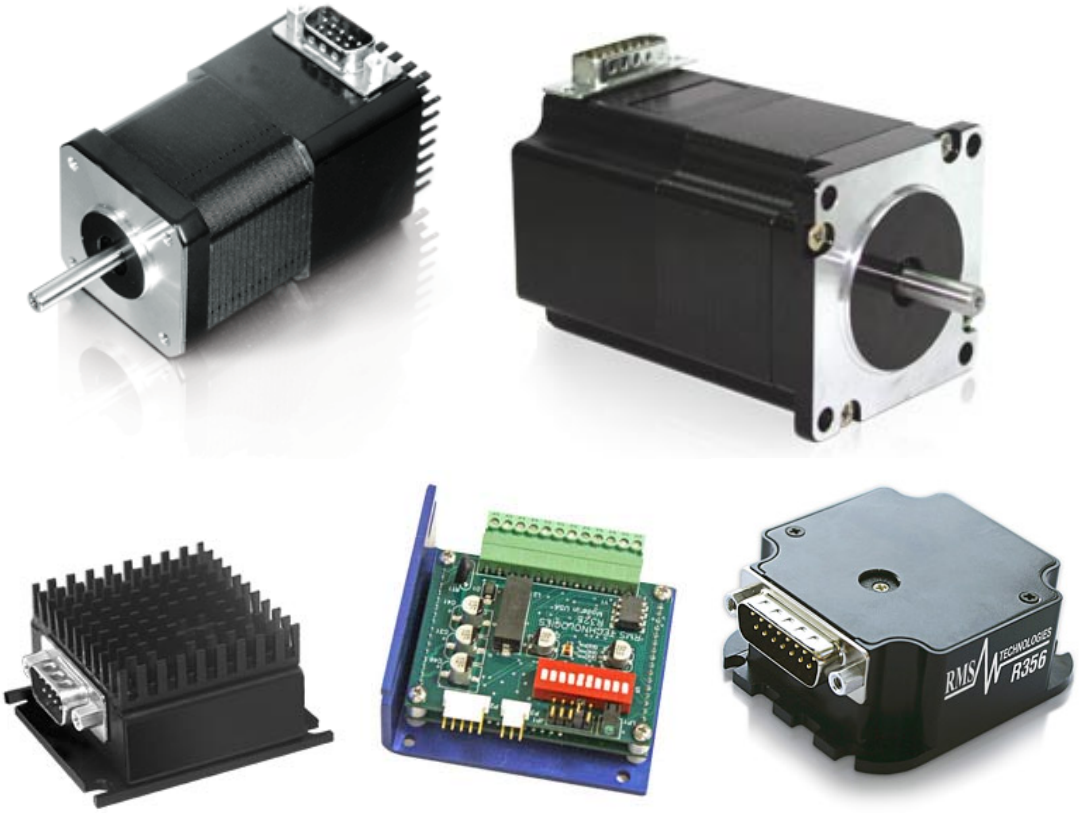
Silverpak 17C/23C & R256 GUI Interface

R325I, IE

Lin Control

User Manual

Version 1.1



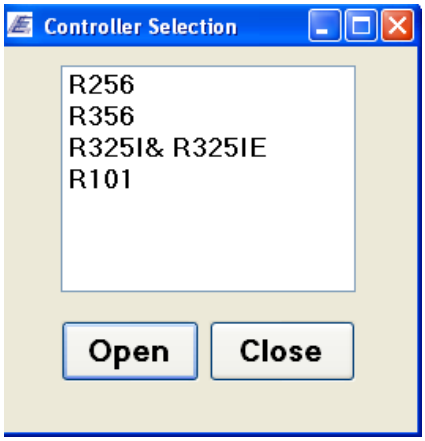
Used with Products:

1. Siverpak 17C/CE, 23C/CE
2. R256 controller/driver, R356
3. R101, R325I, R325IE

Programming Software & License

4. Development Language : Visual C++ 2005 express
5. Software license : Free version

http://msdn.microsoft.com/vstudio/express/support/faq/#compat



Select the product from the list. R256 is the same as Silverpak 17C. R356 is the same as Silverpak 23C.

R256, R356, Silverpak 17C or 23C:

