

Maxprep™ Liquid Handler Operating Manual

Instructions for Use of AS9105, AS9205, AS9100, AS9101, AS9200 and AS9201

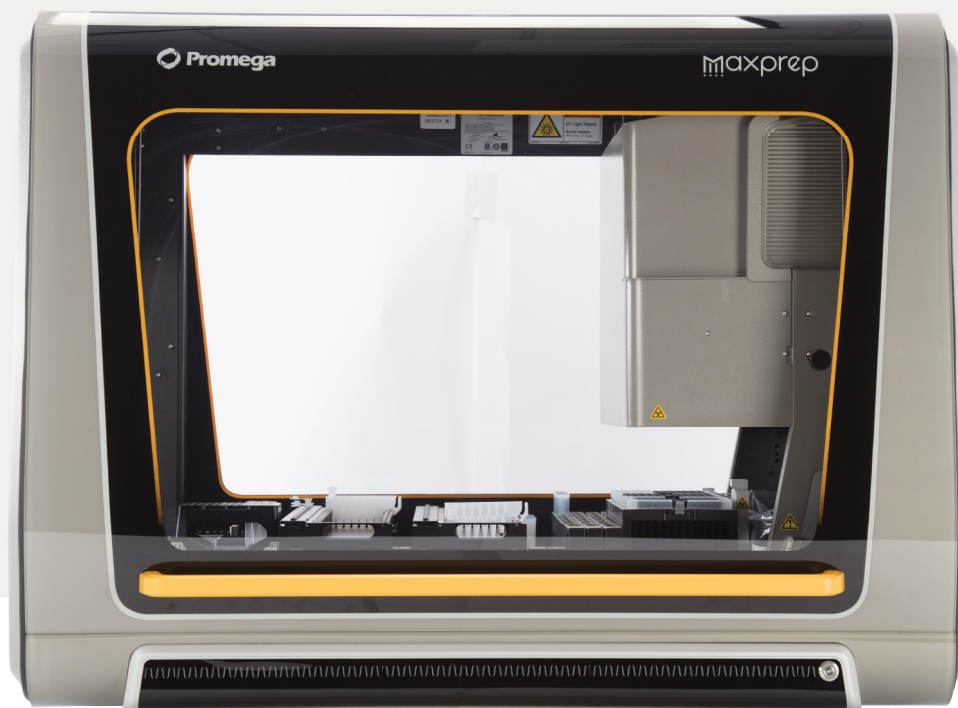


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All technical literature is available at: www.promega.com/protocols/

Visit the website to verify that you are using the most current version of this Technical Manual.

E-mail Promega Technical Services if you have questions on use of this system: techserv@promega.com

1 Introduction

1.1 Maxprep™ Liquid Handler

The Maxprep™ Liquid Handler provides automated methods for preprocessing of samples prior to nucleic acid purification on supported Maxwell® Instruments for a range of research sample types. In addition, the Maxprep™ Liquid Handler provides a variety of post-processing automated methods for handling and analysis of eluted nucleic acids. The Maxprep™ Liquid Handler is designed for use by laboratory professionals. Up to 48 samples can be prepared in a single preprocessing run.

The instrument is controlled through a graphical user interface running on a PC. The Maxprep™ Liquid Handler has the ability to record and report sample tracking and method run data. The included automated and manual bar code readers can be used with the Maxprep™ Liquid Handler to capture bar code information for samples and reagents. The Maxprep™ Liquid Handler provides reports of the data gathered for instrument operations; reports can be printed and exported to a storage location or a USB drive for transfer to a separate computer. Sample tracking and run-specific information can also be tracked in the Promega Portal software to facilitate information transfer between the Maxprep™ Liquid Handler, GloMax® Instruments and supported Maxwell® Instruments. Reports of information contained within the Promega Portal software can be generated using the separate Portal Access reporting software (see the *Portal Access Software Technical Manual #TM549*). Exported data formats are flexible to facilitate importing into third-party instrumentation or Laboratory Information Management System (LIMS).

To start a run, the user selects the appropriate method and follows the instrument setup instructions displayed by the user interface including scanning or entering sample bar code information. For preprocessing methods, the Maxprep™ Liquid Handler prepares the samples for addition to Maxwell® cartridges, adds samples to the cartridges, adds elution buffer to the elution tubes, and transfers plungers to the Maxwell® deck trays. The deck trays containing prepared cartridges are manually transferred to the appropriate Maxwell® Instrument(s) for the purification run where sample tracking information that was entered can be retrieved from the Promega Portal software. For post-processing methods, the Maxprep™ Liquid Handler can start with samples in Maxwell® deck trays or other labware options for a variety of handling and analysis methods. Training on the use of the Maxprep™ Liquid Handler is provided during installation (see Section 9.2, Warranty and Service Agreement Options).

Note: The Maxprep™ Liquid Handler was previously offered under Cat.# AS9100, AS9101, AS9200 and AS9201, and is now available as Cat.# AS9105 and AS9205.

1.1.1 Supported Instruments

Instrument	Cat.#	Technical Manual
Maxwell® RSC	AS4500	TM411
Maxwell® RSC 48	AS8500	TM510
Maxwell® FSC	AS4600	TM462
Maxwell® CSC RUO Mode	AS6000	TM573
Maxwell® CSC 48 RUO Mode	AS8000	TM628
GloMax® Navigator	GM2000, GM2010	TM470
GloMax® Explorer	GM3500, GM3510	TM433
GloMax® Discover	GM3000	TM397

1.2 Product Use

The Maxprep™ Liquid Handler is exclusively designed to be used with Maxwell® reagent kits to perform automated preprocessing of samples prior to isolation of nucleic acids with supported Maxwell® Instruments. A variety of post-processing methods are available with the Maxprep™ Liquid Handler that are compatible with reagents from many external sources.

The Maxprep™ Liquid Handler is for research use only.

1.3 Product Use Limitations

The Maxprep™ Liquid Handler is not intended for use with purification kits other than Maxwell® nucleic acid purification kits or with samples other than those defined within the product limitations of the specific Maxwell® kit being used. Post-processing methods provided with the Maxprep™ Liquid Handler are tested for use with Promega reagents. It is the responsibility of the end-users to internally verify/validate that these methods perform to their needs with reagents from external sources.

1.4 Maxprep™ Liquid Handler Features

- Easy-to-use system
- Standardized sample preparation workflows
- Ability to create administrator-defined method variants
- Comprehensive technical support
- System controlled via PC and touch-screen monitor
- Run-specific and sample-specific reporting functionality
- Preprogrammed methods for preprocessing and post-processing of samples
- Included bar code reader and manual bar code scanner

1.5 Maxprep™ Liquid Handler Specifications

1.5.1 Instrument Specifications

Desktop PC	Windows® 10 operating system with Ethernet connection to instrument, wired connectivity to local network
Communication	Ethernet
Weight	Approximately 220lb (98.6kg)
Dimensions (W × D × H)	42.1 × 27.8 × 33 inches (106.9 × 70.6 × 83.3cm) height with door open: 48.4 inches (123cm)
Power Requirements	Input: 100–240VAC, 50/60Hz, 5A Output: 42VDC ± 5%, 600W max 250VAC, 5A, low breaking capacity, time-lag fuse (AC250V, T5AL, 5 × 20mm)
Operating Temperature Relative Humidity Altitude	15–35°C (59–95°F) 30% to 85% non-condensing 0–2,000m above sea level
Storage Temperature Relative Humidity	–20° to 70°C 10% to 90% non-condensing
UV Bulb	Average lifetime approximately 10,000 hours, length 9.2in (233mm base face to face, diameter 15mm, 11W, 0.43A current, 25.6V, UV-C, UV output 32W at 1 meter)
Regulatory Compliance	For Research Use Only. Not for use in Diagnostic Procedures.
CE Compliance	Pollution degree 2. Installation category II. Indoor use only. Main supply voltage fluctuations are not to exceed >10% of the nominal supply voltage. This instrument complies with the requirements of the EU Directives for electromagnetic compatibility (EMC Directive) and for electrical safety (LVD). Compliance with the relevant directives was demonstrated by third-party testing to the appropriate EN and IEC standards. The product bears the CE mark on its label as evidence of compliance, and an EU Declaration of Conformity for the product is available from Promega on request.

1.5.2 Pipetting Specifications

Liquid Level Detection Independent Channels	Capacitive Liquid Level Detection Pressure Liquid Level Detection
Shaking	3mm Orbit Up to 2500rpm Temperature range ambient to 105°C



Note: Pipetting specifications are determined gravimetrically using a calibration verification solution and under controlled environmental conditions. Results may vary using other liquids or environmental conditions.

Pipetting Specifications for Channels	Disposable Tips Size	Volume	Accuracy (%)	Precision (%CV)
	50µl	1µl	5.0%	5.0%
		5µl	2.5%	2.0%
		50µl	2.0%	1.0%
	300µl	10µl	5.0%	2.5%
		50µl	2.0%	1.0%
		300µl	1.0%	1.0%
	1000µl	10µl	7.5%	3.5%
		100µl	2.0%	1.0%
		1000µl	1.0%	1.0%

Gantry Bar Code Scanner Supported Symbologies.

1D Bar Codes	UPC/EAN/JAN, Codabar, Interleaved 2 of 5, Code 39, Code 128, Code 93
2D Bar Codes	QR Code, DataMatrix

Notes:

- To present bar codes for reading by the gantry bar code scanner, bar code labels should be placed on the sample tubes and visible when the sample tube is placed within a Sample Tube Carrier. We recommend providing 1mm of white space around the bar code edge.
- For DataMatrix bar codes, we recommend a maximum bar code size of 6mm × 13mm with minimum bar code feature size of 0.51mm.

1.6 Product Components

PRODUCT	CAT.#
Maxprep™ Liquid Handler, RSC Carriers	AS9105
Maxprep™ Liquid Handler, RSC 48 Carriers	AS9205

Cat.# AS9105 is provided with 16-position Maxwell® deck tray carriers (compatible with Maxwell® RSC, FSC and CSC Instruments).

Cat.# AS9205 is provided with 24-position Maxwell® front and back deck tray carriers (compatible with Maxwell® RSC 48 and CSC 48 Instruments).

Notes:

- Maxwell® RSC carriers are compatible with all supported 16-position Maxwell® Instruments. Additional carriers can be purchased regardless of Maxprep™ Liquid Handler configuration to support all Maxwell® Instruments.
- The Maxprep™ Liquid Handler was previously offered under Cat.# AS9100, AS9101, AS9200 and AS9201, and is now available as Cat.# AS9105 and AS9205. Cat.# AS9105 is equivalent to Cat.# AS9101. Cat.# AS9205 is equivalent to Cat.# AS9201.

Includes:

- 1 Maxprep™ Liquid Handler
- 3 10mm Sample Tube Carriers
- 3 12–13mm Sample Tube Carriers
- 3 15–17mm Sample Tube Carriers
- 1 Box of Maxprep™ 50µl Conductive Disposable Tips, Filtered (5 × 96)
- 1 Box of Maxprep™ 300µl Conductive Disposable Tips, Filtered (5 × 96)
- 1 Box of Maxprep™ 1000µl Conductive Disposable Tips, Filtered (5 × 96)
- 1 Box of Maxprep™ Reagent Reservoirs, 50ml (28 reservoirs)
- 2 Maxwell® Deck Tray Carriers
- 3 Reagent Reservoir Carriers
- 1 Utility Carrier (for Heater Shaker, tools and plates)
- 1 Tip and Plate Carrier
- 1 Heater Shaker
- 4 Plunger Tools
- 2 Gripper Paddles
- 1 Maxprep™ Accessory Kit
 - 1 PC preloaded with Maxprep™ Software
 - 1 Ethernet cable for connection of Maxprep™ Liquid Handler to PC
 - 1 USB-Ethernet Adapter
 - 1 Power Cable for Maxprep™ Liquid Handler
 - 1 Power Cord for PC
 - 1 Power Cord for PC Monitor
 - 1 Manual Bar Code Reader
 - 2 Maxprep™ Plunger Holders
 - 6 Maxprep™ 3-Position Reagent Tube Holders




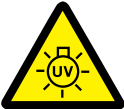
1.7 Precautions

Important Safety Instructions. Save these instructions.

- Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This equipment has been designed and tested to CISPR 11 Class A. It may cause radio interference, in which case you may need to take measures to mitigate the interference.
- Do not use this device in proximity to sources of strong electromagnetic radiation (e.g., unshielded intentional RF sources), as these may interfere with the proper operation.
- Do not use this instrument for anything other than its designed purpose.
- Always disconnect the power to the instrument and the PC before cleaning or performing routine maintenance.
- Do not disassemble unit.
- Ensure that any deck setup instructions are faithfully followed. Failure to do so may result in damage to the instrument.
- Use only Promega Maxwell® branded and supplied cartridges, plungers and elution tubes. Use only Promega-supplied consumables (e.g., tips, troughs, preprocessing plates).
- Do not reuse cartridges, plungers or elution tubes.
- If the equipment is used in a manner other than that specified by Promega, the protection provided by the equipment may be impaired.
- During some processing methods, the heated shaker at the back left corner of the instrument becomes very hot. Do not touch.
- Do not attempt to lift or move the Maxprep™ Liquid Handler. The Maxprep™ Liquid Handler should only be moved by a trained Promega representative.
- Equipment can be hazardous due to the use of chemical and biohazardous substances.
- Do not override the door sensor.
- This instrument can be used with potentially biohazardous materials. Use appropriate personal protective equipment (e.g., gloves, safety goggles, lab coat, etc.) for handling and disposing of biohazardous materials.
- Loading nonessential software programs on the PC supplied with Maxprep™ Liquid Handler is not recommended. We cannot guarantee compatibility of the Maxprep™ Liquid Handler software with other third-party software programs. Additional programs may also cause the application to slow down.
- Do not use any software other than the Maxprep™ software to control the Maxprep™ Liquid Handler.

1.8 Safety Symbols and Marking

Important Safety Instructions. Save these instructions.

Safety Symbols and Markings	
	Warning. Risk of personal injury to the operator or a safety hazard to the instrument or surrounding area.
	Warning. Hot surface. Burn hazard.
	Warning. Biohazard.
	Warning. UV light hazard. Do not look directly at the UV light.

Symbols	Explanation
	Catalog Number
	Serial Number
	Manufacturer
	Consult your local Promega Representative regarding instrument disposal WEEE Directive (European Community directive 2002/96/EC on Waste Electrical and Electronic Equipment)
	Test Certification
	CE Compliance Marked
	Representative in the European Community
	Device is China RoHS-compliant
	Important Information

1.9 Environmental Requirements (Operating, Shipping and Storage Conditions)

Power Requirements	100–240VAC, 50/60Hz, 5A
Temperature	–20 to 70°C (shipping/storage), 15–35°C (operation)
Humidity	30–85% relative humidity, non-condensing (operation) 10–90% non-condensing (storage)
Operating Altitude	<2000 meters

The Maxprep™ Liquid Handler is intended for indoor use only. Wipe up spills immediately. To avoid shortening the expected lifespan of the instrument, install in a location that meets the following criteria:

- Locate on a sturdy, level surface capable of stably supporting 350lb.
- Avoid dusty areas.
- Choose a location that has good air circulation and is not exposed to direct sunlight.
- Avoid electrically noisy power sources (e.g., power generators).
- Do not install in a location where there is large temperature variability or high humidity.
- Do not position the instrument so that it is difficult to unplug from the power source.
- Do not place next to heat sources.
- Do not use near flammable gases or liquids.
- Allow at least 6 inches (15.25cm) clearance on all sides of the Maxprep™ Liquid Handler.
- Do not place near other electrically sensitive instruments. Allow at least 6 inches (15.25cm) on all sides of the Maxprep™ Liquid Handler.
- Connect the Maxprep™ Liquid Handler and PC to a power outlet. Promega recommends that you plug the instrument and PC into an uninterruptible power supply.

2 Hardware Overview

The Maxprep™ Liquid Handler (Figure 1) is a fully enclosed four-channel pipetting system designed to automate sample preprocessing and deck tray preparation for a variety of Maxwell® chemistries and post-processes for storage, normalization, and analysis of nucleic acid eluates. The front of the instrument has a large door for access to the inside of the system. To open the door, grip the handle, pull towards you, and then slide the door upwards. To close the door, grip the handle, pull towards you, slide the door downwards, and then push the door inward at the bottom of its vertical motion. When the instrument is in operation, door locks prevent access to the inside of the instrument. In the lower front corner of the instrument is the power button. Select the power button to turn the instrument on/off.

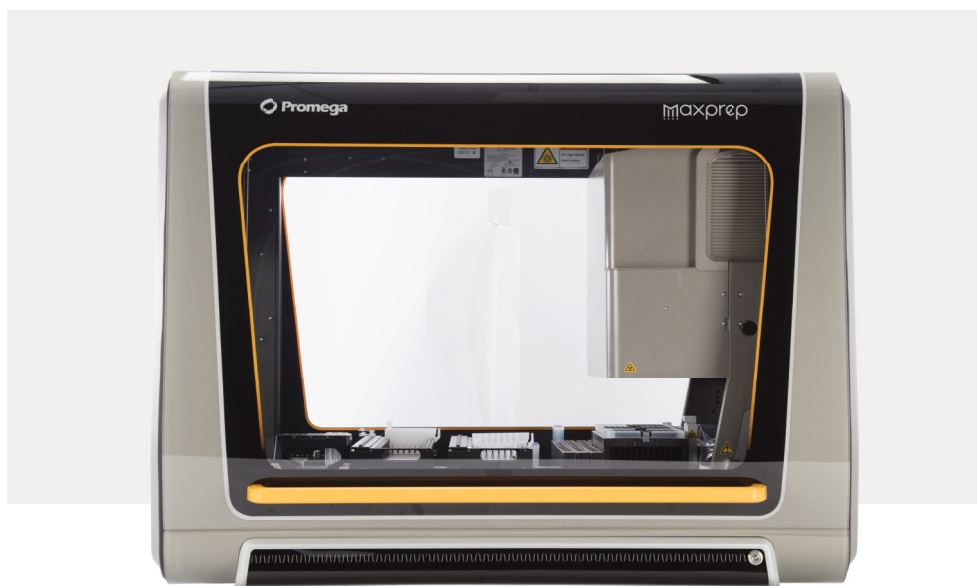


Figure 1. Front of the Maxprep™ Liquid Handler.

2.1 Hardware Features

The gantry system on the Maxprep™ Liquid Handler has four independently-controlled pipetting channels, which can support a 1µl to 1ml volume range using 50, 300 and 1000µl disposable tips. These channels are capable of liquid level sensing. The pipetting channels of the instrument can retrieve tools to perform other tasks including transferring plungers to Maxwell® cartridges and moving plates within the instrument. Included on the front arm of the gantry is a 1D/2D bar code reader that can automate the process of reading tube bar codes that are loaded on the system in tube carriers.



Figure 2. Gantry system on the Maxprep™ Liquid Handler. The gantry system on the Maxprep™ Liquid Handler houses the four pipetting channels on the system. On the front arm of the gantry is the 1D/2D bar code reader.

In the back left corner of the instrument are the heater shaker and the tool rack that houses the gripper paddles and plunger tools (Figure 3). When placing the gripper paddles in the tool rack, make sure the magnet and pins on each paddle are facing toward the center of the tool rack.

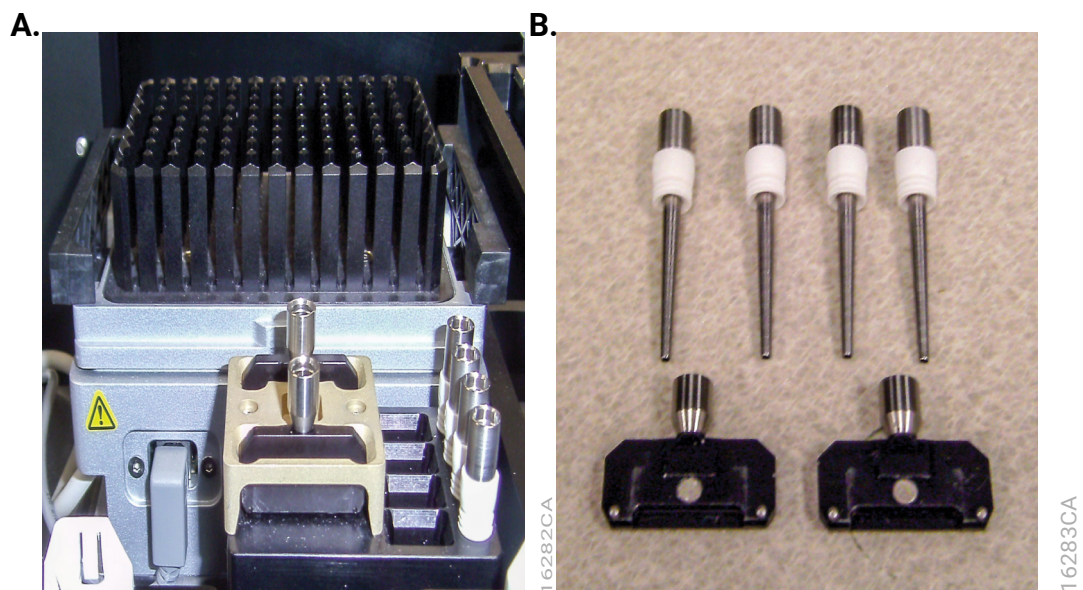


Figure 3. Heater shaker and tool rack. Panel A. The heater shaker is in the back left corner of the Maxprep™ Liquid Handler. In front of the heater shaker is the tool rack that houses the plunger tools and gripper paddles. **Panel B.** Plunger tools are shown at the top of the image and gripper paddles at the bottom of the image. When placing gripper paddles in the tool rack make sure the magnet and pins on each paddle are facing toward the center of the tool rack.

2.2 UV Light

The Maxprep™ Liquid Handler is provided with a UV light system. UV lights are present on the top left and top right side of the instrument enclosure. The UV lights, in addition to regular cleaning of the instrument, can be used for sanitization. A **Sanitization** maintenance method is included in the Maxprep™ software to perform UV treatment of the system for an administrator-defined time period. UV sanitization can only be performed with the instrument door closed. If necessary, replace the UV lights on the system only with Promega Maxprep™ UV Lamp bulbs (Cat.# AS9310).

2.3 Labware Carriers

Provided with the Maxprep™ Liquid Handler are a variety of carriers that hold the labware needed to perform preprocessing and post-processing methods (Figure 4). The configuration of the carriers on the instrument is designed to be consistent among Maxprep™ Liquid Handler methods. The instrument platform is divided into 30 tracks. On the metallic plate at the front of the instrument you can see the individual tracks with tracks 1, 5, 10, 15, 20, 25 and 30 indicated. The tracks are used as reference positions when placing carriers on the system. To remove carriers from the instrument, grasp the handle on the carrier and pull it straight out toward you, supporting the bottom of the carrier as you remove it from the system. When adding carriers to the instrument, support the bottom of the carrier and place the back edge of the carrier on the track positions at the front of the instrument; then slide the carrier straight back until it touches the backstop of the instrument. Below is a table indicating the carriers provided with the system and their track positions and functions.

Carrier Type	Number Provided	Track Positions	Function
Utility Carrier	1	1–6	Static carrier (cannot be removed from system) with heater shaker and tool rack at the back two sites and two plate positions at the front two sites.
Maxwell® Deck Tray Carriers (2) [either 16-position or 24-position deck trays, depending on catalog number purchased]	2	7–12 14–19	Removable carriers that hold Maxwell® deck trays. There are three types of Maxwell® Deck Tray Carriers available: the Maxprep™ Carrier, Maxwell® RSC, that is used for 16-position Maxwell® Deck Trays, and the Maxprep™ Carrier, Maxwell® RSC 48 Front and Back, that are used for 24-position Maxwell® Front and Back Deck Trays. On the left top side of the carrier is a removable magnet that interfaces with elution tubes on the Maxwell® deck tray to help remove residual resin from eluates when pipetting from these positions. Underneath the deck tray are two plate positions. For some methods, it may be necessary to remove the magnet from the carrier in order to use the plate positions. A reagent carrier is placed between the Maxwell® deck tray carriers to provide appropriate spacing on the instrument. The 24-position Maxwell® deck tray carriers are keyed to accept either the 24-position Maxwell® Front deck tray or 24-position Maxwell® Back deck tray.

Carrier Type	Number Provided	Track Positions	Function
Maxprep™ Reagent Carriers	3	13, 20, 21	Removable reagent reservoir carriers hold reagents required for each method run. These carriers have four sites and each site can hold either a Maxprep™ Reagent Reservoir, 50ml, or Maxprep™ 3-Position Reagent Tube Holders.
Maxprep™ Carriers, Sample Tubes	9 <ul style="list-style-type: none"> • Maxprep™ Carrier, 15–17mm Sample Tubes (3) • Maxprep™ Carrier, 12–13mm Sample Tubes (3) • Maxprep™ Carrier, 10mm Sample Tubes (3) 	22, 23, 24	Removable tube racks can hold primary sample tubes and elution storage tubes. Provided with the system are three types of tube carriers that can accommodate a variety of tube types: large diameter 15–17mm tubes (16), small diameter 12–13mm tubes (16), 1.5ml flip-cap tubes or 2.0ml screw-cap tubes (16).
Maxprep™ Carrier, Tips and Plate	1	25–30	The tip carrier has a plate position at the back site of the carrier and three tip rack positions at the front three sites of the carrier. The types of tips (50, 300 or 1,000µl) are determined by the method being run and are detailed in the technical manuals for the chemistry methods.

