

NextSeq 1000/2000 Software Release Notes

**NextSeq 1000/2000 Control Software 1.5.0
Universal Copy Service 2.7.3
RTA 3.10.30
Offline Installation Instructions**

November 2022

INTRODUCTION

These Release Notes detail new features, improvements, and known issues for the NextSeq 1000/2000 Sequencing System Control Software for improved sequencing robustness and incorporation of longer read kits. The software can be downloaded from the Illumina software download page.

For more information on previous releases, visit the Illumina Support Site:

- NextSeq 1000/2000 v1.3.0 Software Release Notes (document #1000000160800)
- NextSeq 1000/2000 v1.3.1 Software Release Notes (document #200004033)
- NextSeq 1000/2000 v1.4.0 Software Release Notes (document #200005228)
- NextSeq 1000/2000 v1.4.1 Software Release Notes (document #200012109)

For more information on the NextSeq 1000/2000, see the NextSeq 1000/2000 Product Documentation (document #200027171) available on the NextSeq 1000/2000 Sequencing System support pages.

The software package includes:

- NextSeq 1000/2000 Control Software 1.5.0

NEXTSEQ 1000 / 2000 CONTROL SOFTWARE 1.5.0

NEW FEATURES

- Added 600 cycle kit compatibility
- Progress indication for pre-run check and loading of consumables
- DRAGEN user interface improvements
- Addition of a designated folder for local storage
- Enhanced and improved error messaging
- Enhanced Illumina Proactive logging

Note: Updated SAV version 2.5.12 is required for runs completed with NextSeq 1000/2000 using v1.5.0 control software. The installer for the new SAV version can be found on NextSeq 1000/2000 support page.

BUG FIXES

- BSSH login reports no additional error messages after timeout
- User Interface improvements to notification messaging panel
- Cloud run is navigable when cancellation is triggered at pre-run check
- Eject button disappears from screen after cartridge has been ejected
- Robustness fixes to run setup workflow

RTA 3.10.30

NEW FEATURES

- Supports multiple adapters for more accurate PhiX error rates through trimming adapters. This will be most only noticeable with very short fragment lengths.
- Supports reporting of which adapter is trimmed. This causes incompatibility with versions of SAV prior to 2.5.X.
- Updated RTA configuration structure to enable support for 600 cycle kits.

BUG FIXES

- Fixed bug where FASTQ files contained a quality score of zero associated with non-N base calls due to RTA3 defect in NextSeq 1000/2000 Control Software suite v1.4.1 and earlier.

NEXTSEQ 1000/2000 CONTROL SOFTWARE INSTALLATION INSTRUCTIONS

- Please follow all steps below for a successful software installation.

NOTE: If v1.2 or higher version software is currently installed, the user can upgrade to v1.5.0 Control Software directly. If v1.1 software is currently installed, the user must first upgrade to v1.2 software following the instructions found in the v1.2 software release notes.

PREPARATION

* **These instructions are intended for the v1.5.0 Control Software upgrade only.**

1. The total installation time (not including file download times) may take up to 20 minutes.
2. Make sure that you have the password to the ilmadmin account.
3. To log in to the ilmadmin account:
 - a. If you are already logged in as ilmuser and in control software, select the control software menu, and then select **Exit Application** to access the desktop.
 - b. Select the power button icon in the upper right corner and log out of ilmuser.
 - c. After you are on the login screen, select ilmadmin, and then enter the password to log in.
 - d. The control software automatically launches once you are logged in.
4. The upgrade installation files require up to **3 GB** of free space on your desktop. See file sizes below.
 - a. To access your desktop, select the control software menu in the control software, and then select **Minimize Application**.
 - b. Delete or transfer files off the desktop that are not needed.

