

User Manual
Envi logger C1 & CS1
Version: R1A
Date: 2010-09-09

Introduction

Envi logger G1 is a PC based logger system where all data is saved in a database installed on the PC. Data from depth rotation sensor and inductive transducer if you run a CS1 is stored in as raw values as measured by the transducer but it is sampled/digitalized. Data is stored continuously after START has been pressed until STOP is pressed. This results in a very robust data collection mechanism where data can be retrieved for a sounding at any time after the sounding has been executed.

Digital data from depth transducer and inductive transducer is transferred on a CAN bus to the logger. This makes data transfer very secure and insensitive to noise. A lot better than in a traditional analogue system.

You can specify what parameters to during the sounding and also what parameters to include in the files you create. Parameters you view can differ from what you include in the file.

File formats allowed this far is SGF/STD format or a simple tab separated format. (More formats will be added later and will be available for all having the logger system).

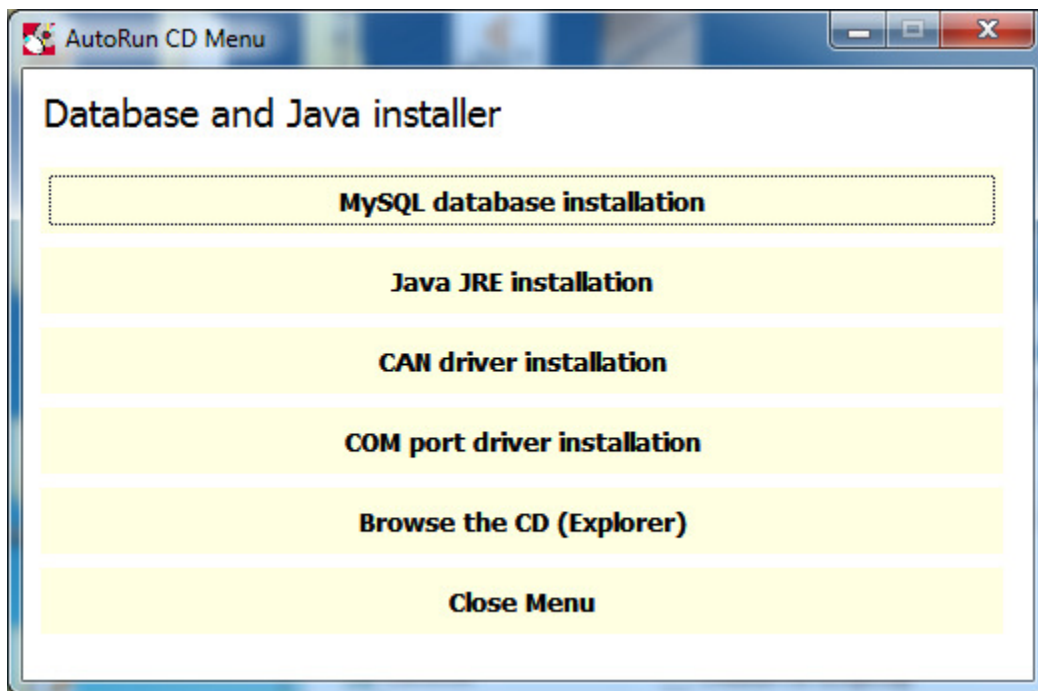
Settings made by the user are remembered by the system and used next time the system is used.

The system consists of two program modules:

EnviPackage	The foundation software handling transducer data collection and database interaction
CptApplication	The application to start if you want to work with CPT or SPT

Start the application you want to run. EnviPackage will then automatically will be started prior to application start by the application. If your PC is under heavy load (can happen when you download and install Windows updates etc) it may be that EnviPackage is not started quick enough and the application will warn for no EnviPackage started. You must then restart the application.

Installing the software

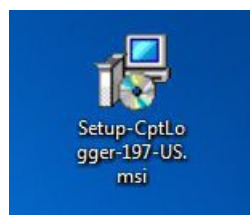


You will have received the installer for the database and drivers either on a USB memory stick or CD or as a downloaded zipped folder. To install this software run the AUTORUN.EXE file. You will then get this pop up window:

Follow these steps to install this software:

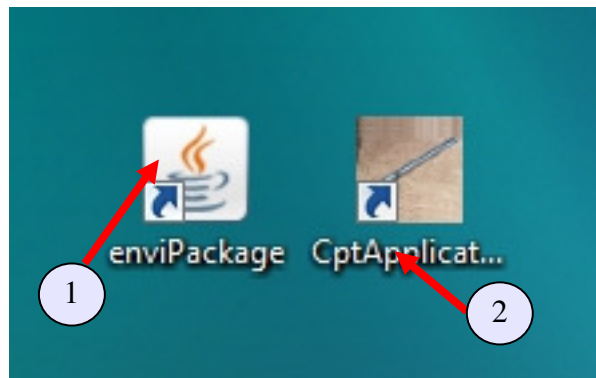
1. Install the database by pressing first tab, "MySQL database installation".
2. Install java runtime environment (JRE) if not already installed on the PC. Nothing bad happens if you try to install this despite it is already installed. Press second tab "java JRE installation" to install JRE
3. Install the CAN driver software by pressing tab marked "CAN driver installation"
4. Install COM port driver by pressing tab "COM port driver installation". This driver installation sometimes behaves a bit strange (it is commercial software so not much we can do about it) and no DOS window is popped up. To ensure installation if no DOS window pops up please press the tab again
5. When done you can close the menu by pressing "Close Menu" tab

Now database and drivers have been installed and the application shall be installed. This is done by running (double click) the Setup-CptLogger-<Version number>-<Language>.msi.



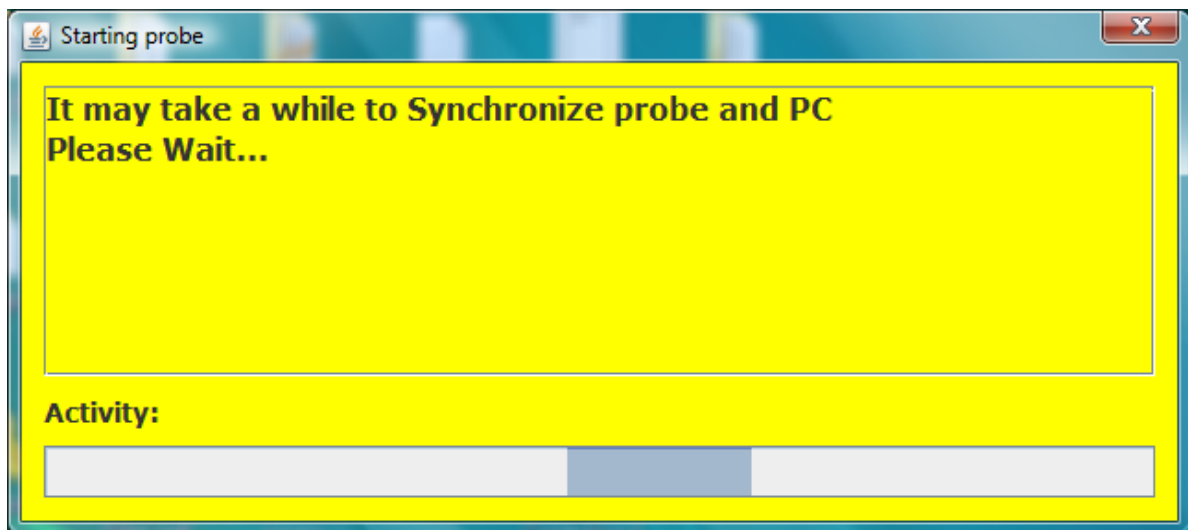
Please note that you will probably be prompted if network access shall be granted one or several times during installation. It is then essential that you grant network access. Otherwise the system will not run.