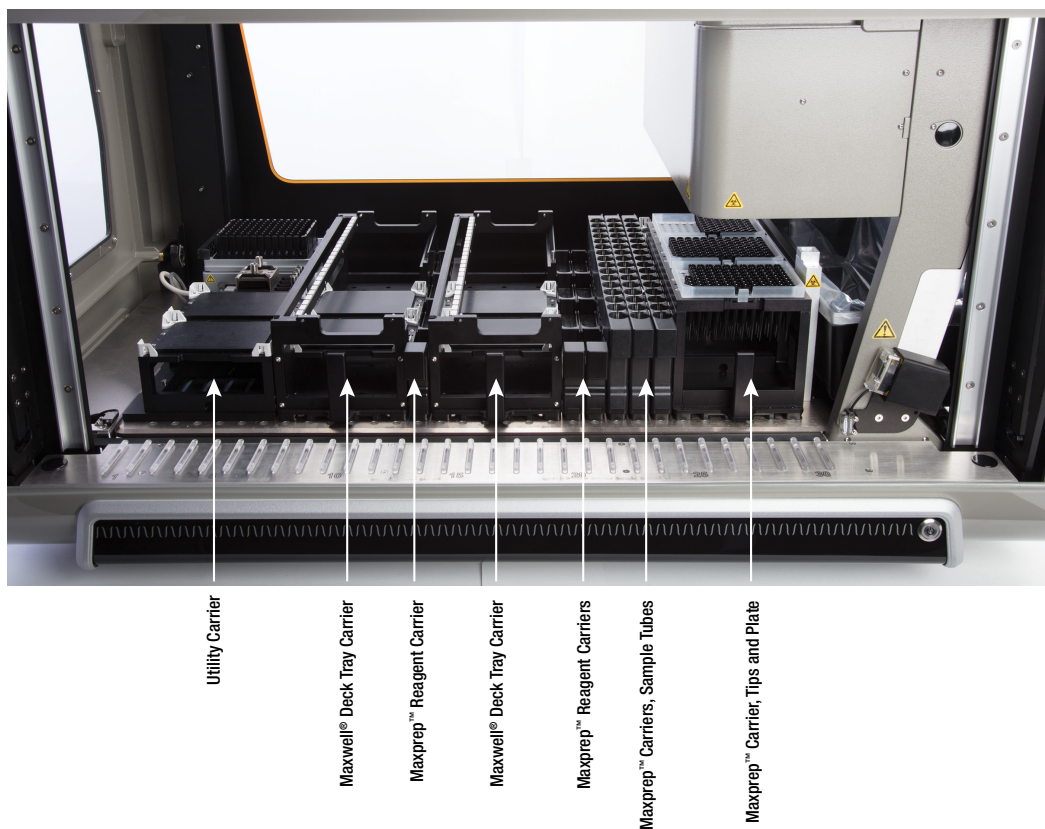


Figure 4. Internal components of the Maxprep™ Liquid Handler. The hardware components inside the Maxprep™ Liquid Handler. Carriers on the instrument can hold primary sample tubes (10mm diameter, 12–13mm diameter or 15–17mm diameter), Maxwell® deck trays (16-position Maxwell® deck trays [2], or Front and Back 24-position Maxwell® deck trays), processing plates, tips and Maxwell® plunger racks. The heater shaker device is capable of shaking incubation of samples in Nunc 2.0ml Deep Well Plates as required by any individual processing method.

On the right side of the instrument, past track 30 is a waste position with a black removable tip eject bar at the back and a calibration block at the front (Figure 5). Underneath the tip eject bar are two probes that are used for maintenance procedures. During these procedures, the system will prompt the user to remove the tip eject bar to expose these probes. When running preprocessing and post-processing methods on the instrument, the tip eject bar should always be in place; make sure the tip eject bar is returned to the system in the orientation shown in Figure 5. The pin on the waste position should fit in the small hole at the front of the tip eject bar, the large cut out should be at the back of the instrument and the angled side of the tip eject bar should be on the right side and facing downward toward the waste bin.



Used tips should be disposed of appropriately according to your institution's procedures for hazardous and biohazardous waste.

To the right of the waste position is a black removable plastic waste bin that is for disposal of used tips. Waste bags are provided with the system to line the plastic waste bin and collect used tips. Reorder Maxprep™ Waste Bags, Clear, from Promega (Cat.# AS9305). When removing the waste bin, lift it out toward the right while angling up the right side of the bin to avoid hitting the tip eject bar. Return the waste bin to the system by angling it under the tip eject bar and placing the bin in position.

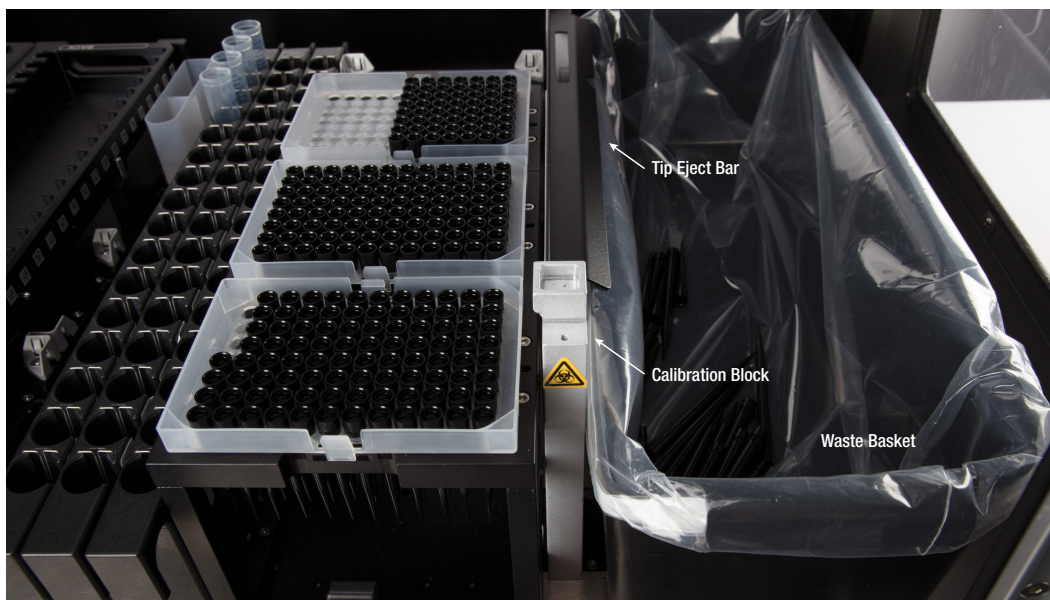


Figure 5. Waste position and plastic waste bin. To the right of the carriers is a waste position that has a removable black tip eject bar as well as a calibration block. On the far right side of the instrument is a removable black plastic waste bin that is used for disposal of used tips.

3

Setting Up the Maxprep™ Liquid Handler

3.1 Installing the Maxprep™ Liquid Handler

The Maxprep™ Liquid Handler will be installed by a trained Promega representative. Prior to installation, identify a location for the instrument that conforms to the environmental requirements in Section 1.9 and the Maxprep™ Site Preparation Document sent by Promega.

We recommend connecting the Maxprep™ Liquid Handler, PC and Monitor to an uninterruptible power supply. In order to use the Portal sample tracking functionality, we recommend connecting the PC to your internal network.



Prior to installing the Maxprep™ Liquid Handler, consult with your IT department to evaluate any concerns or limitations with connecting the Maxprep™ Liquid Handler PC and any Maxwell® Tablet PCs to your network. Contact Promega Technical Services if further assistance is needed.

Recommended Domain policy settings when the Maxprep™ Liquid Handler PC is connected to your internal network

Ensure that domain policies for the PC adhere to the following:

- Disable automatic Windows® updates.
- Virus scanning programs can interfere with the operation of the instrument. Please disable virus scanning programs, manually perform virus scans, or schedule virus scanning outside of working hours. When placed on a site domain, contact your IT department to ensure that domain policies are amended such that the Maxprep™ software is excluded from virus scanning software.
- Disable automatic power off, sleep or hibernation settings.
- Disable "Fast Startup". Set the power button to Shut Down, not Sleep.
- Disable any other automatically or manually started software that would consume PC resources during operation.

3.2 Switching on the Maxprep™ Liquid Handler

The Maxprep™ Liquid Handler has two power switches: a rocker switch that is located next to the power cable connection behind the right access hatch, and a power button located on the right front side of the instrument. After installation, the rocker switch behind the right access hatch should be left in the on position.

Press the power button on the right front side of the Maxprep™ Liquid Handler to turn on the instrument (Figure 6). After turning on the instrument, wait at least 1 minute after the green light on the gantry bar code scanner is illuminated before starting the Maxprep™ Application Software or any methods. Press the PC power button to turn on the PC. Start the Maxprep™ Application Software by double-clicking the icon on the PC desktop.

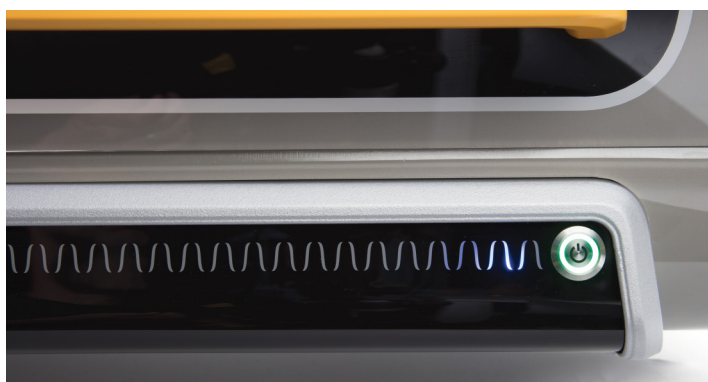


Figure 6. On/Off switch.

3.3 Shutting Down the Maxprep™ Liquid Handler

1. Shut down the Maxprep™ software by selecting the **X** in the upper right corner of the user interface.
2. Turn off the Maxprep™ Liquid Handler by pressing the power button on the right front side of the instrument.
3. Shut down the PC using the Windows® 10 shut down procedure: select the Windows® **Start** button in the lower left corner of the screen, select the power icon from the left side of the Start menu and select **Shut Down**.

3.4 Configuring the PC

Your Maxprep™ Liquid Handler is controlled by Maxprep™ software running on a PC with a touch-screen monitor. The PC should be configured to meet the needs of your site, including adding users, specifying access-levels for users, connecting to a network and adding network printers. Instructions for configuring the PC can be found in the Appendix of this user manual.

4 Maxprep™ Software

4.1 'Home' Screen

The 'Home' screen is the main launching pad for interaction with the functionalities built into the Maxprep™ User Interface. The 'Home' screen (Figure 7) contains four buttons:

Start	Selecting the Start button on the 'Home' screen will begin the process of preparing a method run on the Maxprep™ Liquid Handler (see Section 5.3, Starting a Method).
Results	Selecting the Results button opens the 'Results' Screen, where it is possible to review, print and export any of the run reports from previous chemistry and maintenance processes that have been performed on this instrument module (see Section 5.5, Reports, and Section 5.6, Accessing Reports).
Maintenance	Selecting the Maintenance button opens the 'Maintenance' screen. From this screen you can perform Daily and Weekly Maintenance tasks or a UV sanitization of the system (if the system has been purchased with the UV light option; see Section 5.1, Maintenance).
Settings	Selecting the Settings button opens the 'Settings' screen, which includes functions to view Instrument Info, Export Logs and set administrator-specific instrument settings with Administrator (only available to users with Administrator-level access to the Maxprep™ software; see Section 4.2, Software Settings, and Section 4.3, Administrator Settings).

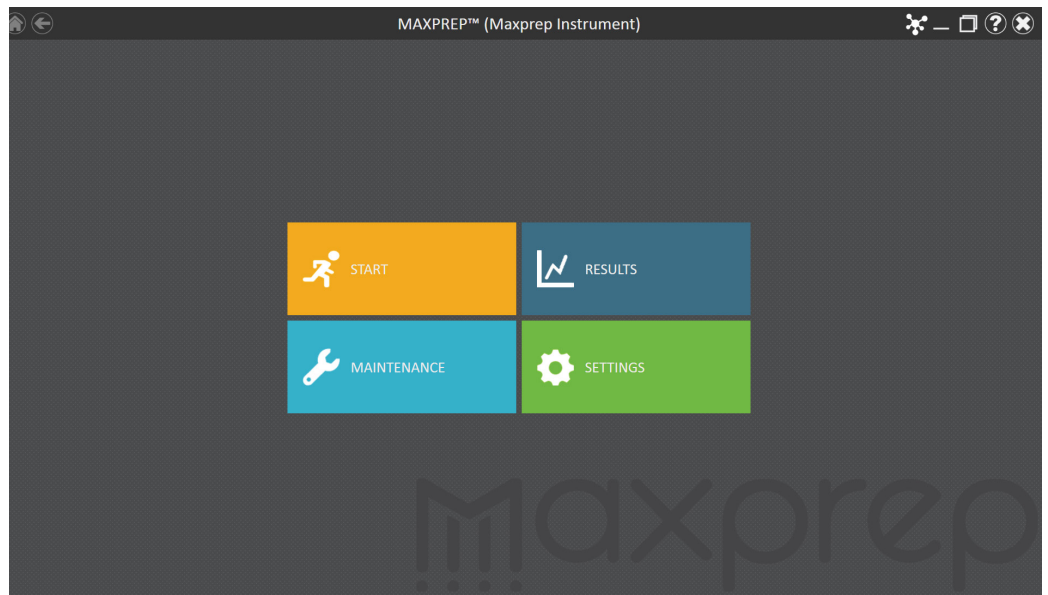










Figure 7. Maxprep™ software 'Home' screen. On this screen are buttons to **Start** a method, view **Results**, run **Maintenance** methods and adjust software **Settings**.

The instrument name appears in the title bar of the user interface. The following navigation buttons are displayed across the top of the user interface screen:

	Home	From any screen other than the 'Home' screen, select this icon to return to the 'Home' screen.
	Back	When active, selecting the Back button will return the interface to the screen accessed prior to the current screen.
	Portal	When visible, the Portal icon indicates that the Maxprep™ software is connected to the Portal software.
	Portal Error	When visible, the Portal icon with a red circle containing an exclamation point indicates that the connection to Portal software has been lost. Results from the last run will be exported to Portal software when the connection is restored. Disable Portal sample tracking to run methods until connection is returned, and then reactivate Portal sample tracking.
	Minimize	This button will minimize the Maxprep™ software to an icon in the Windows® task bar. Select the task bar icon to restore the Maxprep™ software screen.
	Resize	The Resize button toggles between displaying the Maxprep™ software maximized on the screen or resized.
	Help	Access context-sensitive help by selecting this button.
	Exit	When active, selecting the Exit button will close the Maxprep™ software and return users to the Windows® operating system.

4.2 Software Settings

Within the Maxprep™ software, it is possible for all users to access instrument-specific information and export log files. In addition, users with Administrator-level access to the Maxprep™ software can modify software options to tailor the behavior of the software to the needs of their laboratory. Below are sections that describe the functionalities that are accessible from the **Settings** button on the 'Home' screen of the Maxprep™ software.

The appearance of the 'Settings' screen (Figure 8) is tailored to the Maxprep™ software access level assigned to the Windows® user account (see Appendix). A Windows® user account with user-level access to the Maxprep™ software will see the buttons **Instrument Info** and **Export Logs**. A Windows® user account with administrator-level access to the Maxprep™ software will additionally see an **Administrator** button. From this screen the operator can access the instrument functionalities described below.

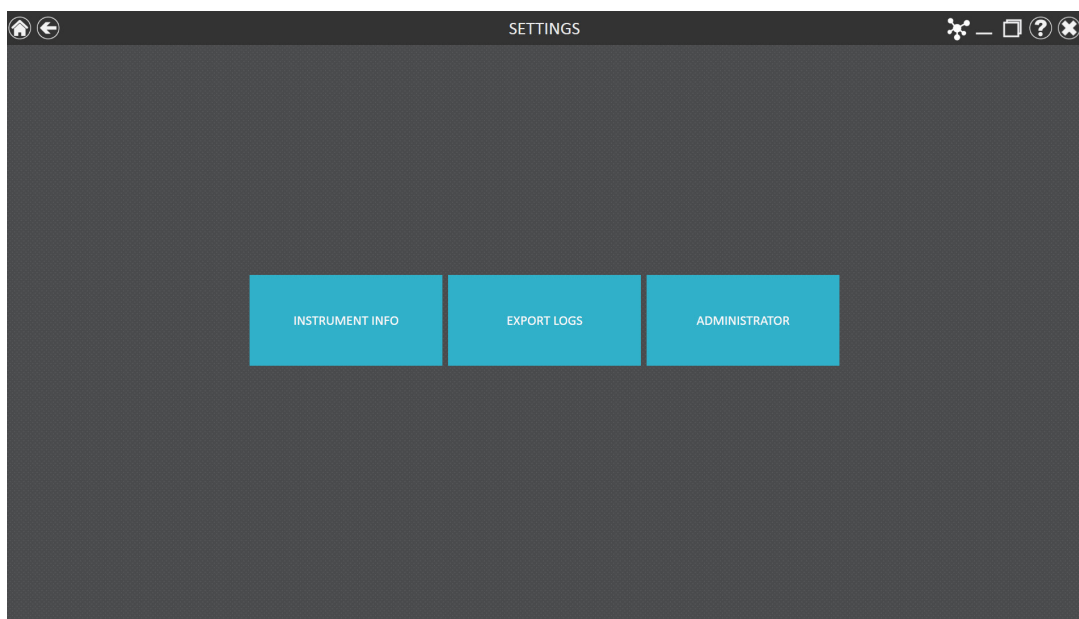


Figure 8. Maxprep™ 'Settings' screen. From this screen various instrument-specific functions can be accessed. The **Administrator** button will be displayed only for Windows® user accounts with administrator-level access to the Maxprep™ software.

4.2.1 Instrument Info

Select the **Instrument Info** button to display software and instrument-specific information for this Maxprep™ Instrument on an 'About Maxprep™' screen (Figure 9). The information shown on this screen includes:

- **Maxprep™ Software Version:** the Maxprep™ software version installed on the PC
- **Maxprep™ Software Revision:** the Maxprep™ software revision number of the software version installed on the PC
- **Instrument Software Version:** the instrument control software version installed on the PC
- **Maxprep™ Name:** the name that an administrator has assigned to this instrument
- **Maxprep™ Serial Number:** the serial number of the Maxprep™ Liquid Handler

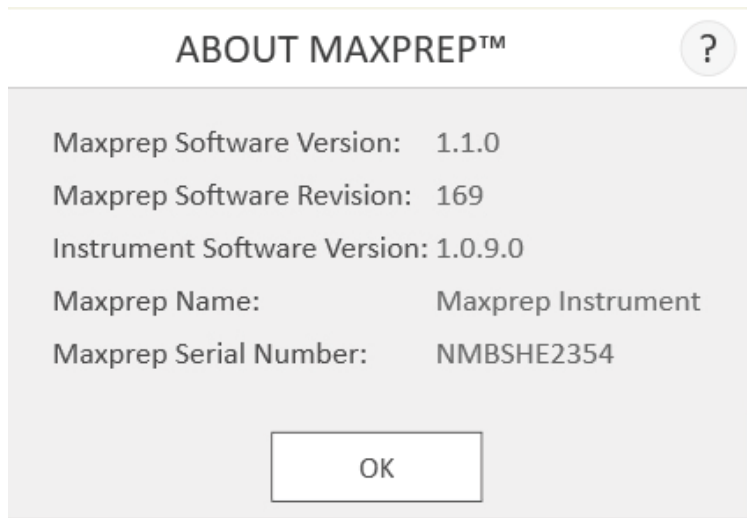


Figure 9. 'About Maxprep™' screen. Instrument- and software-specific information are displayed on this screen.

4.2.2 Export Logs

The **Export Logs** button will export instrument logs for troubleshooting purposes. When contacting Promega Technical Services for troubleshooting assistance, collect these logs and include them along with a description of your problem.

1. Select the **Export Logs** button to display the 'Export Logs' screen (Figure 10, Panel A). Select the path to which instrument logs should be exported.
2. Using the Yellow and Red rectangle buttons you can select the folder location where the instrument logs will be saved. The current path is indicated by the yellow rectangles at the top of the 'Export Logs' screen. Any folders present within the selected directory are displayed as red rectangles in the main portion of the screen. Select the **Drive** button to navigate to the drive location of the desired folder. Select the red folder buttons to navigate to the desired folder location.

Note: Additional historical logs are available on the Maxprep™ PC folder at:
C:\ProgramData\Promega\Maxprep\Logs

3. Once a path has been defined, select the **OK** button to export logs to the specified path, or select **Cancel** to return to the 'Settings' screen without exporting logs.
4. After selecting the **OK** button, the 'Export' screen is displayed, indicating that the log files were successfully exported to the specified path (Figure 10, Panel B). Select **Open** on the 'Export' screen to open the folder location containing the exported logs.
5. Select **Done** to close the 'Export' screen and return to the 'Settings' screen.

Instrument logs will be exported as a zip file to the path that was specified by the operator. The zip file of the logs should be retrieved from the specified location and sent to a Promega Technical Services representative for further troubleshooting.

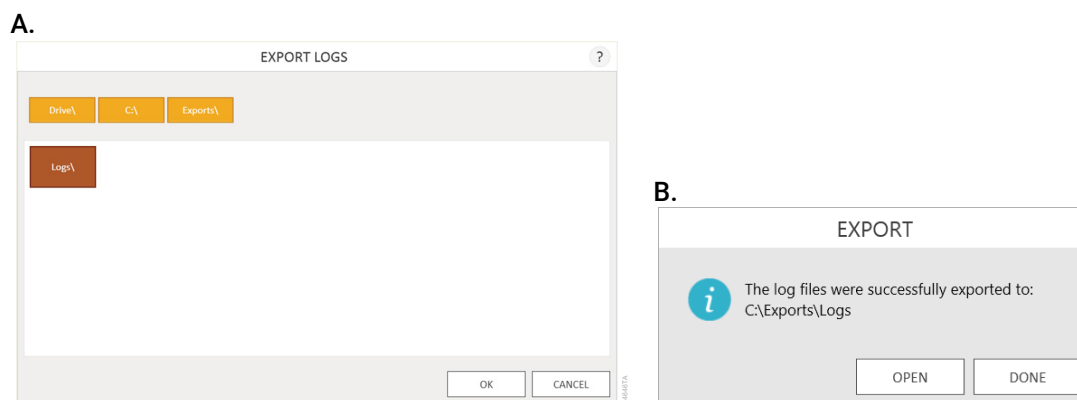


Figure 10. Export Logs. Panel A. The 'Export Logs' screen is displayed after selecting the **Export Logs** button. Specify a path to which the instrument log files should be exported. Select **OK** to export instrument logs to the specified location or **Cancel** to return to the 'Settings' screen without exporting logs. **Panel B.** After instrument log files are exported, the 'Export' screen is displayed, indicating that logs have been saved to the specified path. Select **Open** to view the folder location of the exported instrument log files. Select **Done** to exit the 'Export' screen and return to the 'Settings' screen.

4.3 Administrator Settings

Software settings for the Maxprep™ software can be accessed by Windows® user accounts with administrator-level access to the Maxprep™ software using the **Administrator** button on the 'Settings' screen. From the 'Settings' screen, select the **Administrator** button to open the 'Administrator' screen.

The functions available from the 'Administrator' screen allow users with administrator-level access to the Maxprep™ software to customize the behavior of the Maxprep™ software to the needs of their laboratory. Buttons on the 'Administrator' screen allow the administrator to: manage **Methods** installed in the software, import or delete **Labware**, **Manage Kits** installed in the software, configure **Preferences** for the Maxprep™ software, define an **Instrument Name** for this Maxprep™ Liquid Handler and view user-readable **Audit Records**. The behavior of each button on the 'Administrator' screen is detailed below. Follow the instructions below to adapt the behavior of the Maxprep™ software to the needs of the laboratory, or refer to any individual subsection to address a specific setting.

1. To return to the 'Home' screen from any other screen, select the **Home** button in the upper left corner of the screen. From the 'Home' screen of the Maxprep™ software (Figure 11), select the **Settings** button.



Figure 11. Maxprep™ 'Home' screen. Selecting the **Home** button from any screen will return users to the 'Home' screen.



Note: If the **Administrator** button is not visible, log out of the Windows® operating system as this user and log back in with user credentials that have administrator access rights within the Maxprep™ software.

2. If the current operator logged into the PC has administrator access rights within the Maxprep™ software, the 'Settings' screen (Figure 12) displays an **Administrator** button. On the 'Settings' screen, select the **Administrator** button to proceed to the 'Administrator' screen (Figure 13).

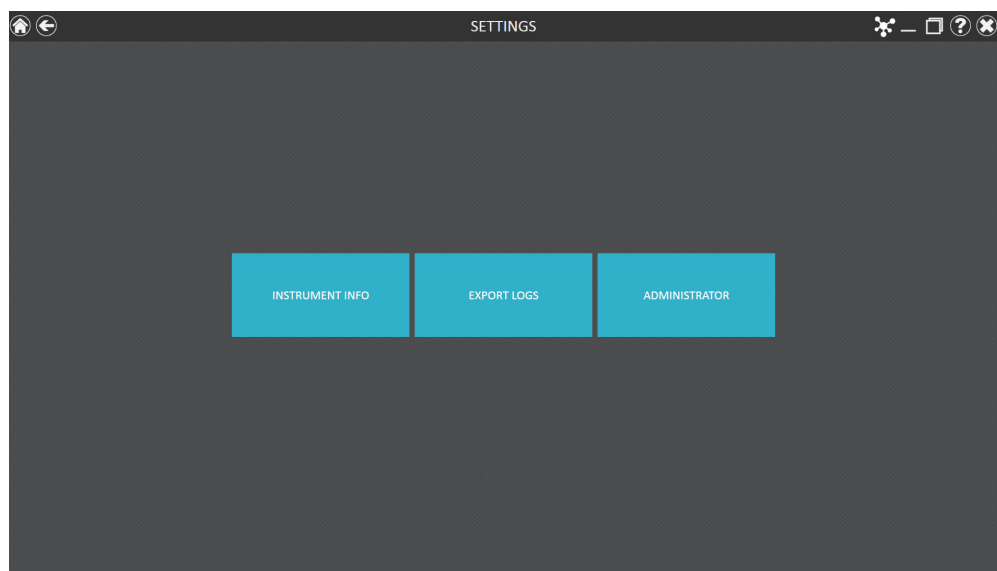


Figure 12. Maxprep™ 'Settings' screen. The **Administrator** button will only be visible if the currently logged-in operator has administrator-level rights within the Maxprep™ software.

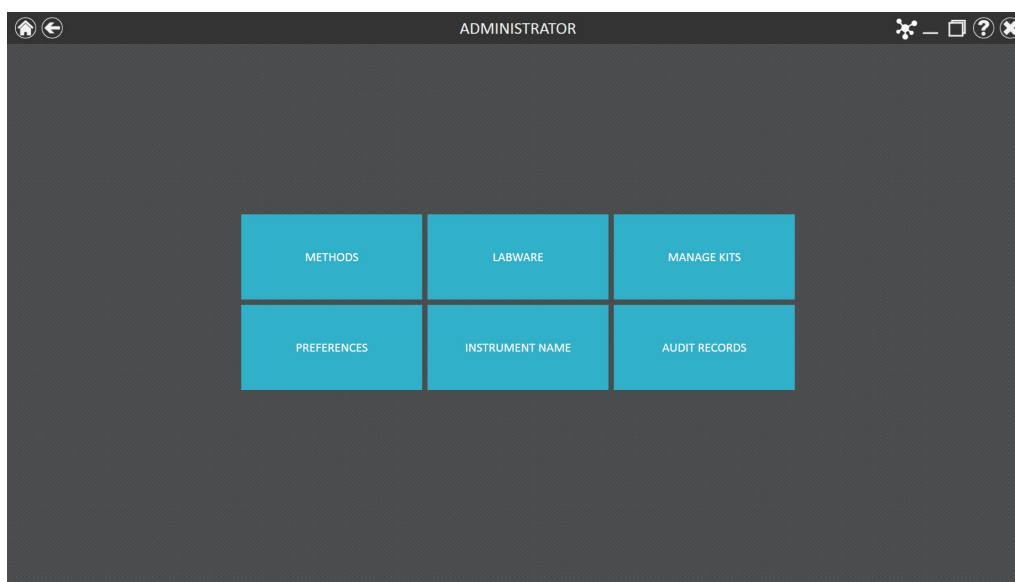


Figure 13. Maxprep™ 'Administrator' screen. This screen is only visible to operators with administrator-level rights to the Maxprep™ software and gives access to customize the behavior of several aspects of the Maxprep™ system.

