

PetrogLite

USER MANUAL

Software Version: 3.1.5.0 (March 2014)

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Background

PetrogLite is a basic application for controlling the **SteppingStage™** developed by Conwy Valley Systems Ltd. In addition to **PetrogLite**, the **SteppingStage** may be controlled from **PETROG** (www.petrog.com), with which it is closely coupled, or integrated in a custom application at a client's request. This manual describes its use within **PetrogLite**.

The **SteppingStage** is a replacement for the Prior electro-mechanical stage, brought up-to-date and with significantly improved accuracy. It is fully automated, moving a slide in both X- and Y-axis directions under software control.

This revision of the manual is current for version 3.1.5.0 of the software. Please check the website <http://www.petrog.com/petroglite/petroglite.htm> for information on the latest software release and updates to the manual.

This manual is provided for the sole use of the licensee of **PetrogLite** and must not be passed on to non-licensees, in any form, whether electronic, paper, fiche or otherwise, without the express written permission of Conwy Valley Systems Ltd.

This manual has been prepared by Conwy Valley Systems Ltd. with due care and cognisance of the importance of the task to which it relates. Nevertheless, Conwy Valley Systems Ltd., its employees and agents, cannot be held responsible for actions undertaken as a result of reading this manual, whether based on any errors or omissions or otherwise.

Please notify any errors or omissions to support@SteppingStage.com so that Conwy Valley Systems Ltd. may expedite any corrections necessary.

Conwy Valley Systems Ltd. recognises the trademarks and registered trademarks of all products and manufacturers referenced herein.

Installation

SteppingStage Setup

The **SteppingStage** is designed to fit onto a specific microscope stage. The locating pins and securing screw are designed for a hole pattern which is unique to a stage. For copyright reasons we cannot publish diagrams but, if you have problems with the fixings, please contact us by e-mail at support@SteppingStage.com.

A **SteppingStage** consists of the following 5 main components (each is described in greater detail below):

- a power lead and transformer for connection to mains power and converting this to 12V DC;
- the **SteppingStage** assembly, which fits onto the stage of the microscope, is located with two pins and retained with one screw, and includes two permanently attached trailing leads;
- a control box, with sockets at one end for the lead from the **SteppingStage** assembly and at the other for connection to mains power and connection to the computer;
- EITHER: a null-modem cable to connect the control box to the computer's comms (RS232 communications) port;
- OR: a USB cable to connect the control box to the computer's USB port;
- software, which may be **PETROG**, **PetrogLite** or custom software developed for a specific purpose.

Connection to Mains Power

The control box is designed to accept 12V DC power and therefore requires an adapter for AC mains supply. The **SteppingStage** is supplied with a suitable adapter, but the plug will depend on the locale and is therefore not always supplied. The adapter has been chosen for compatibility with gaming consoles and other consumer devices so that you should be able to purchase a plug and lead, or just a plug adapter, at a local electrical retailer or computer dealer.

SteppingStage Assembly

The **SteppingStage** assembly fits onto the stage of the microscope where it is located with two dowels and retained with one screw. The unit should function quite well without being screwed down, it should not need to be retained tightly. Do not over tighten the screw.

There are two leads trailing from the unit, one from each of the X- and Y- sliders. Position these carefully so that they cannot tangle or snag and hence restrict the movement of either slider.

WARNING: The motors in the sliders are very powerful and, if the leads snag, it is possible for the motors to pull the sliders from their mountings. In such an event the unit must be returned to the manufacturer for maintenance.

The Control Box

At one end the control box has an on/off switch, a socket designed to accept 12V DC (centre positive, +) power and

EITHER a 9-pin RS232 socket



OR a USB 'B' socket,



in both cases marked **PC**.

At the other end there is a socket (3 rows of 5 pins per row) for the cable from the **SteppingStage** unit and an indicator light, marked **PWR ON**, to show that the box is connected to mains power and is switched on.



Cable Null Modem or USB 'B'

The control box is connected to the computer using:

EITHER a standard RS232 null-modem cable (specification: wires 2 and 3 crossed, 5 connected);

OR a USB 'B' cable.

If either cable is lost it can be replaced at most computer dealers. In the former case, if there is no serial port on the PC, then use the USB-to-serial converter supplied. This will require installation of additional device drivers. See Installing a Serial Port SteppingStage (no PC serial port) in the **SteppingStage** manual.

Software

PetrogLite may be downloaded from the website www.petrog.com/ws/petroglite/petroglite.htm using a username and password supplied by Conwy Valley Systems Ltd. If you have lost your password please email support@SteppingStage.com.

PetrogLite is a completely stand-alone executable, requiring no other software to be installed and requiring no other licences. On first being run, **PetrogLite** will make entries in the registry.

Configuring the SteppingStage

When first running, **PetrogLite** will try to locate the **SteppingStage**. If it is not found, then **PetrogLite** will report;

Drivers (only) found

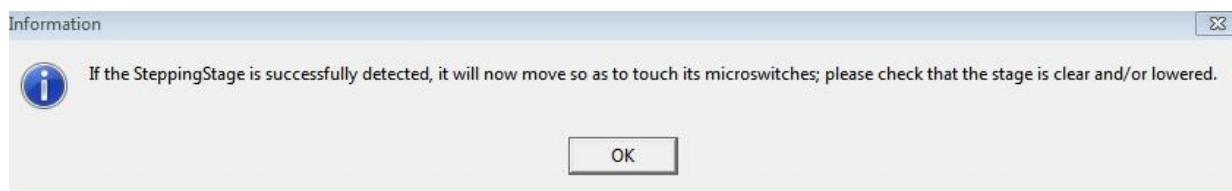
within the 'Current Setup' box of the PetrogLite window.

If this occurs, check that the power to the control box is turned on. If it was not, switch it on, close PetrogLite and restart the program. If the problem persists, see [SteppingStage | Configure](#) for more information.

Quick Start

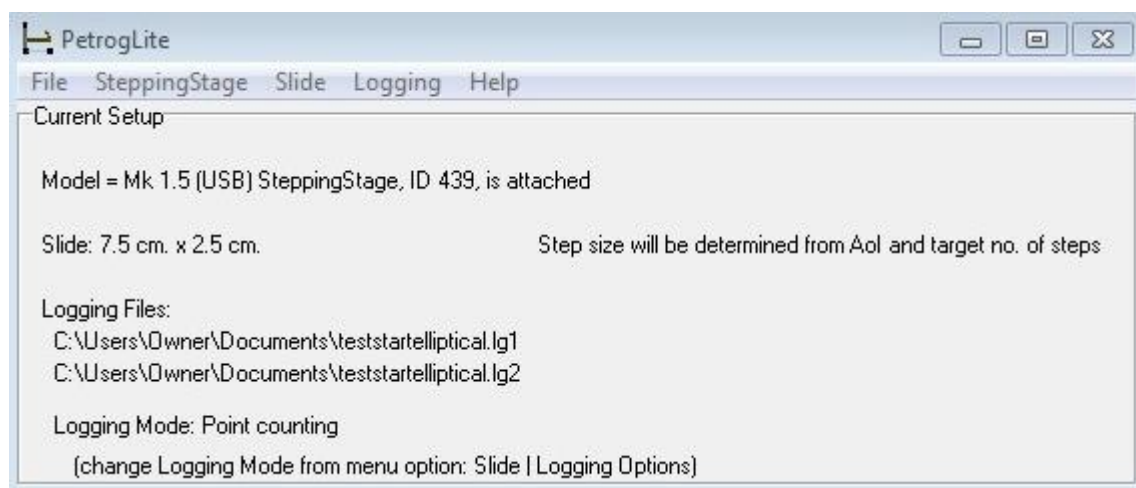
PetrogLite Main Window

On start-up the **SteppingStage** will be sent to its 'Home' position. To allow you time to ensure there is no clash with microscope objectives, **PetrogLite** displays the message below before sending the **SteppingStage** to its 'Home' position:



The home position touches the micro-switches and initialises the positioning. All subsequent movements will be made relative to this home position. If the **SteppingStage** is already at its home position you may still hear it briefly touch the micro-switches.

The main window then displays the current state of the program:



Information displayed includes:

- whether a **SteppingStage** is attached (see SteppingStage | Configure);
- the size of slide currently configured (see Slide | Configure);
- how the step size and stepping pattern will be determined (see Slide | Configure);
- the destination of the logging information (the full path of the logging files) (see File | New);
- the logging mode (see Slide | Logging Options).

