

Operating Manual

Your guide to the StatLab
PiSmart One Hopper Slide Printer
PISMART-S1



Company Information

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Purchase and Service Contact:

StatLab Medical Products

2090 Commerce Drive

McKinney, TX 75069

Telephone 1-800-442-3573

www.StatLab.com



This instrument conforms to the essential requirements of:

- Low Voltage Directive 2006/95/EC

Symbols

The following symbols and conventions may be used throughout this document and on the instrument:



This symbol is used on the equipment, or in a document, to indicate that instructions must be followed for safe and correct operation. If this symbol appears on the instrument always refer to the operator guide.



Manufacturer

A WARNING or CAUTION is provided with appropriate instruction if there is a danger of personal injury or damage to the equipment or samples.

Note

Notes give additional information about a job or instruction, but do not form part of the instruction.

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EMC Statement

This equipment complies with the emissions and immunity requirements of EN 61326-1:2021.

This equipment has been designed and tested to CISPR 11 Class A Group 1.

This equipment is intended for use in a laboratory environment, by a trained and qualified professional. In a domestic environment, it may cause radio interference, in which case it may be necessary to take measures to mitigate the interference.



Do not use this instrument in close proximity to strong electromagnetic radiation as these may interfere with the proper operation. The electromagnetic environment should be evaluated prior to operation of the device.

Safety Information

Introduction

Pyramid Innovation Ltd instruments are designed for convenient and reliable service; however, improper use or handling by a user may damage the instrument, or cause a hazard to health.

Any problems and queries should be referred to your Pyramid Innovation Ltd service department.



The following sections contain important information for the safe setup and use of the instrument, and should be read and understood by the user before using the instrument

General Safety



This instrument, as supplied, conforms to IEC61010-1 issue 2010; however, the addition of chemicals introduces potential hazards. Good Laboratory Practice must be employed and consideration must be given to the potential for hazard when dealing with these chemicals.



Do not remove any panels or access covers, unless specifically instructed to do so. The instrument does not have any user serviceable parts. Potentially lethal voltages are present inside the instrument.



The instrument is only connected to the Mains Power Supply using the supplied power adapter and detachable mains lead. For replacement power adapter, ask your local distributor.



The instrument must be properly connected to a good earth, (ground) via the Mains input supply and positioned such that it is possible to interrupt the Mains supply at the source by removing the plug from the socket.



Use only factory approved accessories or replacement parts within the instrument.



If this instrument is used in a manner not specified by Pyramid Innovation Ltd, the protection provided by the instrument may be impaired.



Any problems and queries should be referred to your Pyramid Innovation Ltd supplier.



Correct maintenance procedures are essential for consistent performance. It is recommended that a Maintenance Contract is taken out with our service department.



Any maintenance or service work required may only be carried out by trained personnel.



The instrument should be placed on a suitable level surface and not in direct sunlight.



Only use cleaning agents recommended in the Operator Guide.

Chemical Safety

The introduction of chemicals creates potential hazards. Pyramid Innovation Ltd has adopted the following position with regard to the subject of volatile chemicals used in laboratories:



Do not use harmful chemicals or solvents to clean the instrument.

The operator is fully aware of the contents of the specification documents detailing the properties of the chemicals they are using.

The operator has carried out any legally required assessments of chemicals used and is using good laboratory practices.

Environment

This instrument is required to comply with the European Union's Waste electrical and Electronic Equipment (WEEE) Directive 2012/19/EU. It is marked with the following symbol:



At the end of the product life it must be recycled in accordance with local regulations. It can be returned to a Municipal Collection Facility or to the retailer when a replacement is purchased. Where applicable this facility will be ordered by the Product dealer.

Further information on Pyramid Innovation Ltd compliance with these directives, the recyclers in your country and information on Pyramid Innovation Ltd products which may assist the detection of substances subject to the RoHS Directive are available from your distributor.

Warranty Statement

Pyramid Innovation Ltd are proud of their quality, reliability and of our after-sales service. We continuously strive to improve our service to our customers.

Please ask your distributor representative about service contracts which can help maintain your instrument in an optimal operating condition.

Warranty provisions necessarily vary to comply with differences in national and regional legislation. Specific details can be found in the delivery documentation or from your dealer or representative.

Please note that your warranty may be invalidated if:

- This instrument is modified in any way, or not used as intended by Pyramid Innovation Ltd.
- Accessories and reagents which have not been approved by Pyramid Innovation Ltd are used.
- The instrument is not operated or maintained in accordance with instructions.
- The installation of the instrument was not conducted by a certified Pyramid Innovation Ltd representative.

Operator Guide

How To Use This Guide

Introduction

The printer is designed to print directly onto laboratory microscope slides with colour frosted writing patches. The operator is responsible for ensuring the accuracy of the information printed onto the microscope slide.



Using slides other than the ones recommended may cause irrevocable damage to the instrument. Please see Appendix A for a list of recommended slides.

Recommended cleaning method

This section provides guidance on cleaning the slide printer

Getting Started

This takes you through from opening the box to printing a test slide.

Printer Operation

This takes you through general printer operation.