4.3.1 Methods

View the methods currently installed in the Maxprep™ software on the 'Methods' screen (Figure 14) by selecting the **Methods** button from the 'Administrator' screen (Figure 13).

METHOD	NAME	DESCRIPTION	TYPE	SAMPLE TYPE	CATALOG ID	VERSION		
	FFPE Lysis Reaction Preparation	This method will perform the lysis reaction setup for both AS1440...	Pre-Processing	Universal	None	1.1.0		
	Maxwell® RSC Blood DNA	The Maxwell® RSC Blood DNA Kit is designed for optimal automa...	Pre-Processing	DNA	AS1400	1.1.0		
	Maxwell® RSC cctDNA Plasma	The Maxwell® RSC cctDNA Plasma Kit is used with the Maxwell® R...	Pre-Processing	DNA	AS1460	1.1.0		
	Maxwell® RSC DNA FFPE	The Maxwell® RSC DNA FFPE Kit is used with the Maxwell® RSC L...	Pre-Processing	DNA	AS1450	1.1.0		
	Maxwell® RSC miRNA Tissue	The Maxwell® RSC miRNA Tissue Kit is used with the Maxwell® R...	Pre-Processing	RNA	AS1460	1.1.0		
	Maxwell® RSC RNA FFPE	The Maxwell® RSC RNA FFPE Kit is used with the Maxwell® RSC L...	Pre-Processing	RNA	AS1440	1.1.0		
	Maxwell® RSC simplyRNA Blood	The Maxwell® RSC simplyRNA Blood Kit, used with the Maxwell® R...	Pre-Processing	RNA	AS1380	1.1.0		
	Maxwell® RSC simplyRNA Cells	The Maxwell® RSC simplyRNA Cells Kit, used with the Maxwell® R...	Pre-Processing	RNA	AS1390	1.1.0		
	Maxwell® RSC simplyRNA Tissue	The Maxwell® RSC simplyRNA Tissue Kit, used with the Maxwell® R...	Pre-Processing	RNA	AS1340	1.1.0		
	Maxwell® RSC Whole Blood DNA	The Maxwell® RSC Whole Blood DNA Kit is a simple, automated...	Pre-Processing	DNA	AS1520	1.1.0		
	Maxwell® RSC Viral Total Nucleic Acid	The Maxwell® RSC Viral Total Nucleic Acid Purification Kit is desig...	Pre-Processing	Universal	AS1330	1.1.0		
	Normalization	This method will normalize samples to a target concentration and...	Post-processing	Universal	None	1.1.0		
	PCR Setup	This method will setup endpoint PCR reactions.	Post-processing	DNA	None	1.1.0		
	Quantifluor Dye Quantitation	Fluorescent dye quantitation for nucleic acids in solutions.	Post-processing	Universal	None	1.1.0		
	Quantitative PCR Setup	This method will setup quantitative PCR reactions.	Post-processing	DNA	None	1.1.0		






Figure 14. 'Methods' screen. This screen displays a list of the methods installed in the Maxprep™ software. For entries with a folder icon, select the entry to view variant methods.

Use the filter check boxes on the left side of the screen to display only certain types of methods.

You can filter by:

- **Method Type:** Preprocessing or post-processing methods.
- **Sample Type:** DNA, RNA or Universal (total nucleic acid) sample types.
- **Favorites:** Only methods where the Favorites star icon to the left of the method is highlighted.
- **Keyword:** Type in a word or word fragment to only show methods that contain that word in the Name, Description or CatalogID field.

For each method on the “Methods’ screen (Figure 14), the following are displayed:

	Mark this method as a favorite for filtering purposes. Favorites are displayed at the top of the list of methods.
	When the folder icon appears in an entry, it indicates that variant methods have been created for this entry. Select the entry to view the existing variant methods.
Name	The name of the method.
Description	A description of the method.
Type	Indicates whether this is a preprocessing or post-processing method.
Sample Type	Indicates the target nucleic acid to which this method applies: DNA, RNA or Universal (total nucleic acid) samples.
Catalog Number	The catalog number for the kit (if any) associated with the method.
Version Number	The version number of the method.
	Icon for creation of a new variant method based on the settings for an existing method.
	Icon for editing an existing variant method.
	Icon for deletion of a method or variant method.

4.3.2 Importing Methods

Only Administrators can add new methods, update or delete existing methods. Administrators can download new or updated methods from the website at: www.promega.com/resources/software-firmware/maxwell-maxprep/maxprep-liquid-handler-methods/

Methods are provided as files with a .package extension. Follow the instructions below to import a method into the Maxprep™ software.

1. Save the method (.package) file on the PC attached to the Maxprep™ Liquid Handler.
2. If not already running, start the Maxprep™ software by double-clicking the software icon on the desktop.
3. Navigate to the ‘Methods’ screen (Home → Settings → Administrator → Methods)
4. Select the **Import...** button on the top left side of the screen to open the ‘Methods’ file browser screen (Figure 15).

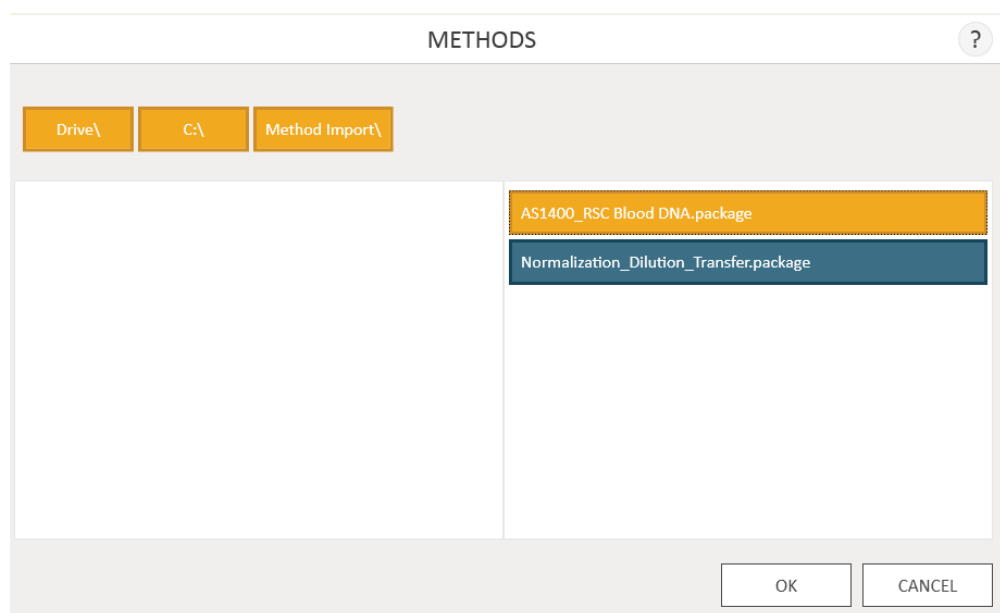


Figure 15. Method import file selection. Use the 'Methods' file browser to navigate to the location of a method (.package) file. Valid import files are shown on the right side of the file browser as blue rectangles (yellow when selected).

5. Within the 'Methods' screen, navigate to the location at which you saved the method (.package) file. The current path will be shown in yellow boxes along the top of the window. Select any aspect of the path to navigate to the desired folder. Select the **Drive** button to select the drive in which to search. Folders within the current path are shown as red rectangles on the left side of the screen. Valid method (.package) files will be shown as blue rectangles (yellow when selected) on the right side of the screen.
6. Select the blue rectangle(s) corresponding to the desired (.package) file(s) to highlight, and then select the **OK** button to import the selected methods.




Note: When importing the same version of an existing method, the imported method will overwrite the existing method and all existing variants will be deleted. A warning is displayed, indicating that the existing method and variants will be deleted. The warning will ask whether you wish to proceed with import; select **Yes** to delete the existing method and variants or **No** to cancel the import. New versions of methods will not overwrite existing methods. To remove a previous version, delete the desired method by selecting the **X** on the right side of the method entry.


7. A screen will indicate successful import of the method(s) into the software. If import was successful, the new method file(s) will appear in the list of method files on the 'Methods' screen.

4.3.3 Variant Methods

Each of the methods on the Maxprep™ Liquid Handler can be customized by the administrator to meet the processing needs of the laboratory. The administrator can create variants of the default method that specify new default values, set minimum and maximum ranges and determine whether values can be changed by users at run time for a variety of processing options.

Creating a Variant Method

1. To create a new variant method, select the  icon on an existing method entry to open the 'Save-As Variant' screen (Figure 16, Panel A). The new variant method will initially be populated with the values from the original method or variant method. Changes made to the method will be saved as a new variant method.

To edit an existing variant method, select the  icon on an existing variant method entry to open the 'Edit Variant' screen (Figure 16, Panel B). Changes made to the variant method will modify the existing variant method.

A.

SAVE-AS VARIANT ?

Method variant based on 'Maxwell RSC Blood DNA Variant'

Name:

Description:

Name	Value	Min / Max	User Modifiable
Maxwell			
Alternating Sample/Empty Layout	<input type="checkbox"/>		<input checked="" type="checkbox"/>
Maxwell RSC (16 Sample) Instrument	<input type="checkbox"/>		<input type="checkbox"/>
Sample			
Elution Volume (µl)	50	40 / 100	<input type="checkbox"/>
Sample Number	1	1 / 48	<input checked="" type="checkbox"/>
Sample Volume (µl)	300	150 / 300	<input checked="" type="checkbox"/>

OK CANCEL

B.

EDIT VARIANT ?

Method variant based on 'Maxwell RSC Blood DNA Variant'

Name:

Description:

Name	Value	Min / Max	User Modifiable
Maxwell			
Alternating Sample/Empty Layout	<input type="checkbox"/>		<input checked="" type="checkbox"/>
Maxwell RSC (16 Sample) Instrument	<input type="checkbox"/>		<input type="checkbox"/>
Sample			
Elution Volume (µl)	50	40 / 100	<input type="checkbox"/>
Sample Number	1	1 / 48	<input checked="" type="checkbox"/>
Sample Volume (µl)	300	150 / 300	<input checked="" type="checkbox"/>

OK CANCEL

Figure 16. Creating a variant method. Panel A. The 'Save-As Variant' screen allows the administrator to create a new variant method based on the settings for an existing default or variant method loaded in the Maxprep™ software. **Panel B.** The 'Edit Variant' screen allows the administrator to edit the settings of an existing variant method.

2. Enter a name and description to identify the variant method in the Name: and Description: fields.
3. Below the Description: field are groups of variables whose values can be modified by the administrator. Select the **+/-** icon to the left of the group to expand/hide any individual group of accessible variables.

4. For each variable type, the following are listed:
 - a. **Name:** A description of the variable that is being set.
 - b. **Value:** The default value for this variable. If the default value falls outside of the allowable range for the variable, the value will default to the nearest allowable value within the range.
 - c. **Min/Max:** The range of values that are acceptable for this variable. Variables may have an absolute Min/Max range that is set by Promega. The administrator can narrow this range if desired to meet laboratory needs. The software will check that the entries conform to the following conditions:
 - i. The minimum value is less than or equal to the maximum value.
 - ii. The minimum and maximum values are within the absolute range set by Promega.
 - iii. The default value is within the specified range.

If there is an issue with any of these conditions, the software will automatically reset the offending value to the nearest allowable value within the range.

- d. **User Modifiable:** A check box to indicate whether users can change the default value during a run.

Note: Not all variables that can be specified in a variant method are available for users to modify during a method run.

Information regarding the variables that can be set for method types or specific methods, and the impact of these settings, can be found in the Technical Manuals specific to your preprocessing or post-processing methods.

5. The administrator can modify any of the accessible variables to meet the needs of the laboratory workflow.

- Once all changes have been applied, select the **OK** button to save the variant method. New variant methods will be added to the list of variant methods in the folder (Figure 17).

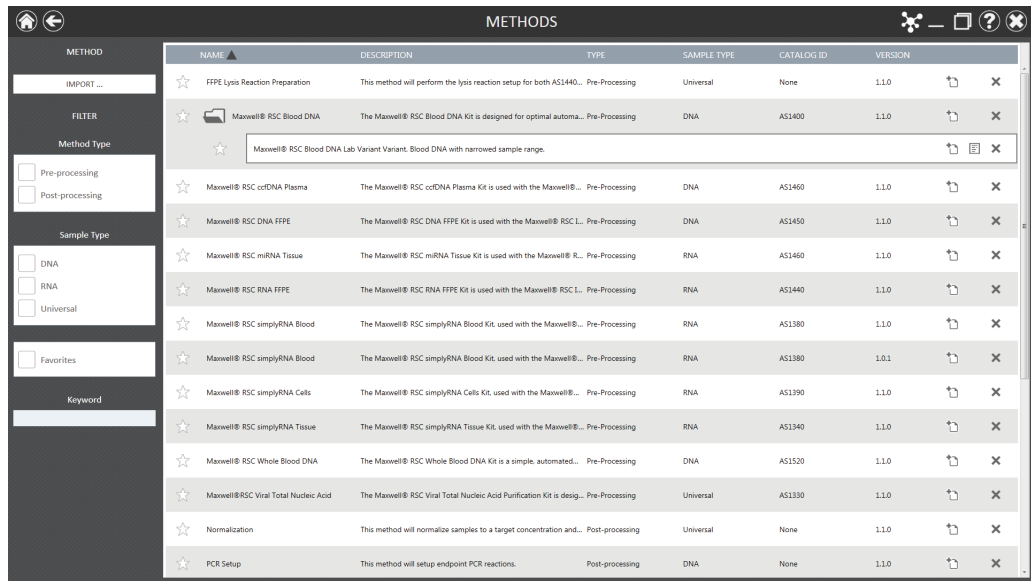






Figure 17. Appearance of variant methods. Administrator 'Methods' screen showing an expanded method folder with a variant method.

In the list of methods, variant methods have the following information present:

	Mark this method as a favorite so it is always sorted to the top of the variant methods list.
Name	The name of the method.
Description	A description of the method.
	Icon for creation of a new variant method based on the values set for the specified variant method. Saves the resulting variant method as a new entry.
	Icon that allows editing of the values in an existing variant method. Replaces the existing variant method with the newly entered values.
	Icon for deletion of a variant method.

Once variant methods have been created by the administrator, they will be available for users to run on the system (see Section 5.3, Starting a Method).

4.3.4 Deleting Methods



Note: When deleting a default method from the Maxprep™ software, a warning will be displayed to confirm that you wish to delete the default method and all variants of that method.

To delete a method or variant method from the Maxprep™ software, select the **X** on the right side of the method list entry to delete it. A 'Warning' screen will be shown asking whether the file should be permanently deleted. Select **Delete** to permanently remove the file from the Maxprep™ software or **Cancel** to return to the 'Methods' screen without deleting the method.

4.3.5 Labware

View the labware currently installed in the Maxprep™ software on the 'Labware' screen (Figure 18) by selecting the **Labware** button from the 'Administrator' screen (Figure 13).

NAME	DESCRIPTION	TYPE	DELETE
3.5 ml Top Cap Tubes		Tube	X
12 ml Round Bottom Tubes	Vacutainer (20 mm)	Tube	X
24 ml Round Bottom Tubes		Tube	X
2.0 ml Screen Cap Tubes	Sartorius Tubes	Tube	X
2.0 ml Screen Cap Tubes	Sartorius Tubes	Tube	X
4 ml Round Bottom Tubes	Vacutainer (20 mm)	Tube	X
8 ml Syringe Round Tubes	5-Maxwell	Tube	X
96-well Black Plates	Part number 9601	Plate	X
96-well Plates	96-well Storage Tube Rack	Plate	X
96-well Plates	96-well Storage Tube Rack	Plate	X
Maxprep™ Deep Well Processing Plates	Part number 400007	Plate	X
Maxprep™ Deep Well Processing Plates	Part number 400007	Plate	X
Maxwell RSC 48 Tray	Samples are in shallow tubes	RSC48	X
Maxwell RSC Tray	Samples are in shallow tubes	RSC	X
Optical PCR Plates	ABI Part Number 4302040	Plate	X
Promega 3.1 ml Square well plate	Part number 9601	Plate	X
Promega Collection Plate	Part number 400001	Plate	X

Figure 18. 'Labware' screen. This screen displays a list of the labware installed in the Maxprep™ software.

For each labware listed on the 'Labware' screen (Figure 18), the following are displayed:

Name	The name of the labware.
Description	Description of the labware.
Type	The type of labware (Plate, Tube, 16-position Maxwell® deck tray [identified as RSC], 24-position Maxwell® deck tray [identified as RSC 48]).
X	Icon for deletion of a labware.

4.3.6 Importing Labware

Only Administrators can import new labware into the Maxprep™ software. Administrators can request new labware from Promega Technical Services (**techserv@promega.com**). Labware definitions are provided in files with a .labware extension. Follow the instructions below to import a labware import file into the Maxprep™ software.

1. Save the labware (.labware) file on the PC attached to the Maxprep™ Liquid Handler.
2. If not already running, start the Maxprep™ software by double-clicking the software icon on the desktop.
3. Navigate to the 'Labware' screen (Home → Settings → Administrator → Labware)
4. Select the **Import...** button on the top left side of the screen to open the 'Labware Import' file browser screen (Figure 19).

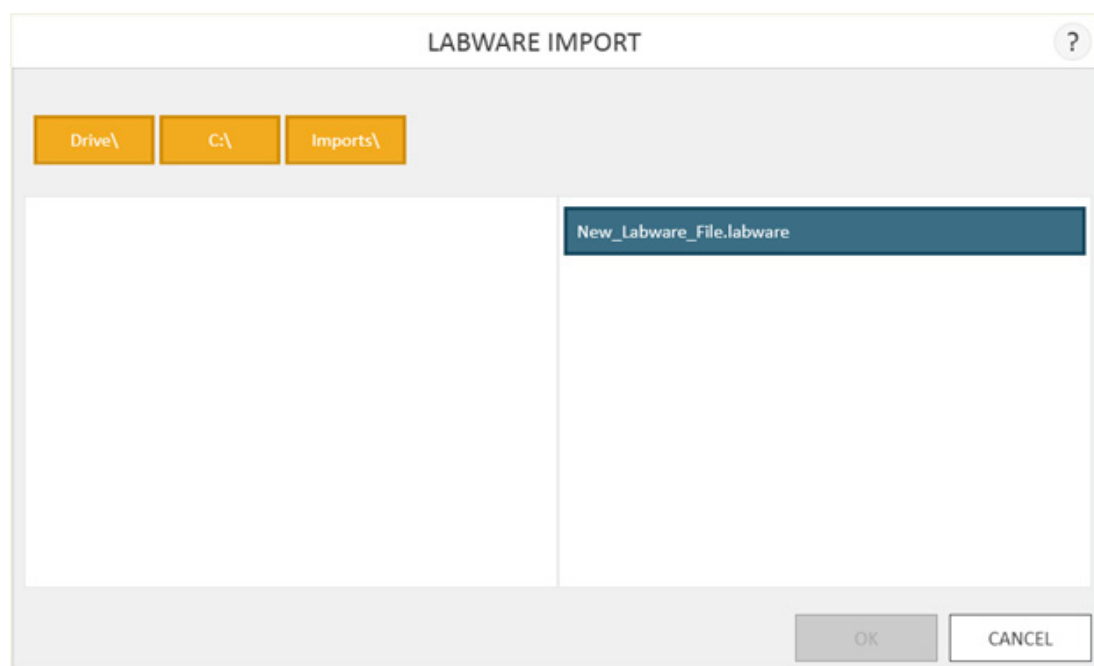


Figure 19. Labware import file selection. Use the 'Labware Import' file browser to navigate to the location of a labware (.labware) file. Valid import files are shown on the right side of the file browser as blue rectangles (yellow when selected).

5. Within the 'Labware Import' file selection screen, navigate to the location at which you saved the labware (.labware) file. The current path will be shown in yellow boxes along the top of the window. Select any aspect of the path to navigate to the desired folder. Select the **Drive** button to select the drive in which to search. Folders within the current path are shown as red rectangles on the left side of the screen. Valid labware (.labware) files will be shown as blue rectangles (yellow when selected) on the right side of the screen.

6. Select the blue rectangle(s) corresponding to the desired (.labware) file(s) to highlight, and then select the **OK** button to import the selected labware.

Note: When importing the same or a new version of an existing labware, the imported labware will overwrite the existing labware. During import a warning is displayed, indicating that the existing labware will be deleted. The warning will ask whether you wish to proceed with import; select **Yes** to delete the existing labware or **No** to cancel the import.

7. A 'Labware Import' selection screen is displayed (Figure 20) that enables the administrator to determine which labware will be imported from the selected (.labware) file. This screen displays the name of each labware type present in the (.labware) import file and check boxes for whether the labware will be imported, the RCK file will be overwritten, and the CTR file will be overwritten. If any labware within the file already exists in the Maxprep™ software, a red triangle with a white exclamation point is displayed to the left of the labware type. When importing labware, unless instructed otherwise, it is recommended to leave the check boxes for Import, RCK file and CTR file checked. To complete labware import select the **OK** button, or to cancel import select the **Cancel** button.

Note: Separate instructions will be sent with the labware import file that describe how to use the Maxprep™ Labware Management utility to determine the methods for which the new labware will be available.

LABWARE IMPORT ?










NAME ▲	IMPORT	RCK FILE	CNT FILE
 1.5 ml Flip Cap Tubes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 10 ml Blood Tubes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 14 ml Round-Bottom Tubes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 2.0 ml Screw Cap Tubes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 6 ml Blood Tubes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 9 ml Syringe Blood Tubes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 Costar Flat Black Plate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 FluidX Plate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 Maxprep Deep Well Processing Plates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 20. 'Labware Import' Selection Screen. Use the check boxes on this screen to determine which items will be imported and which labware files will be overwritten on import. A red triangle with white exclamation point indicates that the specified labware already exists in the Maxprep™ software.

4.3.7 Deleting Labware

To delete labware from the Maxprep™ software, select the **X** on the right side of the labware list entry. A 'Warning' screen will be shown asking whether the labware should be permanently deleted. Select **Delete** to permanently remove the labware from the Maxprep™ software or **Cancel** to return to the 'Labware' screen without deleting the labware.

4.3.8 Manage Kits

Certain Maxprep™ methods are capable of supporting the use of multiple Promega kits (e.g., Promega STR kits). These methods reference and allow the selection of kit settings files that are stored in the Maxprep™ software. View the kits currently installed in the Maxprep™ software on the 'Manage Kits' screen (Figure 21) by selecting the **Manage Kits** button from the 'Administrator' screen (Figure 13).

NAME	DESCRIPTION	CATALOG ID	DELETE
PowerPlex® ESX 17/ ESI 17 Fast	Co-Amplification and 5-Color Detection of ENFSI-Recommended STR Loci	DC17	X
PowerPlex® ESX 17/ ESI 17 Fast Casework Direct	Co-Amplification and 5-Color Detection of ENFSI-Recommended STR Loci	DC17	X
PowerPlex® ESX 17/ ESI 17 Fast Half Volume	Co-Amplification and 5-Color Detection of ENFSI-Recommended STR Loci	DC17	X
PowerPlex® ESX 17/ ESI 17 Fast Half Volume Punch	Co-Amplification and 5-Color Detection of ENFSI-Recommended STR Loci, FTA and non-FTA Punches	DC17	X
PowerPlex® ESX 17/ ESI 17 Fast Half Volume Swabs	Co-Amplification and 5-Color Detection of ENFSI-Recommended STR Loci, Swab Solution Lysates	DC17	X
PowerPlex® ESX 17/ ESI 17 Fast Punches	Co-Amplification and 5-Color Detection of ENFSI-Recommended STR Loci, FTA and non-FTA Punches	DC17	X
PowerPlex® ESX 17/ ESI 17 Fast Swabs	Co-Amplification and 5-Color Detection of ENFSI-Recommended STR Loci, Swab Solution Lysates	DC17	X
PowerPlex® Fusion	Co-Amplification and 5-Color Detection of 24 Loci	DC24	X
PowerPlex® Fusion 6C	Co-Amplification and 6-Color Detection of 27 Loci	DC27	X
PowerPlex® Fusion 6C Half Volume	Co-Amplification and 6-Color Detection of 27 Loci	DC27	X
PowerPlex® Fusion 6C Half Volume Punch	Co-Amplification and 6-Color Detection of 27 Loci, FTA and non-FTA Punches	DC27	X
PowerPlex® Fusion 6C Half Volume Swabs	Co-Amplification and 6-Color Detection of 27 Loci, Swab Solution Lysates	DC27	X
PowerPlex® Fusion Half Volume	Co-Amplification and 5-Color Detection of 24 Loci	DC24	X
PowerPlex® Fusion Half Volume Punch	Co-Amplification and 6-Color Detection of 24 Loci, FTA and non-FTA Punches	DC24	X
PowerPlex® Fusion Half Volume Swabs	Co-Amplification and 5-Color Detection of 24 Loci, Swab Solution Lysates	DC24	X
PowerPlex® Fusion Punches	Co-Amplification and 5-Color Detection of 24 Loci, FTA and non-FTA Punches	DC24	X
PowerPlex® Fusion Swabs	Co-Amplification and 5-Color Detection of 24 Loci, Swab Solution Lysates	DC24	X

Figure 21. 'Manage Kits' Screen. This screen displays a list of the Promega kit settings installed in the Maxprep™ software.

For each kit listed on the "Manage Kits' screen (Figure 21), the following are displayed:

Name	The name of the kit.
Description	Description of the kit.
CatalogID	The catalog number or catalog number fragment that corresponds to the kit.
X	Icon for deletion of a kit.

4.3.9 Importing Kits

Only administrators can import new kits into the Maxprep™ software. Administrators can request new kits from Promega Technical Services (techserv@promega.com). Kits are provided in files with a .strkit extension. Kit files may contain one or more kits. Follow the instructions below to import a kit file into the Maxprep™ software.