Preparation for Logging

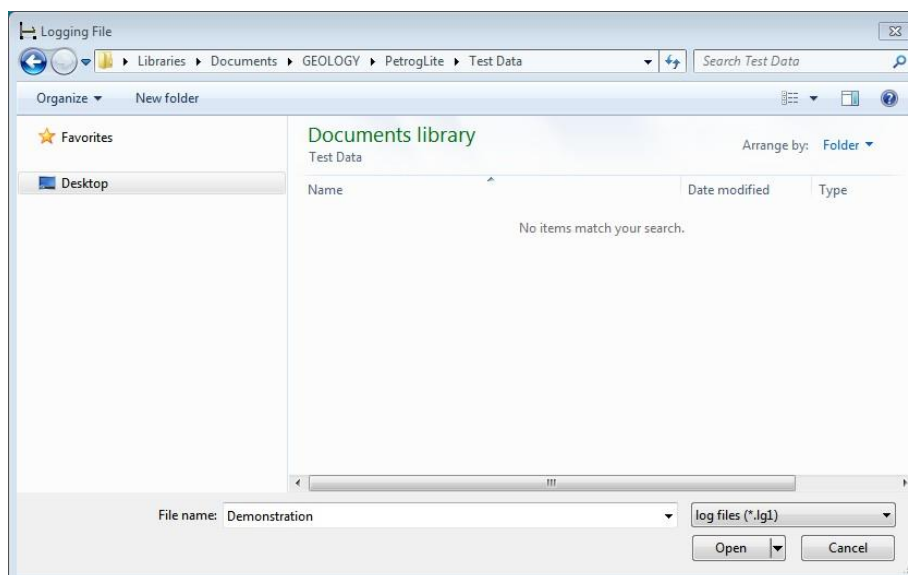
In order to undertake logging, you will need to perform 3 basic steps:

Create Data Logging Files

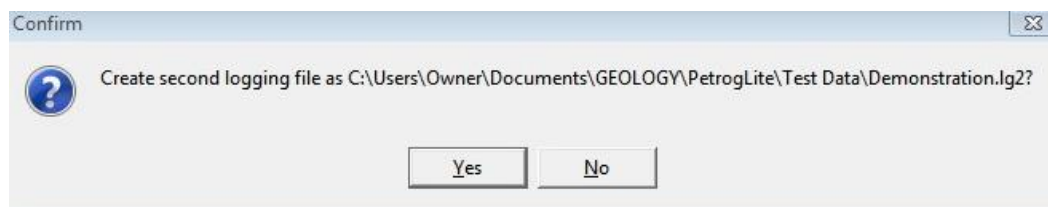
Initially you must create new files:

File | New

This will prompt you for a file name which will have the extension .lg1



You will then also be prompted to automatically create a companion file with the same name, but with a .lg2 extension.



At any time, you can stop logging, turn off **PetrogLite** and then return later to where you were, by re-mounting this slide (make sure you know which was left and right, of course) and then selecting:

File | Re-open

Select the file (named *.lg1) from the file selection dialog and then go straight to:

Logging | Resume

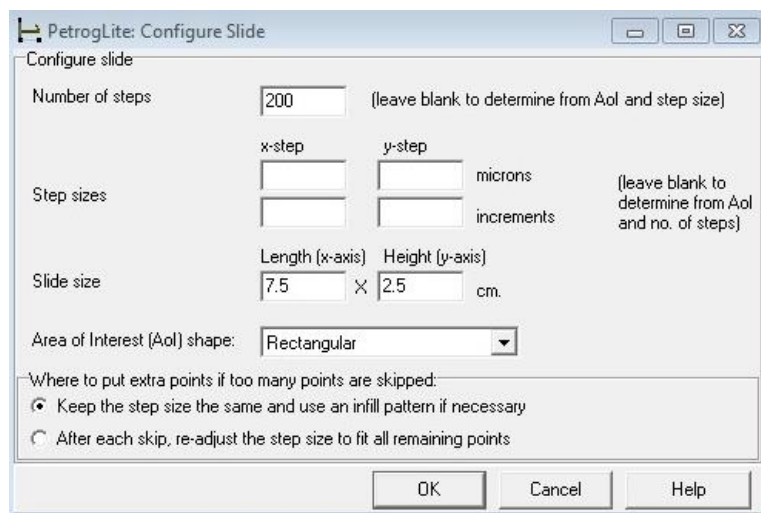
The **SteppingStage** will automatically re-position the slide to where you left off and **PetrogLite** will continue logging onto the end of the previous files.

Initially, however, you must tell **PetrogLite** where on the slide to look, hence follow the next step.

Setup Number of Points and Analysis Area

The information provided for the previous slide will normally be used as defaults, so this does not need to be done every time (if the slides have all been made the same way), but the first time at least you will need to tell **PetrogLite** whereabouts on the slide there is material to log. Change these settings by selecting from the main menu:

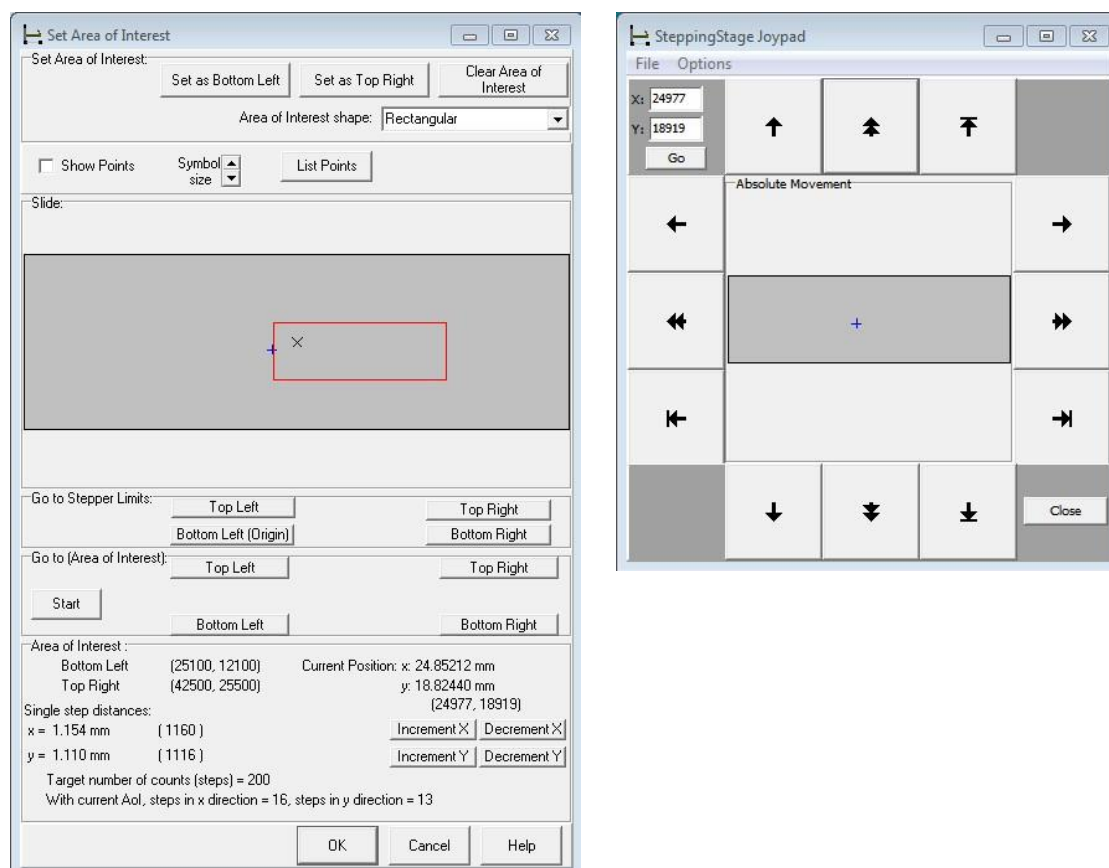
Slide | Configure



Select the **Number of steps** you want to log and the **Area of Interest (Aol) shape**. Nothing else needs to be changed for a quick start.

