom Version** H192   **Datafile Identifier** 44246xxx.txt

Where fitted the following standards apply:
RH/Temperature - This probe has been calibrated for relative humidity and air temperature to standard factory specifications at nominal points ; 1 % and 75.4% RH and 27 degrees celsius.
Pyranometer - Calibrated directly against a calibrated reference World Meteorological Office, First Class Pyranometer under natural daylight conditions. Uncertainty ± 5 % (typically ± 3 %) based on an estimated confidence of not less than 95 %
Other Light sensors - Calibrated against a National Physical Laboratory UK reference standard lamp. Uncertainty ± 5 % (typically ± 3 %) based on an estimated confidence of not less than 95 %
Air Pressure - Transducers checked against a UKAS traceable transducer
Wind Sensors & Raingauges - As per manufacturers supplied calibration information

Signed........................................................For and on behalf of Skye Instruments Ltd
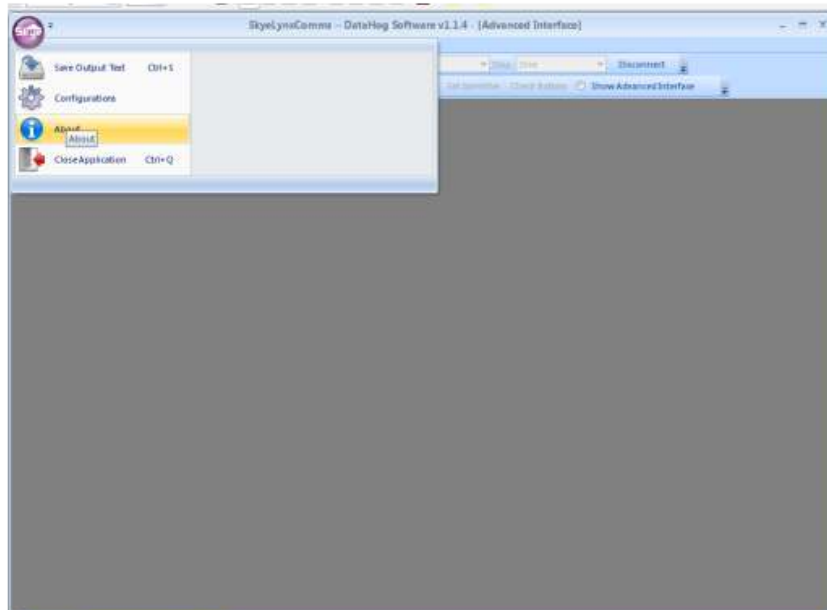
# SkyeLynxComms
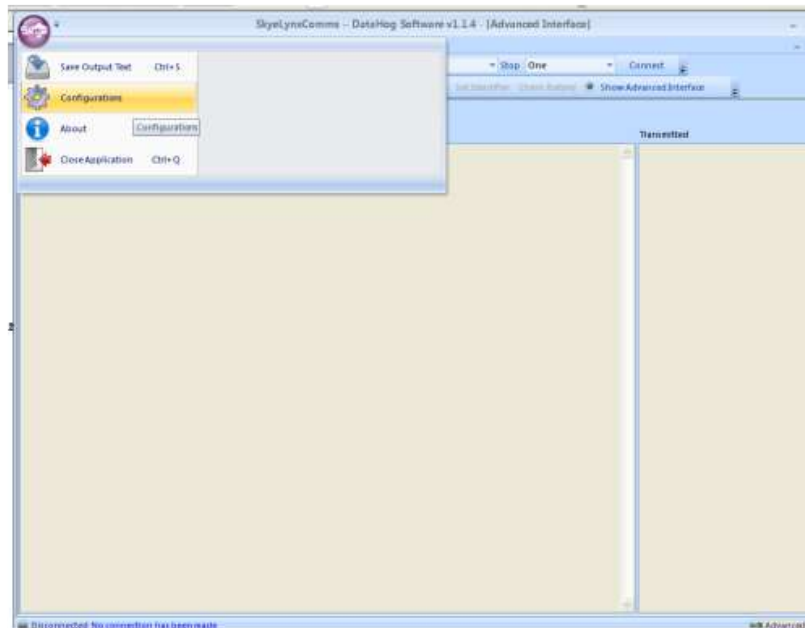


