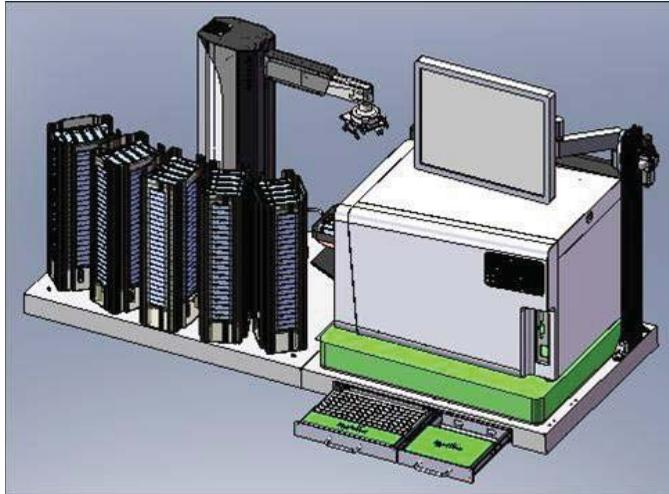# Illumina® AutoLoader2

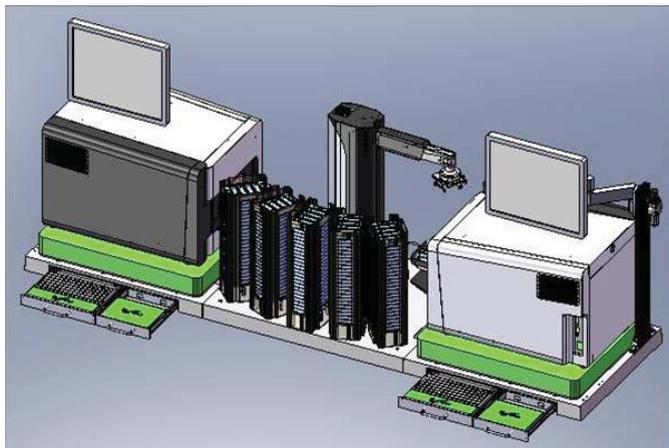*Quick Reference Card*

Setup and Configuration

Your Illumina Field Service Engineer will set up and configure the AutoLoader2.

Hardware Setup

Single-reader configuration

Dual-reader configuration

Before You Begin

▸ Ensure that the iScan Reader is turned on and ready. The Power light should be solid blue and the Ready light should be solid green.

▸ Log in to the PC that is attached to the iScan Reader. When using a dual-reader configuration, log in to each PC that is attached to an iScan Reader.

▸ When using a dual-reader configuration, ensure that the AutoLoader2 Service is open on the remote reader PC before starting the GenomeScan application on the local reader PC.

▸ When dual-reader scanning, make sure that the GenomeScan application is not running on the remote PC. If the remote PC is running GenomeScan, the system will generate an error indicating that GenomeScan is being run in manual mode.

▸ Ensure that the isolation table has the proper air pressure, to prevent vibration.

▸ Ensure that no carriers are in the iScan Reader tray before using the AutoLoader2.

Email Options

AutoLoader2 can send you emails about:

▸ Catastrophic Events
  • Scanning has stopped for any reason
  • GenomeScan application is disconnected from LIMS
  • AutoLoader2 robot cannot move

▸ Scan Summary
  • Number of BeadChips scanned
  • Number of successful scans
  • Number of failed scans

▸ System Events
  • Carriers added to the input/output stack
  • Carriers removed from the input/output stack
  • Low disk space warning

To set up your email options:

1 Click the Illumina AutoLoader2 icon.

2 From the **File** menu, select **AutoLoader2 | Options**.

3 In the Options dialog box, enter your email server address.

4 Enter your email address next to the events for which you wish to receive email notification.

Cautions and Notes

Cautions

⚠ To protect BeadChips from the environment, light, temperature, and humidity, always use lids.

⚠ To prevent possible failures due to potential dye degradation in unimaged BeadChips, do not leave BeadChips in the AutoLoader2 for more than 16 consecutive hours.

⚠ The robot and iScan have been precisely aligned to enable automated scanning. Do not move or bump them. Positional changes will require a Field Service Engineer visit to realign the integrated system.

⚠ Do not touch the AutoLoader2 hardware or operate the iScan Reader when AutoLoader2 is moving or scanning a BeadChip carrier.

