

Pyramid Innovation

Windows Driver and LIS Interface Guide

Company Information

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This instrument conforms to the essential requirements of

- Low Voltage Directive 2014/35/EU

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

WARNING

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

NOTE

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

Contents

Interface to LIS and other Systems	4
Windows Printer Setup	4
1. Chapter 1 - Connecting the Printer.....	5
1.1. USB Connection.....	5
1.2. Ethernet Connection.....	6
2. Chapter 2 – Adding the Windows Printer	7
2.1. Install a Windows printer using the Setup file	7
2.3. Using the Add a Printer Feature	9
2.4. Using a Hot Folder	12
2.5. Setting up multiple printers Hot Folders.....	14
3. Chapter 3 - Print using the Windows Driver.....	15
3.1. Printing Image Files.....	15
3.2. To Modify the Size if the Imported Label.....	17
3.3. Print using Delimited Text Files	17
4. Chapter 4 - Print Using Other Printer Drivers	21
4.1. Print using Zebra Format Files	21
4.2. Print using Zebra EPL Format Files.....	25
4.3. Print using LabWriter Images	27
5. CHAPTER 5 - TROUBLESHOOTING	29
5.1. USB PORT NOT IDENTIFIED CORRECTLY AS A COM PORT	29
5.2. Updating the Driver	31

Interface to LIS and other Systems

The Pyramid Innovation printers include on-board software which can design and print a label design onto slides and cassettes. The printers can be interfaced to LIS and other software systems by accepting different types of files. The most common methods, text and image file printer can be sent to the printer via a Windows Printer. The Windows Printer can be installed and configured using the Pyramid Innovation Windows driver. Other types of files can be sent to the printer using other Windows Printer Drivers. The printer can print image files with little configuration, text files sent to the printer will require set up of translators and templates within the printer. Information related to setting these up, can be found in the Printer Operator Guide.

Windows Printer Setup

The Pyramid Innovation printers 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 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 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 Windows Printer Drivers. The printer hardware is digitally signed and compatible with Microsoft Windows® operating systems Versions: Windows 7, Windows 8, Windows 10 and Windows 11 including 22H2 patch 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.

Software Requirements:

Must have the following installed on the PC:

- C++
- CDM21228_Setup

Chapter 1 - Connecting the Printer

Before attempting to install the printer driver, the printer should be connected using an Ethernet or USB Cable.

1.1. USB Connection

1.1.1. Connect a USB printer cable to the back of the printer

1.1.2. Connect the end of the USB cable to the PC

1.1.3. Open the device manager

1.1.4. You should see a device labeled FT200X USB I2C – if you do not see this device, you may need to install the USB drivers.

This tool can be found on the USB thumb drive delivered with the printer. The installer is labeled CDM21228_Setup.exe. Once this tool is run, power cycle the printer and PC, then look for the device again.

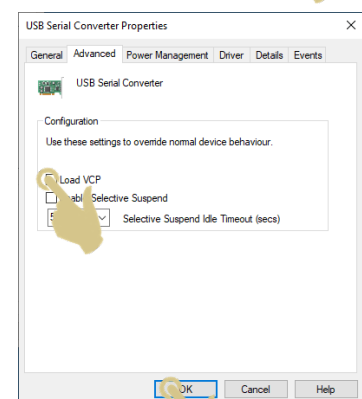
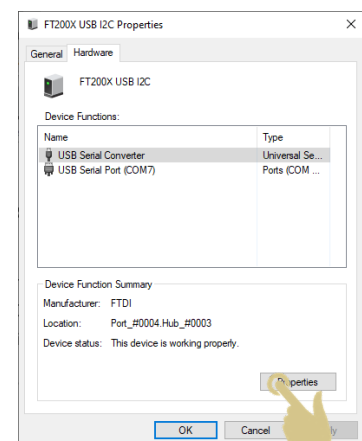
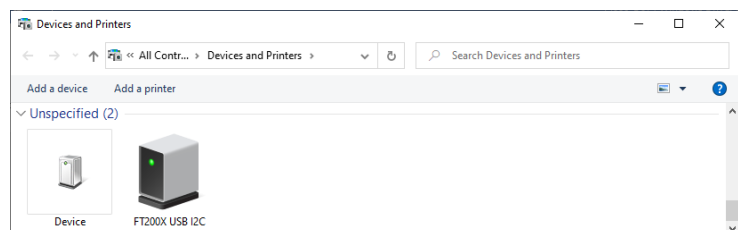
1.1.5. Right-Click on the device FT200X USB I2C and select Properties

1.1.6. Select the Hardware tab. If you see a Com Port listed, not the com port number.

1.1.7. If you do not see a com port listed, select Properties

1.1.8. Select the Advanced Tab, click Load VCP and press OK

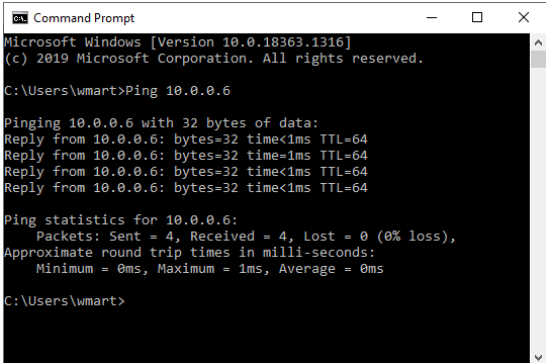
1.1.9. Click Apply, OK and restart the PC and Printer.



- 1.1.10. Check again for the com port and note the number – in this example, the com port is COM7

1.2. Ethernet Connection

- 1.2.1. Connect an Ethernet cable to the network
- 1.2.2. Set up the printer Network Settings – a Static IP Address is recommended.
- 1.2.3. Communication port should be set to 9100



```
Command Prompt
Microsoft Windows [Version 10.0.18363.1316]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\wmart>Ping 10.0.0.6

Pinging 10.0.0.6 with 32 bytes of data:
Reply from 10.0.0.6: bytes=32 time<1ms TTL=64
Reply from 10.0.0.6: bytes=32 time<1ms TTL=64
Reply from 10.0.0.6: bytes=32 time<1ms TTL=64
Reply from 10.0.0.6: bytes=32 time<1ms TTL=64

Ping statistics for 10.0.0.6:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\wmart>
```

The printer also uses port 21 as part of initializing the printer connection.