Starting the system



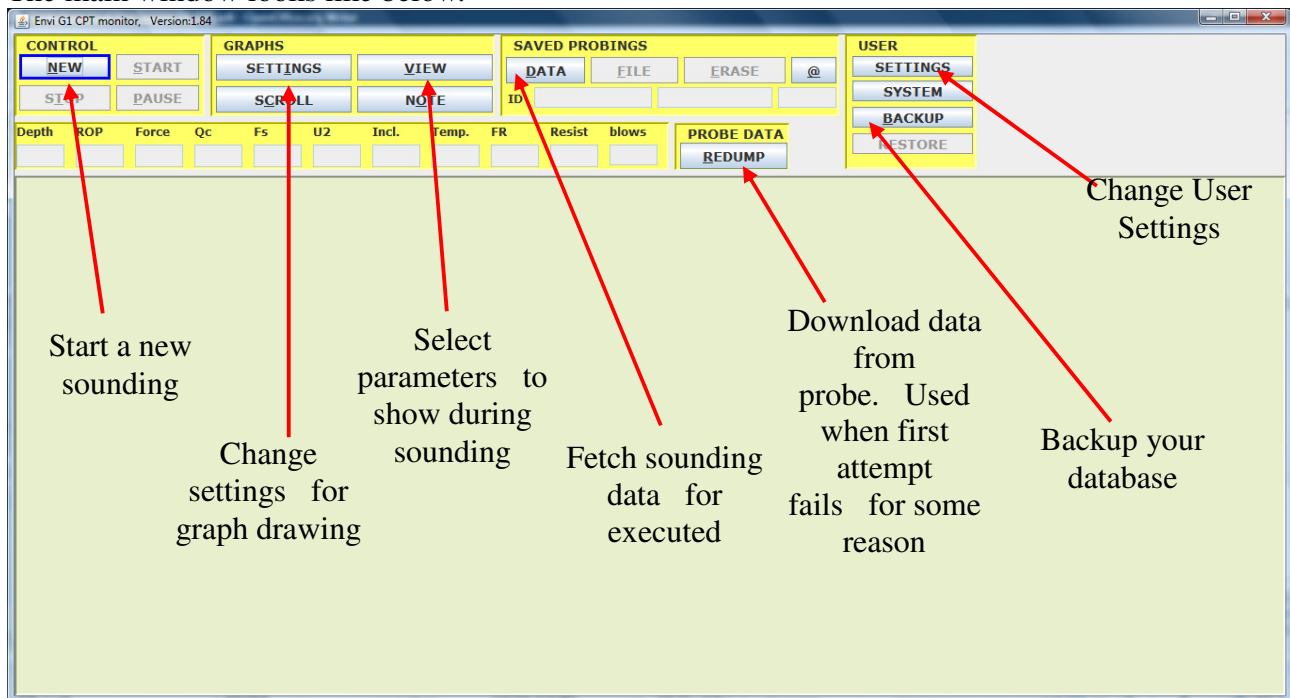
After installation icons are placed on your desktop. The application is started by double clicking the CPTapplication icon. When you start the application (2) the enviPackage (1) will be started prior to starting the application. If automatic start of enviPackage fails it will be due to too slow start-up of the enviPackage (may happen when you download and install Windows updates etc) you must close the application and restart it (2).

When you start the system all processes are started and the application and database are synchronized etc. This may take some time and you will have a wait dialog that will be showing until this has been accomplished:

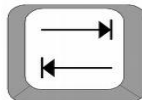


As soon as the synchronization is finished the wait dialog is closed and the main window opens. Any problem/failure will be reported through pop-up-windows.

The main window looks like below.



Please note that the leftmost button has a blue frame. This is since this button currently has focus and will be pushed if you have a keyboard and press Return or Space depending on your computer setup. To change button focus you use the TAB key (see below).



When you press this key focus will move from one button to another in a predefined manner. After pushing it enough times you will have passed all focusable objects and you are back to having focus on the NEW button.

There are also keyboard commands for pressing almost all buttons. One letter in the name of each button is underlined. The underlined character is the keyboard command key for pressing it. To use the keyboard command you press ALT + <the underlined character>. So to press the NEW button using keyboard commands you press ALT+N.

This is a complete list of available keyboard commands in main window:

NEW	ALT+N
START	ALT+S
PAUSE	ALT+P
STOP	ALT+T
SETTINGS	ALT+I
VIEW	ALT+V
SCROLL	ALT+C
NOTE	ALT+O
DATA	ALT+D
FILE	ALT+F
ERASE	ALT+R
BACKUP	ALT+B

Some buttons are gray showing that they are disabled. What buttons are disabled and enabled varies depending on what state the application is in. Initially the buttons for START, STOP, PAUSE and FILE are gray/disabled since there is no active sounding.

You have two main options for continuing at this stage::

1. Start a new sounding to record data for
2. Get sounding data from database

In addition to the two main choices you may also alter settings for GRAPHS or for USER. You can define many different settings to make the system personalized for your needs. More detailed descriptions of settings are found in later chapters.

The NOTE button is not gray/disabled initially but has no use at this stage. The same goes for the SCROLL button.

Initialize a new sounding

If you press "NEW" a dialog window as per below appears. You must enter both a project ID, a Sounding ID and a method in order to be able to proceed. The system will then detect if the three parameters as a combination are unique. If not you will be requested to change name

Set identifier data

IDENTIFIERS

Project ID: Projekt1

Sound. ID: 5

Location: Platz1

Company: test1

Operator: test1

Supervisor: Thomas

METHOD

CPT

CLIENT

Company:

Contact person:

ENVIRONMENTAL FACTORS

Ground water table: [] [cm]

Barometric pressure: [] [hPa]

Temperature: [] [C]

Inclination: [] [Degrees]

PROBE FACTORS

A: 0.68 B: []

Sondtyp

☐ Cable ☒ Wireless

COORDINATS

X: [] Y: [] Z: []

SAVE

CLEAR

ABORT

Method to use. Only CPT applicable for C1

All other fields are optional to use. As of now you must manually enter GPS coordinates if you want to include those.