Then set an Area of Interest, by selecting from the main menu:

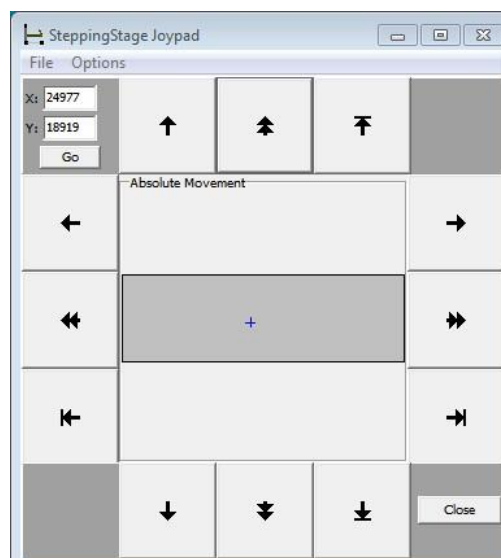
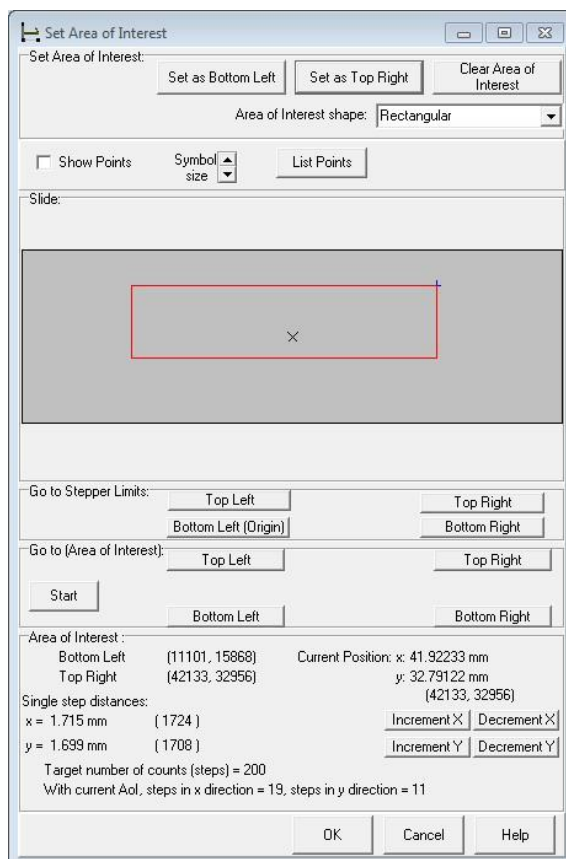
Slide | Area of Interest



An Area of Interest may be rectangular, elliptical, a straight line, half-moon or oversize depending on the desired use, with this dialog box allowing you to set the limits of the chosen shape. Move the **SteppingStage** around (indicated by position of + mark in grey area) by using the **Joypad**. Double arrows move a large step, single arrows are only for fine adjustments.

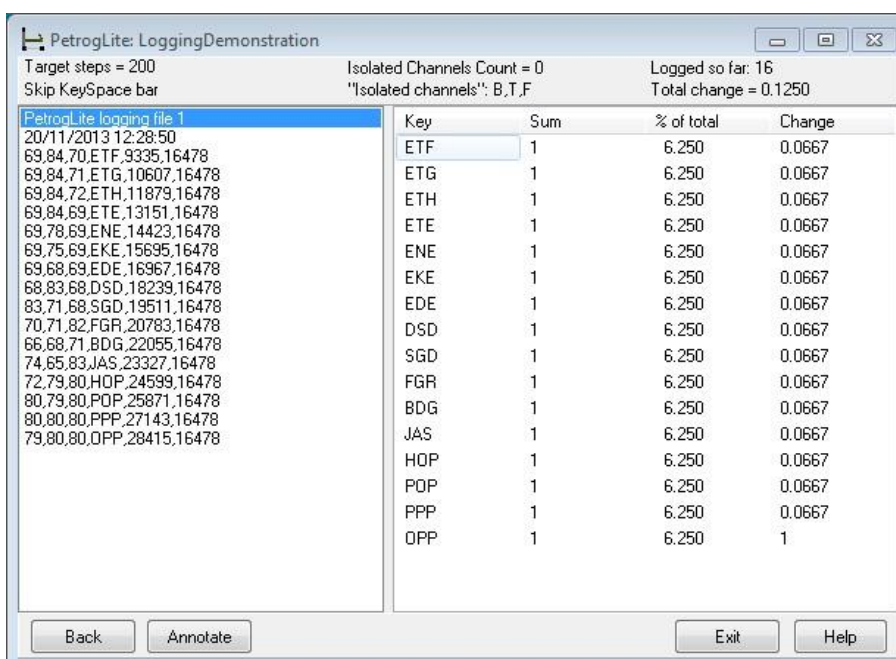
NOTE: if you click faster than the **SteppingStage** moves, then the clicks will be accumulated and the **SteppingStage** will carry on moving after you have stopped clicking.

For a rectangular area of interest, move to Bottom Left and Top Right of the area you are interested in analysing and click the **Set as Bottom Left** and **Set as Top Right** buttons as appropriate. You can change these positions as many times as you like. Finally click, **OK**.



Start Logging

The menu under **Logging** is enabled depending on the status of the files currently open; if there is data in the files, the **Resume** is enabled, otherwise **New** is enabled. Having selected one or the other, you can just press keys on the keyboard to log points and this automatically moves the **SteppingStage**.



PetrogLite Main Menu

The menu options of the **PetrogLite** main menu are described below in their order of presence.

File Menu

File | New

This is the starting point for setting up logging or point counting. This option prompts for the name of files to hold the logged information. Two files are created, containing largely the same information in different forms, although only one is derivable from the other.

The first file (*.lg1), following two header lines (title and date-time), holds a sequential list of what has been logged at each point, as the ASCII code and the keyboard name of the key pressed, followed by the (x, y) co-ordinates of the **SteppingStage**:

PetrogLite logging file 1

1/26/2010 11:03:02 AM

71,G,6000,4000

89,Y,8133,4000

69,E,10266,4000

87,W,12399,4000

81,Q,14532,4000

49,1,16665,4000

Any Annotations that are added to a data (see section `Logging | Log (New)`) are located in a fifth column after the appropriate data point.

The second file (*.lg2), after the same two header lines, has 4 columns:

- the key pressed;

- the running total for that key;

- the percentage of what has been logged (excludes 'skips');

- the change to the percentage contribution which was effected by the last key press.

PetrogLite logging file 2

1/26/2010 11:03:08 AM

G,1,5.6,0.0620

Y,2,11.1,0.0620

E,1,5.6,0.0620

W,1,5.6,0.0620

Q,2,11.1,0.0620

1,1,5.6,0.0620

By default, both files have the same name, distinguished by the extensions '*.lg1' and '*.lg2'.

File | Re-open

You can either select new files (**File | New**) or continue logging on the end of previous files (**File | Re-open**). In the latter case, the **SteppingStage** will automatically re-position the slide where you left off. If you want to know where this will be, look in the first logging file (*.lg1) at the last line, which will be of the form:

ASCIIcode, KeyName, XPosition, YPosition

where XPosition and YPosition are in internal units for the **SteppingStage**. The maximum and minimum X and Y travel for the slide may be viewed from menu option:

SteppingStage | Configure

File | Exit

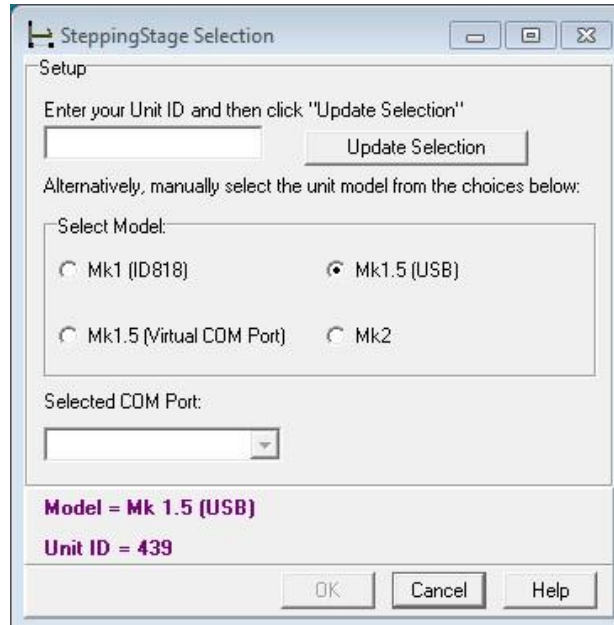
Closes the program but does not park the **SteppingStage**. Cycling the power on the unit (i.e. turning it off and then on again) will send the **SteppingStage** to its 'Home' position. When the software is next started the **SteppingStage** will also go to 'Home'.

The reason for sending the **SteppingStage** to 'Home' when the unit is powered up and at the start of each run of the program is that all commands to the **SteppingStage** are relative (i.e. they are given as increments to the current co-ordinates), so the software must know where the **SteppingStage** is when it starts to control its movement.

SteppingStage Menu

See also sections in SteppingStage Installation Manual on Troubleshooting and Installing a Serial Port SteppingStage (no PC serial port).