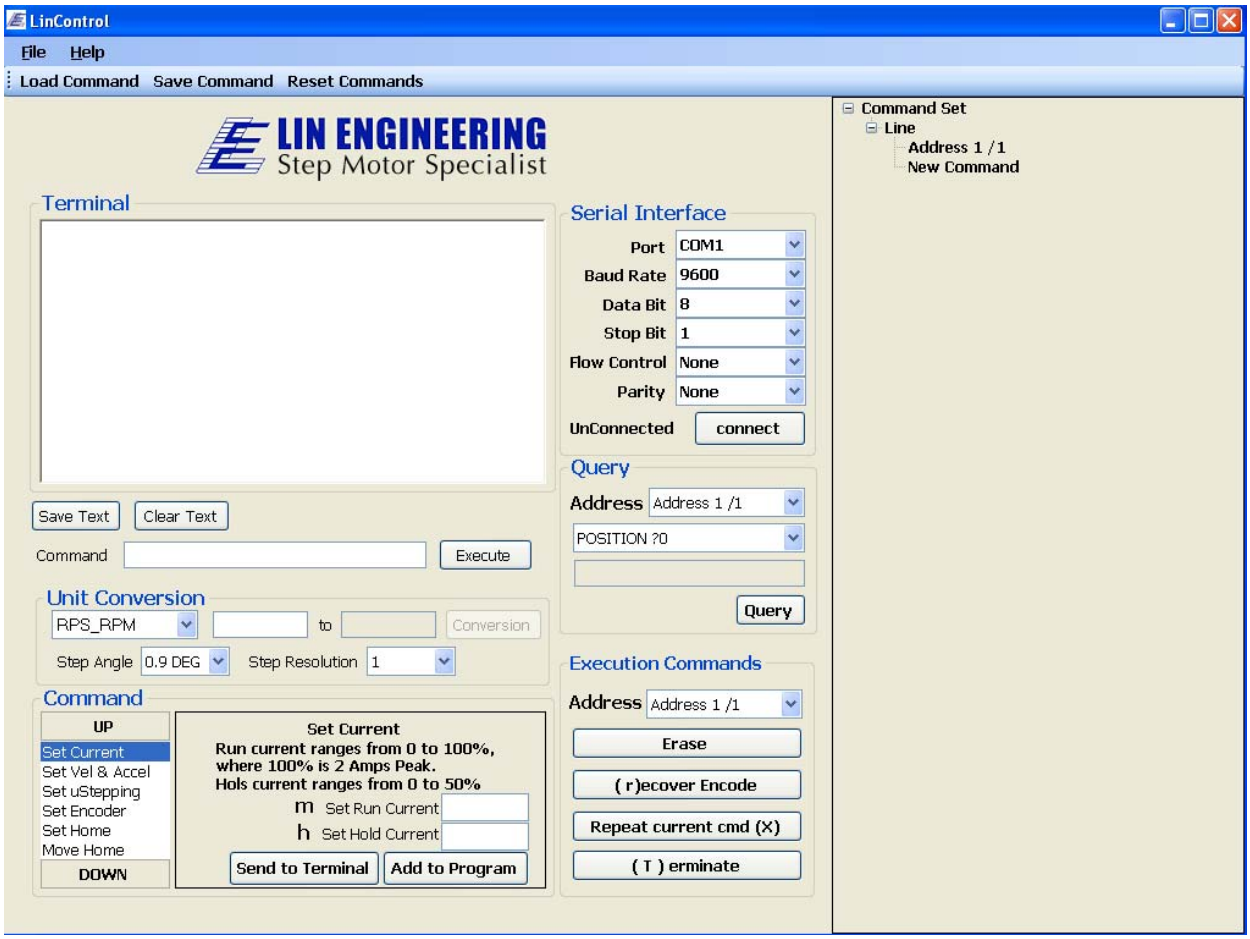


Figure 1. LinControl

There are two separate parts, left and right side.

The Left side displays the serial port and quick command inputs and the right side exhibits the Tree structure for Silverpak C and R256 commands.

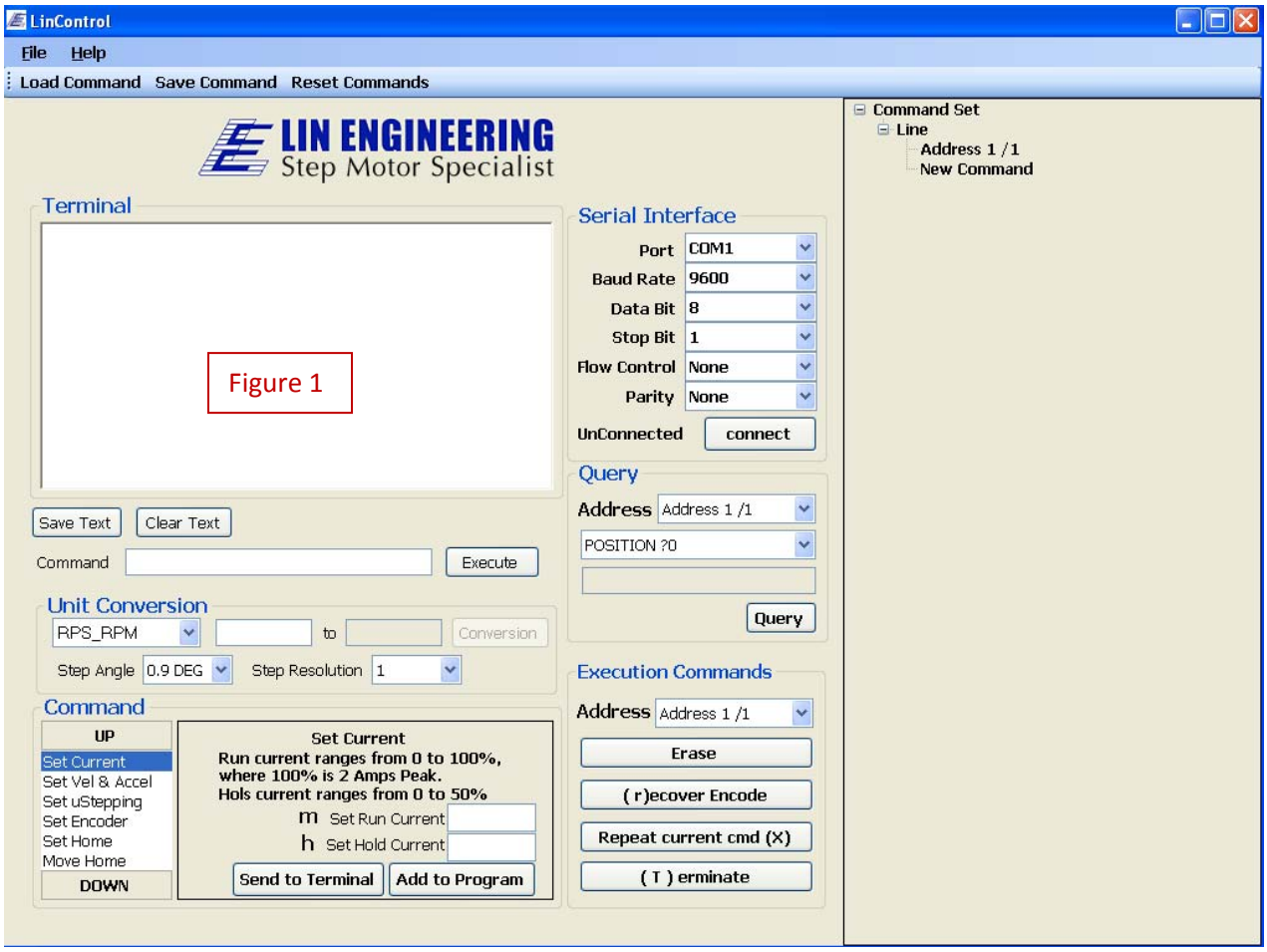


Figure 1 above replaces HyperTerminal and can be used in the same way as HyperTerminal. Commands can be written directly in Figure 1, or the user can type commands in the command line and press "Execute".

Figure 1 shows all commands that are sent to the motor controller and receives responses from the controller, similar to HyperTerminal. However, unlike HyperTerminal, this GUI interface allows the user to backspace and retype information along one line.