Fields are automatically populated with the same data as was used for latest sounding next time you press NEW. After having changed the fields you need to change you press SAVE (Alt+S) and you will be back in the main window and the system is ready for start a new sounding.

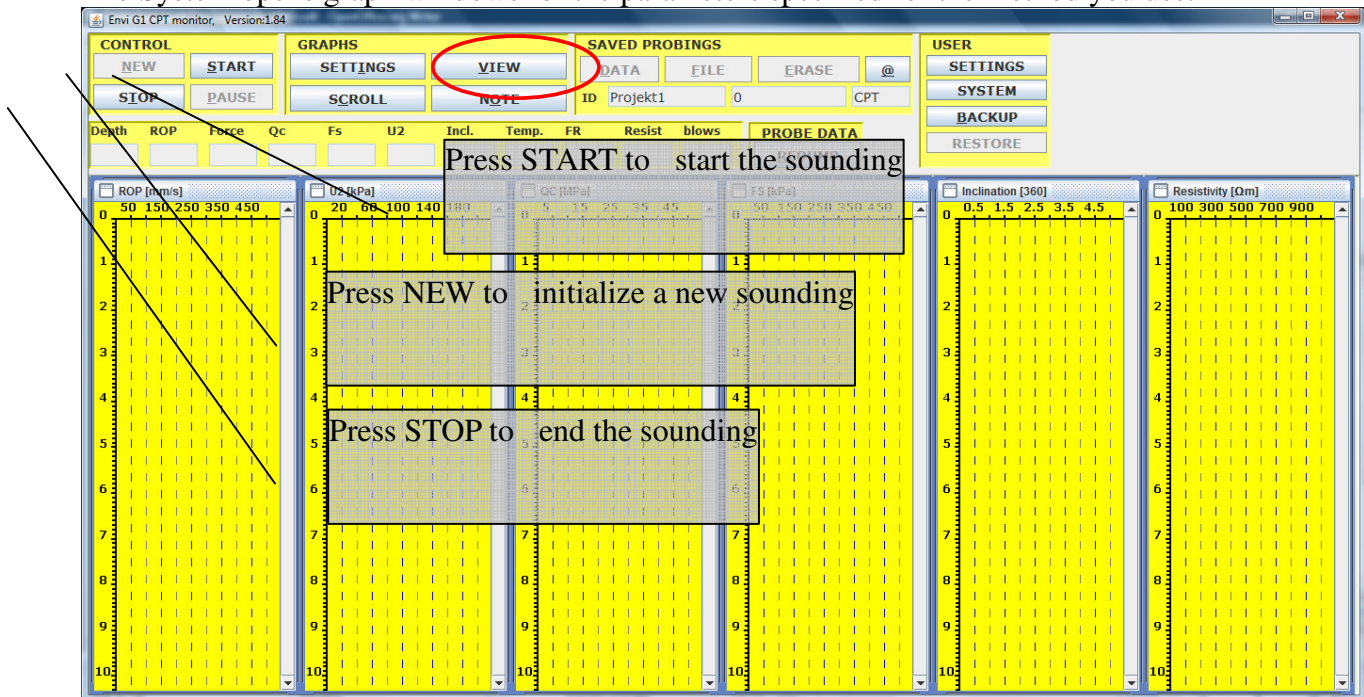
If you choose method CPT the system will verify that a Memocone CPT probe is connected to the logger. If not you will be requested to connect one. When a Memocone is connected the C1/CS1 logger system and the Memocone will synchronize. This may take a while and a wait dialog will appear.

NB: The first time you use method you will be requested to define what parameters to view graphs for during the sounding after you have pressed the SAVE button. The SENSORS dialog (see page below) will pop up and ask you to define parameters to view.

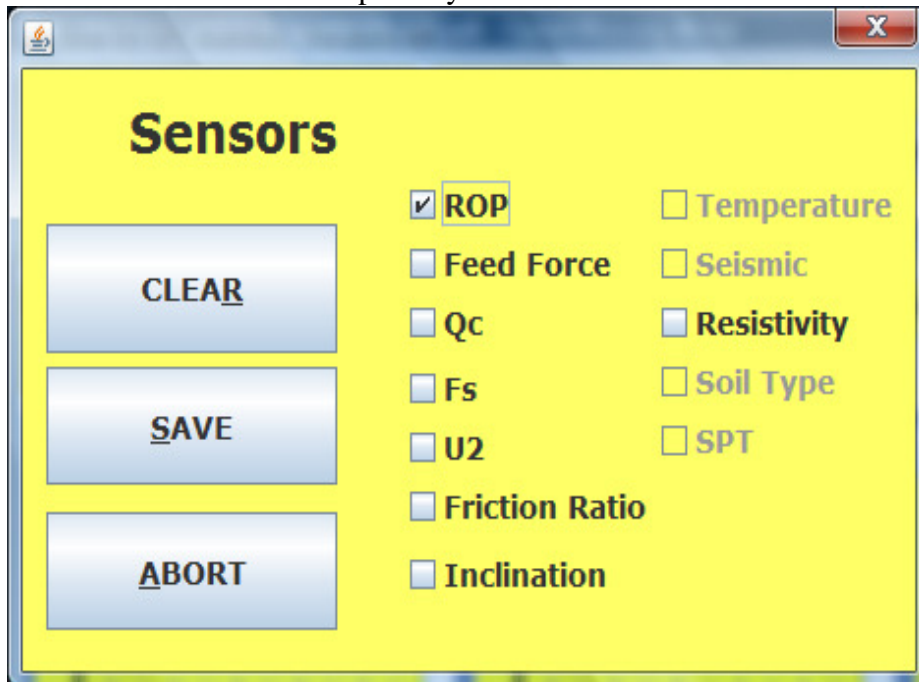
ABORT will take you back to the main window in the state you left it.

Starting and execute a sounding

The System opens graph windows for the parameters specified for the method you use.



If you want to change what parameters to view you press VIEW button (see red ellipse in the picture above) and the below SENSOR pop-up window will appear and you can mark the check-boxes for the parameters you want to view. Only parameters for which you have a sensor will be selectable. Please note that the parameters you want to view is not the same as what parameters you want to output in a file. That is defined separately.



In order to start a sounding you press "START". You will then have a pop-up (see below) where you can set start depth for the sounding you will execute.

