Epredia SlideMate Pro

Operator Guide

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To every one of us at Epredia, this mission is personal. Many of us have loved ones and family who have been affected by cancer.

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CE

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.

This symbol is used on the equipment, or in a document, to warn that harmful chemicals are used with the instrument. Refer to the material safety data sheets for the chemicals used. Always act with common sense and be aware of local laboratory procedures. Take suitable precautions.

Manufacturer

A warning is given in the documentation if there is a danger of personal injury or damage to equipment or samples.

Note

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

Contents

EMC Statement

This equipment complies with the emissions and immunity requirements of EN 61326-1:2013.

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

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 Epredia 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 Epredia 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 Epredia representative.

How to use this Guide

Introduction

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

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

Placement of Equipment

Check the environment is suitable for the instrument. Ensure the instrument is positioned away from the edge of the bench on a stable level surface

Recommended Cleaning Method

Use damp soft cloth or paper towel with a mild detergent.

Getting Started

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

Printer Operation

This takes you through the process of creating and printing slides.

Printer Configuration

This takes you through the various printer settings and configuration options.

Getting Started

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, Select the power switch to the ON position 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.

Chapter 1 – Installation and Setup

Identification of Parts

The following diagrams identify the different components of the SlideMate Pro.

A	Left Side Hopper
B	Right Side Hopper
C	Touch Display
D	Slide Collection Chute
E	Mains Adaptor
F	Barcode Scanner
G	Connections and Power Input

Back panel and connections

At the back of the printer there are several 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.

	Press the right side in to turn power on. Press the left side to turn the printer off.
	Only connect the supplied or specified 24v power adaptor
	USB 2 ports used to connect external keyboard or USB drive
	Used to connect to printer-controlled accessories
	Used to connect the printer to a PC running the Windows driver
	Used to connect the printer to a PC or network point.

Scanner

The barcode scanner mounted under the left front edge of the slide printer uses an LED light source requiring no special eye protection during use of the scanner. The scanner has a special motion sensor that activates the scanner function and illumination.

If the sensor sees no motion for a period, the illumination will cycle off – the area under the scanner will remain dark. When in this standby mode, the motion sensor continues to monitor the area and will come out of standby mode as needed.

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

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.

The barcode scanner is built into the front left-hand corner of the printer. The scanner is motion activated and will project a thin Green bar onto the table surface. This bar 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 symbols, by default, Datamatrix, QR and Code 128 will be decoded.

Before attempting to print slides, the hoppers 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 White 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 play button on the clear area of the displayed slide image.

Before printing slides ensure that the sliding door is in the closed position.

The built-in software enables you to:

- Print individual slides
- Create and print sequences of slides
- Edit slide data
- Change the template used to print slides

Design your own templates using different fonts and barcode types

- Set fields to automatically increment
- Setup templates to accept data from scanned barcodes or LIS input
- Edit and delete slides within a sequence of slides
- Print individual slides within a sequence of slides
- Save a sequence of slides as a Protocol to be used again

The SlideMate Pro 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

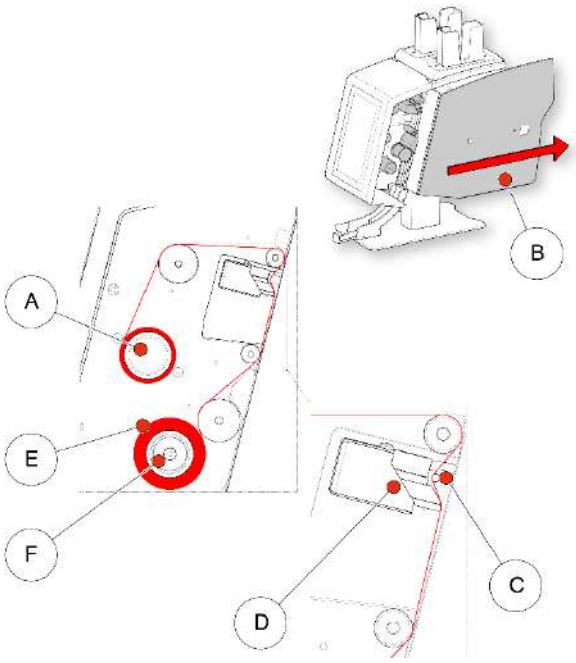
Ribbon Meter

The ribbon meter icon is located on printer status bar. The meter indicates the approximate ribbon that remains on the supply spool. The meter has three indications. When the supply is between full and low, the indication will be Green. When it is getting low, it will indicate two Yellow bars. When it is critically low, it will indicate one Red bar.

Changing the Ribbon

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

Use only the correct ribbon identified by the Red core. The 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 Pyramid Innovation Ltd 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 as shown in the next diagram.



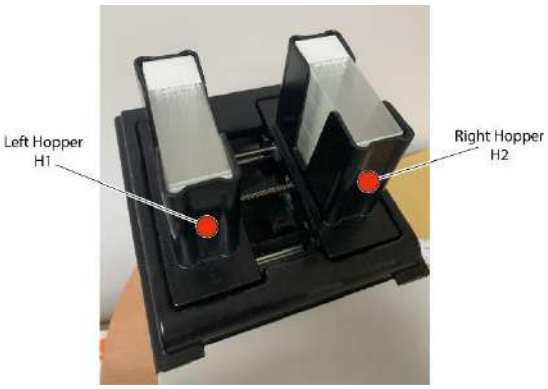
A	Ribbon matte side
B	Sliding Door
C	Ribbon Guide Pin
D	Print Head
E	Collection Spool
F	Supply Spool

Loading Slides

The SlideMate Pro can select between two on-board slide hoppers and one manual load position. Prior to use, the two on-board slide hoppers should be loaded with slides.

The slide hoppers have 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 SlideMate Pro. The two hoppers are identical and can be placed on either the left or right side of the printer. The two flat surfaces of the hopper are marked with an “L” and “R” which indicates the correct orientation.

If the “L” is facing forward, the hopper can be attached on the left dispense position. If the “R” is facing forward, the hopper can be attached on the right dispense position.



To load slides into the hopper:

Note

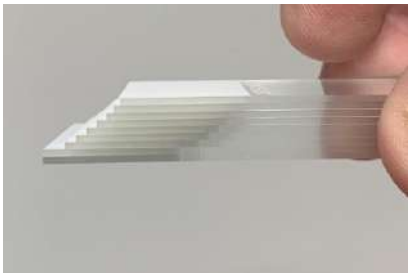
Use gloves or take adequate care when handling slides

Note

It is not recommended to load slides with tissue sections on

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 white 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 flat into the hopper.

4. Add additional 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 SlideMate Pro. Slides that are not listed in this manual as approved for use in the SlideMate Pro 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.

Chapter 2 - Main User Interface

User Mode – Adding a New User

The printer will power up with User Mode enabled, a single admin user will be displayed.

To add a new User

- Press the settings button

- Press the User Button

- Press the + button

- Delete the text ‘User_00’ before entering the Forename of the user.
- Press keys to enter the Forename of the user
- Press the Check button when complete

- Select Surname and enter the correct information
- Select Initials and enter the correct information
- Select PIN and enter a pin number (each user PIN must be unique)
- Enter a scan code if needed – this code will be used to automatically log a user in or out when a barcode containing the code is scanned
- Press the Check button, then press the Home button

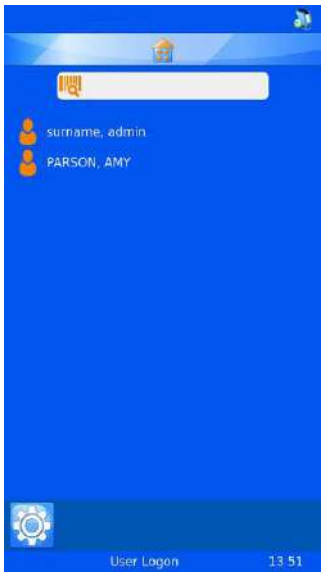
Note

The scan code must be a sequence of characters that would never be used to create a slide label

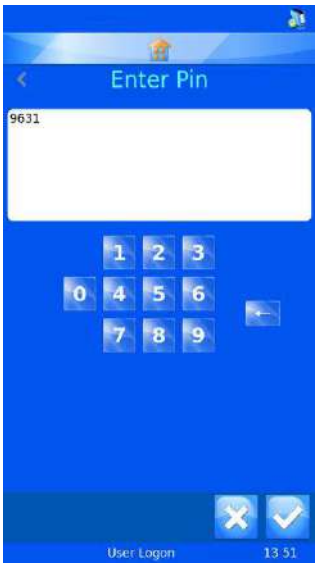
User Log-in

To log into the system

- Select the correct user and enter the passcode



- Enter the correct passcode
- Press the check button
- Once the correct code is entered, the home screen will be displayed. If the incorrect code is entered, the user screen will be displayed.



The system can now be used for printing. To enter additional users, repeat the steps for additional users.

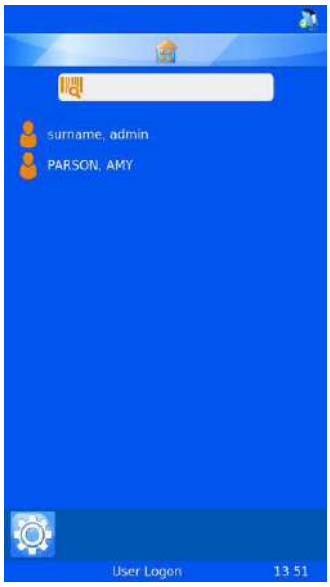
Note

Each user must have unique initials, passcode and SCANCODE for the system to operate properly

To log out of the system, simply press the Home button. If the system is set to use a Logon timeout, the printer will log out automatically after the set time. If the Logon timeout is set to never, the unit will not automatically log the user out.

To log into the system using a scan code, simply scan a barcode with the correct SCANCODE embedded, when this code is scanned, the home screen should appear.

Once at the home screen, scanning the barcode again will log the user out and the User screen should be displayed.



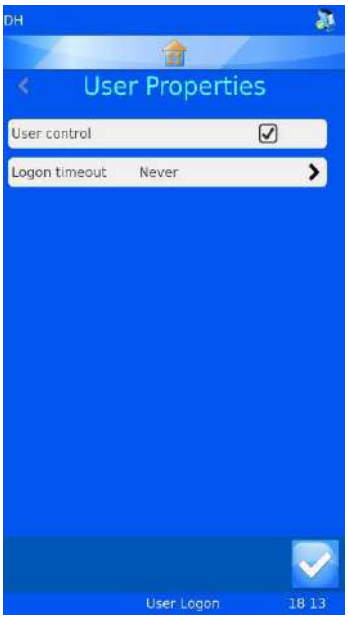
User Properties

The User Properties menu can be used to set preferences used by the system. To access the User Properties menu:

- Press the Settings button
- Press the Users button
- Press the Settings button
- The User Properties menu should appear

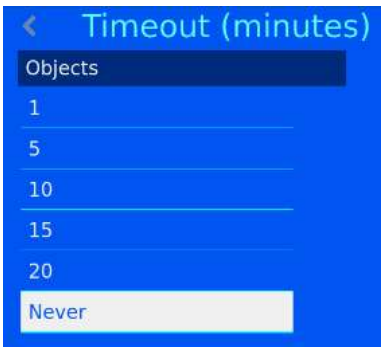
User Control

To disable User Mode, uncheck the box next to User control.



Logon Timeout

To set a Logon timeout, press the Logon timeout button and select the desired time. This time will automatically log the user out after a period of inactivity by the user.



Once the user has logged in, the printer is ready to print slides. The default Template is displayed.

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.

Ready
Printer is ready to print.

Busy
The printer is printing or busy.

Indicates remaining ribbon

B. Home button

The home bar appears on all software screens. Pressing this bar from anywhere will bring you back to the home screen. If pressed at the home screen, the current user will be logged out and the User-login screen will be displayed.

C. Scanner Bar

The scanner bar displays data scanned using the integrated scanner or typed into the on-screen keyboard. To enter data into this box using the keyboard, press the scanner box to open the keyboard entry mode.

> Note
>
> *If the scanner box contains data, no images from the windows driver will be displayed in the print queue.*

D. Template

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

E. Play Button

Pressing the Play button will start the print process.

F. Eject Button

Pressing the down arrow will initiate a slide eject sequence.

G. Slide Dispense Bar

Pressing these buttons will make activate the input selection (Left Hopper, Manual Load or Right Hopper)

H. 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:

Check button, this button might also be referred to as confirm or OK, when pressed any changes will be saved or processes confirmed.