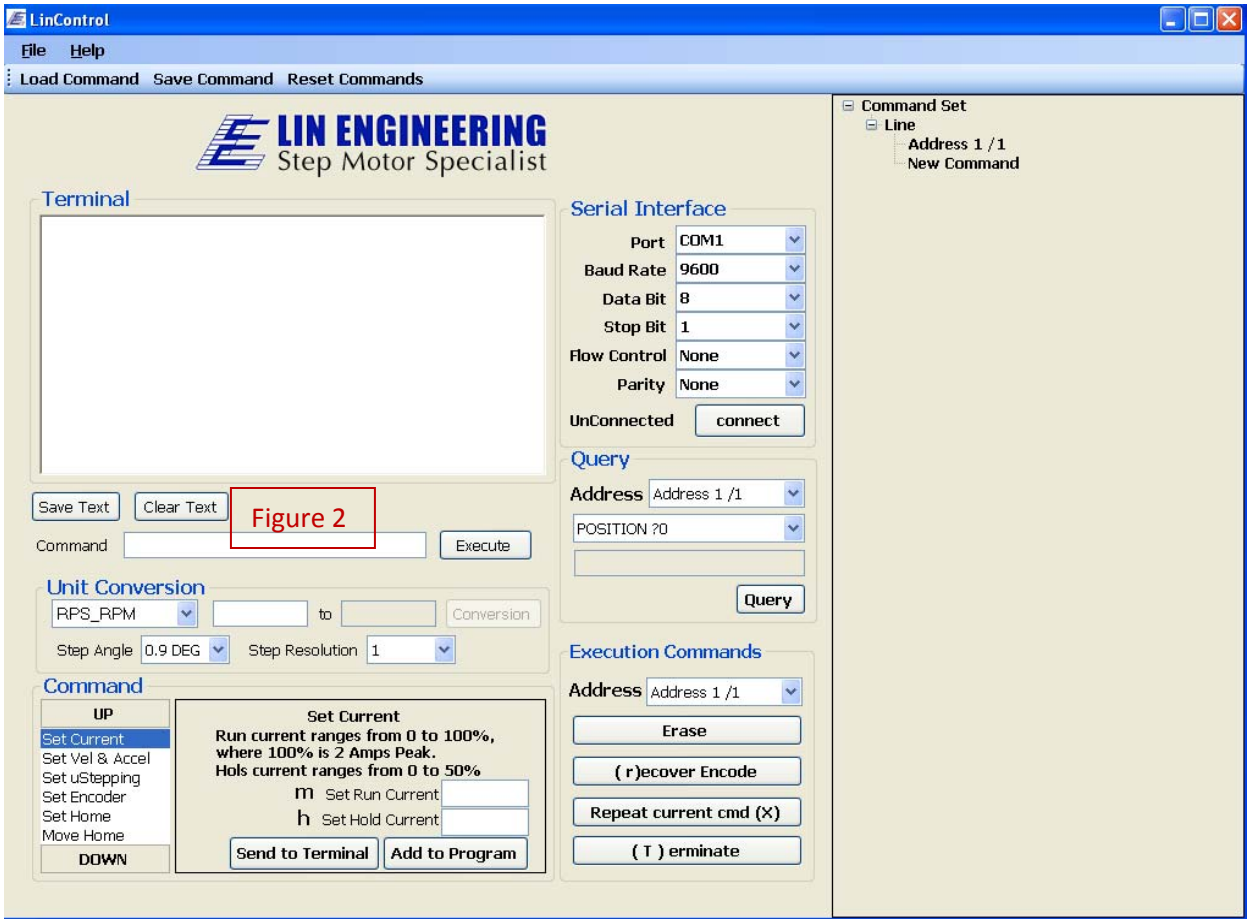


Figure 2 is another place to send commands to motor controller. After pressing the “Enter” button on your keyboard or clicking the Execute button with your mouse, the command will be displayed in the Terminal and is also sent to the motor controller.

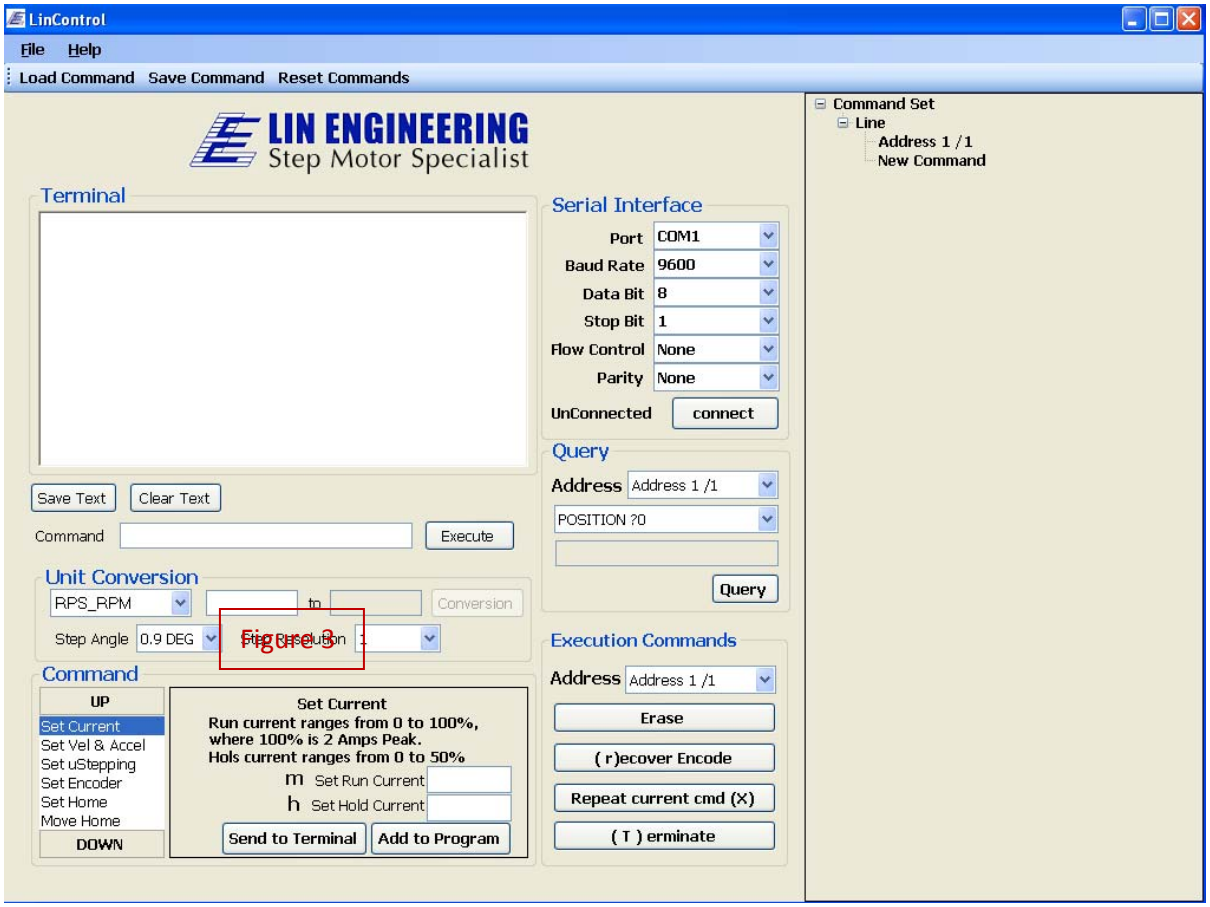


Figure 3 is a Unit Conversion that can conduct most unit conversions for motion control purposes. The drop down menu describes the conversion that will be made which will always be converting from the left unit to the right unit. In this example, it will convert RPS to RPM.

