



# RFID Reader System



## A1479 User Manual

Version 1.0



## Introduction

Congratulations on your purchase of the RFID Reader System. The RFID Reader System is a stationary device that will enable you to read cartridge specific parameters and values. The RFID Reader System will provide a total Diffusion value for a group of RFID enabled filters. The system will allow you to test cartridges with a high level of confidence for placement in a multi-round housing.

## Scope

This manual is intended to provide instructions for operational use of the RFID Reader System. It contains technical information regarding the performance of the reader system which must be complied with or the performance to FCC regulations could be compromised.

**NOTE: PRIOR TO USING THE RFID READER SYSTEM, PLEASE READ AND UNDERSTAND THIS USERS MANUAL COMPLETELY. ENSURE THAT THE UNIT IS INSTALLED PER THE GUIDELINES CONTAINED HEREIN.**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

*The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.*

**Caution:** Any changes or modifications not expressly approved by the Northern Apex will void the warranty and could void the user's authority to operate the equipment.

**CAUTION:** When replacing the paper roll or at any other time the device is opened, ensure that the unit is located in a dry location. Also ensure that you have discharged any static electricity from your body prior to opening the unit. This can be achieved by touching a grounded metal surface.

## Installation

Prior to use of the RFID Reader System, the unit should be secured to the work surface by way of the hinge located on the back of the unit. Three - #6 size fasteners should be utilized to secure the unit to the work surface.

## Power On/Off

**NOTE:** The RFID Reader System is supplied with a certified UL/CSA, North American rated power cord. If this cord is not compatible with your location, an 18 awg, 3-conductor, shielded cord with an IEC-60320-C13 type connector on the equipment end and the appropriate connector for your region on the supply end must be used.

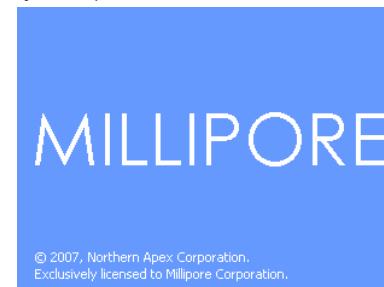
The unit is designed to operate from a supply of 100-240 VAC, 50/60 Hz and 0.75 A. The power entry module fuse should be 3.15A fast blow 250V rated, size 5mm x 20mm.

To control power to your Millipore RFID Reader System, first plug the power cord into the back of the system at the power entry module. You will then need to locate the master power switch on the back of the system just above the power entry module, and push it towards the top of the system into the ON position.



Once the master switch is powered ON, locate the power switch on the front panel of the system and power it ON by pushing the switch towards the top of the system.

During the boot process, you will see the blue Millipore splash screen and the strip of 3 lights on the RFID reader (located on the right side of the system) will illuminate and turn off once the system is booted.





To turn the system off, simply push the power switch on the front panel of the system toward the bottom of the unit into the OFF position; the master switch on the back of the system ONLY needs to be turned OFF, if the system is going to be moved.

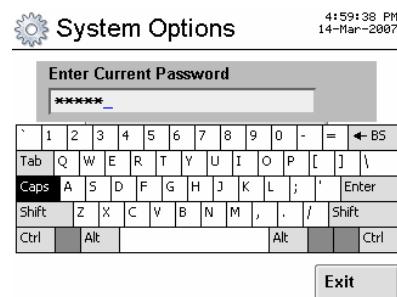
## Setting up your Millipore RFID Reader System

When boot your system up for the first time, you will need to set the language, date/time, decimal symbol, calibrate the touchscreen, and if you'd like, change the default password.

The initial screen that will appear upon booting the system is the user interface screen. On the user interface screen, press the System Options icon.



The System Options password screen will appear, prompting you to 'Enter Current Password'; type in the default password admin then press enter.



You will now be viewing the main System Options screen.