1. Save the kit (.strkit) file on the PC attached to the Maxprep™ Liquid Handler.
2. If not already running, start the Maxprep™ software by double-clicking the software icon on the desktop.
3. Navigate to the 'Manage Kits' screen (Home → Settings → Administrator → Manage Kits)
4. Select the **Import...** button on the top left side of the screen to open the 'Import Kit' file browser screen (Figure 22).

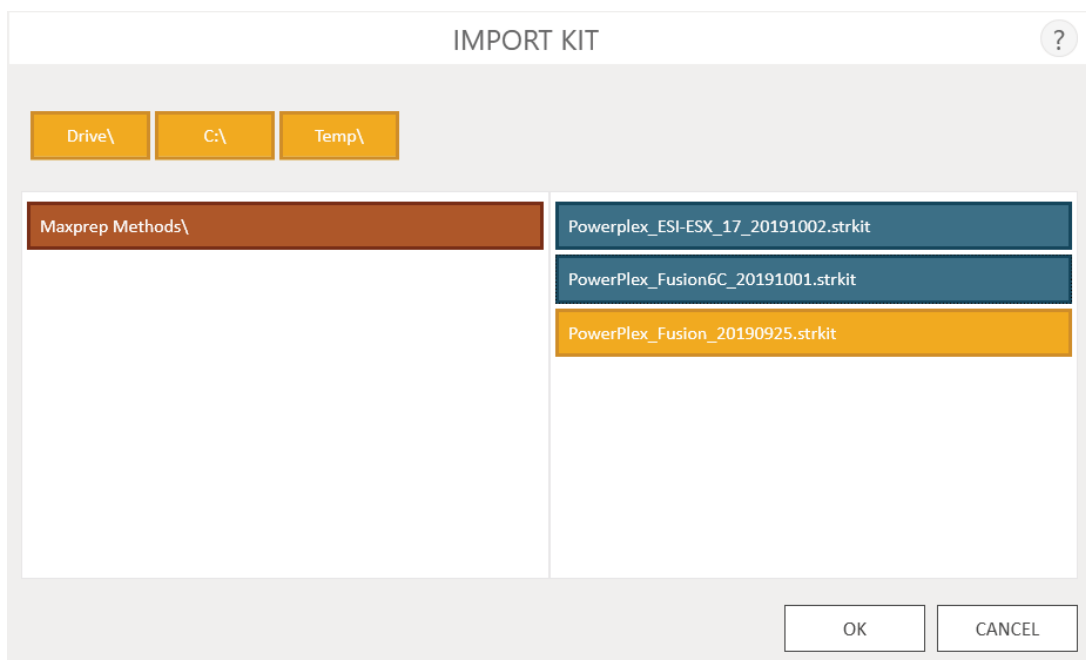


Figure 22. Kit import file selection. Use the 'Import Kit' file browser to navigate to the location of a kit (.strkit) file. Valid import files are shown on the right side of the file browser as blue rectangles (yellow when selected).

5. Within the 'Import Kit' file selection screen, navigate to the location at which you saved the kit (.strkit) file. The current path will be shown in yellow boxes along the top of the window. Select any aspect of the path to navigate to the desired folder. Select the **Drive** button to select the drive in which to search. Folders within the current path are shown as red rectangles on the left side of the screen. Valid kit (.strkit) files will be shown as blue rectangles (yellow when selected) on the right side of the screen.

6. Select the blue rectangle(s) corresponding to the desired (.strkit) file(s) to highlight, and then select the **OK** button to import the selected kit(s).

Note: When importing the same or a new version of an existing kit, the imported kit will overwrite the existing kit. During import a warning is displayed, indicating that the existing kit will be deleted. The warning will ask whether you wish to proceed with import; select **Yes** to delete the existing labware or **No** to cancel the import.

4.3.10 Deleting Kits

To delete a kit from the Maxprep™ software, select the **X** on the right side of the kit list entry. A 'Warning' screen will be shown asking whether the kit should be permanently deleted. Select **Delete** to permanently remove the kit from the Maxprep™ software or **Cancel** to return to the 'Manage Kits' screen without deleting the kit.

4.3.11 Preferences

Administrators can view additional preferences available in the Maxprep™ software by selecting the **Preferences** button on the 'Administrator' screen. The 'Preferences' screen displays a set of four tabs that can be used by the administrator to adapt the functionality of the software to the needs of the laboratory. Below are descriptions of the options that can be set on each of these tabs.

'Common Settings' Tab

The 'Common Settings' tab on the 'Preferences' screen (Figure 23) provides administrators the ability to specify the following options:

- **Allow expired Maxwell kits:** Checking this box allows users to run methods with kits that have passed their expiration date. When this box is unchecked the software will not allow expired kits to be used for any preprocessing runs.
- **Require Maxwell Kit Lot Number:** Checking this box will require users to enter a valid Maxwell kit lot number for each preprocessing method.
- **Allow deletion of results:** When checked, this box will allow administrators to delete extraction report files from the local database of run reports.
- **Save aborted runs:** When this box is checked, the software will save local run reports for aborted runs of all instrument functions regardless of why they were aborted. If left unchecked, any instrument functions that have been aborted will not generate a local run report.
- **Export to PDF:** Checking this box will create a PDF version of exported results in addition to the tab-delimited text file version of the results.
- **Export to Excel®:** Checking this box will create an Excel® version of exported results in addition to the tab-delimited text file version of the results.

- **Auto Export:** Report files can be automatically exported to an administrator-defined location at the end of each method. Check the “Auto Export” box to enable this function, and then select the text box below this option to specify the path to which exported results files should be saved. An ‘Export Folder’ screen will open with the current path specified in yellow rectangles. Select any aspect of the path to navigate to the desired folder. Select the **Drive** button to select the drive in which to search. Folders within the current path will be shown as red rectangles in the main area of the screen. Results will be exported as tab-delimited text files. If the options for Export to PDF or Export to Excel® have been enabled, reports will also be exported in the selected format(s) to the specified drive location.
- **Sanitize:** Checking this box will display the UV Sanitization method in the list of maintenance methods and allow the administrator to specify the time period for UV sanitization when running the Sanitization maintenance method. After checking the box, select the text box to specify the sanitization time (in minutes).
- **Enforce Maintenance:** Checking this box will require that users perform Daily or Weekly maintenance before being able to run any methods on the Maxprep™ Instrument. Daily or Weekly maintenance runs must be completed successfully before any methods can be run.

A prompt to save or discard changes made to the preferences is displayed when you navigate away from the ‘Preferences’ screen.

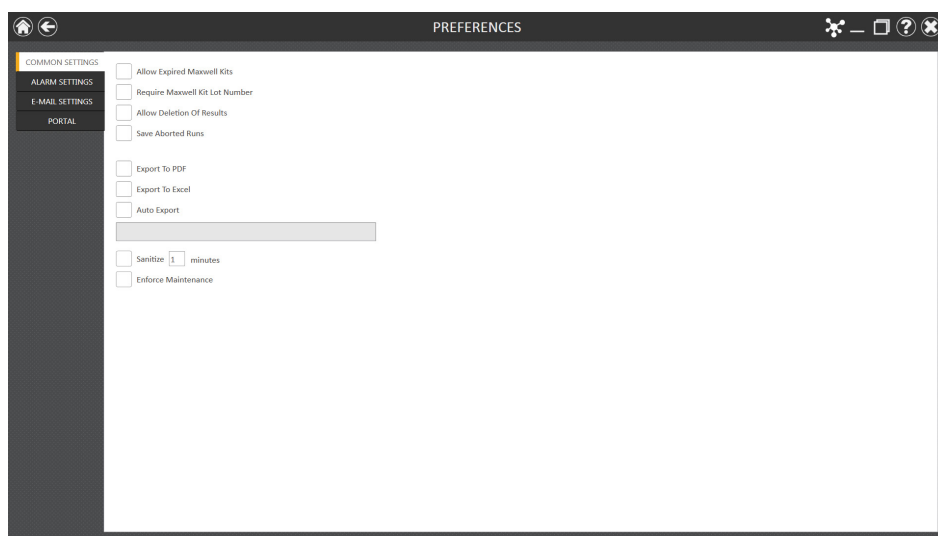


Figure 23. ‘Common Settings’ tab on the ‘Preferences’ screen. From this tab the administrator can allow use of expired kits, require entry of Maxwell® kit lot information, allow deletion of results, specify whether reports from aborted runs should be saved, specify the file format(s) for exported reports, specify whether and to where reports will be automatically exported after a run, and set the visibility and sanitization duration for the Sanitize maintenance method.

'Alarm Settings' Tab

The 'Alarm Settings' tab on the 'Preferences' screen (Figure 24) provides administrators the ability to specify whether the software will provide audible alarms for completed method runs and error states. Available options are:

- **Play sound when method is completed:** Check this box to have the PC generate a sound when a method run is completed.
- **Play sound on error:** Check this box to have the PC generate a sound if an error occurs during a method run on the instrument.

A prompt to save or discard changes made to preferences is displayed when you navigate away from the 'Preferences' screen.

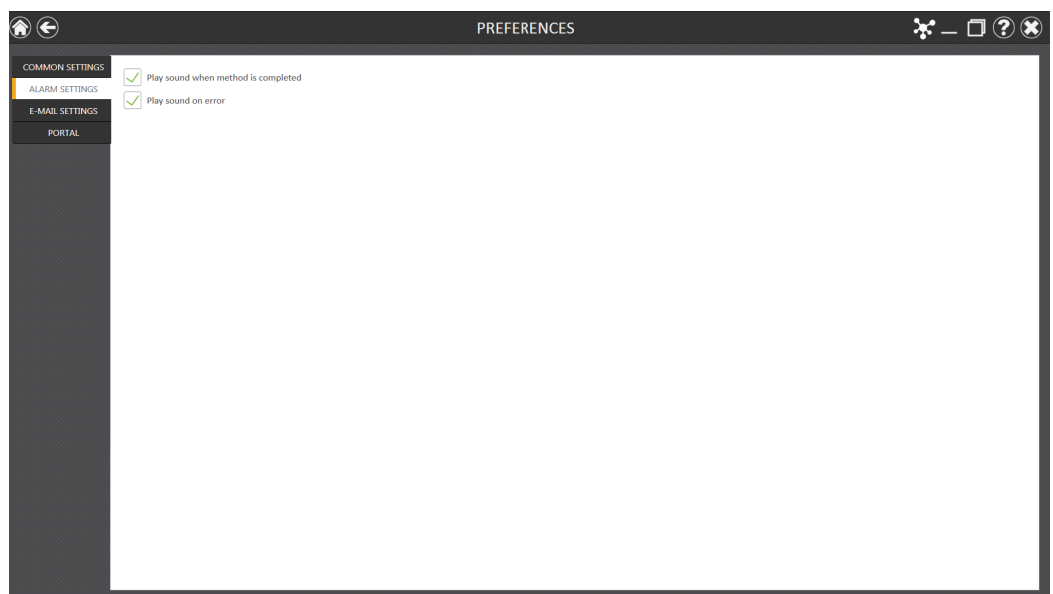


Figure 24. 'Alarm Settings' tab on the 'Preferences' screen. From this tab the administrator can specify whether audible alarms should be played on completion of a method run or on error during a method run.

'E-mail Settings' Tab

The 'E-mail Settings' tab on the 'Preferences' screen (Figure 25) is where e-mail server details are specified and administrators can determine when and to whom e-mail notifications will be sent. It is necessary to fill out the user and server information on the 'E-mail Settings' tab in order to use e-mail notifications. Required e-mail server information on the left side of the screen includes:



Note: Contact your IT department to provide the information required to complete e-mail settings.

- **Username:** The name of the user for the e-mail account that will send e-mail notifications.
- **E-mail:** The e-mail account that will send e-mail notifications.
- **Password:** The password for the e-mail account that will send e-mail notifications.
- **SMTP Server:** The SMTP server address for the e-mail account.
- **Port:** The port that should be used for the SMTP server.
- **SSL Encrypted Connection:** Check this box to indicate whether the e-mail account uses an SSL encrypted connection.

On the right side of the screen, the administrator can specify under what conditions and to whom e-mail notifications will be sent. Options include:

- **Send mail when method is completed:** Check this box to have e-mails automatically sent to the specified e-mail addresses when a method run has been completed.
- **Send mail on error:** Check this box to have e-mails automatically sent to the specified e-mail addresses if an error state occurs during a method run.
- **E-mail Recipients:** Enter the e-mail address(es) separated by a space that will act as the distribution list for e-mail notifications under the conditions that have been selected.

Upon completing the entries for e-mail settings you can test the validity of the settings by selecting the **Test Connection** button. Selecting this button will attempt to send a test e-mail to the e-mail account and e-mail recipients designated by the settings on this tab.

A prompt to save or discard changes made to preferences is displayed when you navigate away from the 'Preferences' screen.

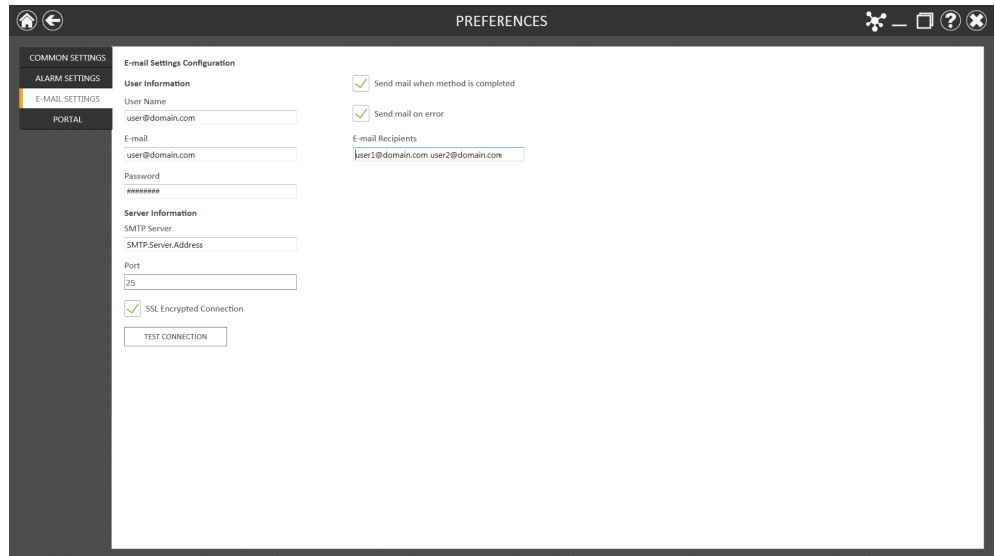


Figure 25. 'E-mail Settings' tab on the 'Preferences' screen. From this tab the administrator can specify e-mail server settings, under what conditions e-mail notifications should be sent and the distribution list to which e-mails should be sent. Use the **Test Connection** button to check the settings entered on this screen.

'Portal' Tab

The 'Portal' tab (Figure 26) presents settings for use of the Portal software to connect multiple instrument modules for the purposes of sample tracking and data sharing. Information on this tab will determine whether your system communicates with the Portal software and define the server information necessary to connect to the Portal software.

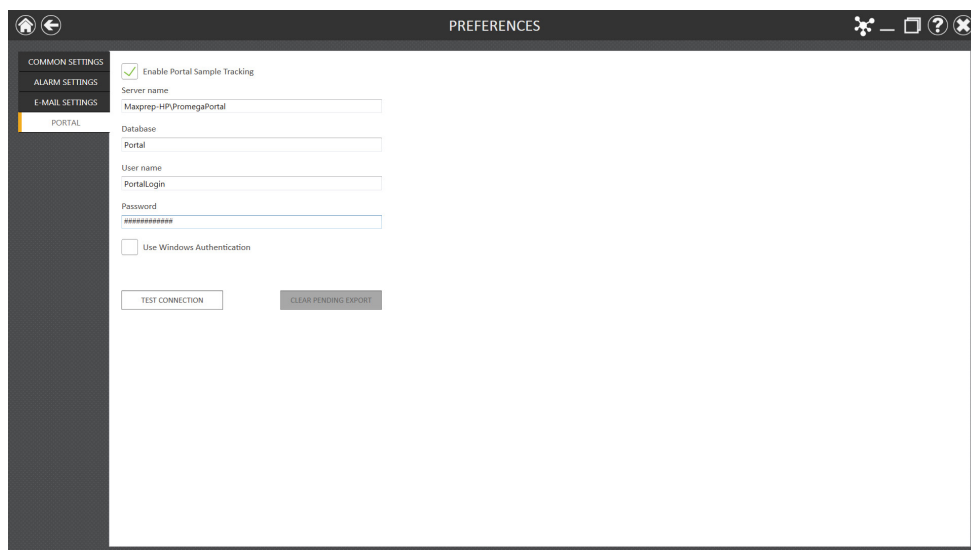


Figure 26. 'Portal' tab on the 'Preferences' screen. The information entered on this tab determines whether Portal Sample Tracking is enabled on your system and allows entry of the communications settings necessary to connect to the Portal software.

If you wish to share sample tracking and other method-specific data between multiple modules, check the "Enable Portal Sample Tracking" check box on this tab. By default the Portal software is installed on the PC connected to the Maxprep™ Liquid Handler. During installation of the Maxprep™ Liquid Handler the connection information for the Portal software will be configured. In order for your system to communicate with the Portal software, the following information is required:

- **Server Name:** Name of the server hosting the Portal software [Default = Maxprep-HP\PromegaPortal]
- **Database:** Name of the SQL database containing Portal information [Default = Portal]
- **Username:** User name necessary to access the Portal software [Default = PortalLogin]
- **Password:** Password necessary to access the Portal software [Default = PortalLogin]
- **Use Windows Authentication:** Check box to indicate whether Windows authentication should be used when accessing the Portal Software [Default = Unchecked]

Once the Portal software information has been entered, select the **Test Connection** button to determine whether the Maxprep™ software can successfully connect to Portal using the information supplied. A message is displayed, indicating whether the connection was successful. If unsuccessful, confirm that the connection information was correctly entered and try again.

If communication to Portal is lost at any time during a method run, the resulting data will be queued up for export to Portal when communication is re-established. If there are continuing problems with export of a data set to Portal, select the **Clear Pending Export** button to clear the data from the export process. This may help resolve persistent communication problems with Portal that are caused by issues with the data. Data that has been cleared from export will not be sent to the Portal software and will only exist in local reports.

A prompt to save or discard changes made to preferences is displayed when you navigate away from the 'Preferences' screen.

4.3.12 Instrument Name

It is possible to define a unique identifying name for the Maxprep™ Liquid Handler. This name is shown on the title bar of the Maxprep™ software 'Home' screen and is recorded in method run reports.

1. From the 'Administrator' screen, select the **Instrument Name** button to open the 'Instrument Name' screen.
2. On the 'Instrument Name' screen, select the text box and enter the desired name for this instrument (Figure 27). The instrument name should be entered following the procedures and rules at your site.
3. Select the **OK** button to save the instrument name you have entered. An informational message is displayed, indicating that the name of the instrument has been successfully changed.
4. If you do not wish to save any changes to the instrument name, select the **Cancel** button to return to the 'Administrator' screen.

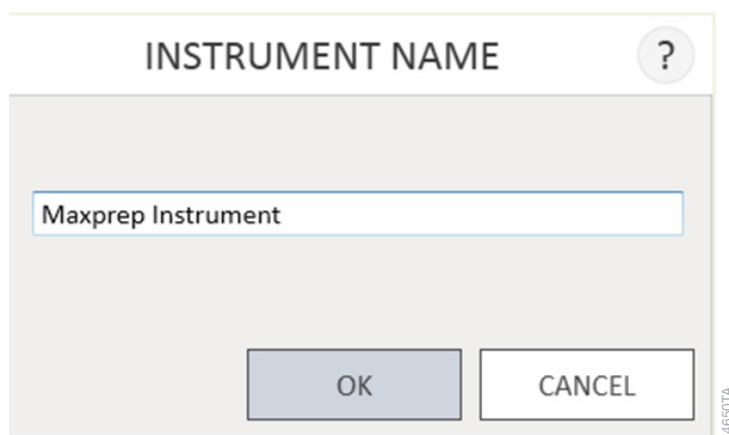


Figure 27. 'Instrument Name' screen. Use this screen to enter a name for this Maxprep™ Liquid Handler.

4.3.13 Audit Records

The Maxprep™ software contains a user-readable audit trail of all functions that have been performed in the Maxprep™ software. Administrators have access to view and export the audit records from the instrument through the **Audit Records** button on the 'Administrator' screen. The 'Audit Records' screen displays a listing of all of the functions that have been performed on the instrument (Figure 28). You can filter the audit records by selecting the buttons on the left side to view records for functions performed **Today, This Week, This Month**, the past **Six Months, This Year** or **All** functions performed over the life of the instrument. Select the column headers to sort the records based on column contents. Select the desired row to see the audit message from that particular record. Administrators can export all audit records for the selected date range by selecting the **Export** button at the bottom left corner of the screen. The administrator is required to specify a location to which the exported information should be saved.

1. Select the **Export** button on the 'Audit Records' screen.
2. Using the Yellow and Red rectangle buttons you can select the folder location (Figure 29) where the method run reports will be saved.

The current path is indicated by the yellow rectangles at the top of the 'Export Folder' screen. Any folders present within the selected directory are displayed as red rectangles in the white portion of the screen. Select the **Drive** button to navigate to the drive location of the desired folder. Select red folder buttons to navigate to the specified folder location.

3. Once the desired file path has been specified, select the **OK** button to export audit records or select the **Cancel** button to cancel any changes. After selecting either **OK** or **Cancel** you will be returned to the 'Administrator' screen.

TODAY	DATE/TIME	STATUS	OPERATOR	OPERATION	CONTEXT/MESSAGE
THIS MONTH	6/7/2018 7:47:43 AM	Success	PROMEGA\integrated	Application software has been opened.	
SIX MONTHS	6/7/2018 7:36:20 AM	Success	PROMEGA\integrated	A method has been imported.	Sample Transfer v1.1.0
THIS YEAR	6/7/2018 7:36:16 AM	Success	PROMEGA\integrated	A method has been imported.	Reverse Transcription Quantitative PCR v1.1.0
ALL	6/7/2018 7:36:13 AM	Success	PROMEGA\integrated	A method has been imported.	Sample Dilution v1.1.0
	6/5/2018 2:37:34 PM	Success	PROMEGA\integrated	A method has been imported.	Normalization v1.1.0
	6/5/2018 1:57:05 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC Viral Total Nucleic Acid v1.1.0
	6/5/2018 1:57:01 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC simplyRNA Blood v1.1.0
	6/5/2018 1:56:54 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC miRNA Tissue v1.1.0
	6/5/2018 1:56:28 PM	Success	PROMEGA\integrated	A method has been deleted.	Maxwell® RSC simplyRNA Blood v1.0.1
	6/5/2018 1:56:23 PM	Success	PROMEGA\integrated	A method has been deleted.	Quantitative PCR Setup v1.0.1
	6/1/2018 1:33:47 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC cctDNA Plasma v1.1.0
	6/1/2018 1:33:41 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC miRNA Tissue v1.1.0
	6/1/2018 1:33:36 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC simplyRNA Cells v1.1.0
	6/1/2018 1:25:32 PM	Success	PROMEGA\integrated	Application software has been opened.	
	6/1/2018 1:22:48 PM	Success	PROMEGA\integrated	Application software has been closed.	
	6/1/2018 1:22:43 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC Viral Total Nucleic Acid v1.1.0
	6/1/2018 1:22:28 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC simplyRNA Blood v1.1.0
	6/1/2018 1:21:37 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC Viral Total Nucleic Acid v1.1.0
	6/1/2018 1:21:17 PM	Success	PROMEGA\integrated	A method has been imported.	Maxwell® RSC simplyRNA Blood v1.0.1
	6/1/2018 9:24:30 AM	Success	PROMEGA\integrated	Application software has been opened.	
	6/1/2018 8:42:30 AM	Success	PROMEGA\integrated	Application software has been closed.	
	5/31/2018 2:40:28 PM	Success	PROMEGA\integrated	A method variant has been created.	Quantitative PCR Setup v1.1.0 (of Quantitative PCR Setup v1.1.0)
	5/31/2018 2:30:46 PM	Success	PROMEGA\integrated	A method variant has been created.	Quantitative PCR Setup v1.1.0
EXPORT	5/31/2018 2:30:13 PM	Success	PROMEGA\integrated	A method variant has been created.	Quantitative PCR Setup v1.1.0

Figure 28. 'Audit Records' screen. A user-readable record of events that have occurred in the Maxprep™ software can be viewed by the administrator and exported to a specified drive location from this screen.

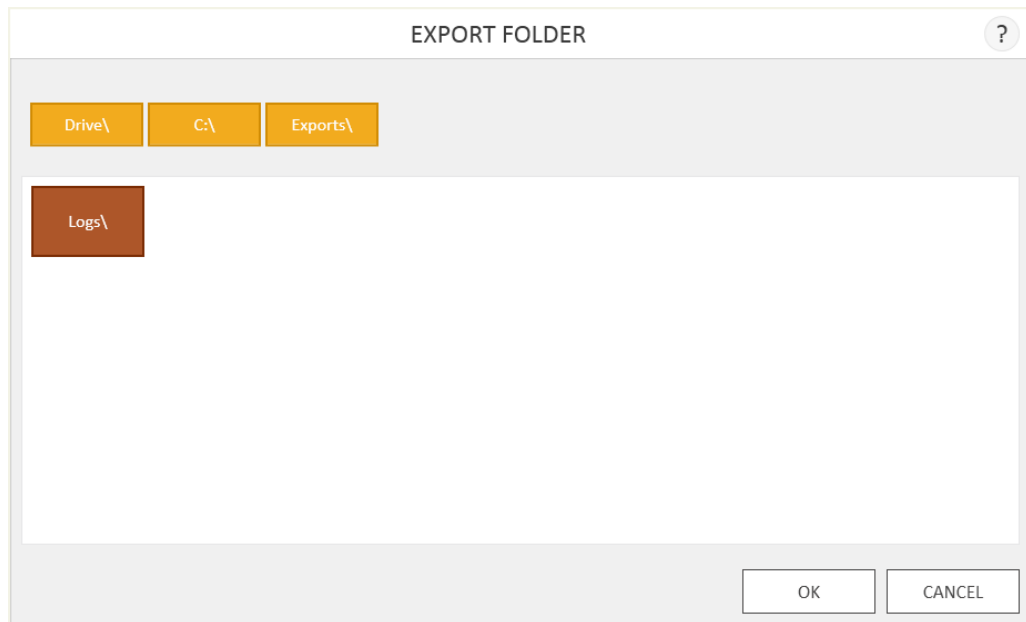


Figure 29. Export Folder' screen. From this screen you can set the folder location to which all displayed audit records will be exported.