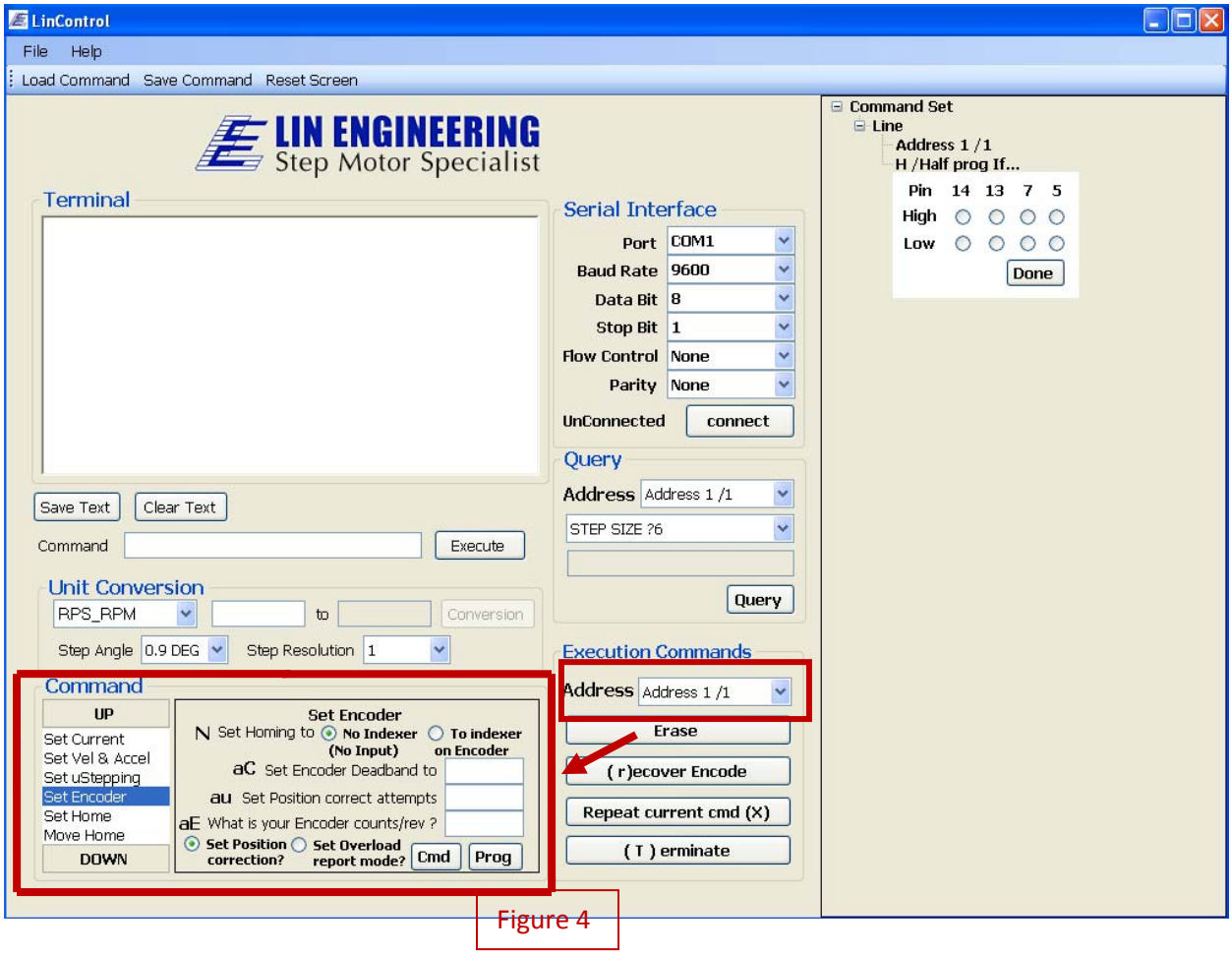


Figure 4

Figure 4 is the Commands section. This shows each command set for the Silverpak C and R256 commands. The user can see different command sets by clicking UP and DOWN at left side. The command uses the listed address at execution.

Users have a choice to send the command to the Terminal or to the command set.

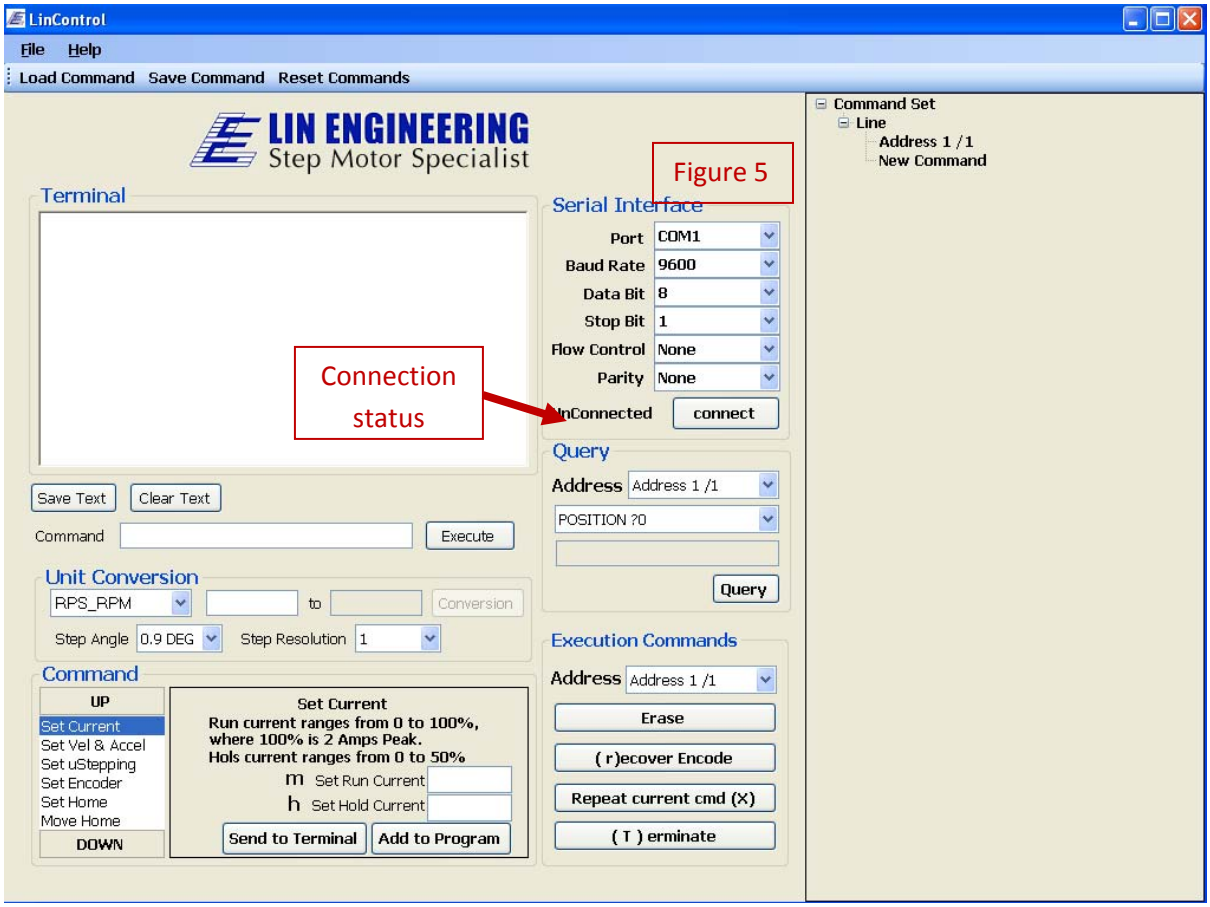


Figure 5 exhibits the serial port settings. The setting is same as HyperTerminal.

