

# Windows Driver and LIS Interface Guide



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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.

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## ***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

**This guide is intended for use with the Pyramid Innovation Windows Driver version 1.0.13.0.**

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

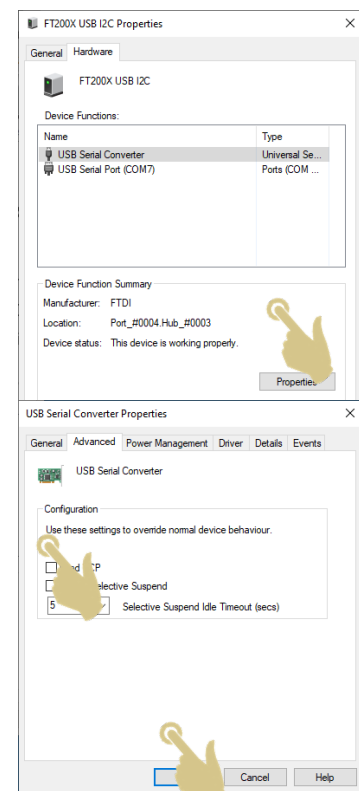
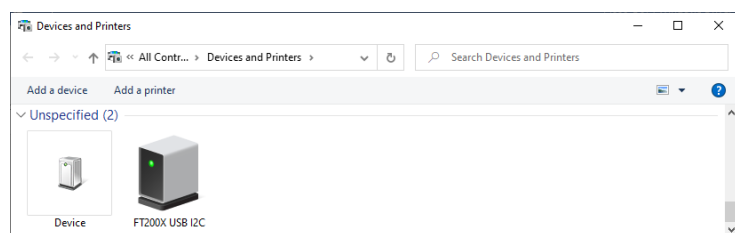
1.1.6. Select the Hardware tab. If you see a Com Port listed, not the com port number.

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

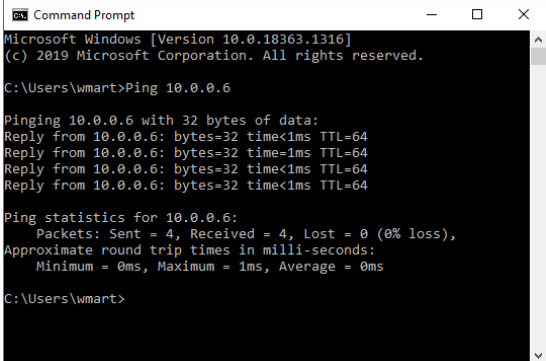


## 1.2. Ethernet Connection

- 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

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.