### System Options

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14-Mar-2007

- [Diagnostics](#)
- [Instrument Setup](#)
- [Calib. Touchscreen](#)
- [Set Password](#)

Exit

To begin setting up your system, press the Instrument Setup button, this will bring you to the main Setup screen.

### Setup

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14-Mar-2007

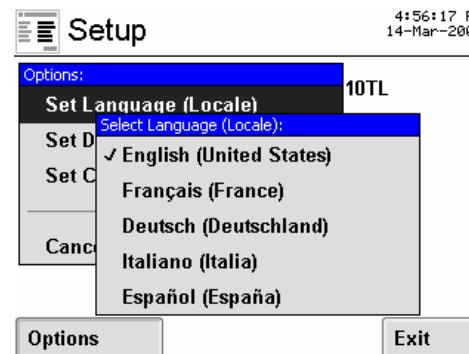
RFID Tag Type:	ARIO310TL
Language:	English
Decimal Symbol:	Period (.)
Date Format:	dd-Mmm-yyyy
Time Format:	hh:mm:ss tt

Options

Exit

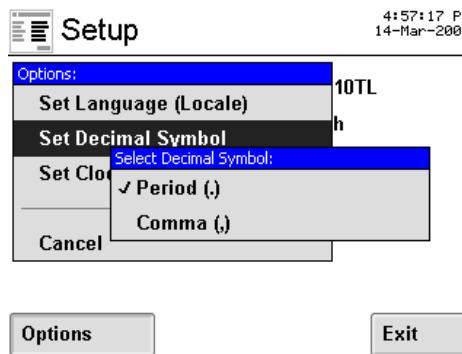
Now press the Options button and you will be prompted to choose one of the three options: 'Set Language', 'Set Decimal Symbol' or 'Set Clock'.

Let's start by setting the Language. Touch the words 'Set Language (Locale)', and then touch the language of your choice; this will automatically return you to the main Setup Screen.

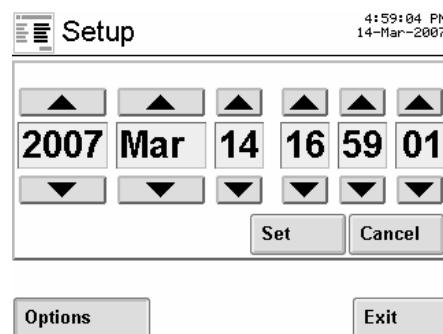




To set the decimal symbol, press the Options button, then touch 'Set Decimal Symbol', and choose either a period or a comma by touching the corresponding word; this will automatically return you to the main Setup screen.

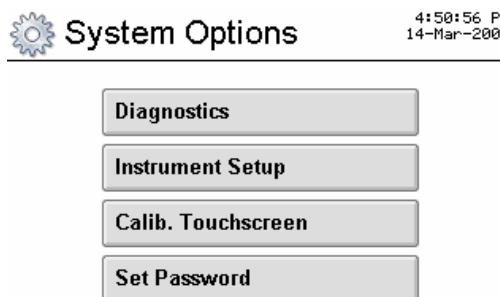


To set the date and time press the Options button, and then the words 'Set Clock'. Press the arrow buttons up or down, until you achieve the desired date and time, then press the Set button; this automatically return you to the main Setup screen.



Press the Exit button, and you will return to the main System Options screen.

Now it's time to calibrate the touchscreen. Start by pressing the Calib. Touchscreen button.