After the serial port is opened, the Connection status changes to “Connected” and after clicking the “Connect” button again, the serial port connection is closed and the connection status change to “Unconnected”.

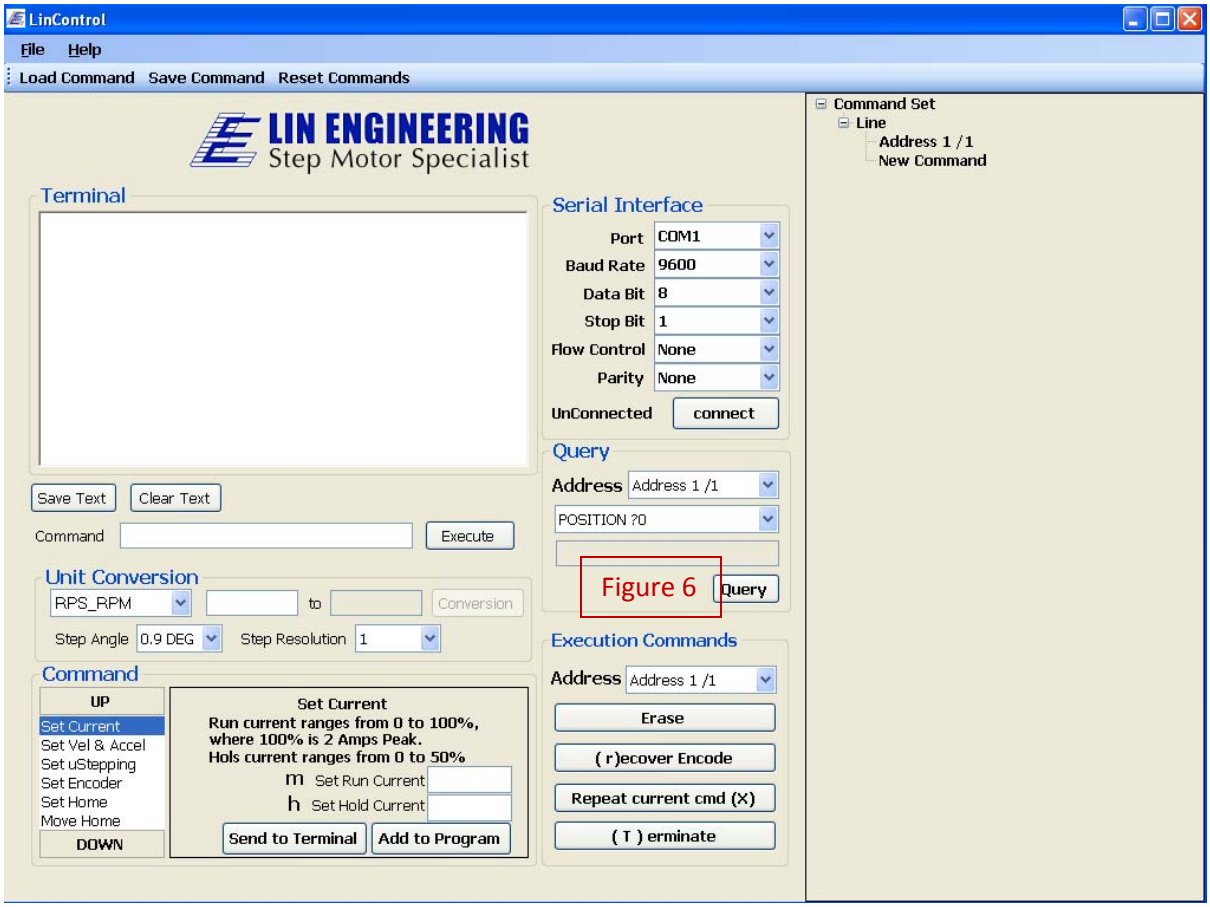


Figure 6 displays the Query and Execution command. First select the address of your board. Next use the drop down menu to select a query. Click on the "Query" button to get your results. The following queries can be made:

- Motor's current position
- Top speed
- Status of all four inputs
- Current velocity mode speed
- Step resolution (microsteps)
- O value for smooth motion during microstepping
- Encoder position (only NEMA 23 version)

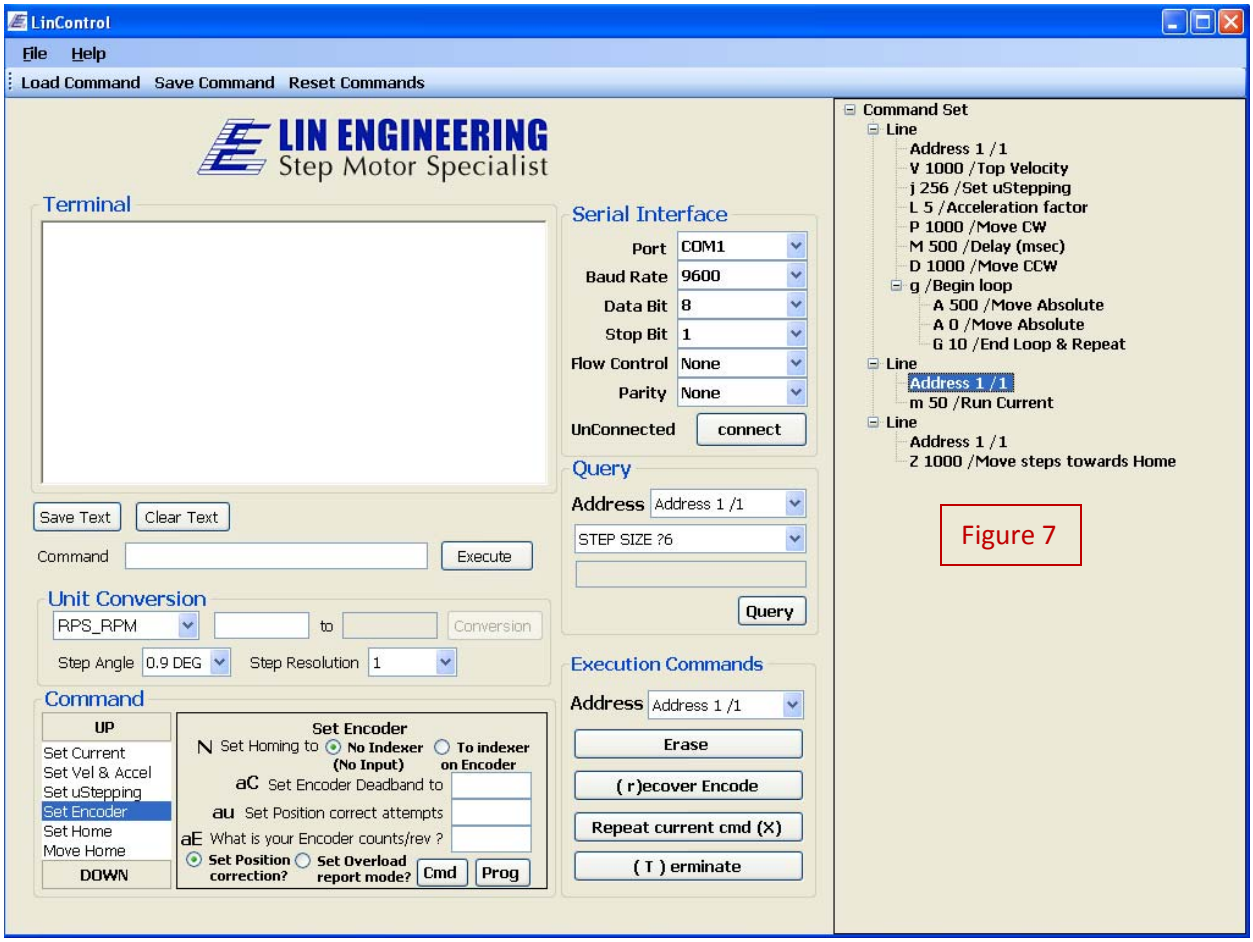
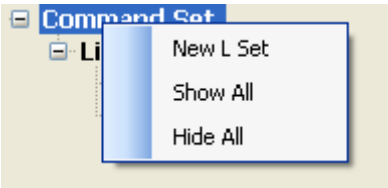


