

NovaSeq X Plus 1.2.2 Release Notes

May 2024

INTRODUCTION

This document details improvements and known issues for the NovaSeq X Plus Sequencing System v1.2.2.

For more information on the NovaSeq X Plus Sequencing System, see the NovaSeq X Plus Product Documentation available on the [NovaSeq X Plus Sequencing System Support Site - Support Resources - Documentation page](#).

NOVASEQ X PLUS CONTROL SOFTWARE 1.2.2

The software package includes components listed in the table below

	Previous Release (v1.2.0)	Current Release (v1.2.2)
NovaSeq X Plus Control Software	1.2.0	1.2.2
Firmware	1.2.10	1.2.15
Image Analysis Gateway	1.10.10	1.10.10 (no change)
Universal Copy Service	2.9.0	2.9.0 (no change)
Real-Time Analysis	4.6.7	4.6.7 (no change)
Illumina Run Manager	1.6.374	1.6.469
NovaSeq X Plus Recipes	1.2.0	1.2.2 (Version # change only, No sequencing recipe change)

NovaSeq X Plus Control Software v1.2.0 is required to be on instrument before installing v1.2.2. Contact your local field service representative to upgrade software to v1.2.2.

Bug Fixes

Firmware Related Fixes

- Firmware update to address the moving parts hazard by slowing the flow cell door movement to reduce the closing forces and minimize potential harm to users.
 - Note: About 30 seconds longer for the flow cell door to close during consumable loading is expected.

Control Software Related Fixes

- The recipe required to run NovaSeq X Series 1.5B reagents kits is now included. Application of the separate NovaSeq X Series 1.5B Flow Cell Recipe Installer is no longer needed to run 1.5B reagent kits. 1.5B recipe version is not changed.
- Fixed issues with side selection not responding during run setup (unable to select Side A or Side B).
- Included software fix for sequencing run terminations caused by memory leaks when used together with the updated power cycle protocol in the System Operation Guidance section below.

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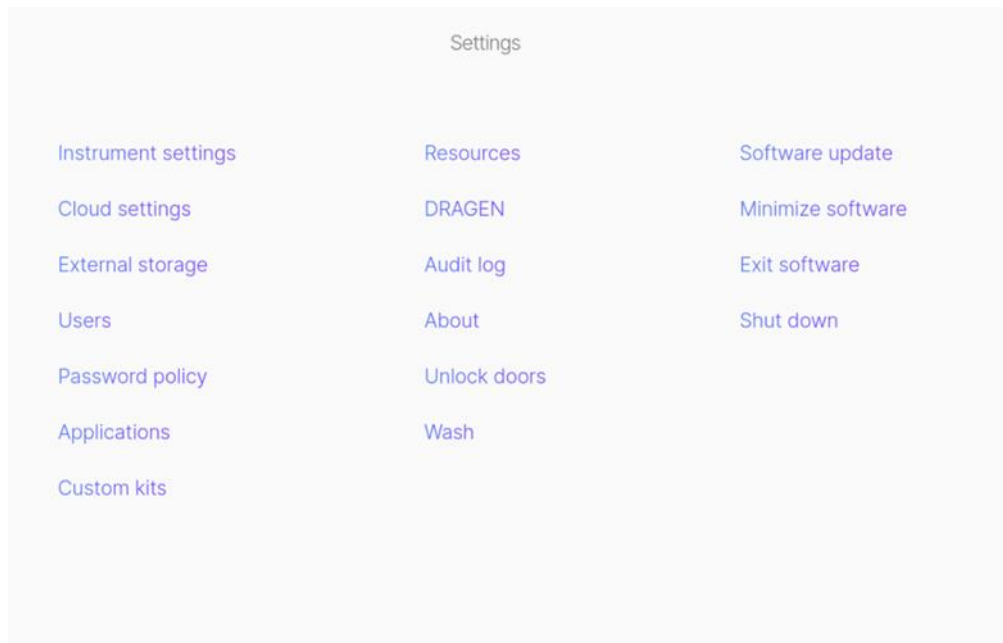
- Updated scan protocol to add delays during imaging steps while sequencing, thereby improving focus robustness for the bottom surface.

Performance Updates

- Enhanced the robustness of objective focusing for the 25B flow cell's bottom surface.
- This improvement will normalize the variability across lanes 1 to lane 5 on the bottom surface, aligning back to overall specifications.
- The enhancement specifically targets the bottom surface and is expected to reduce the variability in PF, Q30, and ER on the 25B flow cell's bottom surface.
 - Customers with significant issues with degraded metrics across the middle lanes could see average ~2% improvement in PF.
 - Customers with minimal degraded metrics across the middle lanes and generally acceptable performance are unlikely to notice any significant improvements.
- Updated scanning protocol is expected to increase 25B runtime. Note 25B flow cell runs will complete within the 48-hour specified run time.
 - Single sided 25B expected runtime increase: 1.5 hours
 - Dual sided 25B expected runtime increase: 3 hours
 - Mixed flow cell expected runtime for 10B will increase: 1 hour
 - Mixed flow cell expected runtime for 1.5B will decrease: 2.5 hours

System Operation Guidance

- Revised Instrument Power Cycle Guidance:
 - Power Cycling the instrument shall be performed through the control software after v1.2.2 upgrade.
 - Shut Down the instrument:
 - Go to the control software "Settings" menu -> select "Shutdown"



- Select “Yes, shut down instrument” when the confirmation window displays

Shut down the instrument?

You will need to use the power button to restart the instrument.



- Power up the instrument after shutdown:
 - Wait ~15 minutes after shutdown instrument through control software (see instruction above)
 - When the power button pulses, press it.
 - After the operating system has loaded, you can sign into the system.
- Note: Do not use the toggle switch on the back of the instrument unless instructed by Illumina Support personnel to prevent corruption of the onboard computer.
- It is recommended to power cycle the instrument every 14 days together with the recommended maintenance wash to prevent run terminations due to accumulated system resource consumption.
 - Power Cycle turnaround time will be 40-45 minutes before able to start a new run in control software.

Known Issues

No additional known issues from v1.2.0.

RELEASE HISTORY

Revision	Release Reference	Originator	Description of Change
00	CN 1107251	Benton Davies	Initial Release