Cancel, this button cancels the current action

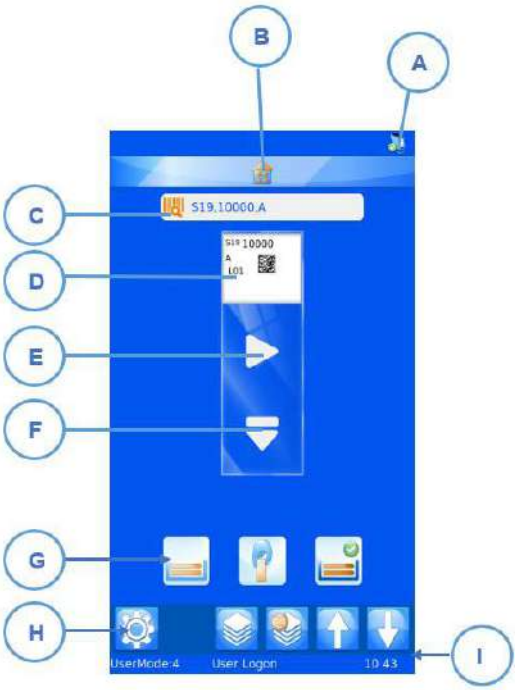
Settings, this button opens the settings menu within the software item

Trash bin or Discard, this button allows the user to delete selected items

Edit, this button allows the user to edit selected items

I. Status Bar

Displays status information such as time and template information.



Printing Slides

The SlideMate Pro 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, you can press the hopper button or play button, either of these will initiate a slide dispense and print. The user interface is designed so that processes can be performed with as few key presses as possible. The active hopper will have a check button displayed on the active hopper button. In the image below, the right hopper selection is indicated. If the play button is pressed, a slide will be dispensed from the right hopper.

Slide Dispense Bar operation

The three buttons on the slide input bar represent the left, right and manual slide input positions. When one of these buttons are pressed, the dispense process will be initiated from the corresponding position.

If the left hopper button is pressed, a slide will be dispensed from the left hopper and the left hopper will become the active position.

If the centre hopper (manual dispense) button is pressed, the dispense arm will move to the centre and be raised to the dispense position, the manual dispense will become the active position.

If the right hopper button is pressed, a slide will be dispensed from the right hopper and the right hopper will become the active position.

Pressing the play button will dispense all slides in the queue from the active hopper position.

In the event the printer is unable to dispense a slide for any reason; an error message box will appear on the main screen. The error message will define the general dispense error as well as instruction and buttons that allow the user to recover the instrument.

The error description should be noted and the on-screen instruction followed. If a jam event occurs, the instruction will request the user clear the jam before pressing any recovery buttons. Once any obstructions are cleared, pressing a recovery button will instruct the printer how to continue operation. If for any reason the slide printer is unable to recover, a power cycle will be needed to recover the printer.

Pressing the Left or Right key will cause the unit to reset and dispense from the left or right hopper. Pressing the Cancel button will cause the unit to reset and remain idle awaiting further user instruction.

Some dispense and print errors will occur after the printing process has been performed. The printer may be uncertain that a fully printed label has been printed. When clearing any printing, or dispense errors, care should be taken to avoid second prints of the same slide data. Where slide labels have been successfully printed, the cancel button should be pressed and the queue inspected and cleared of any duplicate labels.

Printing a batch of slides

Note

The SlideMate output chute holds a maximum of 10 slides.

If you have selected to print a batch of more than 10 slides, they will need to be removed by the 10th slide. The machine does not automatically stop after 10 slides.

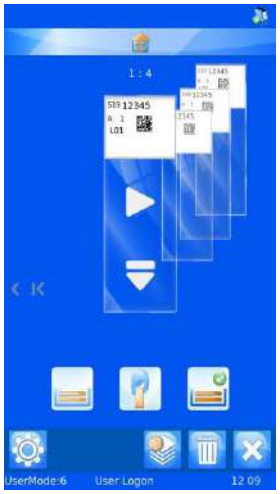
When multiple slides are in the queue, the label selection or print order may be modified using the left and right arrow buttons on the main screen.

Moves slides left

Moves slides right

Moves one slide

Moves all slides



Pressing the moves one slide arrow once, will move one slide to the left side of the queue. The printer will always print the front slide first, then continue to the right until all slides are printed, then will print the left side.

Reverse Order Printing

The operator may choose to print slides in the queue in the reverse order in which they were sent to the queue.

To print in reverse order, create the slide batch and press the Move All Slides Left button, then begin printing.

Once the slides are printed, the first slide ordered will be at the top of the stack in the slide collection.

Slide Queue Quantity

The Numbers at the top centre of the home screen indicate the total number of slides in the queue and the position of the front slide within that queue.

Deleting slides in the queue

Once slides are in the queue, individual or all slides can be deleted from the queue. To delete all slides, press the X button to delete the entire queue of slides.

Press this button to delete all sides in the queue.

To delete individual slides, use the trash bin button. Pressing this button will delete the front slide only. Any slides to be deleted, must be moved to the front position prior to pressing the trash bin button.

Trash bin or Discard, this button allows the user to delete the slide at the font of the queue.

It should be noted that the slide output holds only 10 slides, when printing batches of more than ten slides, care should be taken to remove slides in a timely manner so that slides do not flow over the top of the collection chute.

Settings Menu

Home Button

When pressed from any screen, any changes will be saved and the main printing screen will be displayed. If the Home screen is being displayed and the home button pressed, the user will be automatically logged out and the user log-in screen will be displayed.

Back Button

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

Settings Menu Icons

When any of the settings menu icons are pressed, the appropriate menu item will open.

About Menu

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

Shows:

- Software version
- Firmware version
- Count of total slides printed
- Machine ID

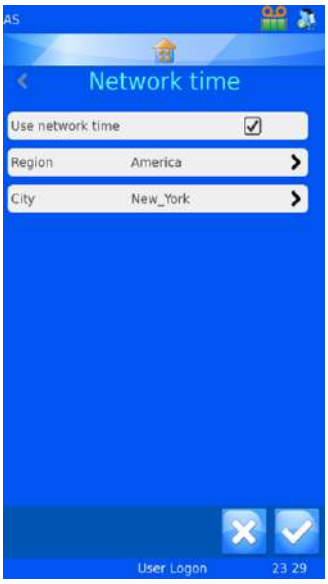
Date & Time Menu

To set the time and date, press Settings and the Calendar Icons.

If the printer is connected to a network or PC it is recommended that the USE NETWORK TIME setting is used. This will ensure the printer is synchronized with other systems in the laboratory.

To use the network time:

1. Place a check into the Use Network Time box.
2. Set the Region.
3. Select a city in your same time zone.
4. Press the check button.



To Adjust the date and time manually:

The Region setting must have UTC selected and USE NETWORK TIME must be unchecked.

To adjust the date and time:

1. Press settings.
2. Press the Date/Time icon.
3. Use the up and down arrows to set the correct values.
4. Once the information is correct and the date and time at the top of the screen is correct, press the check button.

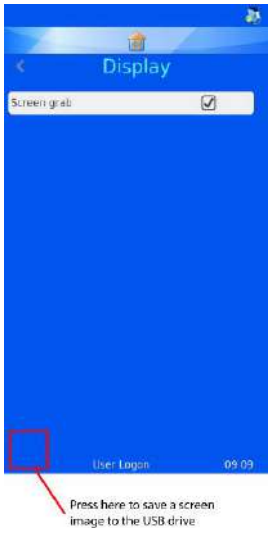
Note

The Date and Time Data Items in Templates use the system date and time

Display Menu

Screen grab

If this is ticked you can save the screen image to a USB stick by touching the bottom left corner of the display. This can be done from any software menu.



International Menu

Languages

Provides the ability to change the displayed language.

The default language is English, all slide printers ship set to English language.

To select a different language:

- Press Settings
- Press the Globe Icon

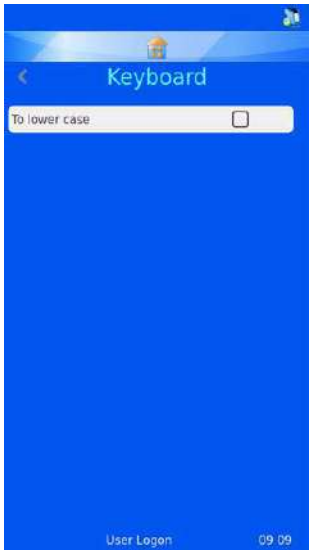
- Press the Language button

- Select the required language
- Press the check button and select OK.
- The power will automatically cycle, when the slide printer powers up, the new language should be displayed.
- To see the language change, you may need to enter the menu screens by pressing Settings.

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.



EXTERNAL KEYBOARD – It is possible to connect an external keyboard to the slide printer. The external keyboard can be used to enter data into specific data entry boxes. Only one model of keyboard is compatible with the slide printer, this is Accuratus part number: KYB500-K82A

Network Menu

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

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

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

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

IP Address

To connect to a network, select IP Address and select IP Type DNS (IP address assigned by Network) or Fixed (IP address selected by user)

MAC Address

Displays the MAC Address of the slide printer

Name

Used to modify printer name – this is used when connecting multiple devices and is also displayed at the bottom of the home screen

Connect to Hub

Used to connect one or more printers to the HUB (not available)

Data Port

Used to set a specific data port when connecting to a network (typical is 9100)

If connection to a network is successful, you should see an IP Address displayed in the box labelled IP Address. If the network is set up to automatically assign IP Addresses and DNS is selected, you should see an IP Address displayed.

If the network is set up to use static IP Addresses a fixed IP Address will need to be entered.

To set a fixed IP Address from the Network menu:

- Press IP Address

- Press Fixed to display the Fixed IP Setup menu

- Enter the appropriate information into the IP Address, the Mask and the Default Gateway fields. Each box will open with an onscreen keyboard; enter the correct information and press the check button to confirm new entry.

- When this is complete, power cycle the printer to reset the IP Address.

Once the slide printer is connected to the network, it can receive information from other applications including the Pyramid Innovation Ltd Windows® print driver, Pyramid Innovation Ltd Hub, label design programs such as NiceLabel or other LIS applications.

Printer Menu

Index Tape

Advances the ribbon. The movement is a short distance if the advance system is working properly. If the ribbon moves a long distance (more than 1 cm) the advance system may be malfunctioning.

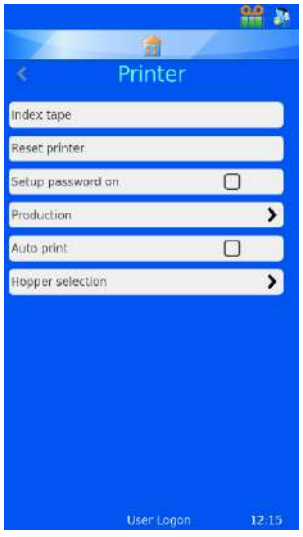
Reset Printer

The printer mechanisms will reset. You should hear the print head moving to the bottom and back to the top of the print cycle.

Setup Password ON

Activates password requirement at main screen to enter Administration menus.

Production and Setup Properties are password protected and cannot be entered by a routine user



Auto print ON

Activates automatic print start when sending images or text files to the printer. This feature does not work for internally generated labels created through keyboard input or scan.

Intelligent Slide Selection (Hopper Selection)

Intelligent slide selection automates the hopper selection. The Intelligent Slide Selection System can automatically determine the correct hopper from which to dispense. This is done by analysing the label image. The Slide Printer then automatically dispenses slides from the left or right hopper. A pane identifies the area of the image to be analysed and will select a specific hopper based on print within this area. Intelligent Slide Selection is activated by checking the box “Use hopper selection”.

The position and size of the pane can be adjusted through the hopper selection menu. The default size and location will place this pane in the position shown below. The pane is shown in Red with the hopper displayed based on the settings; in this case, it is the R (right) hopper.

The Intelligent Slide Selection when active, overrides all other hopper selection options.

Use Left hopper on empty

Sets the hopper selection. If checked, will select the left hopper when no print occurs inside the pane and the right hopper if print occurs inside the pane. If unchecked, will select the right hopper when no print occurs inside the pane and the left hopper with print occurs inside the pane.

When checked, the red pane will be displayed on the label image.

Location left

This sets the X position, the distance from the left edge of the label.

Location top

This sets the Y position, the distance from the top edge of the label.

Width

This sets the width of the pane.

Height

This sets the height of the pane.

Software Menu

Upgrade Software

The software menu is used to upgrade the printer User-Interface software or to transfer the user configured settings. These can be uploaded to the printer from a memory stick or downloaded from the printer to a memory stick.