Figure 7

Figure 7 displays an example of the Silverpak command tree structure. Each node shows its command and the value and also the description.

At the beginning of the command set, or when you reset the window, the tree shows the basic structure above.

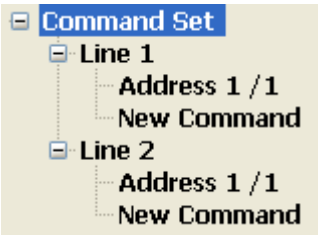
- How To Tree Command



After right clicking on “Command Set”, a context menu will pop up. Left double clicking will execute the corresponding selection from the menu.

“New L Set” inserts a Line within the Command set.

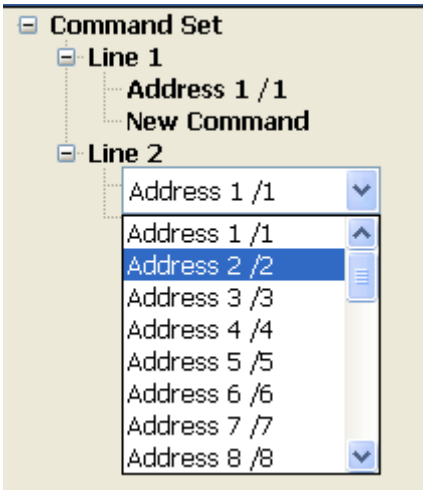
“Show all” expands the tree structure and “Hide all” collapses all tree nodes.



After left double clicking, another basic line command is displayed

There are two new commands in the Line command. “Address” and “New Command”

In order to change the address to send commands, left double click, then a combo box pops up to select a new address.



There are two ways to change “New Command” to a Silverpak command: one is to left double click and the other way is to right click on the “New Command” node.

There are two pictures for each way below.

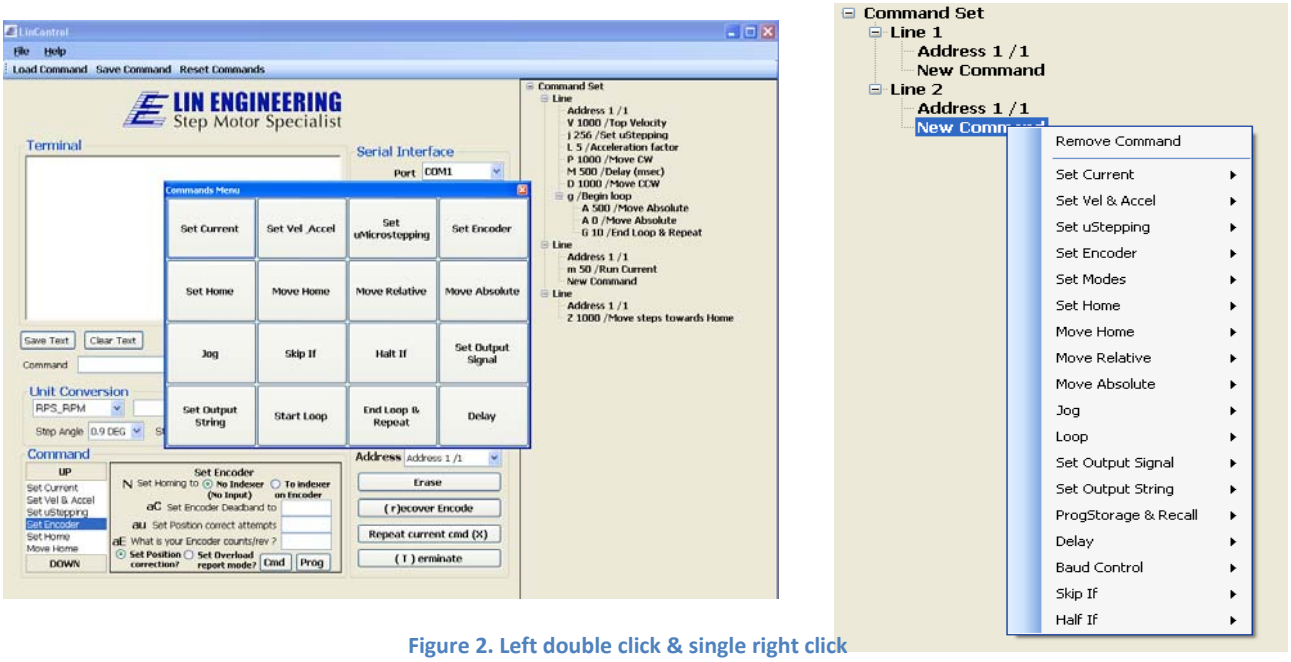
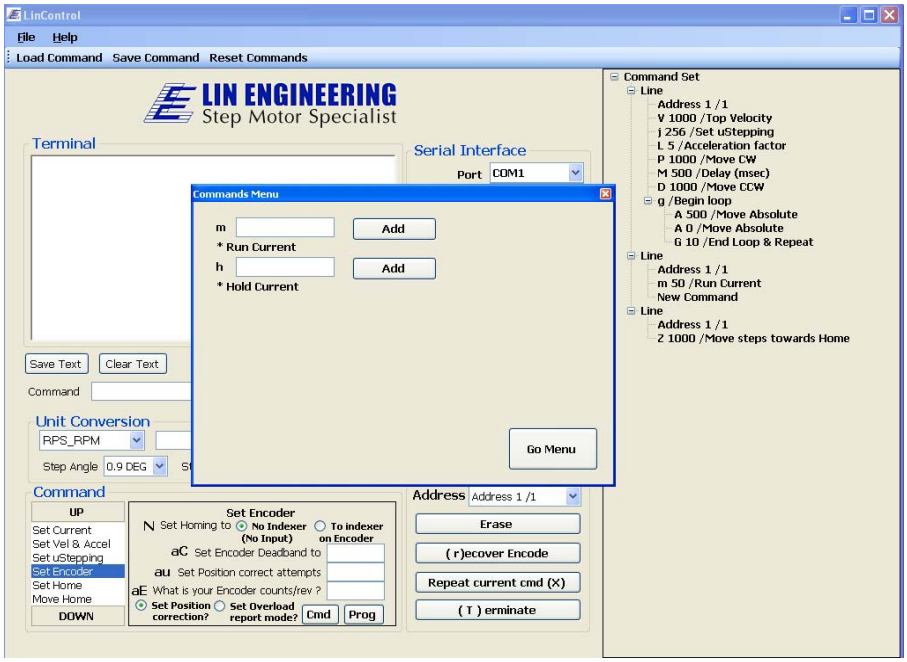