5

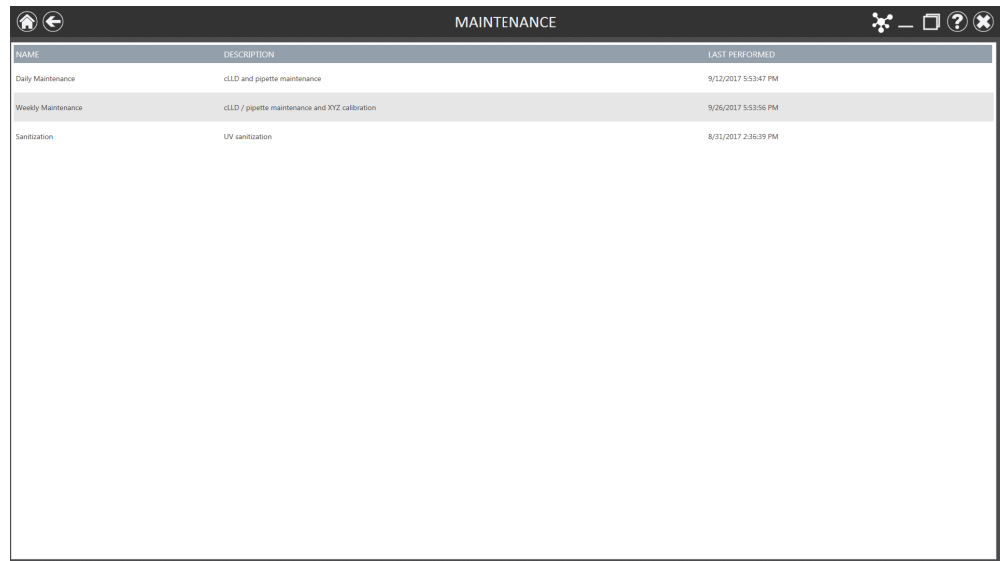
Operating the Maxprep™ Liquid Handler

5.1 Maintenance

Maintenance is critical to ensuring performance of the Maxprep™ Liquid Handler over the life of the instrument. Select the **Maintenance** button on the 'Home' screen (Figure 30) of the Maxprep™ software to access the 'Maintenance' screen (Figure 31). Listed on the 'Maintenance' screen are methods designed to ensure your instrument is in working order. The UV Sanitization method is also included depending on Administrator settings (see Section 4.3). For each maintenance method, the date at which the method was last performed is listed.



Figure 30. Maxprep™ software 'Home' screen. Selecting the **Maintenance** button opens the 'Maintenance' screen from which maintenance methods for the Maxprep™ Liquid Handler can be run.



NAME	DESCRIPTION	LAST PERFORMED
Daily Maintenance	cLD and pipette maintenance	9/12/2017 5:53:47 PM
Weekly Maintenance	cLD / pipette maintenance and XYZ calibration	9/26/2017 5:53:56 PM
Sanitization	UV sanitization	8/31/2017 2:39:39 PM

Figure 31. 'Maintenance' screen. This screen lists the available maintenance methods that can be run for the Maxprep™ Liquid Handler.

5.1.1 Daily and Weekly Maintenance

Daily Maintenance and Weekly Maintenance should be performed at their specified frequency, and if the Administrator has chosen to enforce maintenance, the Daily and Weekly Maintenance must successfully pass maintenance tests at their specified frequency before any other methods can be run. The Daily Maintenance method will test the pipette tip seal and conductive liquid level sensing performance of the system. The Weekly Maintenance method will prompt the user to clean the instrument (see Section 6.1, Weekly Cleaning) and then will test instrument calibration, pipette tip seal and conductive liquid level sensing. Because the Weekly Maintenance method includes the functions tested in the Daily Maintenance method, it is not necessary to run both Daily Maintenance and Weekly Maintenance on the same day. When starting a Maintenance method, make sure to close the door of the instrument before selecting the **Proceed** button. Perform the on-screen instructions that are provided for each method. The gantry of the instrument can be freely moved from side to side in order to facilitate performing the on-screen instructions. Make sure that the tip eject bar has been removed from the Waste Position and that the door of the instrument is closed. After the maintenance method is complete, replace the tip eject bar on the Waste Position. The pin on the waste position should fit in the small hole at the front of the tip eject bar, the large cut out should be at the back of the instrument and the angled side of the tip eject bar should be on the right side and facing downward toward the waste bin.

5.1.2 Sanitization

Run the **Sanitization** method to perform a UV treatment for an amount of time designated in the administrator preferences (see Section 4.3, Administrator Settings). The visibility of the Sanitization Maintenance method is specified on the 'Common Settings' tab of the 'Preferences' screen (see Section 4.3, Administrator Settings).

5.2 Methods

The methods supplied with the Maxprep™ Liquid Handler can be used to perform preprocessing of samples for a variety of Maxwell® RSC and Maxwell® FSC purification kits and to perform a variety of post-processing processes (e.g., quantitation, PCR setup, qPCR setup, normalization, etc.). Please refer to your specific Maxwell® reagent kit and method type Technical Manuals for information on method setup and variant method options. Two mechanisms for selecting a method to run are enabled in the Maxprep™ software. Selection of a method from the list of installed methods and administrator-defined variant methods can be used for method selection as well as confirmation. Alternatively, for preprocessing methods, enter or scan the bar code information on a Maxwell® purification kit box. This will filter the list of methods to display the appropriate installed preprocessing method(s) for that kit with subsequent selection and confirmation being performed by the user.



5.3 Starting a Method

From the 'Home' screen (Figure 32) select the **Start** button to begin the process of running a method.



Figure 32. Maxprep™ software 'Home' screen. Selecting the **Start** button begins the process of running a method on the Maxprep™ Liquid Handler.

The 'Methods' screen displays the list of methods installed in the Maxprep™ Software (Figure 33). The following information is displayed for each method:

	Mark this method or variant method as a favorite for filtering purposes.
	When the folder icon appears in an entry, it indicates that variant methods have been created for this entry. Select the method entry to expand the folder and view the available administrator-defined variant methods.
Name	The name of the method.
Description	A description of the method.
Type	Indicates whether this is a preprocessing or post-processing method.
Sample Type	Indicates whether this method applies to DNA samples, RNA samples, or Universal (total nucleic acid) samples.
Catalog ID	The catalog number for the kit (if any) associated with this method.
Version	The version number of this method.

Use the filter check boxes on the left side of the screen to display only certain types of methods. You can filter by:

- **Method Type:** Preprocessing or post-processing methods.
- **Sample Type:** DNA, RNA or Universal (total nucleic acid) sample types.
- **Favorites:** Only methods where the Favorites star icon to the left of the method is highlighted.
- **Keyword:** Type in a word or word fragment to only show methods that contain that word in the Name, Description or CatalogID field.

Once you have chosen a method to run, either select the method or variant to highlight or use the alternative instructions below to select preprocessing methods based on preprocessing kit bar code. A **Proceed** button will appear on the right side of the highlighted method entry. Select the **Proceed** button to start the selected method.

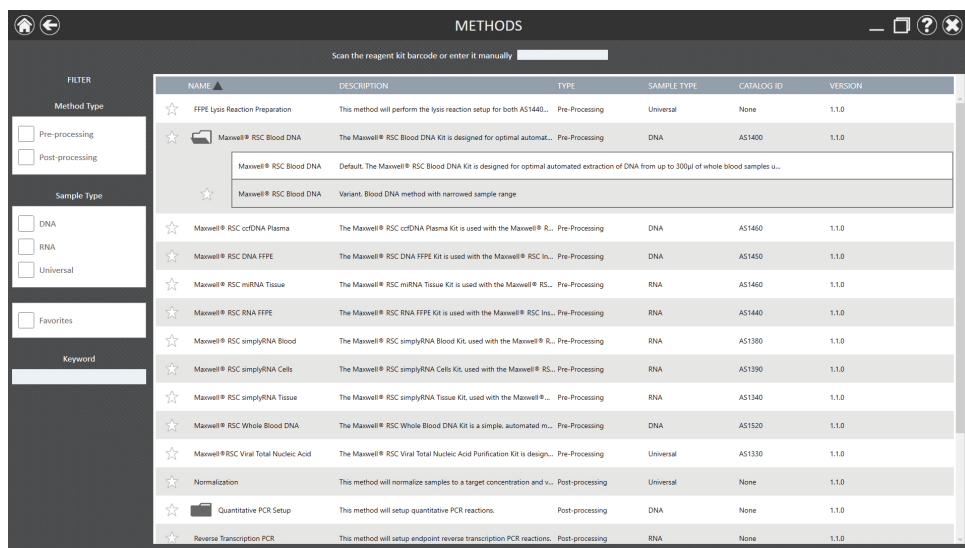
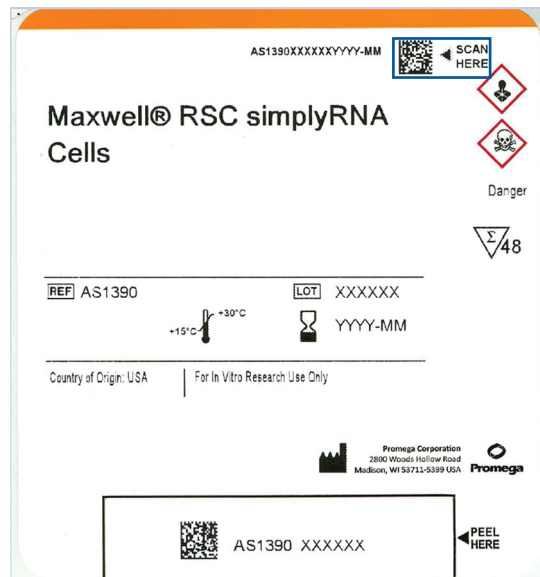


Figure 33. Selecting a method to run from the 'Methods' screen. Select a method or administrator-defined variant method from the 'Methods' screen. Once a method is selected, it will be highlighted in yellow. Select the **Proceed** button to start the method.

5.3.1 Alternative Method Selection for Preprocessing Methods

To select an appropriate preprocessing method for a Maxwell® purification kit, select the text box at the top of the 'Methods' screen (Figure 33) and either scan or type the bar code on the Maxwell® reagent kit box indicated by the Scan Here label (Figure 34). The Maxprep™ software requires manual entry of bar codes in the following format: Product Catalog Number, Kit Lot Number, Expiration Date in year-month format (example: AS13303221872020-05, where the product catalog number is AS1330, the kit lot number is 322187 and the expiration date is 2020-05). Only if the bar code entered has this format will a method be selected. If applicable, select any of the other variants that you wish to run to change the selection.

There are two possible warnings that can be displayed based on entry of kit bar code information. For kits that have passed the expiration date, the Maxprep™ software will display a warning that the kit is past expiration. If the administrator has allowed the use of expired kits, the user can make the choice of whether to proceed with this method or not; otherwise, the software will not allow the selection of a method based on a bar code that indicates the kit has expired. When there is no corresponding method for a kit based on the bar code entry, the software will display a warning of the issue. To see if a method has been released for the kit, visit: www.promega.com/resources/software-firmware/maxwell-maxprep/maxprep-liquid-handler-methods/



Note: The method run will not execute if the door of the Maxprep™ Liquid Handler is open when the **Run** button is selected. Make sure to close the door of the Maxprep™ Liquid Handler when starting a method run.

Figure 34. Kit label indicating bar code to scan. Shown in the blue box is the bar code to scan on the kit label for starting a purification run.

Once the bar code is correctly entered and the desired method or variant has been selected, select the **Proceed** button to display the 'Method Run' screen (Figure 35). The name of the selected method is shown in the title bar of the 'Method Run' screen. Summary information for the method is displayed on the left side of the screen. To start the run, close the door of the Maxprep™ Liquid Handler and select the **Run** button. If the Administrator has chosen to enforce maintenance on the system, a warning will be displayed if a maintenance run has not been successfully performed prior to starting a method run. You must complete the required maintenance to start a run.

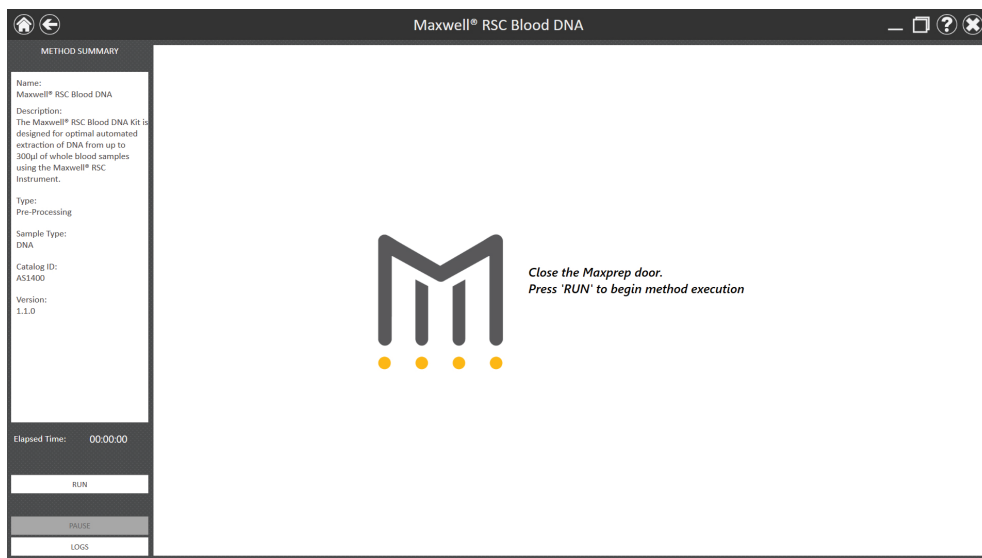


Figure 35. 'Method Run' screen. At the top of this screen, the selected method is indicated. A summary of the selected method is displayed on the left side of the screen. Close the door of the instrument and select the **Run** button to start the selected method.

Once a method is started, you will be presented with a series of user interface screens. These screens will request user input for various run-time variables (e.g., sample number, elution volume, etc.) and will provide a detailed description of how to place the labware and samples needed on the deck of the Maxprep™ Liquid Handler. More detailed information regarding the specifics of the variables that need to be entered and the deck setup instructions for preprocessing, quantitation, amplification and normalization can be found in the Technical Manual specific to your method.

Close the door of the Maxprep™ Liquid Handler when prompted after deck setup is complete (Figure 36).

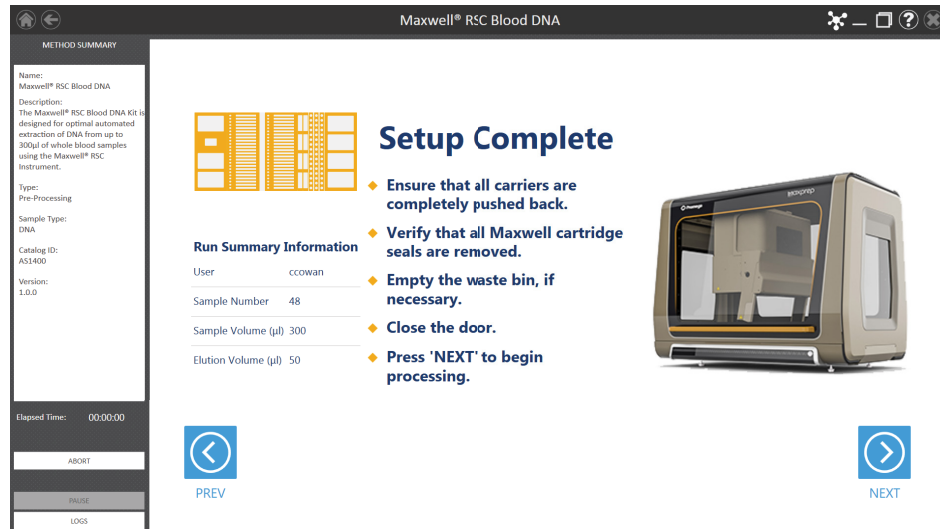


Figure 36. 'Final Setup' Screen. This is the last user interface screen displayed before the Maxprep™ Liquid Handler starts processing samples. Close the instrument door before selecting the **Next** button.

While the method runs, the method run screen will update with information regarding the current step in the method and display a progress bar indicating progress through the method. On the lower left side of the screen, you will see an Elapsed Time showing the amount of time the method has been running. Select the **Logs** button during the run to see the instrument log file as it is being generated. If for any reason you need to pause the instrument during a run, select the **Pause** button. The instrument will finish the current step, and the door will unlock, allowing you access to the inside of the instrument. When you are finished with the pause, close the instrument door and select the **Resume** button to resume the run.



Any samples being processed will be lost if a run is aborted.

If you need to abort the method run currently in progress, select the **Abort** button. When aborting a run, it is recommended to select the **Pause** button to pause the instrument run, and then select the **Abort** button.

If there is a need to perform an immediate stop of the Maxprep™ Liquid Handler during a run, select the power button to power the instrument off. The method run will be aborted, and the doors will unlock.

5.3.2 Method Completion

Methods can end through one of three mechanisms:

- The method completes successfully.
- The method is aborted by the user.
- The method is aborted as a result of an instrument error.

Method Completes Successfully

When the method completes successfully there will be a message indicating that the method has completed successfully (Figure 37).

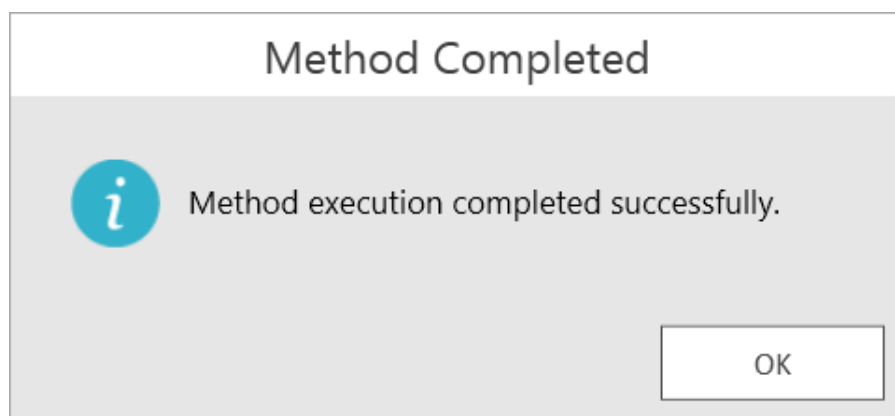


Figure 37. Message after method completion. Upon completion of the currently running method, there will be a message indicating that the run has completed successfully.

Open the door of the Maxprep™ Liquid Handler, store or discard any unused reagents. Remove any sample tubes, Maxwell® deck trays, reagents and processing plates, and either discard or store them appropriately.

A local report will be generated for the run containing run parameters, sample tracking information and user/system information. If the administrator has enabled Auto Export for reports, the report files will be automatically exported to the administrator-specified file location. To access local reports, from the 'Home' screen select the **Results** button (see Section 5.6. Accessing Reports). If connected to the Portal software, run information will be saved to the Portal software.



Used labware and reagents should be disposed of appropriately according to your institution's procedures for hazardous and biohazardous waste.

Method Aborted by the User or an Instrument Error

If the user selects the **Abort** button during a method, or if there is an instrument error that causes the method to abort, a message is displayed, indicating that the instrument should be powered off and any tips or tools be manually removed (Figure 38). If no tips or tools are loaded on the pipetting channels it is not necessary to power the instrument off after an abort. There can be many reasons why a user might choose to abort a method. Many instrument errors can occur because of the presence of unexpected labware on the deck of the instrument. Always use care when setting up the instrument, and confirm that the deck configuration specified by the method setup instructions matches the physical layout of the instrument. After a method is aborted, if the channels are wedged in a piece of labware and are not free to move, or if you are unsure of whether the channels are free to move, power off the instrument and manually remove any tips or tools from the pipetting channels. See Section 5.4, Error Recovery, for instructions on manually resolving hardware issues.



An aborted run (initiated by the user or due to instrument error) will result in the loss of all processed samples.

For any physical crash of the instrument hardware, after resolving the issue and removing any loaded tips or tools, check for visible damage to the pipetting channels. If there is no visible damage, run the Weekly Maintenance method to check instrument functions and calibration. Passing results from the Weekly Maintenance indicate that the instrument is clear to run again. If Weekly Maintenance produces failing results, contact Promega Technical Service (techserv@promega.com) to schedule a service visit.

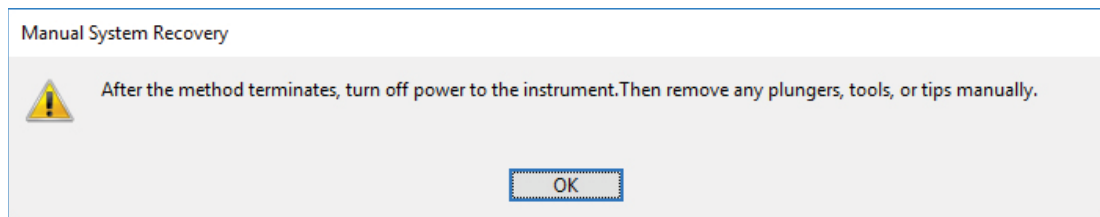


Figure 38. Message after a method is aborted. If a method is aborted either by the user or an instrument error, the 'Manual System Recovery' screen will be displayed.

5.4 Error Recovery

In the event of an error that results in a physical crash of the system, it may be necessary to turn the system power off and manually resolve any crashes as well as remove tips or tools that are loaded on the system. Follow the instructions below for recovering from a physical crash of the system.



Used labware and reagents should be disposed of appropriately according to your institution's procedures for hazardous and biohazardous waste.

1. Power off the Maxprep™ Liquid Handler by selecting the power button on the front right side of the instrument.
2. Shut down the Maxprep™ software by selecting the **X** icon in the upper right corner of the software.
3. Prior to resolving any hardware issues, open the door of the Maxprep™ Liquid Handler, store or discard any unused reagents. Remove any sample tubes, Maxwell® Deck Trays and processing plates, and either discard or store them appropriately.
4. Check to see if there is any visible damage to the pipetting channels of the Maxprep™ Liquid Handler. If there is visible damage, contact Technical Services (techserv@promega.com) to schedule a service visit prior to running the system again.
5. If there are any plunger tools loaded on the pipetting channels, remove these manually.
 - a. With the Maxprep™ Liquid Handler powered off, push the pipetting channels up until they are clear of any obstruction.

Note: Wear appropriate personal protective equipment (lab coat, gloves, safety glasses) when removing tips or tools from the system.
 - b. Remove carriers or labware to ensure free access to the pipetting channels.
 - c. When you remove the tip, any liquid present inside the tip will be released onto the deck. Place something under the channels to catch tips and liquid (e.g., Kimwipes, absorbent paper towel or empty tip box lid).
 - d. Pull the pipetting channel downward to access the squeeze drive on the pipetting channel (Figure 39).
 - e. To release the squeeze motor, grasp the squeeze drive and rotate counter-clockwise (i.e., if grasping the squeeze drive with the right hand between the thumb and index finger as shown in Figure 39, your thumb should move to the right as your index finger moves to the left). A spring on the pipetting channel will forcibly shuck the tip or tool once the squeeze drive has been loosened.
 - f. Push the channel upwards so that it is clear to move side to side.
 - g. Repeat Steps c–f for all pipetting channels that have a tip or tool loaded.



Figure 39. Squeeze Drive. Turn the squeeze drive to release any tools or pipette tips from the pipetting channels.

6. Any loaded pipette tips or gripper paddles can be removed automatically by starting any pre- or post-processing method. During the initialization, the gripper paddles or pipette tips will be returned to the tool rack or ejected, respectively. The run should then be aborted.
7. Once all tips or tools have been released from the pipetting channels, discard any tips or plungers and replace any tools in their appropriate tool holder (Figure 40). When plunger tools are removed from the channels, place them back in the tool holder. When gripper paddles are removed from the channels, replace them in the tool holder so that the pins and magnets are facing toward the center of the tool holder.

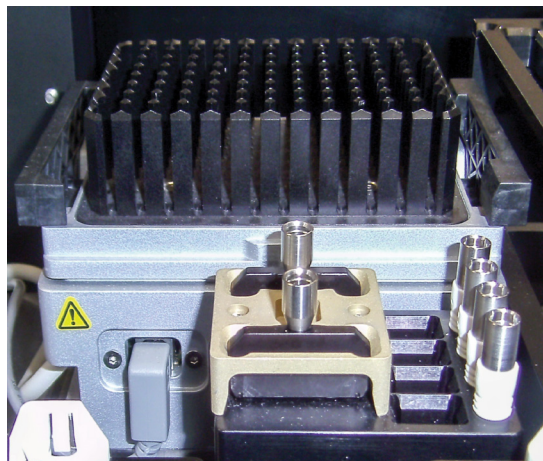


Figure 40. Tool Holder. Replace any tools that have been removed from the pipetting channels in their appropriate location on the left side of the instrument.

8. Press the power button to turn on the Maxprep™ Liquid Handler. Restart the computer. Start the Maxprep™ software by double-clicking the Maxprep™ software icon on the desktop.

9. From the 'Home' screen select **Maintenance**, and then run the Weekly Maintenance method. This method will prompt you to clean the deck of the instrument and then will check the calibration of the pipetting channels, the performance of the liquid level sensing mechanisms and the integrity of the pipetting system.
10. If the Weekly Maintenance method proceeds to completion and the report indicates that Weekly Maintenance has passed, you are clear to run further methods on the system.
11. If the Weekly Maintenance method does not complete, or the report indicates that Weekly Maintenance has not passed, contact Technical Services (**techserv@promega.com**) to troubleshoot the issue and determine whether to schedule a service visit before running the system again.

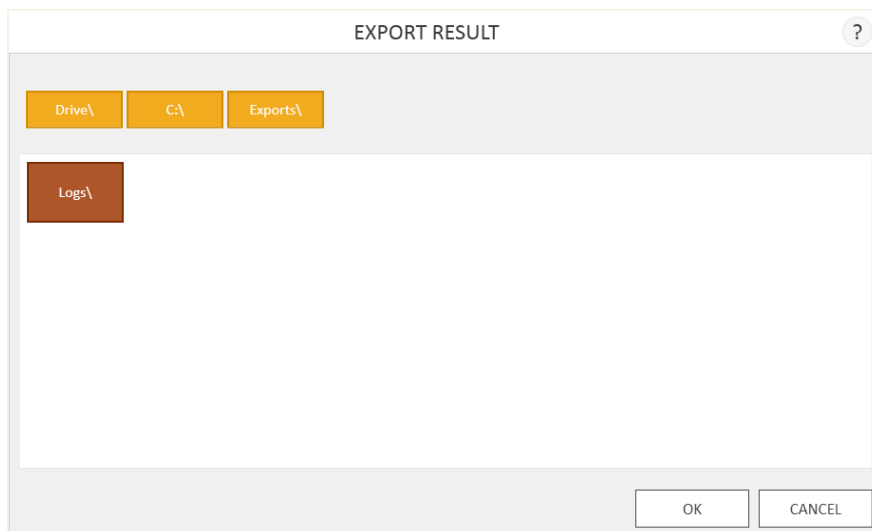


Figure 42. 'Export Result' screen. When the Export button is pressed the user is asked to navigate to the folder in which the report files should be saved.