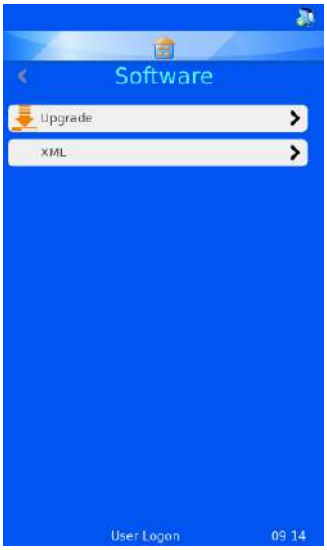
To Upgrade the software

The Upgrade function is used to install new user interface software files onto the printer. The process is simple and automated within the slide printer software.

To upgrade the software:

1. A valid software version must be copied to the root of a USB memory stick.
2. Plug the USB stick with the new software version into one of the USB sockets in the back of the printer

3. Press the Settings button
4. Press the Software button
5. Press the Upgrade button



6. If there is not a valid upgrade file found in either USB port, a No upgrade found! Message will be displayed momentarily. No confirmation of the message is required

The date code embedded within the software is used to determine if the software on the USB drive is newer or older than that installed on the printer. Therefore, a file thought to be valid, may not be seen by the system as new.

7. If a valid upgrade file is found an end-user-license agreement will be displayed. If the cancel button is pressed, the upgrade will be cancelled. If the check button is pressed, the software installation will continue.

8. Press the check button

9. Press the Check button

10. The printer will automatically reset via a power cycle to complete the upgrade process

Configuration Files

Factory Default (Resetting XML files)

The user configuration can be restored back to factory default. This will delete the templates and translators set up by the user but will not affect any machine settings.

To perform a Factory reset of the Configuration (XML) files:

1. Press the settings button

2. Press the Software button

3. Press the Factory Default

4. The Passcode will need to be entered to continue the process. The Passcode is 7251.

5. Press the X button to cancel or the check button to confirm.

6. Once the check button is pressed, the files will be restored without further confirmations.

Export Printer User Configuration (XML)

The XML feature allows the user to back up or copy the slide printer user configuration. It is good practice to save a back-up copy of the configuration once the slide printer has been configured. Having a back-up copy will be useful should anything be lost or inadvertently changed in the configuration.

To Export (download) a copy of the XML files:

1. Plug the USB stick into one of the USB sockets in the back of the printer. The USB stick should not have an XML folder in the root directory

2. Press the Settings button

3. Press the Software button

4. Press the Config files button

5. Press Export

6. A confirmation message will appear, to cancel the download, press No. To continue the download process, press Yes.

7. A message will appear as the XML files are being exported. When the process is complete, the XML menu will again be displayed. The files can be copied to other storage devices using normal file copy methods.

Manually editing the xml files may cause the software to operate incorrectly

8. If the files are being emailed, it is recommended that they are zipped prior to sending via email

Import Printer User Configuration (XML)

To Import (upload) a copy of the XML files:

1. Plug the USB stick into one of the USB sockets in the back of the printer. The USB stick should have a valid set of XML files in the root directory of the drive.

2. Press the Settings button

3. Press the Software button

4. Press the Config Files button

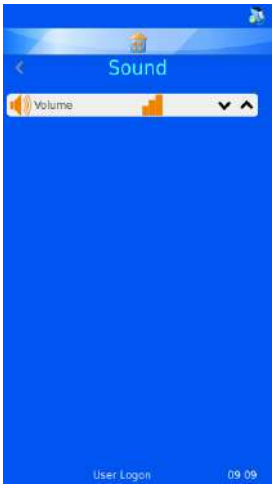
5. Press Import

6. A confirmation message will appear, to cancel the download, press No. To continue the download process, press Yes.

This process will overwrite the current XML configuration files on the slide printer.

7. A message will appear as the XML files are being imported. When the process is complete, the XML menu will again be displayed
8. Reboot printer.

Sound Menu



There are four sound levels. To adjust the sound level, press the up and down arrows to the desired level.

Volume set to High

Volume set to Medium

Volume set to Low

Volume set to Off

Windows Printer Setup

The slide printer can be set up to print labels that are designed and created by label design programs or LIS systems. These labels need to be designed and sent to the printer as a bitmap image. The process to print these labels is much like printing from a computer to a desktop printer using a Windows® driver to manage the queue and send the images to the printer. The connection from the PC or Server to the printer can be either USB or Ethernet connection and can be set up and configured automatically using the drivers.

The slide printer hardware is digitally signed and usable with Microsoft Windows® operating systems Versions: Windows 7, Windows 8 and Windows 10 for both 32 and 64 bit operating systems.

The Windows printer is set up automatically like most other printer driver installations, for further information on driver installation, please refer to the Windows Driver manual.

Config Menu

The Config menu is used to configure the printer to accept data, add the data to the internal database and design the slide labels. There are several steps required to fully configure the unit, the next section describes this process.

Data

The data menu allows setup and configuration of the data within the database.

Items

The Items menu allows setup and configuration of the items used by the system

Objects

The Objects menu allows setup of items so that Request Forms, Containers, Cassettes and Slides can be automatically identified by the system

Template

The Templates menu designs the label image configuring the orientation of text and numbers

Translator

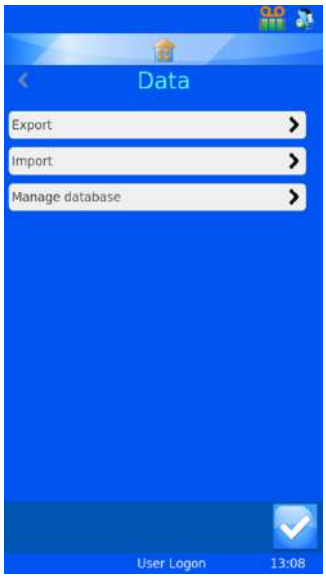
The Translator enables incoming data to be used to by the Template when creating new label designs

Data Menu

Export

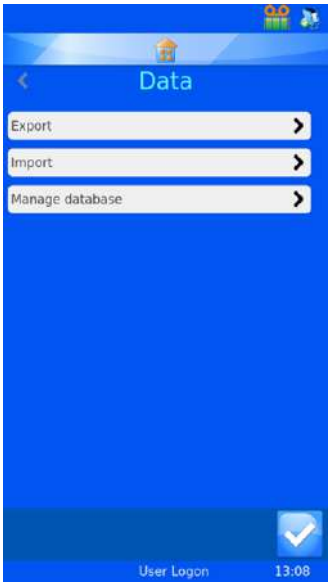
Export as CSV

The export feature downloads the on board database to an external drive in csv format. To use this feature, insert a memory stick into a slide printer USB port and press the csv button on the Export data menu.



Import

Import is used to import different types of files onto the printer. These files will be either text files or image files, depending on the system sending the files. It is critical that the unit is configured prior to sending any type of file to the printer. If the printer is not set to the correct type of file and a file is sent, the unit may reset or display something unexpected. Several formats are supported, the appropriate format must be selected prior to sending files to the printer.

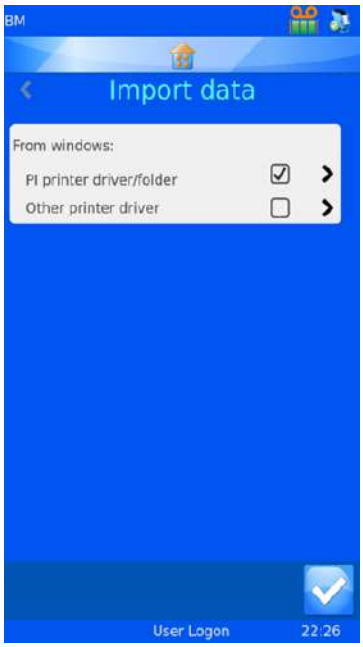


A data file can be sent to the printer by placing the file into the Hot Folder (cache folder). The Windows driver will automatically retrieve files from the hot folder and send them to the printer.

Pi printer driver/folder is used to send any image file or text delimited file.

The other printer driver is used when sending files from other types of Windows drivers or LabWriter software.

For additional information on setting up the Windows driver, refer to A83910104 - Driver Operator Guide.



Manage Database

This menu is used to manage, export or reset data stored on the printer.

Oldest Days

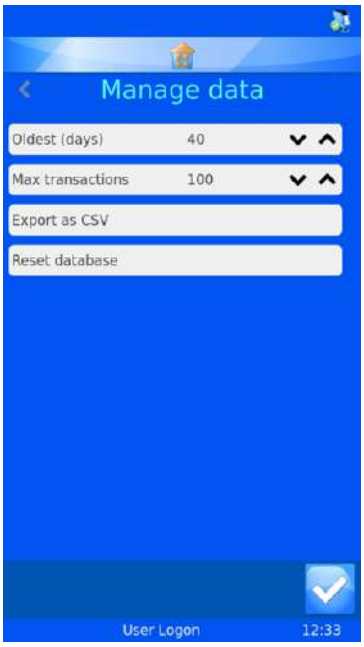
Sets the number of days data will be held on the slide printer

Max Transactions

Sets the total number of transactions that will be held on the slide printer

Reset Database

Deletes all slide printer data



Using the Internal Label Design Function

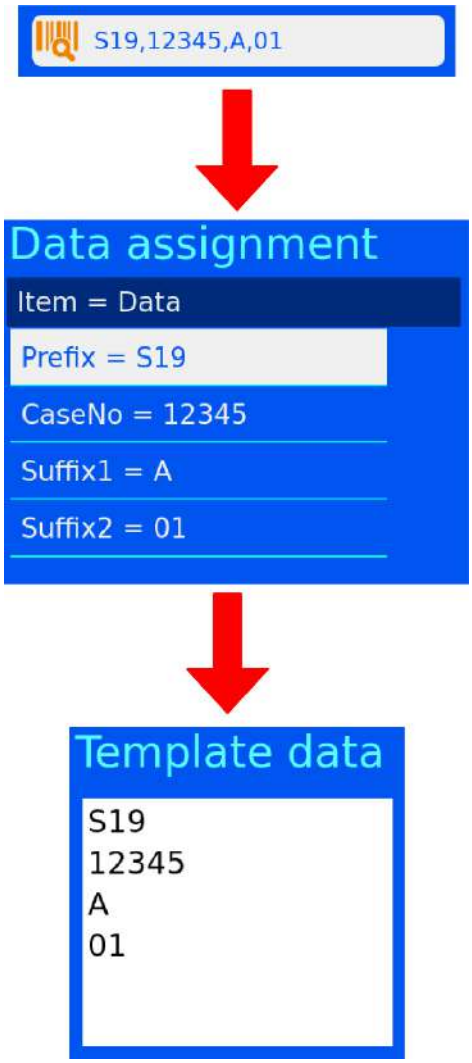
The slide printer uses an internal label design feature that converts normal text to a printable label. The data can be sent to the printer using several methods. Data can be sent to the printer as a text file and data can be typed in from a keyboard.

The integrated barcode scanner can scan barcodes and send data automatically to the scan bar at the top of the home screen. This data can also be used within software menus and also by the internal label design software to create printable slide labels.

The label is designed using several processes within the Data Menu that convert the data to label image. A simplified example of the process is shown below. Each step will be further explained in this section of the operator guide.

Delimited data is sent to the software via the barcode scanner, on-screen keyboard or Generic Text Only Windows driver. The data is captured in the scan box.

The template imports data from the database and organizes the data onto a 1 x 1-inch label design. The items can be moved around and font and font size adjusted to achieve a perfect label.

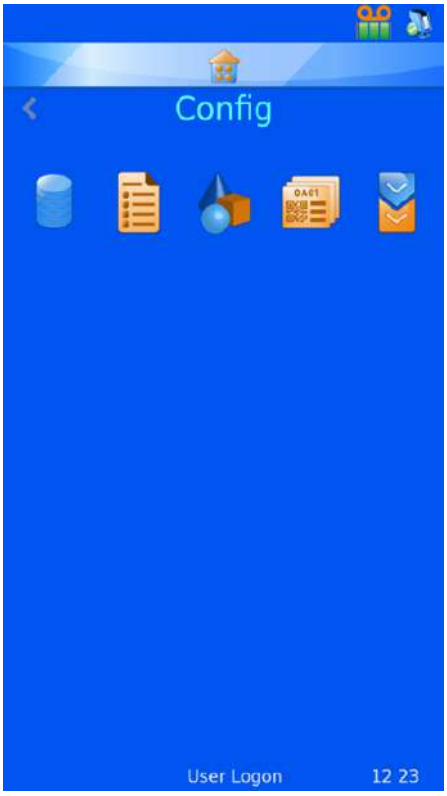


Setting up a Basic Label Design

There are four steps to setting up the data import / label design configuration.

The steps are:

- Configure the Items
- Configure the Objects
- Configure the Translator
- Configure the Template



Items

The Items menu allows setup and configuration of the items used by the system

Objects

The Objects menu allows setup of items so that Request Forms, Containers, Cassettes and Slides can be automatically identified by the system

Template

The Templates menu designs the label image configuring the orientation of text and numbers

Translator

The Translator enables incoming data to be used to by the Template when creating new label designs

Items Menu

Data items are used to format data and display data in templates. The Items are fields within the database. The database would appear much like an Excel worksheet with the Item names across the top of the sheet and the data organized into columns below the headers.