Start level

Meter

Decimeter

Centimeter

Depth [cm]:

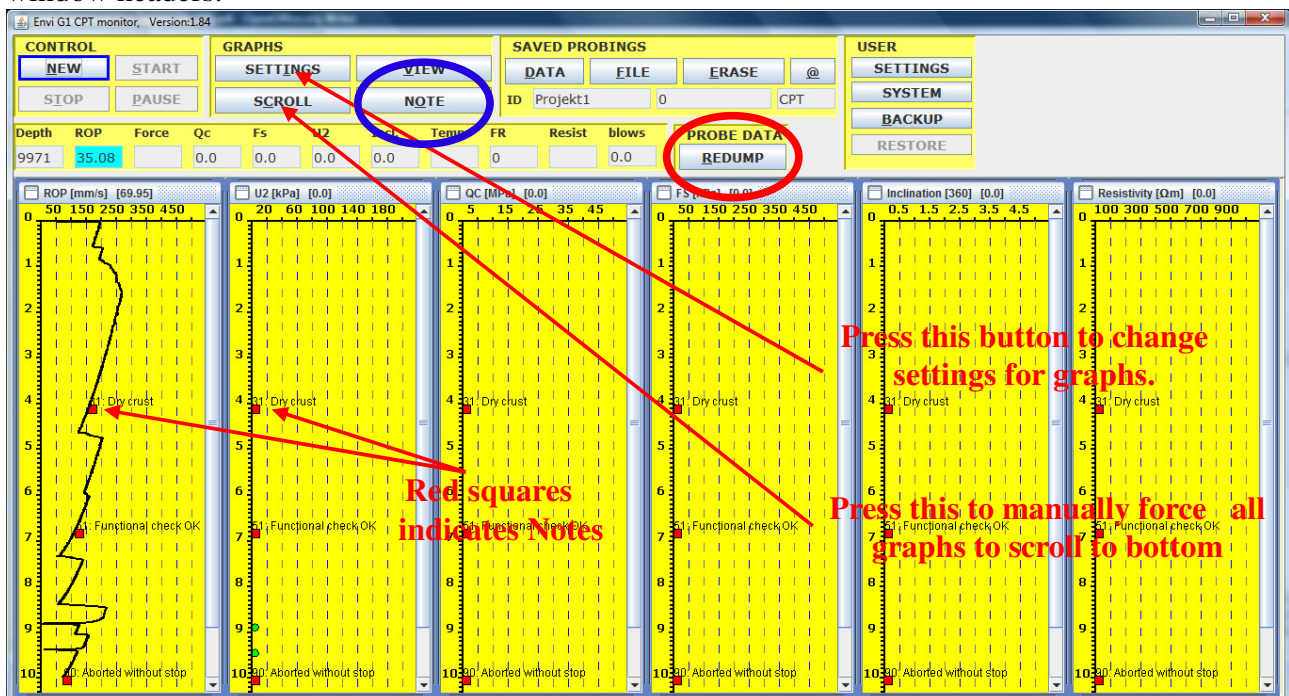
SAVE

ABORT

Immediately after start level has been defined zero reading will be done
 !!!ALL SENSORS MUST BE UNLOADED DURING ZERO READING!!!
 Zero reading takes less than a second and then execution continues!

You save the start depth by pressing SAVE (keyboard command ALT+S). If you press ABORT no sounding will be started and you will return to the main window in the state you left it.

The system now starts to read and store sensor data. As soon as you have a change in depth graphs will start to be plotted. Measure values can also be seen in the different squares above and in graph window headers.



Notes

During the sounding you can add notes in your graphs. You press the NOTE button (see blue ellipse above). A dialog window will then appear allowing you to add notes according to your choice.

ADD NOTE

Depth [m]

Code

Your codes

New code of your own

Index	Text
<input type="text" value="4"/>	<input type="text"/>

NOTE

In the drop-down menu "Code" all SGF note codes and notes are available. The *Depth* text box will hold the value of the depth that was when you pressed the NOTE button. You can change the depth if you want to. You can also change the depth graphically in the plotted graphs later on if desired.

You can create your own codes by using the numbers not yet occupied by the SGF codes. All free codes can be found in the New Code panel. These personal codes will be remembered by the system. You can also add free text notes. Simply write whatever you like in the NOTE text box and it will be added to the sounding with note code "0".

When you have entered the note you want to add you press SAVE (Alt+S) to save it and close the NOTE dialog.

You can abort by pressing ABORT and no note will be added and the dialog closed.

Graph presentation settings

To change settings for graph drawing (like scaling of coordinate axes) you press the SETTINGS button in the GRAPHS panel in the main window.

Set presentation parameters for graphs

RESOLUTION AND MAX VALUE

Remember

ROP, Max	<input checked="" type="checkbox"/>	500	[mm/sec]
Qc, Max	<input checked="" type="checkbox"/>	50	[MPa]
Fs, Max	<input checked="" type="checkbox"/>	500	[kPa]
U2, Max	<input checked="" type="checkbox"/>	200	[kPa]
No of meters	<input checked="" type="checkbox"/>	11	[m]
Resistivity	<input checked="" type="checkbox"/>	1,000	[Ωm]

Inclination ☒ 5 [Degrees]

Force ☒ 200 [kN]

Friction Ratio ☒ 45 [%]

SPT ☒ 65 [Blows/20 cm]

Classification method

☒ None ☐ Robertson 86 ☐ Eslami-Fellenius

APPEARANCE

Remember

Line width graph	<input checked="" type="checkbox"/>	2	[Pixels]
Line width coordinate axis	<input checked="" type="checkbox"/>	2	[Pixels]
Size of Note Rectangle	<input checked="" type="checkbox"/>	8	[Pixels]
Diameter dissipation circle	<input checked="" type="checkbox"/>	7	[Pixels]

Note text ☐ Code ☒ Code + Text ☐ Invisible

DISSIPATION

☒ Close ☐ Leave open

Delay for dissipation test 5 [s]

UNITS

ROP

☒ mm/sec ☐ cm/min

ABORT

SAVE

Here you can change max values for coordinate axes

Here you can change looks of coordinate axes, plot lines etc.