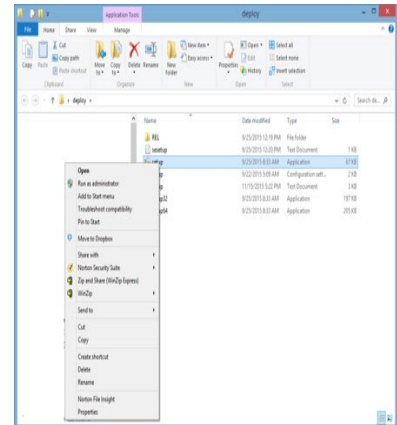
- 1.2.4. Ping the printer from a PC to ensure the connection is working.

Chapter 2 – Adding the Windows Printer

2.1. Install a Windows printer using the Setup file

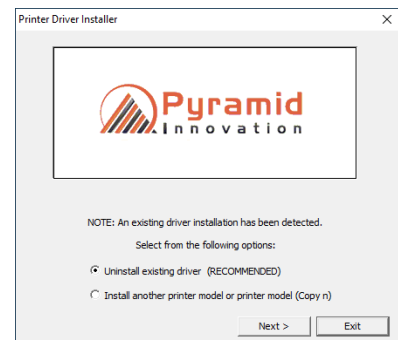
2.1.1. Copy installation files to a local directory on the PC.

2.2. Right click on the Setup file and select Run as administrator.

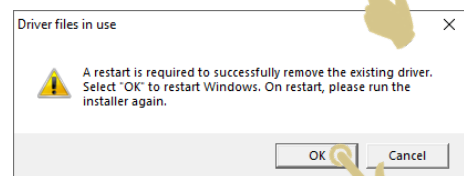


2.2.1. Click YES to allow the program to make changes to the PC

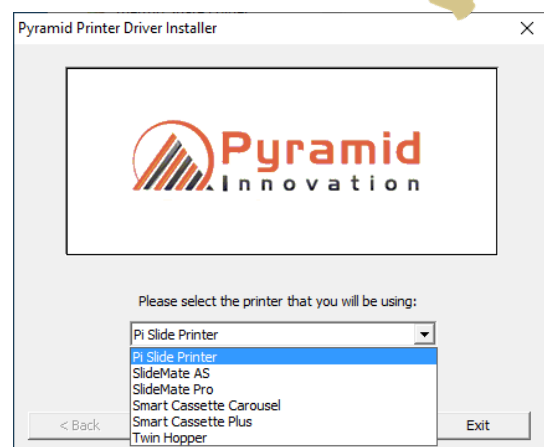
2.2.2. Select the recommended action and press Next.



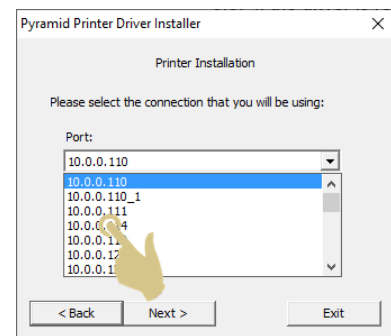
2.2.3. If the driver is replacing a currently installed driver, a power cycle may be required. This will be prompted.



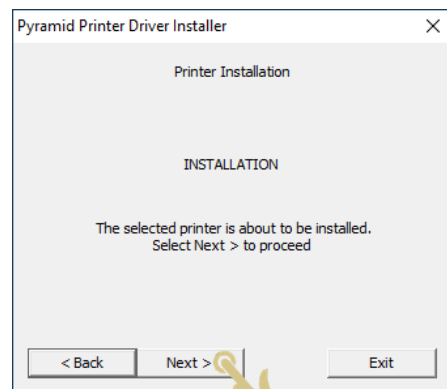
2.2.4. Start the installation again, a printer selection menu will appear. Select the appropriate printer.



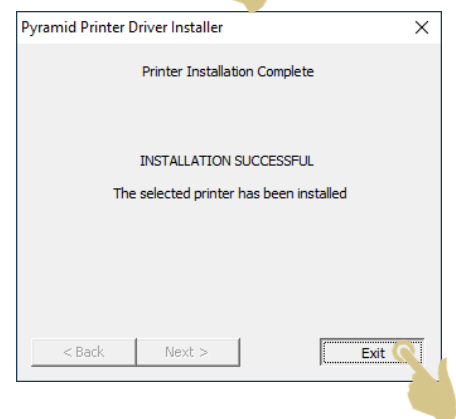
2.2.5. Select the correct Connection



2.2.6. Press Next

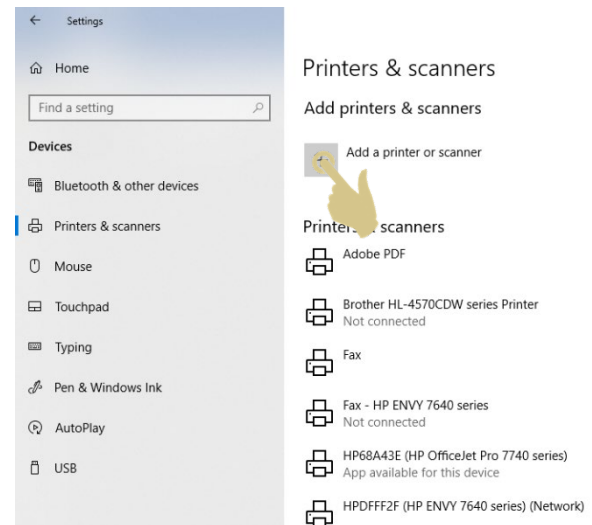


2.2.7. Installation is complete, press Exit

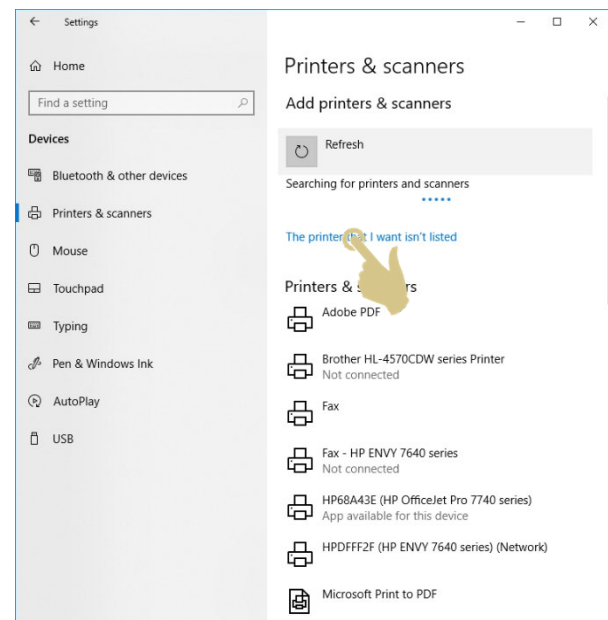


2.3. Using the Add a Printer Feature

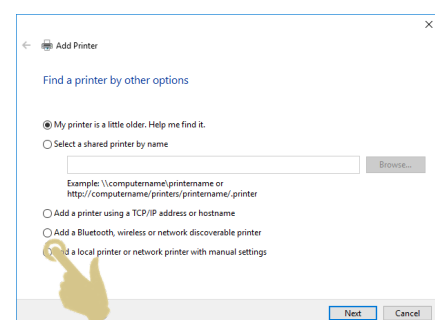
- 2.3.1. From the Devices and Printers, press add a printer