	A	B	C	D	E	F	G
1	Prefix	Case No	Suffix 1	Suffix 2	Generic 1	Generic 2	Generic 3
2							
3							
4							
5							
6							
7							
8							

There is a fixed set of Items in the printer software, these Items can be modified. New items cannot be added, nor can Items be deleted. The Items menu allows the user to modify each Item, customizing it to the laboratory staff preference. An example of editing the Generic 1 Item is shown below.

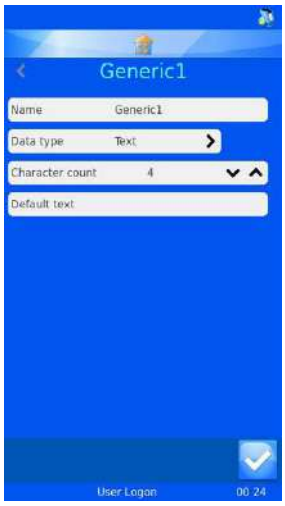
1. Press Settings

2. Press Data

3. Press Items

4. Scroll to and select Generic 1.

5. Press the Edit Button



Name

Name is the displayed Name of the item, this can be edited but must not be named the same as any another item.

Data Type

This allows the user to select specific type of data that will be sent to the database. Choices are Text, Numeric, List and Datetime.

Character Count

This should be set to the maximum number of characters that might be send this specific item.

Default Text

This is the default data that will populate an item. If data is sent from an external source, it will overwrite this data.

6. Select the Name, then press the Edit Button

7. Enter ‘Container’

8. Press the Check Button

You can see below that column E item has been changed to Container.

	A	B	C	D	E	F	G
1	Prefix	Case No	Suffix 1	Suffix 2	Container	Generic 2	Generic 3
2							
3							
4							
5							
6							
7							
8							

Once data has been captured in the database, it will appear similar to the image below:

	A	B	C	D	E	F	G
1	Prefix	Case No	Suffix 1	Suffix 2	Container	Generic 2	Generic 3
2	S19	12345	A	01			
3							
4							
5							
6							
7							
8							

Translators

Translators are used to control how incoming and outgoing data is filtered and formatted.

Incoming data is passed through a Translator to extract sections of data and move it into data items.

Outgoing data is created by using a Translator to build a text string of data items, with or without delimiters.

Example incoming data from a scanned barcode

Example outgoing data used to create a printed barcode

Delimited data

Delimiters are used to separate data elements; in this case, the dash is used as the delimiter. The data elements can vary in length.

S19-12345-A-01

Fixed length data

Fixed length data has data elements of fixed length.

S1912345A01

Adding a Translator- Delimited data

1. Press Settings
2. Press Data
3. Press Translator

4. Press Add

5. Type a name for the Translator
6. Press the Check Button

7. The Scan or Enter Code Box will open with no Data displayed.

8. The data can be either typed in using the keyboard, scanned in using the integrated scanner or sent from the software. the data should appear in the Scancode box.

9. Press the Check button

10. The select delimiter box will open. the translator will automatically highlight a delimiter if one is found within the string of data. If this delimiter is to be used, press the check button.

11. If a different delimiter is required, select that delimiter and press the check button.

12. The translator will be created

Translator Menu

Name

This is the name of the translator. To change the translator name, select name then edit the name and press the check button.

Object

This selects the Object that is to be linked to the translator. To change this, select Object and choose from the dropdown menu.

Code

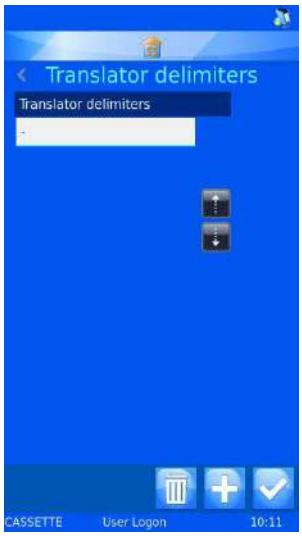
Shows the code used to create the translator or a more recent code from the scan box. It is not possible to modify the data in this box.

Item Assignments

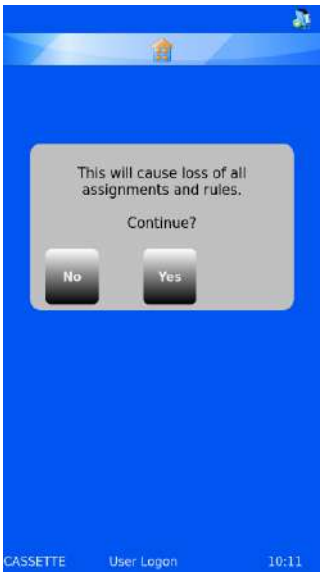
This identifies the item assigned specific data in the translation process.

13. To add additional delimiters, press delimiters

14. The list of delimiters used in the translator are displayed. to add new delimiters, press the plus button.



15. A confirmation window will open. to confirm the change, press yes.



Note

This will cause loss of all assignments and rules.

16. Select the required delimiter and press the check button.

To add additional delimiters, repeat steps 13 - 15

Item Assignments

17. To change an item assignment, select the item and press the edit button.

18. The current assigned item will be highlighted.

19. Press the up or down buttons to display additional items.

20. Select the new item

21. Press the check button

22. The new assignment will be displayed.

23. Once all assignments are correct, press the check button.

Translator Properties Menu

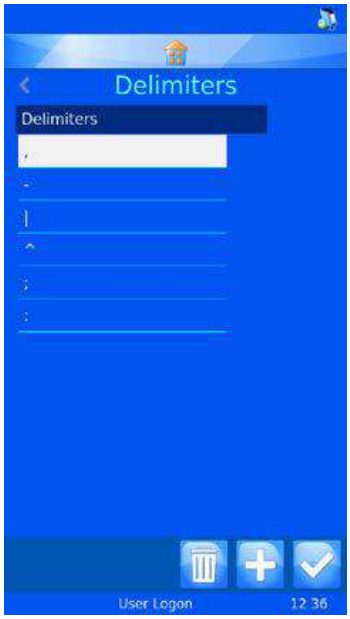
The list of delimiters and the order in which the translator populates data items can be customized using the translator properties menu. From the Translators menu, press the settings button.

Delimiters

Delimiters can be added to the available list.

1. To add a delimiter, press the delimiters button.

2. Press the plus button



3. An entry box will open with an on-screen keyboard. a new delimiter can be typed in or scanned in through the integrated scanner.

4. If the on-screen keyboard does not have the desired delimiter, scan a barcode with the delimiter included. Delete all additional characters until only the delimiter remains and press the check button.

Assignment order

The order in which the data is automatically assigned can be adjusted for local preferences. To change the order:

1. Press the assignment order button

Press the solid up and down arrows to scroll the list up and down.

Press the dotted arrows to move the highlighted item up and down the list.

2. Once the items are in the required order, press the check button.

This change will not affect existing translators. Any new translators created will assign data to items using the modified order.

Fixed Length Translator

The fixed length translator is used to divide data that does not include delimiting characters. The fixed length translator uses number of data blocks to delimit the data, therefore the data must always be the same length. If the length of data is changed, the data will not be delimited in the expected way.

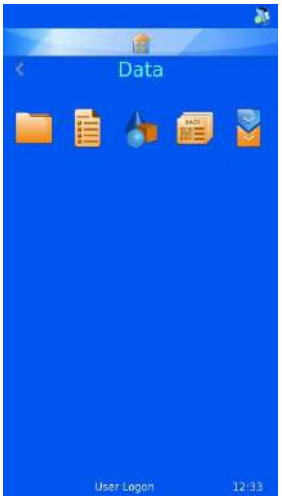
Example incoming data from a scanned barcode.

Example outgoing data used to create a printed barcode

S1912345A01

Adding a Translator- Fixed Length Data

1. Press settings
2. Press Data
3. Press translator



4. Press Add

5. Type a name for the Translator
6. Press the Check button

7. The Scancode or enter code box will open with no data in the box.

8. The data can be either typed in using the keyboard, scanned in using the integrated scanner or sent from the software. The data should appear in the Scancode box.

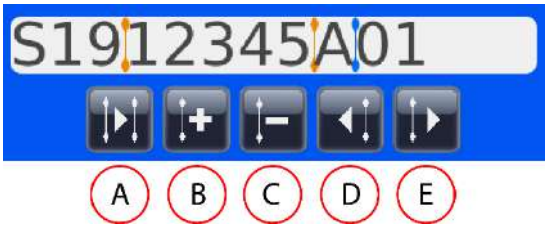
9. Press the Check button

10. The select delimiter box will open. the translator will not see a delimiter, so will offer the none option.

11. Press the Check button

Dividing up the data string

The Data string has to be divided up into the required data elements.



A Select next divider

B Add a new divider

C Remove selected divider

D Move divider one character to the left

E Move divider one character to the right

Data Divider

Selected Divider

12. Add a new divider, press the plus button

13. The divider will appear in the first available space, the divider can be moved to the right by pressing the right arrow. In the example, we will move the divider right two spaces by pressing the right arrow twice.

14. The divider should have moved to the right two spaces and * (s19) should be listed in the first box under item = data.

15. Press the add divider button.

16. A second divider should appear in the next available space.

17. Press the right button to capture the next data block. in this example the right arrow button will be pressed four times.

18. The divider will have moved four spaces to the right.

19. Press the add divider button.

20. The data is now delimited based on number of spaces.

21. To assign the first data block to an item, press the edit button with the first block highlighted.

22. Press the Target Item

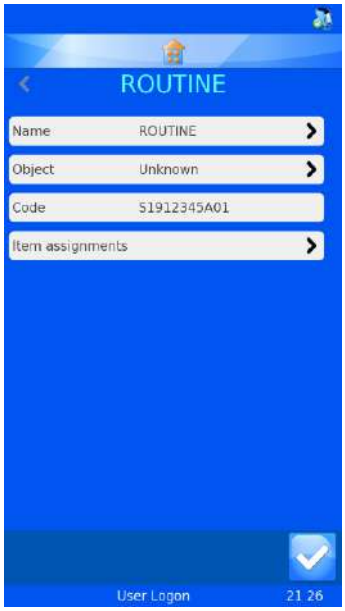
23. Press the Check button

24. Repeat this until all data blocks have been assigned to items.

25. Press the Check button.

If required, the object can be assigned

The translator is now created and ready for use.



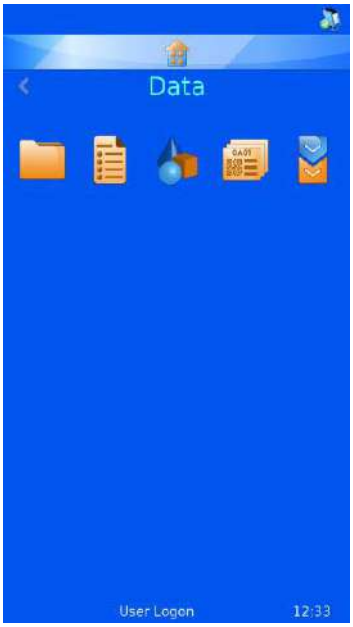
Templates

Templates determine how the data fields and barcodes are printed. You can design the layout utilising fonts, font sizes and barcodes. It is important to try and keep some white space around the edge of the template and around barcodes.

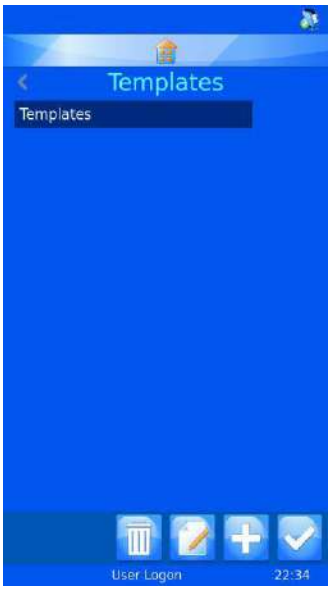
Template creation is made easier if a Translator is selected when creating a new Template. Selecting a translator will automatically populate the template with the items used in the translator reducing the effort needed to create the new template.

Creating a New Template

1. Press Settings
2. Press Data
3. Press Template



4. Press the Plus button



5. The Name Menu will open

6. Enter the desired template name

7. Press the check button

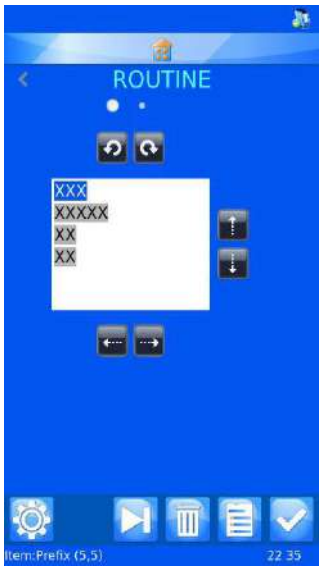
8. A use translator? box will open, if a translator can be used, press yes.