Parts of the Printer

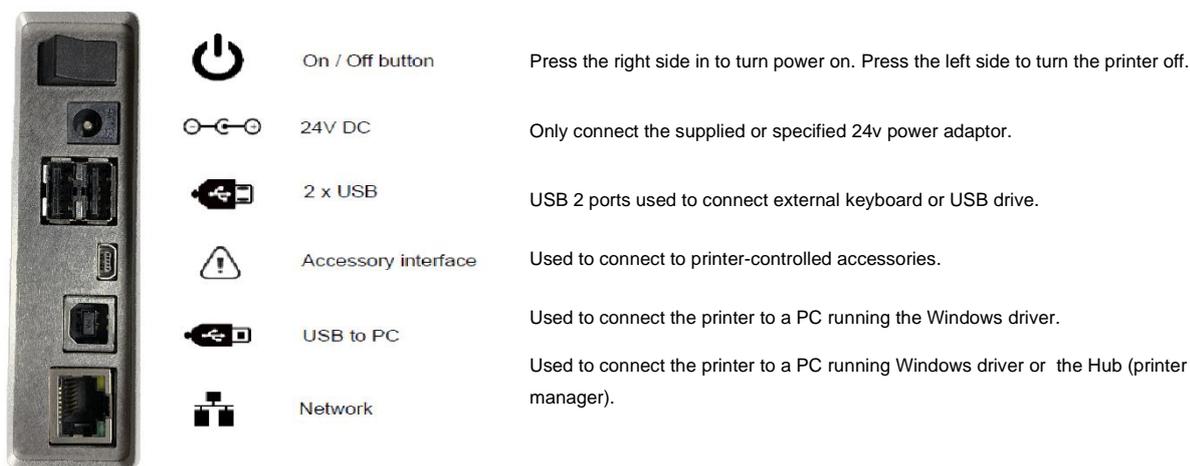
- A. Slide Hopper
- B. Touch Display
- C. Barcode Scanner
- D. Slide Collection Tray
- E. Connections and Power Input
- F. Mains Adapter



Back panel and connections

At the back of the printer there are a number of connections including the 24v DC power adaptor.

Signal connections suitable only for connection to equipment meeting the requirements of clause 6.3 of IEC 61010-1 or the SELV requirements of IEC 60950-1, 2014.



Scanner

The barcode scanner mounted under the left front edge of the slide printer uses an LED light source requiring no special eye protection. The scanner has a motion sensor that activates the scanner function and illumination. If the sensor sees no motion for a period of time, the illumination will cycle off – the area under the scanner will remain dark. When in standby mode, the motion sensor continues to monitor the area and will come out of standby mode as needed when motion is detected.

The scanner is programmed to read the Datamatrix code, QR code and Code 128 barcodes by default. Additional codes can be activated, contact your local distributor for details.

Recommended Cleaning Method

The printer power should be turned off prior to cleaning.

The outer case can be cleaned using a soft cloth dampened with a mild detergent, Alcohol or a glass or multi-surface cleaning product.

The touch screen can be cleaned with commercial glass cleaning solution. Dampen a soft cloth or paper towel or spray directly onto the touchscreen, wipe immediately.

The dispense mechanism and outlet can be cleaned using a brush. (similar to a small paint brush) The power should be turned off prior to cleaning the unit.

Getting started

Remove packaging. Open Printer door and carefully remove transit tape holding the Tape Spool from unwinding. Check and adjust Tape if necessary. See section – Changing the Ribbon.

Turning on the printer for the first time

Connect the appropriate mains power lead to the power adaptor.

Plug the round 24V plug into the power socket at the back of the printer.

Plug the mains lead into the wall socket

To turn the printer on or off, press the power button on the back of the printer.

Wait for the printer to run through its initialisation process which checks that the internal mechanism is operating correctly.

Printer Operation

The printer is designed to print the slide label image that is currently displayed on the printer display. The front of the unit is a high-definition, touchscreen display. To operate the unit, press specific areas of the screen to activate buttons and functions; these functions are intended to be obvious.

A barcode scanner is built into the front left-hand corner of the printer. The scanner is motion activated and will project a Green circle onto the table surface. This circle is an LED aimer that will indicate the area where barcodes should be placed in order to read the data from the barcode into the printer software. Barcodes printed on paper or other objects can be placed under the scanner for decoding. The barcode scanner intentionally reads only specific symbologies, by default, Datamatrix, QR and Code 128 will be decoded.

Before attempting to print slides, the dispense hopper will need to be filled with slides, please refer to the list of approved slide types later in the operator guide.

The slides must be loaded with the colour writing surface facing up and toward the rear of the unit. The slides when loaded correctly should lay flat in the hopper; there are finger slots on each side of the hopper to make loading easier.

Slides should not be loaded while the printer is in operation.

To print a slide, press the Print Button at the bottom of the display.

The PiSmart S1 Slide Printer can print slides from the following input methods:

- Label images designed using external software or programs
- Internal designed labels using the scanner to capture required data
- Internal designed labels using data files from LIS or other external source



