

## S1000 Firmware Update Instructions

### Overview

This document contains instructions for updating the user accessible firmware installation in the S1000 thermal cycler with serial number equal to or greater than SC010000. Firmware, corresponding file name and the most current version for the thermal cycler is below:

Firmware	File Name	Current Version
HC12 thermal control firmware <ul style="list-style-type: none"><li>Serial number SC010000 and higher</li></ul>	HC12_Update_Rev_B.s19	2.0.231.0

The S1000 thermal cycler firmware can only be updated through a connected C1000Touch thermal cycler with PXA270 firmware version 1.102.548.801. Firmware upgrades are performed by placing a USB flash drive with the appropriate files loaded on the root directory into any USB port on the C1000Touch thermal cycler.

For any questions or problems you may encounter, please contact Bio-Rad Laboratories. For technical support in the United States and Canada, call 1-800-424-6723 (toll-free phone) and select the technical support option. For technical support outside of North America, contact your local Bio-Rad Laboratories office.

### Updating Firmware Instructions

#### Obtain the Most Recent Firmware Files

- 1) Obtain the most recent firmware file named HC12\_Update\_Rev\_B.s19 by downloading it from [www.bio-rad.com](http://www.bio-rad.com) or contacting your local Bio-Rad technical support department.
- 2) Copy the firmware file onto the root directory of a USB flash drive. Ensure there are no older versions of the firmware files on the flash drive. Do not change the name of the file.

**NOTE:** If you obtain the firmware files from Bio-Rad technical support they may be compressed in a zip file format. Ensure the files are unzipped before transferring them to the USB flash drive by clicking on the zip file and extracting the files. Ensure the firmware files are copied to the root directory of the USB flash drive and not to a folder on the flash drive.

#### To update S1000 firmware through a C1000Touch thermal cycler

#### Record the Installed Firmware Versions

- 1) Insert the USB flash drive into any available USB port on the C1000 Touch thermal cycler.
- 2) Turn on the C1000 Touch and then the connected S1000.
- 3) When the C1000 Touch is fully booted and shows the main menu screen touch the **Tools** button.
- 4) Touch **About** in the user menu.

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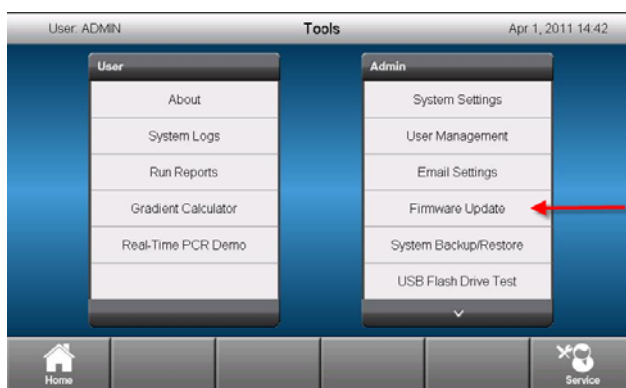
5) Record the S1000 installed firmware version in the table below:

Firmware	Name on Screen	Current Version	Installed Version
HC12	HC12	2.0.231.0	_____

6) Compare the installed S1000 firmware version with the current firmware version listed in the table above. Use the instructions in the following section to update the firmware file if it does not match the current release version.

### Update firmware

- 7) Touch the **Back** button on the C1000 Touch screen.
- 8) Touch the **Admin** button in the Tools screen.
- 9) The Admin menu will become visible. Touch Firmware Update in the Admin menu.



NOTE: A password popup screen may appear if a password has been assigned by the administrator. Enter the password and touch the OK button.

10) The C1000 Touch will scan the USB flash drive and place a check in the checkbox next to all firmware files that are found.

NOTE: You can exclude firmware files from the update by touching the corresponding checkbox to remove the check mark.

11) The screen below show an S1000 thermal cycler (EV221016) connected to a C1000 Touch thermal cycler (Touch). Confirm that there is a check in the checkbox next to the HC12 file for the S1000 instrument.



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12) Touch the **Update Firmware** button.

NOTE: The C1000 Touch will automatically copy and update all firmware files that have a check in their corresponding checkbox. **Do Not** turn off power or remove any devices during this process. This process may take 5-10 minutes to complete.

13) When the update has completed the system indicates "Update Complete! Please Reboot all Systems."

14) Turn off the S1000, then the C1000 Touch. Wait 4-5 seconds. Turn the C1000 Touch back on, then the S1000.

### Verify the Update has Completed Successfully

15) From the main menu screen on the C1000 touch, press the **Tools** button.

16) Touch **About** in the user menu.

17) Verify that the connected S1000 firmware file is the current version.