   If a translator is not used, all label items will need to be added to the template manually.

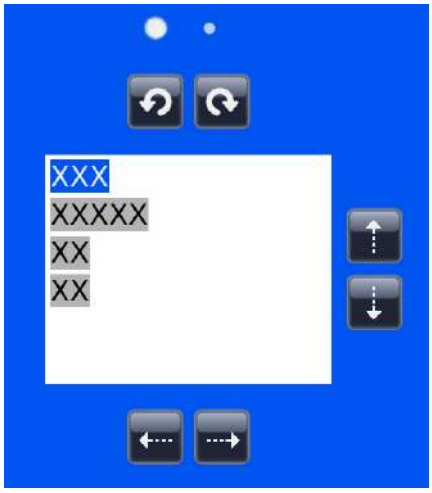
9. Select the translator and press the check button.

10. The items defined in the translator will be automatically added to the template.

11. The items can be moved around and font and font size adjusted to create the desired label design.



Editing the Template

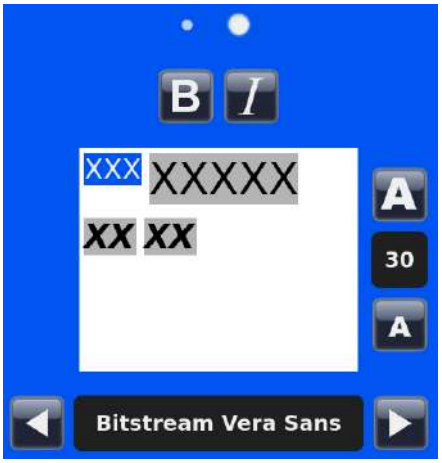


Toggles between two formatting menus

Rotates highlighted object left and right

Moves highlighted object up and down

Moves highlighted object left and right



Toggles highlighted object between normal and bold

Toggles highlighted object between normal and italic font

Adjusts font size of highlighted object

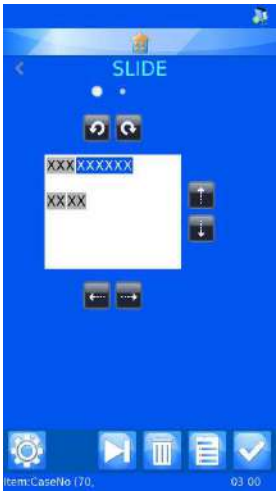
Adjusts the font of the highlighted object

Adding Items to the Template

Additional items can be added to the template providing more information than is included in the translator data. These items will need to be added manually and will need minimal configuration. When printing slides, the additional data to populate these items will need to be entered. The items default setting will be displayed and can be changed by entering the data from a keyboard, selecting from a dropdown menu or using an incrementing setting.

From the Template menu

1. Press the items button



2. A list of current items will be displayed

3. Press the plus button

4. The list of items will be displayed, select the correct item.

5. Press the check button.

The item configuration menu will appear

Note

The Normal, Incrementor, Barcode and User edit are unique and only one can be checked at any time. If an unchecked box is checked, the remaining three will be automatically unchecked

Normal - When checked will be displayed on the template but the item will not be able to be edited.

Incrementor - when this is checked, the item will increment with each additional slide

Barcode - The item will be displayed as a barcode and will need additional configuration

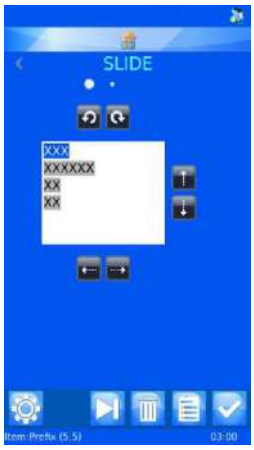
User edit - when this is checked, the item will be able to be edited prior to printing

Adding Barcodes to the Template

A barcode can be added to the template for printing purposes. The barcode requires additional configuration which is explained further here.

To create a barcode from the template editor menu

1. Press the items button



2. Press the plus button

3. Select the item

4. Press the check button

5. The item properties menu will be displayed

6. Check the barcode box

7. The barcode settings menu will appear

8. Select the correct translator

9. Select the desired symbology

10. Select check digit type if required

11. Select size of barcode. regardless of this selection, the barcode will automatically increase in size when needed to print a quality barcode.

12. Press the check button, the template with the barcode will be displayed. the barcode can be oriented using the directional buttons.

13. Press the check button when finished.

Template Settings

The template settings are accessed by pressing the settings button on a template. The settings are unique to the selected template, each template has its own settings menu.

The Name button is used to change the name of the template

The Translator button is used to select a translator to be used with the template

The Heat button is used to adjust the heat level used by the template when printing. The setting range is 0 – 9 where 0 is the lowest setting and 9 is the highest setting

Setting the Heat

The heat setting is adjustable to compensate for variation in slide surface. Each slide manufacturer will provide a slightly different surface, the smoother the slide, the less heat required to transfer the print. Generally, the lowest heat setting that achieves good print results should be used for the most reliable performance.

Advanced Printing Functions

Template Editor

Any of the items that were set up for user edit when creating the template can be edited to add specific information to the slide label. The information in these editable items is unique to each slide; not all slides are required to have the same data.

To edit template items

1. Press the label area of the slide

2. The template editor will be displayed, any editable items will have a highlight.

The tab key toggles between editable items

Editable items can be edited based on the way they were set up in items and the translator. Some items will require information to by entered via a keyboard, while others will use a dropdown box for selection.

Changes to the editable items should be made after the barcode for the case is scanned.

3. Make the necessary changes to editable items
4. Press the check button

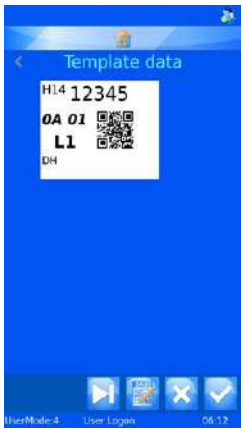
Selecting Templates

Many different printing templates can be created and used for printing.

To select a different template,

5. Press the template area of the home screen

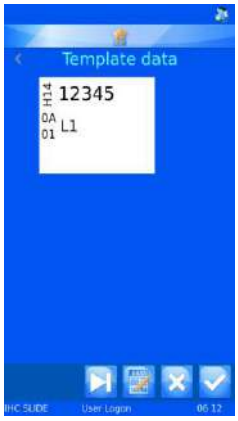
6. The template editor will be displayed, press the template button.



7. The list of templates will be displayed, select the desired template.

8. Press the check button

9. The template editor will be displayed, press the check button.



The alternate template will be displayed on the home screen

Creating Slide Sequences

It is possible to print multiple slides from a single entry of data, this will be referred to as sequence printing. Sequence printing can only be performed using templates where an incrementor is configured.

To create a sequence of slides a user should be logged in the main screen should be displayed.

1. Scan a barcode containing appropriate data

2. The scan box should be populated with data

3. Press the sequence button

The create sequence menu should appear.

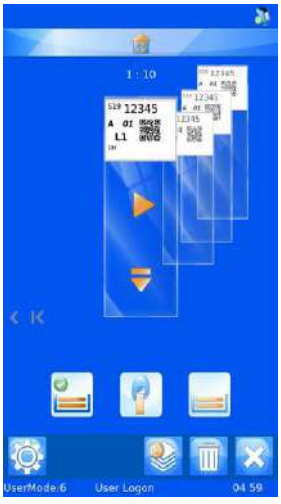
This box displays the TO and FROM data. Pressing the up and down arrows will increase or decrease the highlighted data. The left box data will be printed on the first slide in the sequence; the data in the right box will be printed on the last slide in the sequence. There will be one slide for each number between the two data.

4. To create a sequence of ten slides, press the up arrow nine times.

5. Press the check button

6. Ten slides will be created.

7. To print the slides, press the play or hopper button



Creating a Protocol

A protocol is a saved sequence of slides. Once the slide sequence is created, the sequence can be saved as a Protocol so that it can be recalled later. This will allow the user to create batches of slides quickly. Any custom part of the sequence will be saved with the protocol including:

- Template
- Incremented Items
- Editable Items

Example 1 - Save a protocol with edited items

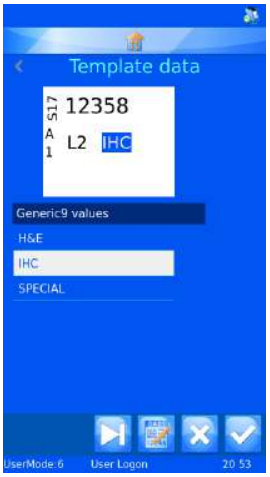
For this example, a user edit item has been created with three choices. H&E, Special and IHC

1. Scan a barcode with data formatted for slide
2. The label should populate with the correct data

3. Create a sequence of three slides
4. Press the move single slide left button

5. Press the label area of the slide

6. Make selection from the dropdown menu
7. Press the check button



8. Press the move single slide left button

9. Press the label area of the slide

10. Make selection from the dropdown menu

11. Press the check button

12. You should now have a sequence of three slides with unique data on each slide

The protocol button is used to save a protocol or recall a protocol

13. Press the protocol button

14. The protocol name menu will open, enter the desired name

15. Press the check button to save the protocol

Recalling a protocol

When a sequence of slides is displayed, the Protocol button opens the Save Protocol menu. If a single slide is displayed the Protocol button opens the Protocol Selection List

1. Scan a barcode with the appropriate data.

2. Press the protocol button

3. Select the saved protocol

4. Press the check button

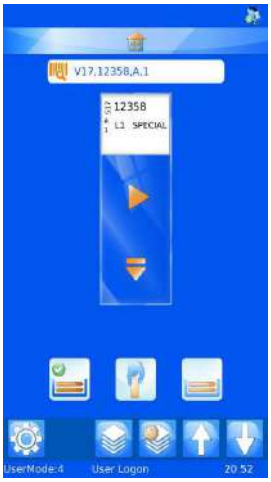
5. The slides should be created

Example 2 - save a protocol with edited items and different templates

For this example, two templates have been created and a user edit item has been created with three choices. H&E, Special and IHC

1. Scan a barcode with data formatted for slide

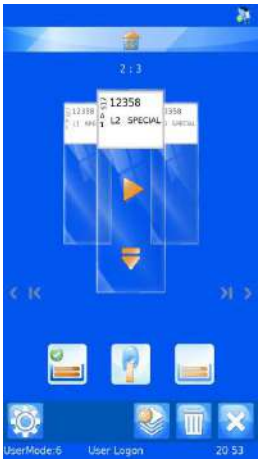
2. The label should populate with the correct data.



3. Create a sequence of three slides

4. Press the move single slide left button

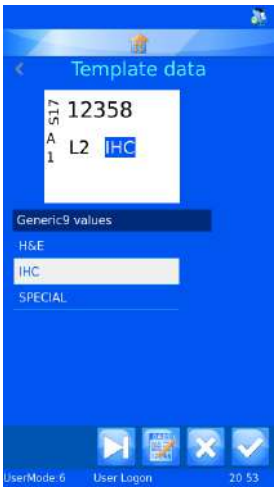
5. Press the label area of the slide



6. Make selection from the dropdown menu

The template button is used to access the list of available templates

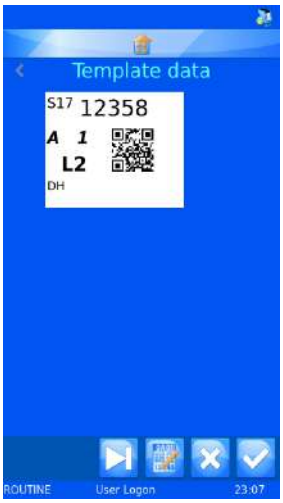
7. Press the template button



8. Select a template

9. Press the check button

10. Press the check button



11. Press the move single slide left button

12. Press the label area of the slide

13. Make selection from the dropdown menu

14. Press the check button

15. You should now have a sequence of three slides with unique data on each slide

16. Press the protocol button

17. The protocol name menu will open, enter the desired name

18. Press the check button to save the protocol

Recalling a protocol

19. Scan a barcode with the appropriate data

20. Press the protocol button

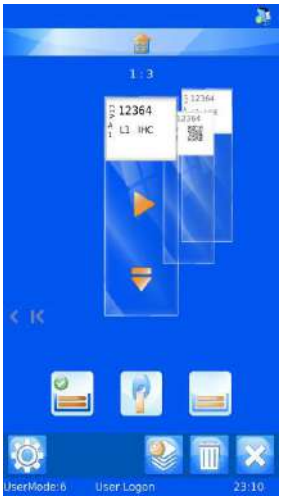
21. Select the saved protocol

22. Press the check button

23. The slides should be created

Note

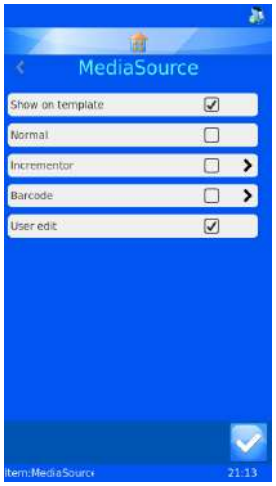
To delete protocols, you must be in the Protocol menu. Highlight the protocol to be deleted and press the trash bin button



Advanced Hopper Function

The dispense position can be selected manually for each label. It is also possible to use rules or a protocol to automate the selection process. The hopper is selected on the slide printer using an item called MediaSource. The MediaSource can be used within Protocols and Rules to automatically assign the appropriate dispense hopper position.