SteppingStage | Configure



This menu option allows the following parameters to be modified:

Automatic Setup

Enter the unit ID and click “Update Selection” to automatically set up the SteppingStage

Manual Setup

Manually select the unit model from the choices available:

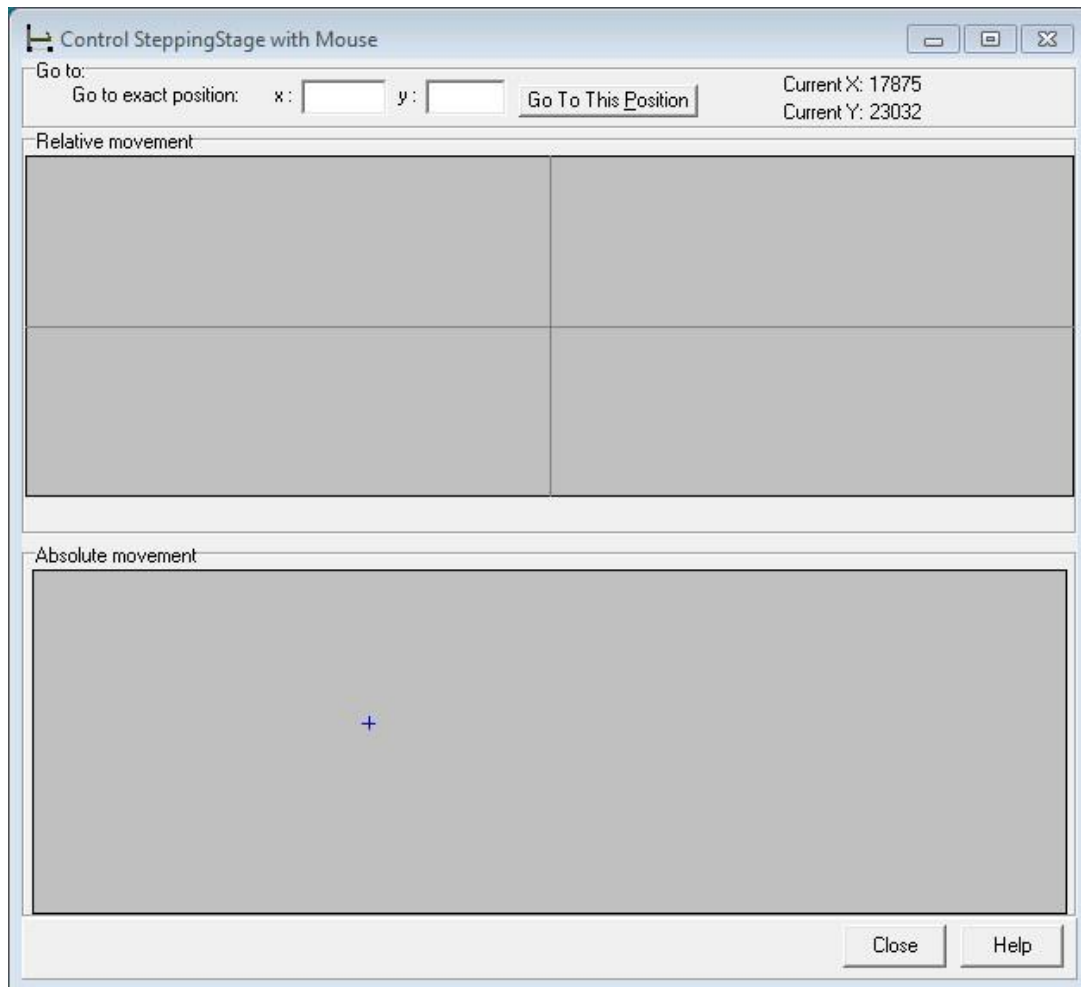
- Mk 1 – This option will activate the **Selected COM Port** drop down list.
- Mk 1.5 (virtual COM port) – This option will activate the **Selected COM Port** drop down list.
- Mk 1.5 (USB) – This option will identify any unit connected via USB in terms of its Unit ID number in purple at the bottom of the window.
- Mk 2.0 – This option will identify any unit connected via the wireless control box connected to through USB to the in terms of its Unit ID number in purple at the bottom of the window.

Selected COM Port

The drop-down box below will become active and lists the ports available on your machine. Choose the corresponding COM port to which the **SteppingStage** is connected in order to activate the connection.

WARNING: Changing the COM port option makes changes to the registry settings. Selecting a port which is already in use can cause problems for any other device attached to the port. This setting should not be changed without consulting Conwy Valley Systems Ltd. Changing these values could cause damage to the SteppingStage unit.

SteppingStage | Control with Mouse

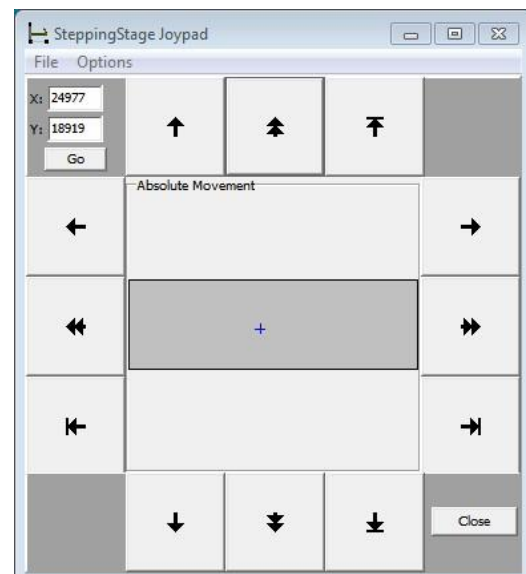
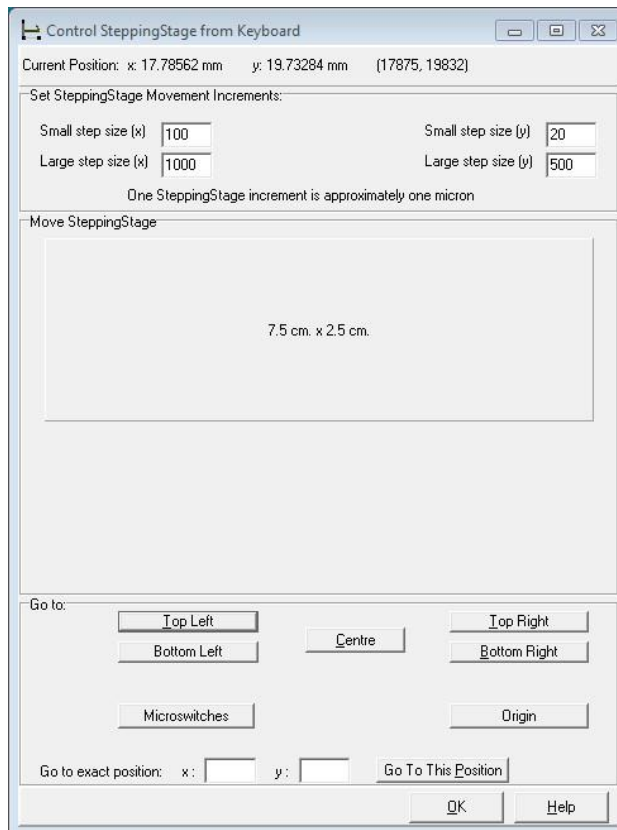


The **SteppingStage** may be controlled with the mouse, independently of logging, by selecting this menu option and using either the upper panel to make a movement by clicking a point relative to the centre of the panel or the lower panel to make an absolute movement, i.e. move the **SteppingStage** to the position represented by the position clicked.

Clicks in the upper window, making a relative move, will move the mouse a greater distance the further the click is from the centre of the panel. The distance moved is relative to both the distance of the point clicked from the centre of the panel and the closeness of the **SteppingStage** to the edge of its travel: the distance of the click from the centre of the panel is converted into a fraction of the remaining distance to the nearest edge, separately in each of the x and y directions.

The lower panel shows the current position as a blue cross or 'plus' sign i.e. +.

SteppingStage | Control from Keyboard



The **SteppingStage** may be controlled from the keyboard, independently of logging, by selecting this menu option.

Upon selecting this option, the Joypad will also be automatically opened. The buttons found on the Joypad may be operated by:

- Tabbing to the required button and pressing **Enter**;
- Clicking the appropriate arrow button on the Joypad with the mouse.

The amount of movement corresponding to each of a small step (single arrowhead) and a large step (double arrowhead) may be specified in the **Set SteppingStage Movement Increments** box (or alternatively via the *Slide | Configure* form).

In addition, the **SteppingStage** may be moved to the limits of travel or its centre using the buttons present in the **Go to** box. An exact location on the slide given as step increments can be specified in the **Go to exact position x** and **y** boxes, which will activate the **Go To This Position** button.