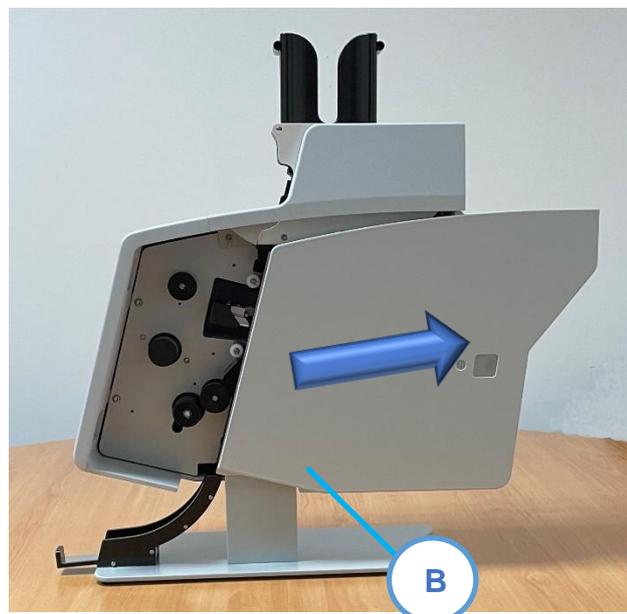
Ribbon Meter

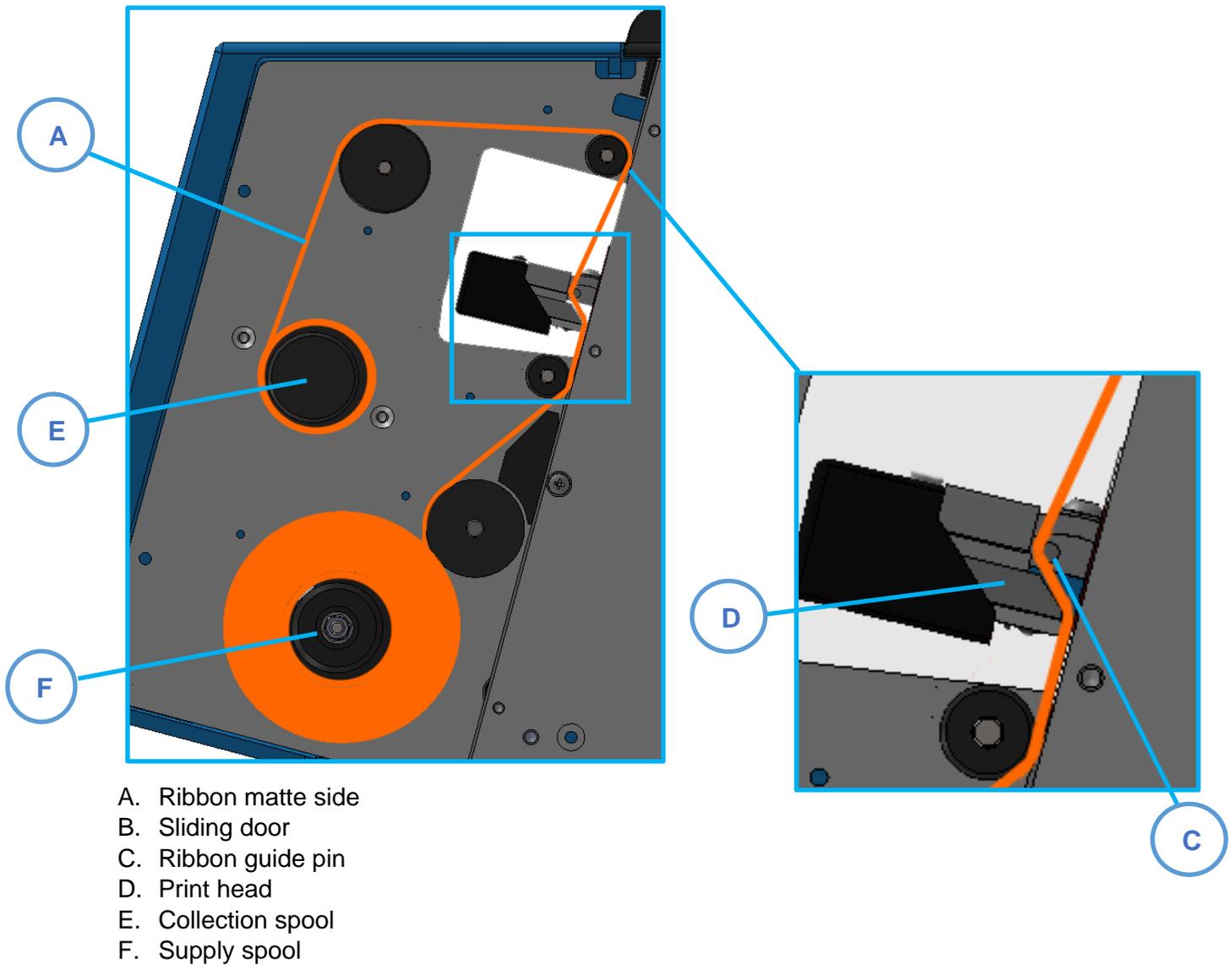
The ribbon meter icon is located on printer status bar. The meter indicates the approximate ribbon that remains on the supply spool. The meter will indicate when the ribbon is low or empty.

Changing the Ribbon

The printer is supplied with one ribbon preloaded inside the slide printer. The ribbon will last approximately 12,000 slides before a new ribbon is required.

Use only StatLab Ribbon Product Ref: P21021-E. The proper ribbon can be identified by the Red core, this Red side of the ribbon core should always face out and can be seen when the ribbon is loaded correctly. Using other printer ribbons may cause damage to the slide printer or render the slide label ID unreadable. The ink used on the StatLab thermal transfer ribbon is resistant to standard laboratory chemicals including Alcohols and Xylenes. To change the ribbon, remove the old ribbon and spools. Install the new ribbon and feed through the printer using the diagram below.





Loading Slides

The one hopper slide printer can select between the integrated slide hoppers and one manual load position. Prior to use, the integrated slide hopper should be loaded with slides.

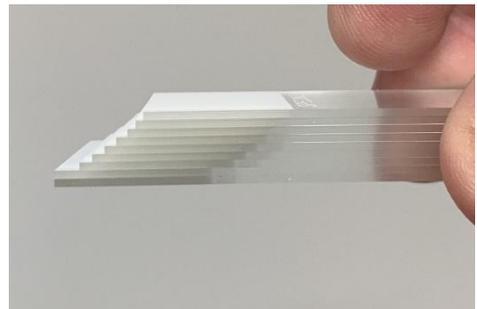
The slide hopper has a capacity of approximately 72 slides. The slides should never be stacked above the top of the hopper as they could fall from the top if stacked too high. The slide hoppers will need to be attached to the top of the slide printer.

Slide Hopper



To load slides into the hopper:

1. Pick up approximately 10 slides, the painted end of the slide should be facing up.
2. Tilt the stack at an angle as shown
3. Lower the stack down into the hopper at a slight angle allowing the coloured end to contact the bottom of the hopper first. The colour-end of the slide should be to the back of the hopper with the writing surface up. When the slides contact the bottom of the hopper, release the slides; they should fall flat into the hopper.
4. Add slides as necessary until the hopper is full – the slides should never be stacked higher than the top of the hopper.