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

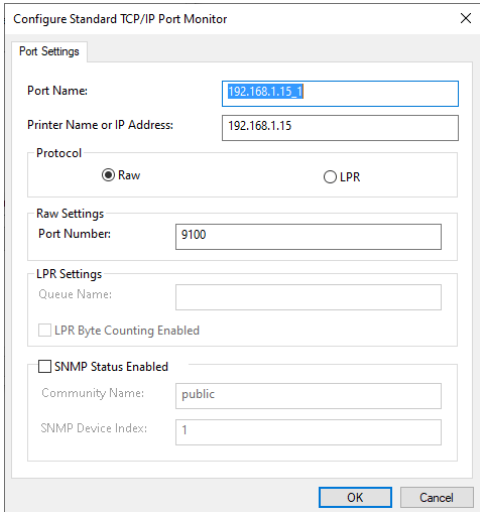
C:\Users\wmart>Ping 10.0.0.6

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>
```

NOTE: Some systems set the port to 3001 for the ethernet connection. To determine which port number is set, in printer properties, select configure port, then check the port number. This should be set the same as the port setting in the printer.



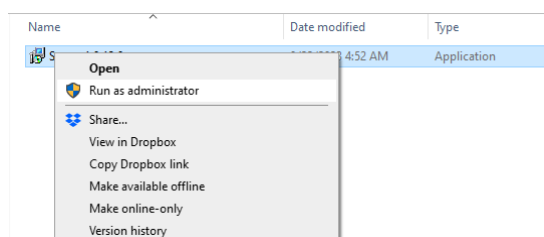
The screenshot shows the 'Configure Standard TCP/IP Port Monitor' dialog box. The 'Port Settings' tab is active. The 'Port Name' field contains '192.168.1.15'. The 'Printer Name or IP Address' field contains '192.168.1.15'. The 'Protocol' section has 'Raw' selected with a radio button. The 'Raw Settings' section has 'Port Number' set to '9100'. The 'LPR Settings' section has 'Queue Name' empty, 'LPR Byte Counting Enabled' unchecked, and 'SNMP Status Enabled' unchecked. The 'Community Name' field contains 'public' and the 'SNMP Device Index' field contains '1'. 'OK' and 'Cancel' buttons are at the bottom right.