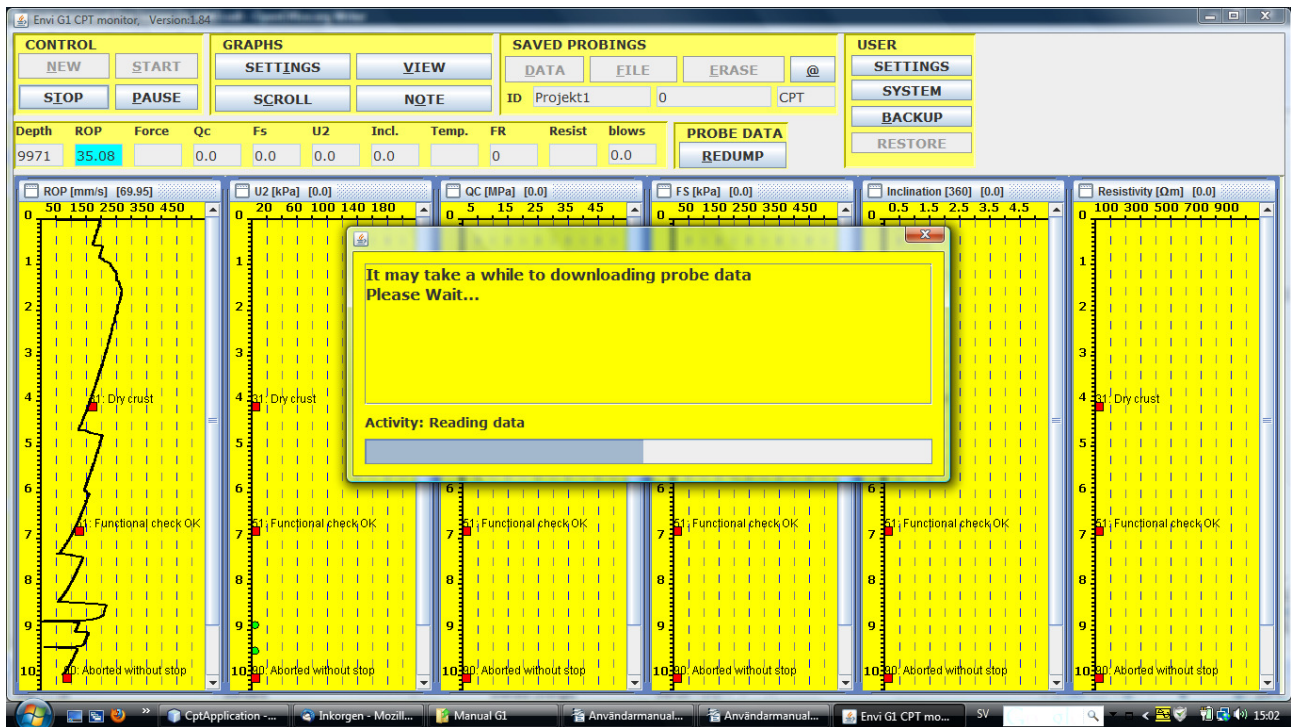
Presentation mode for notes

Here you can define settings for collection of dissipation windows when d

To save your settings and close the GRAPH SETTINGS dialog you press SAVE (Alt+S). To abort and not save anything press ABORT (ALT+A). Some settings will change immediately and show in the graph drawing but they will not be stored and remembered until you press SAVE.

Ending a sounding

You press STOP in the main window to end the sounding. If you use a wireless Memocone you will have a pop-up where you will be requested to reconnect the probe and press OK when done. So now you retract the probe and when you have it up on surface again you connect it to the logger. When that is done you press the OK button in the pop-up window. Data is now downloaded from Memocone to logger and you will see a wait dialog as per below.



When data is downloaded the wait dialog disappears. Sometimes the system warns that data for some depths is missing. This is generally not an issue since the system is a bit oversensitive to this, but you should be alert and study the graphs thoroughly. If there are parts of the graphs where data is 100% stable (not changing at all) you might have suffered from power failure in the Memocone. This in turn is generally caused by batteries with too little power left or by dirty connection areas in the Memocone. The Memocone uses the probe itself as ground in the electrical circuit. So it is vital that battery threads and connection area between Memocone and battery tube are clean. Moreover it is important that the brass screw on the battery plug is also clean.

Open and browse stored soundings

You press DATA button in the main window to open the dialog for selecting a sounding for which you want to browse data. The dialog now shown gives you the option to pick one of the latest 20 executed sounding (see blue ellipse below) or you can search/filter out the sounding you want to view by filtering from date and project ID (see red ellipse) and pressing respective button to the right. The soundings corresponding to your selection criteria will be available in the RETRIEVED PROBINGS drop down menu.

SELECT PROBING

RESET **ABORT**

SELECT DATE

FROM **TO**

Year Month Day Year Month Day

2,010 9 10 2,010 9 10

GET PROBINGS & PROJECTS

SELECT PROJECT

PROJECT

Not selected

GET SOUNDINGS

RETRIEVED PROBINGS **LATEST 20 PROBINGS**

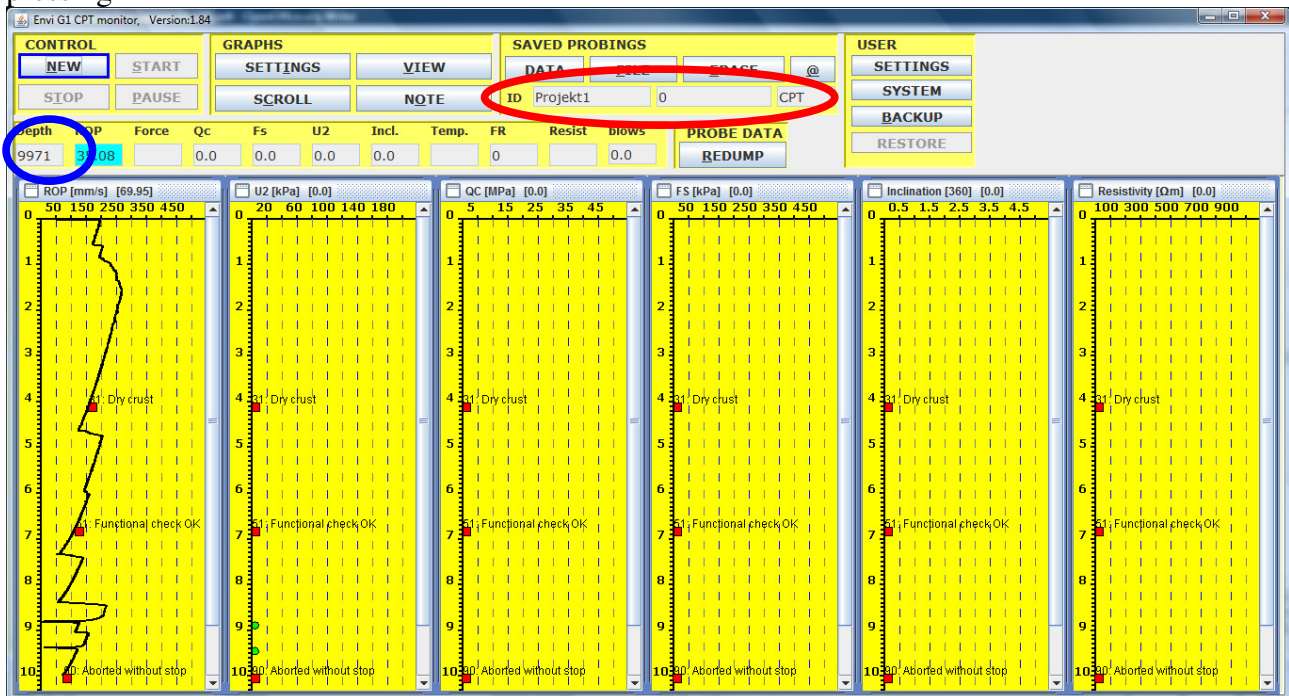
Not selected Not selected

OPEN SELECTED PROBING

When you have found the sounding you want to browse in either retrieved probings OR in latest 20 you select the sounding you want to browse and press OPEN SELECTED PROBING. The data for that sounding is then fetched from database and will be presented as graphs in the main window.