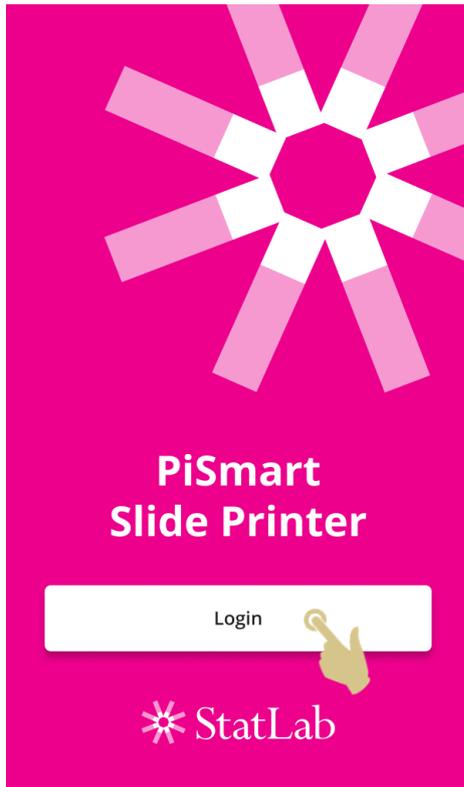


Slide Selection

Slide selection is important as it is the most significant factor that determines print quality of the printed slide label. Slides that are flat and smooth will print significantly better than slides that are uneven or have rough surface finish at the painted end of the slide. Manufacturers of microscope slides may have slide types which work better than others in thermal transfer printers. This operator guide includes a list of slides which have been tested and are approved for use in the Single Hopper slide printer. Slides that are not listed in this manual as approved for use in the StatLab printer can be used but must be validated for print quality by the end user.

Every slide manufacturer will see some level of surface variation from batch to batch and often throughout the year. This variation may affect print quality or slides sticking together – they may be difficult to separate when being dispensed. Any slides issues should be reported to the slide manufacturer for resolution.

Slide Printer Operation

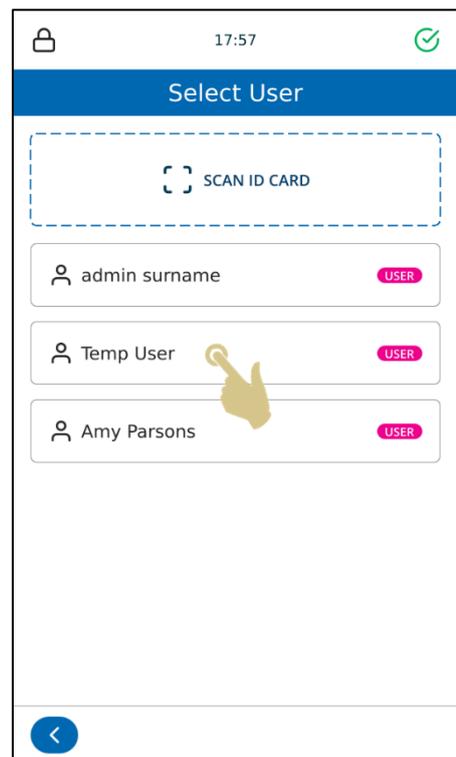


To begin using the Slide Printer, press the Login button.

Main User Interface

To log into the system

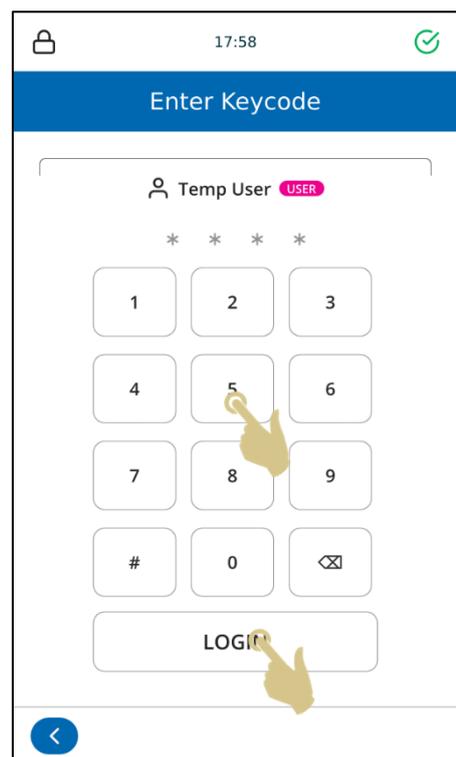
1. Select the correct user.



2. Enter the correct passcode

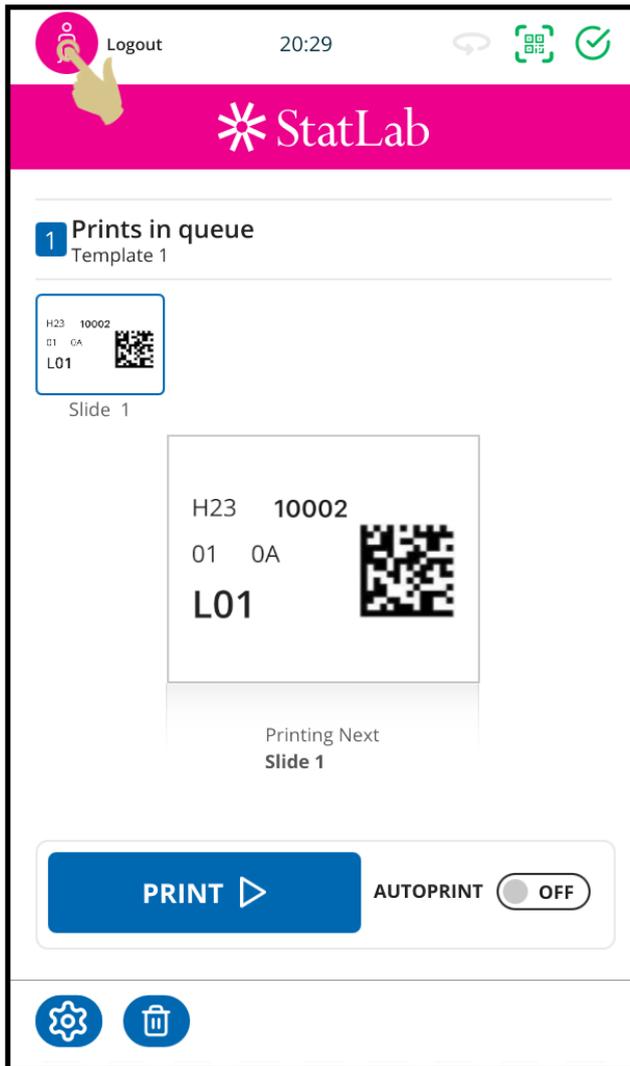
3. Press the LOGIN button

4. Once the correct code is entered, the home screen will be displayed. If the incorrect code is entered, the user screen will be displayed.