Adding MediaSource to a Template



The MediaSource Item can be added to a template. This will allow the user to select the hopper position from within the template prior to printing slides. The show on template and user edit must be checked in order to use manual hopper selection. This can be positioned off the print area so that it does not appear on the slide.

Hopper Selection

The hopper can be assigned to slides prior to printing. The template must have the MediaSource part of the label and must be shown

1. Press the label area of the slide

2. Tab if necessary, to the hopper selection

3. Select the desired hopper

4. Press the check button

The hopper can be set for every slide in the queue and saved as part of the protocol.

Translator Rules

The translator includes a Rules feature that can automate some software and printer function. There are several rules; these can apply change to templates, items, data, hopper, sequence and protocol. The rules will be generally explained in this guide; trial and error may be required to fully understand rule operation.

Rules are applied against items within the translator, these rules compare the incoming data to a rule statement and either apply the rule or not apply the rule. This comparison process is applied every time a record is scanned, entered manually or imported from the Windows Driver. Within the translator rules can be applied against any or all items. When data is entered, all of the rules in the translator will be applied to the data. One rule may have an effect on other rules, so if you get an unexpected result from the rules, recheck how every rule might affect your data.

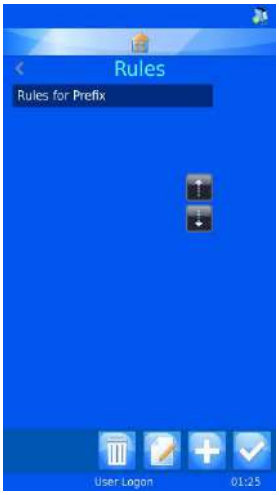
Creating a New Rule

The rule is created against an item in the translator, to create a new rule:

1. Press the settings button
2. Press the data button
3. Press the translator button
4. Select the translator to be edited
5. Press the edit button
6. Press the item assignments button

7. Select the item that the rule will be created against
8. Press the rules button

9. Press the add button



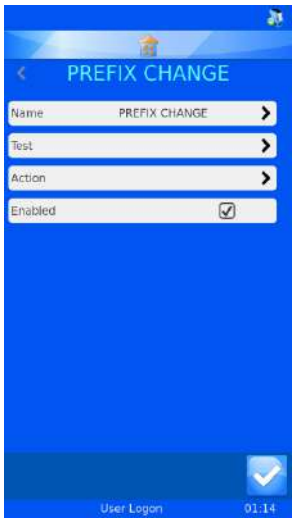
10. The rule name box will open, enter a name and press the check box

11. The rule configuration menu will open

A rule is a function that includes a Test and an Action. The Test is an equation that will produce a pass or fail for the data that the test is run against.

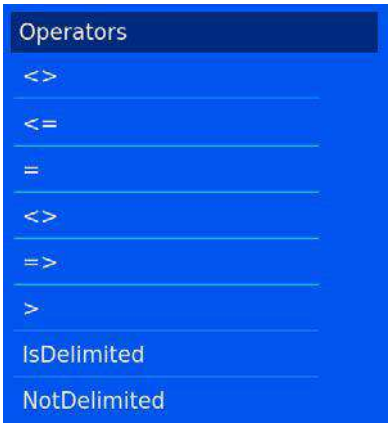
If the Test produces a PASS, the rule action will be carried out.

If the Test produces a FAIL, the rule action will not be carried out.



The test compares the Item against a value using an operator

The list of operators includes common formula symbols and an IsDelimited and NotDelimited operator.



<>	This operator determines if the data is not equal to the item
<=	This operator determines if the data is less than or equal to the item
=	This operator determines if the data is equal to the item
<>	This operator determines if the data is not equal to the item
=>	This operator determines if the data is equal or greater than the item
>	This operator determines if the data is greater than an item
IsDelimited	This operator determines if a specific delimiter is included in the text string
NotDelimited	This operator determines if a specific delimiter is not included in the text string

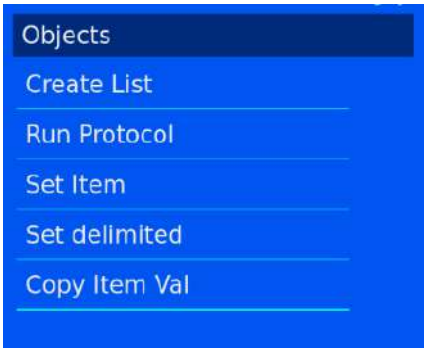
The value is the data that that will be compared against the item data. If the item was S19 and the value was S19 and the operator was set to equals, the test would produce a PASS

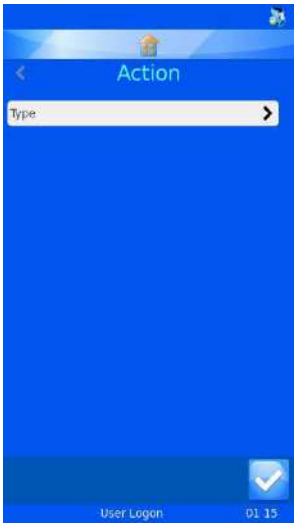
S19	=	S19	PASS
S18	=	S19	FAIL

The Action will be applied if the test passed tests. The intended action will need to be set based on a passes test.

From the rule menu, select the action, then select the action type.

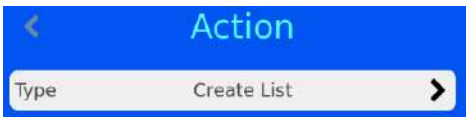
The list of objects available to the action are:





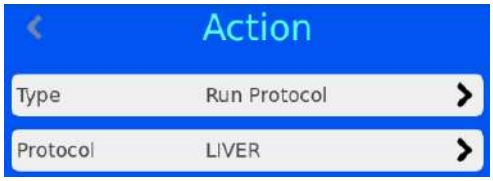
Create List

This object creates a sequence of slides based on a list set up in the item properties. The item must be set as a list to use this object.



Run Protocol

This object will run the specified protocol when a test is passed. The protocol to run will need to be set in the action. When this action is selected and a barcode scanned, the screen will automatically populate with the number of slides in the protocol.



Set Item

This object will set an item to a specific value when the test is passed. Set item can set any item to a specific value including the item the rule is being run against. The item to set and value must be defined in the rule.

Set Delimited

This object will further delimit an item using delimiters not used by the translator. The delimiter index is the data position relative to the delimiter – this means the data ahead of the first delimiter is “0” and the data following the first delimiter is 1. Item to set is the item where the data should be copied to.

Copy Item Val

This object will copy the value of the item to another item. You must set the Item to copy to.

Rules that use IsDelimited and SetDelimited are the most complex to comprehend. To make this clearer, an example of how these may be used is shown below.

Example

For this example, a translator will have already been set up to translate the following data.

S19,12345,A,Liver;H&E

The translator uses only the comma and later the semicolon will be used for IsDelimited and SetDelimited.

Creating the new rules

1. From the translator menu, press item assignments button
2. Highlight the item for which the rule will be set
3. Press the rules button

4. The rules menu will appear, press the add button

5. Enter the rule name

6. Press the check button

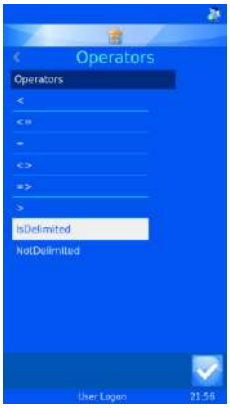
7. The menu will appear for the delimit 1 rule

8. Press the test button

9. The test menu will appear, press the operator button

10. The operators menu will appear, highlight the isdelimited option

11. Press the check button



12. The test menu will appear, press the value button

13. Enter the delimiter into the value box

14. Press the check button

15. The test menu will appear with the selections displayed, press the check button

16. The delimit 1 menu will appear, press the action button

17. Press the type button

18. The select action type menu should appear, select set delimited

19. Press the check button

20. The action menu should appear. Press the up arrow once to set the delimited index to “0”

21. Press the item to set button

22. The select item menu should appear, select generic1

23. Press the check button

24. The delimit 1 menu should appear, press the check button

25. The rules menu will be displayed, press the add button

26. The name menu will appear, enter the rule name

27. Press the check button

28. The delimit 2 menu will appear, press the test button

29. The test menu will appear, press the operator button

30. The operators menu will appear, highlight the isdelimited operator

31. Press the check button

32. The test menu should appear, press the value button

33. The value menu should appear, enter the correct delimiter

34. Press the check button

35. The test menu should appear, press the check button

36. The delimit 2 menu should appear, press the action button

37. The action menu should appear, press the type button

38. The select action type menu should be displayed. Select the set delimited action type

39. Press the check button

40. The action menu will appear. Press the up arrow twice to set the delimited index to 1

41. Press the item to set button

42. The select item menu should appear, select the generic2 item

43. Press the check button

44. The action menu should appear, press the check button

45. The delimit 2 menus should appear, press the check button

46. The rules menu should appear, press the check button

47. The data assignment menu should appear, press the home button

Troubleshooting

Print Quality

Poor print quality is normally caused by flaws or debris on the printable surface of the slide. To ensure the best print quality, the printable surface must be of uniform thickness across the entire width of the slide, it must be smooth and free of any clumps or dust embedded in the coating.

The quality of the slides printing surface determines the print quality. You cannot improve print quality by changing settings if the slide surface is low quality.

When troubleshooting, compare the slides in question against a slide type known to produce good quality and consistent print.

Different slide types may need to have different heat settings. It is important to use the lowest heat setting possible.

Use the following table below to diagnose quality problems.

Error/ Symptom	Possible Cause
	**Smudging**. smudging this is a sign that the heat is too high or the print head needs cleaning. Try reducing the heat setting until it disappears. If it does not disappear there may some debris on the print head preventing the heat dissipating through the slide surface.
	
	**Light Patches**. This caused by an uneven or inconsistent surface. Low quality slides, defective slides or slides that are not thermal printable (inkjet) may be the cause. Do not adjust the heat setting.
	**Horizontal Line**. A horizontal line through print is cause by a small bump on the slide. This causes the entire print head to lift at this point so the effect of the bump is extended to the left and right of the bump. Low quality or defective slides may be the cause. It can also be caused by the tape being dragged by the print head. This can be a sign that the heat setting is too high. If this is seen repeatedly reduce the heat setting.

Random Missing Area (Print Surface Intact). This is caused by a rough printable surface. Low quality slides, defective slides or slides that are not thermal printable (inkjet) may be the cause.

Do not adjust the heat setting.

Group of Spots. This may by cause by dust particles on the slide. Keep the slide clean. Store them in the blue slide cartridge at all times. Avoid handling the slides. Do not remove them from their shrink wrapping until you will be inserting the slides into the blue cartridge.

Vertical Line. A line vertically through the

entire print is cause by dust or debris on the print head burn line.

If this is seen on every slide the print head may need cleaning. Remove the tape and clean the head with a cleaning swab (Part No ***).

If after cleaning the line is still present, the print head is damaged and needs preplacing.

Light Printing. Consistent light printing is caused by insufficient heat or slides that are not thermal printable (inkjet). You may be able to improve quality by increasing the heat setting.

Vertical lines. This is caused by a faulty / poor connection on the ribbon cable that links the print head to the circuit board.

Try gently pushing the ribbon cable into the connector on the circuit board and print head.

Try reconnecting the ribbon cable and ensure the connectors are fully connected.

Replace the ribbon cable if the issue persists.

Turn the power off before doing the above.

Missing print / data. This can be caused by a faulty / poor connection on the ribbon cable that links the print head to the circuit board. You may see this and the vertical lines if the connection is faulty. Missing data can be due to incorrect data being sent to the printer so it is important to check this first.