# Chapter 2 – Adding the Windows Printer

## 2.1. Install a Windows printer using the Setup file (up to v1.0.13.0)

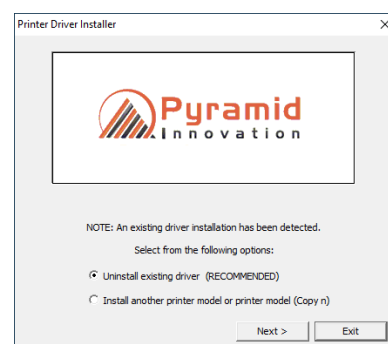
2.1.1. Copy installation file to a local directory on the PC.

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

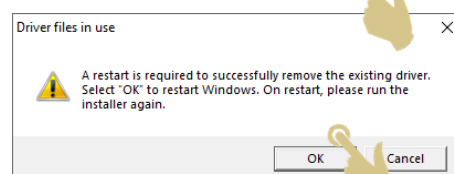


2.2.1. Click YES to allow the program to make changes to the PC

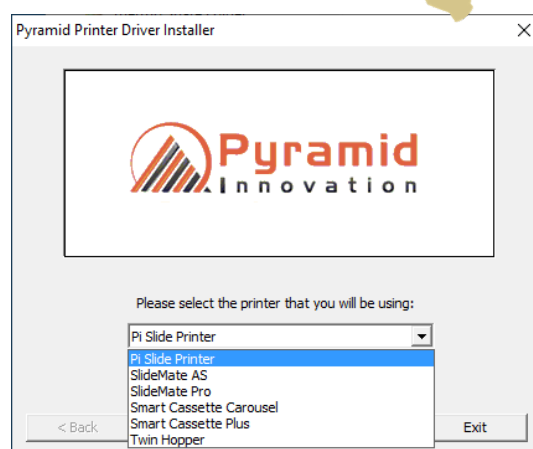
2.2.2. Select the recommended action and press Next.



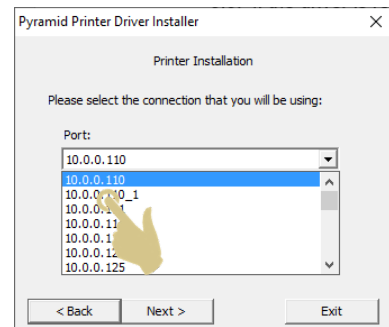
2.2.3. If the driver is replacing a currently installed driver, a power cycle may be required. This will be prompted.



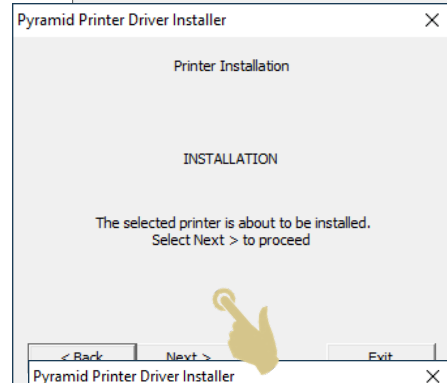
2.2.4. Start the installation again, a printer selection menu will appear. Select the appropriate printer.



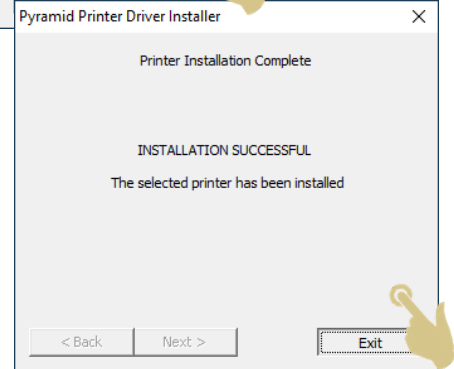
2.2.5. Select the correct Connection



2.2.6. Press Next

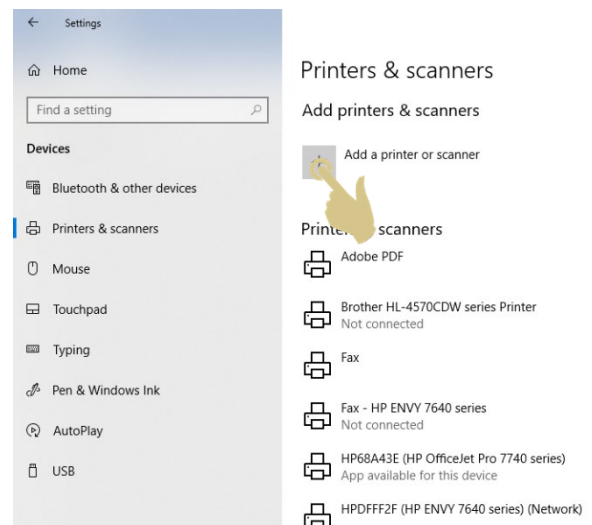


2.2.7. Installation is complete, press Exit



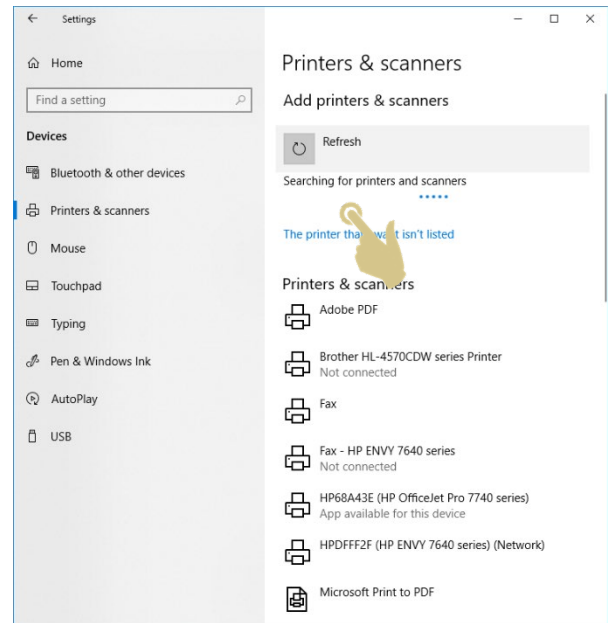