Home Screen

The home screen is used to display the status of the slide printer.



Scan barcodes on specimens to enter them into the slide printer.

To log out, press the user button.

Home Screen

The home screen is used to display the status of the slide printer, create slide labels and control printing.

A. Printer Status Bar

- The top bar of the display shows the printers status.
- Current Time
- Current User

B. Scanner Bar

The scanner bar displays data scanned using the integrated scanner or typed into the on-screen keyboard.

Special Note: if the scanner box contains data, any data transfer from a windows printer will be paused.

C. Template

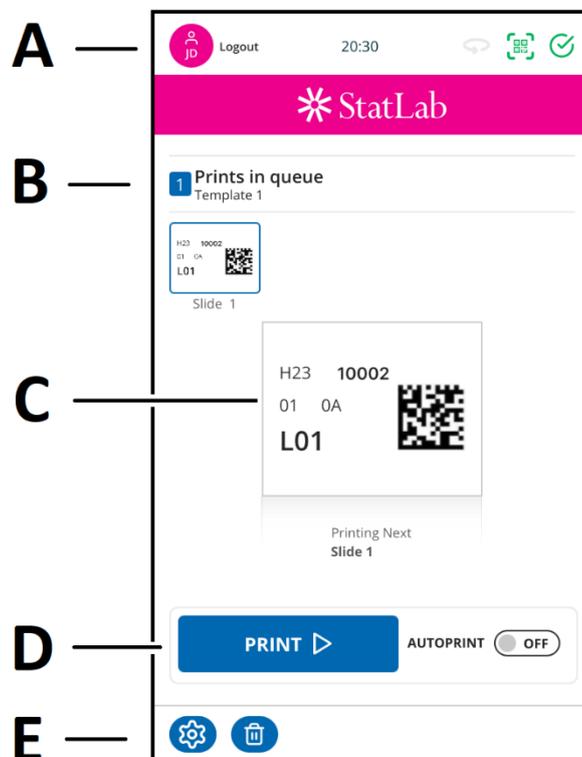
Shows the data that will be printed on the slide. To edit the label, touch the middle of the template.

D. Play Button

Pressing the PRINT button will start the print process

E. Settings Bar

Buttons on the settings bar will change based on the functions available. Buttons will be added or removed automatically as the screen or information changes to allow or disallow operations. The buttons will be explained further throughout the operator manual, however common buttons are:



Printing Slides

The S1 slide printer is designed to print slides on-demand. The displayed label shows what will be printed on the slide. This section applies to printing slides regardless of the method in which the slides were placed into the print queue.

To print a slide, press the print button.



Settings Menu



Settings Button

From the home screen, press the settings button to enter the settings menu.



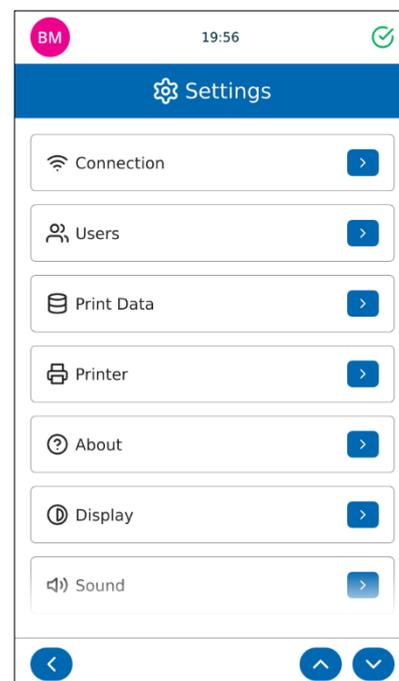
Back Button

When pressed, any changes will be saved and the previous software menu will be displayed.



Up and Down Arrow Buttons

The up and down arrow buttons will scroll the menu items up and down.

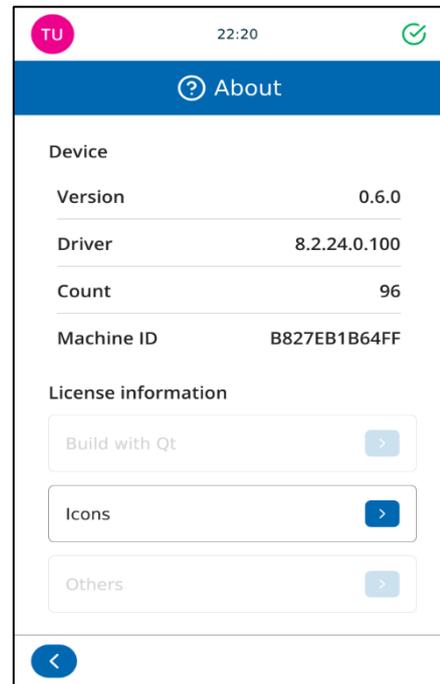


About Menu

Provides information regarding the device's software and general information.

