Thermo Scientific SlideMat

Operator Manu
Part Number B813100



Part of Thermo Fisher Scientific

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CE

The Thermo Scientific SlideMate meets the following CE Mark requirements:
Machinery Directive 98/37/EC, as replaced by 2006/42/EC

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Declaration of Conformity

This Declaration of Conformity, issued under our sole responsibility, is only valid when the instrument is used in accordance with the instructions for use.

Manufacturer's Name: Thermo Shandon Limited (Trading as Thermo Fisher Scientific)

Manufacturer's Address: Tudor Road, Manor Park, Runcorn,
Cheshire, WA7 1TA
UNITED KINGDOM

Product Description: Laboratory Slide Printer

Product Designation: **SlideMate**
Part numbers: *B81300006*
including accessories supplied as standard

Year of Marking (CE): 2009

This product conforms to the essential requirements of the following directives:

EMC Directive 2004/108/EC

Machinery Directive 2006/42/EC

This product complies with the following International Standards:

EMC: EN 55022
EN 55024

Safety: ISO 12100-1
EN 60204-1

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Symbols

The following symbols and conventions are used throughout this manual and on the instrument.



THIS SYMBOL IS USED ON THE EQUIPMENT, OR IN A DOCUMENT, TO WARN THAT INSTRUCTIONS MUST BE FOLLOWED FOR SAFE AND CORRECT OPERATION. IF THIS SYMBOL APPEARS ON THE INSTRUMENT, ALWAYS REFER TO THIS OPERATOR GUIDE.

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

Note Notes give more information about a job or instruction but do not form part of the instructions.

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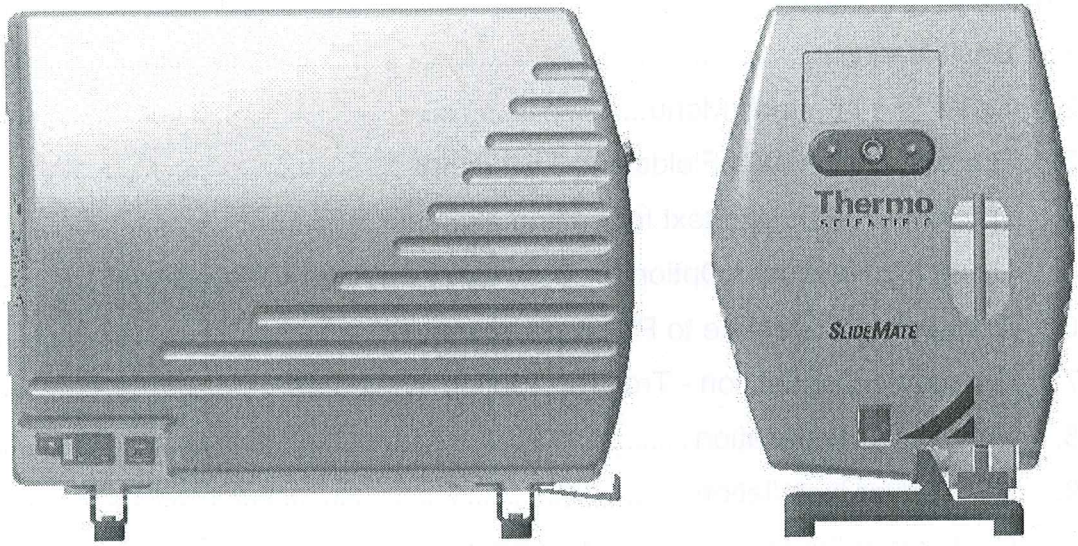
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	*If **LabWriter** is not used and the SlideMate is connected to a PC the appropriate **print driver** must be installed.*

Before you start

- This manual will guide you through the basic setup of your new SlideMate.
- Please look through this manual and get familiar with all illustrations and the information prior to operating the machine.

1. Basic handling

1.1. If using a **Barcode Scanner** plug it into the connector shown below.

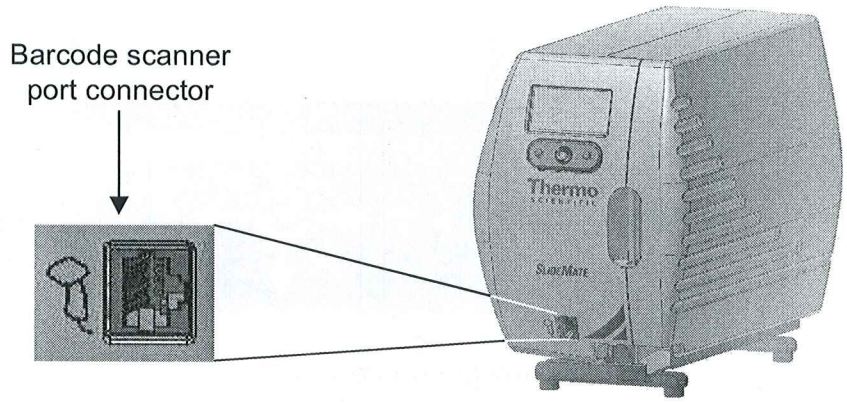


Figure 1 - Barcode scanner connection

1.2. Connect the provided **Power supply** to the unit. Please make your connections in the following order:

- Connect your **USB cable** (optional)
- Connect your **Ethernet /Crossover cable** (optional)
- Plug the **power cord** into an electrical outlet
- Plug the other side of the power adapter into the **Power Connector** shown below

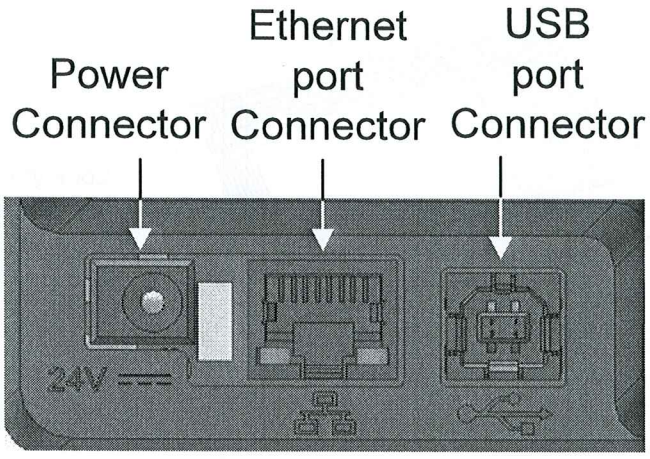


Figure 2 - Rear Connectors

1.3. After power up is complete this screen will be shown, see **Figure 3**.

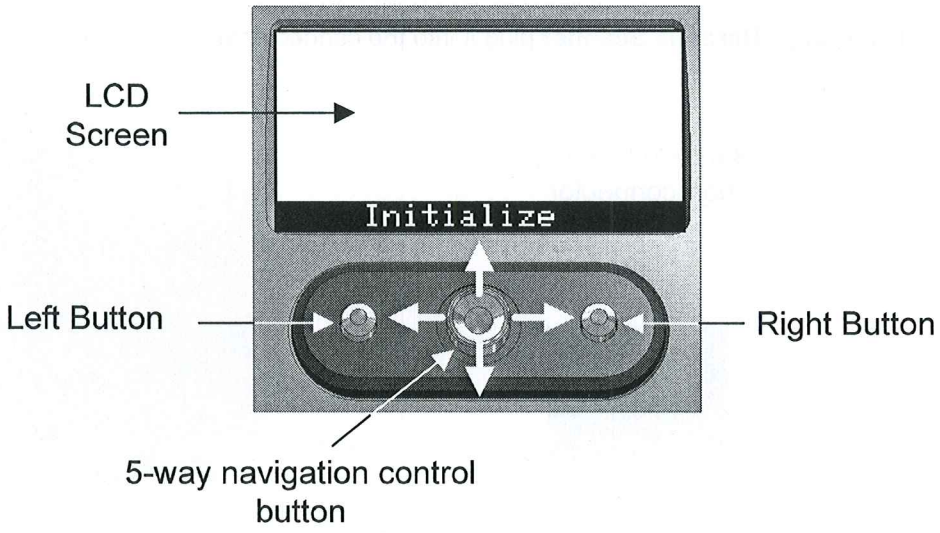
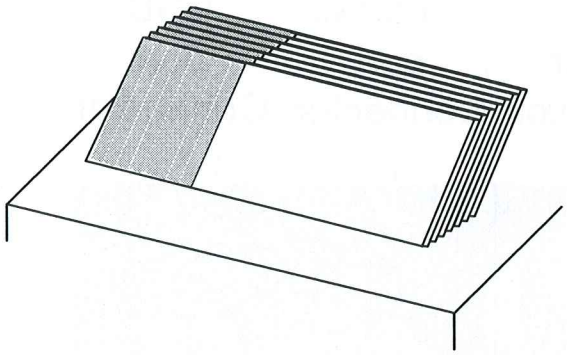


Figure 3 - SlideMate user interface

1.4. Press center on the **5-way navigation** control button to initialize SlideMate.

To ensure proper operation of the unit it is recommended that you use approved slides, and you verify the slides are not stuck together, as it may be difficult for SlideMate to separate them. Refer to the illustration below for suggestion on how to do this verification.

To prevent contamination of the slides, whenever handling them, protective gloves must be worn!



Look to see that every slide has fallen,
and it is in contact with the table surface.

Figure 4 - Slide preparation

	Using slides other than the ones recommended, may cause irreversible damage to the unit. Please see **Appendix A** for a list of recommended slides.

1.5. Route the ribbon through SlideMate unit as shown in the figure below. In the main setup screen use the **Load** function accessed by the right button (see **Figure 9**). This allows the ribbon take-up reel to be rotated in the take-up direction by hand.

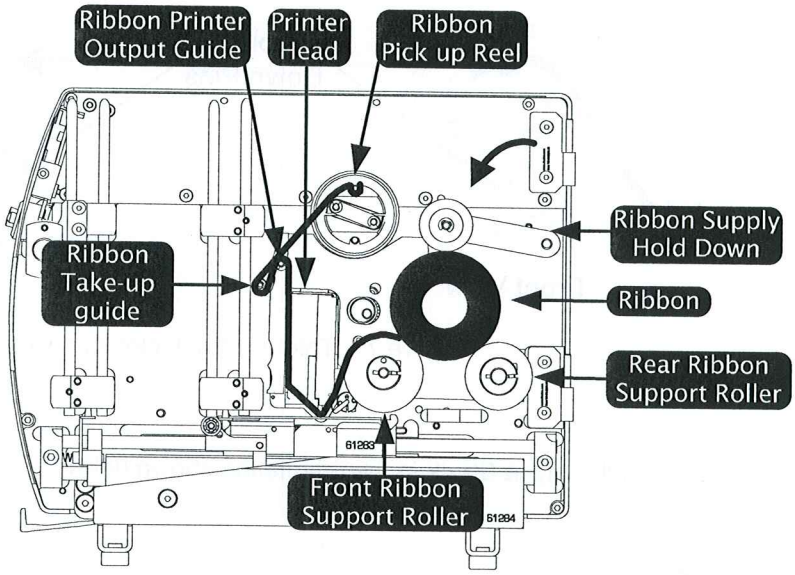


Figure 5 - Correct Ribbon Routing Procedure

Please note the direction the ribbon feeds off the roll. **Figure 5** shows the correct feed direction.

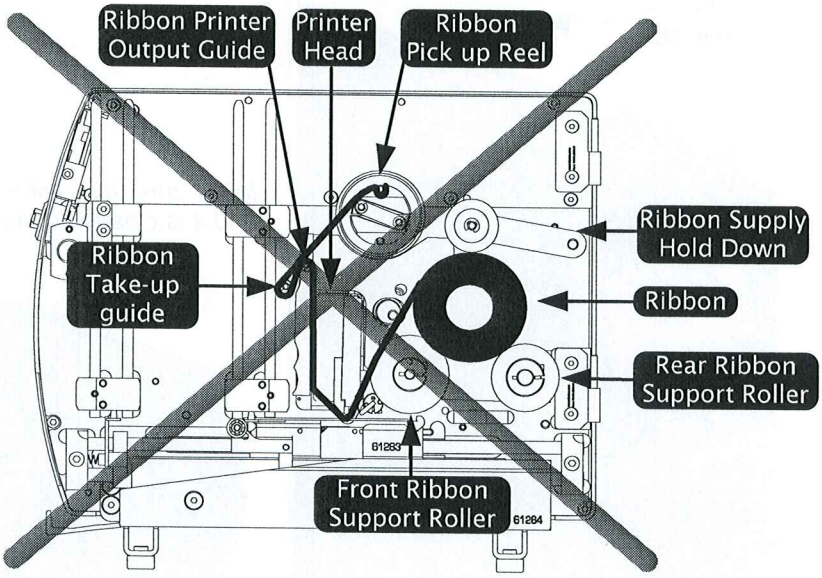


Figure 6 - Incorrect Ribbon Routing Procedure

	Using a ribbon other than the one recommended, may cause irreversible damage to the unit. Please see **Appendix B** for media part number.

To fasten the ribbon on the **take-up Reel,** slide it under one of the two pins (see **Figure 6**).

When removing the accumulated ribbon simply squeeze with one hand the outer area of the roll and pull out.

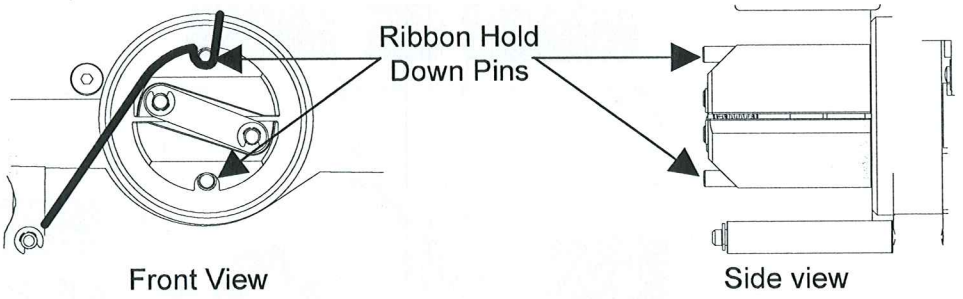
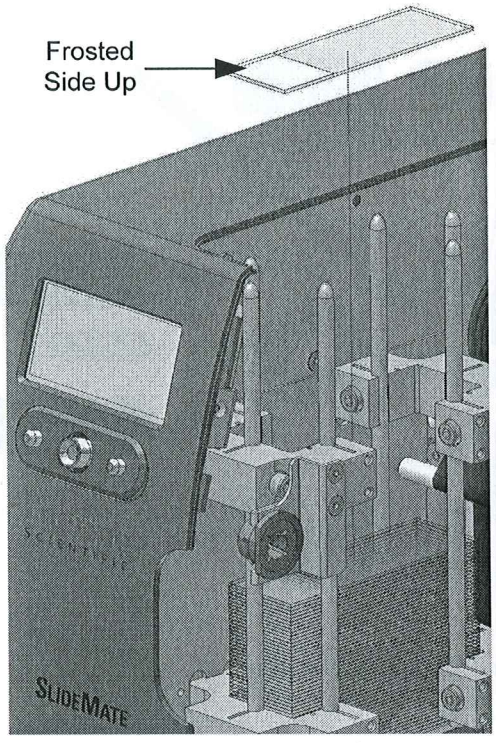


Figure 7 – Take-up Reel, close up view

1.6. Load slides in the **Input Stack** in the orientation shown below.

⚠	*Use caution when loading slides as the edges may be sharp.*



Make sure the frosted side of the slide faces up and it is closest to the LCD screen.

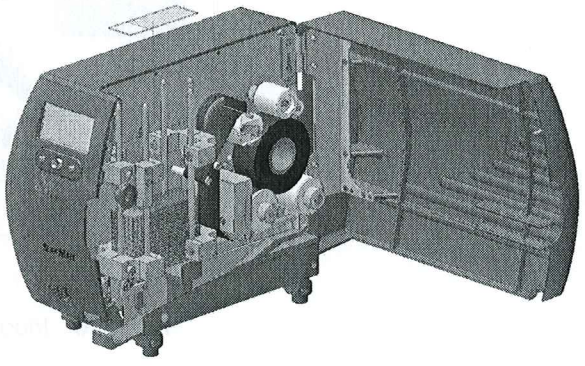


Figure 8 – Loading Slides

2. SlideMate Interface Menu

2.1. Access the interface menu to choose the information to be printed (see **Figure 9**). To format the information use **Print Img Settings**. Refer to section 3 for more details regarding the information about data and text formatting.