Check that the data sent was correct and that the image displayed was correct.

Try gently pushing the ribbon cable into the connector on the circuit board and print head.

Try reconnecting the ribbon cable and ensure the connectors are fully connected.

Replace the ribbon cable if the issue persists.

Turn the power off before doing the above.

Slide Requirements

Slides must have a coated frosting. The frosted coating should cover 20mm of the length of the slide. The coating must be of uniform thickness across the entire width of the slide. The SlideMate Pro Slide Printer uses thermal transfer print technology. This print technology requires stricter standards on the surface finish and cleanliness of the slide's frosted coating compared to slides that are used with ink jet technology printers. The coating must be smooth and free of any clumps or dust embedded in the coating or print defects will occur.

Ribbon Burn – Possible causes

- Heat setting set too high
- Follow the Print Quality Setup. Use a slide Known to be good quality as a sanity check.
- Incorrect resistance set for the installed print head
- Check the resistance on the print head is the same as entered on the printer settings
- Build-up of debris on the print head
- Uneven slide surface can cause local tape burn if the head is not in contact with the slide surface.
- The example image shows light print down one side and tape burn under it. This will cause melted tape to build up on the head

- If the print head has debris stuck on it this can move and hold the head away from the slide causing an air gap. The heat cannot transfer to the slide resulting in the head over heating.
- Take the ribbon out and inspect the print head from the top and bottom.
- Print head printing when not in full contact with the slide.
- This can be caused by debris on the print head. It can also be as a result of a slide jam.
- It is important that no more than 10 slides are allowed to collect in the collection guide.
- The printer cannot detect a build-up of slides on the collection guide. It detects the slide exiting the printer.
- If slides are allowed to back up they will eventually prevent slides exiting the printer and causing a jam.
- If a slide cannot exit the print mechanism the next slide my drop through the bottom stop and be in the wrong position for printing. This will cause the print head to print in air and overheat resulting in melted or broken ribbon.

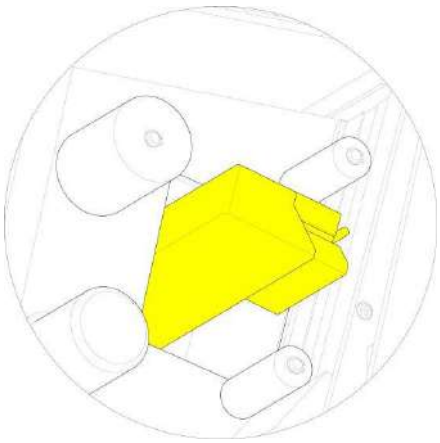
- The head will require cleaning and the Print Head Recovery process should be followed.

Cleaning the Print Head

The print head should be cleaned every time the ribbon is changed or if any of the following occur:

- The print on the slide is showing signs of smudging.
- The print ribbon burns through or when the ribbon is loaded upside down.
- The quality is not the same as previously observed, most print quality issues are caused by the slide print surface. Check Print Quality Trouble shooting for possible causes first.

Avoid touching the print head surface with bare skin.



Remove the print ribbon from the printer

Remove a swab from the SlideMate cleaning kit (part no. A83910008) and bend the tube at the swab end to release the solution. Rub the print surface edge (where the print head contacts the slide) of the print head firmly with the swab. Do this several times until no residue is visible

Let the print head dry for two minutes before loading the ribbon.

Print head Recovery Process

The print head can become stuck in a mode that prevents the heat settings working. This is caused by the head over-heating. If the ribbon burns through, use the following process to recover the print head.

1. Clean the print head to ensure it is clean and free of any debris.
2. Select a template and reduce the heat setting to the lowest possible setting.
3. Print 3 – 4 slides.
4. The print will probably be light but still check for signs of smudging.
5. Increase the heat setting slightly and print another set of slides.
6. Check carefully for any signs of smudging.
7. Repeat this until you are getting a reasonable print without any signs of smudging. If there are any signs reduce the heat, if they persist clean the head again and start the recovery process from the start.

Routine Maintenance

The following is a recommended maintenance schedule for the Epredia slide printer:

Daily Maintenance

- Fill the slide dispense hopper with slides.
- Brush any glass fragments from slide delivery system, output chute and around unit.

Weekly Maintenance

- Clean touch-screen (with power off, wipe with soft cloth and glass cleaner).
- Check the print media volume remaining, replace if necessary.

Annual Maintenance

- Check and update the instrument software (if a new version is available).
- Save xml files from the slide printer to a memory stick.

When Necessary

- Clean print head using POPule swab if the ribbon breaks for any reason.
- When changes are made to the slide printer configuration, a back-up copy of the xml files should be created.

Error Messages

The slide printer uses standard error messages to guide the user through expected problems as the slide printer is operated. The messages are intended to alert the user that the slide printer has encountered a problem and to guide the user through recovery and continued operation. Some errors or conditions may require a power cycle of the slide printer or PC.

Ribbon Index Error

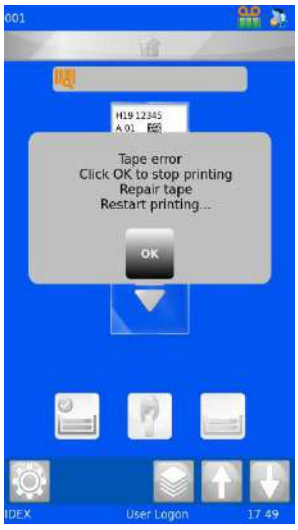
If the ribbon fails to move (the encoder sees no motion) an error will be displayed.

Pressing the OK button will home all motors and allow the operator to restart printing.

Potential causes for this error are:

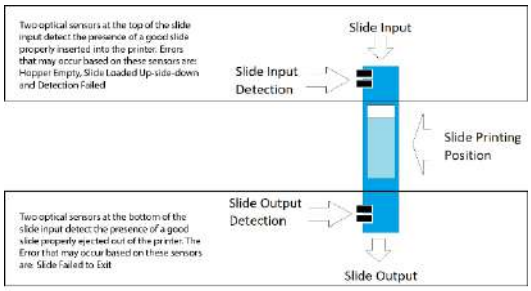
- The printer has run out of ribbon
- The ribbon has broken
- The encoder wheel is frozen

When this error occurs, it will be normal to have blank slides in the output chute.



Slide Handling Errors

There are several ways in which the slide printers attempt to determine if a slide has been inserted and ejected properly. Sensors within the printer mechanism use optics to identify a proper type slide and that the slide has been inserted and delivered to the output chute correctly. If any of these optic sensors do not detect the correct movement, an error message will be displayed. These messages usually indicate a poor or defective slide.



Potential causes

Slide dispense hopper is out of slides.

A slide without a good printable tab has been dispensed.

Optical sensor is not working correctly

Slide fallen off dispense arm before reaching slide opening for the printer.

slide did not fall off Dispense Arm into the opening for the printer

Error reported as Slide loaded upside down!

When does this occur

- When the slide printing pad is detected immediately following the leading edge of the slide.

Error reported as Hopper empty

When does this occur

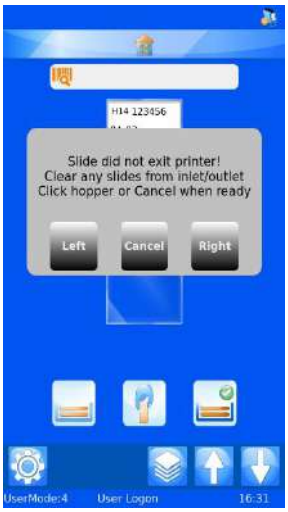
- Nothing is detected at the Entry Optical sensors when the slide dispense hopper has operated to dispense a slide.
- Optical sensor is dirty
- Optical sensor is not working correctly

When does this occur

- When the Slide Input Optic sensors detect something has entered the printer, but cannot determine if the slide was inserted properly.

Potential causes

- Slides a thin painted surface
- The slide may be damaged
- A slide with specialized silkscreen print has been inserted that are not able to
- be used on the printer
- Optical sensor is not working correctly



Potential causes

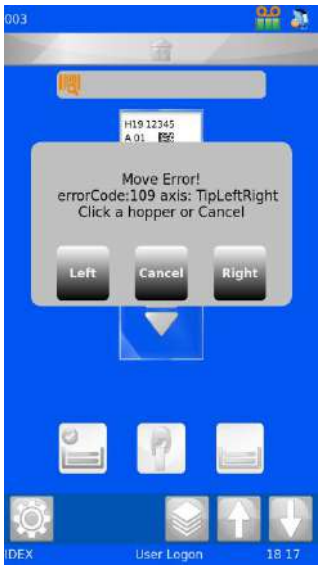
- Slides are loaded in the hopper with the printing pad at the front of the hopper.
- A slide with specialized silkscreen print has been inserted that are not able to be used on the printer

When does this occur

- When the Slide Output Optic sensors do not detect the slide exiting the printer following a successful print.

Potential causes

- The ribbon is not routed correctly around the print head pin.
- Too much heat causing the ribbon to burn
- Wax or glass debris preventing the slide to fall out



Error reported as Hopper jammed!

When does this occur

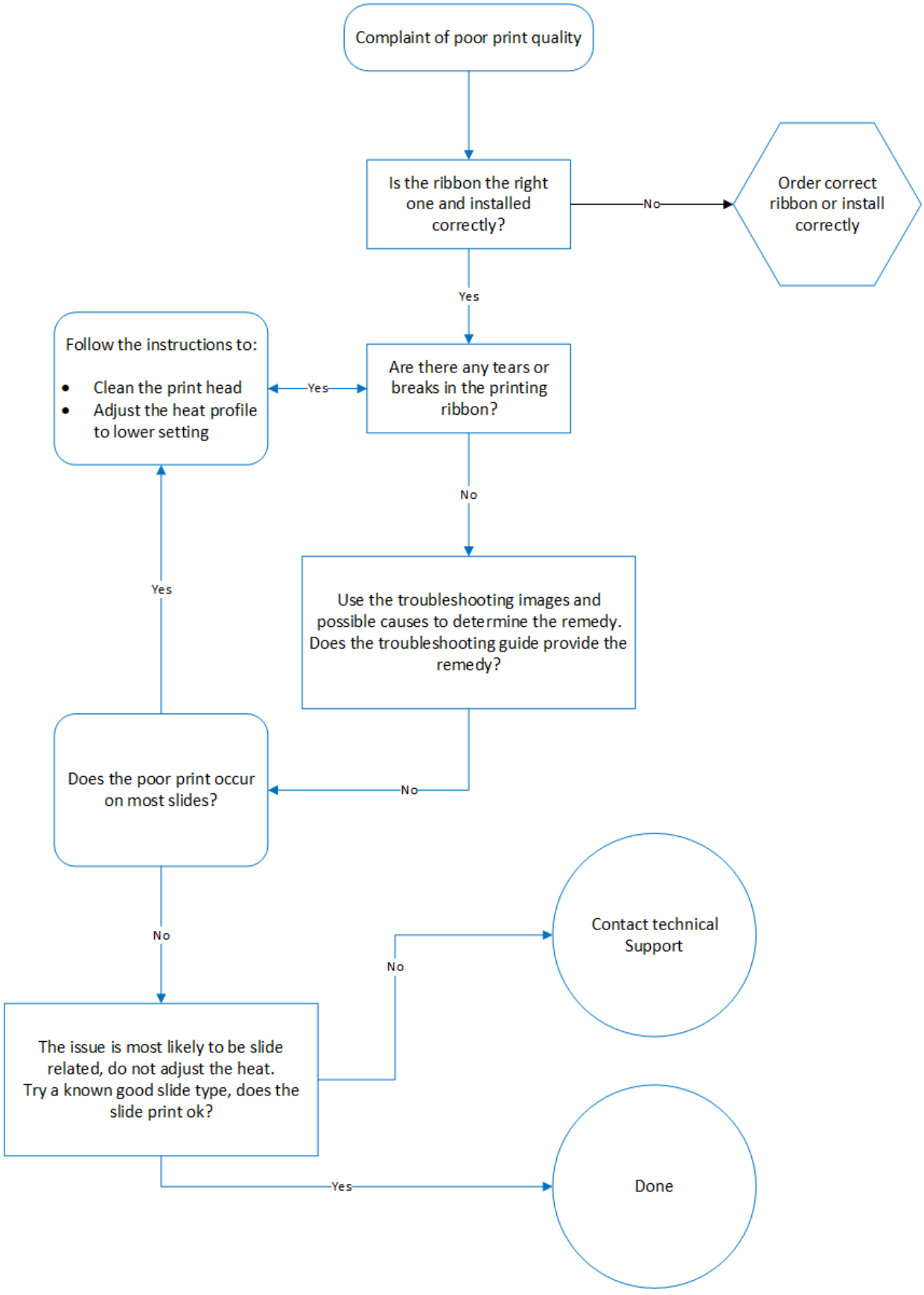
- When the slide dispense motor cannot drive the dispense assembly in or out

Error reported as Slide failed to Exit!