## 2.3. Using the Add a Printer Feature

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

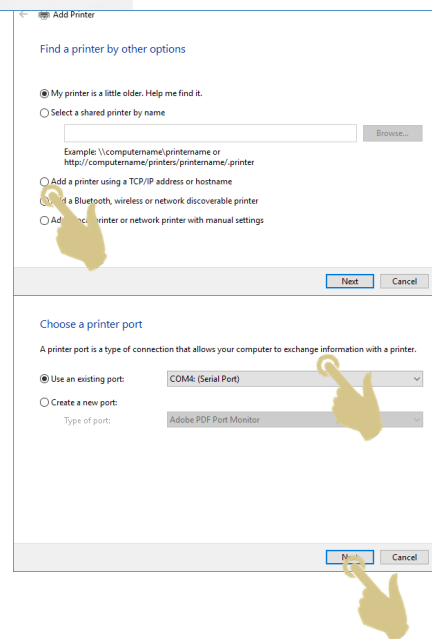




2.3.2. If the printer is not listed, press the button, "The printer that I want isn't listed"

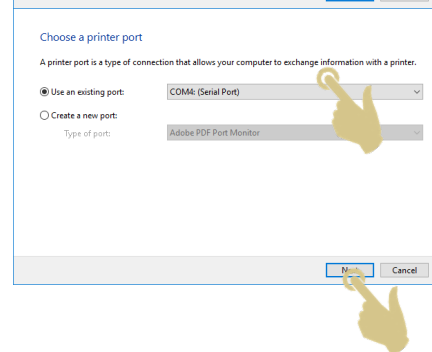


2.3.3. Select Add a local printer or network printer with manual settings

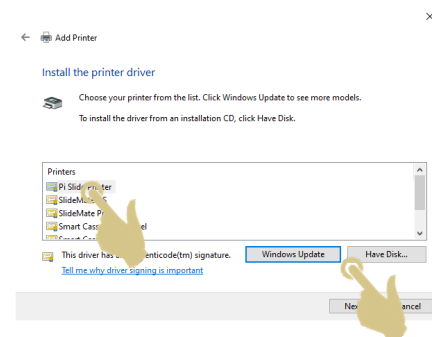


2.3.4. Select the connection to which the printer is connected (in this example it is Com4)

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



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

2.3.7. Select the correct printer then press Next

2.3.8. If required, modify the printer name

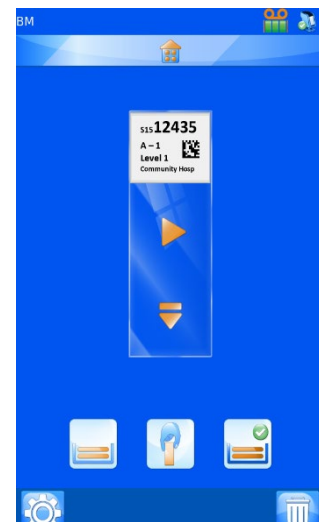
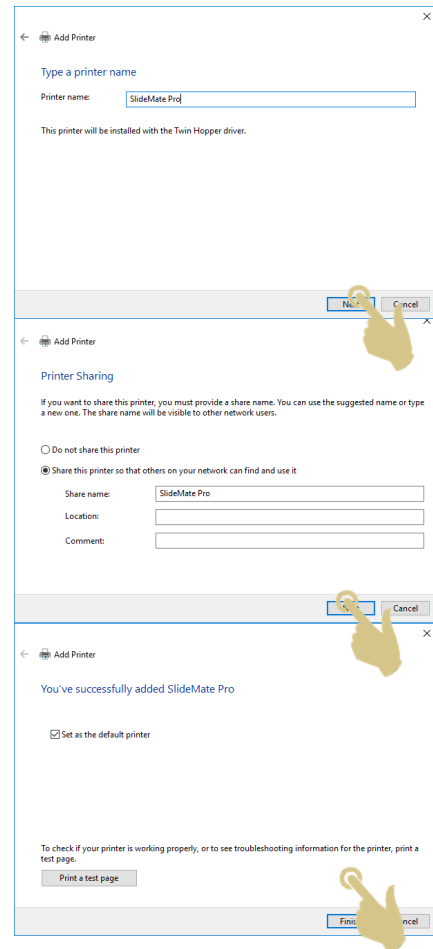
2.3.9. Press Next

2.3.10. Modify as necessary and press Next

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

2.3.11. Press Finish when complete

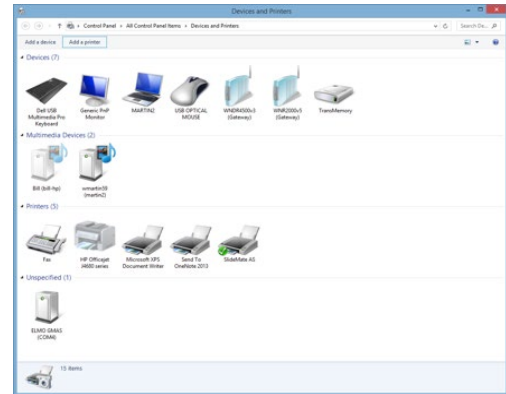
You should see a print job appear on the front of the printer and the trash bin should appear. If this test print does not appear, power cycle the printer and try sending the test print again.