Figure 2. Left double click & single right click

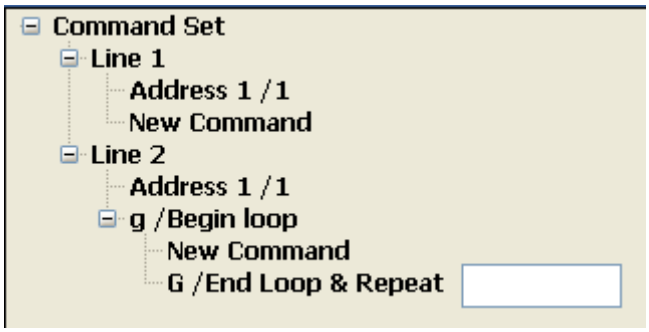
After selecting an option from above window, a different panel shows below.



After clicking “Add”, the command replaces the “New Command”.

Entering a loop command is different than other commands.

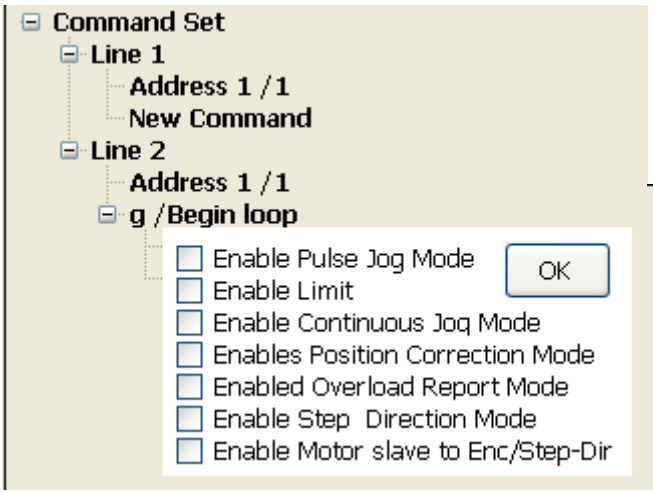
The loop starts with the “g” command and ends with “G” so after selecting “g”, the tree will automatically show the command below.

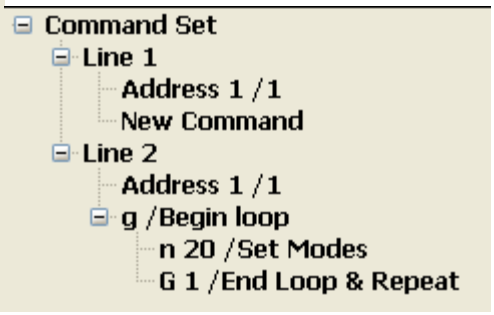


To add a new command inside of a loop, right-click on “G” then a “New Command” menu will pop up.

To change the loop command to a different command, right-click on “g” node, then message box pops up and click “Ok”.

The command “n” is bit selectable. When left double-clicked, check boxes appear to select the modes below.



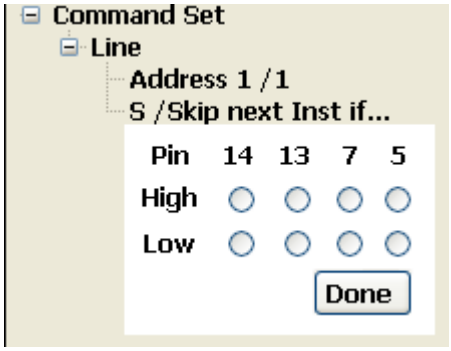


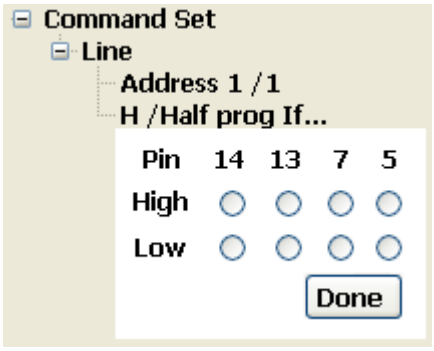
There are two menus, “Load Command” and “Save Command”. “Load Command” loads text file that LinControl generates. Please don’t change anything out of LinControl.

“Save Command” generates a text file from the tree structure.