SteppingStage | Control from Joypad

The **SteppingStage** may be controlled from the Joypad, independently of logging, by selecting this menu option. For details on how the Joypad works, see *SteppingStage | Control from Keyboard*.

SteppingStage | Store Position



The current position can be stored so that the **SteppingStage** can later be sent back to this position.

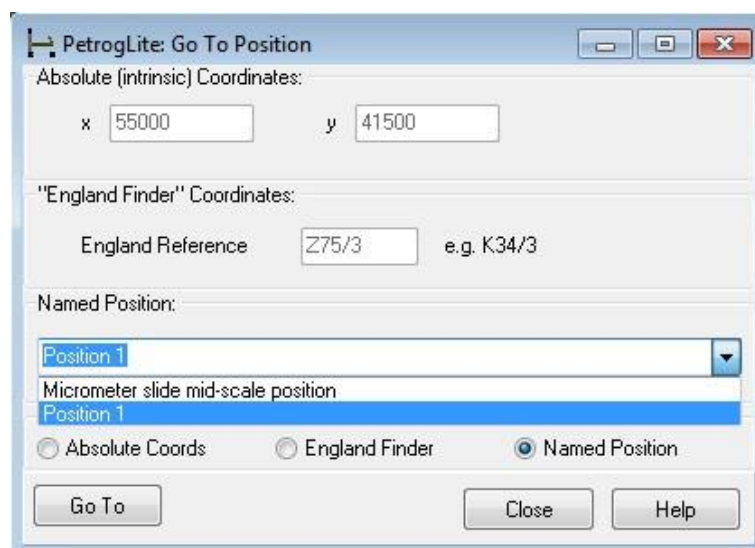
There are three ways of referring to a position:

- **Name:** give this position a name and it will be remembered for the duration of this session;
- **Current X & Y:** a pair of values referring to the **SteppingStage's** own internal ('intrinsic') co-ordinate system. These units are the smallest addressable units that can be sent to the **SteppingStage** and are approximately one tenth of a millimetre, with the origin (0, 0) at the **SteppingStage's** 'Home' position;
- **England Finder Reference:** this is a reference system used by many biostratigraphers - please see the [England Finder](#) website for more information.

Unlike **PETROG**, there is no database underlying **PetrogLite**, so stored positions are retained from one run of **PetrogLite** to the next using a text file:

[My Documents]\PetrogLiteSavedPositions.txt

SteppingStage | Go To Position



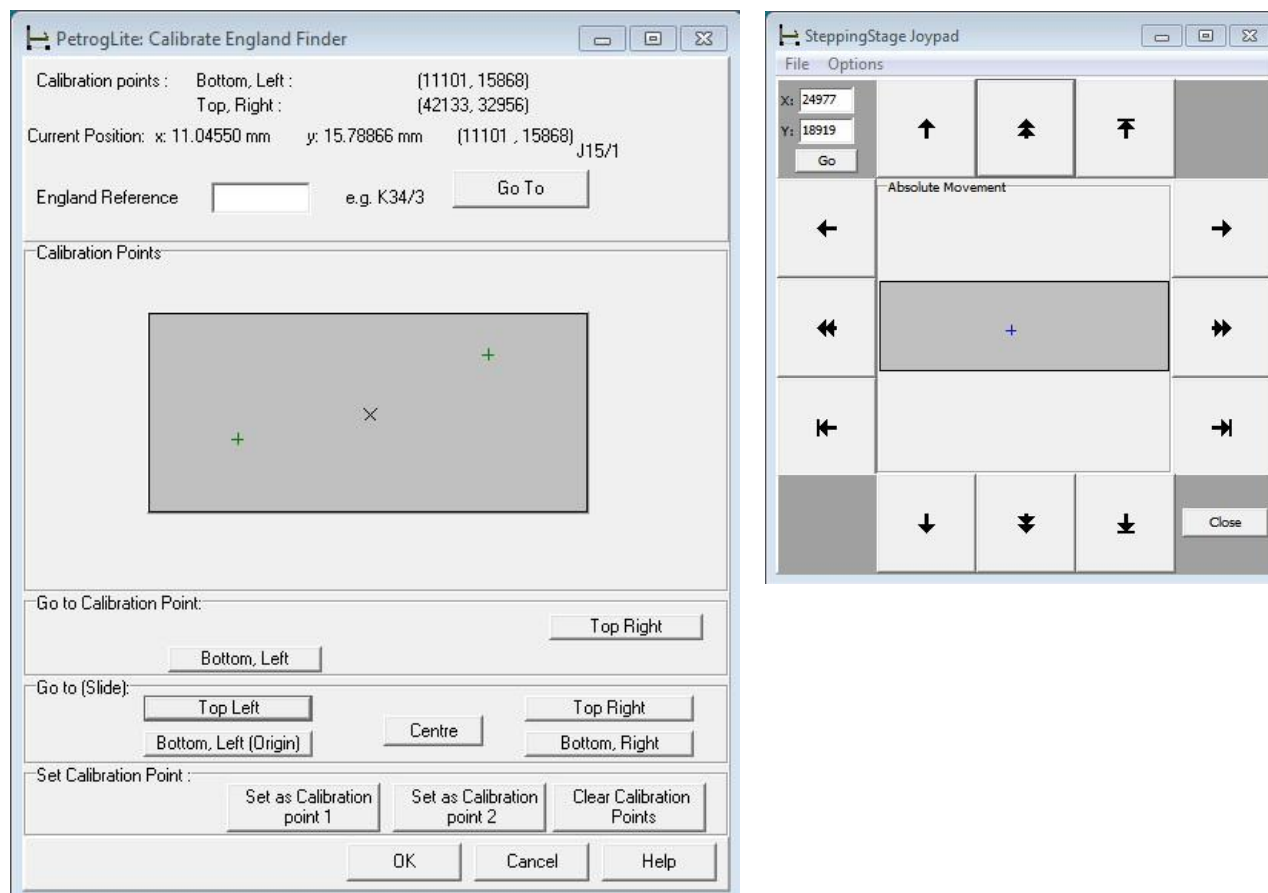
The **SteppingStage** may be sent directly to a point on the slide, using one of three reference schemes:

- **Absolute (intrinsic) Coordinates;**
- **England Finder Coordinates;**
- **Named Position** (previously named by the user).

The radio buttons in the **Choose Selection Mode** box determine which is the master (i.e. which the user is specifying); the others are then computed and displayed.

The **SteppingStage** may be sent directly to any point referred to by an internal coordinate pair (these units are roughly microns but may vary slightly) or by an **England Finder** reference. Alternatively, if positions have been stored during this session, they may be recalled by name from the **Named Position** drop-down list. The **Absolute (intrinsic) Coordinates** of the named point and the England Finder reference for the point are then shown.

SteppingStage | Calibrate England Finder

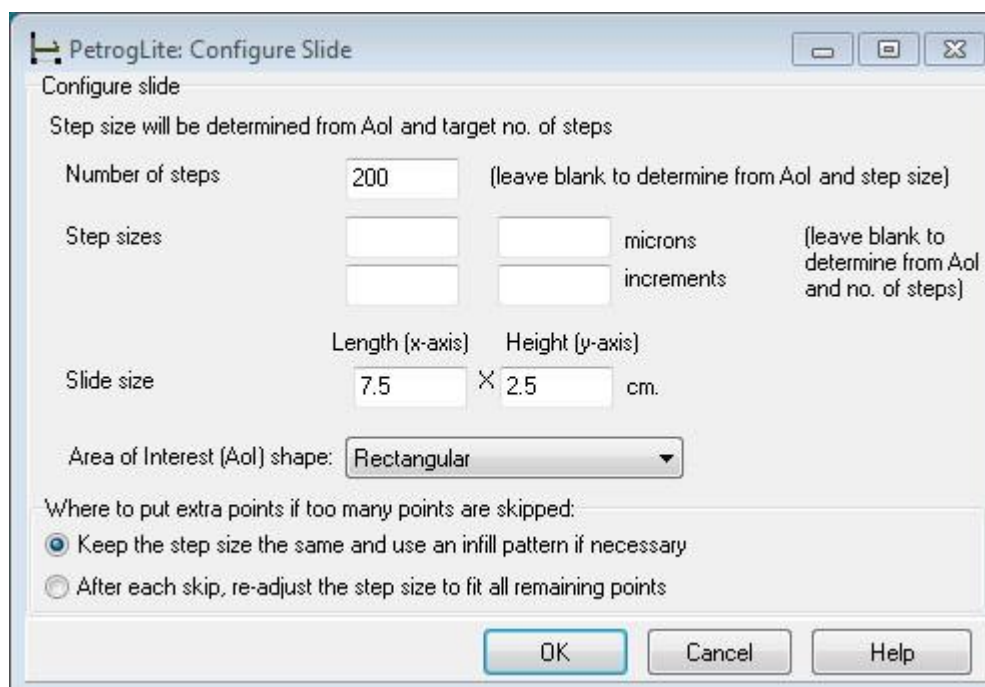


The **SteppingStage** will try to locate an **England Finder** reference from the information available to it, the slide size and origin. However, it may be necessary to calibrate, using an England Finder slide. This menu option opens a dialog which asks you to locate two points on the England Finder slide and type in their **England Finder** reference, obtained from looking down the eyepiece.