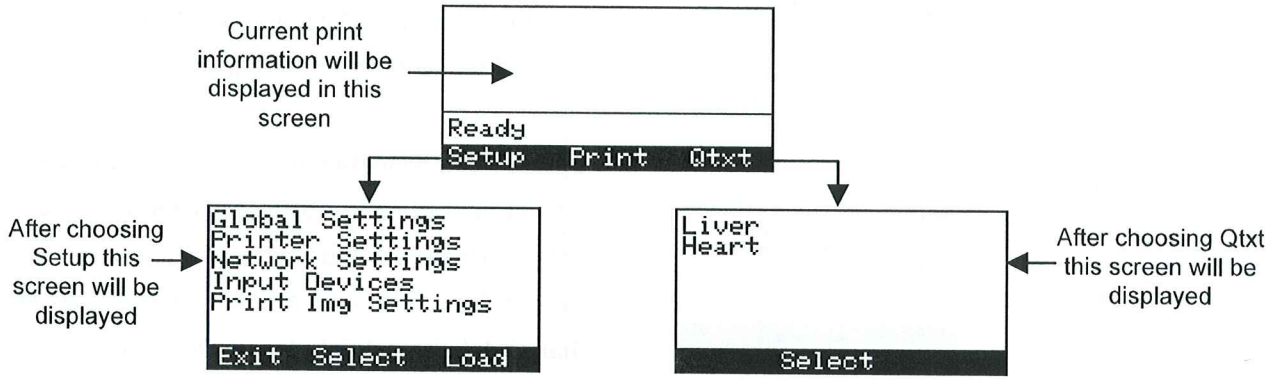


Figure 9 - Initialization and main menu options

If no **Qtext** has been entered then the **Qtext** screen will read **No quick txt**, see **section 3** for a description of the **Qtext** function.

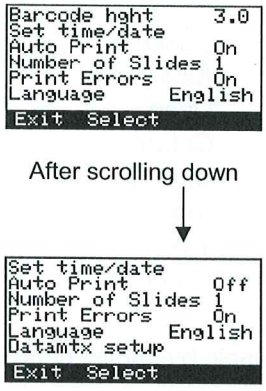


Figure 10 - Global Settings Menu

- **Barcode height** value is measured in mm
- **Time** and **date** can be automatically printed
- If **Auto Print** is **OFF** when a raster image is sent to print the operator will be required to press **Print**
- If **Number of Slides** is 0 and **Auto Print** is **ON** or **OFF** the machine will ask for the desired number of slides to be printed
- If **Print Errors** is ON print related errors will be displayed
- Change the **Language** of the user interface to meet your needs
- Enter **Datamtx Setup** to configure the 2D barcode, see section 2.2 for details



Figure 11 - Printer Settings Menu

- **Top Offset** and **Left Offset** values are in mm. These values work for both machine-rendered and windows-rendered images (**Raster**, **ASCII** and **Data**)
- **Darkness** value is shown as percentage. Different slide brands may warrant different darkness settings to produce the highest quality print image

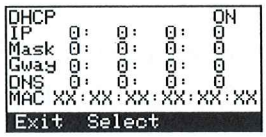


Figure 12 - Network Settings Menu

- If **Network** is selected (**Select Port, Figure 12**) prior to power up, SlideMate will automatically start looking for network settings
- If **Network** is selected after power up it will be necessary to initiate acquiring of the network settings by simply entering and exiting the network settings menu

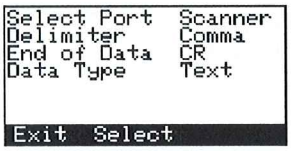


Figure 13 - Input Device Menu

- **Select Port**, SlideMate has 3 input ports (**Figure 1 and 2**)
- **Delimiter**, this is the ASCII character that indexes the input data into the next data field
- **End of Data**, this is the ASCII character that tells SlideMate that all data is complete for current slide
- **Data Type**, indicates the type of file ready to receive (**Raster** or **Data**)

Table of supported port/data types combinations:

	USB	Network	Scanı
ASCII	✓	✓	✓
Raster	X	✓	X

* Available on ports:
9100 for Network - Raste
13100 for Network - Data

Select port options:	**Delimiter** options:	**End of Data** options:	**Data Type** options:
USB	#3	LF	Text
Network	Space	CR	Raster
Scanner	Asterix		
	Dash		
	Colon		
	SemiCl		
	Enter		
	Tab		
	Comma		

- Notice that a punctuation screen is available by pressing the **5-way navigation** button, see **Figure 15**. Move cursor to upper or lower row and press up or down respectively. In the same manner you return to text screen from the punctuation screen.

2.2. Upon entering the Datamatrix Setup the following screen will be shown



Figure 14 - Datamatrix Setup

- Use the **Datamatrix scale** parameter to adjust the pixel's size of the printed 2D barcode. Increasing the scale will enhance the readability of the barcode however it will decrease the number of characters in the barcode, see table below.
- **Datamatrix pos** is referenced to the left edge of the slide and the unit of measurement is mm
- **Top quiet zone** will provide the specified amount (pixels) of empty rows above the printed 2D barcode. Increasing the quiet zone will enhance the readability of the barcode however will reduce the printable area.
- **Bottom quiet zone** will provide the specified amount (pixels) of empty rows below the printed 2D barcode. Increasing the quiet zone will enhance the readability of the barcode however will reduce the printable area.

NOTE: There are limitations regarding the combinations of the Text Font sixe and the Data Matrix barcode size. See Table Below for more details.

Text Line Configuration (Font Size and Number of lines)			Maximum Number of Characters in the 2-D Data Matrix Barcode Based on data Type		
Small	Medium	Large	Numeric Characters	Alphanumeric Characters	All Characters (i.e. '?', '@', etc.)
1	2	0	80	80	80
0	3	0	80	80	80
0	2	1	80	80	80
0	1	2	80	80	80
0	0	3	72	40	34

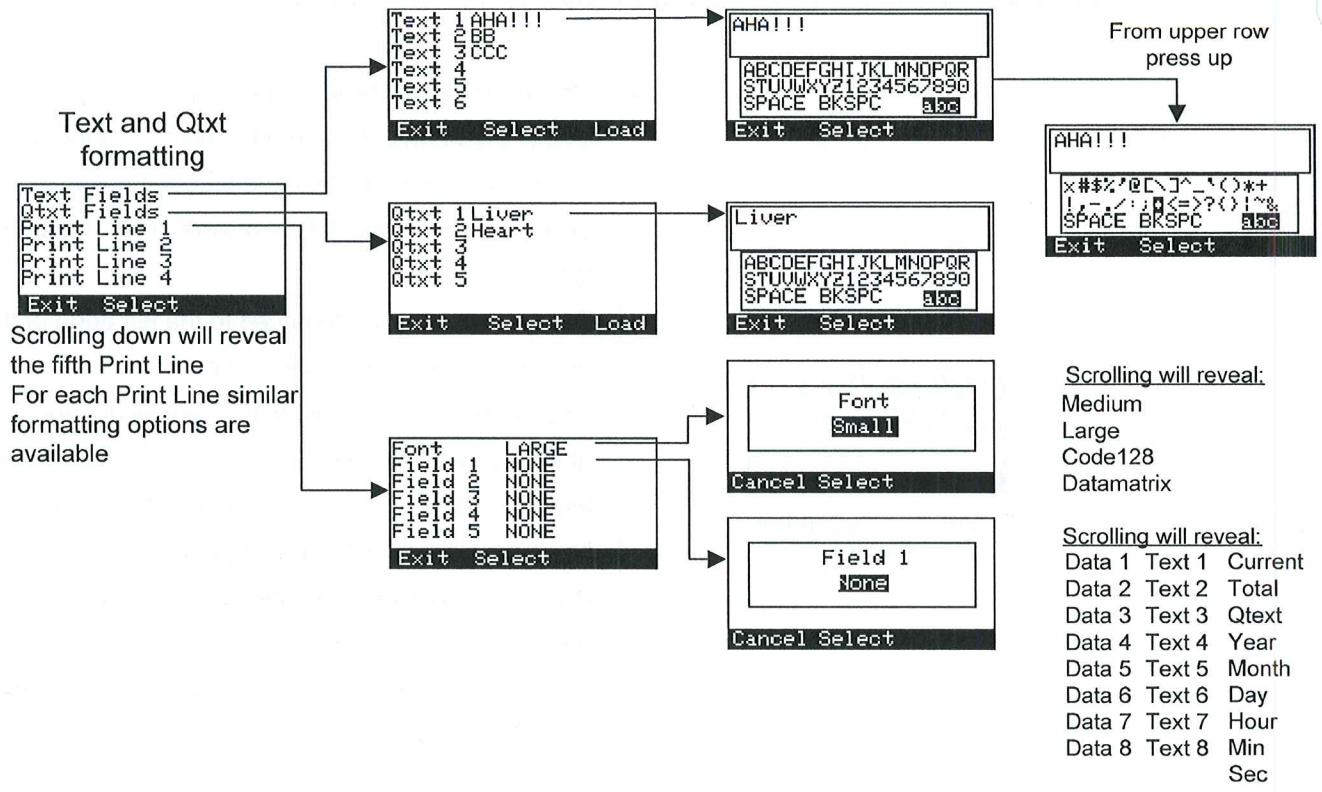


Figure 15 - Print Image Settings with Print line formatting

3. Understanding Data Fields and Text Fields

Data fields and **Text fields** are information storage places.

The difference between the two is that **Data Fields** are dynamic. It means that they only retrieve the information for the current print cycle and then are cleared. This data comes from an external input device such as a barcode scanner.

Text fields on the other hand store the information until deleted, edited or overwritten. To enter information in **Text Fields** go to **Print Img Settings/Text Fields/Text1** and use the screen keyboard input shown in **Figure 15** to enter text. See the example in the next section where the information is entered via a keyboard, but a scanner could be used as well.

NOTE: If information is typed or scanned while in **Print Screen** it will be stored in **Data Fields**.

Qtext is another way of storing information to print. It resembles **Text Fields** but it's accessible directly from the **Print Screen**. Terms most often used can be stored in **Qtext** for quick access (e.g. Section level or stain name).

4. Data input fields and text formatting example

To understand how information is stored and formatted we provide the following example. Connect a **PC keyboard** to the SlideMate unit and type all information you need printed. SlideMate can print a total of five lines (text, barcode or both).

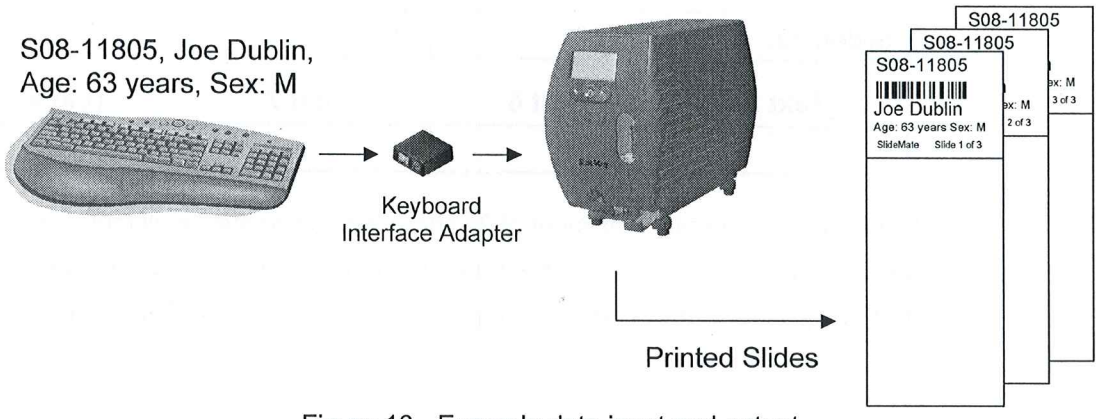


Figure 16 - Example data input and output

Typed information will be stored in machine's memory as it is typed. Notice below that all typed information before each comma (**delimiter** settings, see **Figure 13**) has been stored in a different **Data**.

Data 1	Data 2	Data 3	Data 4
S08-11805	Joe Dublin	Age: 63 years	Sex: M

Data 5	Data 6	Data 7	Data 8

Additional information can be entered in text fields, as shown below:

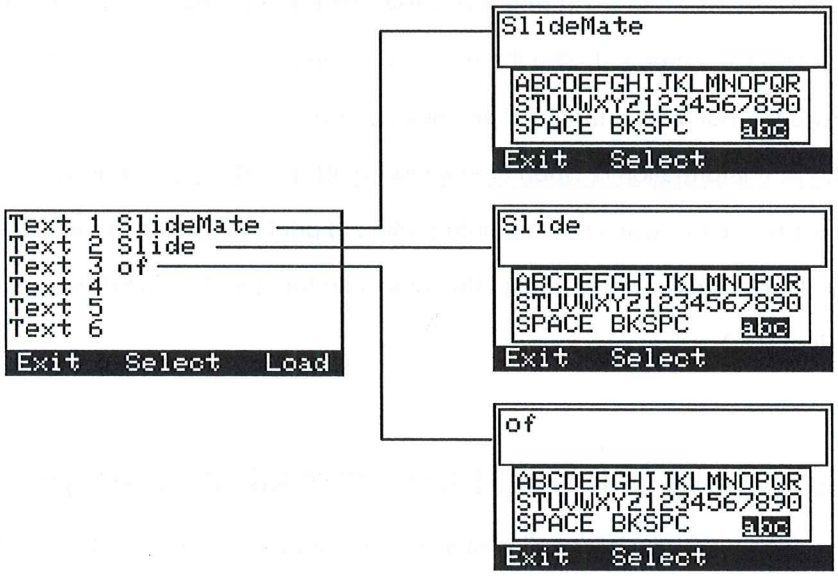


Figure 17 - Setting up information in text fields

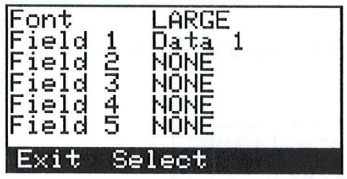
Text 1	Text 2	Text 3	Text 4
SlideMate	slide	of	

Text 5	Text 6	Text 7	Text 8

Each **Print Line** can contain maximum of 24 characters using the Small font. Each line can be formatted using 3 **font sizes**, **Small**, **Medium**, and **Large**. It can also be converted into **barcode** (Code128). Any of the **Data Fields** can be printed on any of the five **Print Lines**.

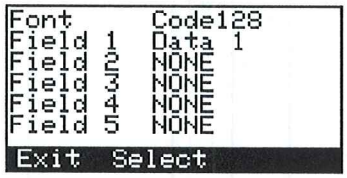
In the example below, **Data 1** is printed at the top of the slide.

Print Line 1



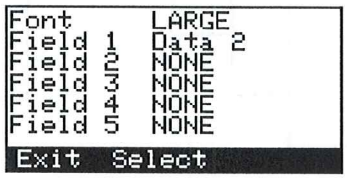
For the second line, **Data 1** is chosen to be printed again in Code128 barcode.

Print Line 2



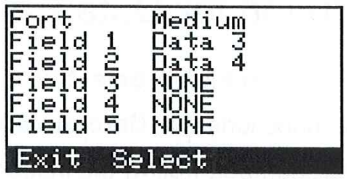
On the third line, the name of the patient, which was typed after the first comma, will be printed.

Print Line 3



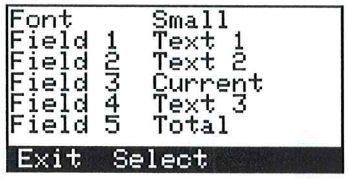
Fourth line will print the age and sex of the patient, which was stored in **Data Field 3** and **4**. This line has been formatted using the **Medium Font** size.

Print Line 4



Last line to print has been formatted with text information (see **Figure 17**). This entire line will print using the **Small Font** size.

Print Line 5



In this case, a sequence of three slides will be printed and each slide will be identified with its sequence number. **Current** refers to the current slide printing and **Total** refers to the total number of slides in the series.

And finally the choices for print, font size and location will print on the slides:

Notice the 3 vertical bars before the text on the print screen; this indicates the text will be printed as barcode.