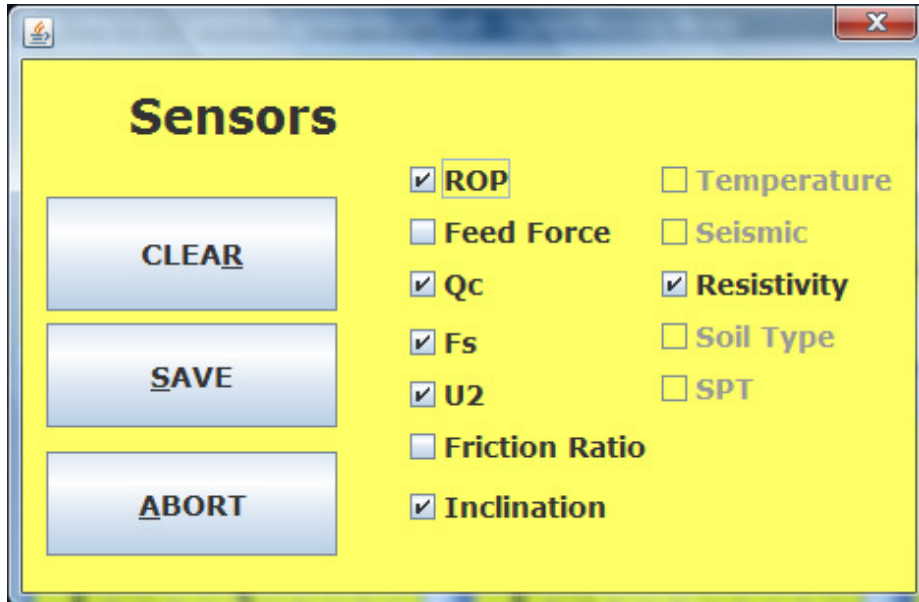
The final depth for the sounding you have fetched is presented in the Depth text box (see blue ellipse below). The name of the sounding (project id, sounding id and method) are all presented in the text boxes marked by the red ellipse below.

The graphs you have defined for the method will now be presented in the main window. You may now select to create a file or erase the sounding by pressing either FILE or ERASE button. You may of course also start a new sounding by pressing NEW or fetch data for another sounding by again pressing DATA

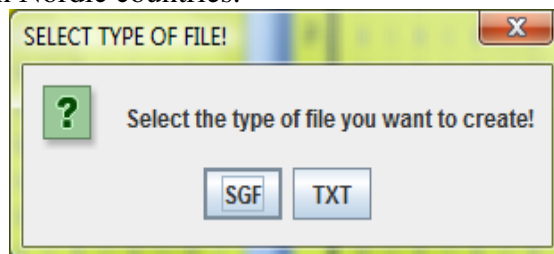


Create file

If you select FILE you will first be requested to specify the parameters you want to print in your file. These parameters are not the same as the parameters for viewing and will be remembered separately by the system. So the next time you want to create a file the system will suggest to output the same parameters as was last used.

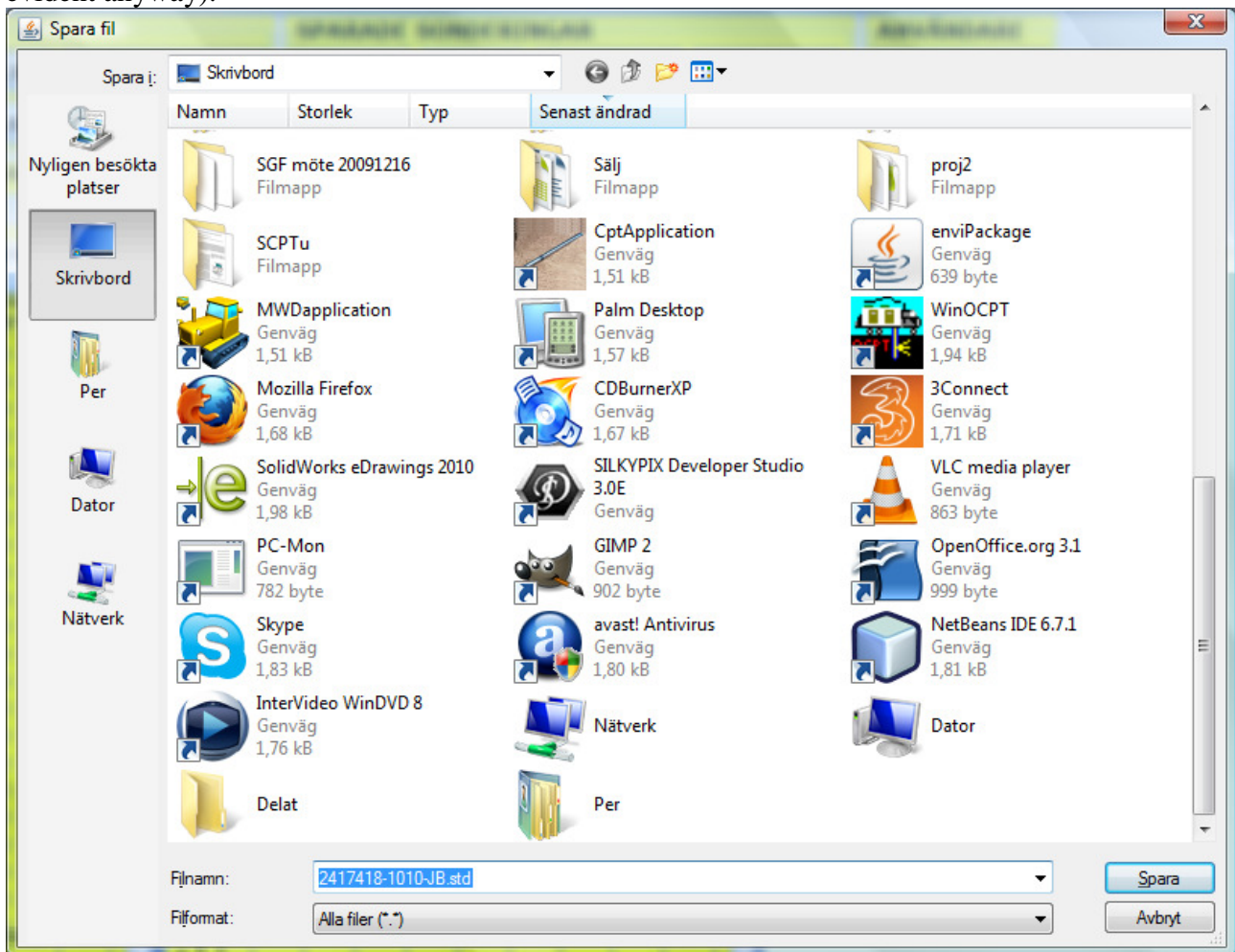


When you have selected the parameters you want to include in the file you are requested to select the type of file you want to create. Typically a TXT (Tab separated) file is used in non Nordic countries and SGF is used in Nordic countries.