**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 for Slide Printers and 1.2 inch wide by .27 inch tall for cassette printers.



## 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:

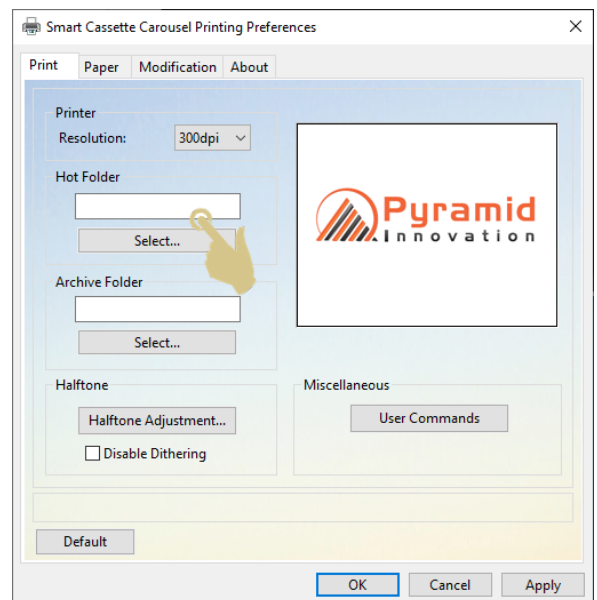
## 2.5. Using an Archive Folder

An Archive folder can be used for troubleshooting or for advanced printing function. When set, the driver will copy all files from the hot folder to this folder prior to sending the text files to the printer.

2.5.1. Create a folder on the PC or Network where the delimited text files will be transferred to for printing.

2.5.2. Open the Printer Printing Preferences menu

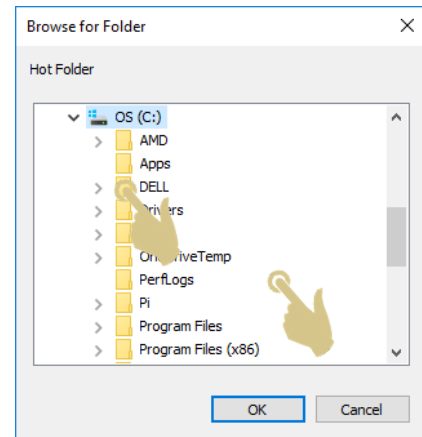
2.5.3. Press Select



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

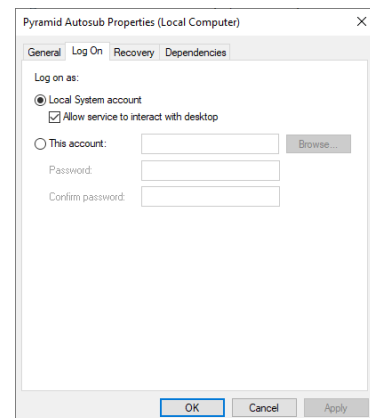
2.5.5. Press OK

2.5.6. 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.



## 2.6. 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

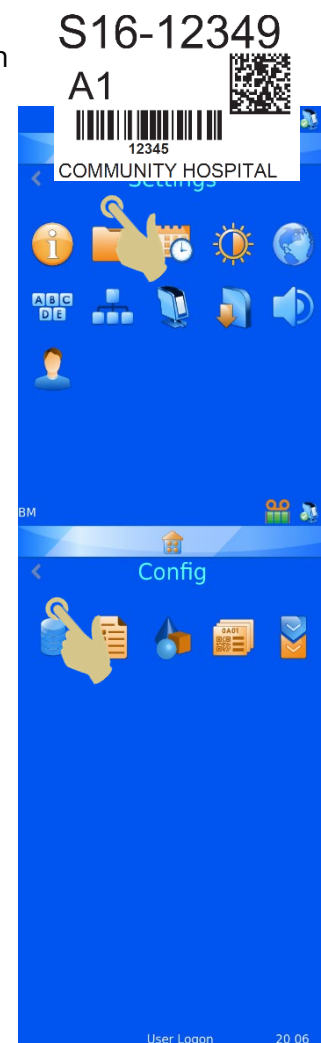