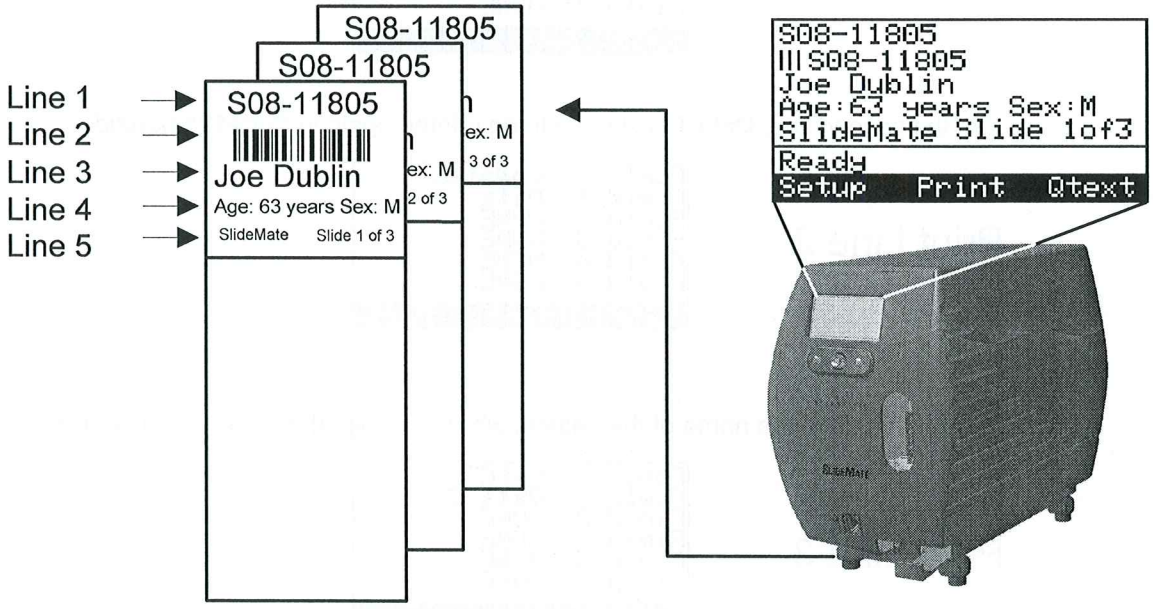


Figure 18 - Printed slides' sequence

5. Using the Keyboard Option for Data Entry and Menu Navigation

To enable the use of a **Keyboard**, **Thermo Fisher Scientific** offers an optional **Interface Adapter**. This adapter also allows simultaneous connections of a **Barcode Scanner** and a **Keyboard** to the SlideMate unit. Please see **Appendix B** for part number. Follow the instructions below for proper connectivity.

5.1. Plug the supplied cable into the connectors as shown in the figure below.

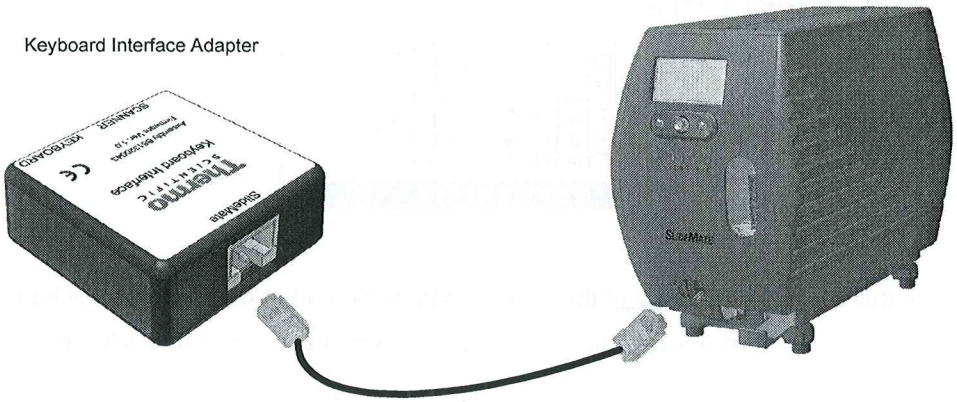


Figure 19 - Keyboard Interface Adapter connection

5.2. Connect the **Barcode Scanner** (if available) and the Keyboard to the **Keyboard Interface Adapter** as shown below. Notice that a Keyboard with a **PS2** connector is required to connect to the **Keyboard Interface Adapter**.

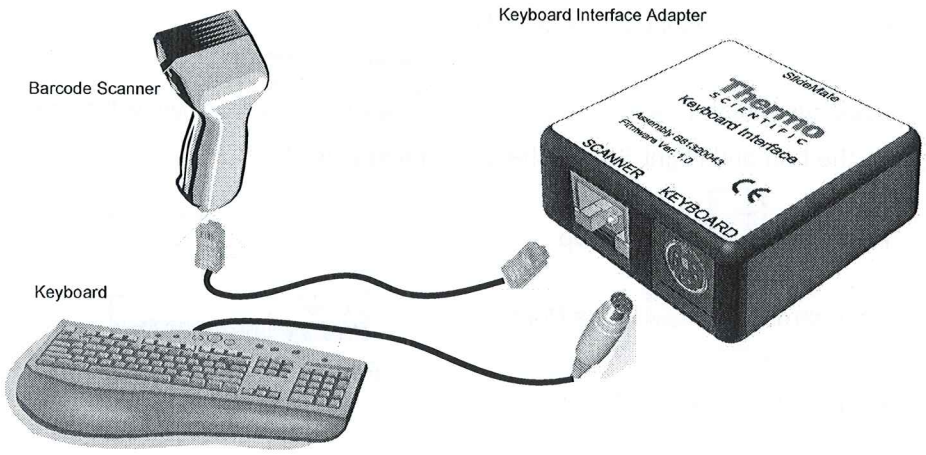


Figure 20 - Connecting the Keyboard and the Barcode Scanner

5.3. Seting up SlideMate to accept keyboard inputs:

Go to **Input Devices** (see **Figure 13**) and configure as follows:

Select Port – Scanner

Data Type - Text

5.4. **Inputting information** - Using a keyboard enter information in different data fields. Use the appropriate delimiter to indicate start of a new data field (see Figure 14 for choosing the desired delimiter).

Use 

to delete data. Use 

to indicate the end of data entry.

5.5. **Navigating the SlideMate menu using the Keyboard** – To enter the Setup menu, press ← on the keyboard. Use ↑ or ↓ buttons to choose a menu. Press Enter to go into a lower level menu or when OK is displayed as an option.

Depending of the menu, the function of ← and → arrows will correspond to functions displayed on the Left and Right Side of the screen respectively.

Keyboard ← key = Setup

Keyboard Enter key = Print

Keyboard → key = Qtext

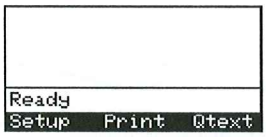


Figure 21 - Print Screen

Use Page Up or Page Down buttons to move left or right to different groups of data that need set up, e.g. configuring the four groups of numbers that make up the **IP address** in **Network Settings Menu**.

Num Lock will enable or disable the **Numbers** key pad on the right hand side of the keyboard. When the **Num Lock** is disabled the numeric keypad can be used as per the none-numeric functions of each key.

5.6. **Example of Menu navigation using the Keyboard**.

Changing the time in the **Global Settings** > **Set time/date**, starting at the **Print Screen** (see **Figure 9**)

- Press ← to enter the **Setup screen**
- Press ↓ to highlight the **Global Settings** line
- Press Enter to move to the **Global Settings** menu
- Press ↓ to highlight **Set time/date** line
- Press Enter to see the time and date settings
- Use ↑ or ↓ to switch between hour, minutes and seconds
- Press ↑ or ↓ to adjust the hour/minutes/seconds
- Press Enter when done

5.7. **Initiating Print from the keyboard**. Two situations can be identified:

5.7.1. Auto Print **ON**. Once the information has been inputted, printing can be initiated by simply pressing Enter (**Input Device** menu, **End of Data** set to **CR**) or Print Screen SysRq.

5.7.2. Auto Print **OFF**.

Type the information to be printed and press Enter.

- If the information needs to be erased, simply press Enter again (see **Error 10** in **Errors and Recovery** section).
- Type new information, press Enter. Same result as above only that the newly typed information will replace the first one and will be printed if next step is followed
- To print, proceed by pressing Print Screen SysRq.

Note: If **Number of Slides** is zero in **Global Settings Menu**, SlideMate will ask for the number of slides to be printed by displaying the following screen:

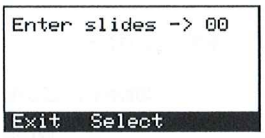


Figure 22 - Enter Slides screen

Another way to enter the desired number of slides to be printed is to enter it as one of the data fields. The proper format to input this information is to add the prefix **^** (**Shift + 6**, from the keyboard) to the desired number of slides (numeric).

For example, if the number of slides to be printed is 4, then type in **^4** (max 99) in any of the data fields (see **Section 6**) using the proper delimiter at the beginning and the end of this data.

This will temporarily override the default number of slides to be printed in the unit's configuration setup for that particular print job.

6. Connecting SlideMate to PC over Crossover

Important!	*If using a Gigabits per second (Gbps) Network adapter connected to the SlideMate, set the speed to 10Mbps Half-Duplex for reliable networking!*

To take full advantage of the communication options of the SlideMate, a network connection is desirable. Even in the absence of a network, this can be accomplished by connecting the SlideMate to a **PC** using a **Crossover** cable.

Follow these steps to configure the SlideMate unit and the **PC** so that a static network is established.

- **SlideMate Setup**

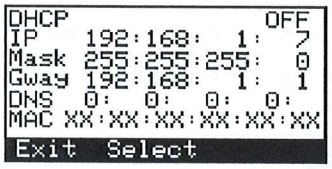


Figure 23 – Network Settings Menu

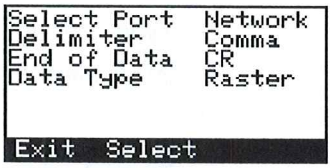


Figure 24 – Input Device Menu

- **PC Setup**
  - **Start > Connect to > Show all Connections**
    - Right click on **Local Area Network**
      - Choose **Properties**
        - Choose **Internet Protocol (TCP/IP)** > Click on **Properties**

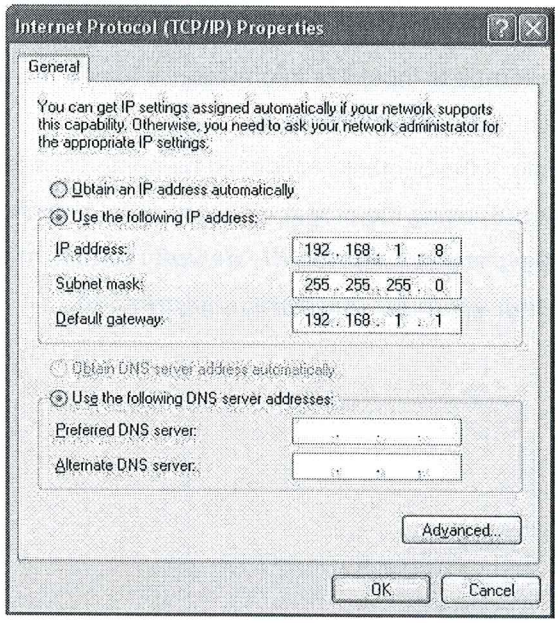


Figure 25 - Internet Protocol Properties

Connect **SlideMate** to **PC** using the **Crossover** cable.

Use **LabWriter** documents to print.

7. Crossover Connection - Troubleshooting Procedure

Cable identification

To isolate any issues with networking a SlideMate, it is recommended to connect it directly to a **PC** (desktop or notebook) with a known good **Crossover** cable. A reliable way to check the functionality from the operating system of the **PC** to the operating system of the SlideMate is by using the **Ping** command.

NOTE: Remember always check the status of the Link LED when changing cables to insure that the correct cable is being used and the SlideMate is connected to the proper equipment for that cable. No settings on the SlideMate, PC or network are required for the LED to be on. This is a good indicator if the SlideMate is properly connected to a PC or a Network.

There are two positions the LED could be located at, the bottom right or the top left.

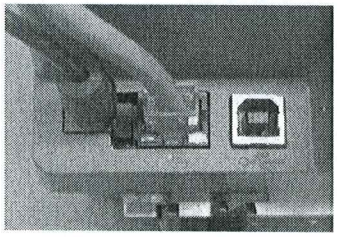


Figure 26 - Link LED is on bottom right

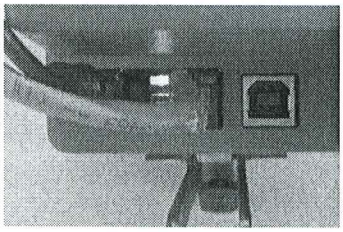


Figure 27 - Link LED is on top left

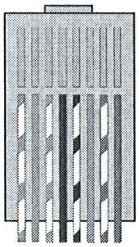
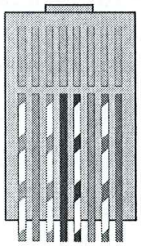
Is the Link LED On?

Confirm that the proper cable is being used if the Link LED is not on.
When the SlideMate is connected to a Network or a Network Switch (Hub) via a network cable a standard **Ethernet** cable is needed.
When the SlideMate is connected to a PC directly a **Crossover** cable is needed.

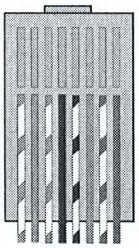
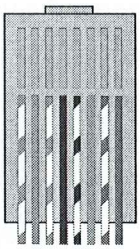
NOTE: It is recommended that NETGEAR or DLINK brand hubs or switches to be used.

To check if your cable is a standard or crossover, simply look at the two ends of the cable from the same side of the connector.
If the two ends have the same color pattern left to right it's a standard network cable.
If the orange and green wires change position it's a crossover.
See Pin-out tables for comparison.

Straight cable Pin-out

Pin #	Left	Right	12345678	12345678
1	Or-Wt	Or-Wt		
2	Orange	Orange		
3	Gr-Wt	Gr-Wt		
4	Blue	Blue		
5	Bl-Wt	Bl-Wt		
6	Green	Green		
7	Br-Wt	Br-Wt		
8	Brown	Brown		

Crossover cable Pin-out

Pin #	Left	Right	12345678	12345678
1	**Or-Wt**	**Gr-Wt**		
2	Orange	Green		
3	**Gr-Wt**	**Or-Wt**		
4	Blue	Blue		
5	Bl-Wt	Bl-Wt		
6	Green	Orange		
7	Br-Wt	Br-Wt		
8	Brown	Brown		

Ping the printer – For troubleshooting purposes

A ping is a request from one machine to another via network hardware; it will confirm that the electrical paths for receive and transmit data as well as the functioning controllers on both sides of the ping are working.

The ping command is best run from the **Command Prompt** window. To open the **Command Prompt** from **Windows 7 / XP**, click the **Start** button then click **RUN**. Type **CMD** then click the OK button. Alternatively **Command Prompt** can be located in **All Programs > Accessories**.

- The SlideMate has IP address **192.168.1.7**
    - **NOTE:** to ensure the connection is made, enter the **'Setup'** menu of the SlideMate. Enter **'Network Settings'.** After verifying the IP address, exit **'Network Settings'.** This will refresh the connection to the computer.
- The PC has IP address **192.168.1.8**

>ping 192.168.1.7 **NOTE:** There is a space after the word **ping**

The ping command will attempt to get four packets to the destination. The screen shot below shows receive confirmations for each one of the packets.

