

# README

## QuantStudio™ 12K Flex Real-Time PCR Instrument Firmware v1.2.10

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### Overview

QuantStudio™ 12K Flex Firmware enables users to operate the instrument by using an embedded touchscreen.

### Features

- QuantStudio™ 12K Flex Firmware allows users to run various experiments types for 96-fast/standard well, 384 well, TaqMan array cards and OpenArray block.
- Experiment types supported: Standard curve experiments, Relative standard curve experiments, Comparative CT experiments, Genotyping experiments, Presence/Absence experiments, Melt-curve and HRM experiments.
- Real-time monitoring of amplification curves enables you to view run progress.
- Easy to set up experiments for both novice and advanced users for 384-well and OpenArray block.
- Ability to run up to four OpenArray plate experiments at once.

### Firmware Package, Updates and Fixed Defects

#### V1.2.10

- New and robust instrument barcode reading algorithm for OpenArray block (Barcode algorithm library updated to v2.0.0).

#### V1.2.9:

- New and robust instrument spot finding algorithm for OpenArray block (Algorithm library updated to v2.0.2).
- Restore the "clean Instrument" feature in touch screen for OpenArray block.

#### V1.2.8:

- When Touchscreen is in secure mode, remove access to change time, date, network information or instrument name, firmware upgrade/downgrade as well as restore settings.

## License

See accompanied End User License Agreement for details. You must agree to the terms of the license before installing or using the software.

## Compatibility

<b>QuantStudio™ 12K Flex Real-Time PCR System</b>	
<b>Software version</b>	<b>Instrument firmware version</b>
v1.2.2	v1.2.7
v1.2.3	v1.2.8
v1.2.4	v1.2.7, v1.2.8 or v1.2.9
v1.3	v1.2.7, v1.2.8, v1.2.9 or v1.2.10

Notes about the software version and the associated firmware:

### v1.2.10

- QuantStudio™ 12K Software v1.3 is bundled with the latest firmware version 1.2.10.
- QuantStudio™ 12K Software v1.3 can connect to instruments with firmware versions 1.2.7 or later.
- Upon installation of software v1.3, the instrument will trigger “firmware upgrade” to the user if it is v1.2.6 or earlier and will upgrade the firmware to v1.2.10. If the firmware is at v1.2.7 or later, the user will need to upgrade to firmware v1.2.10 manually via USB and touchscreen.
- After installing software v1.3, firmware v1.2.10 is available in the following folder:  
C:\Program Files (x86)\Applied Biosystems\QuantStudio 12K Flex Software\updates\QS12KFlex-1.2.10.update

## System Requirements

The firmware version only can be installed on QuantStudio™ 12K Flex Real-Time PCR Instrument.

## Installation Instructions

**IMPORTANT - To help prevent data loss, it is strongly advised that all user data is backed up before upgrading the firmware.**

### From Instrument Touch Screen:

1. Copy the firmware package to the root directory of the USB.
2. Go to the Home screen of the instrument touch screen.
3. Navigate to Tools Menu > Upgrade Firmware.
4. Insert the USB to the touch screen of the instrument.
5. Select the firmware package from the USB.
6. Touch the “Upgrade Firmware” button to proceed the firmware upgrading.
7. Once done, wait until the fan and others hardware components fully stopped before restarting the instrument, which takes about 20sec.

8. Refresh the instrument in “My Instrument List” (in Software Instrument Console) for connection.

**From Software Instrument Console:**

1. Add the instrument to the “My Instrument List” (in Software Instrument Console).
2. “Maintenance” icon will be shown if the firmware version doesn’t match or fulfill the requirement.
3. Click on the “Maintenance” icon to upgrade the instrument firmware.
4. Once done, wait for 20sec and reboot the instrument.
5. Refresh the instrument in “My Instrument List” for connection.

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