

## ABI PRISM® 310 Genetic Analyzer Clear Memory Reset Procedure

BEFORE PERFORMING ANY TROUBLESHOOTING WORK ON YOUR ABI PRISM® 310 GENETIC ANALYZER, PLEASE READ THE INSTRUMENT USER'S MANUAL FOR SAFETY AND WARRANTY INFORMATION AND FURTHER DETAILS ON USE OF THE SYSTEM.

NOTE: [Text in this fashion indicates a link to a picture or another section of this/another document.](#)

Please contact [AB Technical Support](#) if you have any questions regarding this procedure.

### About the Clear Memory Reset

The Clear Memory Reset is the most comprehensive reset that can be performed on the ABI PRISM® 310 Genetic Analyzer. This reset deletes the firmware and calibration data stored on the instrument. Firmware is subsequently reloaded and calibration data must be manually entered. Situations in which the Clear Memory Reset may be helpful:

- When the instrument is behaving unpredictably.
- When the instrument and computer are not communicating properly.
- When an instrument subsystem (laser, heating, optics, EP, or autosampler) is suspect.
- When data quality is compromised.

### Before You Begin

Since the Clear Memory Reset deletes the calibration data, you must record the current calibration values. Typically, these values will be written on a [Calibration sticker](#) on the inside of the instrument's left door. If the Calibration sticker or the values are not present, follow the procedure below.

### Recording Calibration Values

Step	Action
1	Ensure that the Data Collection software is running. If not, <a href="#">manually launch</a> it.
2	From the <b>Window</b> menu select <b>Manual Control</b> , which opens a new window.
3	From the <b>Function</b> drop-down list select and record the following values: <ul style="list-style-type: none"> <li>• <a href="#">CCD Pixel Position X</a> (horizontal)</li> <li>• <a href="#">CCD Pixel Position Y</a> (vertical)</li> <li>• <a href="#">Syringe Max Travel</a></li> <li>• <a href="#">Syringe (Gel) Pump Force</a></li> </ul>
4	From the <b>Function</b> drop-down list select <b>Calibration File Make</b> and click <b>Execute</b> .
5	Once these values are recorded, quit Data Collection software and shut down the computer.
6	Turn off the ABI PRISM® 310 Genetic Analyzer.

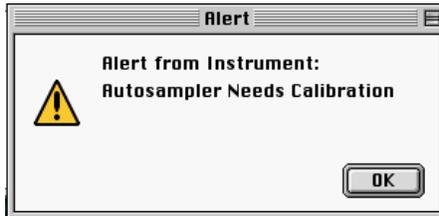
### Performing the Clear Memory Reset

Step	Action
1	Ensure that both the computer and the ABI PRISM® 310 Genetic Analyzer are turned off. If not, shut down the computer first then shut down the instrument.
2	Open the instrument doors.
3	Press and hold the <a href="#">Gel Pump and Tray</a> buttons down with your right hand.

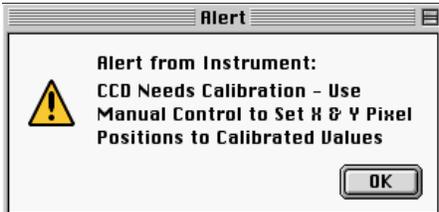
Step	Action
4	Keeping both buttons depressed, reach to the left-rear of the instrument, and turn on the ABI PRISM® 310 Genetic Analyzer.
5	After turning the instrument on, release the <a href="#">Gel Pump and Tray</a> buttons.  NOTE: If it is performed properly, the <a href="#">three status lights</a> will be lit, indicating the firmware has been cleared.
6	Start the computer. If Data Collection software does not launch automatically, <a href="#">manually launch</a> it.
7	A dialog box will appear indicating firmware is being reloaded.  NOTE: If firmware does not automatically load, then two problems may exist : <ul style="list-style-type: none"> <li>• No communication between instrument and computer – if this occurs, press the <a href="#">Reset</a> button once on the back of the instrument. For a detailed tutorial to resolve communication issues, please refer to the document entitled “Resolving Communication Problems at: <a href="http://docs.appliedbiosystems.com/pebiiodocs/04375359.pdf">http://docs.appliedbiosystems.com/pebiiodocs/04375359.pdf</a></li> <li>• Preferences are corrupted or set improperly. For a detailed tutorial regarding setting preferences, please refer to the “Preferences” document appropriate to your operating system at: <ul style="list-style-type: none"> <li>- <a href="#">310 Preferences Preferences Module for Macintosh® computer</a></li> <li>- <a href="#">310 Preferences Module for Windows® NT, 2000, and XP OS</a></li> </ul> </li> </ul>
8	After the firmware has reloaded, open <b>Manual Control</b> . This will generate a series of alerts: <ul style="list-style-type: none"> <li>• <a href="#">Alert from Instrument: Autosampler Needs Calibration</a></li> <li>• <a href="#">Alert from Instrument: CCD Needs Calibration</a></li> <li>• <a href="#">Alert from Instrument: Syringe Needs Calibration</a></li> </ul> These messages are normal. Click OK to clear the messages.
9	If you performed a <b>Calibration File Make</b> earlier, then select <b>Calibration File Send</b> from the <b>Function</b> drop-down list and click <b>Execute</b> .  If you did not perform a <b>Calibration File Make</b> or if you are unsure, then select and enter the calibration values for: <ul style="list-style-type: none"> <li>• <a href="#">CCD Pixel Position X</a> (horizontal)</li> <li>• <a href="#">CCD Pixel Position Y</a> (vertical)</li> <li>• <a href="#">Syringe Max Travel</a></li> <li>• <a href="#">Syringe (Gel) Pump Force</a></li> </ul> NOTE: Make sure to click <b>Execute</b> for each value entered.
10	Select <b>Syringe Home</b> and click <b>Execute</b> . This will bring the syringe pump up to its <a href="#">homed position</a> .  NOTE: After homing the syringe pump, use the <b>Syringe Down</b> command to bring the syringe pump back <a href="#">on top of the syringe plunger</a> .
11	Select <b>Autosampler Home X,Y</b> and click <b>Execute</b> .
12	Select <b>Autosampler Home Z</b> and click <b>Execute</b> .