Potential causes

- Slides are stuck together, for specific types of slides, this may occur frequently
- The dispense hopper is not fully seated on the slide delivery system
- The slide dispense motor is damaged

Check for any slides that may be jammed in the hopper or chute before pressing OK


Complaint of poor print quality
Is the ribbon the right one and installed correctly?
No
Order correct ribbon or install correctly
Yes
Follow the instructions to:
Clean the print head
Adjust the heat profile to lower setting
Yes
Are there any tears or breaks in the printing ribbon?
No
Use the troubleshooting images and possible causes to determine the remedy. Does the troubleshooting guide provide the remedy?
Yes
Does the poor print occur on most slides?
No
No
Contact technical Support
The issue is most likely to be slide related, do not adjust the heat. Try a known good slide type, does the slide print ok?
Yes
Done

Troubleshooting Table

Error / Symptom	Possible Cause	Remedy
Screen is blank on switch on	Mains lead is not connected	Connect the mains lead to the instrument, refer to Getting Started procedure.
	Mains socket is not switched on	Switch on the mains socket
	Fuses in mains lead have blown	Change the fuses in the mains lead adaptor
Touch screen does not respond to touch	Touch screen may be faulty	Reset the instrument by turning off then back on. If fault persists then call the Epredia Service Department.
Instrument does not print correctly onto the slide	The slides may be inserted back to front	Check slides are correctly orientated in the instrument.
	The ribbon has run out	Change the ribbon in the instrument, refer to Changing the Ribbon section.
	The ribbon may be fitted incorrectly in the instrument	Remove the ribbon can refit correctly, refer to Changing the Ribbon section.
	The print head may need cleaning	Clean the print head in the instrument, refer to Cleaning the Print Head section.
Slides jam in the instrument	The slides being used may not be approved for use on the instrument	Check you are using the approved slides in the instrument, refer to Appendix A – Approved Slides.
	Ribbon may be fitted incorrectly	Remove the ribbon and refit correctly, refer to Changing the Ribbon section.
	There may be an obstruction in the slide print mechanism.	Carefully attempt to remove the obstruction.

If you have any problems, contact your local Epredia Service Department.

Icon Glossary

Information

Folder

Date and Time

Display

Tracking Properties

International

Keyboard

Network

Printer

Data

Software

Sound

User

Items

Objects

Templates

Translators

Button Glossary

Home

Settings

Trash Bin

Cancel or Delete

Tab

Up

Down

Confirm

Edit

Add

Sequence

Protocol

Items

Template

Rules

Printer Specifications

Dimensions	160mm Width x 332mm Deep x 408mm High
Weight	7.1Kg (without power supply)
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 No's**
Printer Ribbon	A83910001
Power Adaptor Input:100-240V ~ 1.1A, 50-60Hz Output: 24V DC 1.5A	A83920013
Mains lead UK	A83920012
Mains lead EU	A83920011
Mains lead USA	A83920010
Mains lead, China	A83920057
Mains lead, Japan	A83920058
Print head cleaning kit	A83910008
Slide Dispense Hopper	A83910011

Cleaning and Maintenance

The following is a recommended maintenance schedule for the SlideMate Pro:

Daily Maintenance

Note

Please wear personal protection when performing the below for your protection against glass dust/ shards.

- Power the slide printer off at the end of the work day, remove the Left and Right hoppers and wipe the four slide stack support pins with an alcohol-based cleaning cloth.
- Power the slide printer on at the beginning of the work day.
- Fill the slide dispense hopper with slides.

Weekly Maintenance Operation

- Power off the SlideMate Pro, move the slide shuttle to the left side by rotating the lead screw by hand, brush down the leadscrew to remove glass debris.
- Using an alcohol-based cleaning cloth, wipe away the glass debris beneath the shuttle system.
- Move the slide shuttle to the right-hand side by rotating the lead screw by hand, using an alcohol-based cleaning cloth, wipe away the glass debris beneath the shuttle system.
- Clean touch-screen (with power off, wipe with soft cloth and glass cleaner).

When Necessary

- Clean print head using POPule swab if the ribbon breaks for any reason.
- When changes are made to the slide printer configuration, a back-up copy of the xml files should be created.

Appendices

Appendix A – Approved Slides

Description

Adhesion Slides

- Epredia Superfrost™ PLUS
- Epredia Colorfrost™ PLUS
- Epredia Superfrost™ Excell™
- Epredia Superfrost™ PLUS Gold
- Epredia Polysine™
- Epredia Permafrost™ Economy

Non-Adhesion Slides

- Epredia Superfrost™
- Epredia Colorfrost™
- Epredia Permafrost™ Economy

Appendix B – Windows Driver Setup

The slide printer includes on-board software which can design and print special labels. The printer can interface to LIS and other software systems by accepting different types of files.

The most common methods are included with the system within the Windows driver. Other types of files can be sent to the printer using other Windows Printer Drivers. The interface to the printer is generally completed using an image file or a text file.

The printer will print image files straight away without any software intervention required by the slide printer. Text files sent to the printer will require set up of translators and templates within the slide printer. Information related to setting these up, can be found in the SlideMate Pro Printer Operator Guide.

Windows Printer Setup

The slide printer can be set up to print labels that are designed and created by label design programs or LIS systems. These labels need to be designed and sent to the printer as a bitmap image or text file.

The process to print these labels is much like printing from a computer to a desktop printer using a Windows® driver to manage the queue and send the images or text files to the printer. The connection from the PC or Server to the printer can be either a USB or Ethernet connection and can be set up and configured automatically using the Pyramid Innovation Ltd Windows Printer Drivers.

The slide printer hardware is digitally signed and compatible with Microsoft Windows® operating systems Versions: Windows 7, Windows 8 and Windows 10 for both 32 and 64 bit operating systems. The connectivity method used has no impact on operation or function, all printing operations can be performed using either USB or Ethernet connection.

There are two methods that can be used to install the new Windows printer.

Manually installing a Windows printer

1. Right click on the Setup file and select Run as administrator and follow the prompts given in the installation process.
2. Once installed, open printer properties and press Test Print to send a single sample slide to the printer for printing.

Using the Automated Printer Installer

1. From the Devices and Printers, press add a printer.
2. If the printer is not listed, press the button, “The printer that I want isn’t listed”.
3. Select Add a local printer or network printer with manual settings.
4. Select the connection to which the printer is connected.
    a. If you are using Ethernet, you may need to create a new port if the printer IP address is not shown.
5. Press NEXT.

If the printer is not listed, press Windows Update button to search the Microsoft site for the correct driver.

This update will take a few minutes.

6. Once the search is complete, you will see a list of manufacturers and printer models.

7. Select the manufacturer under Manufacturer and the correct printer within the Printers window.

8. Select REPLACE THE CURRENT DRIVER

9. Press Next

10. If required, modify the printer name

11. Press Next

12. Modify as necessary and press Next

13. Press Finish when complete

14. Go to Device and Printer
    Right click on icon FT000X USB 12C
    The cable must be connected to the printer to see the icon.
    Select Properties and the Hardware.

15. Select USB Serial Converter and the Advanced.
    Check the tick box ‘Load VCP’ is selected and select OK.

Configuring the Windows Driver

To set up the Hot Folder:

1. Press Select

The Windows Browse window should appear, set the correct path to the folder that will be used to transfer files.

Press OK

The Hot folder is now set.

Print using the Pyramid Innovation Ltd Windows Driver

Printing Image Files

The driver is used to print all image files. These images can be created by many types of programs, some of these are Nicelabel, Zebra, Wasp Label Printing software and many LIS systems.

Other programs such as Microsoft Word can be used to send information to the printer. All of these programs can send labels to the slide printer through the PI Windows Driver.

Once the driver is installed, you will need to set the slide printer to accept images from the windows printer.

1. Press the Settings button
2. Press the Configure button
3. Press the Data button
4. Press the Import button
5. Press PI printer driver folder button
6. Press the Windows bitmap button
7. Press the check button

The printer should now be able to accept images from the PC. Send image files to the windows printer, they should appear in the print queue on the slide printer.

Print using Zebra Format Files

The Windows driver can be used to send Zebra format text files to the slide printer. These files will require a translator and template be set up on the slide printer.

The slide printer will, as the file is received, strip out all of the formatting characters and deliver the specimen ID data for printing to the template.

The Hot Folder within the windows driver will also need to be set. This folder is the location text files will be placed as slides are ordered to be printed. Sometimes this is also referred to as a Cache folder.

Once the driver is installed and configured, you will need to set the slide printer to accept images from the windows printer.

1. Press the Settings button
2. Press the Configure button
3. Press the Data button
4. Press the Import button
5. Press printer driver folder button
6. Press the Zebra button
7. Select either Use Current Template or Template.

If Use current template is selected, the active template will be used when data is imported.

If Template is selected, you will be able to select which template will be used by default when a zebra file is send to the printer.

8. Press the Template button
9. Select the template to be used
10. Press the check button
11. Press the Home button

The printer should now be able to accept Zebra format files from the PC. The Zebra text files should be saved to the Hot Folder; the windows printer driver will automatically send the files to the slide printer. Once saved, they should appear on the front of the slide printer.

Print using Delimited Text Files

The driver can be used to send delimited text format files to the slide printer. These files will require a translator and template be set up on the slide printer. The slide printer will, as the file is received, strip out all of the formatting characters and deliver the sample data for printing to the template.

The Hot Folder within the windows driver will also need to be set. This folder is the location text files will be placed as slides are ordered to be printed. Sometimes this is also referred to as a Cache folder.

Once the driver is installed and configured, you will need to set the slide printer to delimited text format files from the windows printer.

1. Press the Settings button
2. Press the Configure button
3. Press the Data button
4. Press the Import button
5. Press PI printer driver folder button
6. Press the Delimited text button
7. Select either Use Current Template or Template.

If Use current template is selected, the active template will be used when data is imported.

If Template is selected, you will be able to select which template will be used by default when a Delimited text format file is sent to the printer.

1. Press the Template button
2. Select the template to be used
3. Press the check button
4. Press the Home button

The printer should now be able to accept Delimited text format files from the PC. Send text files to the Hot folder, they should appear on the front of the slide printer.

Print using Other Windows Printer Drivers

Print using Zebra Format Files

The Slide Printer can be set up to receive Zebra format text files direct from a Zebra Windows Printer. These files will require a translator and template be set up on the slide printer.

The slide printer will, as the file is received, strip out all of the formatting characters and deliver the specimen ID data for printing to the template.

The Windows Printer will need to be configured using Zebra drivers, this process is not defined in this guide. Once the Windows Printer is set up, you will need to set the slide printer to accept the files.

1. Press the Settings button
2. Press the Configure button
3. Press the Data button
4. Press the Import button
5. Press Other printer driver button
6. Press the Zebra button
7. Select either Use Current Template or Template.

If Use current template is selected, the active template will be used when data is imported.

If Template is selected, you will be able to select which template will be used by default when a zebra file is send to the printer.

Press the check button

1. Press the Template button
2. Select the template to be used
3. Press the check button
4. Press the Home button

The printer should now be able to accept Zebra format files from the PC. The print jobs will be sent to the Zebra Windows printer, then should appear on the front of the slide printer.

Print using Zebra EPL Format Files

The driver can be used to send Zebra EPL format files directly to the slide printer. These files will require a translator and template be set up on the slide printer.

The slide printer will, as the file is received, strip out all of the formatting characters and deliver the sample data for printing to the template. The print jobs will be sent to the Zebra Windows printer, then direct to the slide printer.

The Windows Printer will need to be configured using Zebra drivers, this process is not defined in this guide. Once the Windows Printer is set up, you will need to set the slide printer to accept the files.

1. Press the Settings button
2. Press the Configure button
3. Press the Data button
4. Press the Import button
5. Press other printer driver button
6. Press the Zebra EPL button

The printer should now be able to accept Zebra EPL files from the PC. Send Zebra EPL print jobs to the Zebra windows printer. they should appear on the front of the slide printer.

SlideMate Images (LabWriter)

The driver is used to print image files created by Epredia LabWriter software. For information about installation and setup of LabWriter software, contact your local Epredia distributor.

Once LabWriter is installed, you will need to set the slide printer to accept LabWriter images.

1. Press the Settings button
2. Press the Configure button
3. Press the Data button
4. Press the Import button
5. Press Other printer driver button
6. Press the SlideMate button
7. Press the check button

The printer should now be able to accept images from the PC. When LabWriter sends images, they should appear on the front of the slide printer.

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