Once the calibration has been done, the **SteppingStage** may be moved to a position specified by England Finder coordinates, from the dialog reached by using menu, **SteppingStage | Go To Position**.

Slide Menu

Slide | Configure



The best way to determine a logging pattern is to specify what part of the slide contains material of interest (see section [Slide | Area of Interest](#)) and the **Number of steps**.

The **SteppingStage** will then determine an optimum logging pattern, including determining the step size in each of the vertical and horizontal directions. This is the recommended way to set up a slide for point counting and is achieved simply by setting the number of steps.

If, however, you want to set the step size, for any reason, this can be done, from the dialog shown above. The step size may be set in units of the smallest addressable unit for the **SteppingStage**, which is approximately 1 micron (but in practice is usually about 0.995 micron), or in microns directly. The **SteppingStage** still needs to know where to start and how many steps to take in each row, so you must still specify the [Slide | Area of Interest](#).

In summary, this form allows the following parameters to be set or changed:

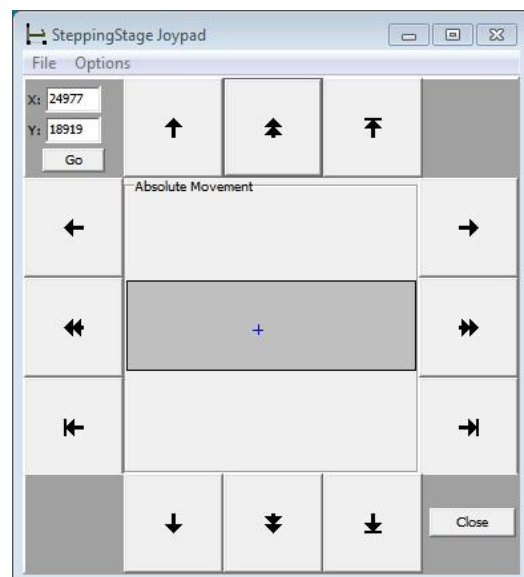
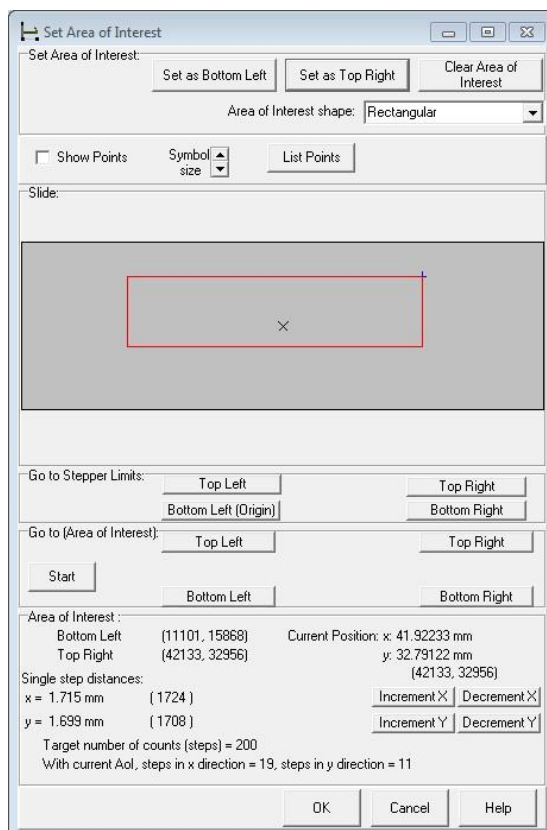
- **Number of steps:** this can be determined from step size and Area of Interest, but it is usual to specify number of steps and Area of Interest, and hence determine step size (which, in general, will be different in x and y directions);
- **Step sizes:** these should be left blank to be determined from the Area of Interest and number of steps;
- **Slide size:** this determines the size of the diagram both in the Area of Interest form and when controlling the **SteppingStage's** movements using the mouse, keyboard or joypad. Also, when used in combination with Shape 'Oversize rectangle', this can be used to tell the software to manage movements outside the limits of the **SteppingStage's** travel;
- **Area of Interest (Aol) shape:** this determines the shape of the diagram in the Area of Interest form. Rectangular, linear and elliptical shapes are supported.

Area of Interest shapes are defined by the following:

- **Rectangular:** the **SteppingStage** starts at the bottom left corner, finishes at the top right, and traverses the slide in a Z-wise pattern to minimise travel between analysis rows;

- **Single Line:** a single line, not generally useful but supported for some specialist applications;
- **Elliptical** (and hence also circular): starts at the bottom of the vertical axis and finishes at the top of the vertical axis, traversing horizontal chords in a Z-wise pattern;
- **Half-Moon:** a half-moon shape, actually the top third of a circle, which is a common shape for a thin section taken from a circular rock sample when the diameter of the circle is greater than the width of the slide; the chord must be at the base and stepping starts at the left end of the chord and works upwards in a Z-pattern;
- **Oversize rectangle:** see Oversize Slides in section Slide | Area of Interest.

Slide | Area of Interest



The Area of Interest is that part of the slide which contains material which can be logged. The method for determining the Area of Interest (Aol) depends on its shape, which must be selected first, in the Configure Slide window.

Once the shape has been selected, this menu option can be used to choose which part of the sample slide to log; i.e. where the **SteppingStage** will travel. Together with the number of counts, this enables **PetrogLite** to calculate the step size in each of the x and y directions.

To select the Aol, move the slide, using the arrow keys (double arrow moves a large step, single arrow moves a small step, in one of the 4 orthogonal directions), until the lower left corner of the material to be logged is reached if it is a rectangular Aol, or the furthest left point (left end of horizontal axis) if it is an elliptical Aol. Clicking the button **Set as Bottom Left** (or **Set as Left End of Major Axis**), this sets one extreme of the area. Move the **SteppingStage**, again using the arrow keys, to the diagonally opposite corner (rectangular) or top of vertical axis (elliptical) and set the other end point. The area now shows as a red outline.

Elliptical Slides

There are two possible (sensible) ways to specify an ellipse: bottom left and top right of the bounding box, or the ends of the major and minor axes. If you have a circular or elliptical plug, then it is usually fairly easy to locate the far left point and to locate the topmost point; therefore, we choose to specify the ellipse (or circle) by asking you to click on the left end of the major x-axis and the top of the minor y-axis.

Half-Moon Slides

To set the half-moon shape the bottom left of the shape should be set by first defining the left hand extent of the half-moon's diameter, by selecting the **Set as Left End of Diameter** button. To set the lateral and vertical extent of the shape, the top of the half-moon must then be set. To do this the slide should be manoeuvred to the top centre of the AoI and the **Set as Top of Area of Interest** button should be selected. This will then automatically set the half-moon diameter extent on the right hand side at an equal distance to that of the left hand side, with respect to the top of the shape.

Oversize Slides

If the Shape has been set to **Oversize rectangle**, then only the width of the Area of Interest can be set; you will be asked to select the **Bottom Left** and **Bottom Right**, instead of **Bottom Left** and **Top Right**. The height (y-axis) will be assumed to go to the top of the usable area from the step size, number of points and AoI width. During point counting, when the software calculates that the number of points logged has taken the **SteppingStage** to the end of its travel, the user will be prompted to rotate the slide through 180° and logging can recommence on the previously inaccessible part of the slide.