The Pyramid Innovation driver is used to print all image files. These images can be created by many types of programs, some of these are Nicelabel, Zebra, Wasp Label Printing software and many LIS systems.

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

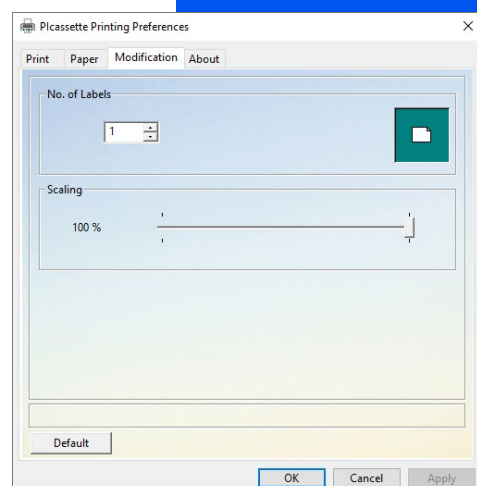
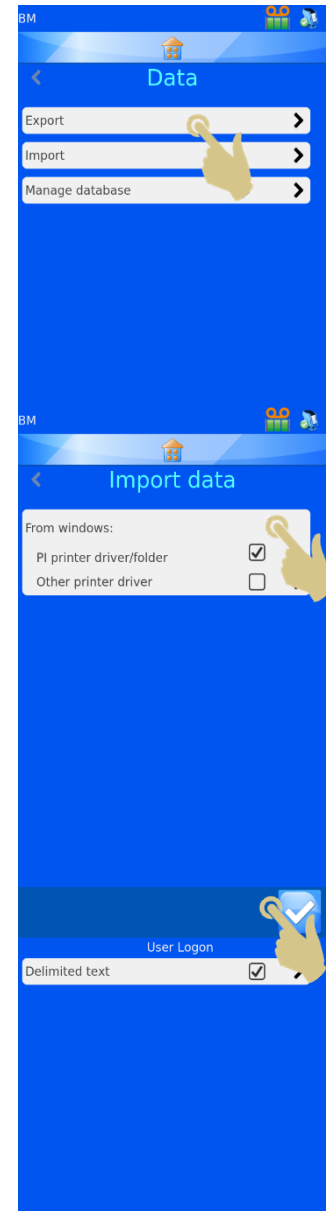
3.1.7. PRESS THE CHECK BUTTON

*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.

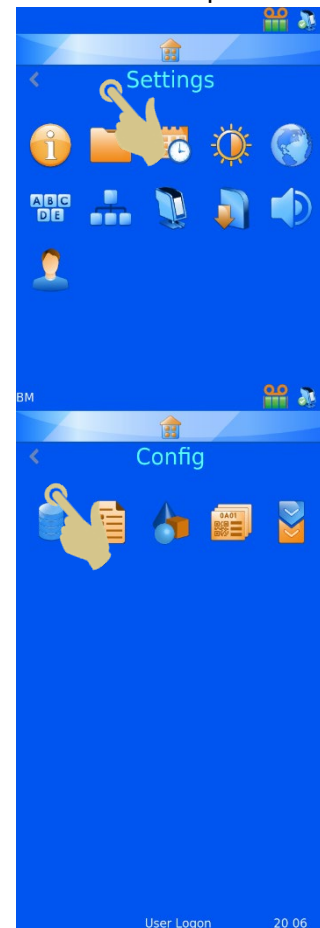
S19,12345,A,1

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

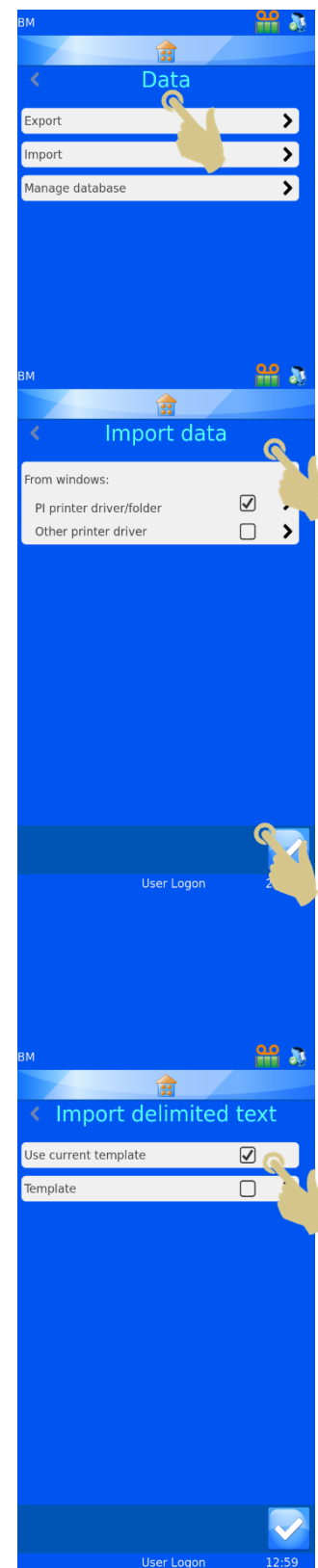
3.3.6. PRESS THE DELIMITED TEXT BUTTON

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



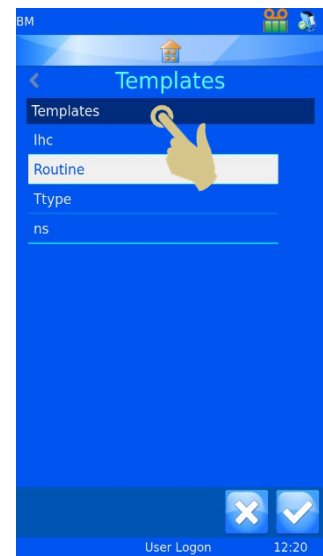


3.3.11. SELECT THE TEMPLATE TO BE USED

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

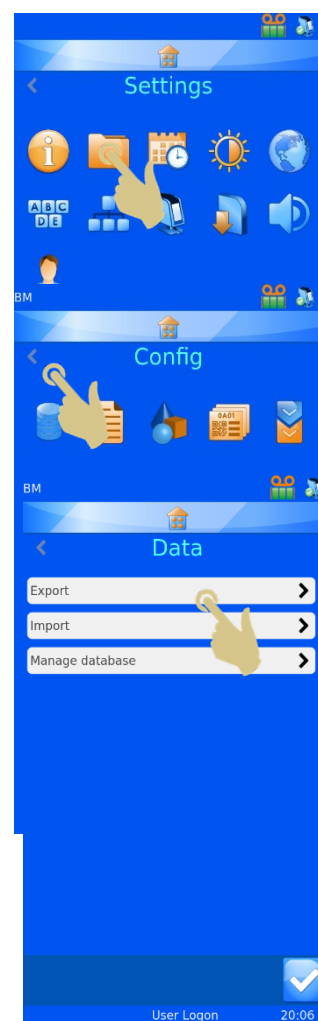
## 3.4. Print using Zebra Format Files

The Pyramid Innovation printers can print using Zebra (ZPL) files. A Generic Text Only Printer will need to be set up in Printers on the PC or Server. 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
```