Select the **Export** button to navigate to the file location where the report should be exported, and then select the **OK** button. The Maxprep™ software exports reports in tab-delimited text format as well as .xlsx format and .pdf format depending on administrator settings. You can use Excel® viewer or PDF viewer to view the report.

You can use the tab-delimited format file (*.txt) with Laboratory Information Management Systems (i.e., LIMS). An example of the tab-delimited format file is shown in Figure 43.

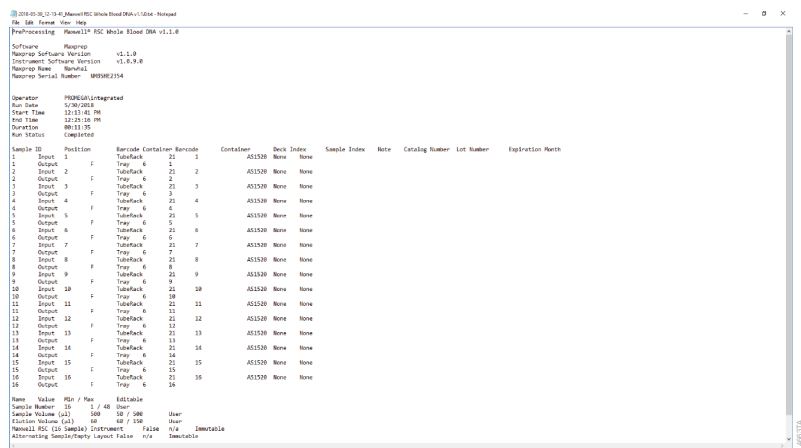


Figure 43. Example of an exported text file in the tab-delimited format.

5.6 Accessing Reports

From the 'Home' screen of the Maxprep™ software, select the **Results** button to access method reports and system maintenance reports. The 'Results' screen displays a listing of the reports for the methods that have been run (Figure 44). You can filter reports by selecting the buttons on the left side to view reports for runs completed **Today**, **This Month**, the past **Six Months**, **This Year** or **All** Maxprep™ Liquid Handler runs completed over the life of the instrument. You can also use the **Method**, **System** or **All Types** buttons on the left side of the screen to toggle between report types.

Select the column headers to sort the reports based on column contents. Select the desired row to see a detailed view of the report data from that method run (Figure 45). Administrators can delete records from the software by selecting the **X** icon to the right of the desired report row if the option to Allow Deletion of Results has been enabled in the software preferences (see Section 4.3, Administrator Settings). Select the **Export All** button to export all reports to a designated drive location in tab-delimited text format as well as .pdf and Excel® format as specified by the Administrator (see Section 4.3, Administrator Settings).

DATE/TIME	NAME	TYPE	BY
6/6/2018 1:55:11 PM	Maxwell® RSC simplyRNA Blood v1.1.0	Method	PROMEGA/integrated
6/6/2018 1:35:56 PM	Maxwell® RSC Whole Blood DNA v1.1.0	Method	PROMEGA/integrated
6/6/2018 9:58:06 AM	Maxwell® RSC simplyRNA Blood v1.1.0	Method	PROMEGA/integrated
6/6/2018 9:30:43 AM	Maxwell® RSC simplyRNA Blood v1.1.0	Method	PROMEGA/integrated
6/5/2018 3:08:34 PM	Maxwell® RSC RNA FFPE v1.1.0	Method	PROMEGA/integrated
6/5/2018 1:02:28 PM	FFPE Lysis Reaction Preparation v1.1.0	Method	PROMEGA/integrated
6/4/2018 2:02:39 PM	Maxwell® RSC DNA FFPE v1.1.0	Method	PROMEGA/integrated
6/4/2018 1:30:28 PM	Maxwell® RSC Whole Blood DNA v1.1.0	Method	PROMEGA/integrated
6/4/2018 9:48:09 AM	FFPE Lysis Reaction Preparation v1.1.0	Method	PROMEGA/integrated
6/1/2018 1:47:15 PM	Maxwell® RSC simplyRNA Cells v1.1.0	Method	PROMEGA/integrated
5/31/2018 2:40:49 PM	Quantitative PCR Setup v1.1.0	Method	PROMEGA/integrated
5/31/2018 12:35:37 PM	Maxwell® RSC RNA FFPE v1.1.0	Method	PROMEGA/integrated
5/31/2018 10:27:05 AM	FFPE Lysis Reaction Preparation v1.1.0	Method	PROMEGA/integrated
5/31/2018 9:57:05 AM	FFPE Lysis Reaction Preparation v1.1.0	Method	PROMEGA/integrated
5/30/2018 12:13:41 PM	Maxwell® RSC Whole Blood DNA v1.1.0	Method	PROMEGA/integrated
5/30/2018 10:19:05 AM	Maxwell® RSC DNA FFPE v1.1.0	Method	PROMEGA/integrated
5/29/2018 2:11:45 PM	Quantitative PCR Setup v1.1.0	Method	PROMEGA/integrated

Figure 44. 'Results' screen. The 'Results' screen lists the reports from all of the methods that have been run. Select any given report listing to see a detailed view of the report data from that method run. Filter the displayed results using the Method, System or All Types buttons on the left side of the 'Results' screen. Selecting a date range button on the left side of the screen will filter the reports displayed based on their run date.

Maxwell® RSC Whole Blood DNA v1.1.0									
Sample ID	Position	Barcode	Container Barcode	Container Deck Index	Sample Index	Note	Catalog Number	Lot Number	Expiration Month
12	Input	1		TuberBack 21	1		A51520	None	None
13	Output	1	F	Tray 6	1				
14	Input	2		TuberBack 21	2		A51520	None	None
15	Output	2	F	Tray 6	2				
16	Input	3		TuberBack 21	3		A51520	None	None
17	Output	3	F	Tray 6	3				
18	Input	4		TuberBack 21	4		A51520	None	None
19	Output	4	F	Tray 6	4				
20	Input	5		TuberBack 21	5		A51520	None	None
21	Output	5	F	Tray 6	5				
22	Input	6		TuberBack 21	6		A51520	None	None
23	Output	6	F	Tray 6	6				
24	Input	7		TuberBack 21	7		A51520	None	None
25	Output	7	F	Tray 6	7				
26	Input	8		TuberBack 21	8		A51520	None	None
27	Output	8	F	Tray 6	8				
28	Input	9		TuberBack 21	9		A51520	None	None
29	Output	9	F	Tray 6	9				
30	Input	10		TuberBack 21	10		A51520	None	None
31	Output	10	F	Tray 6	10				
32	Input	11		TuberBack 21	11		A51520	None	None
33	Output	11	F	Tray 6	11				
34	Input	12		TuberBack 21	12		A51520	None	None
35	Output	12	F	Tray 6	12				
36	Input	13		TuberBack 21	13		A51520	None	None
37	Output	13	F	Tray 6	13				
38	Input	14		TuberBack 21	14		A51520	None	None
39	Output	14	F	Tray 6	14				
40	Input	15		TuberBack 21	15		A51520	None	None
41	Output	15	F	Tray 6	15				
42	Input	16		TuberBack 21	16		A51520	None	None
43	Output	16	F	Tray 6	16				

Figure 45. Method report. An example of the sample tracking information present in a method run report. The second tab on the report displays variables set during the run.

6

Cleaning the Maxprep™ Liquid Handler

6.1 Weekly Cleaning



Wear gloves and appropriate personal protective equipment. If the instrument is used with biohazardous materials, dispose of any cleaning materials used in accordance with your institutional guidelines.

Regularly clean the Maxprep™ Liquid Handler during operation. We recommend a full cleaning of the system as part of the Weekly Maintenance procedure. If samples or reagents have been spilled, clean the instrument immediately to avoid damage or contamination of samples.

Follow the instructions below to perform a full cleaning of the Maxprep™ Liquid Handler.

- Do not remove the Maxprep™ Liquid Handler outer panels for cleaning. This will void the warranty.
 - Do not use a spray bottle to soak instrument surfaces with large volumes of liquid.
 - Never allow liquids to remain on instrument surfaces for extended periods of time.
 - Do not use bleach solutions for cleaning any instrument surfaces.
1. From the 'Home' screen, select the **Maintenance** button. Close the instrument door and select the **Weekly Maintenance** item from the list of maintenance methods.
 2. Once the method has started, open the door of the instrument to clean the instrument. While cleaning the instrument during the Weekly Maintenance method, it is possible to manually move the system gantry left and right to access carriers and tip waste.
 3. Remove any Maxwell® deck trays, samples and consumables from the Maxprep™ Liquid Handler.
 4. Remove the tip eject bar from the waste position (Figure 46) and clean with a disinfectant spray such as Steris LpH® following the manufacturer's instructions.
 5. Remove the tip waste bin from the instrument (Figure 46). Remove the waste bag and dispose of any used tips. Clean the tip waste container with disinfectant spray and then rinse with water. Do not autoclave the tip waste bin.
 6. Line the waste bin with a new waste bag. Reorder Promega Maxprep™ Waste Bags, Clear, (Cat.# AS9305). Return the waste bin to the system.



Used labware and reagents should be disposed of appropriately according to your institution's procedures for hazardous and biohazardous waste.

7. Perform the following instructions for each of the carriers that have a handle on the front.
 - a. Remove the carrier from the deck of the Maxprep™ Liquid Handler. To remove carriers, grasp the handle on the carrier and pull it straight out toward you, supporting the bottom of the carrier as you remove it from the system.
 - b. Clean the carrier and the deck area underneath the carrier with a disinfectant spray such as Steris LpH® following the manufacturer's instructions.
 - c. Replace the carrier at the same deck location from which it was removed. Support the bottom of the carrier, and place the back edge of the carrier on the track positions at the front of the instrument; then slide the carrier straight back until it touches the backstop of the instrument.

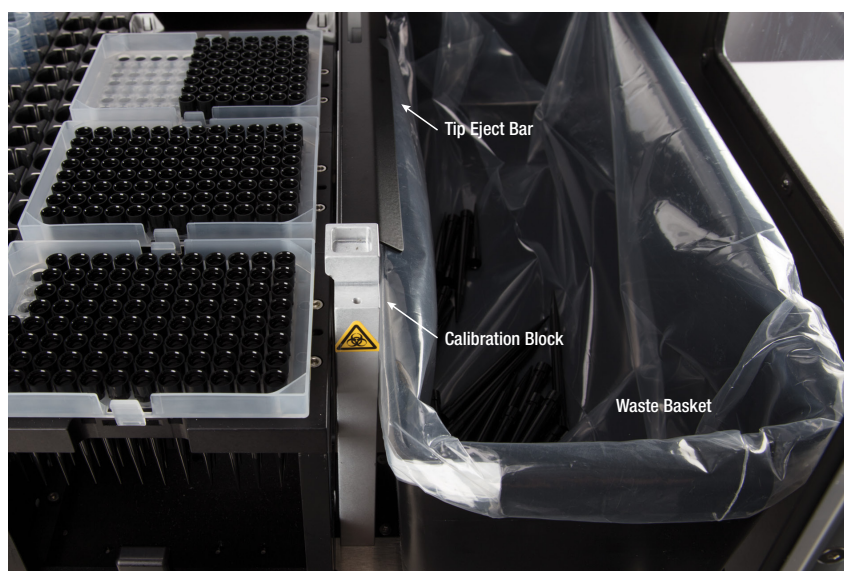


Figure 46. Tip eject bar and plastic waste bin. To the right of the carriers is a waste position that has a removable black tip eject bar as well as a calibration block. On the far right side of the instrument is a removable black plastic waste bin that is used for disposal of used tips.

8. Clean the four Pipetting Channels with a towel wetted with 70% ethanol.
9. Clean interior and exterior panels and door with a towel wetted with 70% ethanol.
10. Close the instrument door, and select **OK** on the 'Weekly Maintenance' screen to proceed with checking pipetting channel performance and instrument calibration.
11. Once the Weekly Maintenance method is complete, replace the tip eject bar on the waste position. The pin on the waste position should fit in the small hole at the front of the tip eject bar, the large cut out should be at the back of the instrument and the angled side of the tip eject bar should be on the right side and facing downward toward the waste bin.

6.2 Dealing with Spills



Bleach reacts with guanidine thiocyanate, which may be present in the Maxwell® Cartridges, and should not be added to any sample waste containing lysis solutions. Do not use bleach to clean Maxwell® reagent spills.

Wipe up any spills immediately. If any material spills in the instrument, wipe up the material with a cloth dampened with 70% ethanol. Note that the reagents contain hazardous materials; therefore, dispose of the cleaning materials according to your institutional guidelines. Wipe well once visible material is removed. In case of spills in the instrument where there is a potential biohazard, wipe up the spill with paper towels and wash the spill area with a detergent solution such as Steris LpH® following the manufacturer's instructions. Dispose of towels used according to your institutional guidelines for biohazardous waste.

7 Troubleshooting

For questions not addressed here, please contact your local Promega Branch, Office or Distributor. Contact information available at: www.promega.com E-mail: techserv@promega.com

Symptoms	Causes and Comments
PC touch screen does not appear to be working	Verify that the power cords are securely connected to the PC and monitor.
	Verify that the USB cable is securely connected between the PC and monitor.
	Restart the Maxprep™ Liquid Handler PC, and launch the Maxprep™ software. If the issue is not resolved, contact Promega Technical Services for further assistance.
Cannot load new methods or change method run parameters	Only operators with administrator-level access to the Maxprep™ software have the ability to change certain functions. If you do not have administrator-level access, contact your site administrator.
Power failure during a run	<p>In the event of a power failure, turn off the instrument and the PC. When power has returned, turn the instrument and PC back on.</p> <ul style="list-style-type: none"> • An aborted run (due to power failure) will result in the loss of all the samples. • Do not attempt to repurify samples from an aborted run.
Communication failure with Portal software	<p>In the event of a communication failure with the Portal software, the software will not allow another method to be run until one of the following two conditions are met:</p> <ul style="list-style-type: none"> • Communication is re-established to the Portal software. • The administrator disables Portal sample tracking temporarily. <p>Contact your IT department to determine whether a network outage or some other network communication failure has occurred and how to resolve the issue.</p>

Symptoms	Causes and Comments
Communication failure with Portal software (continued)	<p>Data from the run that occurred prior to communication failure will not be lost. It will be exported to Portal software when communication is re-established.</p> <p>If Portal sample tracking has been disabled temporarily, remember to start Portal sample tracking again when the communication issue has been resolved.</p> <p>If there is a persistent problem exporting a given set of data to the Portal software, the administrator can access the Portal tab on the 'Preferences' screen (Section 4.3, Administrator Settings) and select the Clear Pending Export button to discard the data currently being exported.</p>
Instrument connection errors	In the event that errors in instrument communication or functions are observed when starting a method, a full restart of the system is required. Shut down the Maxprep™ software, and turn off the Maxprep™ Instrument. Restart the Maxprep™ Instrument and restart the Maxprep™ PC. When the PC has finished rebooting, restart the Maxprep™ software.

7.1 Errors and Warnings

Error	Explanation
Initialization Failure: Access Denied, not a valid Promega User, Please contact your system administrator	Promega User is not set up correctly in Windows® operating system. Consult the Appendix of this Operating Manual and/or contact your administrator/IT personnel to resolve this issue.
Method: Aborted By User	<p>User aborted method.</p> <ul style="list-style-type: none"> An aborted run (initiated by the user) will result in the loss of all the samples. Do not attempt to repurify samples from an aborted run.
A previous instrument task is still active. Please try again later	User tried to do something while previous run was active. Wait for the current process to complete. If error still persists, contact your IT administrator or Promega Technical Services.
An error during method initialization. Unable to ping instrument	The Maxprep™ software is unable to communicate with the Maxprep™ Liquid Handler. Make sure the Maxprep™ Liquid Handler is on and wait until the green light on the gantry bar code scanner is visible. Shut down and restart the Maxprep™ software.

7.2 Using a USB Flash Drive

- When using a USB flash drive, insert it before running any method, and do not remove it until the method is finished.
- Do not insert or remove a USB flash drive while instrument is running.
- Since USB flash drives may vary from vendor to vendor or from type to type, incompatibilities can occur. If your USB flash drive is not detected after a few seconds or if you encounter any issues with the USB flash drive, shut down and restart the PC. Also try a different brand of USB flash drive.
- If the PC becomes unresponsive after inserting a USB flash drive, shut down and restart the PC and the Maxprep™ Liquid Handler.

8

Instrument Service

8.1 Service

We recommend that the Maxprep™ Liquid Handler receive a preventive maintenance service visit at least once a year.

8.2 Maxprep™ Liquid Handler Service

The Maxprep™ Liquid Handler is designed to provide years of consistent performance. If a problem arises with your instrument, please contact Promega or your local Promega representative for support. Visit the Promega Web site at: www.promega.com for the contact information for the Promega branch or distributor nearest you. If further action is required, repair options will be presented and an on-site service visit may be scheduled.

8.3 Instrument Disposal

Contact your local Promega Representative for disposal of the instrument. Please follow your institutional and country-specific requirements to handle the disposal of accessories. The instrument must be decontaminated prior to disposal.

9

Warranties, Service Agreements and Related Products

9.1 Warranty

Upon purchase of the Maxprep™ Liquid Handler, the instrument will be covered by a one-year Standard Warranty. The Standard Warranty covers all parts and labor. Additionally, it includes one annual on-site Preventive Maintenance visit by a service technician. Additional Preventive Maintenance visits are available separately for purchase. After the warranty period is over, the customer can continue to receive the same comprehensive service and support from Promega as when the system was under warranty by purchasing one of the options listed in Section 9.2.

9.2 Warranty and Service Agreement Options

Instrument damage due to customer neglect or negligence are not covered by Warranties or Service Agreements. Channel replacement due to instrument crashes are not covered by Warranties or Service Agreements.

Maxprep™ Liquid Handler Premier Warranty Upgrade (Cat.# SA1391)

The Premier Warranty Upgrade includes all parts, labor and on-site service visits by a factory-trained service technician within 2 business days (where available). Additionally, it includes one annual on-site Preventive Maintenance visit by a service technician. Additional Preventive Maintenance visits are available separately.

Maxprep™ Liquid Handler Standard Service Agreement (Cat.# SA1392)

The Standard Service Agreement covers all parts, labor and on-site visits. The system will be repaired and returned to original factory specifications. Additionally, it includes one annual on-site Preventive Maintenance visit by a service technician. Additional Preventive Maintenance visits are available separately.

Maxprep™ Liquid Handler Premier Service Agreement (Cat.# SA1393)

The Premier Service Agreement includes all parts, labor and on-site visits. The system will be repaired and returned to original factory specifications. A service technician will be on-site within 2 business days for repairs. Additionally, it includes one annual on-site Preventive Maintenance visit by a service technician. Additional Preventive Maintenance visits are available separately.

Maxprep™ Liquid Handler Preventive Maintenance (Cat.# SA1396)

To keep the system operating at peak performance, we recommend that Maxprep™ Liquid Handlers receive a Preventive Maintenance check at least every 12 months of use. During this procedure, our qualified service personnel test the instrument, check parts for wear and replace them as needed. Additionally, the system is aligned and functionality is verified. Documentation for your files is provided. The Preventive Maintenance service is performed by scheduling an on-site Preventive Maintenance visit.

Warranty Benefit	Standard Warranty	Premier Warranty
Warranty Period	1 Year	1 Year
Parts and Labor	Yes	Yes
Shipping of Parts	Yes (UPS Ground, 5–7 business days)	Yes (UPS Overnight)
Loaner Instrument	No	No
On-Site Support	Yes (within 5 business days)	Yes (within 2 business days)
Preventive Maintenance	Yes (1)	Yes (1)

Maxprep™ Liquid Handler Installation Qualification and Operational Qualification (Cat.# SA1397, SA1398, SA1399)

The Installation Qualification service product includes a series of formal instrument checks, delivers written documentation of instrument functionality, and demonstrates that everything ordered with the instrument is supplied and installed at the customer’s laboratory. This service product must be delivered by a Promega representative who is certified to perform the Installation Qualification. The service product involves a site visit to perform:

- Installation by qualified Promega personnel
- Inspection of shipping containers, instrument and accessories
- Comparison of items received vs. items on purchase order
- Inspection of laboratory conditions
- Review of all hazards and precautions with users
- Confirmation/installation of correct firmware version
- Testing of instrument run
- Recording and documenting installation and actions

The Operational Qualification service product demonstrates that the instrument functions according to its operational specifications. This service product must be delivered by a Promega representative who is certified to perform the Operational Qualification. The service product involves a site visit to perform:

- Running of operational verification tests
- Documenting of all calibration and test results
- Training of customer(s) to operate the instrument
- Training of customer(s) to use the log book
- Completion of customer-specific log book, instrument sticker and OQ documentation

Limited Warranty and Service Guidelines

Pursuant to this Warranty, Promega warrants to the original purchaser of the Promega Maxprep™ Liquid Handler that Promega will provide the parts and labor required for service and repair of the instrument for one year from the date of purchase. Your Warranty includes on-site service and repair of your instrument. This Warranty may be renewed, in one-year terms, provided the renewal is requested prior to the expiration of the current Warranty or Service Agreement.

Promega agrees, as its sole responsibility under this Warranty, and upon prompt notice of a defect, to repair or replace (at Promega's discretion) any instrument discovered to be defective within the term of this Warranty. This Warranty does not include repair or replacement necessitated by accident, neglect, misuse, unauthorized repair or modification of the instrument.

This Warranty and the remedies set forth herein are exclusive and in lieu of all other express or implied warranties (including implied warranties of merchantability, fitness for a particular purpose and noninfringement), and no other warranties shall be binding upon Promega. In no event, shall Promega be liable for any special, incidental or consequential damages resulting from the use or malfunction of this instrument or the system with which it is used.

Out-of-Warranty Service

Contact Promega or your local Promega representative. We will be happy to assist you by telephone at no charge. Repair service will be quoted prior to any work being performed.

9.3 Related Products

PRODUCT	SIZE	CAT.#
Maxwell® RSC Instrument	1 each	AS4500
Maxwell® RSC 48 Instrument	1 each	AS8500
Maxwell® FSC Instrument	1 each	AS4600
Maxwell® CSC Instrument	1 each	AS6000
Maxwell® CSC 48 Instrument	1 each	AS8000
Bar Code Reader, Maxwell® Systems	1 each	AS3200
Maxprep™ UV Lamp	1 each	AS9310
Maxprep™ Waste Bags, Clear	100/pack	AS9305
Maxwell® RSC/CSC Deck Tray	1 each	SP6019
Maxwell® RSC/CSC 48 Front Deck Tray	1 each	AS8401
Maxwell® RSC/CSC 48 Back Deck Tray	1 each	AS8402
Maxwell® FSC Deck Tray	1 each	AS4016
Maxprep™ Carrier, Maxwell® RSC	1 each	AS9402
Maxprep™ Carrier, Maxwell® RSC 48 Front	1 each	AS9403
Maxprep™ Carrier, Maxwell® RSC 48 Back	1 each	AS9404
Maxprep™ Liquid Handler, RSC Carriers	1 each	AS9105
Maxprep™ Liquid Handler, RSC 48 Carriers	1 each	AS9205
1.1ml, Square-Well, V-Bottom Deep Well Plate	25/pack	V6821
Nunc 2.0ml Deep Well Plates (Sterile)	60/pack	AS9307
2.0ml Deep Well Plates (Non-Sterile)	60/pack	AS9309
Maxprep™ 1000µl Conductive Disposable Tips, Filtered (3,840)	40/box	AS9303
Maxprep™ 300µl Conductive Disposable Tips, Filtered (5,760)	60/box	AS9302
Maxprep™ 50µl Conductive Disposable Tips, Filtered (5,760)	60/box	AS9301
Maxwell® RSC Plunger Pack	1 each	AS1670
Maxprep™ Reagent Reservoir, 50ml	28/pack	AS9304
Maxprep™ Plunger Holder	1 each	AS9408
Maxprep™ Carrier, 12–13mm Sample Tubes	1 each	AS9405
Maxprep™ Carrier, 15–17mm Sample Tubes	1 each	AS9406
Maxprep™ Carrier, 10mm Sample Tubes	1 each	AS9407
Maxprep™ Tube Rack Stabilizer	1 each	AS1910
Maxprep™ 3-Position Reagent Tube Holder	1 each	AS9409
Microtubes, 1.5ml	1,000/bag	V1231
Maxprep™ Gripper Paddle	1 each	AS9410
Maxprep™ Plunger Tool	1 each	AS9411
Maxprep™ Reagent Carrier	1 each	AS9412

10 Certificate of Decontamination

Disinfection and decontamination are required prior to shipping any instrument accessories for repair. Returned items must be accompanied by a signed and dated Certificate of Decontamination, which must be provided in the shipping box.

To disinfect and decontaminate: Wipe exposed surfaces of the accessories using a cloth dampened with 70% ethanol. Follow immediately with a cloth dampened with deionized water. Repeat the procedure as many times as required to effectively disinfect and decontaminate the instrument.

Failure to follow these decontamination guidelines, sign and return the Decontamination Form will result in decontamination charges before the instrument will be serviced.

Select either (A) or (B):

- A. I confirm that the returned items have not been contaminated by body fluids or by toxic, carcinogenic, radioactive or other hazardous materials.
- B. I confirm that the returned items have been decontaminated and can be handled without exposing personnel to health hazards.

Circle the type of material used in the instrument: **Chemical** **Biological** **Radioactive****

Briefly describe the decontamination procedure performed: _____

Date: _____ Place: _____

Signature: _____ Name (block capital letters): _____

This instrument is certified by the undersigned to be free of radioactive contamination. (** The signature of a Radiation Safety Officer is also required if the instrument was used with radioactive materials.)

Date: _____ Place: _____


Signature: _____ Name (block capital letters): _____

Title: _____

11 Appendix: Configuring the PC

11.1 Maxprep™ Liquid Handler and PC

The Maxprep™ Liquid Handler is controlled by Maxprep™ software on a PC and touchscreen monitor that are provided with the system. This appendix describes the setup and configuration options for the PC provided with the Maxprep™ Liquid Handler.

 Your IT department or site Administrator should configure the PC according to the IT rules and IT procedures pertinent to your site. The following is a set of guidelines for your IT personnel or site Administrator.

We do not recommend loading additional programs onto the PC because these may interfere with the instrument operation.

Some institutions require antivirus software installed on PCs within the institution. If installing an antivirus program please ensure it is set to manual, not automatic, update.