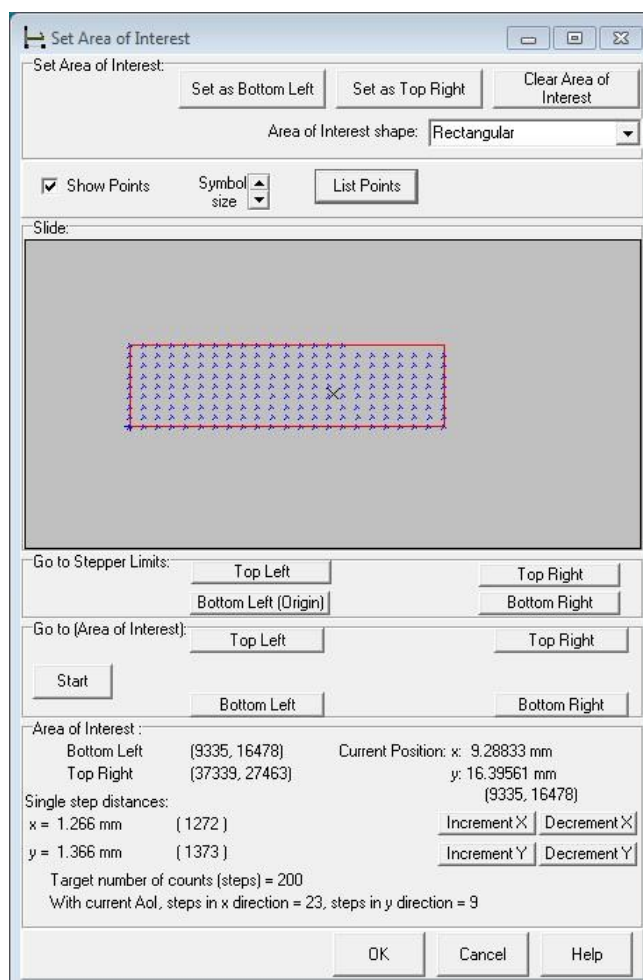
Running out of Points to Count

Unlike the Prior electro-mechanical stepper, it should not be possible to run out of points, as the stepping pattern was defined from the number of points requested. However, some points will need to be skipped (by pressing the Space Bar to **Skip** in the Logging window), either because there is no material (this can happen at edges, if the edge is ragged or the AoI has not been specified accurately, or in the interior if the quality of the sample is poor), or because the material is not to be counted (as, for example, in analysis of polished specimens of coal under transmitted light, when the crosshair falls on the mounting material). **PetrogLite** will automatically allow a few spare points if the optimum arrangement of points isn't an exact array, but you can force spare points to be included by specifying an expected percentage of skips.

But what happens if these are not enough? The software will calculate an infill pattern and return to the origin to execute this pattern. This will give approximately twice as many points to choose from. If even this is not enough, the software will have run out of ways to help you, but this is highly unlikely.

Show Points

Once the Area of Interest has been set, you can look at the points at which the **SteppingStage** will stop by clicking the **Show Points** box.

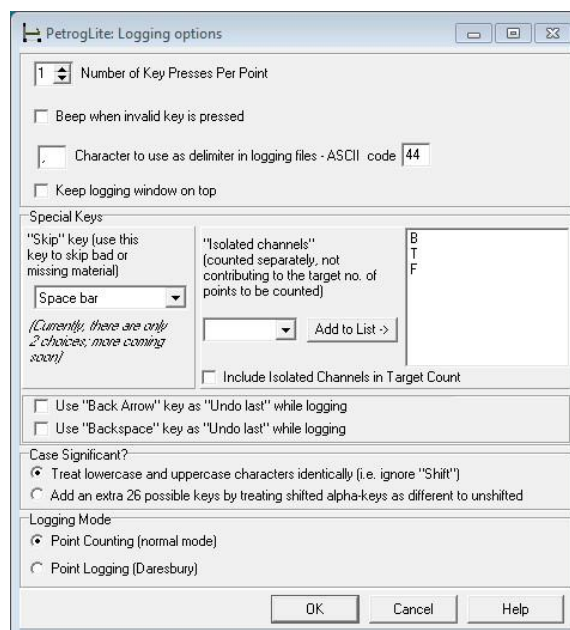


The information on the window is there to help you understand the stepping pattern. So, for example, the **Single step distances** are shown in three different ways, as an absolute distance in millimetres, in the internal coordinates of the **SteppingStage** device (ca. 1 micron).

The **Symbol size** arrows can be used to increase or decrease the size of the symbols in the stepping pattern.

You can see a list of the coordinates of the points by clicking the button **List Points**.

Slide | Logging Options



This form allows the following parameters to be set or changed:

Number of key presses per point: this allows the user to customise the number of possible categories during logging. By increasing the number of key presses per point, the number of categories is increased, through a higher quantity of possible combinations.

Beep when an invalid key is pressed: this is intended to be used in conjunction with **Specific keys**; in this release it is not very useful.

Character to use as delimiter in logging files: by default, this is a comma, but can be changed to, for example, tilde or tab. In locales where comma is the decimal separator, this should automatically default to tab. If you change the delimiter while there is a logging file open, then **PetrogLite** will show an error message because the open file still has the previous delimiter:

PETLMain.SetMenu: There are errors in the logging files. Copy error list to clipboard?

Keep logging window on top: this is useful if a secondary application is being used concurrently, for example to show an image on the monitor. If this is set to Yes (i.e. is ticked) then there is a slight flicker when adding Annotation during logging.

Skip key: the key to be used to move the **SteppingStage** on by one step without logging anything.

Isolated channels: this has a similar function to that on the old electro-mechanical systems, allowing an item to be counted without being included in the total count, i.e. not subtracting from the 'target'. At present, only alphabetic keys may be used, but otherwise any number of isolated channels may be set. A typical usage is to count porosity, separated into different pore types, when the target count is to be based solely on the mineral phases.

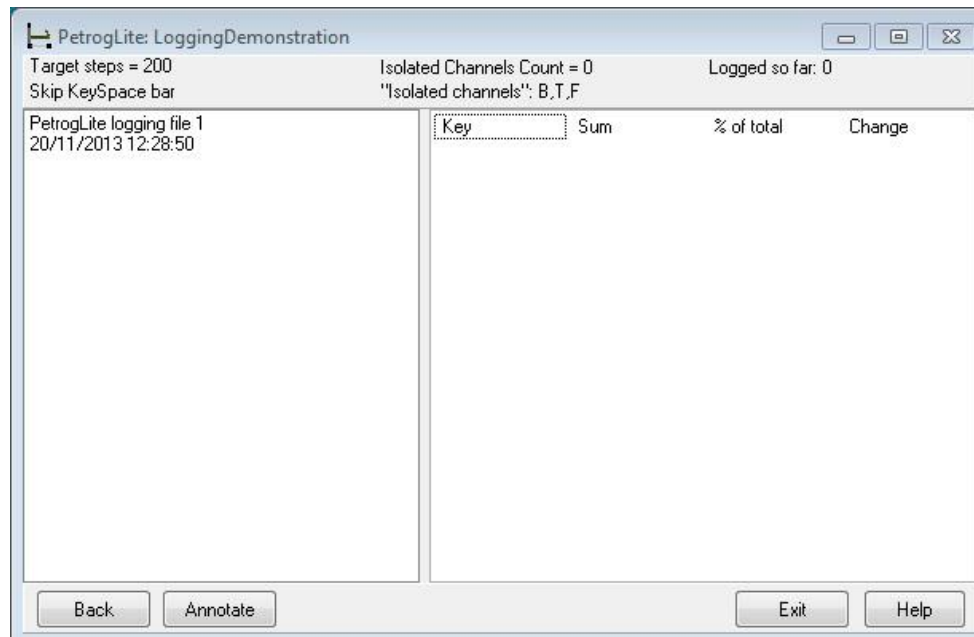
Undo last: an 'Undo last' input operation can be specified using either the **Back Arrow** or **Backspace** keys. This operation is fully recursive. The same operation can be achieved using the **Back** button in the Logging window.

Case Significant?: expands the options available on a standard keyboard, by distinguishing upper and lower case.

Logging Mode: **Point Counting** should nearly always be selected here, but one of our users asked for a specific logging mode, which is implemented as **Point Logging**. If you have specific requirements, please do not hesitate to ask.

Logging (Point Counting) Menu

Logging | Log (New)



The Logging form shows the two files (*.lg1 & *.lg2) side by side. The information is the same, just presented differently (although only the right one is derivable from the left, not the other way round).

In the header is a summary of the Slide configuration and Logging options prevailing:

Target steps: total number of points to count excluding skipped and isolated channel counts. The window will automatically close when this number of points have been counted, excluding points where a key was pressed which is designated an isolator channel.

Isolated Channel Count: how many times an isolated channel has been clicked (only displayed if selected in Logging Options).

Logged so far: total number of points counted so far, excluding skipped and isolated channels counts.

Skip key: which key (if any) is used to skip a point, i.e. move the slide without recording anything, isolated channel or otherwise.

Isolated Channels: which keys represent isolated channels, i.e. to be counted separately, not contributing towards the target.