Shows:

- Software version
- Firmware version (Driver)
- Count of total slides printed
- Machine ID (Mac Address)

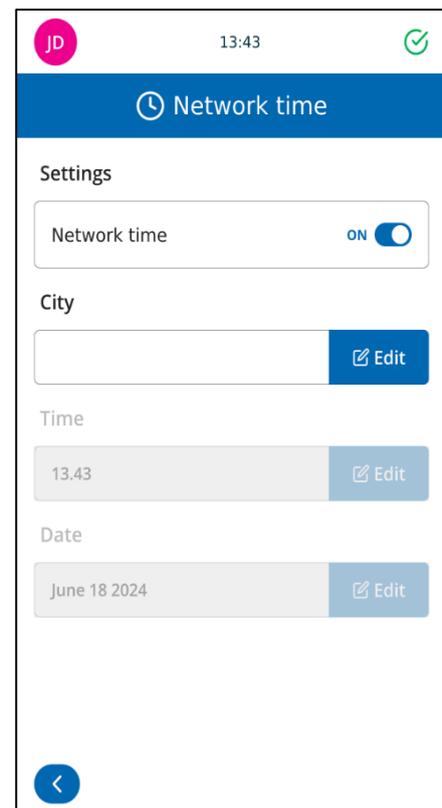


Network Time Menu

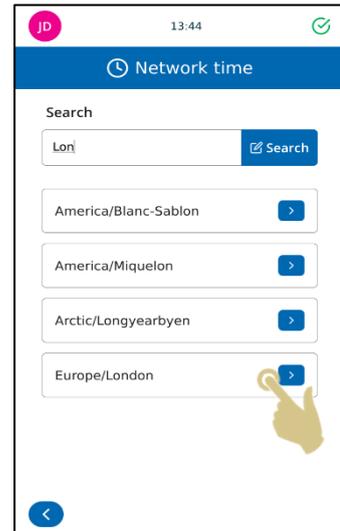
When the device is connected to a network it is recommended that the NETWORK TIME setting is used. This will ensure the device is synchronized with other systems in the laboratory.

To use the network time:

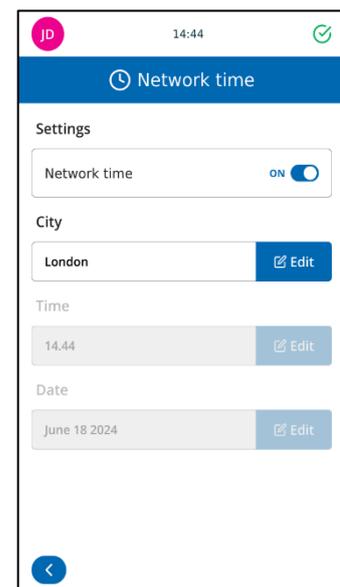
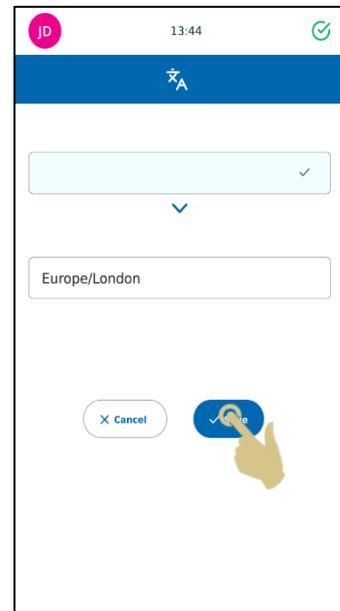
1. Slide the button next to Network Time.
2. Set the City by pressing the Edit button



3. Select a city in your same time zone, you may use the search box to fine your city faster.
4. Press the City button



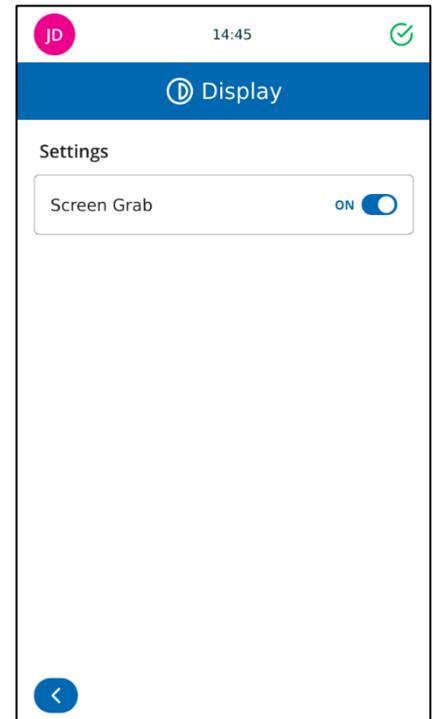
5. ONCE THE INFORMATION IS CORRECT, PRESS THE SAVE BUTTON



Display Menu

Screen grab

If this is ON, the screen image can be saved to a USB stick by touching the area of the display the time is shown. This can be done from any software menu.



Language Menu

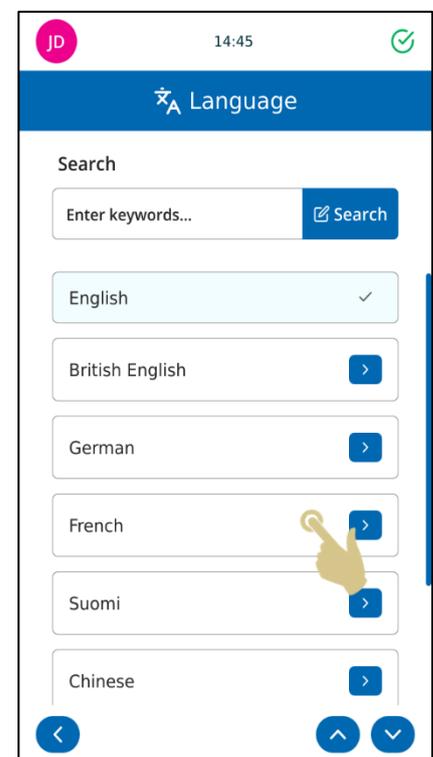
Languages

Changes the displayed language.

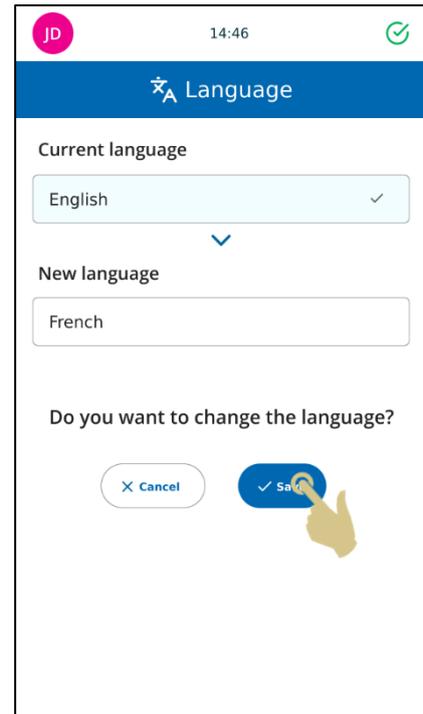
The default language is English, all devices ship set to English language.