Antivirus scanning will slow the performance of the PC and may affect the performance of the Maxprep™ Liquid Handler while it is processing samples.

Additional recommendations:

- Disable automatic Windows® updates and virus scans.
- Disable automatic power off, sleep or hibernation settings.
- Disable “Fast Startup”. Set the power button to Shut Down, not Sleep.
- Disable any other automatically or manually started software that would consume PC resources during operation.
- Ensure there are no domain policies that would overwrite any of the above settings.
- Do not disable USB communication as this is essential for instrument operation.

Note: The PC that is provided with the Maxprep™ Liquid Handler is already configured for the settings listed above.

Depending on your institution’s IT policy, you may or may not be able to configure or change the settings for the PC if it is connected to your site network domain. Do not load other programs on the PC because these may interfere with instrument operation.

The first time you use the Maxprep™ Liquid Handler and PC, you should check the configuration of the following options. Settings can be changed later, if required, by following these instructions again.

Information provided in this document is not meant to be a single instruction set for configuring the PC. Rather, the instructions provided herein are intended to be used as individual descriptions of how to configure various options within the PC environment. Perform the instruction sets that are applicable to your particular site.

11.2 Glossary

For users who are unfamiliar with the Windows® 10 operating system, this section describes terms and actions common to this operating system.

'Lock' Screen: Windows® user accounts with password protection or network domain user accounts need to sign in to the PC to access the Maxprep™ software. When the PC is started, restarted or in a locked state, the 'Lock' screen will be displayed. If prompted on the 'Lock' screen, select Ctrl+Alt+Delete to access the login and password text boxes. Enter username and password information, and then select return or the arrow key to sign in.

'Desktop' Screen: The 'Desktop' screen (Figure 47) is the starting point for the instructions provided in this document. The Task bar at the bottom of the 'Desktop' screen displays icons that provide access to the various functions described in this document. On the left side of the task bar are the **Start** button and the **Search** button. These buttons will be referenced throughout this document.



Figure 47. The 'Desktop' screen. At the bottom of this screen is the Task bar. Access to the options and settings referenced in this document is provided by the **Start** and **Search** buttons on the left side of the Task bar. Swipe upward from the bottom of the screen to expose the Task bar.

Start Menu: The Start menu (Figure 48) is the major access point for settings and functions on the PC. The left side of the Start menu contains buttons for **Accounts**, **Settings** and **Power**.

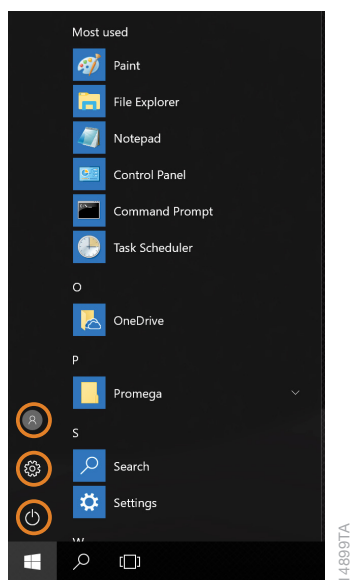


Figure 48. The Start menu. The left side of the Start menu displays buttons for Accounts, Settings and Power (indicated with orange circles from top to bottom).

11.3 Adjusting Volume Settings

Volume settings on the PC can be adjusted through one of two means.

1. On the keyboard select Fn+F7 to mute the speaker, Fn+F8 to decrease the speaker volume, or Fn+F9 to increase the speaker volume on the PC.
2. Select the **Speaker** icon on the right side of the task bar to open a volume slider. Use the slider to increase, decrease or mute the speaker on the PC.

11.4 Configuring Date and Time Settings

The current date and time will be configured during installation of the Maxprep™ Liquid Handler. After installation, if there is a need to change the Date, Time or Time Zone please contact Promega Technical Services for information on how this can be accomplished.

11.5 Managing Local Windows® User Accounts

Operator credentials and access levels for the Maxprep™ Liquid Handler software are controlled through assigning accounts in the Windows® operating system to one of two Promega access-level groups. The sections below detail the process of adding and removing local Windows® user accounts that can be assigned to the access-level groups for the Maxprep™ Liquid Handler software. The instructions for adding and removing local Windows® user accounts are intended to be used when the Maxprep™ Liquid Handler is run as a stand-alone device (i.e., not connected to a network domain). To connect to your site internet domain, consult with your IT department and follow the instructions in Section 11.9, Connecting to a Network.

When your Maxprep™ Liquid Handler arrives, the PC will be configured with a Windows® user account called Maxprep. This account is password protected (Default Password = Promega) and is configured with Windows® administrator access rights as well as Maxprep™ Liquid Handler software administrator access rights.

Note: If the PC is connected to your site internet domain, your IT department should be consulted on how to add or remove users on the PC. Do not use these instructions if accounts on your company domain are used to access the PC.

11.5.1 Creating Local Windows® User Accounts

If the Maxprep™ Liquid Handler system is run as a stand-alone device (i.e., not connected to your site domain), you can create local Windows® user accounts on the PC for each user of the system. To create a new user in the Maxprep™ Liquid Handler software, you will first have to create a new account in Windows® 10 and then assign this account to one of the Maxprep™ Liquid Handler access-level groups. Below are instructions for creating a new, local account in the Windows® 10 operating system.

Notes:

- a. If the PC is connected to your site internet domain, your IT department should be consulted on how to add users to the domain that can be used on the PC. Do not use these instructions to create a new local account on the PC if accounts on your company domain are used to access the PC.
 - b. Only a Windows® user account with administrator-level access in Windows® can create new local accounts in the Windows® operating system.
1. Close the Maxprep™ Liquid Handler software if it is open. Select the **X** in the upper right corner of the screen, and then confirm that you want to exit.
 2. Select the **Start** button on the left side of the Task bar. Select the **Settings** icon to open the 'Windows Settings' screen (Figure 49).

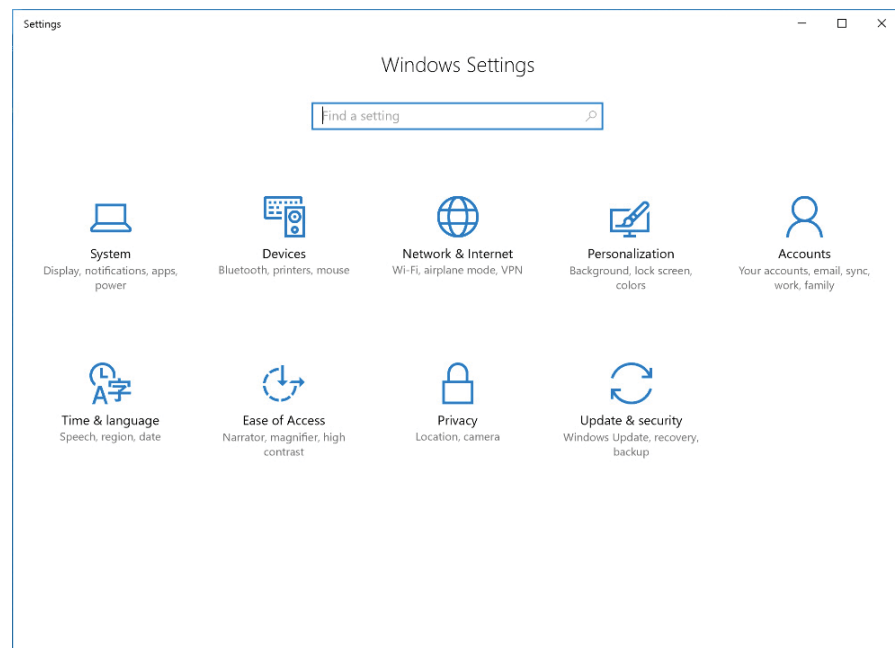


Figure 49. The 'Windows Settings' screen. The 'Windows Settings' screen provides access to multiple functions that can be used to configure options and settings for the PC.

3. Select the **Accounts** button on the 'Windows® Settings' screen to open the 'Accounts' screen (Figure 50).

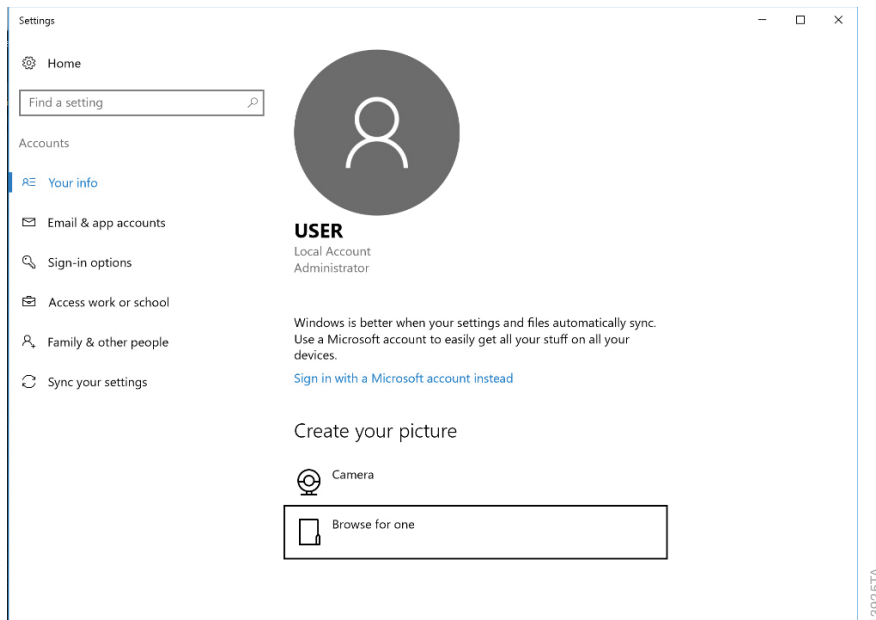


Figure 50. 'Accounts' screen. Settings related to Windows® user accounts can be managed from this screen.

4. From the list on the left side of the screen, select the **Family & other people** button to display account settings for this PC (Figure 51).

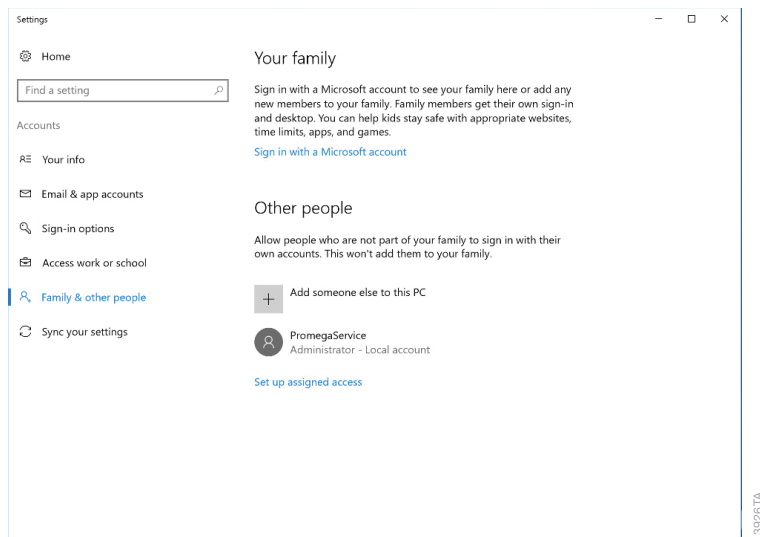


Figure 51. Managing accounts. Windows® user accounts can be created, removed and managed from the 'Family & other people' tab of the 'Accounts' screen.

- To add a new user account, select the **+** sign next to the *Add someone else to this PC* heading (Figure 51). This will open the 'Create an account for this PC' screen (Figure 52).

Figure 52. Creating a new account. Enter name and password information to define the sign-in settings for a new Windows® user account on the 'Create an account for this PC' screen.

- On the 'Create an account for this PC' screen, enter the username, password and password hint for the new local user account where indicated. Then select **Next** to create the new user account, and return to the 'Accounts' screen.
- The new user account should now be listed under the *Other people* heading on the 'Accounts' screen.
- By default, the new user account will have user access level rights within the Windows® 10 operating system. If you desire the new user account to have administrator rights, select the user account under the *Other people* heading to open options for that user (Figure 53).

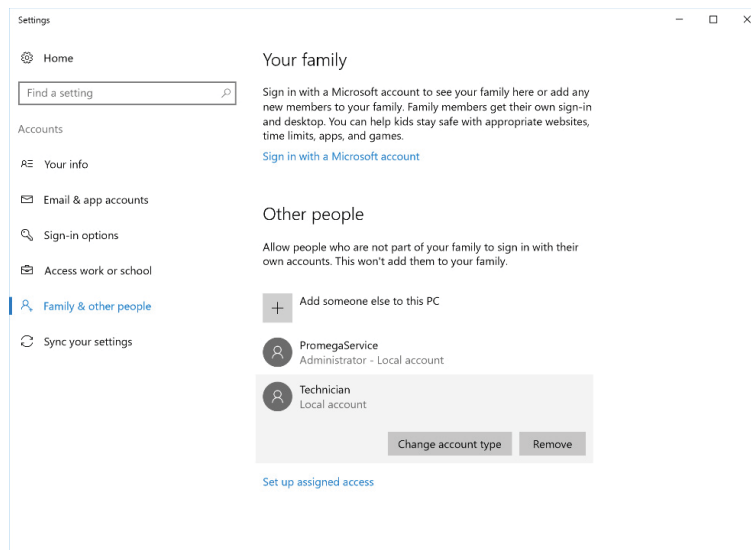


Figure 53. Assigning account options. Select any of the listed Windows® user accounts to access options for changing the account type.

9. Select the **Change account type** button to open the 'Change account type' screen (Figure 54). Using the drop-down menu under the *Account type* heading, select whether this user should have **Administrator** or **Standard User** access rights within the Windows® 10 operating system. Select **OK** to save these changes or **Cancel** to discard the changes for this user and return to the 'Change account type' screen.

Note: Changing the account type for a user only affects their access level in the Windows® 10 operating system, not in the Maxprep™ Liquid Handler software. Follow the instructions in Section 11.6 to change access level rights within the Maxprep™ Liquid Handler software.

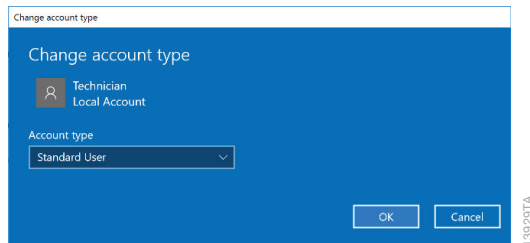


Figure 54. Changing account type. Use the drop-down menu on the 'Change account type' screen to assign the selected Windows® user account Standard User or Administrator access rights in the Windows® operating system.



Changing the account type for a user only affects the access level in the Windows® 10 operating system, not in the Maxprep™ software. Follow the instructions in Section 11.6 to change access level rights within the Maxprep™ software.

10. You have now added a new account to Windows® 10. Select the **X** in the upper right corner of the 'Accounts' screen to close the screen. Proceed to Section 11.6 to assign access levels for the Maxprep™ Liquid Handler software to this new account, or repeat these steps to create additional accounts.

11.5.2 Removing a Local Windows® User Account

If the Maxprep™ Liquid Handler system is run as a stand-alone device (i.e., not connected to your site domain), you can remove local Windows® accounts on the PC that are no longer necessary. Below are instructions for removing a local Windows® user account in the Windows® 10 operating system.

Notes:

- a. Only a Windows® user account with administrator-level access in the Windows® operating system can remove accounts.
 - b. If the PC is connected to your company internet domain, your IT department should be consulted on how to limit access to the PC. Domain users logged into the PC will not have access to run the Maxprep™ Liquid Handler software unless they have been added to one of the Promega access groups (Section 11.6). Do not use these instructions to remove an account from the PC if accounts on your company domain are used to access the PC.
 - c. Make sure the local Windows® user account to be deleted is signed out of the PC (refer to Section 11.7, Managing the Current Active Account).
1. Close the Maxprep™ Liquid Handler software if it is open. Select the **X** in the upper left corner of the screen, and then confirm that you want to exit.
 2. Confirm that the Windows® user account to be removed is not signed into Windows®. Select the **Start** button on the left side of the Task bar. Select the **Accounts** icon from the left side of the Start menu to open the Account information popup (Figure 55). Other user accounts will be listed and indicated as signed in if the account is currently signed in on the PC.

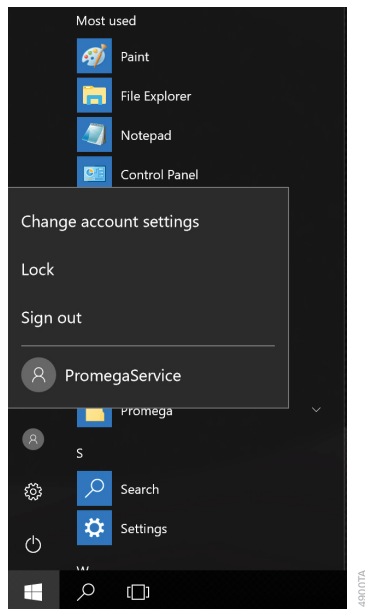


Figure 55. Account information popup. Accessed from the Start menu, this popup displays the Windows® user accounts on the PC and indicates which accounts are signed in.

3. If the account to be removed is signed in on the PC, select that account name in the Account information popup to switch to that account. Once you have changed to the account to be removed, from the 'Desktop' screen, select the **Start** button in the lower left corner of the screen. Select the **Accounts** icon from the left side of the Start menu to open the Account information popup. Select **Sign Out** to sign out of the account that will be removed.
4. After signing out, sign back into an account with administrator-level access in Windows® operating system.
5. From the 'Desktop' screen, swipe upward from the bottom of the screen to expose the Task bar, and then select the **Start** button on the left side of the Task bar. Select the **Settings** icon to open the 'Windows Settings' screen (Figure 56).

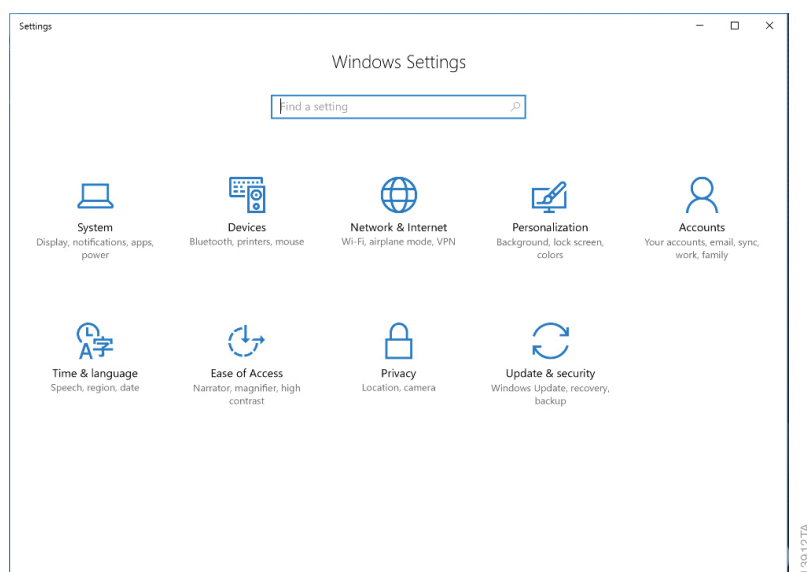


Figure 56. The 'Windows Settings' screen. The 'Windows Settings' screen provides access to multiple functions that can be used to configure options and settings for the Tablet PC.

6. Select the **Accounts** button on the 'Windows Settings' screen to open the 'Accounts' screen (Figure 57).

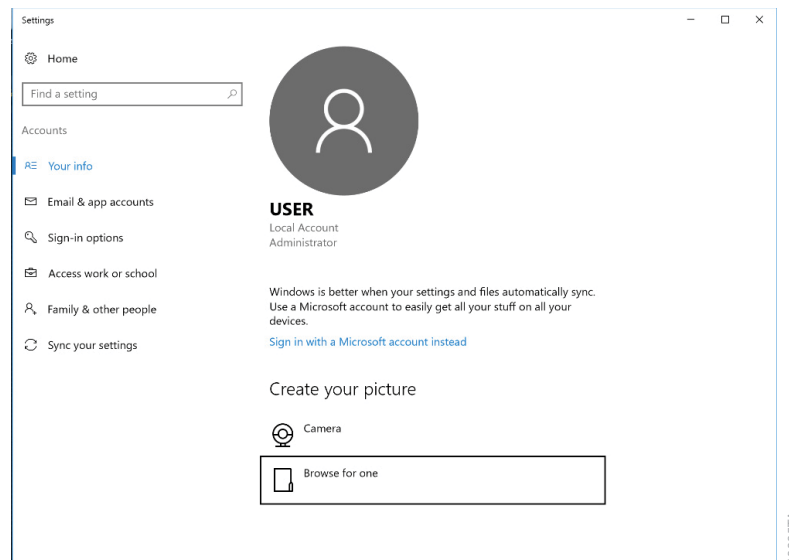


Figure 57. 'Accounts' screen. Settings related to Windows® user accounts can be managed from the 'Accounts' screen.

7. From the list on the left side of the screen, select the **Family & other people** button to display account settings for this PC.
8. Under the *Other people* heading, select the user account you wish to remove to open options for that user (Figure 58).

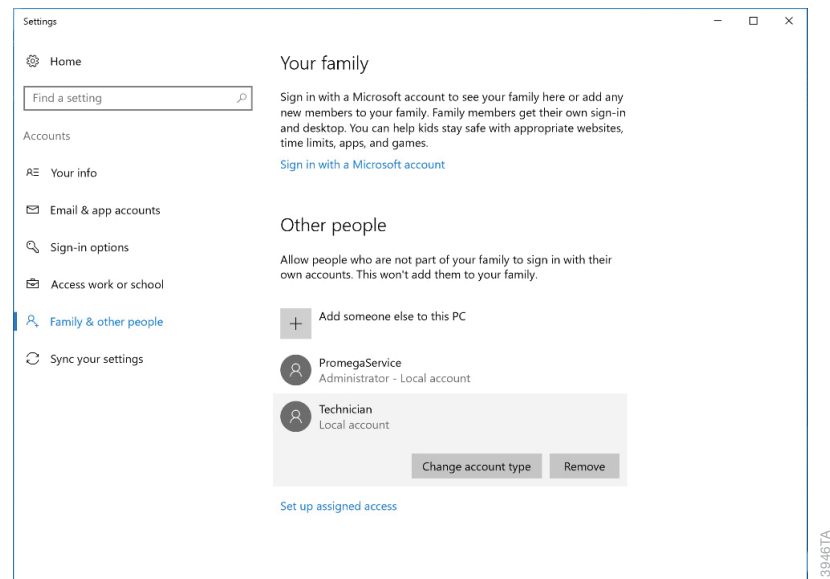


Figure 58. Removing an account. Select any of the listed Windows® user accounts to access the ability to remove an account.

9. Select the **Remove** button to open the 'Delete account and data?' screen. There will be an indication that removing a user account will remove all of the user account data from the PC. Select **Delete account and data** to remove the selected account or **Cancel** to retain the account and return to the 'Accounts' screen.

Note: Removing a Windows® user account will only remove data in Windows® for this user account; it will not affect any of the data generated by this user in the Maxprep™ Liquid Handler software.

10. If you selected **Delete account and data**, you have now removed a local Windows® user account from Windows® 10 and that account should no longer show up in the list of accounts shown under the *Other people* heading on the 'Accounts' screen. Select the **X** in the upper right corner of the 'Accounts' screen to close the screen.

11.5.3 Changing the Appearance of the 'Desktop' Screen for New Windows® User Accounts

The first time a new account logs in, there will be a delay of a few seconds while Windows® prepares the new user account and then the user will be presented with the Windows® 'Desktop' screen. The Maxprep™ Liquid Handler software icon will not appear on the 'Desktop' screen. Follow the instructions below to add the Maxprep™ Liquid Handler software icon to the Windows® 'Desktop' screen.

Getting to the Maxprep™ Liquid Handler software

1. If you do not add the Maxprep™ Liquid Handler software icon to the Windows® 'Desktop' screen, you will have to access the Start menu to open the Maxprep™ Liquid Handler software.
2. From the 'Desktop' screen, select the **Start** button on the left side of the Task bar.
3. From the installed programs in the main part of the Start menu, scroll down to see the Promega folder. Select the **Promega** folder to expand the items within the folder.
4. Right-click the Maxprep™ item to open the options popup. Select the **Pin to Start** item (Figure 59, Panel A). This will create a Maxprep™ icon on the right side of the Start menu (Figure 59, Panel B).

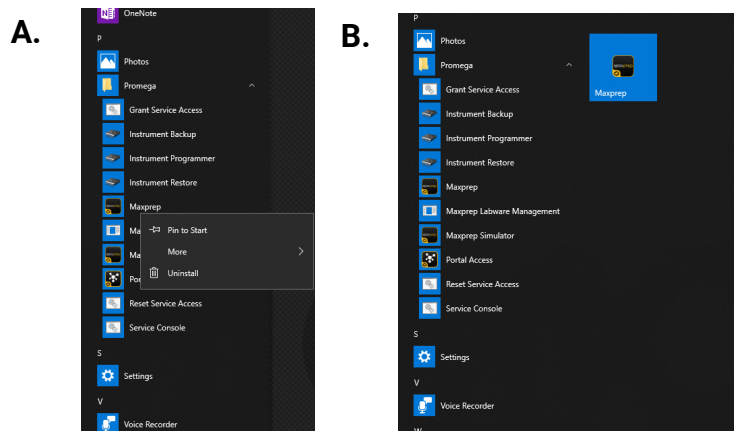


Figure 59. Creating a Maxprep™ software icon. Panel A. Identify the Maxprep™ icon in the Promega folder shown in the list of installed items on the PC. Right-click the Maxprep™ icon to open the options popup. **Panel B.** After selecting **Pin to Start**, the Maxprep™ icon will appear to the right of the installed items in the Start menu.

5. To add the Maxprep™ icon to the Desktop, right-click the Maxprep™ icon on the right side of the Start menu to see the Name group header displayed. Now select and drag the Maxprep™ icon onto the 'Desktop' screen.
6. The Maxprep™ software icon will appear on the desktop. Double-click the Maxprep™ software icon to open the Maxprep™ Liquid Handler software. Alternatively, you can select the **Start** button and select the Maxprep™ icon on the right side of the Start menu to open the Maxprep™ Liquid Handler software.

11.6 Managing Maxprep™ Access Levels for a Windows® User Account

Access levels within the Maxprep™ Liquid Handler software are controlled by assigning a Windows® user account to a Promega access-level group. The Maxprep™ Liquid Handler software supports the following user roles.