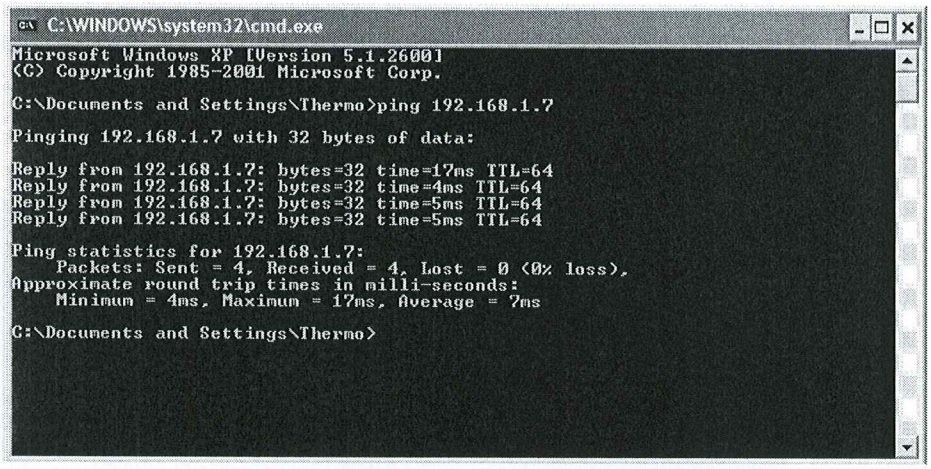


Figure 28 – Successful SlideMate pinging

In figure 28 below, notice that one of the requests timed out. This is an indication of a faulty connection or cable if the printer was not printing while the ping command was executing.

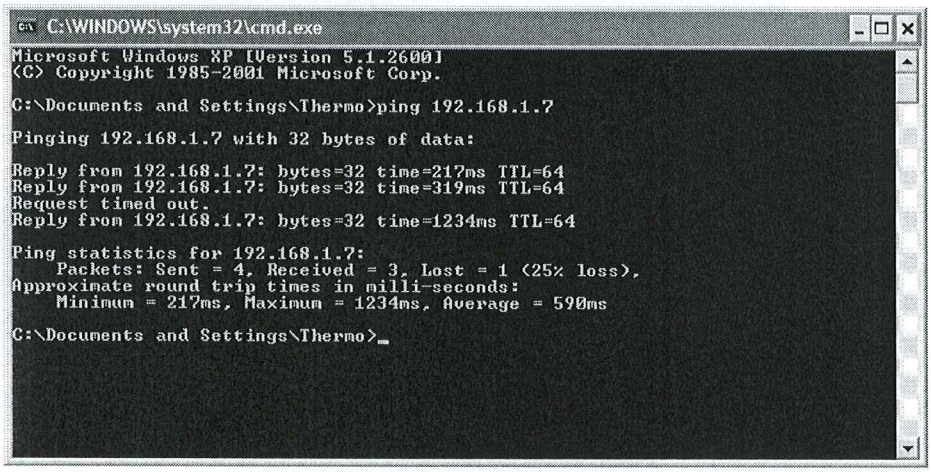


Figure 29 – Failed SlideMate pinging

To ping continuously, at the command prompt enter:

>ping –t 192.168.1.7 **NOTE:** There is a space after the word **ping**

To cancel the ping, press **Ctrl** and **C** keys on the keyboard simultaneously.

8. Print Driver Installation

Before you start

- These instructions are for installation of SlideMate print driver in **Windows 2000**, **XP** and **Win 7**.

*Note that **Figure 42** shows two screens that may not appear during the driver installation in **Win 7**.*

1. Click on **Start** and select **Printer** and **Faxes**, as shown below

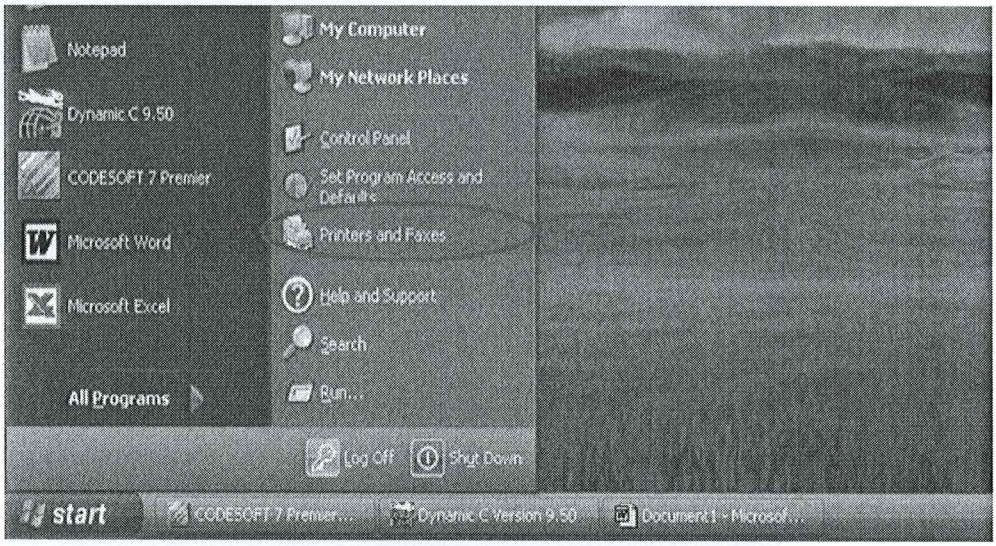


Figure 30 - Printers and Faxes Menu

2. The **Printer** and **Faxes** window will appear. Select the **Add Printer**



Figure 31 - Add Printer Screen

3. The **Add Printer Wizard** window will appear. Select **Next**

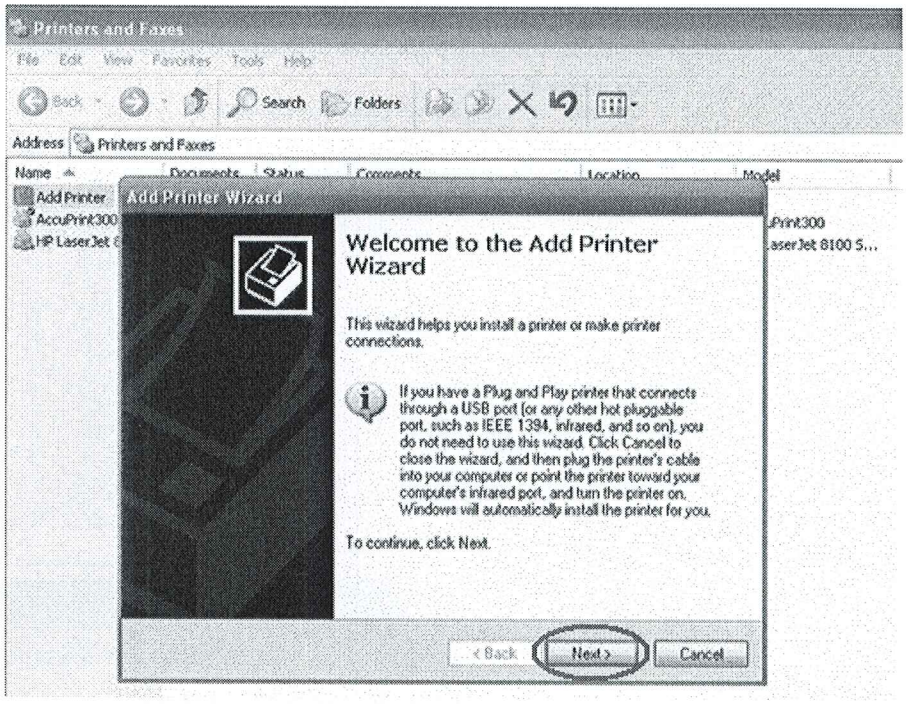


Figure 32 - Add Printer Wizard Screen

4. Choose **Local printer** attached to this computer option and click **Next**

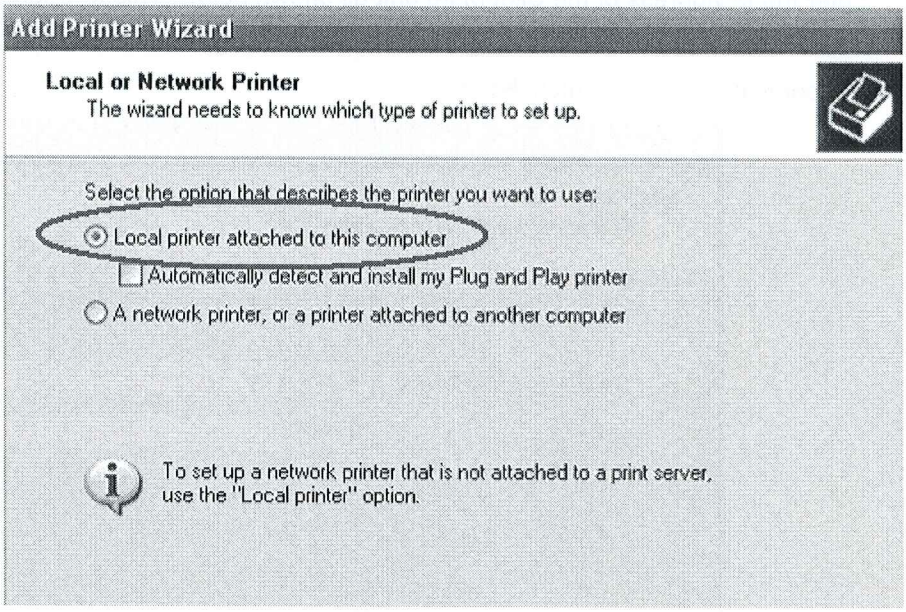


Figure 33 - Local Printer Option

5. Choose **Create a new port** and **Standard TCP/IP Port**

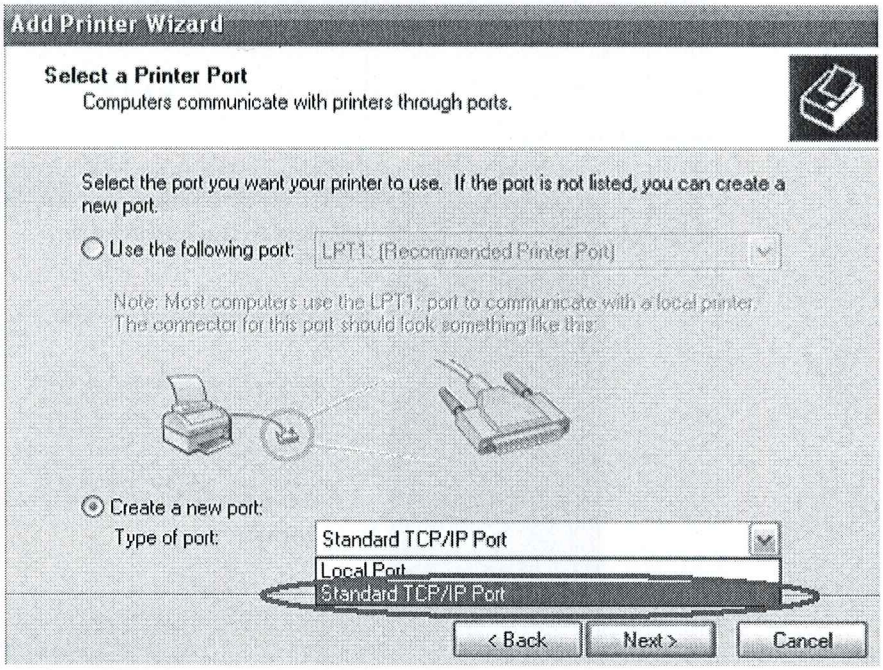


Figure 34 - Select Port Menu

6. A new window will pop up to help you configure the **Printer Port**.
   Enter the **IP** address of the SlideMate unit as shown below. This **IP** address can be obtained from the network setup of the SlideMate, in the **Network Settings** menu. Enter the port name. This name can be any convenient name. Select **Next**.

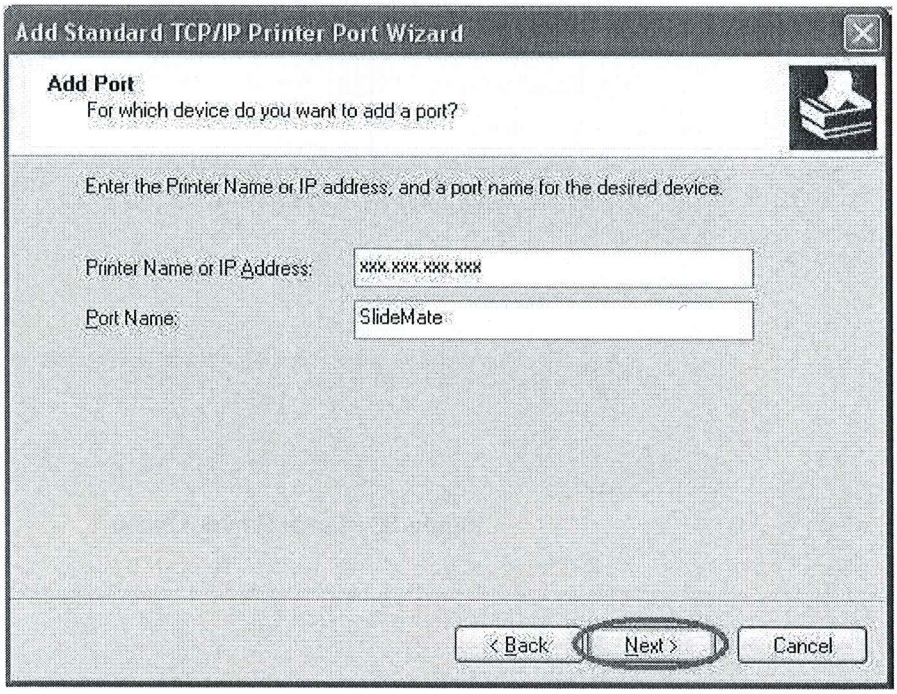


Figure 35 - Add Port Window

7. To finalize the **Printer Port** configuration select **Next** and **Finish** in the following screen

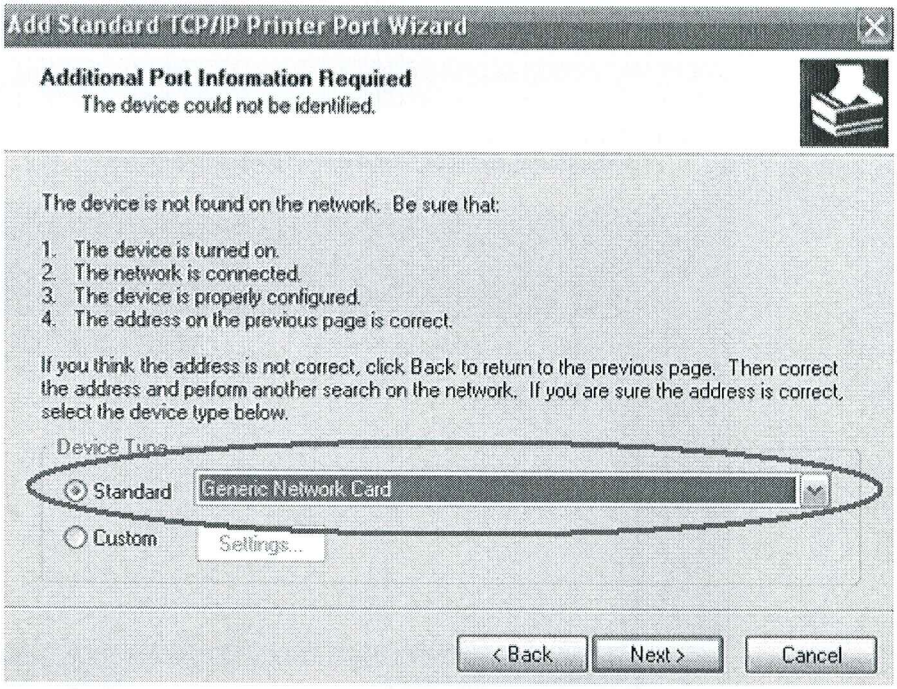


Figure 36 - Port Information Option

8. Select **Have Disk** and another window will pop up. Select **Browse.**

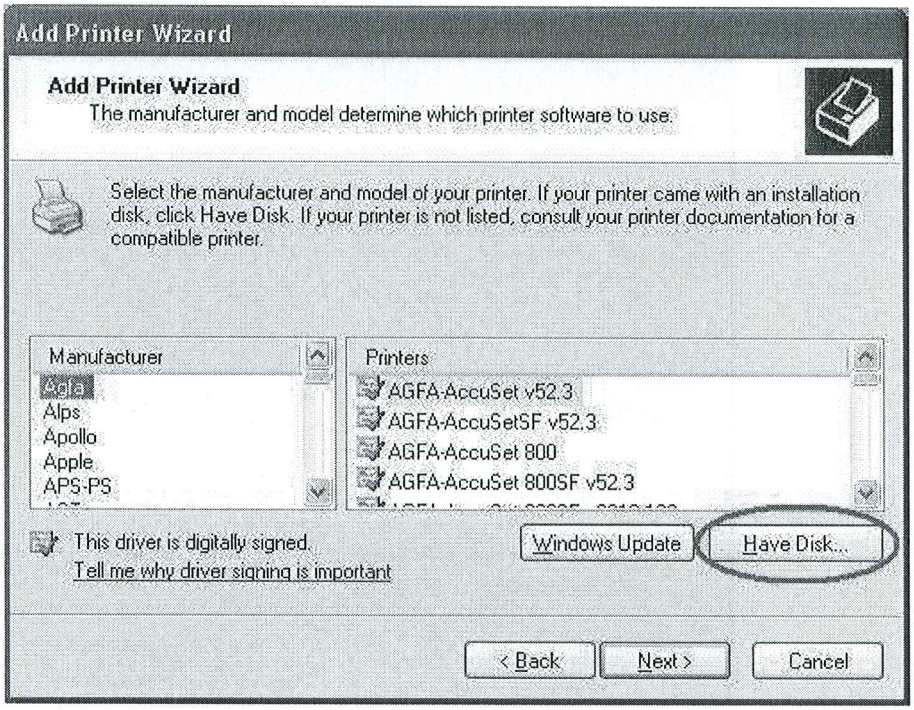


Figure 37 - Install Printer Software Window

9. Locate the **Driver** folder provided with this manual and select the **SlideMate.INF** file by clicking **Open**. Click **Ok** in the **Install from Disk** window