- 2.3.2. If the printer is not listed, press the button, "The printer that I want isn't listed"

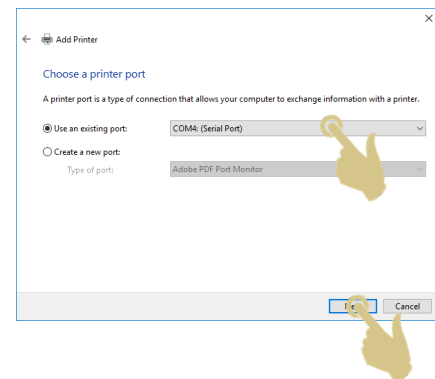


- 2.3.3. Select Add a local printer or network printer with manual settings



2.3.4. Select the connection to which the printer is connected (in this example it is Com4)

If you are using Ethernet, you may need to create a new port if the printer IP address is not shown.

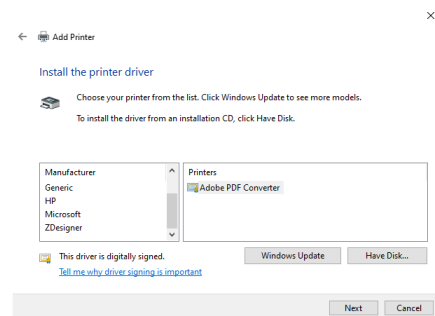
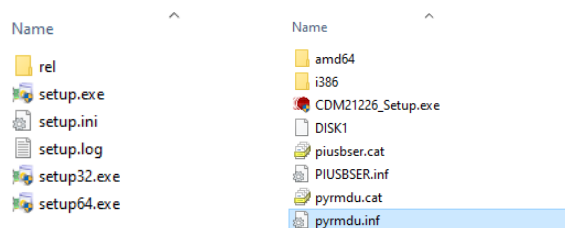


2.3.5. Press NEXT

If the Pyramid printer is not listed, press the Have Disk button, browse to the location of the windows driver.

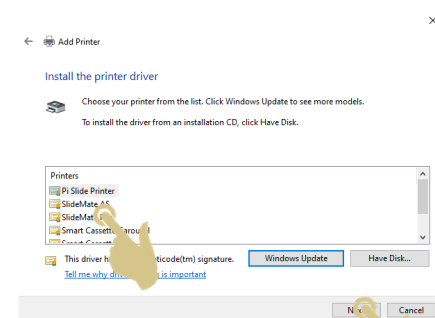
2.3.6. Open the REL folder

2.3.7. Select the pyrmdu.inf file



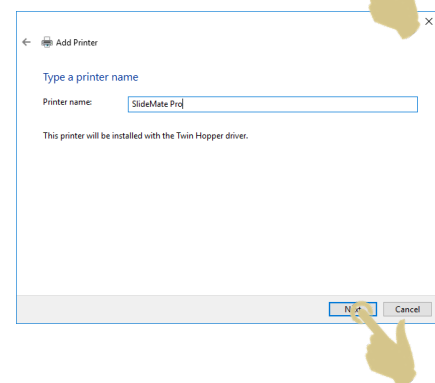
2.3.8. Once the search is complete, you will see a list of printer models.

2.3.9. Select the correct printer then press Next



2.3.10. If required, modify the printer name

2.3.11. Press Next

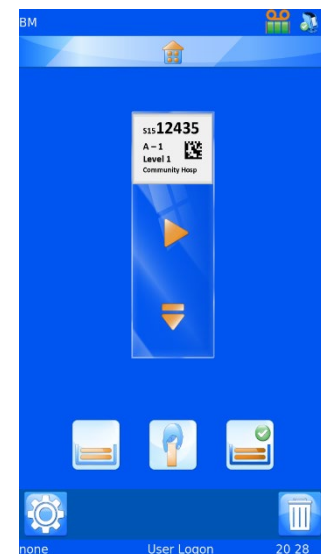
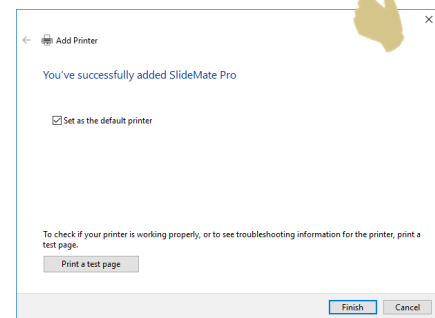
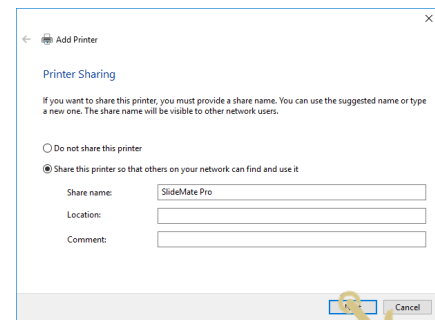


2.3.12. Modify as necessary and press Next

Test the printer by pressing the Print a Test Page button.

2.3.13. Press Finish when complete

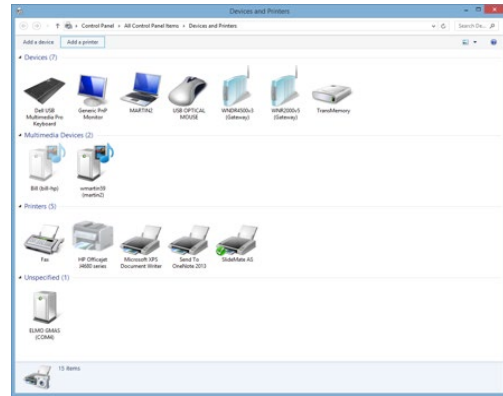
You should see a print job appear on the front of the printer and the trash bin should appear. If this test print does not appear, power cycle the printer and try sending the test print again.