The left hand pane is a list of the keys pressed, in the order in which they were pressed, one row per key press. Each row shows the ASCII code for the key and then its representation (the characters on the keypad), followed by the coordinates of the **SteppingStage** at the time the keys were pressed.

The right hand pane is a summary of the keys pressed, showing how often each has been pressed, initially in the order in which the key was first pressed; the order may be changed by double clicking in a header row to re-order in the sequence of that column's entries. The 2nd column is simply the number of times the key has been pressed and the 3rd column is this number expressed as a percentage of keys pressed (excluding skips). The final column gives a simple measure of how much change was caused by the last key press:

$$\frac{\text{Previous \%} - \text{New \%}}{\text{New \%}}$$

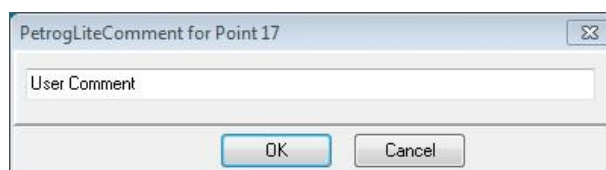
This has little value on its own, but it is summed and then normalised and shown as **Total change**, in the status bar at the top of the window. This number reflects the fact that a new item (a previously un-

pressed key) increases the total variation, whereas an additional press of a key previously used decreases the total variation. This statistic can be used as the basis for deciding when to stop logging a slide.

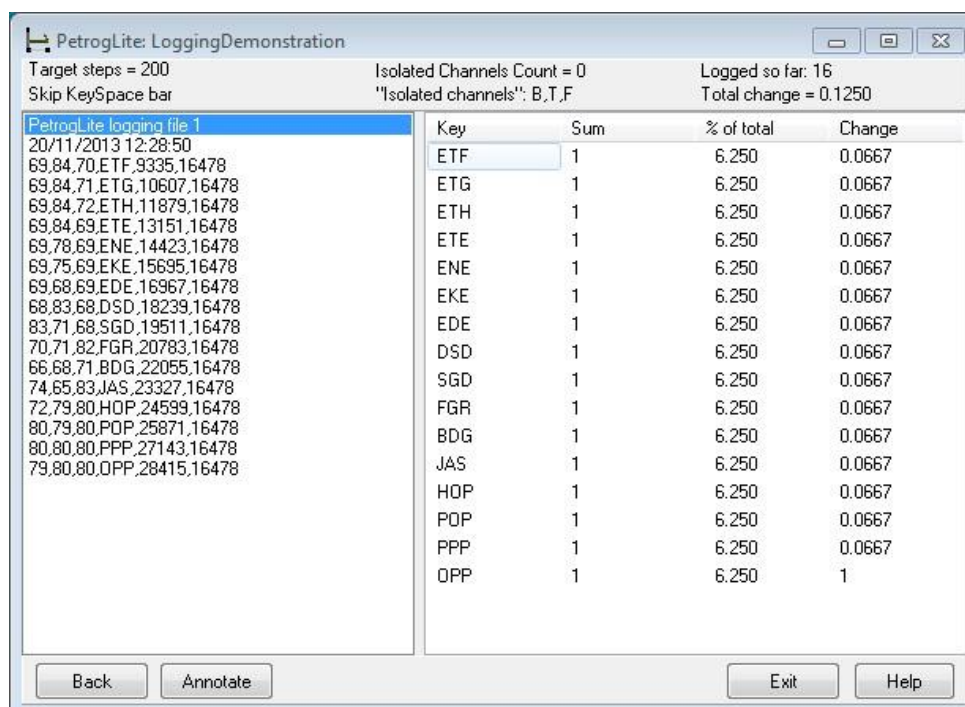
Back button: moves the **SteppingStage** back one step and removes (from both lists) whatever was logged. This can be used recursively.

Note: If the cumulative count (in the right hand window) becomes zero as a result of going back, the item is not removed from the cumulative list and file (*.lg2), the count is just shown as zero.

Annotate button: allows annotation (comment) to be added to a point. This must be done BEFORE logging the point, otherwise the **SteppingStage** will have already moved and a new point will be under the crosshair; **PetrogLite** will therefore assume that the annotation refers to this new point. If you forget, you can use the **Back** button to add the annotation then re-log the point.



Logging | Resume



Logging will resume one step on from the last logged point, as recorded in the first logging file. If the last action in the previous session was to skip a point, that point will need to be skipped again.

When re-starting logging the two files are checked for format, but not for internal consistency, including checking that the sum of items recorded in each file are the same. If the files have been edited outside **PetrogLite** then they may have become disconnected (i.e. the second, summary file may not necessarily be a true summary of the first file, *.lg1). Resuming logging will be based on the information contained in the 1st file (*.lg1) file.

Logging (Point Logging) Menu

PetrogLite: PointLogger

Origin
(0, 0)
(in the stepper's own intrinsic coordinate system)

Set Current Position as Origin

Go to Origin

File name Daresbury (this must be a valid UNIX file name of no more than 9 characters)

This Record

Current position: x -41500 y 55000

Comment (max. 25 characters)

Add Point

UNIX filename	X	Y	Description
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Current position = (55000, 41500)
(in the stepper's own intrinsic coordinate system)

OK Cancel Help

Point Logging allows a series of named positions to be stored. The user moves the **SteppingStage** to the next desired position, then assigns a name for it and adds that point to the list stored in a file.

This mode uses a start-up configuration, remembered between sessions, and shows positions based on a coordinate system with origin at (top, left), x being positive in the downward direction and y to the right. Positions stored in this system are output to a text file, fixed format, with fields starting in columns 1, 13, 21, 33, 37, 44, 49, 56 and 80. The fields are described in the section File Formats.

Help

In addition to the Windows Help file, there are menu options to show the various system and software parameters which affect **PetrogLite**. These may be required by the Conwy Valley Systems support team in the case of malfunction or unexpected behaviour.

Help | PetrogLite Help

This is the same information as included in this printed manual, but cross-referenced to the location in the software from which help was requested, i.e. context-sensitive help.

Help | About PetrogLite

This option shows some information about the state of the software on this system and has a button for saving both the information displayed on screen plus additional information, such as, registry settings, which are valuable for tracing problems. If you have a problem with **PetrogLite** it would be very useful if you could click the **Copy to Clipboard** button on this form and send the clipboard contents to support@SteppingStage.com together with the current logging files and as much information as possible about what the problem is and how it occurred.

Help | About CVS

Contact information for the company, Conwy Valley Systems Ltd., responsible for **PETROG** and **PetrogLite**.

Help | News

This option displays the contents of a text file, PetrogNews.txt, located on the installation directory, usually C:\Program files\Petrog\. This file lists the important changes introduced at each version and may be useful for finding out whether a particular issue has been addressed or feature added at a release.

File Formats

Point Counting

The first file, following two header lines (title and date-time), holds a sequential list of what has been logged at each point, as the ASCII code and the keyboard name of the keys pressed, followed by the (x, y) co-ordinates of the **SteppingStage**:

PetrogLite logging file 1

1/26/2010 11:03:02 AM

71,G,6000,4000

89,Y,8133,4000,annotation

69,E,10266,4000

87,W,12399,4000

81,Q,14532,4000,annotation

49,1,16665,4000

The second file, after the same two header lines, holds the running totals, together with a measure of the change caused by the last point:

PetrogLite logging file 2

1/26/2010 11:03:08 AM

G,1,5.6,0.0620

Y,2,11.1,0.0620

E,1,5.6,0.0620

W,1,5.6,0.0620

Q,2,11.1,0.0620

1,1,5.6,0.0620

By default, both files have the same base name, distinguished by the extensions .lg1 and .lg2.

Point Logging

Selection of this Logging Mode in the Logging options window allows a start-up configuration option, remembered between sessions, showing positions based on a coordinate system with origin at (top, left), x being positive in the downward direction and y to the right. Positions stored in this system are output to a text file, fixed format, with fields starting in columns 1, 13, 21, 33, 37, 44, 49, 56 and 80.

Field 1: file name

Field 2: x co-ordinate position

Field 3: y co-ordinate position

Fields 4, 5, 6, 7, 8: identically zero

Field 9: the name assigned to the point by the user at the time of recording it

Field 10: identically zero

Line format (80characters):

globaldes x-val y-val 0 0 0 0 0 21-character-comments 0

Example file:

qwertyuio 10000 20000 0 0 0 0 0 sample no 1 feldspar1 0

qwertyuio 10010 20010 0 0 0 0 0 sample no 1 feldspar2 0

qwertyuio 10020 20020 0 0 0 0 0 sample no 1 feldspar3 0

qwertyuio 10030 20030 0 0 0 0 0 sample no 1 feldspar4 0