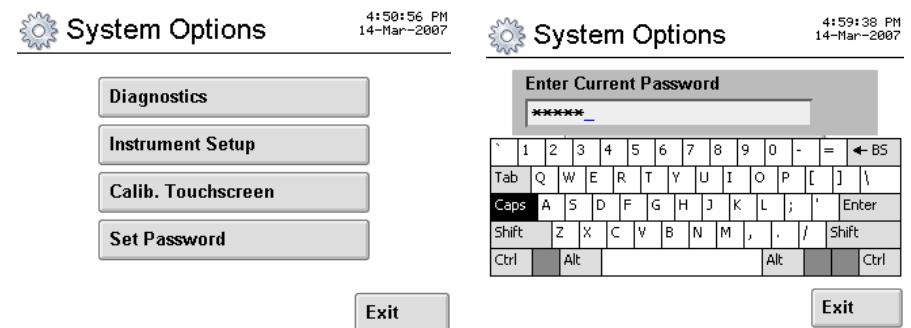
You will now be prompted 'Preparing to Calibrate the Touchscreen. Please Wait...'. Next you will be asked to 'Press here' on a black circle, once you have pressed the first black circle, you will be asked to press another black circle. After you have calibrated the first two screens, you will be asked to 'Touch anywhere to see alignment' – 'Then, touch the circles 1 – 4 to save new calibration'. After you touch 'anywhere' on the screen and each red circle in numeric order the next numbered circle will appear until you have reached 4. After you pressed the number 4 circle, you will see "New

Calibration Saved" and you will return to the main System Options screen.

If needed, you can also calibrate your touchscreen manually. Open the clasp at the side of the unit, and inside you will see a red button... press the red button and you will be instructed on the touchscreen to follow the same steps as above.



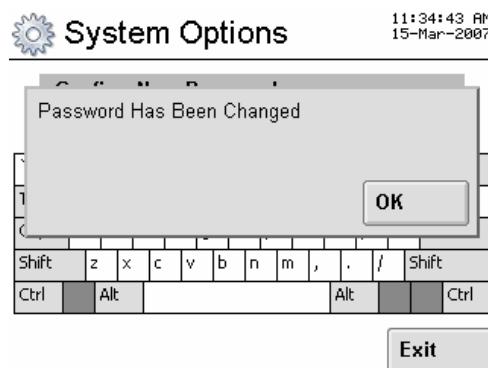
Finally you are ready to set your password. Press the Set Password button on the System Options main screen and when prompted, enter your current password (or the default password admin).



Once you have typed in your current password press enter, and then you will be asked to type in your new password. Now type your new password and press enter. You will have to enter your new password and press enter



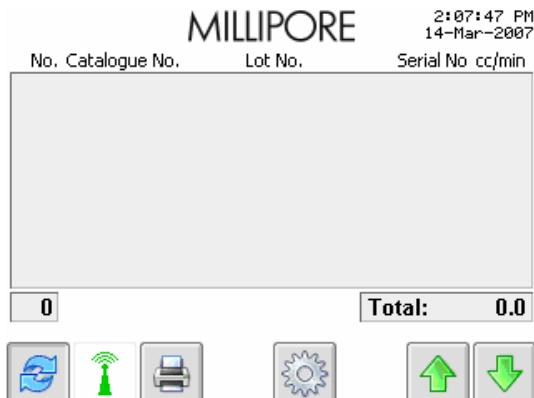
one more time to confirm the new password. Once your password is set in the system, 'Password Has Been Changed' will appear on the screen.



Press the OK button and you will be returned to the System Options main page. Press Exit and you will be back to the main user interface screen.

## Operating the Millipore RFID Reader System

Once the system is booted up, the main user interface screen will appear with the running time and date in the upper right hand corner.



To begin reading your RFID enabled cartridges, place each cartridge (one at a time) spear-side-down into the RFID reader on the side of the system.



The yellow light on the side of the system will illuminate when a new cartridge is placed into the system, then the green light will illuminate if the cartridge is readable and the red will illuminate if the cartridge is not readable (you will also get an error message on your screen).

As each cartridge is placed into the reader, the data from the corresponding cartridge will appear on the screen and an automatic tally of the total number of cartridges and the cc/min will appear towards the bottom of the screen. You will be able to view data from up to seven cartridges on one screen, although unlimited cartridges may be read.