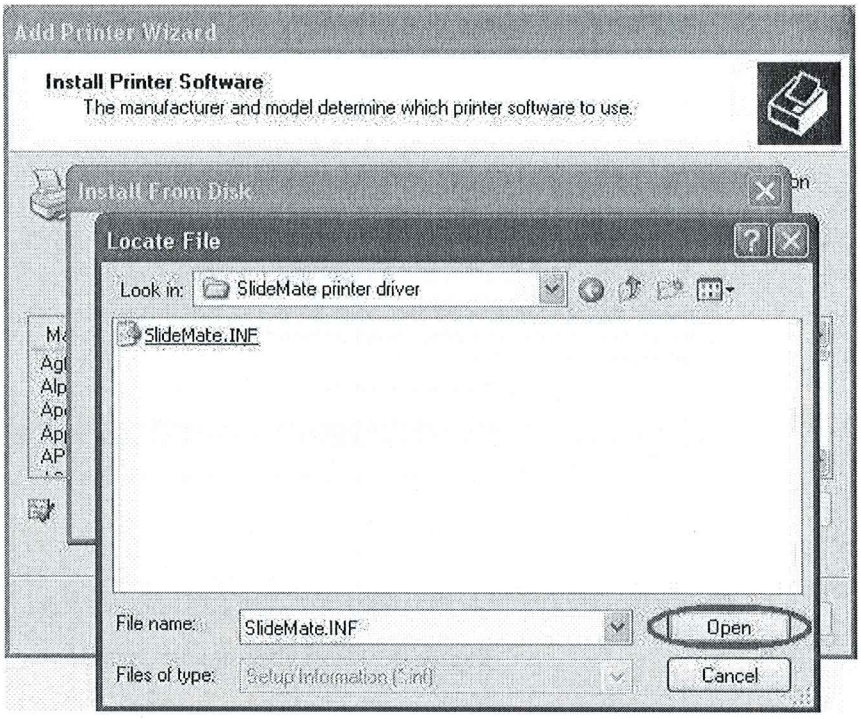


Figure 38 - Printer Driver Window

10. Select **Next**

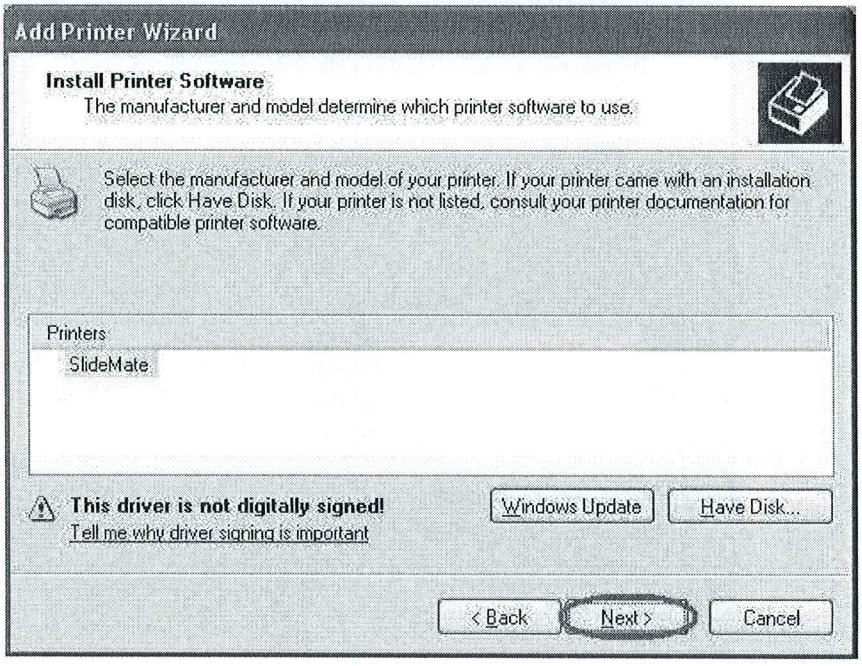


Figure 39 - Printer Driver

11. In the following screen select **Default Printer** and click **Next**

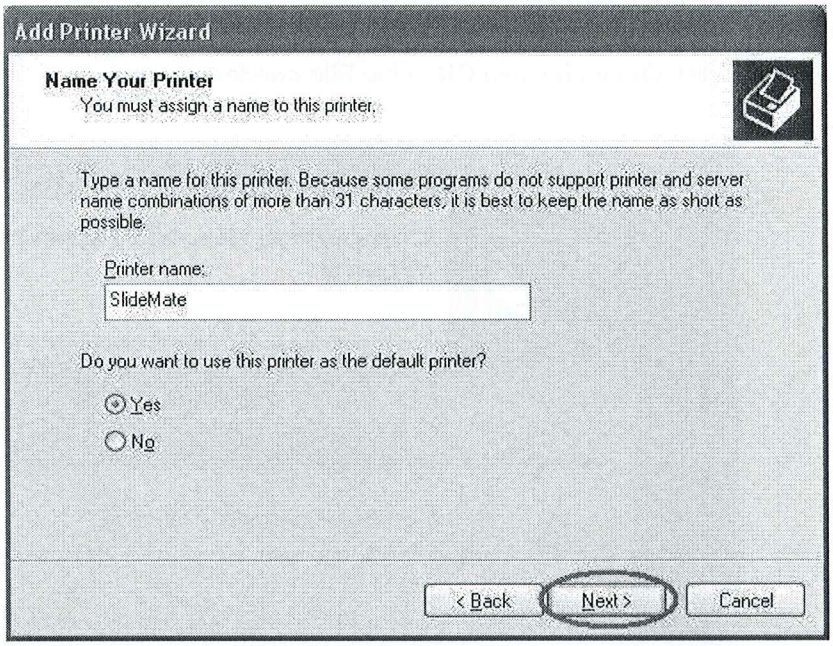


Figure 40 - Name Printer Window

12. Choose **Do not share this printer** and click **Next**.
    Select **No** in the following screen and click **Next**.
    Click **Finish**.

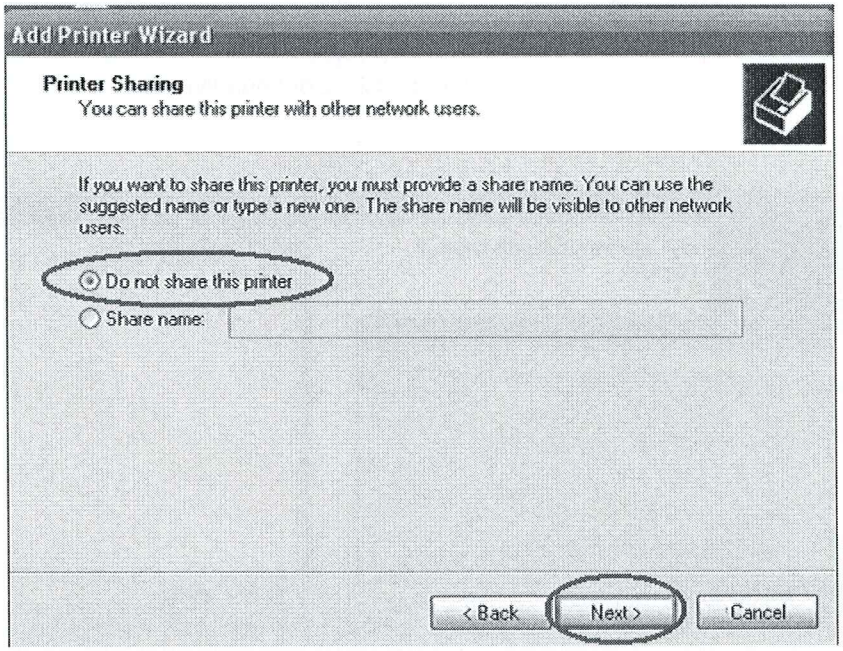


Figure 41 - Printer Sharing Window

13. When this next window pops up, click on **Continue Anyway**.
    The driver installation will begin and when asked for file **unires.dll**, browse in the given folder. Choose the file and click **Open** and then **OK** in the **File needed** window.

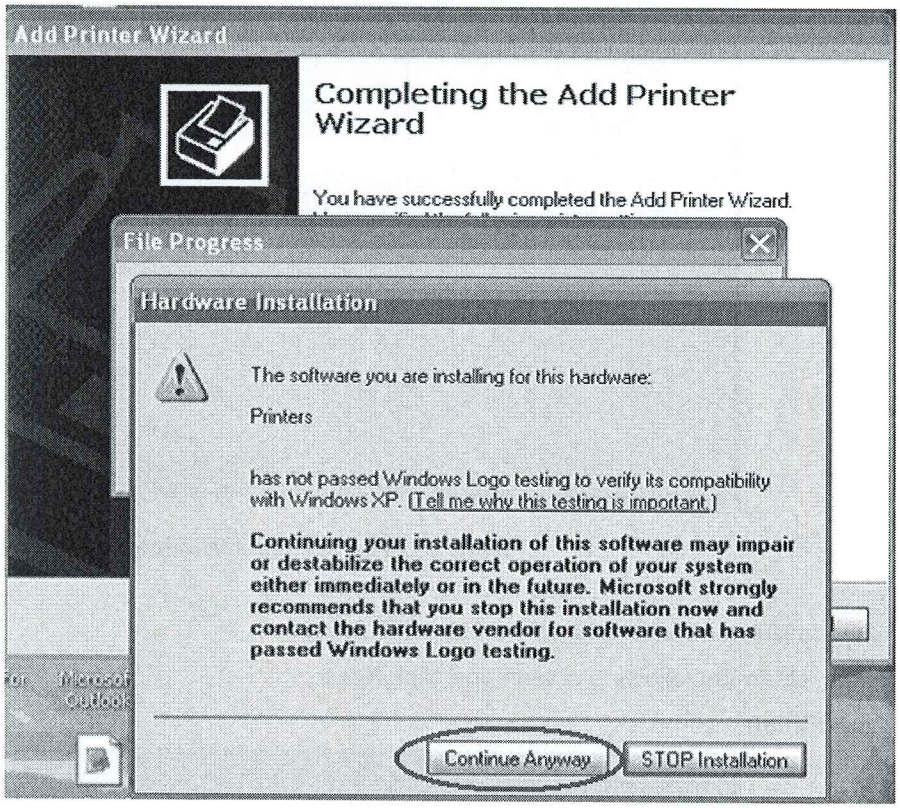


Figure 42 - Continue Window

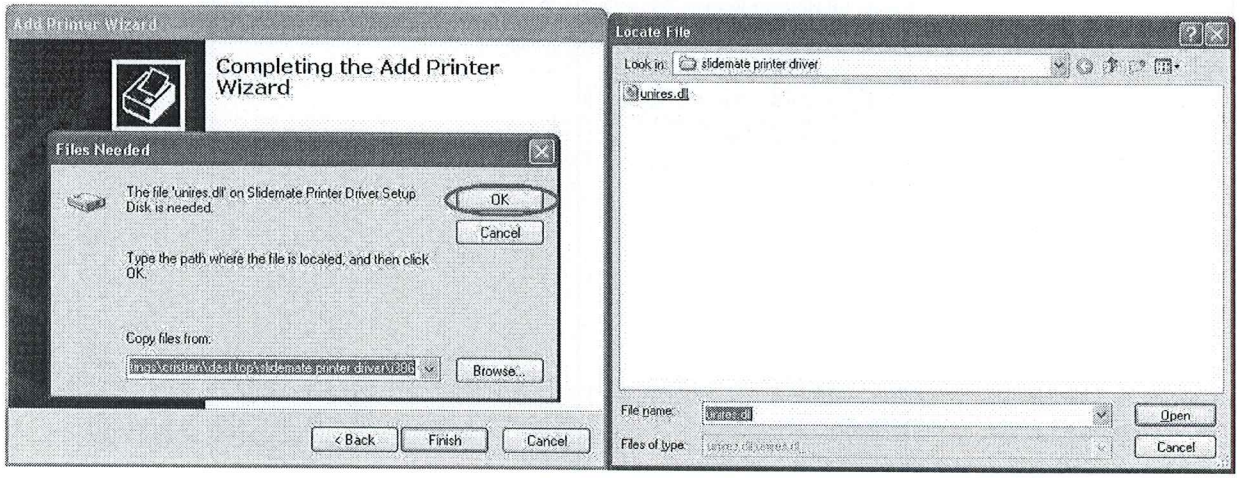


Figure 43 - Finalizing Printer Driver Installation

14. To delete the **Print driver** follow steps 1 and 2, select the **Printer** and delete it.

9. USB Driver Installation

9.1. In the SlideMate menu go to **Input Devices** and change **Select Port** to correspond to the type of cable connected, i.e. if a **USB** cable is used choose **USB**.

9.2. When connecting through **USB,** the **PC** will detect the SlideMate connection and will initiate driver installation. Check the option as shown, to allow it to search for the drivers on the Internet. Click **Next**.



Figure 44 - Found New Hardware for Serial Converter

9.3. When the necessary files have been retrieved following window will be displayed. Check the option as shown and click **Next**.