PromegaUser: PromegaUsers have the following capabilities:

1. Select and run preloaded methods
2. View and export results
3. Run Maintenance methods

PromegaAdministrator: PromegaAdministrators have the following capabilities:

1. All PromegaUser capabilities
2. Import/Delete methods
3. Import/Delete Labware
4. Create variant methods
5. Set software options
6. Set UV sanitization duration

When your Maxprep™ Liquid Handler arrives, the PC will be configured with a Windows® user account called Maxprep. This account is password protected (Default Password = Promega), and is configured to have both Windows® administrator access rights and administrator-level access rights to the Maxprep™ software.

Note: The PromegaServiceTechnicians group is only for use by Promega Service Representatives. Do not assign users to the PromegaServiceTechnicians group.

11.6.1 Assigning an Account to a Promega Access-Level Group

The instructions below detail the steps involved in adding a Windows® user account (whether local or domain) to one of the Promega access-level groups on the PC. All Windows® user accounts that will have access to the Maxprep™ Liquid Handler software must be added to either the PromegaUsers or PromegaAdministrators groups.

Notes:

- a. The PromegaServiceTechnicians group is only for use by Promega Service Representatives. Do not assign users to the PromegaServiceTechnicians group.
- b. Only a Windows® user account with administrator-level access in the Windows® operating system can assign accounts to a Promega Access-Level Group.

1. Close the Maxprep™ Liquid Handler software if it is open. Select the **X** in the upper right corner of the screen, and then confirm that you want to exit.
2. From the 'Desktop' screen, select the **Search** icon on the left side of the Taskbar.
3. Select the 'Search' text box, and enter the text lusrmgr.msc (Figure 60, Panel A). Under the Best match header an item called lusrmgr.msc should appear; select this item to open the 'Local Users and Groups (Local)' screen (Figure 60, Panel B).

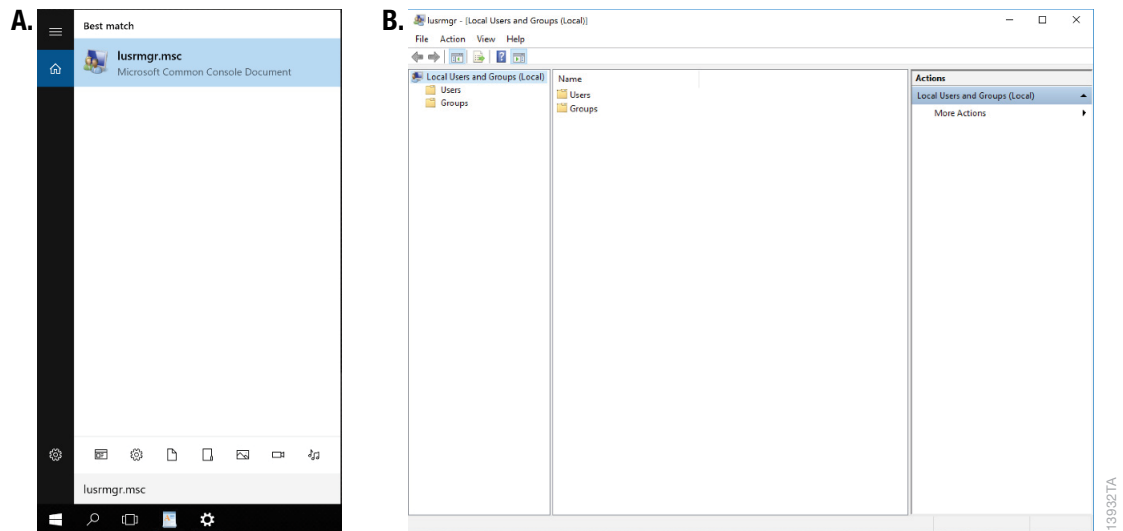


Figure 60. Accessing Users and Groups. Panel A. Select the Search button in the taskbar and enter lusrmgr.msc into the search window to bring up the lusrmgr.msc item. **Panel B.** Selecting the lusrmgr.msc item from the search list opens the 'Local Users and Groups (Local)' screen.

4. Double-click the **Groups** folder in the center part of the window to open the folder (Figure 61).

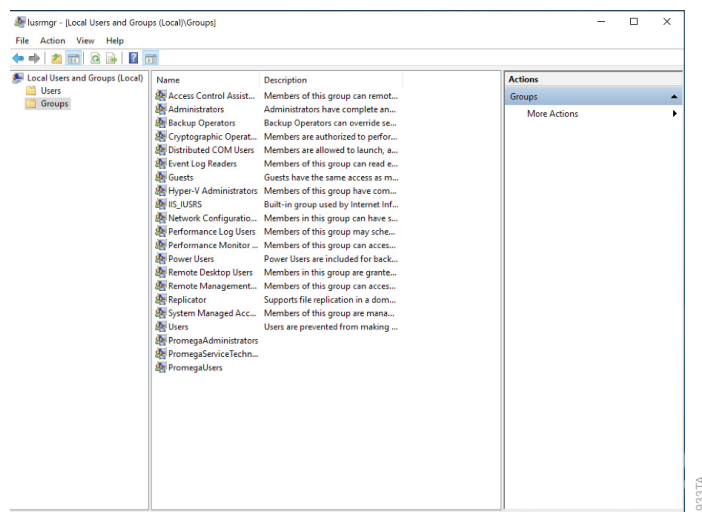


Figure 61. Groups folder. Access the PromegaAdministrators and PromegaUsers groups from the Groups folder on the 'Local Users and Groups (Local)' screen.

- There will be a list of groups shown in the center part of the screen. Near the bottom of this list you will see two groups (**PromegaAdministrators** and **PromegaUsers**) that are used to assign access level rights for the Maxprep™ Liquid Handler software to Windows® user accounts.

Note: The PromegaServiceTechnicians group is only for use by Promega Service Representatives. Do not assign users to the PromegaServiceTechnicians group.

- Depending on the access level you wish to enable for a particular user account, double-click either the **PromegaAdministrators** or the **PromegaUsers** list item.
- This will open the 'PromegaAdministrators Properties' or the 'PromegaUsers Properties' screen (Figure 62, Panel A). Under the 'Members:' section of the window select the **Add...** button.
- Now you will see the 'Select Users' screen (Figure 62, Panel B). In the section of the screen titled Enter the object names to select: type the username(s) of the account(s) that you wish to add to the selected group.

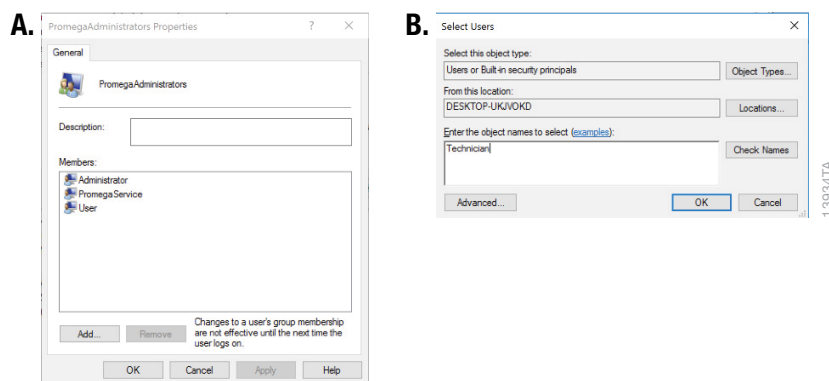


Figure 62. Adding users to a Promega group. Panel A. The 'PromegaAdministrators Properties' or 'PromegaUsers Properties' screen lists the Windows® user accounts currently assigned to the specified group. Select **Add...** to add a new Windows® user account to the group. Panel B. On the 'Select Users' screen, enter the Windows® user account(s) names to be added to the selected group in the text box.

- To check that the username you have entered is recognized by Windows®, select the **Check Names** button. If the username is not recognized, a 'Name Not Found' window will open. Double-check the spelling of the username and enter it again.
- Select **OK** to accept the username(s) that you have assigned to this group, and then select **OK** in the 'Properties' screen and close the 'Local Users and Groups (Local)' screen.
- The username(s) that you have assigned to the specified group should now be capable of running the Maxprep™ Liquid Handler software with the specified access level.

- Restart the PC for new account access levels to take effect. To do this, select the **Start** button in the lower left corner of the screen, and then select the **Power** icon and select the **Restart** item (Figure 63).

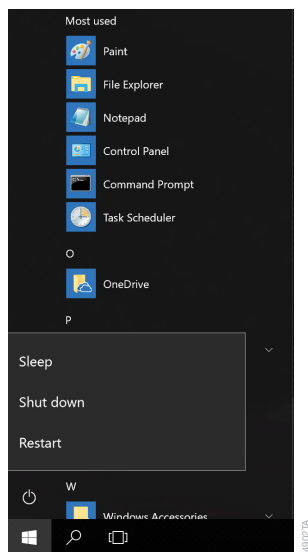


Figure 63. Power options popup. Selecting the **Power** button from the Start menu opens the Power options popup. This popup presents options for managing the PC power state.

- To check the appropriate access level for the account, sign in to the PC as that account (see Section 11.7, Managing the Current Active Account) and open the Maxprep™ Liquid Handler software.

14. Select the **Settings** button on the 'Home' screen of the Maxprep™ Liquid Handler software. If the account has Administrator-level access to the Maxprep™ software, the **Administrator** button will appear on the 'Settings' screen (Figure 64). If the account has only User-level access to the Maxprep™ Liquid Handler software, the **Administrator** button will not appear on the 'Settings' screen.

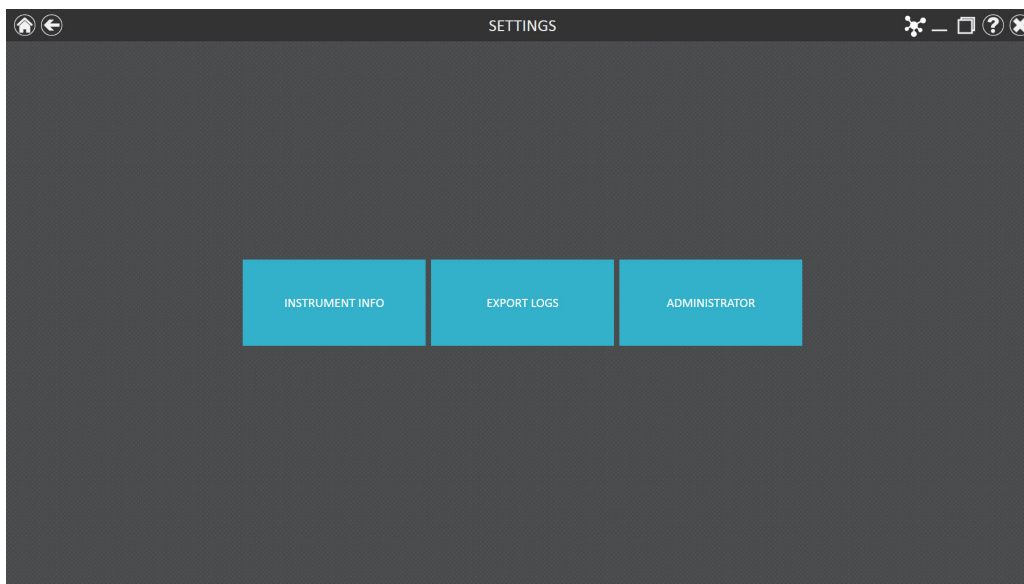


Figure 64. Maxprep™ software 'Settings' screen. Windows® user accounts that have been added to the PromegaAdministrators group will be able to see the Administrator button on this screen.

11.6.2 Removing an Account from a Promega Access-Level Group

Access levels within the Maxprep™ Liquid Handler software are controlled by assigning a Windows® user account to a Promega access-level group. The instructions below detail the steps involved in removing a Windows® user account from one of the Promega access-level groups. Once removed from Promega access-level groups, the specified Windows® user account will no longer have access to the Maxprep™ Liquid Handler software.

Note: Only a Windows® user account with administrator-level access in the Windows® operating system can remove accounts from a Promega Access-Level Group.

1. Close the Maxprep™ Liquid Handler software if it is open. Select the **X** in the upper right corner of the screen, and then confirm that you want to exit.
2. From the 'Desktop' screen, select the **Search** icon on the right side of the Task bar.

3. Select the Search text box, and enter the text `lusrmgr.msc` (Figure 65, Panel A). Under the Best match header an item called `lusrmgr.msc` should appear. Select this item to open the 'Local Users and Groups (Local)' screen (Figure 65, Panel B).

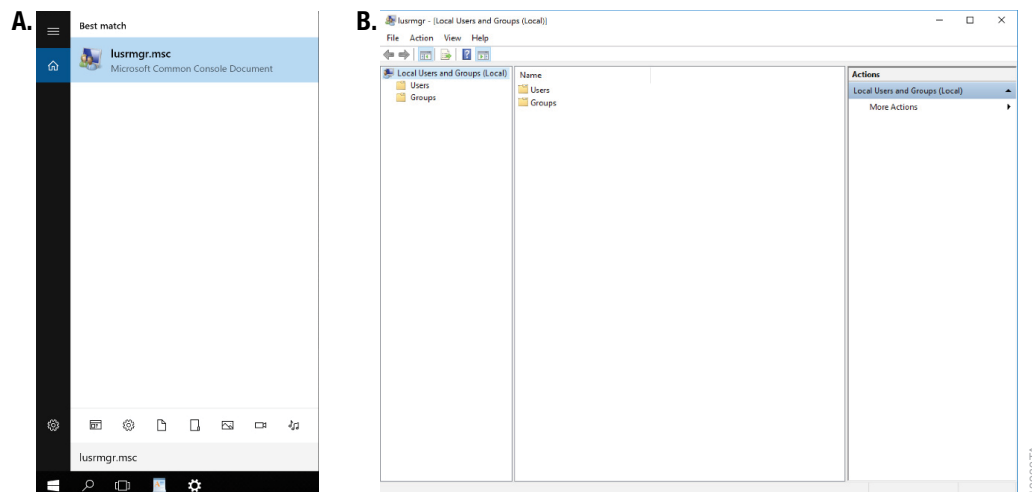


Figure 65. Accessing Users and Groups. Panel A. Select the **Search** button in the task bar and enter `lusrmgr.msc` into the search window to bring up the `lusrmgr.msc` item. **Panel B.** Selecting the `lusrmgr.msc` item from the search list opens the 'Local Users and Groups (Local)' screen.

4. Double-click the **Groups** folder in the center part of the window to open the folder (Figure 66).

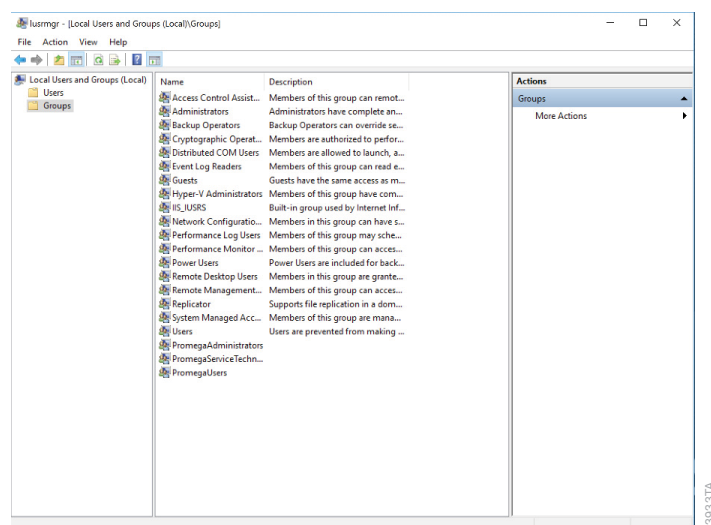


Figure 66. Groups folder. Access the `PromegaAdministrators` and `PromegaUsers` groups from the Groups folder on the 'Local Users and Groups (Local)' screen.

5. There will be a list of groups shown in the center part of the screen. Near the bottom of this list you will see two groups (**PromegaAdministrators** and **PromegaUsers**) that are used to assign access level rights for the Maxprep™ software to Windows® user accounts.
6. Depending on the access level from which you wish to remove a particular user, double-click either the **PromegaAdministrators** or the **PromegaUsers** list item.

- This will open the 'PromegaAdministrators Properties' or the 'PromegaUsers Properties' screen. Under the *Members:* section of the screen, select the name of the user you wish to remove from this Promega access group (Figure 67).

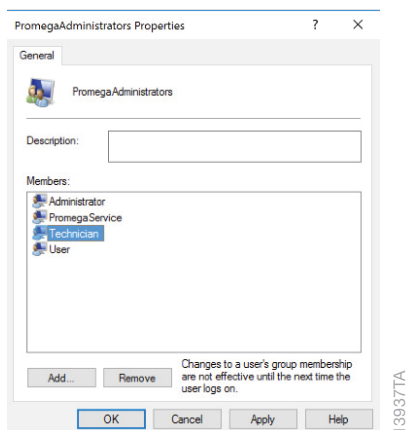


Figure 67. Removing a Windows® user account from a Promega access-level group. Select the Windows® user account you wish to remove, and then select the **Remove** button.

- Select the **Remove** button to remove this user from this Promega access group.
- Select **OK** on the 'Properties' screen to accept the changes or select **Cancel** to discard the changes. Either selection will return you to the 'Local Users and Groups (Local)' screen.
- Close the 'Local Users and Groups (Local)' screen by selecting the **X** in the upper right corner of the screen.
- Restart the PC for new account access levels to take effect. To do this, select the **Start** button in the lower left corner of the screen, then select the **Power** icon and select the **Restart** item (Figure 68).

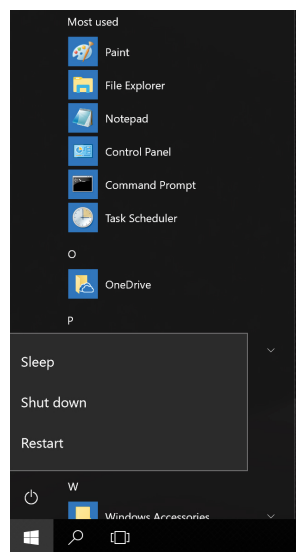


Figure 68. Power options popup. Selecting the **Power** button from the Start menu opens the Power options popup. This popup presents options for managing the PC power state.

11.7 Managing the Current Active Account

To correctly annotate functions in the Maxprep™ software with the user performing the function, Windows® users need to switch to their accounts between sessions on the Maxprep™ software. Windows® user accounts that are password-protected will need to sign in to the Windows® operating system. Use the following steps to switch users or sign out.

11.7.1 When Starting from a Currently Signed-in Account

1. From the 'Desktop' screen, select the **Start** button on the left side of the Task bar.
2. Select the **Accounts** icon to open the Account information popup (Figure 69).

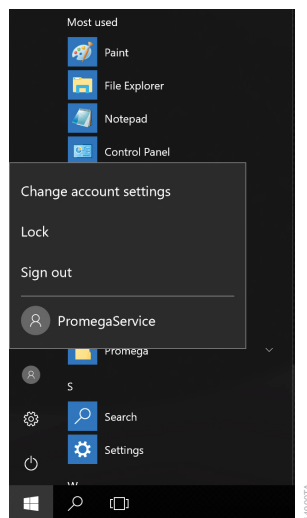


Figure 69. Account information popup. Accessed from the Start menu, this popup displays the Windows® user accounts on the PC and enables the current user to sign out of the Windows® operating system.

3. If you wish to sign out of the PC, select the **Sign out** item from the list. This will sign the current user out of the PC and return to the lock screen.
4. If you wish to remain signed in to the PC but wish to switch the current user to another account, select the username for the account you wish to open from the list of users. If the account is currently signed in, the PC will simply open to that account. If the account is not signed in, password entry will be required prior to opening to that account.

11.8 Shutting Down and Restarting

Occasionally you will need to shut down or restart the PC. The instructions below detail the process of shutting down or restarting the PC.

1. Close the Maxprep™ software if it is open. Select the **X** in the upper left corner of the screen, and then confirm that you want to exit.
2. From the 'Desktop' screen, swipe upward from the bottom of the screen to expose the Task bar, and then select the **Start** button on the left side of the Task bar.
3. Select the **Power** icon to open the Power menu (Figure 70).

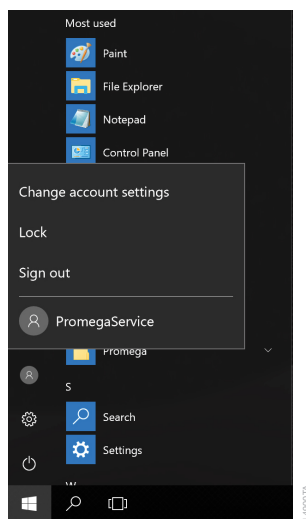


Figure 70. Power options popup. Selecting the **Power** button from the Start menu opens this popup, which presents options for managing the PC power state.

4. If you wish to shut down the PC, in the Power menu select the **Shut down** item.
5. If you wish to restart the PC, in the Power menu select the **Restart** item.
6. The PC will perform the selected item and either shut down or restart.

11.9 Connecting to a Network

The Maxprep™ PC can connect to local networks through a wired ethernet connection. If you want to connect the PC to a site network, follow the instructions below.

Note: Consult your site IT department when connecting to the network so that the rules and regulations regarding network access for your site are followed.

The following is a set of guidelines for your IT personnel or site Administrator.

We do not recommend loading additional programs onto the PC because they may interfere with the instrument operation.

Some institutions require antivirus software installed on PCs within the institution. If installing an antivirus program, please ensure it is set to manual, not automatic, update.

Antivirus scanning will slow the performance of the PC and may affect the performance of the Maxprep™ Liquid Handler while it is processing samples.

Additional recommendations:

- Disable automatic Windows® updates and virus scans.
- Disable automatic power off, sleep, or hibernation settings.
- Disable "Fast Startup". Set the power button to Shut Down not Sleep.
- Disable any other automatically or manually started software that would consume PC resources during operation.
- Ensure there are no domain policies that would overwrite any of the above settings.

Note: The PC that is provided with Maxprep™ Liquid Handler is already configured for the settings listed above.

1. Connect an ethernet cable to the available ethernet port on the back of the computer and an ethernet network connection.
2. The computer should automatically detect the network after the ethernet cable is connected.

11.10 Adding a Network Printer

From the Maxprep™ software, you can print reports using a network printer. The printer you wish to use with the Maxprep™ software needs to be located on your network, and the PC should be connected to your network.

Note: Consult your site IT department when connecting to a network printer.

1. Close the Maxprep™ software if it is open. Select the **X** in the upper left corner of the screen, and then confirm that you want to exit.
2. From the 'Desktop' screen, select the **Start** button on the left side of the Task bar.
3. Select the **Settings** button to open the 'Windows® Settings' screen (Figure 71).

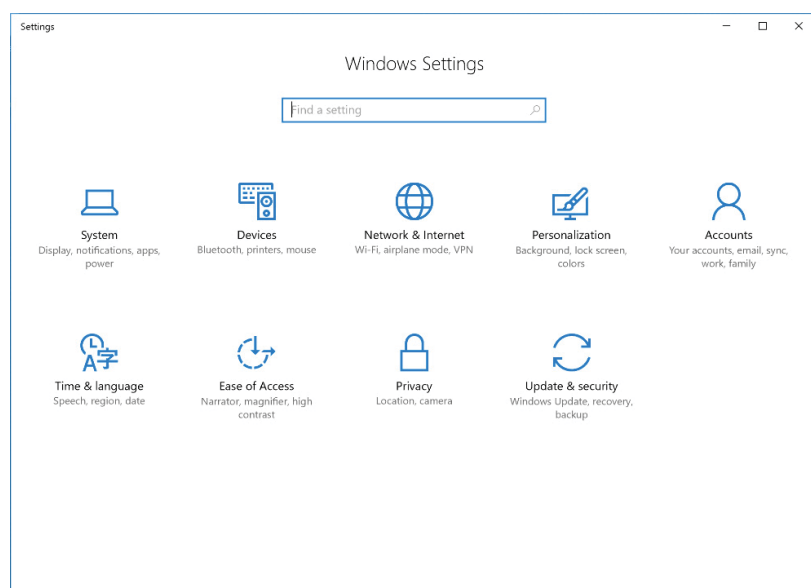


Figure 71. The 'Windows Settings' screen. This screen provides access to multiple functions that can be used to configure options and settings for the PC.

4. Select the **Devices** button on the 'Windows Settings' screen to open the 'Devices' screen (Figure 72).

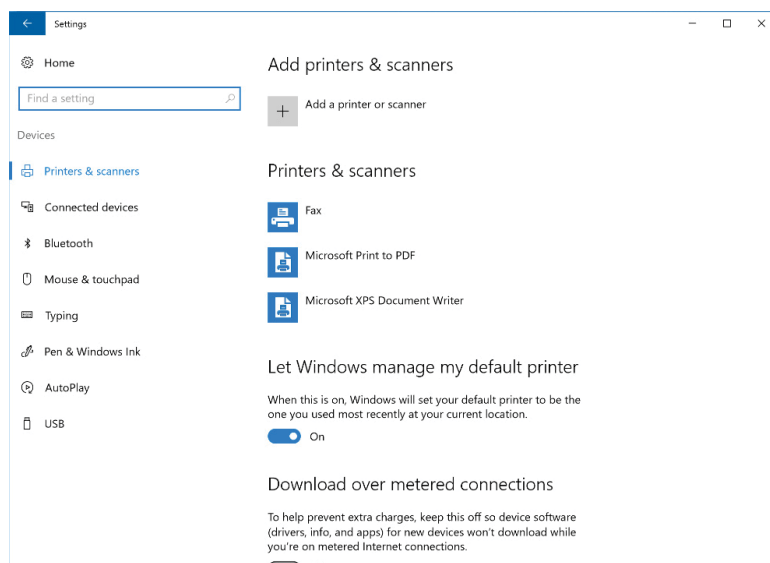


Figure 72. 'Devices' screen. Connecting to a network printer can be performed from this screen. The PC must be connected to a network to access network printers.

5. Select the **+** button next to the Add a printer or scanner option. The PC will automatically search the network for available printers that can be selected. This may take awhile.
6. Once available printers are found, select the desired printer from the list and select the **Next** button. If the desired printer was not found on the network, consult with your IT department to resolve the issue.
7. Follow on-screen instructions for adding this printer to the PC.

12 Summary of Changes

The following changes were made to the 2/24 revision of this document:

1. Added new Cat.# AS9105 and AS9205.
2. Updated Sections 1, 2.1, 2.2, 3.1, 3.3, 4.2, 5.1, 5.3, 5.4 and 9.
3. Made minor text edits and formatting changes.
4. Updated the document font.

It is the manufacturer's responsibility to provide equipment electromagnetic compatibility information to the customer or user.

It is the user's responsibility to ensure that a compatible electromagnetic environment for the equipment can be maintained in order that the device will perform as intended.

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