MILLIPORE			
2:11:13 PM			16-Mar-2007
No.	Catalogue No.	Lot No.	Serial No cc/min
1	CAT NUMBER	LOT NUMBER 0123	15.9
2	CGEPTTK	WJ1244574	6.0
3	TEST TAG NFR	TEST LT1234	99.9
4	TEST TAG NFR	TEST LT1234	99.9
5	TEST TAG NFR	TEST LT1234	99.9
6	TEST TAG NFR	TEST LT1234	99.9
7	TEST TAG NFR	TEST LT1234	99.9
		Total:	521.4



To navigate through all of the cartridge data in your system, use the green up and down arrows.

Once you have finished reading all of your cartridges and you are ready to print the data you have collected, simply touch the printer icon on the screen, and the data will automatically print.

To clear the data in your system, press the Start/Restart icon.

## Sleep Mode

If the system is left on and it has not been used for 10 minutes or more, it will go into a sleep mode. To get the system out of sleep mode, press the now grayed out RFID Reader icon  and it will turn green  indicating the system is 'awake' and ready to be used.

## Maintaining Your Millipore RFID Reader System

Although your Millipore unit is self-contained and requires very little maintenance, you will need to perform a few routine activities to keep it running as desired.

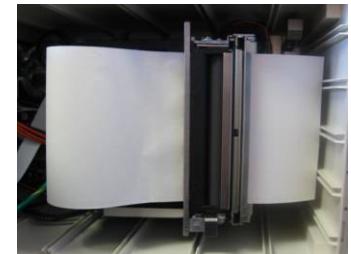
### Changing the Paper

**CAUTION:** When replacing the paper roll or at any other time the device is opened, ensure that the unit is located in a dry location. Also ensure that you have discharged any static electricity from your body prior to opening the unit. This can be achieved by touching a grounded metal surface.

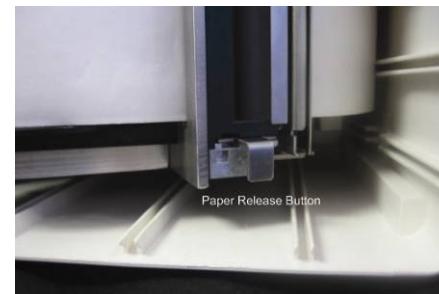
Open your system by undoing the latch on the left side of the unit. Once opened, you will see the paper roll and printer unit on the right side of the system.



On the upper right side of the roll is the printer release button. Push this button up towards the top of the system, and pull the paper roll towards you to open the printer.



Once the printer is open, you will see the paper release button located at the bottom of the paper feed unit, push this button to the left, and this will release any paper left in the feed unit.



You now can unscrew the metal hold-bar at the top of the paper roll, remove the old paper roll, and put the new paper roll in place. Once the new roll is in place, insert the metal hold-bar back through the new roll of paper and screw back into place. After the roll of paper is securely screwed into place, with your system ON, take the end of the paper and feed it through the paper feed unit to the right of the paper roll... the grippers on the paper feed unit will automatically feed the paper through to the front of the machine.

### Cleaning the Screen

When the touch panel is dirty, gently wipe the surface with a soft cloth, sometimes moistened by mild detergent or alcohol. If a hazardous chemical is dropped on the touch panel by mistake, wipe it off right away to prevent human contact.



## **Specifications**

Storage Temperatures: -20 C to 70 C

Operating Temperature: 1 C to 50 C

Humidity Range: 20% to 95% (Non condensing)

Power Supply: 100-240 VAC, 50/60 Hz 0.75A

RFID System Frequency :13.56 MHz @ 1 watt

**NOTE:** Internal Voltages of 24V and 12V are marked as such and are fused with an Inline fuse holder with 3.5A, medium-action,250V, 5mm x 20mm fuses and should only be replaced with the same. When replacing one of these fuses, ensure the power cord has been removed from the power entry module.

The Real Time clock battery located on the main control board is not a user replaceable component. Please contact service for this replacement.