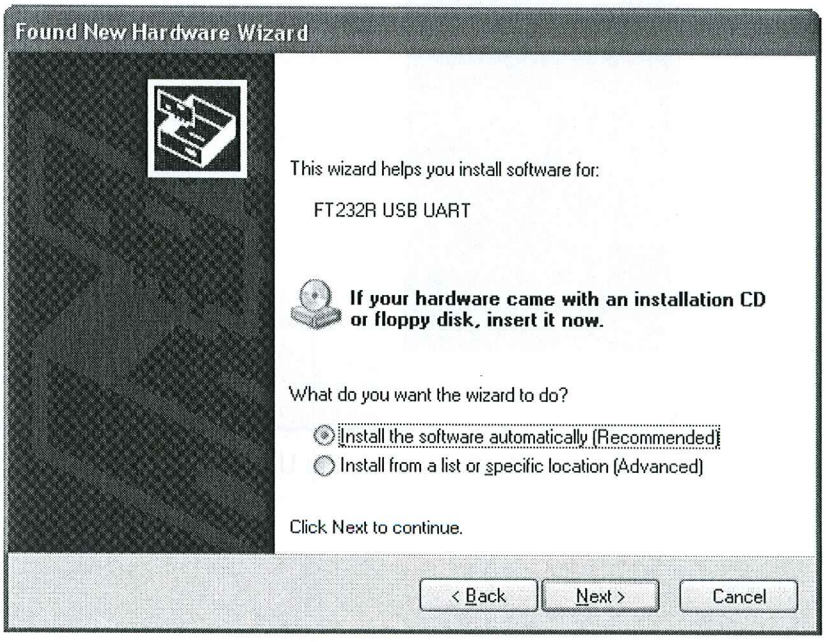


Figure 45 - The wizard is searching for FT232R USB UART drivers

9.4. This next window will let you know a search is under way.

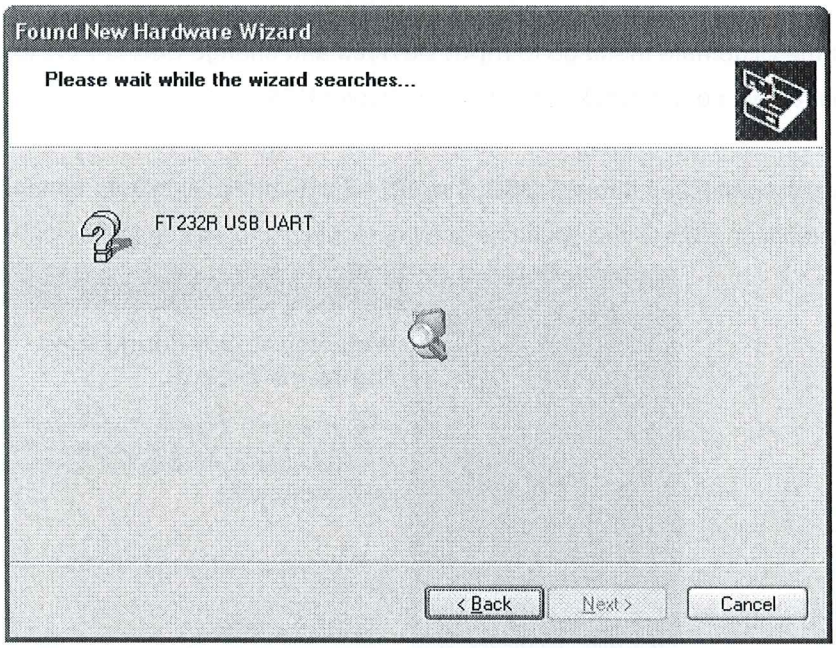


Figure 46 - Installing the FT232R USB UART drivers

9.5. This window let's you know the drivers for the **USB Serial converter** have been installed, click **FINISH**.



Figure 47 - Completing the USB Serial Converter installation

9.6. Make the selection as shown and click **Next**.



Figure 48 - Found New Hardware USB Serial Port

9.7. When the necessary files have been retrieved following window will be displayed. Check the option as shown and click **Next**.

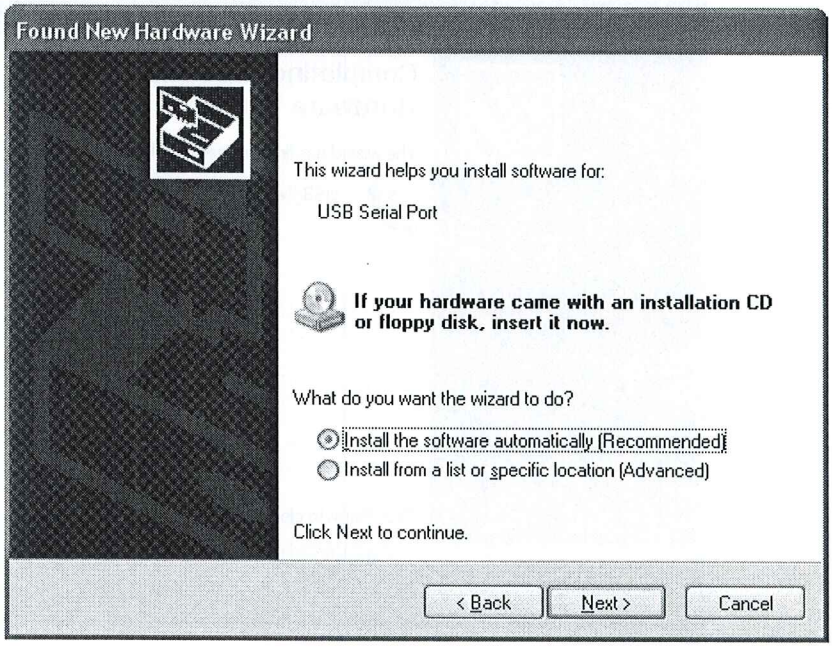


Figure 49 - The wizard is searching for USB Serial Port drivers

9.8. The next window will let you know a search is under way.

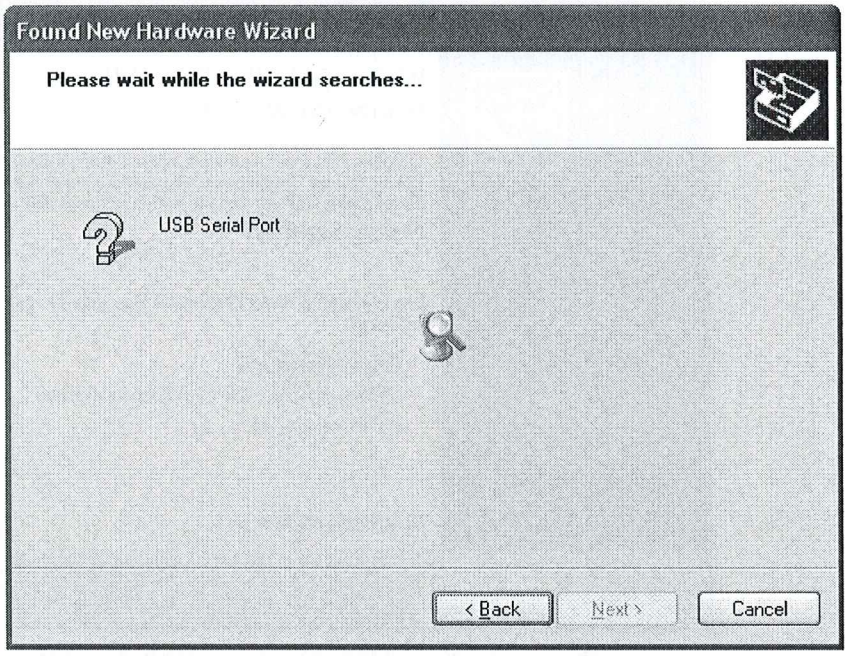


Figure 50 - Installing the USB Serial Port drivers

9.9. This window let's you know the drivers for the **USB Serial Port** have been installed, click **FINISH**.



Figure 51 - Completing the USB Serial Port installation

10. Configuring the HyperTerminal communication

The following is a tutorial for printing multiple lines of information on multiple sets of slides, all of which are generated by the way information is formatted in a simple text file.

Please follow the steps below to establish communication between SlideMate and a **PC** using the **USB** port or the **Ethernet** port. A utility program called **HyperTerminal**, readily available with Windows XP operating system, will be used to send the text file.

10.1. Connect the provided Power supply to the unit.

Plug the power cord into an electrical outlet. Depending on your connection preference:

- Plug the **Ethernet cable** into the Ethernet port (see **Figure 2**)
- Pug the **USB cable** into the USB port (see **Figure 2**)

Connect the opposite end of the cable into your computer.

10.2. To start the **HyperTerminal** program, follow this path:

Start > All Programs > Accessories > Communications > HyperTerminal

10.3. HyperTerminal over Ethernet

10.3.1. Below there's a screenshot of the **HyperTerminal** application right after it opened.



Figure 52 - The HyperTerminal program

10.3.2. Name your connection as in the window below and then press **OK**.



Figure 53 - HyperTerminal New Connection

10.3.3. This next window will help configure the communication port.

- In the **Host Address** field type the **IP** address for SlideMate (as found in Network Settings menu, see **Figure 12**)
- In the **Port number** field type 13100
- In the **Connect using** drop down list pick **TCP/IP**
- Press **OK**



Figure 54 - HyperTerminal Connect window

10.3.4. To save this configuration and retrieve it at a later time when **HyperTerminal** is opened again go to **File** menu. Choose **Save**. The connection will be saved as **SlideMate Ethernet**. Close the **HyperTerminal** window.

10.4. HyperTerminal over USB

Please see section **9 USB Driver installation** to enable communication between SlideMate and a **PC** using a **USB** cable. If an Internet connection is not available all the necessary drivers can be found on the CD that accompanies the SlideMate unit.

10.4.1. Below there's a screenshot of the **HyperTerminal** application right after it opened.

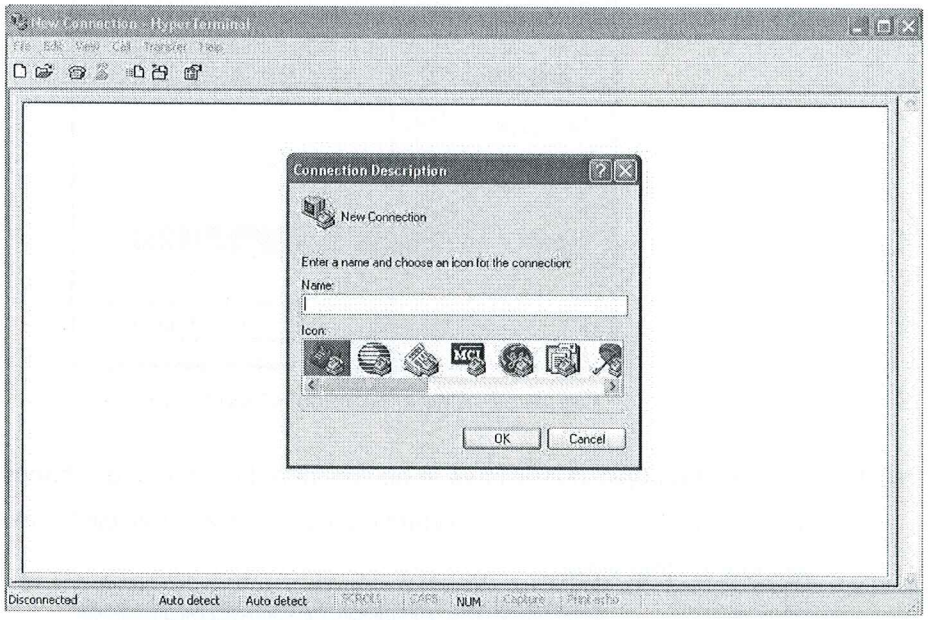


Figure 55 - The HyperTerminal program

10.4.2. Name your connection as in the window below and then press **OK**.



Figure 56 - HyperTerminal Connection Description

10.4.3. This next window will help pick the communication port for the newly installed hardware. In the **Connect using** drop down list pick the highest **COM** number shown. In this example **COM2**. When done press **OK**.



Figure 57 - HyperTerminal Connect window

10.4.4. The **COM** port picked will have to be configured prior to use. Change all fields so they match the ones in the picture below. When done press **OK**. That will leave the **HyperTerminal** window in clear view.

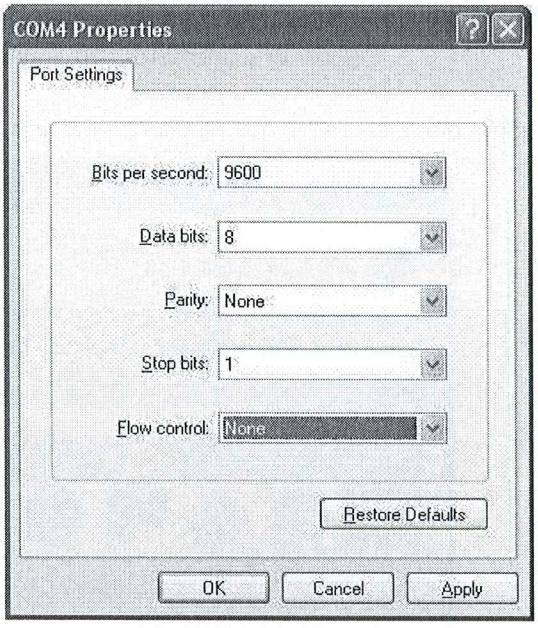


Figure 58 - Configuring the COM4 port

10.4.5. To save this configuration and retrieve it at a later time when **HyperTerminal** is opened again go to **File** menu. Choose **Save**. The connection will be saved as **SlideMate USB**. Close the **HyperTerminal** window.

11. Sending a print job from the HyperTerminal

Open **HyperTerminal**. Press **Cancel** on the **New Connection** window. To retrieve the saved connection go to **File > Open** . Choose **SlideMate USB.th** or **SlideMate Ethernet.th**.
Press **OPEN**.Before sending a text file one needs to be created. Use **Notepad** to create a simple text file.

Start > All Programs > Accessories > NotePad

11.1. Type the information you wish to have printed as exemplified below.

Notice the '^' character at the start of the line. The number that follows it directs the SlideMate to print that many slides of that particular line, regardless of the **Number of Slides** setting in **Global Settings** menu. If more instances of '^' are typed on the same line only the last one will matter.
Make sure to press **Enter** (**End of Data** setting in **Input Device** menu) at the end of the line to bring the cursor at the start of second line.

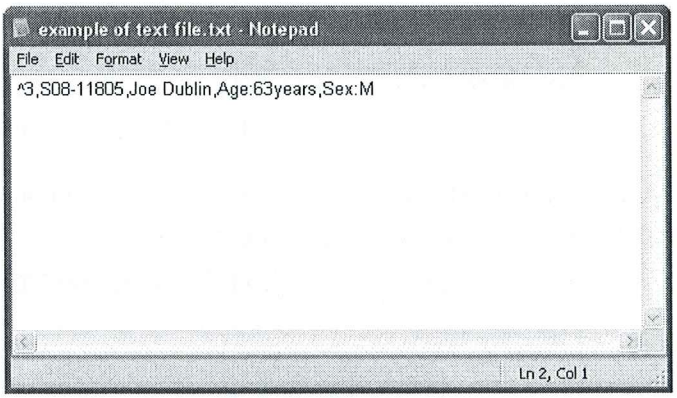


Figure 59 - Example of text file data configuration

The figure above shows a text file with only one line. This file can be sent to SlideMate to print using the **Hyper Terminal** through **USB** or **Ethernet**.

Important

The figure below shows a multiple lines text file that can be sent to SlideMate to print using the **Hyper Terminal** through **Ethernet** only.
Note (**Ethernet**) that if several files need to be sent to print, subsequent one should only be sent after the current one has been printed.

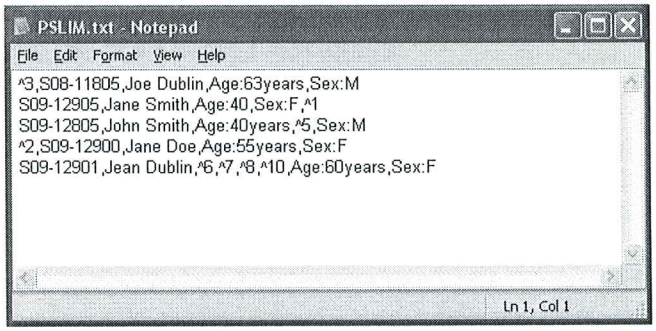


Figure 60 - Example of multiple line text file data configuration

11.2. When done, save the file in an easy to find folder.

11.3. To send the file to SlideMate, find the **Send Text File** option in the **Transfer** menu.

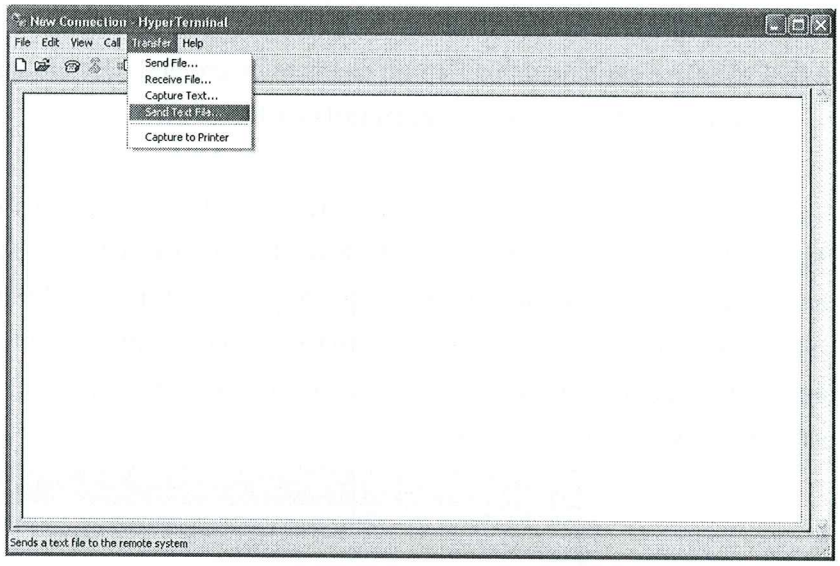


Figure 61 - Transferring a text file

11.4. A new window will appear to help you locate the file on your computer. Retrieve the file from the saved location. Chose the file and click **OPEN**.