A slide printer is shown in this example

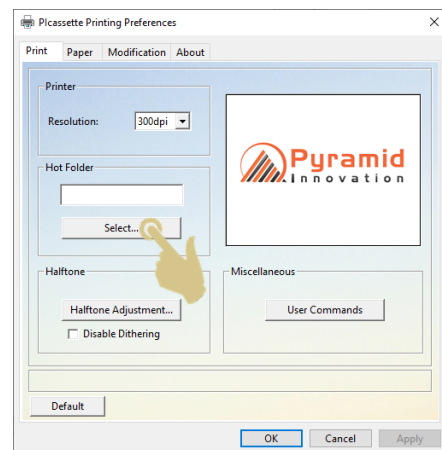
The printer is now set up and can be used to print using many external software programs. You will see the printer shown in the Devices and Printers menu.

Label images will be sent to the printer just as they would using a standard windows printer and can be sent from any number of applications at the same time. Pages must be formatted to 1 inch wide by 1 inch tall with 0.0-inch margins set.



2.4. Using a Hot Folder

A Hot Folder, also known as a Cache Folder, is used to send delimited text files to the printer. When this method is used, the printer must be set up to accept the files and configure the label. This is done using the printer's internal label design software.



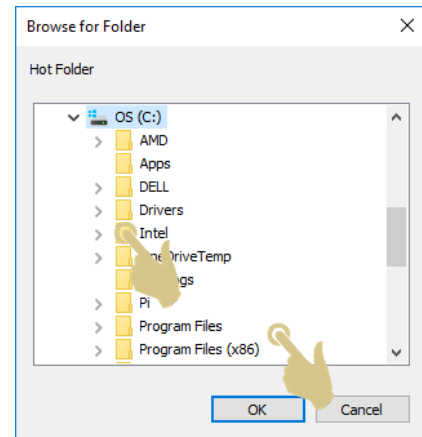
Set up the Hot Folder:

- 2.4.1. Create a folder on the PC or Network where the delimited text files will be transferred to for printing.
- 2.4.2. Open the Printer Printing Preferences menu
- 2.4.3. Press Select

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

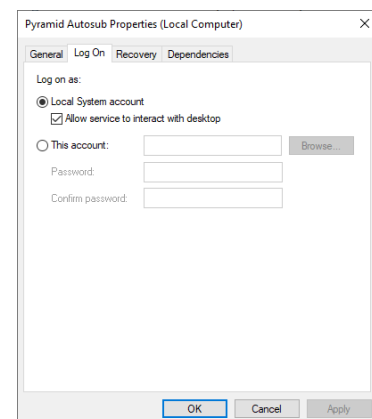
2.4.5. Press OK

2.4.6. The Hot folder is now set.



NOTE: IF THE HOT FOLDER WILL BE LOCATED ON THE SERVER/NETWORK, THE FOLLOWING DIRECTIONS WILL BE CRITICAL.

- Path entries for networks should be in the form of <servername>folder e.g. \\Pyramid-PC\Users\Bill\Desktop\HotFolder
- The marked folder should also have full rights so adding a user 'everyone' under Properties->Security for that folder and assigning all access is required
- To determine what mapping has been used for assigned drives open a cmd prompt and use 'net use' to obtain the path
- The service will need to be configured so that it is permitted to open the server location.
 - Go to services
 - Right click on Pyramidautosub and select open services
 - Right click on Pyramidautosub and select Properties
 - Click Log On and select this account
 - Enter proper account and passwords
 - You must also select the locations you are allowing the service to access.



2.5. Setting up multiple printers Hot Folders

Each Windows printer can be set up with a unique Hot Folder. The path must be set for each printer and each printer must use a different hot folder.

Chapter 3 - Print using the Windows Driver

3.1. Printing Image Files

The Pyramid Innovation 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.

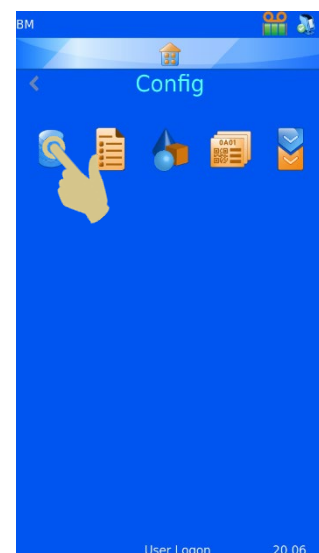
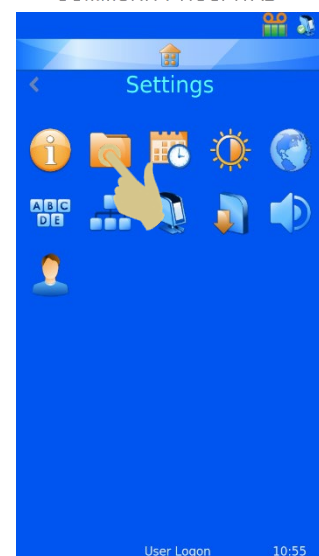
Other programs such as Microsoft Word can be used to send information to the printer. All of these programs can send labels to the slide printer through the PI Windows Driver.