The system suggest a file name according to: "*project ID_sounding ID_method*" with the extension ".std" for SGF type files and ".txt" for TXT type files.

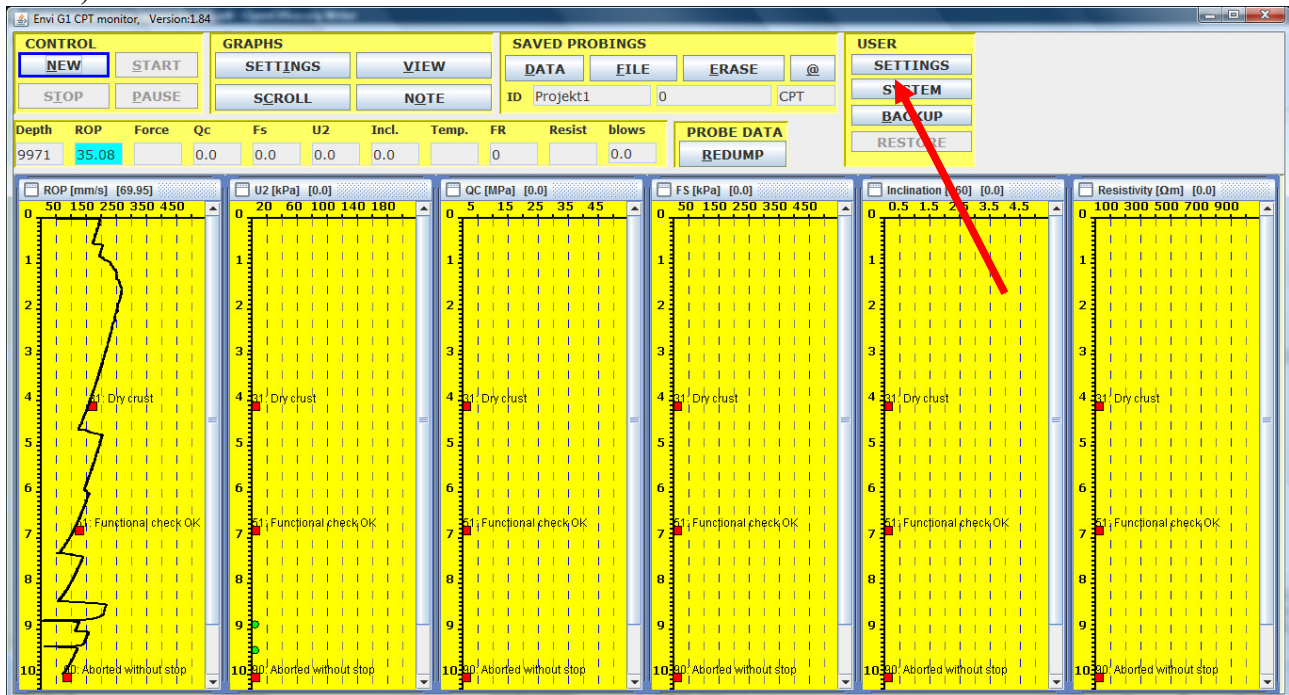
When you have specified file type to create you can also specify where to place the file in a typical save file window as per below (my desktop is in Swedish as you can see but the principle is pretty evident anyway):



If you accept the file name given by the system you can simply navigate to the folder where you want to place the file and press Save button. If you want to change the file name you can simply write whatever name you like in the File name text box.

User settings

There are settings also for personalizing certain behavior for creating files and if you want to have a separate file with notes etc. To access these settings press **SETTINGS** in **USER** panel (see red arrow).



When you have pressed the button you will have a dialog window where settings can be altered.

USER SETTINGS

Here you can define if a separate file with all notes made during the sounding shall be written to a separate file with all notes

FILE SETTINGS

CREATE FILE

☒ One file per borehole
☐ One file per project

DEFAULT TYPE

☒ SGF
☐ TXT

FILE SEPARATOR

☐ comma
☒ TAB
☐ semicolon

NOTE FILE

☒ YES ☐ NO

Fil & Epost

Ladda Backup

☐ Möjlig
☒ Ej Möjlig

GRAPH WINDOW SETTINGS

Max width graph window 400

Depth multiplier 10

Start button passive time 5,000

APPLICATION

FULL SCREEN

☒ YES ☐ NO

ROD CHANGE

☐ Auto detection
☒ Manual

Autodetect level 200

SAVE **ABORT** **REMOVE COM**

Press this button to open the dialog for specifying rules for automatic creation of files and sending Email after a sounding is

Here you must enable loading backup before actually doing it. This is a precaution to avoid accidental

Some settings are disabled and can not be changed by the user.

If you press File & Email the you will have a dialog for specifying settings for this.

Guidelines for creating file and send E-mail

☐ Create files automatically after each borehole ☐ Send files automatically

Your Email address

Your SMTP server Port

Enter the Email addresses to send to (one recipient per line)

ABORT **SAVE**

This checkbox is enabled if you select the other checkbox. If you select also this checkbox you must define Email settings below

Mark this check box to get automatic file creation after each sounding

Mark this check box to get automatic file transfer by Email. You must also specify Email settings in the text boxes

Email settings can be found in your mail client under Account settings.