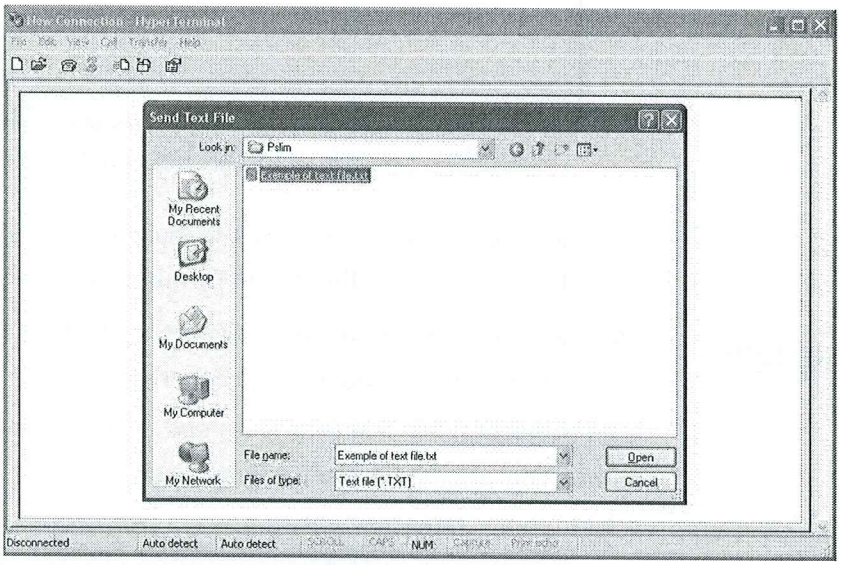


Figure 62 - Locate the saved text file

11.5. Notice below how all information before each comma (**Delimiter** settings, see **Figure 13**) has been stored in a different **Data**, see below.

Data 1	Data 2	Data 3	Data 4
S08-11805	Joe Dublin	Age: 63 years	Sex: M

Data 5	Data 6	Data 7	Data 8

There are eight Data fields available; the line has only four delimited pieces of information.

Text 1	Text 2	Text 3	Text 4
SlideMate	slide	of	

Text 5	Text 6	Text 7	Text 8

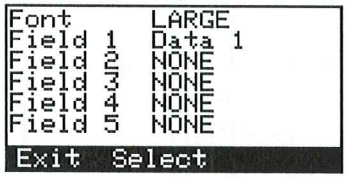
There are eight **Text fields** available; this example uses only three.

At the end of the line, in the text file, a carriage return has been introduced. That way the SlideMate unit knows it has reached the end of the line.

Each **Print Line** can contain maximum of 24 characters using the **Small font**. Each line can be formatted using 3 **font sizes**, **Small**, **Medium**, and **Large**. It can also be converted into barcode (Code128). Any of the **Data Fields** can be printed on any of the five **Print Lines**.

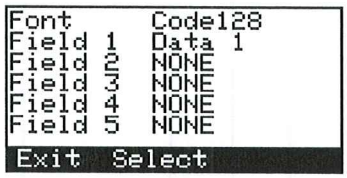
In the example below, **Data 1** is printed at the top of the slide.

Print Line 1



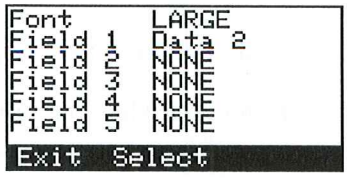
For the second line, **Data 1** is chosen to be printed again in **Code128 barcode**.

Print Line 2



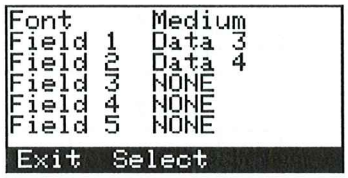
On the third line, the name of the patient, which was typed after the first comma, will be printed.

Print Line 3



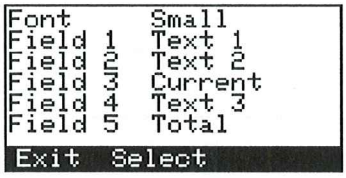
Fourth line will print the age and sex of the patient, which was stored in **Data Field 3** and **4**. This line has been formatted using the **Medium Font** size.

Print Line 4



Last line to print has been formatted with text information (see **Figure 62**). This entire line will print using the **Small Font** size.

Print Line 5



In this case, a sequence of three slides will be printed and each slide will be identified with its sequence number. "**Current**" refers to the current slide printing and "**Total**" refers to the total number of slides in the series.

And finally the choices for print, font size and location will print on the slides:

Notice the 3 vertical bars before the text on the print screen, which indicates the text will be printed as barcode.

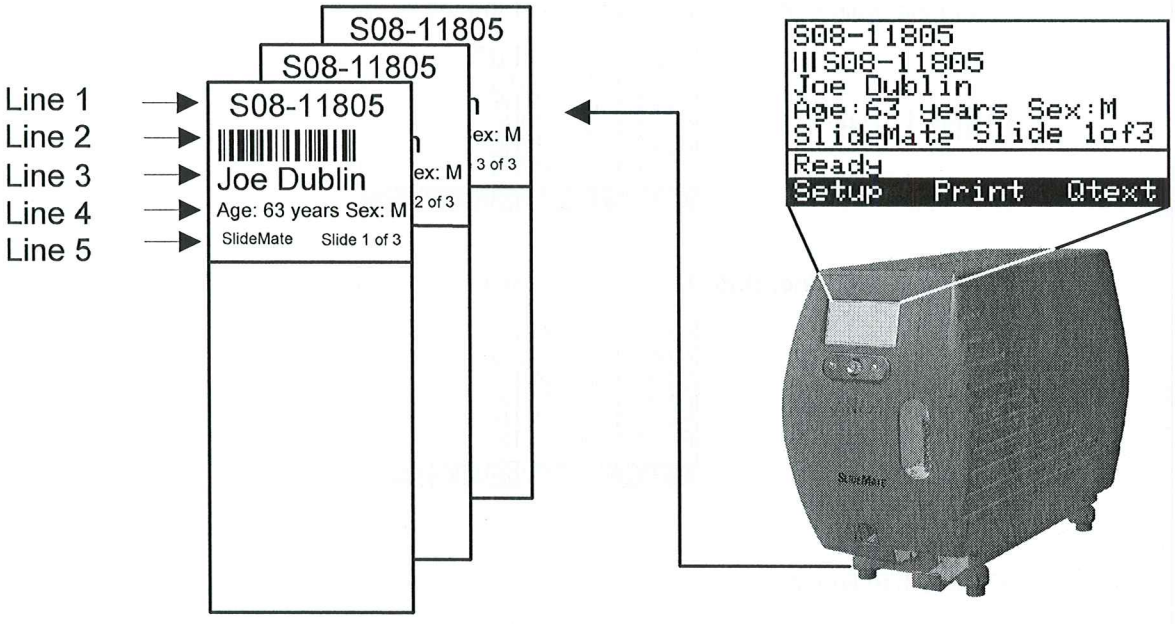


Figure 63 - Printed slides' sequence

Only the first set of three slides is shown above but four more sets of slides will be printed. One set of one slide, one set of five slides, one set of two slides and another of ten slides.

12. SlideMate Maintenance

⚠	*A periodic and thorough cleaning of your SlideMate is required.*

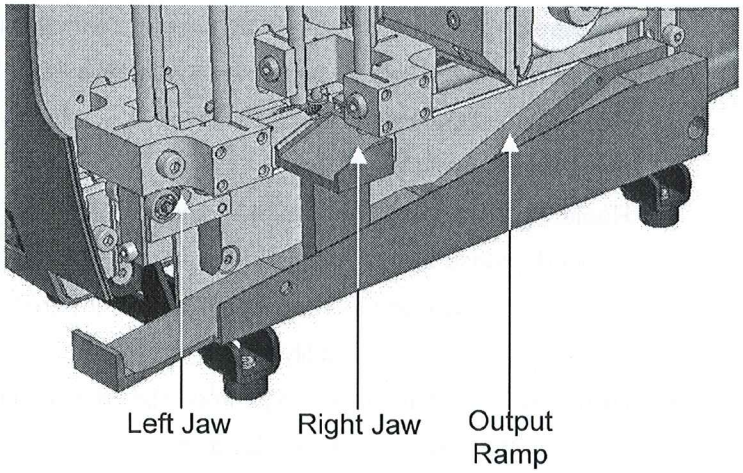


Figure 64 -- Maintenance spots

12.1. SlideMate Cleaning Instructions

Due to the subtle but consistent wear and tear of glass slides circulating through the unit, glass dust will accumulate. It is recommended to clean the unit after every 100 slides printed.

Areas where dust might settle and require cleaning are the **output ramp** and the **jaws (left and right jaw)** that hold the slide during the print process (see figure 63). Use a brush (similar to a toothbrush) or paper towel along with IPA (Isopropyl Alcohol) to wipe clean these surfaces. Discard the paper towel after each use. The brush can be reused.

Compressed air can also be used to blow some of the dust off but safety precautions must be taken. Find a place with no other equipment, furniture or people. Point the air flow away from you and onto the spot in the SlideMate where the dust is.

Q-tips may be used to clean in spots hard to reach. Dip the cue tip in some IPA and reach for the spot where the dust is. Discard the cue tip after use.

The two horizontal rods can also be wiped clean but with a clean cloth or paper towel ONLY! Do not use any cleaning agents as that will also remove the lubrication.

12.2. Handling Precautions

- The **Heater Line** on the print head is the lowest point on the print head (the point that is directly on top of the slide when the print head comes down). It is made from a ceramic glaze that can be cracked. Avoid striking or dragging the tip of the print head with cracked slides or any objects
- Residue on **Heater Line** should be removed with ethanol or IPA to avoid corrosion
- Do not touch the **Heater Line** surface with bare hand to avoid corrosion
- Please use slides that are free from Na+, K+, and Cl- ions and of which reliability is fully evaluated to avoid corrosion
- Heater surface should be free from any condensation to avoid corrosion. In case condensation is found, please turn off the printer until condensation evaporates
- Use extreme caution when removing any jammed slides and ribbon as there may be a piece of broken glass that is not readily visible
- Using excessive force to free a jammed slide may result in broken glass flying into your eyes
- Touching the print head **Heater Line** while the printer is printing will cause severe burns

12.3. Removing a jammed slide from under the print head

1. Power SlideMate **OFF**. Remove the ribbon and slides from the Slide Holder.
2. The print head moves up and down approximately 10 mm. If the print head is not in the up position move it up by pushing **Ribbon Printer Output Guide** (see **Figure 5**)
3. Look for the jammed object and try to slip it clear along its length while holding it on its flat sides.
4. If the slide moves slightly but does not have enough room to come clear it may be necessary to push the parts that normally carry the slide (**Slide Handling Mechanism**) left or right.
5. To move to the left, press the black plastic part in (**Figure 64**) to the left.
6. To move to the right, press the roller part in (**Figure 65**) to the right

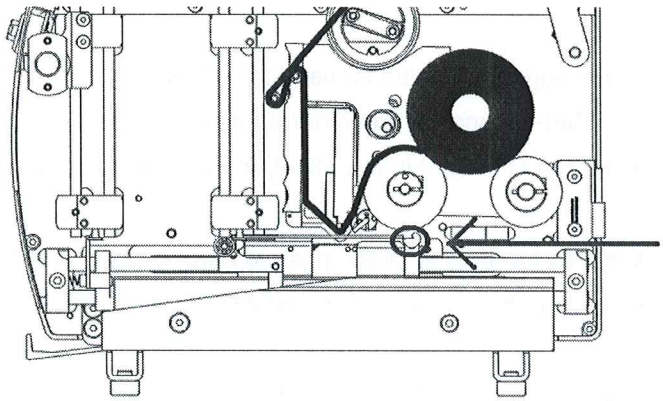


Figure 65 - Push this steel jaw to the left with the power off to move left

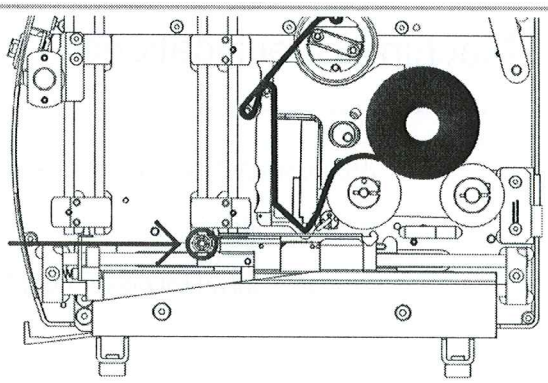


Figure 66 - Push the steel roller to the right with the power off to move right

- After the obstruction has been removed, close the door of the printer and turn the printer upside-down and shake it slightly and listen for any rattling which would indicate additional objects (i.e. glass chips) are still inside the printer
- Place the printer on its feet. Open the door and re-inspect the inside for any additional fragments of slides
- If no objects are present, reload the ribbon; replace the slides and power up
- After the SlideMate has performed its initialization, reload the slides and print a test to observe the quality of the print

12.4. Cleaning the print-head

The print head should be cleaned if any of the following are true:

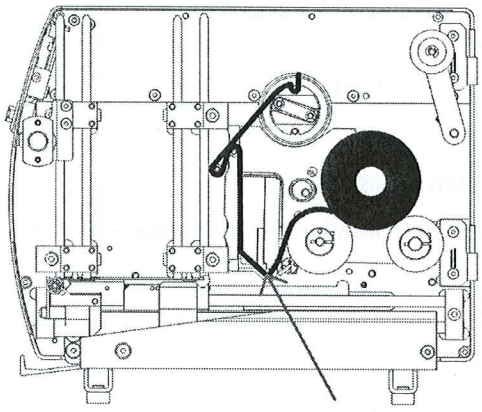


Figure 67 - Location of the heater line on the print head

- The print is showing smudges randomly from top to bottom
- The print ribbon burns through or when the ribbon is loaded upside down
- The quality is not the same as previously observed

1. Remove the print ribbon and slides from the printer
2. Using an Isopropyl Alcohol Wipe or lint free cloth with dampened with ethanol or IPA; rub the bottom of print-head (heater line) firmly across the print-head, along the edge that contacts the slide, several times until no residue is visible on the wipe (see Figure 65)
3. Let the print head dry for two minutes before loading the ribbon.

	*Avoid touching the print head surface with bare skin*

13. SlideMate Machine Specifications

Dimensions	152mm(6.00") Width x 226mm(9.00") Height x 238mm(10.50") Depth
Weight	4.3kg (9.5lbs)
Input Voltage	24VDC (Universal power supply 110-240VAC)
Current	2.5A
Print resolution	300dpi
Speed	5-8 sec typical (full coverage)
Post Script Point Scale Equivalent Font Sizes	Small: 4 point Medium: 6 point Large: 8 point
Max. Allowable Slide (US)	76.2mm(3.000") W x 25.55mm(1.006") H x 1.00mm(0.039") D **NOTE: Slides with Square Edge, Beveled Edge, and Clipped Corners (45°) are suitable for SlideMate. Slides with Beveled Edges must maintain a flat surface of minimum 0.5 mm at the edges of the slide.**
Max. Allowable Slide (non-US)	76.0mm(2.992") W x 26.00mm(1.023") H x 1.00mm(0.039") D **NOTE: Slides with Square Edge, Beveled Edge, and Clipped Corners (45°) are suitable for SlideMate. Slides with Beveled Edges must maintain a flat surface of minimum 0.5 mm at the edges of the slide.**
Temperature (Operating Limits)	+5℃ to +40℃ (+41℉ to +104℉)
Temperature (Recommended Operation)	+15℃ to +30℃ (+59℉ to 86℉) Note Performance may deteriorate when operated outside of this range
Temperature (Storage)	-25℃ to +55℃ (-13℉ to 131℉) +70℃ (158℉) for s hort exposure *For indoor use only*
Relative Humidity	Max. 80% RH up to 31℃ Decreasing linearly to 50% R H at 40℃ *For indoor use only*
Altitude	Not applicable
Pollution Degree	2
Over Voltage Category	II

14. Errors and Recovery



Please use caution when clearing a jam inside the SlideMate unit as broken glass particles could cause serious injuries.

