

C1000 Touch Firmware Update Instructions

Overview

This document contains instructions for updating the two user accessible firmware installations in the C1000 Touch thermal cycler. Firmware, corresponding file names and the most current versions for the thermal cycler are below:

| Firmware | File Name | Current Version |
|-------------------------------------|-----------------------|-----------------|
| PXA270 processor firmware | C1000touchupdate.bin | 1.102.548.801 |
| HC12 thermal control firmware | | |
| • Serial number below CT008000 | update.s19 | 1.0.176.0 |
| • Serial number CT008000 and higher | HC12_Update_Rev_B.s19 | 2.0.231.0 |

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 C1000 Touch 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 files named C1000touchupdate.bin, update.s19 and HC12_Update_Rev_B.s19 by downloading them from www.bio-rad.com or contacting your local Bio-Rad technical support department.
- 2) Copy the three firmware files 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 names of the files. During the update process, the system will determine which files need to be updated.

NOTE: If you obtain the firmware files from Bio-Rad technical support or the Bio-Rad website 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.

Record the Installed Firmware Versions

- 3) Insert the USB flash drive into any available USB port on the C1000 Touch thermal cycler.
- 4) Turn on the instrument.
- 5) When the C1000 Touch is fully booted and shows the main menu screen touch the **Tools** button.
- 6) Touch **About** in the user menu.
- 7) Record the installed firmware versions in the table below:

| Firmware | Name on Screen | Current Version | Installed Version |
|----------|----------------|-------------------------------|-------------------|
| PXA270 | PXA270 | 1.102.548.801 | _____ |
| HC12 | HC12 | 1.0.176.0 <u>or</u> 2.0.231.0 | _____ |

- 8) Compare the installed firmware versions with the current firmware versions listed in the table above. Use the instructions in the following sections to update individual firmware files that do not match the current release version.

Update firmware

- 9) Touch the **Back** button
- 10) Touch the **Admin** button in the Tools screen.
- 11) 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.

- 12) 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.

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13) 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.

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



15) Turn off the C1000 Touch, wait 4-5 seconds, then turn it back on.

Verify the Update has Completed Successfully

16) From the main menu screen, press the **Tools** button.

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

18) Verify that the firmware files are the current versions (as listed in step 7).