To select a different language:

1. PRESS SETTINGS
2. PRESS THE LANGUAGE BUTTON
SELECT THE REQUIRED LANGUAGE



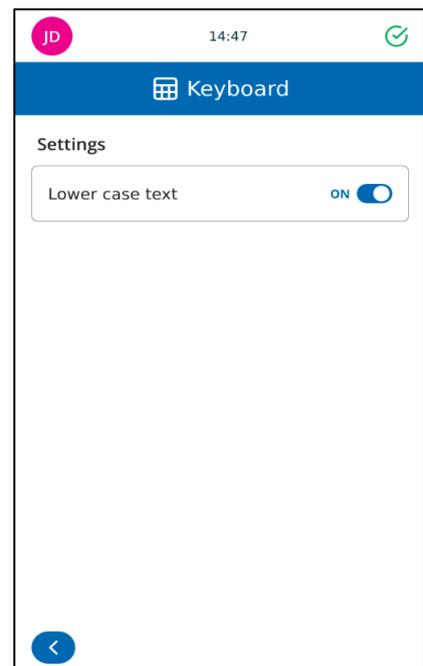
3. PRESS THE SAVE BUTTON
4. THE NEW LANGUAGE WILL BE DISPLAYED



Keyboard Menu

If selected the first character typed will be uppercase and then automatically switch to lower case.

If unselected, the type will remain in uppercase.



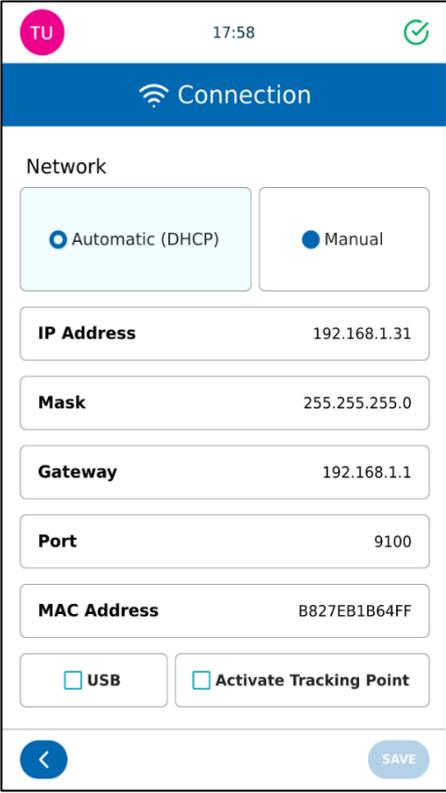
Connection Menu

Network settings is used to connect the device to networks and network services. The device can be connected to networks via an RJ45 connector located at the back of the device.

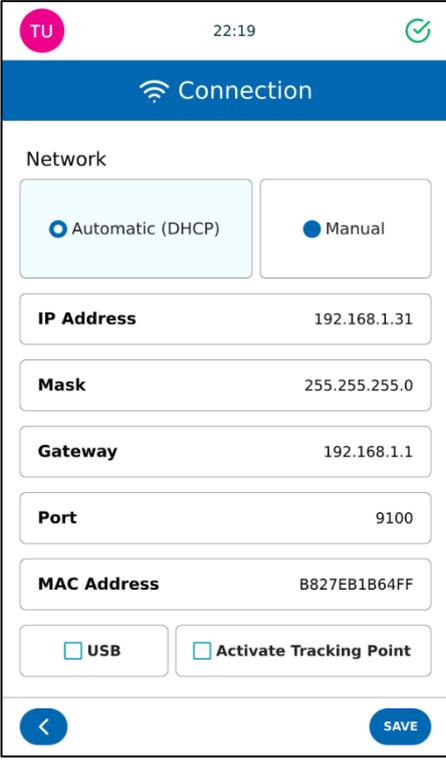
To establish this connection, with the power off, insert a standard network cable into the RJ45 connection on the back of the device.

Plug the other end of the cable into a local network connection.

Power the device on. Once the device is powered and initialized, press the settings button, then the Network button, a network IP Address should be displayed.



The screenshot shows the 'Connection' menu on a device. At the top, there is a status bar with 'TU' in a pink circle, the time '17:58', and a green checkmark. Below this is a blue header with a Wi-Fi icon and the word 'Connection'. The main content area is titled 'Network' and contains two radio buttons: 'Automatic (DHCP)' (selected) and 'Manual'. Below these are several input fields: 'IP Address' (192.168.1.31), 'Mask' (255.255.255.0), 'Gateway' (192.168.1.1), 'Port' (9100), and 'MAC Address' (B827EB1B64FF). At the bottom, there are two checkboxes: 'USB' and 'Activate Tracking Point'. A blue back arrow is on the left and a blue 'SAVE' button is on the right.



This screenshot is identical to the one above, showing the 'Connection' menu with the 'Automatic (DHCP)' option selected and the same network configuration values.

IP Address

To connect to a network, select IP Address and select IP Type

Automatic (DHCP) the IP address is assigned by Network. or Manual (IP address selected by user)

Port

Port used for connection

MAC Address

Displays the MAC Address of the device

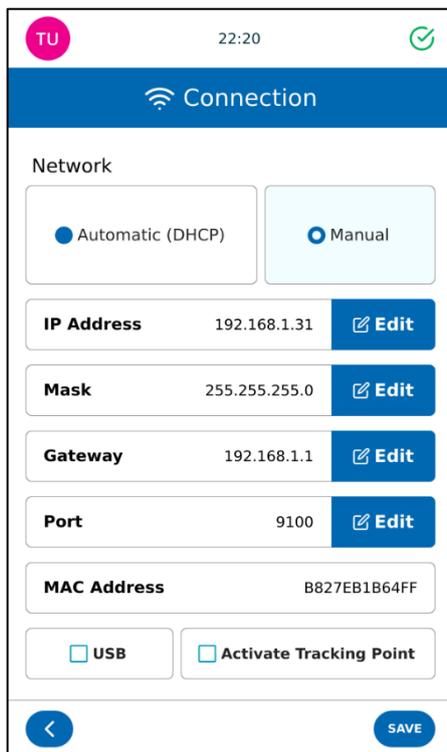
USB

Used to connect to the device using USB connection.