1. "PRINT TOO LONG, PRINT ANYWAY?"

   Possible cause: Total print area height has been exceeded by using large font sizes and/or barcodes on multiple lines.

   Remedy: Reduce barcode and/or font size.

2. "BARCODE EXCEEDS PRINTABLE AREA"

   Possible Cause: A line was configured to print barcode. The text scanned or typed for that particular line had more than nine characters.

   Remedy: Press **Abort**. SlideMate will return to the print screen. Reduce the number of characters on the line to print the barcode.

3. "DOOR OPEN"

   Possible Cause: The door is open.

   Remedy: Close the door and press **OK**. Print will resume.

4. "NO SLIDE"

   Possible Cause: No slide in the stack.

   Remedy: Load slides in the stack. Press **OK**. Print will resume.

   Possible Cause: A slide is jammed in the stack.

   Remedy: Remove all slides. Press **OK**. Error # 5 will be displayed. See error # 5.

5. "PRINTER JAM - REMOVE ALL SLIDES AND PRESS OK"

   Possible Cause: Rear limit not reached.

   Remedy: Clear jam and remove all slides. Press **OK**. SlideMate will re-print last slide.

6. "OUTPUT JAM - REMOVE ALL SLIDES AND PRESS OK"

   Possible Cause: Forward sensor not reached as the slide was about to be presented to operator.

   Remedy: Clear jam and remove all slides. Press **OK**. SlideMate will print next slide.

7. "HEAD NOT UP - CHECK FOR ANY JAM"

   Possible Cause: Print head didn't return to its up position after finishing the print job.

   Remedy: Clear jam. Press **OK**. SlideMate will eject current slide and re-print on next one.

   Possible Cause: Print head didn't return to its up position after checking for slide presence (prior to commencing to print)

   Remedy: Clear jam. Press **OK**. SlideMate will eject current slide and re-print on next one.

8. "HEAD NOT DOWN - CHECK FOR ANY JAM"

   Possible Cause: Something prevented the print head from touching the slide.

   Remedy: Clear jam. Press **OK**. SlideMate will print a slide to conclude the cycle. A second slide will be printed with the same print job.

9. "FAILED TO HOME"

   a) Possible Cause: Rear limit not made during initialization.

   Remedy: Remove all slides, including the one in process of being dropped in the chute. Power SlideMate **OFF**. Power SlideMate **ON**. Press **Initialize**.

   b) Possible Cause: Rear limit not made during normal operation

   Remedy: Check for any jam inside the machine. Look specifically for broken glass piece obstructing the movement of the jaws towards the back of the SlideMate.

   c) Possible Cause: Elongated springs due to improper slide removal during a jam

   Remedy: If a jam occurs when a slide is in process of being transported but gets stuck under the print head, DO NOT REMOVE. See section **12.3 Removing a jammed slide from under the print head**

   d) Possible Cause: Lack of a preventive maintenance routine

   Remedy: Glass particles that slowly chip away from the slides being processed accumulate on the jaws eventually fall on the rods. Any added friction will impede the sliding motion resulting in various faults.

10. "PREVIOUS DATA NOT PRINTED. DO YOU WANT TO ERASE?"

    Possible Cause: Auto Print is **OFF** and **ENTER** key was pressed twice in a row.

    Remedy: When **Auto Print** is **OFF** and information is inputted using a keyboard, the **ENTER** key is used to define the **End of Data**. The SlideMate unit will be expecting to print by receiving a **Print Scrn** command. If another **ENTER** is received the unit will alert the user about losing inputted information by not printing it.

11. "DATA BUFFER OVERFLOW"

    Possible Cause: More than 300 characters were inputted in text mode (via Keyboard, Network or USB)

    Remedy: Press **Cancel**.

12. "PRINT TOO WIDE, PRINT ANYWAY"

    Possible Cause: A print line will print 24 characters only if **Small Font** is used. If **Medium** or **Large** Font is chosen only a few characters will fit to print.

    Remedy: Change font size for the line with the most characters.

13. "UNRENDERABLE CHARACTER FOUND IN BARCODE"

Possible Cause: Characters that require **Alt** button pressed to generate them cannot be rendered in a barcode (e.g Œ, ‰, ®, ™ …). For a complete list please see an **ASCII Character Chart**.

Remedy: Delete all non-keyboard available characters (tab included).

14. "CORRUPTED DATA"

Possible Cause: **Page Start** and/or **Page End** characters are missing when sending a raster image to print.

Remedy: Cancel the job and press **OK**.

15. Cognex Scanner does not work

a) Possible Cause: No Connection.

Remedy: Check that correct cable is being used. Check that the correct port is being used, should be the RJ45 connection on the front of the unit. Check that cable is connected, should feel a 'snap' when connecting.

b) Possible Cause: Cable not making good connection.

Remedy: Unplug and reconnect cable.

c) Possible Cause: SlideMate not configured correctly

Remedy: Data type needs set to TEXT. Make Sure SlideMate is configured for the Input Device to be a Scanner. If using a Keyboard interface in conjunction with the Scanner, make sure the scanner is plugged in the correct side (the side with two jacks) of the adaptor.

d) Possible Cause: Barcodes will not scan.

Remedy: If room is dark, turn on illumination.

16. Will not print using network connection

a) Possible Cause: Wrong port being used.

Remedy: Check correct port, RJ45 on side of unit.

b) Possible Cause: Wrong Cable is being used.

Remedy: Crossover Cable required for direct connection from PC, Standard Ethernet for connection using network or router.

c) Possible Cause: SlideMate set up incorrectly.

Remedy: Select port needs to be set to NETWORK. Make sure SlideMate is connected to the network. Data type needs to be set to RASTER.

17. No Network Connection found

a) Possible Cause: IP address is wrong.

Remedy: Verify that the IP address is correct.

b) Possible Cause: NIC (Network Interface Card) may be bad.

Remedy: Verify there are lights around the RJ45 on the side of the unit.

c) Possible Cause: Incorrect communication speed.

Remedy: if using a Gbps network adaptor set the communication speed to 10Mbps ½ Duplex.

18. Poor quality of print

a) Possible Cause: Verify the darkness settings.

Remedy: Increase the setting of 'Darkness' parameter.

b) Possible Cause: Dirty Print-head.

Remedy: Properly clean the Print-Head. See section 12.4

c) Possible Cause: Incompatible slide type.

Remedy: Refer to Appendix A for the list of recommended slide types.

19. Will not Print

Possible Cause: Ribbon loaded upside-down.

Remedy: Load Ribbon properly. Print-head must be cleaned prior to continuing operation. See section 10.3 for instructions.

Possible Cause: Torn Ribbon.

Remedy: Re-load Ribbon.

Possible Cause: Wrong Slide Type.

Remedy: Use recommended slide type per operator's guide.

Possible Cause: No data to print.

Remedy: Verify data is loaded (message on screen) or image on the screen.

Possible Cause: Ribbon loaded incorrectly.

Remedy: Check the Take-up reel to ensure the ribbon is anchored correctly.

20. Datamatrix print out of bounds

Possible Cause: Incorrect choice of Datamatrix scale.

Remedy: Change Datamatrix scale, see section 2.2 for details.

21. Too much data for Datamatrix

Possible Cause: More than 80 characters are used to generate the 2D barcode

Remedy: Use 80 characters or less to generate the 2D barcode

SlideMate Integration
Barcode Scanner

1



Tissue Cassette



Accession Report



Barcode Scanner

1. Barcode Scanner reads information from the barcode on:
   - Tissue Cassette
   - Accession Report
   - Case Log
   - Specimen Jar

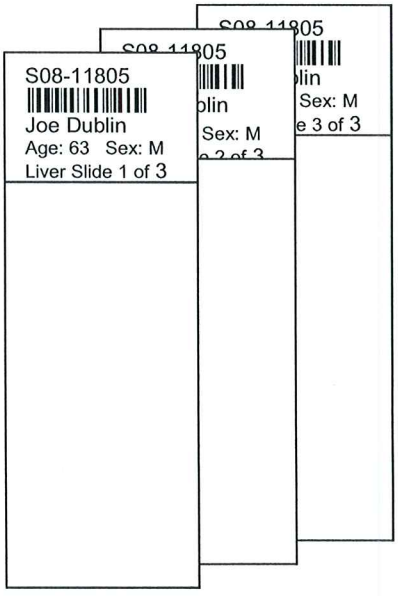
   System can be set to read multiple barcodes for a single slide.

SlideMate



2. SlideMate gives the user the option to format or add to the scanned information.

3. The information is printed on the slide(s)



SlideMate Integration
Keyboard

2

1. Data is entered using the Keyboard



Keyboard

Note: A Keyboard Interface kit is required to connect to SlideMate

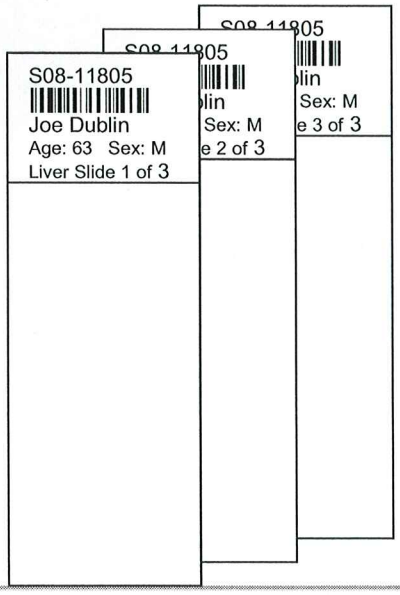
Keyboard Interface

SlideMate

2. SlideMate displays keystrokes and breaks up the typed string into data fields that allow print formatting



3. The information is printed on the slide(s)



SlideMate Integration
Keyboard & Barcode Scanner

3

1. Barcode Scanner reads information from the barcode on:
   - Tissue Cassette
   - Accession Report
   - Specimen Jar



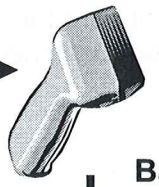
Tissue Cassette

Accession No.: S08-11805
Name: Joe Dublin
Age: 63
Sex: M
Type: Liver

Accession Report



Keyboard



Barcode Scanner

Scanned information is sent to SlideMate

Note: A Keyboard Interface kit is required to connect to SlideMate

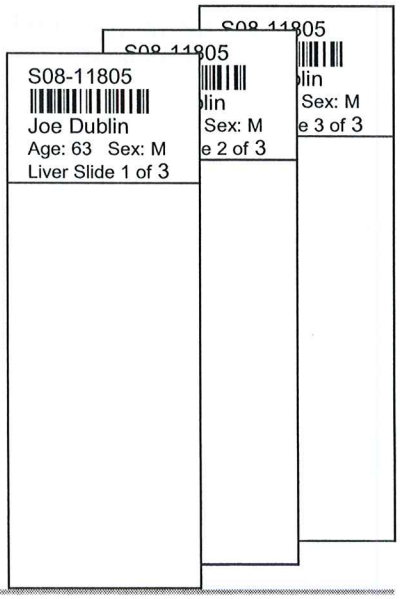
Keyboard Interface

SlideMate



2. Keyboard Interface Kit allows for both keyboard and barcode scanner inpu

3. The information is printed on the slide(s)



SlideMate Integration
LIS or PC With or Without Barcode Scanner

4



Accession No.: S08-11805
Name: Joe Dublin
Age: 63
Sex: M
Type: Liver

1. Barcode Scanner reads information from the barcode on:
   - Tissue Cassette
   - Accession Report
   - Specimen Jar

Tissue Cassette

Accession Report



Barcode Scanner

Scanned information is sent to a Personal Computer (PC)

2. PC will look up the data to determine the information to be printed and the number of slides. Alternatively, the user can manually input or access the information.



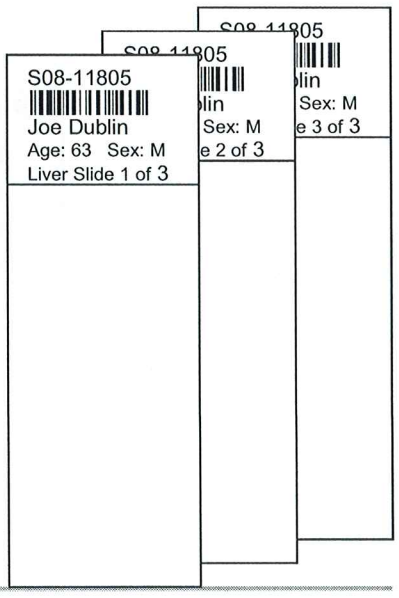
PC

3. SlideMate receives formatted images to be printed on the slides via Ethernet

SlideMate



4. The information is printed on the slide(s)



Appendix A List of Approved Slides

Approved Slide List
Thermo Scientific Colorfrost Slides
Thermo Scientific Colorfrost Plus Slides
Thermo Scientific Colormark Slides
Thermo Scientific Colormark Plus Slides
Thermo Scientific Polysine Slides
Thermo Scientific Double Frost Slides 45°
Thermo Scientific Cytoslides
Thermo Scientific Cytoslides, coated
Thermo Scientific Superfrost® slides
Thermo Scientific Superfrost® Plus slides
Thermo Scientific Polysine slides
Thermo Scientific ColorMark® slides
Thermo Scientific ColorMark® Plus slides
Thermo Scientific Single Cytoslides
Thermo Scientific Double Cytoslides
Thermo Scientific Thermo Scientific Cytoslides, coated

NOTE: Slides with Square Edge, Beveled Edge, and Clipped Corners (45°) are suitable for SlideMate. Slides with Beveled Edges must maintain a flat surface of minimum 0.5 mm at the edges of the slide.

Appendix B List of Accessories

Part Number	Description
B81320041	Part, Media, Thermal Transfer
B81320042	Part, Cable Assembly, Barcode
B81320040	Part, Kit, Power Pack 100-240
B81320043	Part, Keyboard Interface
B81320060	Part, Power Cable (EU)
B81320061	Part, Power Cable (UK)

Appendix C List of Spare Parts

Part Number	Description
B81310005	7' crossover Ethernet cable (Slidemate to PC)
B81320001	Part, Cable Assembly, SlideMate Power
B81320002	Part, Ribbon Take-up Friction
B81320003	Part, Motor Assembly, SlideMate Print
B81320004	Part, Jaw, Rear, Slide Gripper
B81320005	Part, Actuator Arm, Plastic
B81320006	Part, Spacer, 0.090x0.250x0.125ST
B81320007	Part, Actuator Swivel, Custom
B81320008	Part, Stepper Motor Assembly with Connector
B81320009	Part, PCB Assembly, Interface SlideMate
B81320010	Part, Roller, Ribbon Printer
B81320011	Part, Roller Ribbon Take-up
B81320012 (used in B81300004, US) B81320044 (used in B81300006, non-US)	Part, Output Ramp
B81320013	Part, Spring, Extension .177x 2.165
B81320014	Part, Spring, Comp .156 x .500
B81320015	Part, Spring, Comp .156 x 1.00
B81320016	Part, Spring, Ext .180 x 1.50
B81320017	Part, Top Divider/Enclosure
B81320018	Part, Slide Cover
B81320019	Part, Door
B81320020	Part, Bracket, Door Catch
B81320021	Print, PCB Assembly, Cont Board, Core
B81320022	Part, Bracket, Door Support
B81320023 (used in B81300004, US) B81320045 (used in B81300006, non-US)	Part, Slide Pusher
B81320024	Part, Slide Ramp Mount
B81320025	Part, Slide Push Off Arm
B81320026	Part, CPU Module, Programmed
B81320027	Print, Ext Spring Travel Limiter
B81320028	Print, Cable Assembly, Ethernet Patch
B81320029	Print, Spring, Ext .180dia x .75
B81320030	Print, Ball Bearing, 4mm diameter
B81320031	Print, Spring, Ext, .157dia
B81320032	Part, Take Up Reel Hub Segment
B81320033	Part, Thermal Print head
B81320034	Part, Flat Flex Jumper 12
B81320035	Part, Needle Bearing 8mm ID
B81320036	Part, Bearing Retaining Plate
B81320037	Part, Bearing Mount Plate
B81320038	Part, Ball Bearing 3mm diameter
B81320039	Part, Ball Bearing 8mm diameter

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