Notes

▽ Ensure that the *.dmap files are copied to the decode map path defined for the current scan. If *.dmap files are not present, scanning will not occur.

▽ The Illumina GenomeScan application in the lower 75% of your screen will be greyed out (inactive) while the AutoLoader2 application window is open.

▽ AutoLoader2 supports Illumina BeadChips only.

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Automated Scanning

For more information, see the *iScan and AutoLoader2 System Guide*.

1 At your lab bench, away from robotic moving parts, place BeadChips to be scanned into BeadChip carriers.

2 Remove the stack extrusions from the input stacks (located beside the local iScan Reader) and set them aside.

3 Stack up to 24 BeadChip carriers onto each input stack, and then place a lid onto the top BeadChip carrier in each stack.

4 Place a stack extrusion down and over each of the five stacks.

5 When dual-reader scanning, make sure the AutoLoader2 Service is open and running on the remote iScan Reader PC. On the local PC, double-click the Illumina GenomeScan icon to open the GenomeScan software application.

6 At the dialog box, click **Yes** to start the iScan System in Automated mode.

7 Enter your username (and password, if required), then click **Start**. You do not need to log in to the GenomeScan application.

As the AutoLoader2 robot initializes, its components move physically into position. The Setup screen displays the number of BeadChip carriers that it detected in the input stacks.

8 At the Setup screen, select the appropriate scan settings.

If you have more than one type of BeadChip, select the Default option. This instructs the AutoLoader2 to read the Sentrix Description File (*.sdf) for each BeadChip to determine its type.

The GenomeScan software defaults to the last folder locations used when running the reader in Manual mode. To override the Input Path and Output Path folders:

- Click the **Menu** button and select **Options.** In the dialog box, select the option for either the output folder path or input folder path. Click on the "..." button to navigate to the desired path.

The new path remains the default until it is deleted or a new path is selected. If the path is left blank, the last path set in the GenomeScan software is used. For more information about Input and Output paths, see the *iScan and AutoLoader2 System Guide*.

9 Click **Next**. The automated scanning process begins.

When scanning is finished, the Done screen shows a log of recent scan events, and a table describing the status of each BeadChip. Only scanned BeadChips appear in the list.

If any BeadChips were not scanned, immediately set them up for manual scanning or place them back in the input stacks for automated scanning. Scan them as soon as possible to minimize degradation.

10 Should the AutoLoader2 not release a BeadChip carrier, click the **Stop** button. The iScan Reader and AutoLoader2 will stop. Support the carrier with your hand and click **Open Gripper** in the Done screen.

Scanning Process

AutoLoader2 and the iScan Reader will cycle through the following actions until all BeadChips have been scanned.

AutoLoader2:

▸ Removes the BeadChip carrier lid from the input stacks and places the lid in the lid stack.

▸ Lifts the top BeadChip carrier from the input stack and places it into the iScan Reader tray.

▸ Retrieves the lid from the lid stack and places it onto the top BeadChip carrier in the input stack.

iScan Reader:

▸ Scans the carrier and BeadChip barcodes, performs the BeadChip scan, and then extends the tray.

AutoLoader2:

▸ Removes the BeadChip carrier lid from the output stack and places it in the lid stack.

▸ Lifts the BeadChip carrier from the extended iScan Reader tray.

▸ Places the BeadChip carrier into the output stack.

▸ Retrieves the lid from the lid stack and places it onto the top BeadChip carrier in the output stack.

Before leaving the AutoLoader2 unattended during automatic operation, verify that the AutoLoader2 has placed the first BeadChip carrier into the iScan Reader and that the carrier was successfully accepted for imaging. If it was, the BeadChip format appears on the main screen.

Scan Progress Indicator Colors

Indicator color	Description
Light Blue	Section to be scanned.
Orange	Section in the process of being scanned or registered.
Green	Scan and registration of section successful.
Red	Scan and registration of section failed.

For more information, see the *iScan and AutoLoader2 System Guide*.

Scan Status Icons

Icon	Description
	Aligning BeadChips
	Software is communicating with the reader
	Software is communicating with the reader
	Focusing
	Performing Checks
	Scanning Matrices
	Scanning Matrix
	Registering Image
	Saving
	Stopping
	Pausing
	Idle
	Camera
	Auto Centering
	Auto Tilting
	Moving Tray Out
	Moving Tray In
	Moving X Motor
	Moving Y Motor
	Moving Z Motor
	Moving Several Motors