

# Improvements to DynaPro Plate Reader II<sup>®</sup> Firmware

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## INTRODUCTION

This document highlights the most important enhancements, changes, and bug fixes made to the Wyatt Firmware. Please contact us at [support@wyatt.com](mailto:support@wyatt.com) if you have any questions or suggestions.

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## 2.0.6.15

### Improvements and Bug Fixes

- Added a security update to further ensure that your instrument is not susceptible to network-based malware. (#19698)

## 2.0.6.14

### Improvements and Bug Fixes

- Improved accuracy of the refraction-corrected DLS detector angle. (#17628)

## 2.0.6.13

### Improvements and Bug Fixes

- Improved detection of avalanche photodiode detector (APD) errors. They were being over-reported. This error can only occur when the laser is off. If present, these errors are visible in the Alarms tab in the log on the front panel. (#14702)
- Fixed an unexpected correlator error that was causing the instrument to reboot. (#16561)
- Increased default brightness levels for the camera. (#15567)

## 2.0.6.9

### Improvements and Bug Fixes

- Added support for a new operating system. (#15192)

## 2.0.6.6

### Improvements and Bug Fixes

- Improve barcode decoding algorithm. (#14676)

## 2.0.6.4

### Improvements and Bug Fixes

- Added support for a new computer. (#13056)

### Known Deficiencies:

- When restarting the instrument from the System tab of the front panel (a soft reboot), you may see an error dialog from svchost.exe, similar to "The instruction at xxx referenced memory at yyy. The memory could not be 'read'". You can disregard this, and the instrument will continue the restart process. (#11780)
- When the Plate Reader II attempts to start the camera while Dynamics is acquiring data, the connection may be lost and commands may be blocked. (#11168)

## 2.0.5.1

- Fixed an issue which could cause well and barcode images to be captured prematurely, potentially resulting in blurry images. (#12023)
- Improved image transmission reliability between Dynamics and the instrument. (#12155)

## 2.0.4.29

- Fixed an issue which caused a spurious error when restarting the instrument via the System tab of the front panel (a soft reboot) (#11340)
- Added support for the new touch screen hardware and new computer (#11779)

## 2.0.4.28

- Instrument automatically restarts upon firmware update. (#10714)
  - For newer instruments, the Firmware Updater will automatically restart the instrument to complete the firmware upgrade process.
  - **Important:** if the instrument doesn't restart the user still **must manually restart** via the front panel.
- A low temperature limit has been set at 3° C to protect the camera. (#11158)
  - If the instrument temperature falls below 3° C the camera will shut off.
  - After this shutoff is triggered, the camera will turn back on once the temperature exceeds 3.5° C.
- The Previous and Next buttons in the ACF menu have been fixed. Previously,

Next did nothing, and Prev gave an incorrect error: "There is no previous well in Load position." (**#10049**)

- The ACF was updating too frequently due to a faulty hardware clock rollover. This has been fixed. (**#10387, #9625, #10360**)
- A warning with the option to take control from the front panel now appears if the user attempts to set the Auto Attenuation parameters while connected to Dynamics (**#10419**).
  - This is because while Dynamics is running, it has priority by default.
  - **Note:** the Auto-attenuation status in the Instrument Parameters in Dynamics might not refresh upon taking control from the front panel.
- Auto Attenuation fix (**#10668**)
  - Due to a faulty algorithm, auto attenuation was incorrectly set in conditions with particular levels of light intensity. This has been fixed.
- Temperature protection upon fail of 15 V DC converter (**#10557**).
  - In the event of the 15 V DC converter failing, it was possible that temperature control would be compromised threatening the sample and the instrument. Now, if the converter fails:
    - Temperature control will be disabled
    - The front panel alarm will indicate a converter failure
- Corrected a false "Stage movement error" upon opening the door or moving the stage (**#11088, #10153**).
- Firmware was updated so that the camera is enabled upon booting up (unless the temperature is outside of the safe operating range). (**#11070, #11125**)
- Previously, some factory defaults were not loaded correctly, causing Load Factory Defaults to fail. This has been fixed. (**#11064**)
- Added support for a wider range of camera hardware (**#10492, #10871, #10737, #8543**)
- General performance improvements (**#10679, #10676, #10752, #10905, #11043**)

#### 2.0.3.4

- Improved temperature control algorithm so that it is not affected by instrument date and time adjustments. (#10800)

#### 2.0.3.3

- Corrected temperature control hardware parameters that might cause fluctuations of the well plate temperature. (#10471)
- Improved Firmware Updater reliability and user interface. (#10427, #10426)
- Implemented initial support for new camera models. (#10425, #10421)

### 2.0.2.7

- Corrected boot up issue for partially built instruments. (#10233)
- Firmware updater no longer requires administrative privileges. (#10230)

### 2.0.2.4

- Added Camera page to the Front Panel. Users can now view wells from the instrument's Front Panel. (#9903, #9080, #9037, #8002, #9980)
- Acquired Well Images are now in the same orientation as the well plate. (#8259)
- Improved well image acquisition routine. (#8239, #8129, #9613)
- Increased alarm log that could be displayed in the Alarm page. (#9303)
- Improved plate insert identification routine. (#9265, #8784)
- The Front Panel will indicate door "CLOSING" until the plate insert identification routine completes. (#8175, #8459)
- Added 1 minute time scale to the graph view. (#9376)
- Corrected synchronization of the Alarm button on the Main page with the alarms on the Alarm page. (#9068)
- Critical alarms now trigger an audible beep, like the "Stage Movement Error" alarm. (#9064, #7734)
- Users are notified with the audible "Plate Insert ID Error" alarm if the instrument cannot automatically identify the plate insert. (#8763)
- Improved user notification of hardware detection errors at instrument start up. (#8486)
- Improved Firmware Updater's connection routine to avoid failed instrument connection. (#9880)
- The Auto Attenuation algorithm attempts to keep the Laser Power above 20% whenever possible. (#9811)
- Added a four-digit PIN value to control remote access from the Wyatt Aurora iPad application. (#8617)

### 2.0.1.36

- Added firmware support for touchscreen instruments (#8413, #8580)
- Corrected a touchscreen issue that prevented navigation with the keypad (#9623)
- Corrected a y-axis scaling issue on the ACF tab (#8995)
- Improved well image acquisition routine (#9610)

### 2.0.1.32

- Improved plate insert identification reliability (#9264).

### 2.0.1.31

- Improved instrument start up reliability.

### 2.0.1.30

- Improved camera stability when performing temperature ramping experiments.

### 2.0.1.29

- Added support for plate insert identification.
- Added support for well image acquisition.

### 2.0.1.12

- Initial Release

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*Please contact Wyatt Customer Support if you need more information about changes in earlier versions of the firmware.*