Activate Tracking Point

Used to connect to PathSmart Tracking software.

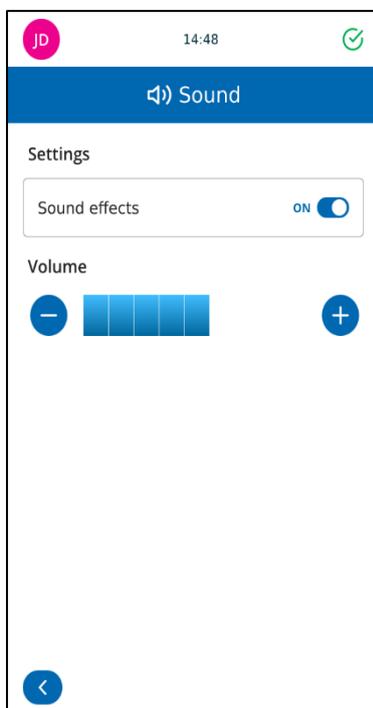
To set a fixed IP Address from the Network menu:



1. PRESS MANUAL BUTTON

2. PRESS THE EDIT BUTTON NEXT TO EACH SETTING AND ENTER THE CORRECT INFORMATION.

Sound Menu



Sound can be switched off by sliding sound effects to off.

Volume can be adjusted using the + and – buttons. When finished, press the back button.

Printer Specifications

| | |
|-----------------------|--|
| Instrument | |
| Dimensions (max) | 140mm Width x 364mm Deep x 466mm High |
| Weight | 6.5kg |
| Input Voltage | 24V DC |
| Current | 1.5A |
| Print resolution | 300 dpi |
| Print speed | 3-5 seconds typical (full area print) |
| Slide tolerances | 76.0mm – 76.2mm x 25.55mm – 26.00mm x 1.00mm – 1.20mm |
| Environment | Altitude up to 2,000m Temperature 5 °C to 40 °C Recommended +15°C to +30 °C (+59 °F to +86 °F) Performance may deteriorate if operated outside recommended range. |
| Storage environment | -25 °C to +45 °C (-13 °F to 113 °F) Short period only |
| Relative Humidity | Max. 80% RH up to 31°C Decreasing linearly to 50% RH at 40°C |
| Pollution | Level 2 |
| Over voltage category | II |

Consumables and accessories

| Description | Part Ref |
|---|--------------|
| Printer Ribbon | P21021-E |
| Power adaptor | SP50008 |
| Mains lead UK | SP50009 |
| Mains lead EU | SP50010 |
| Mains lead USA | SP50007 |
| Mains lead, China | SP50015 |
| Mains lead, Japan | SP50016 |
| Print head cleaning kit | P30001-E |
| PiSmart Pelican Beak Slide Collection System (Stand + Collection Hopper) - Capacity 72 Slides | JAG-1500-00A |
| PiSmart Pelican Beak Collection Hopper - Capacity 72 Slides | JAG-1500-00B |
| PiSmart Baby Pelican Beak Slide Collection Hopper - Capacity 18 Slides | JAG-1501-00A |
| | |

Appendix A

Recommended Slide Types

| Manufacturer / Brand | Recommended heat setting |
|-----------------------------|---------------------------------|
| StatLab KT1 Slide | 8 |
| StatLab KT3+ Slide | 8 |
| StatLab KT5+ Slide | 8 |
| StatLab Colorview | 6 |
| StatLab Colorview+ | 6 |
| StatLab MCOMM | 6 |
| StatLab M8000 | 6 |
| | |

Appendix B

Product return Safety Declaration Form

Part1 Decontamination Certificate

Any instrument or part of any instrument must be clean before being returned, and where necessary accompanied by a completed Decontamination Certificate. Should the instrument or any part of it be received in an unclean condition, or Pyramid Innovation Ltd consider it to be a hazard, the instrument or part will be returned unrepaired at the expense of the customer.

It is important that the certificate is forwarded by post or fax, and a copy attached to the exterior of the container. Containers will not be opened until the company is in possession of the required certificate.

This form MUST be completed by the customer and NOT by a Distributor or distributor employee.

If an instrument or part is to be returned to Pyramid Innovation Ltd, please note the following.

1. If the instrument or any part of it has been exposed to, or been in contact with potential pathogenic or radioactive material, it is essential that it is decontaminated.
2. Set procedures are laid down in the European Health and Safety Directives for decontamination. To avoid any misunderstanding, we request that all instruments or parts returned to us must be accompanied by a certificate stating the following:

We certify that this (Model)

Serial No

- Has not been exposed to pathogenic, radioactive or other hazardous material and has been cleaned.
OR
- Has been decontaminated and cleaned (if exposed to the above) according to approved procedures following exposure to:

Has the instrument been used for work with human or animal Transmissible Spociform Encephalopathies, e.g. Creutzfeld-Jacob disease, Scrapie or BSE?

YES / NO

If yes, please contact Pyramid Innovation service before taking any further action.

Signed Position

Name (Block Capitals)

Company or Organization

Full Address

Part 2 Guidelines for Returning Instruments

Please use the checklist below to ensure that the instrument being returned is ready for collection.

All reagents / wax removed from instrument, including vapour traps (if applicable).....

Accessories are secured / itemised

Instrument has had transit clamps fitted as per Operator Guide (if applicable)

Instrument is packed in original packaging..... YES / NO

RMA No Carrier

For Attention of