



NextSeq 1000/2000 Software Release Notes

**NextSeq 1000/2000 Control Software 1.2.0
Universal Copy Service 2.0.9
DRAGEN for NextSeq 1000/2000 3.7.4
Installation Instructions**

November 2020



INTRODUCTION

These Release Notes detail new features, improvements, and known issues for the NextSeq 1000/2000 Sequencing System Control Software for improved sequencing robustness. The software can be downloaded from the Illumina software download page and will be queued for download on BaseSpace Sequence Hub for connected systems for customer use.

For more information on the NextSeq 1000/2000, see the NextSeq 1000/2000 Sequencing System Guide (document # 1000000109376) available on the NextSeq 1000/2000 Sequencing System support pages.

The software package includes:

- NextSeq 1000/2000 Control Software 1.2.0
- Universal Copy Service 2.0.9

DRAGEN for NextSeq 1000/2000 3.7.4 and DRAGEN compression reference file must be downloaded separately from the Illumina software download page. Release Notes for each individual DRAGEN for NextSeq 1000/2000 workflow can be found separately on the Illumina software download page.

NEXTSEQ 1000/2000 CONTROL SOFTWARE 1.2.0

NEW FEATURES

- Custom primers support.
- New purge control features allowing users to select or deselect purge when they cancel a run and provide estimates of purge run time
- Enable users to display instrument nickname.
- User allowed option to bypass on-board denature & dilution in System Customization
- Enablement of dark cycles through the custom recipe feature.
- Generate primary metrics file: Average %Q30, Total Yield, Total Reads PF, % Library Concentration
- Implement new pre-run testing routines for instrument robustness
- Ability to notify and remind user of IM Air Filter Replacement after default time periods
- Add support for NextSeq 1000/2000 P2 and P3 v3 consumables, update v2 and v3 recipes.
- Support for NextSeq 1000/2000 P3 Reagents
- New reference genome management tools
- Support for Proactive use in Greater China
- RTA improvements for extraction and basecalling that improve Q30 and reduce PhiX error rate
- Estimation and reporting of new metric (% Loading Concentration) to guide input loading concentration optimization on NextSeq 1000/2000

BUG FIXES

- Improvements to DRAGEN self test: Stopping test does not end the run. Starting a test soon after throws exception "Another self test in progress"



- Fix various notification bugs
- Improved data logging test routine: busy indicator blocks the ability to press STOP button
- Improvements to calibration and testing routines
- Updates to cloud software management, run setup and instrument-cloud interface
- Improvements to pre-run checks, run logs, folder display
- Improvements to disk management and associated error messages
- Improvements to communication of errors on run completion to the user

INSTALLATION INSTRUCTIONS

In order to install DRAGEN Enrichment v3.7.4, the Control Software must first be updated. Please follow all the steps below for a successful software installation. Note that if you are installing multiple DRAGEN workflows, the only steps that need to be repeated for each DRAGEN workflow are those detailed under “Install DRAGEN workflows”.

PREPARATION

* **These instructions are intended for the v1.2 Control Software upgrade only.**

1. The total installation time (not including file download times) may take up to 2 hours.
2. **For offline customers**, make sure you receive an updated DRAGEN license file:
 - a. Contact customerservice@illumina.com and request offline DRAGEN license for reinstallation. Save this **license.zip** file to the desktop after logging into ilmndadmin.
3. Make sure that you have the password to the ilmndadmin account.
4. To log in to the ilmndadmin account:
 - a. If you are already logged in as ilmnduser 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 ilmnduser.
 - c. After you are on the login screen, select ilmndadmin, and then enter the password to log in.
 - d. The control software automatically launches once you are logged in.
5. The upgrade installation files require up to 16 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**.
6. 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.
7. 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 online customers:
 - i. DRAGEN Workflows (13 GB)
 - ii. DRAGEN compression reference file (1.5 GB)
 - b. For offline customers:
 - i. v1.2 SW Suite Installer (1 GB)
 - ii. DRAGEN Workflows (13 GB)
 - iii. DRAGEN compression reference file (1.5 GB)
 - iv. Save the **license.zip** file to desktop. **Do not extract this file; leave it as .zip.**
8. After the files have finished downloading to the desktop, maximize the control software by selecting it from the toolbar.
9. To begin installation:
 - a. Follow the "Online Installation" steps below if your system is connected to the internet.
 - b. Skip to the "Offline Installation" steps if your system is not connected to the internet.

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 bottom 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 1.2 in the **About** screen in the control software menu.
- g. Proceed to the next step to install DRAGEN workflows.

2. Install DRAGEN workflows

- a. Select the control software menu, then select **DRAGEN**.
- b. In the Version section, select **Browse for New Version**.
- c. In the browse window, navigate to the desktop and double-click the DRAGEN Enrichment workflow *.tar.gz package.



- d. In the control software DRAGEN window, select **Install**.
 - e. At the login prompt, enter the ilmnadmin password.
 - f. Repeat steps above for the remaining DRAGEN workflow *.tar.gz packages.
 - g. Confirm that the DRAGEN workflow that is installed is updated to 3.7.4.
 - h. Proceed to the next step to install the DRAGEN compression reference file.
3. **Install DRAGEN compression reference file**
 - a. Select the control software menu, and then select **DRAGEN**.
 - b. In the Genome section, select **Choose** under Import New Reference Genomes, navigate to the **dragen_compression_ref.tar.gz** file, and then select **Open**.
 - c. Select **Import**.
 - d. Proceed to the next step to update the DRAGEN license.
 4. **Update DRAGEN License**
 - a. Open control software menu.
 - b. Under License Renewal select on **Renew Online**.
 - c. Verify the license is valid and not expired in the control software **About** tab.
 5. **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 ilmnuser to begin sequencing.

OFFLINE INSTALLATION

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

1. **Install SW suite**
 - a. Launch control software
 - o Open control software menu.
 - o Select **Software Update**.
 - o Select **Choose...** under **Browse for Software Update**.
 - o Navigate to the desktop and select the installer
 - o 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.
 - o **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.
 - o **Note: Make sure to toggle the power switch at the bottom 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. **Install DRAGEN workflows and DRAGEN compression reference file**
 - a. Follow the “Install DRAGEN workflows” and “Install DRAGEN compression reference file” steps above. Then proceed to the DRAGEN license update procedure below.
3. **Update DRAGEN License**
 - a. In control software
 - o Open control software menu.
 - o Select **DRAGEN**.
 - o Under License Renewal select **Choose Offline**.
 - o Navigate to the desktop and select the **license.zip** file.
 - o Select **Update**.
 - b. Verify the license is valid and not expired in the control software **About** tab.
4. **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 ilmnuser to begin sequencing.

RESOLVED ISSUES

N/A

KNOWN ISSUES

- During the SW 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 power switch and continue.
- The following message may appear and prevent SW 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, please contact Illumina Technical Support.