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

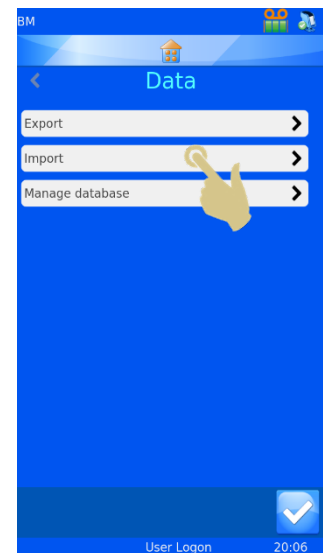
3.1.1. PRESS THE SETTINGS BUTTON

3.1.2. PRESS THE CONFIGURE BUTTON

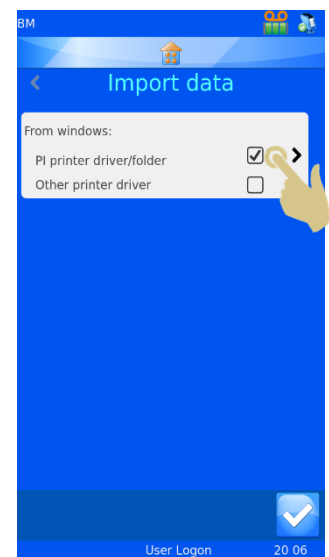
3.1.3. PRESS THE DATA BUTTON



3.1.4. PRESS THE IMPORT BUTTON



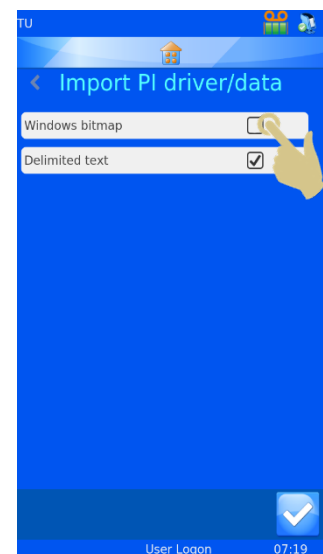
3.1.5. PRESS PI PRINTER DRIVER FOLDER BUTTON



3.1.6. PRESS THE WINDOWS BITMAP BUTTON

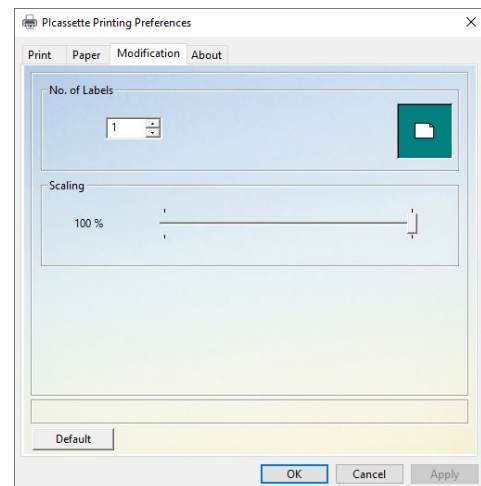
3.1.7. PRESS THE CHECK BUTTON

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.



3.2. To Modify the Size of the Imported Label

- 3.2.1. TO MODIFY THE SIZE OF THE INCOMING LABEL, SLIDE THE BAR LEFT OR RIGHT.
- 3.2.2. IN SOME PRINTING PROGRAMS, YOU MAY NEED TO SET THIS IN PRINTING PREFERENCES WITHIN THE APPLICATION.



3.3. 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. These files will look similar to the example below.

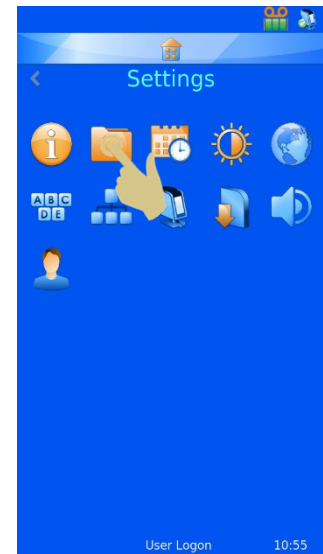
S19,12345,A,1

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.

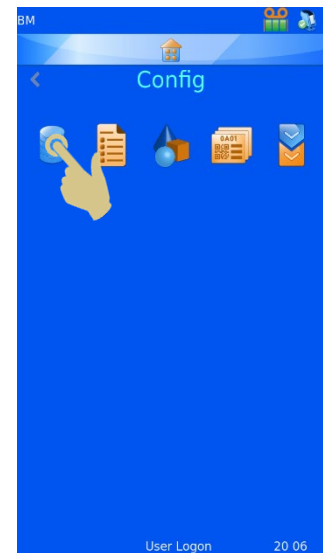
Once the driver is installed and configured, you will need to set the slide printer to delimited text format files from the windows printer.

3.3.1. PRESS THE SETTINGS BUTTON

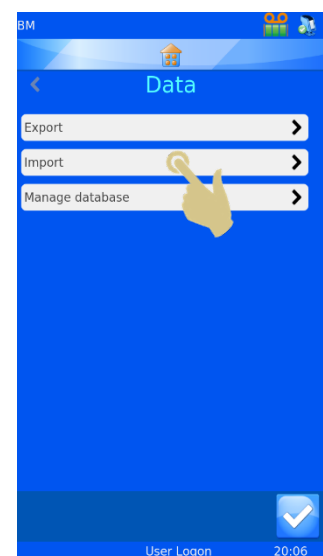
3.3.2. PRESS THE CONFIGURE BUTTON



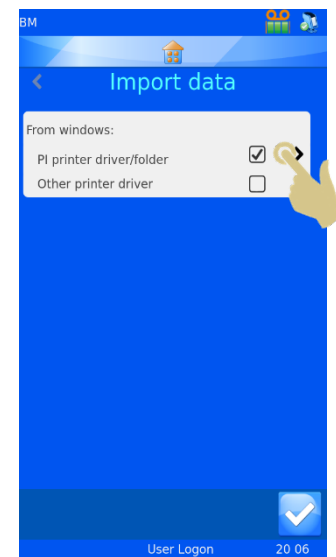
3.3.3. PRESS THE DATA BUTTON



3.3.4. PRESS THE IMPORT BUTTON



3.3.5. PRESS PI PRINTER DRIVER FOLDER BUTTON

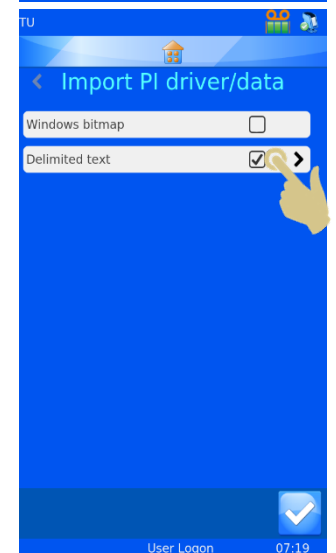


3.3.6. PRESS THE DELIMITED TEXT BUTTON

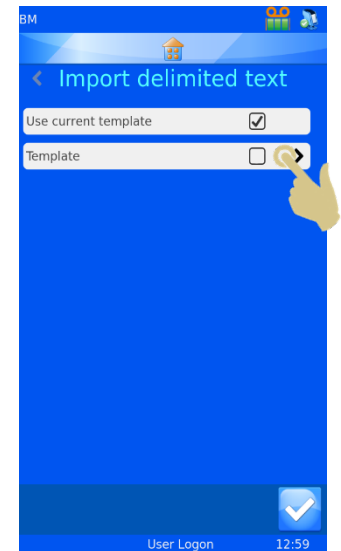
3.3.7. SELECT EITHER USE CURRENT TEMPLATE OR
TEMPLATE

3.3.8. IF USE CURRENT TEMPLATE IS SELECTED, THE ACTIVE
TEMPLATE WILL BE USED WHEN DATA IS IMPORTED.

3.3.9. 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.



3.3.10. PRESS THE TEMPLATE BUTTON

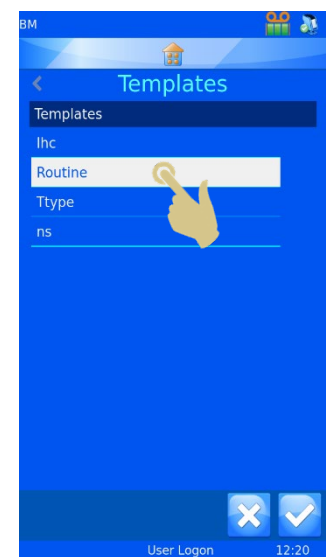


3.3.11. SELECT THE TEMPLATE TO BE USED

3.3.12. PRESS THE CHECK BUTTON

3.3.13. 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.



Chapter 4 - Print Using Other Printer Drivers

4.1. Print using Zebra Format Files

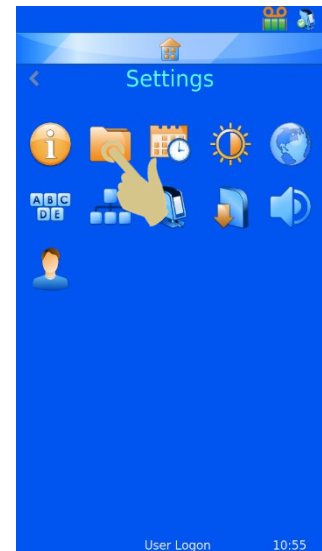
The Pyramid Innovation Windows driver can be used to send other format files to the printer. Zebra format text files can be sent to the printer using Other drivers' settings.

This type of file 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. These files will look similar to the example below.

```
^XA
^LH0,0
^F010,15^A0N,25,20^FD15-SSP999977 ^FS
^F010,35^A0N,20,20^FDTESTSAM, T ^FS
^F010,60^A0N,20,20^FDA1-1 ^FS
^F010,75^A0N,20,20^FD ^FS
^F010,85^A0N,20,20^FDDMSKN ^FS
^F010,110^A0N,20,20^FDH&E ^FS
^F002,135^BY1,3.5,40^BCN,25,N,N^FDSSP15999977^FS
^F010,165^A0N,20,20^FDURMC LABS ^FS
^XZ
```

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 printer to accept Zebra files from the windows printer.

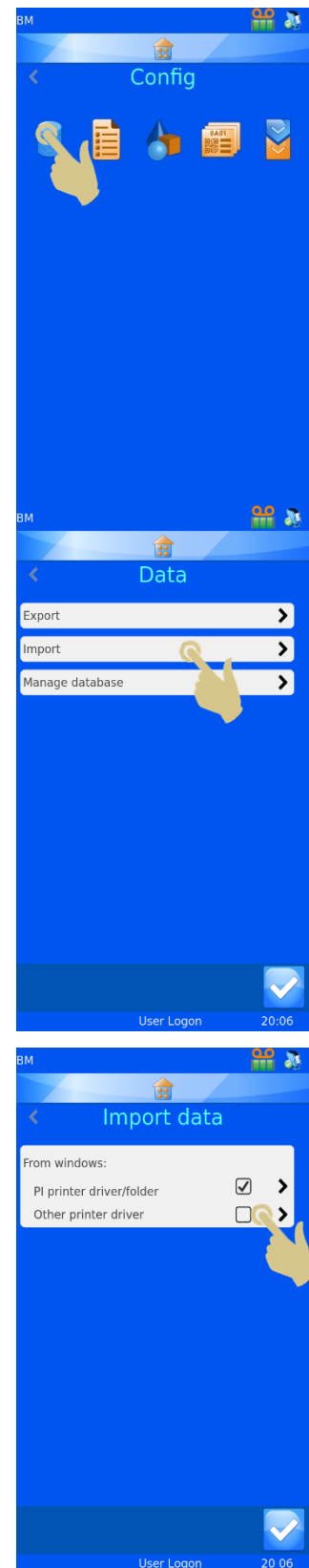
4.1.1. PRESS THE SETTINGS BUTTON

4.1.2. PRESS THE CONFIGURE BUTTON

4.1.3. PRESS THE DATA BUTTON

4.1.4. PRESS THE IMPORT BUTTON

4.1.5. PRESS OTHER PRINTER DRIVER FOLDER BUTTON



4.1.6. PRESS THE ZEBRA BUTTON

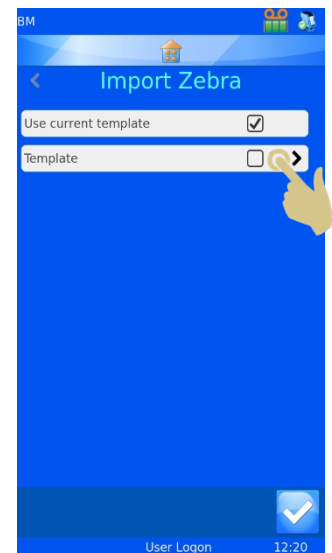
4.1.7. SELECT EITHER USE CURRENT TEMPLATE OR
TEMPLATE.

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.

4.1.8. PRESS THE TEMPLATE BUTTON



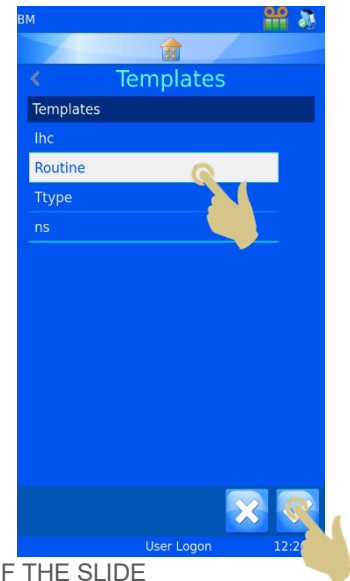
4.1.9. SELECT THE TEMPLATE TO BE USED

4.1.10. PRESS THE CHECK BUTTON

4.1.11. 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.

REFER TO THE PRINTER OPERATOR GUIDE FOR HELP ON SETTING UP THE TRANSLATOR
AND TEMPLATE.



4.2. Print using Zebra EPL Format Files

The driver can be used to send Zebra EPL format text files to the printer. These files will require a translator and template be set up on the printer. The printer will, as the file is received, strip out all of the formatting characters and deliver the sample data for printing to the template. These files are sent to the Hot Folder using the Zebra windows printer file output.

Once the Windows Printer is installed, you will need to set the printer to accept Zebra EPL files. The EPL file will be created, then saved as a file in the Hot Folder. The Pyramid Innovation Windows Printer will pick up the files and send them to the printer. To configure the printer:

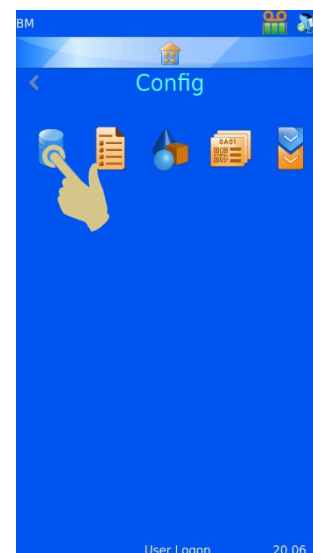
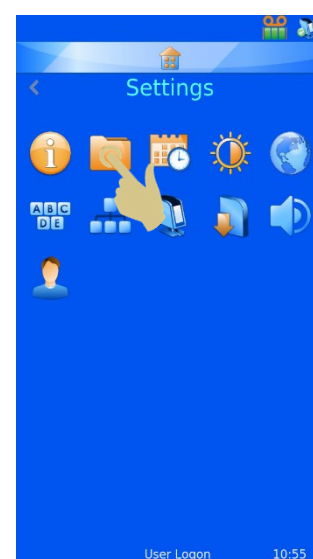
4.2.1. PRESS THE SETTINGS BUTTON

4.2.2. PRESS THE CONFIGURE BUTTON

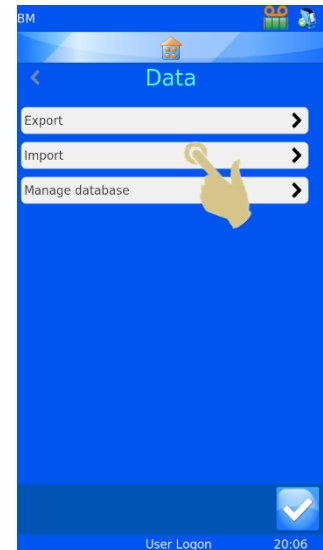
4.2.3. PRESS THE DATA BUTTON

⌈8,A,001

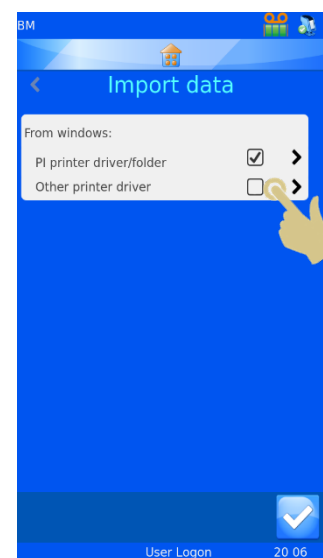
Q300,035
q1228
rN
S1
D7
ZT
JF
OD
R464,0
f100
N
GW48,104,2,34,yyyyyyyyyyyyyyyyyy
GW25,103,3,35,yyyyyyyyyyyyyyyyyy
GW73,12,25,83,yyyyyyyyyyyyyyyyyy
yü òyðløy ðllyyyð>yyýðllyyø òyðøy
yyyyyyyyyyyyyyyyyyyyyyyyyyyyyy
GW19,25,7,35,yyyyyyyyyyyyyyyyyy
b127,109,D,h6,"S19,12345,A,1"
P1



4.2.4. PRESS THE IMPORT BUTTON



4.2.5. PRESS OTHER PRINTER DRIVER/FOLDER BUTTON



4.2.6. PRESS THE ZEBRA EPL BUTTON



4.2.7. PRESS THE CHECK BUTTON

THE PRINTER SHOULD NOW BE ABLE TO ACCEPT ZEBRA EPL FILES FROM THE PC. SEND ZEBRA EPL FILES TO THE HOT FOLDER AS A FILE OUTPUT. THEY SHOULD APPEAR ON THE FRONT OF THE SLIDE PRINTER AUTOMATICALLY.

4.3. Print using LabWriter Images

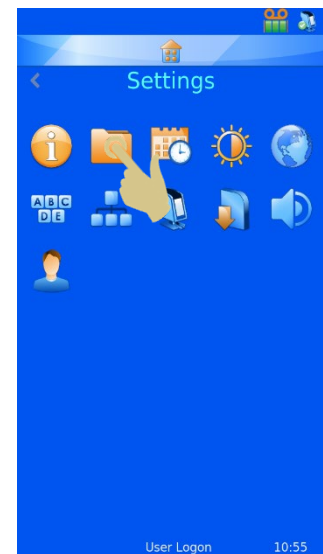
The driver can be used to print image files created by Eprelia LabWriter software.

For information about installation and setup of LabWriter software, contact your local Eprelia distributor.

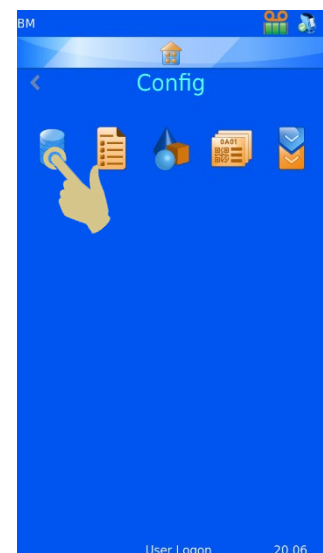
Once LabWriter is installed, you will need to set the slide printer to accept LabWriter images.