Your Email address specify your own Email address

Your SMTP server Here you must specify the smtp server you use to send Emails.
Typically such a server is called something like:
"smtp.<Mail Provider>.com" or
"smtp.<Your Domain>.com".
You find it in you account settings

Port This is typically 25 or 2525 or something.
You find it in you account settings

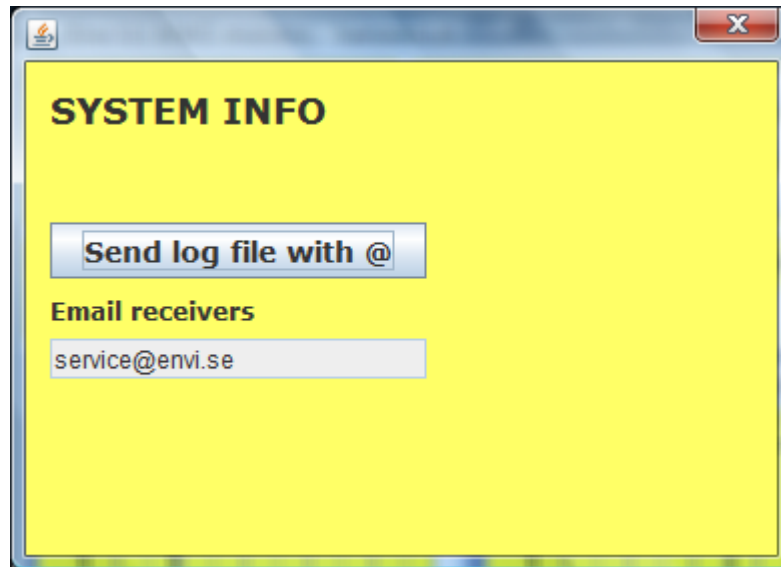
Email addresses to send to Here you specify Email addresses for all receivers of files. Email addresses are specified one address per line

After you are finished you press SAVE for the system to remember your settings. You then press SAVE also the the USER SETTINGS dialog that you are returned to.

Troubleshooting

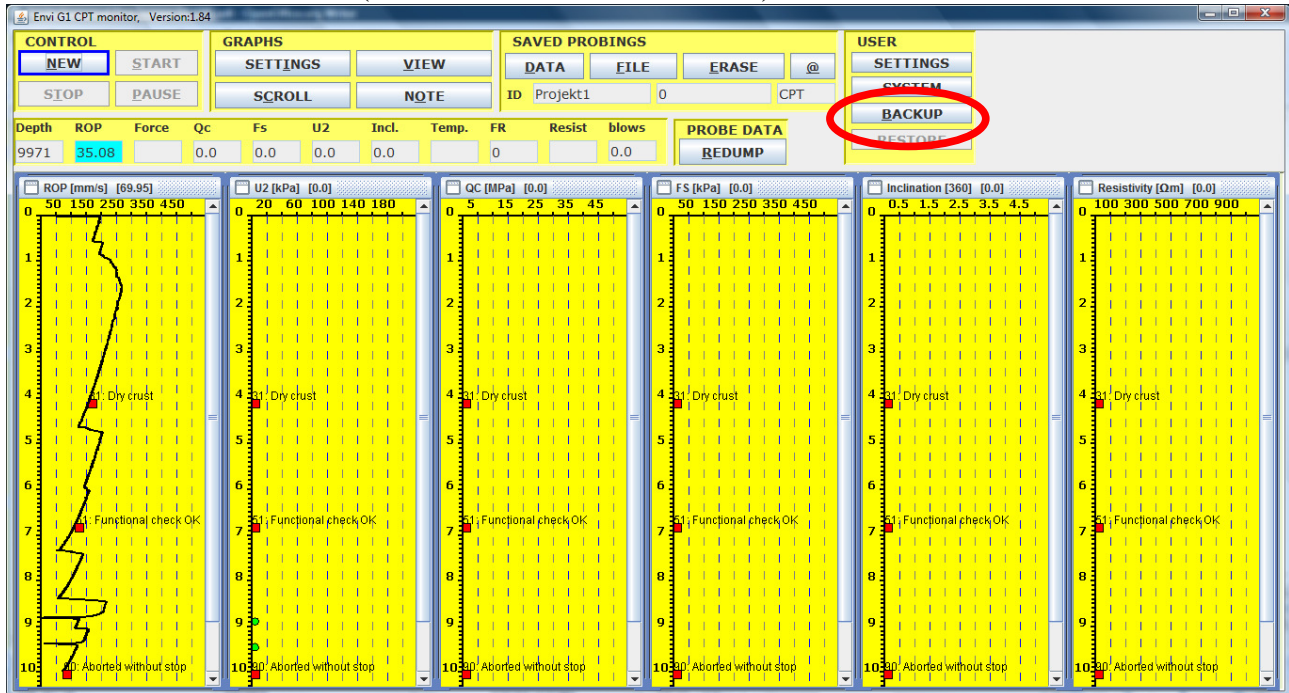
To send log files to Envi press SYSTEM. This button currently only has one function and that is to send the log file, but will be supplemented with other features later.

For sending log files, you must have entered the correct data for your Email Account in the dialogue for sending sounding data files (see chapter User Settings above).

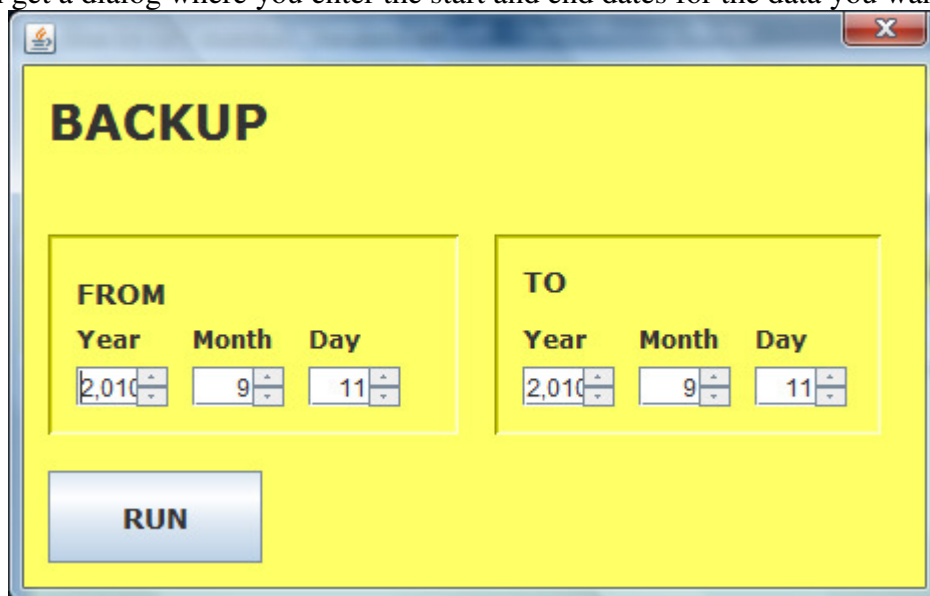


Backup and Restore

You can always back up the data you have in the database. This is done by pressing the Backup button in the main window (the button circled in red below).



You will then get a dialog where you enter the start and end dates for the data you want to backup.



You specify the dates between which you want to store backup data and press RUN. If you change your mind and do not want to backup, you cancel by pressing on the cross and close the window.

To restore the database from a previous backup or load the backup on another computer, you must first enable the restore of the database, open the user settings and set the Backup possible (see previous chapter).

The backup file shall be placed in folder "C: / EnviLoggerG1 /" prior to starting the database restore. The name of the backup file shall be ENVILOGGERG1BACKUP.ZIP