• (S)kip & (H)alt command

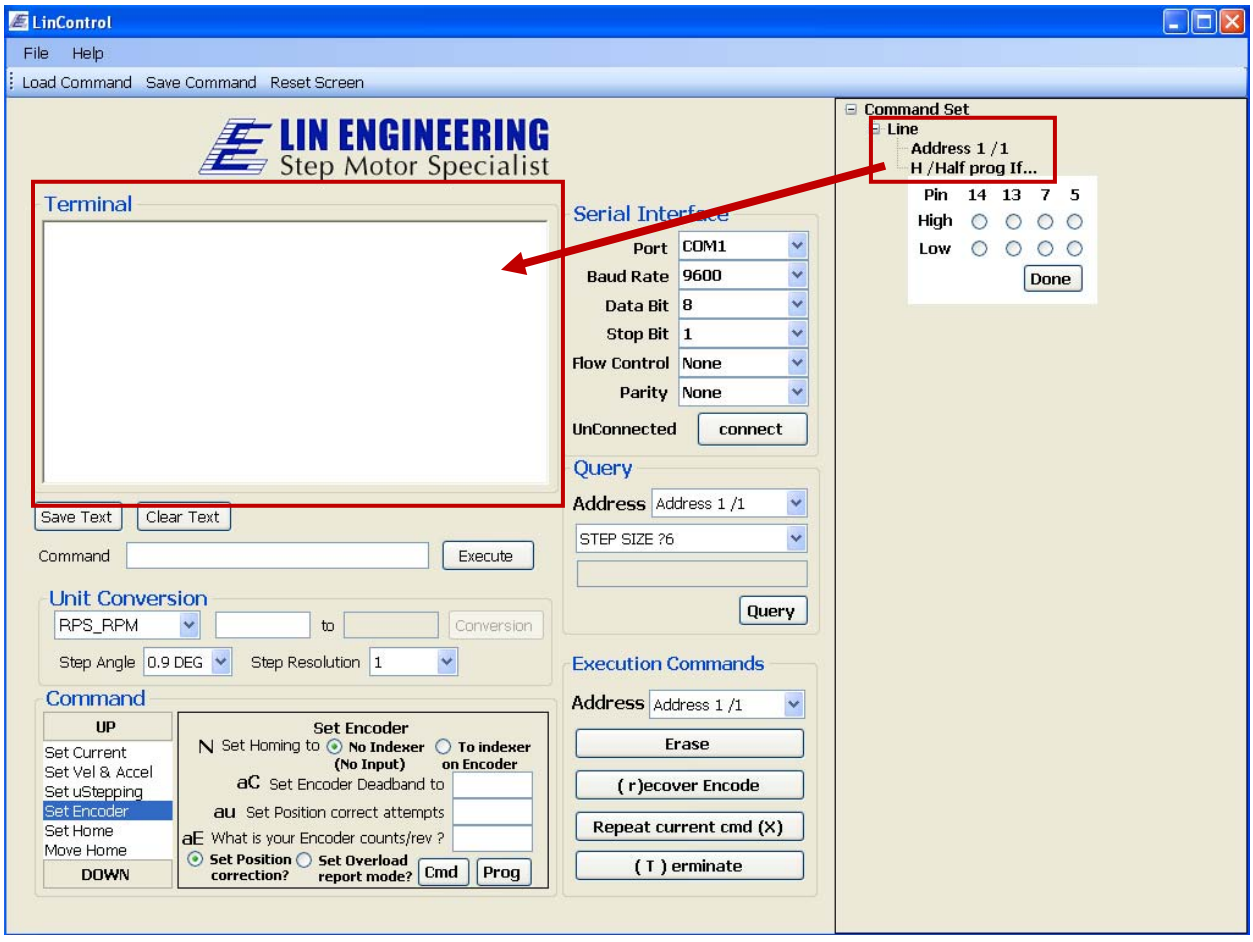
Replace textbox input to button input





• Drag & Drop to move command data directly

User can drag “line” node to Terminal and command text box below the terminal.



R101 & R325 Products:

Both GUI's for the R101 and R325 are similar. Select the correct COM port and click "Connect". Figure 1 below.

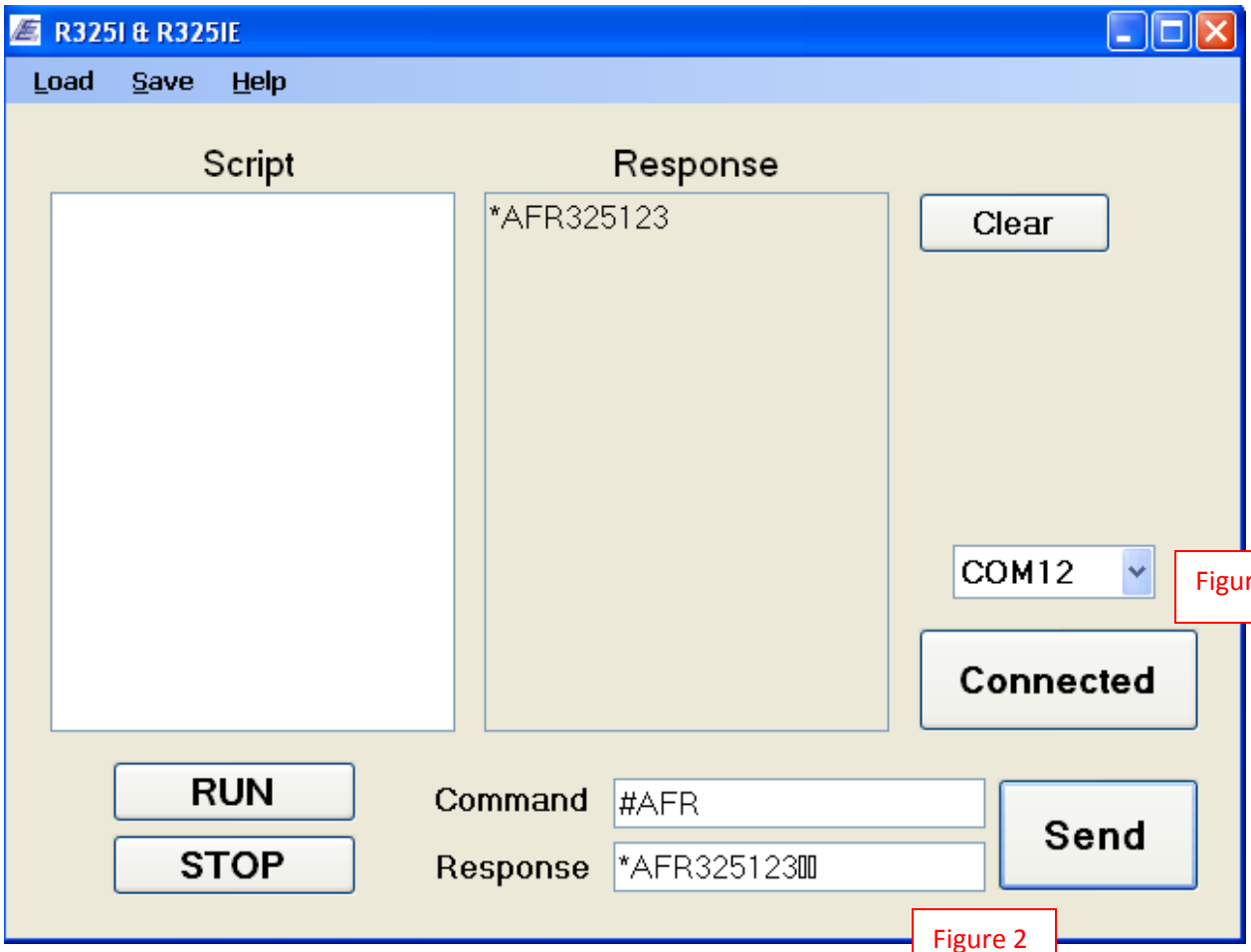


Figure 1

Figure 2

Figure 2: If the user wishes to send one command aside from running the script, the "Command" section allows for this function. Click "Send" and the response shows up in the "response" field. In this example, we queried for the Firmware Revision information. It returned that the R325 is on version 1.23.

Commands that work in this GUI:

There are added commands that pertain to this GUI only. It allows for the user to delay, or wait for certain amount of milliseconds. It also allows for users to add loops.

LOOPING

#START5	This indicates the beginning of the loop, where the program will repeat 5 times
#ENDL	This indicates the end of the loop.
#WAIT500	This will delay the program for 500 msec.

Example:

#START2
#APM1000
#WAIT500
#APM-1000
#WAIT500
#ENDL

The above example will move the motor 1000 steps, wait 500 msec, move to -1000 position, wait 500 msec. This program will repeat 2 times because of the command "#START2". If the user wishes to repeat this cycle 10 times, enter "#START10".

Click "RUN" to run the script. Save it or load a saved program by clicking on the top menu bar: