

**NT8® Release Notes**

Last Updated: October 4, 2022

Version 4.6 Hotfix 1**October 4, 2022****Fixed:**

- The **Motion Control Pad** in the **Verify Plate** to work after pressing the **Home** button.

Improved:

- **[NT8 V4 only]** The software's ability to detect if the hardware has been reset or turned off. Previously, a brief power outage resulted in the home position being incorrect.

Version 4.6 (BETA)**September 7, 2022**

Hardware Improvements

New NT8 V4 Reference Plate Design for Efficient Motor Movements

New Reference Plate design has been redesigned to enhance motor movements during Auto-Calibration that includes:

- Allowing the sensor to move without exceeding the travel limit during calibration in stations 2, 3, and Deep Well. This also resolves the travel limit issue that occurred in Auto Calibration V3.
- Allowing you to set up the offset of Stations 2, 3, and Deep Well using "WallToTargetOffset" in the behavior config.

Software Improvements

(NT8 V4 Only) Enable the Manual Control to Calibrate the LCP Mixer

Now, you have access to the **Manual Control** in the **LCP Mixing Calibration**. This feature lets you control the Deck Station's position without removing the LCP Mixer during the calibration. Previously, to adjust the Deck Station's position manually, the LCP Mixer had to be removed first.

Enhanced the ROCK MAKER Integration (RMI) to Run 24-Well Plate Experiments

NT8 now supports configuration for a 24-well plate experiment on the **ROCK MAKER Integration** page. Simply load the barcode into the ROCK MAKER Integration. Strikethroughs on the **Protein Block** to indicate wells where you should put the protein. Ensure the **Waste Station** supports the 4-tips ejection method before conducting a 24-well plate experiment on RMI. Go to Working with the 24 Well Plate Type for more details.

Easily Monitor Required Tips in the Task List and ROCK MAKER Integration (RMI) Pages

The **Total Tips Needed** feature has been added to the **Task List** and the **RMI** to easily monitor the number of required tips. This improvement helps you figure out how many LV and HV tips are required to conduct your task.

The **Task List** and the **RMI** have different methods for configuring the total number of required tips. The number of tips used in each pickup determines the amount of **Total Tips Needed** on the **Task List**. Meanwhile, the **RMI** allows you to configure the number of **Total Tips Needed** in three different ways via the **Change Tips** settings:

- **After Each Plate**
- **When Switching Ingredients**
- **After Every Dispense**

The **Total Tips Needed** feature is available on the LV Tip Caddy and HV Tip Caddy decks. An error message will appear if there are insufficient tips to complete the task. The tips will need to be refilled before you begin the task.

Note: The tip calculation is performed by the software, not by the actual sensors.

A System Priming Reminder to Optimize NT8 Performance

Maintaining the NT8's performance and drop precision is essential. Therefore, you will receive a reminder to prime the NT8 when the system has been idle for a few days. You can prime the NT8 immediately or postpone it by selecting the **Remind Me Later** button. Previously, the prime reminder was only visible during the startup process.

The software interface for the priming system also gets an improvement. We added a loading status to notify you that the system is still priming, and it will automatically disappear once the priming is complete. Previously, the loading progress was not available, which made it hard for users to know when the priming system was done. If you wish to cancel the priming, just select the **Abort** button.

A Move To Button For A More Accurate Deep Well Plate Calibration

The **Plate Type Editor** window now includes a **Move To** button while performing a Deep Well plate calibration. It helps you move the head to the **Deep Well** station when you need to validate the current calibration. Previously, the button was unavailable, preventing you from verifying the Deep Well plate calibration.

(NT8 V4 Hardware Only) Power Loss Detection when Board or Hardware is Reset

NT8 V4.6 supports a **Power Loss Detection** feature to help determine the cause of a hardware reset, which could be a brief power outage or a board issue. The position of the motors will allow the software to figure out the condition. If some motors are not homed, the board has been reset. When none of the motors is homed, the NT8 may have experienced a power loss. The log file and email will include this information for easy debugging.

Hardware detection also continues to advance by automatically switching to simulation mode when the software detects that the hardware has been turned off.

Minor Software Changes:

NT8 version 4.6 added a minor improvement:

- The software automatically detects the destination folder in the local installation on your hard drive when you select **Advanced Install** in the **Hard Drive** option. Previously, when the **Hard Drive** option in the **Advanced Install** was selected, the NT8 software would create a new destination folder, causing a crash.

Improved:

- The tip-ejecting sequence to allow continuation after pausing the head movement.
- The motor to move at a low speed even though the slider is at the bottom. Previously, the user had to slightly raise the slider from the bottom to move the motor at a low speed.
- The motors' travel limits in the simulation mode to match the real case. In the simulation mode, the motor's minimum and maximum positions are stored in **NT8DummyDevice.config**.

Changed:

- The **Wash Time** window UI by removing the **Select Head** options because the tip washing process is only applicable for LV tips.
- The **Filling Protein Tray** reminder to appear right after the user loaded a plate experiment that uses a **24-Well Plate** in the **Task List**. Previously, the **Filling Protein Tray** reminder would appear when the user pressed the **Run** button in the **Task List**.
- The barcode field focus to shift automatically to the next field after the initial barcode has been loaded. Previously, when using multiple barcodes, the user had to manually select the barcode field after loading the initial barcode.
- The plate images to match the actual plates. Previously, the plate images were stretched when the user ran an experiment.
- The error message when the user attempted to change the client ID, that was not available on the server.

Added:

- A warning message in the **Task List** to remind the user to wash the LV tips before aspirating. Previously, the software allowed the user to aspirate without washing the LV tips.
- A pop-up window displaying the NT8 software version and the initialization process every time it starts up.
- An error message instructing the user to use the **High Volume Protein Tray** or **Multi High Volume Protein Tray** when the current protein tray was insufficient for the experiment.
- A loading GIF to fill the delay during the transition from the **24 Well Plate** to the **96 Well Plate** and vice versa.
- Information in the **Auto Calibration** window about the keyboard keys used to adjust the positions of the X, Y, and Z axes.

- An error message when the motor exceeds the travel limit during auto calibration.

Removed:

- The **Calibration** tab in the **Manual Calibration** window.