4.3.1. PRESS THE SETTINGS BUTTON

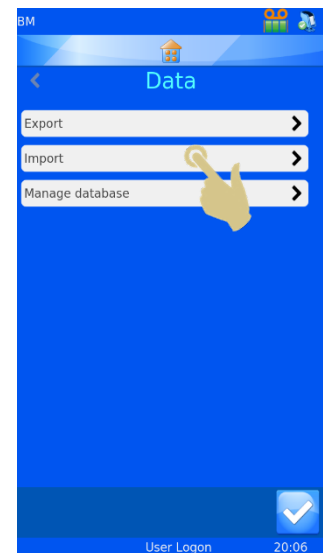
4.3.2. PRESS THE CONFIGURE BUTTON



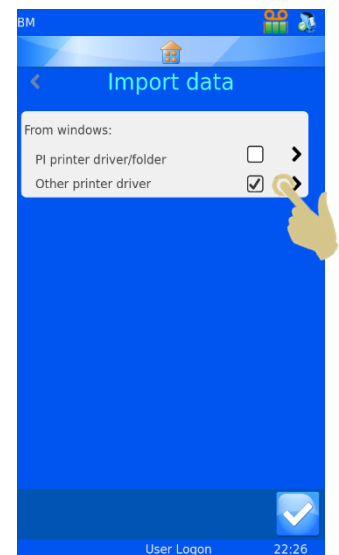
4.3.3. PRESS THE DATA BUTTON



4.3.4. PRESS THE IMPORT BUTTON



4.3.5. PRESS OTHER PRINTER DRIVER BUTTON



4.3.6. PRESS THE SLIDEMATE BUTTON

4.3.7. PRESS THE CHECK BUTTON

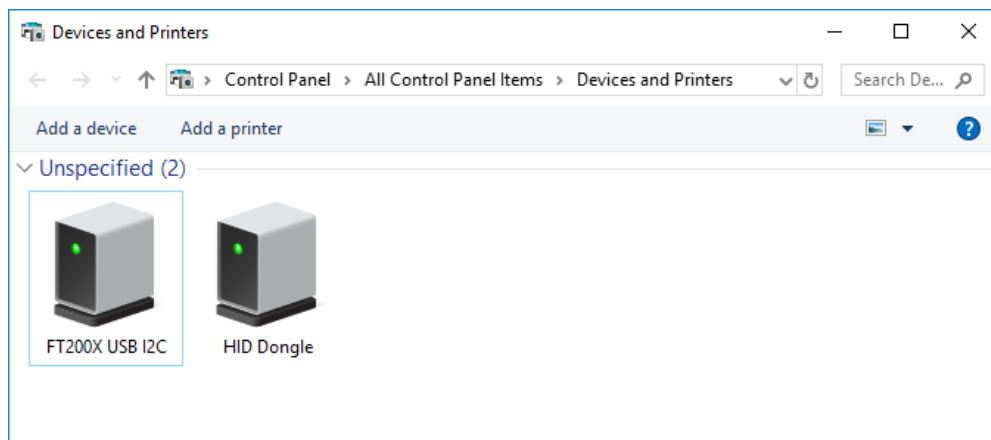
THE PRINTER SHOULD NOW BE ABLE TO ACCEPT IMAGES FROM THE PC. WHEN LABWRITER SENDS IMAGES, THEY SHOULD APPEAR ON THE FRONT OF THE SLIDE PRINTER.



CHAPTER 5 - TROUBLESHOOTING

5.1. USB PORT NOT IDENTIFIED CORRECTLY AS A COM PORT

IF THE USB CABLE FROM THE PRINTER IS PLUGGED INTO THE PRINTER AND THE PC AND THE CONNECTION DOES NOT SHOW UP AS A COM PORT, CHECK THAT THE LOAD VCP IS CHECKED.

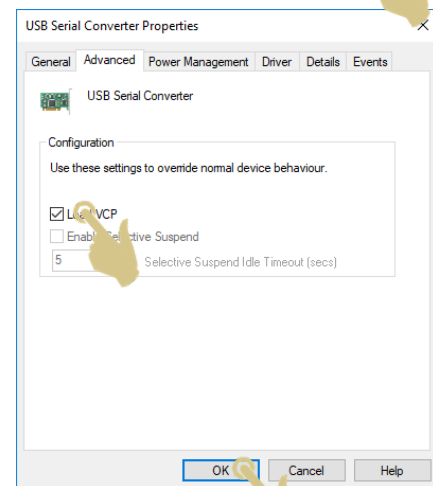
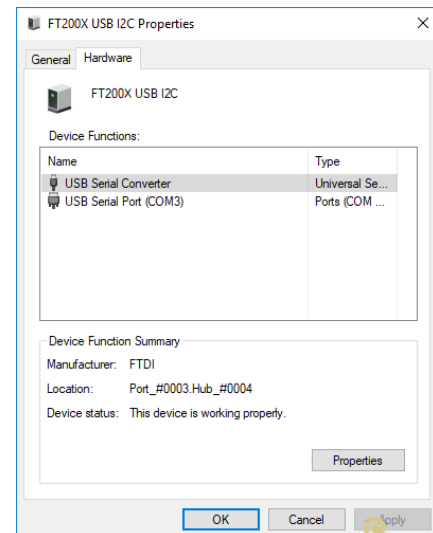


- 5.1.1. OPEN THE DEVICES AND PRINTERS MENU AND LOOK FOR THE ITEM LABELLED FT200X USB I2C AND RIGHT CLICK ON THIS DEVICE AND SELECT PROPERTIES.

5.1.2. From the properties menu, select the Properties box.

5.1.3. PRESS THE LOAD VCP (VIRTUAL COM PORT) BOX AND PRESS OK.

5.1.4. PRESS APPLY AND OK AND CLOSE REMAINING WINDOWS. YOU SHOULD NOW SEE THE PORT LISTED UNDER PORTS, COM AND LPT IN DEVICE MANAGER.



5.2. Updating the Driver

FOR THE LATEST DRIVER UPDATE, PLEASE CHECK THE PYRAMID INNOVATION WEBSITE AT:

www.pyramidinnovation.com/downloads.html

PLEASE FOLLOW THESE STEPS TO UPDATE THE DRIVER:

5.2.1. STOP THE PYRAMID AUTOSUB SERVICE RUNNING VIA THE SERVICES TAB IN TASK
MANAGER

5.2.2. DELETE THE PYR_AUTOSUB.EXE FROM THE
\\WINDOWS\\SYSTEM32\\SPOOL\\DRIVERS\\X64\\3 FOLDER

5.2.3. REMOVE ANY PYRAMID INNOVATION WINDOWS PRINTERS IN SETTINGS

5.2.4. UNINSTALL THE PYRAMID INNOVATION PRINTER DRIVERS USING ADD AND REMOVE
PROGRAMS

5.2.5. RESTART WINDOWS BEFORE RUNNING THE SETUP.EXE

5.2.6. INSTALL THE NEW DRIVER