The 'Configurations Routine' imports the key information from this certificate to a table. The information is then readily available for use with your data in Graphing Software Programmes. The information is imported from the CSV file which is supplied with a new DataHog and is located on the installation CD. If you already have a DataHog and the SkyeLynxComms is being supplied as an upgrade, then please contact Skye with the serial number of your DataHog and we can configure the CSV file for you. If you need to
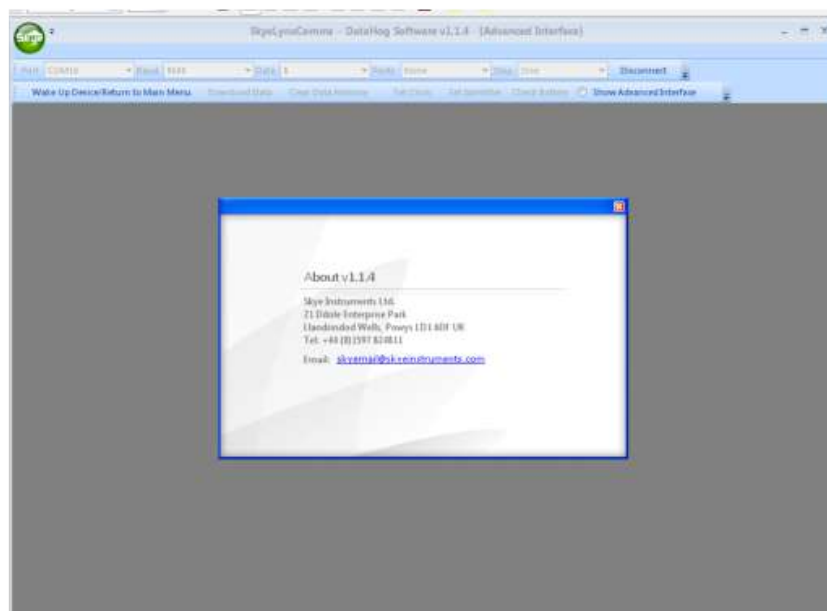
delete any imported configurations, highlight the line(s) and click DELETE. A message box will appear asking for confirmation of DELETE.  Click OK or CANCEL.
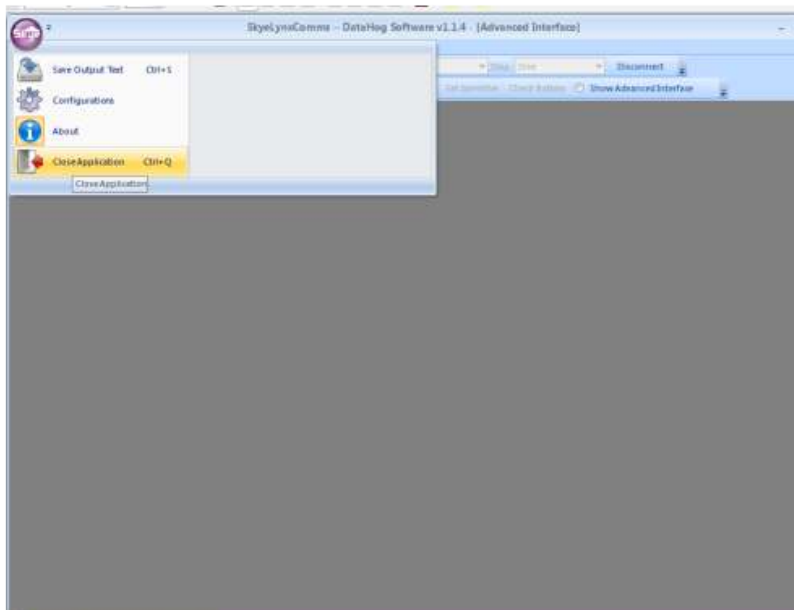
## 5.3 ABOUT



This shows the current version of the software and contact details for Skye Instruments Ltd.

## 5.4 CLOSE THE APPLICATION

# 6. PRODUCING A DIAGNOSTICS REPORT

If you are experiencing problems with your DataHog, please follow these instructions to create a text file which will help us to diagnose the problem.

1. Connect the DataHog as per instructions in Section 2.2.

2. Follow instructions from Section 3, 3.1 and 3.2.

3. Click ADVANCED INTERFACE.  The full User Interface of the DataHog is now on-screen.

4. Enter menu option 1 by entering the number 1 from your keyboard.  A sub-menu will appear.

5. Choose 'Channel Configur'n and Scalings' by entering a 0

6. When the settings appear on the screen press the spacebar (or any key) to return to the sub-menu.

7. Repeat for Options 1 to 5 in turn.

8. Finally enter a 6 to return to the main menu.

9. Return the DataHog to sleep by entering an ESC key

10. Click the 'Skye logo'. Select SAVE OUTPUT TEXT.  Choose a filename and location and click OK.

11. Close SKYELynxComms.

12. The Diagnostics Report can be viewed in any word processing programme.

# 7. TROUBLESHOOTING

### 7.1 DataHog does not beep when the RS232 cable is connected.

This usually means that the DataHog is not logging.  This could be because there is no power supply or the DataHog is 'awake' and in 'User Mode'.

Checking the power supply.
Remove the base of the DataHog by unscrewing for the 4 screws. You will have a view of the battery plate.  On one side you will see two switches, RESET and PSU RESET. Press PSU RESET once.



If you hear one click, then the DataHog was not powered, but will be now

If you hear one click and then another click immediately afterwards, then the internal batteries are exhausted.  Replace the batteries and press PSU RESET.

If you do not hear anything, then the DataHog either has power or the batteries are really flat. If you suspect that the batteries may be flat, then change them for a good quality type such as Duracell.

Checking to see if DataHog is in User Mode
Continue with the instructions for using the software up to the end of section 3.1.
Click ADVANCE INTERFACE and note the content on the screen (see section 4).

If the DataHog is in User Mode, then the data in the memory will depend on how long the DataHog has been 'awake' or in User Mode'.

**7.2 When clicking CONNECT the bottom message bar does not show Connected DataHog currently in logging mode**

Click SHOW ADVANCED INTERFACE.

Observe the text on the screen, which will show the status of the DataHog.

If the Main Menu of the DataHog is displayed, then the DataHog is in User Mode and the message bar will show the message Connected DataHog in User Mode and not logging.

This means that your DataHog has possibly been 'awake' and not logging. When you have downloaded the data, open the file in Notepad. You will be able to see the time and date of the last logging point.

**7.3 When clicking CONNECT the bottom message bar shows Connected DataHog currently in unknown mode**

Click ADVANCED INTERFACE.

If the screen is blank, then the likely cause is that the wrong Comm Port has been selected.

Click DISCONNECT, select the correct Comm Port from the drop-down box and click CONNECT.

The bottom message bar should now read **Connected DataHog currently in logging mode**

# SkyeLynxComms