- c. Empty trash to free space from the drive.
 - i. Select **Applications**, and then **Files** from the upper left corner of the desktop to launch the file explorer.
 - ii. On the left panel of the file explorer, right click the Trash icon and select **Empty Trash**.
5. Launch Chromium to download the software upgrade installers from the Illumina Support Site.
 - a. While in desktop view, open the Applications menu on the upper left corner. Select **Internet**, and then select **Chromium**.
 - i. **Note: After launching Chromium, you may receive a prompt to unlock your login keyring. You can safely ignore and cancel out of the prompt.**
 - b. Use Chromium to browse to the NextSeq 1000 and 2000 Software Downloads page on the Illumina Support Site.
6. Download the following software upgrade installers from the Illumina Support Site and save them to the desktop. **Do not extract these files; leave them as .tar.gz.**
 - a. For offline customers:
 - i. v1.5.0 SW Suite Installer (1 GB)
7. After the files have finished downloading to the desktop, maximize the control software by selecting it from the toolbar.
8. To begin installation, follow the the "Offline Installation" steps.

ONLINE INSTALLATION

* Follow the "Preparation" steps outlined above before continuing.

1. Install SW suite

- a. Select the software update alert in the control software notification panel and follow the prompts to upgrade the software suite.
- b. When the installation process completes, you will see a message that confirms installation. After closing the prompt, the control software automatically relaunches.
- c. Follow the prompt for the firmware update.
 - o **Note: During this process, the screen will go blank. Wait for the image to return and the process to complete.**
- d. Follow the prompt to power cycle the instrument.
 - o **Note: Make sure to toggle the power switch at the back of the instrument to complete the power cycle after the instrument shuts down.**
- e. Power on the instrument and log in as ilmadmin. The control software automatically launches.
 - o **Note: An alert appears indicating that DRAGEN workflows need to be updated. Proceed through the next steps to resolve the alert.**
- f. Confirm that the version is updated to v1.5.0 in the **About** screen in the control software menu.
- g. Proceed to the next step to install DRAGEN workflows.

OFFLINE INSTALLATION

* Follow the "Preparation" steps outlined above before continuing.

1. Install SW suite

- a. Launch control software
 - Open control software menu.
 - Select **Software Update**.
 - Select **Choose...** under **Browse for Software Update**.
 - Navigate to the desktop and select the installer
 - Select **Update Now**.
- b. Follow the password and other prompts.
- c. When the installation process completes, you will see a message that confirms installation. After closing the prompt, the control software automatically relaunches.
- d. Follow the prompt for the firmware update.
 - **Note: During this process, the screen will go blank. Wait for the image to return and the process to complete. If the image does not return after 5 minutes, proceed to the next step to manually toggle the power switch.**
- e. Follow the prompt to power cycle the instrument.
 - **Note: Make sure to toggle the power switch at the back of the instrument to complete the power cycle after the instrument shuts down.**
- f. Confirm that version is updated in the **About** screen in the control software menu.

2. Final steps

- a. After installation completes, delete all the downloaded installation files from the desktop and empty the trash to save space.
- b. Log back into ilmuser to begin sequencing.

RESOLVED ISSUES

N/A

KNOWN ISSUES

- Error messaging:
 - When error occurs in Pre Run Check shows blank error. Retry Pre Run Check upon blank error message.
 - If user accessing reports from system check operating systems locks system check data, when attempting to delete locked system check data the application displays an "unknown error occurred" message to the user.
 - The following message may appear and prevent software suite installation from starting: "Update cannot continue because the following actions are currently in progress: data file copy." This indicates that a file transfer is currently in progress. If this issue persists after file copy is complete, please contact Illumina Technical Support.
 - Upon successful completion of the software update, an error message stating: "An unexpected error has occurred with system integration, power cycle the instrument per system guide instructions and retry" may appear. If the software

says that the update is successful, restart the application, and the error will no longer appear.

- Notifications:
 - History notifications have mismatched dates with the current notifications tab in the notification panel.
 - When Local Run Setup and Proactive Support Only modes are selected, there is no notification when output folder is not set.

- Upon navigating to the DRAGEN management screen, if a copy is in progress, the user is unable to perform license update, genome install, or DRAGEN install.
- During the software suite installation, the screen may remain blank after the firmware upgrade process. If the image does not return after 5 minutes, proceed to toggle the rear power switch and continue.
- There is an intensity increase after cycle 25 which is an expected artifact of the RTA version 3.10.30.