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

- 3.4.1. PRESS THE SETTINGS BUTTON
- 3.4.2. PRESS THE CONFIGURE BUTTON
- 3.4.3. PRESS THE DATA BUTTON
  
- 3.4.4. PRESS THE IMPORT BUTTON



3.4.5. PRESS OTHER PRINTER DRIVER FOLDER BUTTON

3.4.6. PRESS THE ZEBRA BUTTON

3.4.7. 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.

3.4.8. PRESS THE TEMPLATE BUTTON

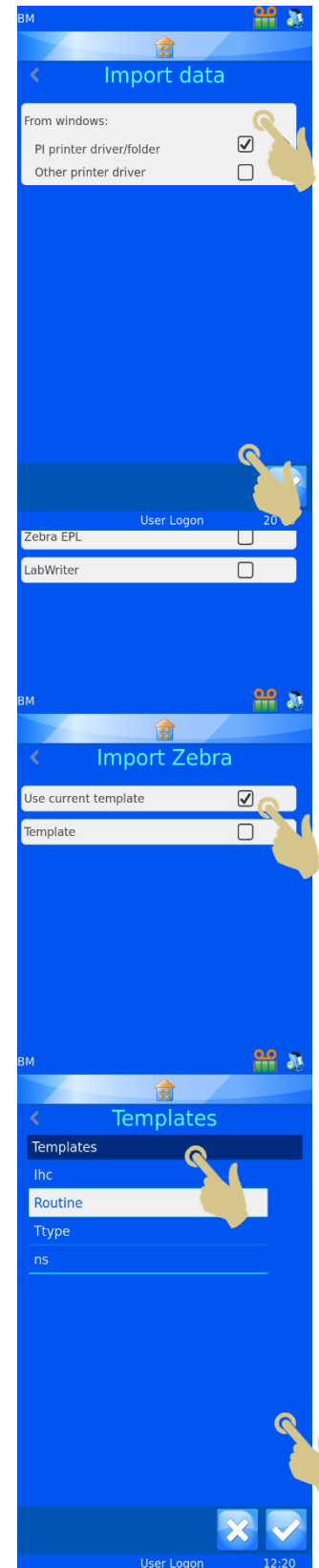
3.4.9. SELECT THE TEMPLATE TO BE USED

3.4.10. PRESS THE CHECK BUTTON

3.4.11. 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.



## 3.5. Print using LabWriter Images

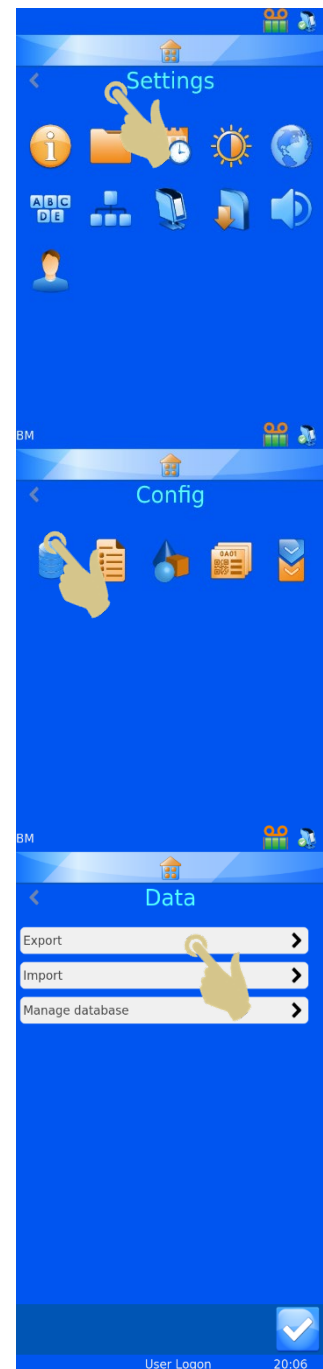
The driver can be used to print image files created by EpreDia LabWriter software. For information about installation and setup of LabWriter software, contact your local EpreDia distributor.