<b>13</b>	From the <b>Instrument</b> menu select and perform the <b>Autosampler Calibration</b> . For a detailed tutorial, refer to the document entitled “Autosampler Calibration” at: <a href="#">Autosampler Calibration Module</a>  NOTE: After calibrating, return the capillary into the water or buffer position.
<b>14</b>	Wait 10 minutes to perform a run. This allows the temperature circuit to calibrate.
<b>15</b>	You have completed the Clear Memory Reset Procedure.

### Alert from Instrument: Autosampler Needs Calibration



### Alert from Instrument: CCD Needs Calibration



### Alert from Instrument: Syringe Needs Calibration



### Calibration Sticker

Calibration Values	
CCD (Pixel vertical position)	29
CCD (Pixel horizontal position)	116
Gel Pump Force (DAC value)	345
Syringe (max. travel)	578
date of change:	5/04
changed by:	SDN

TO ERASE DATA:  
Rub area vigorously with moistened finger.... DO NOT use an eraser as it will mar the Label surface.

NOTE: The values presented here are NOT representative of your instrument. They are here for reference purposes only. Make sure to record and use values for your instrument.

### CCD Pixel Position X

Manual Control							
Function	Value	Range					
CCD Pixel Position X	132	1 to 512 pixels					
<table border="0"> <tr> <td>Module</td> <td>&lt;none&gt;</td> <td>Start</td> <td>Pause</td> <td>Cancel</td> </tr> </table>			Module	<none>	Start	Pause	Cancel
Module	<none>	Start	Pause	Cancel			

NOTE: The number here is for reference only. Your instrument may be different.

### CCD Pixel Position Y

Manual Control							
Function	Value	Range					
CCD Pixel Position Y	29	1 to 64 pixels					
<table border="0"> <tr> <td>Module</td> <td>&lt;none&gt;</td> <td>Start</td> <td>Pause</td> <td>Cancel</td> </tr> </table>			Module	<none>	Start	Pause	Cancel
Module	<none>	Start	Pause	Cancel			

NOTE: The number here is for reference only. Your instrument may be different.

## Contacting AB Technical Support

By Telephone: 1-800-831-6844

By Internet: <http://www.appliedbiosystems.com/support/>

Then click on "Frequently Asked Questions" and then the "Ask a Question" tab.

By E-mail: [ABTechnicalsupport@appliedbiosystems.com](mailto:ABTechnicalsupport@appliedbiosystems.com)

## Gel Pump and Tray Buttons



## Manually Launch Data Collection



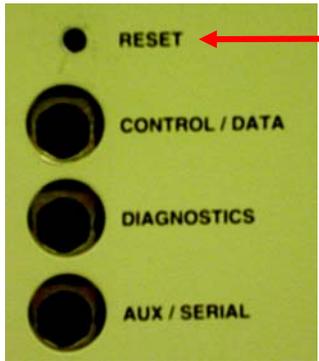
On the PC

Double-click on the shortcuts on the computer desktop.  
Alternatively, navigate via the Apple Menu/Start Menu.



On the Macintosh® computer

**Reset Button**



**Syringe Pump at Home Position**



## Syringe Pump on Plunger



NOTE: After executing the SYRINGE HOME command, the syringe pump must be brought back down on top of the plunger. Ensure that the pump is close to but not compressing the syringe plunger. If the syringe pump is not returned to this position prior to a run – the instrument will generate a “Leak Detected” error.

## Syringe (Gel) Pump Force

Function	Value	Range	Execute
Syringe Pump Force	265	20 to 700	Execute
<b>Module</b>			
<none>			Start   Pause   Cancel

NOTE: The number here is for reference only. Your instrument may be different.

## Syringe Max Travel

Function	Value	Range	Execute
Syringe Max Travel	573	550 to 700 steps	Execute
<b>Module</b>			
<none>			Start   Pause   Cancel

NOTE: The number here is for reference only. Your instrument may be different.

### Three Status Lights



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