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

- 3.5.1. PRESS THE SETTINGS BUTTON
- 3.5.2. PRESS THE CONFIGURE BUTTON

- 3.5.3. PRESS THE DATA BUTTON

- 3.5.4. PRESS THE IMPORT BUTTON

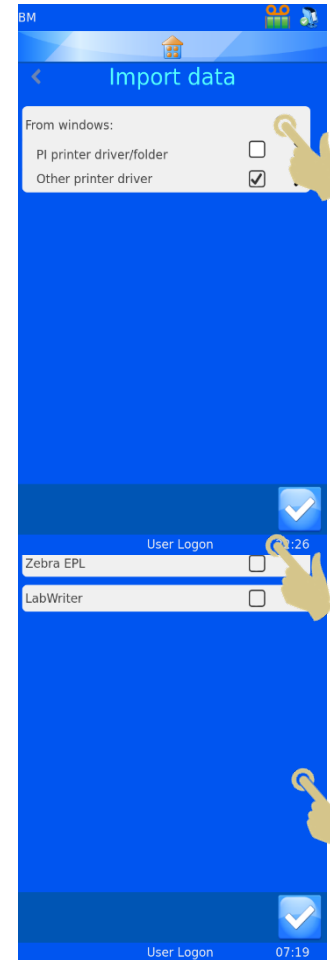


3.5.5. PRESS OTHER PRINTER DRIVER BUTTON

3.5.6. PRESS THE SLIDEMATE BUTTON

3.5.7. PRESS THE CHECK BUTTON

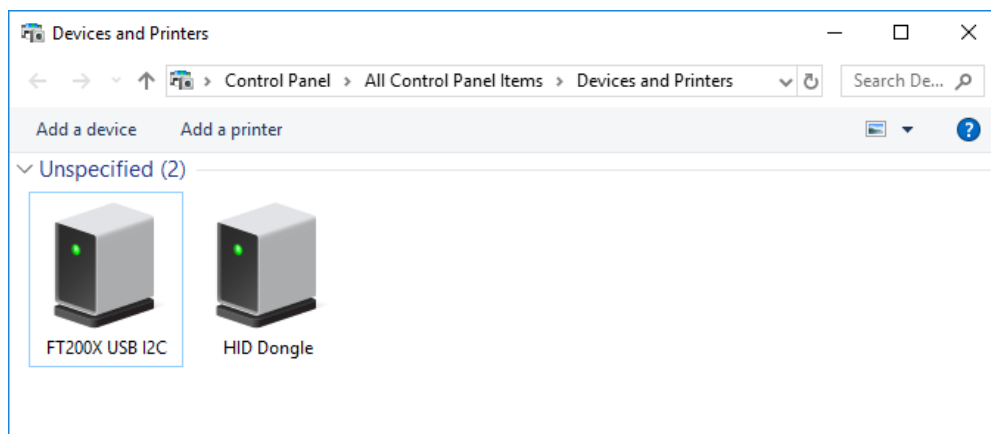
THE PRINTER SHOULD NOW BE ABLE TO ACCEPT IMAGES FROM THE PC. WHEN LABWRITER SENDS IMAGES, THEY SHOULD APPEAR ON THE FRONT OF THE SLIDE PRINTER.



## CHAPTER 5 - TROUBLESHOOTING

### 4.1. 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.

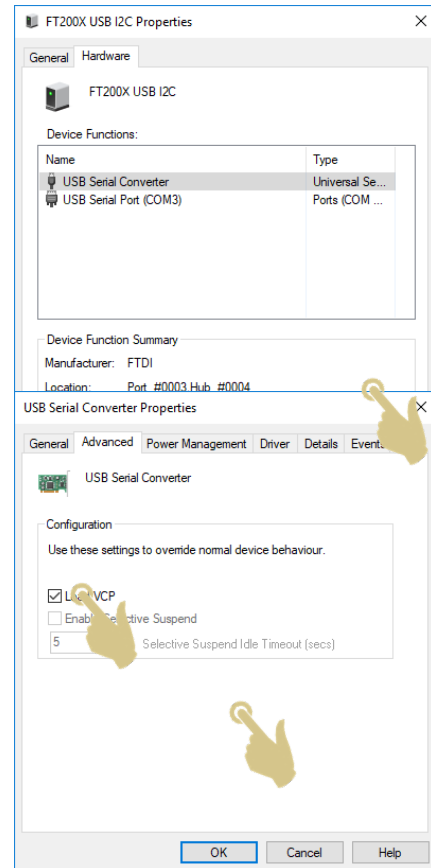


4.1.1. OPEN THE DEVICES AND PRINTERS MENU AND LOOK FOR THE ITEM LABELLED FT200X USB I2C AND RIGHT CLICK ON THIS DEVICE AND SELECT PROPERTIES.

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

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

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



## 4.2. Updating the Driver

FOR THE LATEST DRIVER UPDATE, PLEASE CHECK THE PYRAMID INNOVATION WEBSITE AT:  
[www.pyramidinnovation.com/downloads.html](http://www.pyramidinnovation.com/downloads.html)

PLEASE FOLLOW THESE STEPS TO UPDATE THE DRIVER:

- 4.2.1. STOP THE PYRAMID AUTOSUB SERVICE RUNNING VIA THE SERVICES TAB IN TASK MANAGER
- 4.2.2. DELETE THE PYR\_AUTOSUB.EXE FROM THE  
\\WINDOWS\\SYSTEM32\\SPOOL\\DRIVERS\\X64\\3 FOLDER
- 4.2.3. REMOVE ANY PYRAMID INNOVATION WINDOWS PRINTERS IN SETTINGS
- 4.2.4. UNINSTALL THE PYRAMID INNOVATION PRINTER DRIVERS USING ADD AND REMOVE PROGRAMS
- 4.2.5. RESTART WINDOWS BEFORE RUNNING THE SETUP.EXE
- 4.2.6. INSTALL THE NEW DRIVER