



HP Point of Sale (POS) Peripherals Configuration Guide – Receipt Printer (Windows mini-drivers)

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1 HP Point of Sale Peripherals

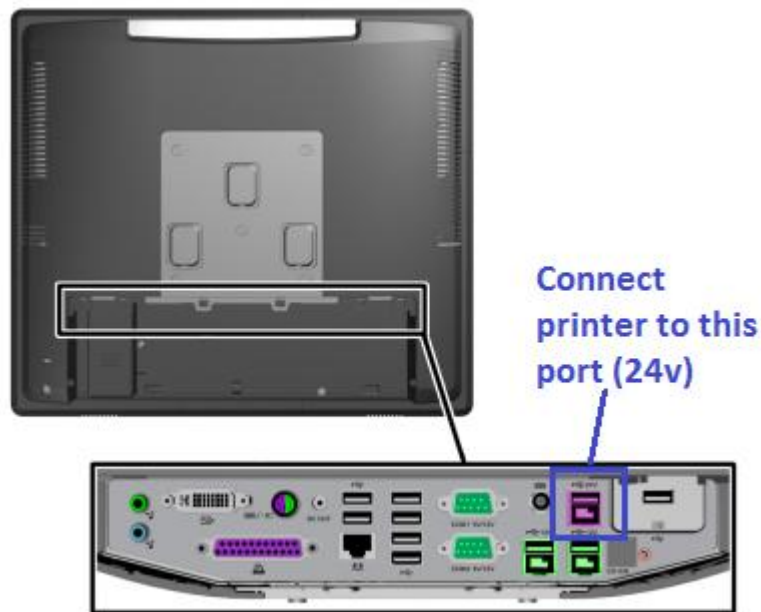
1.1 Receipt Printer



1.1.1 Connection

The HP receipt printer is installed in the 24V powered USB port on the HP POS system. The following show the back of the various HP POS units showing where the 24V power USB port is located.

HP rp7800:



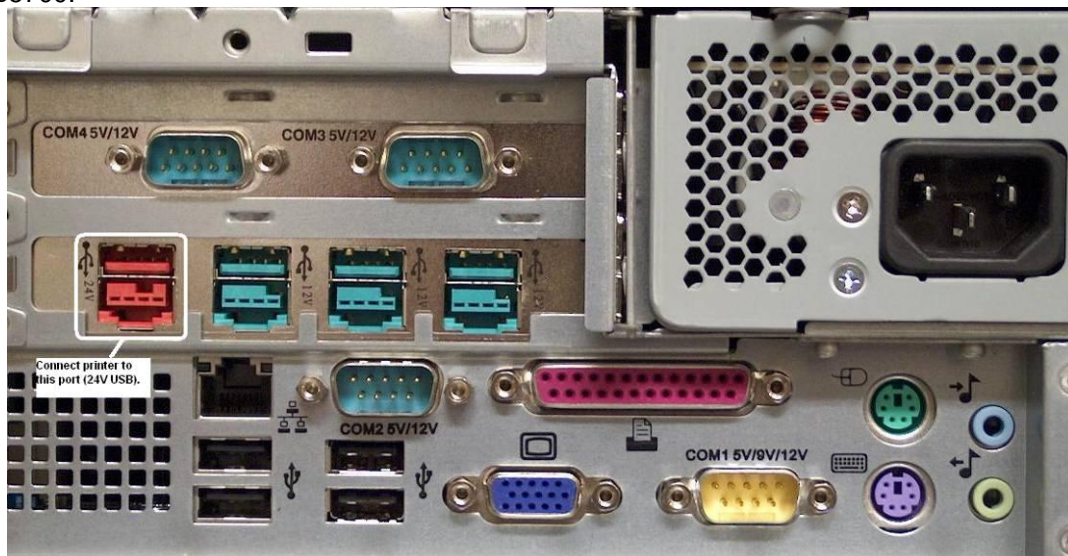
HP ap5000:



HP rp3000:



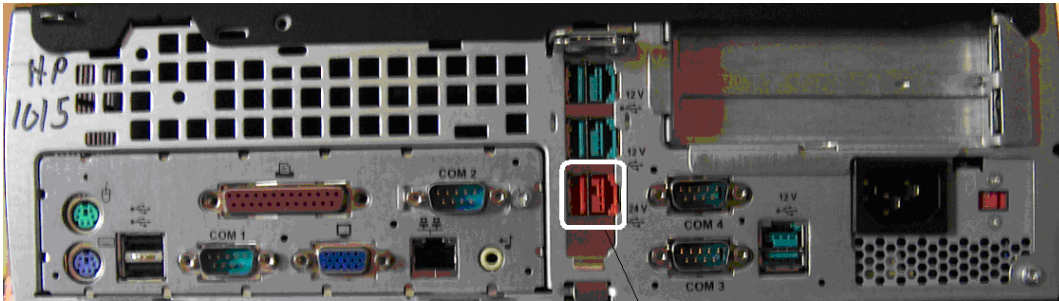
HP rp5700:



HP rp5800:



HP rp5000:

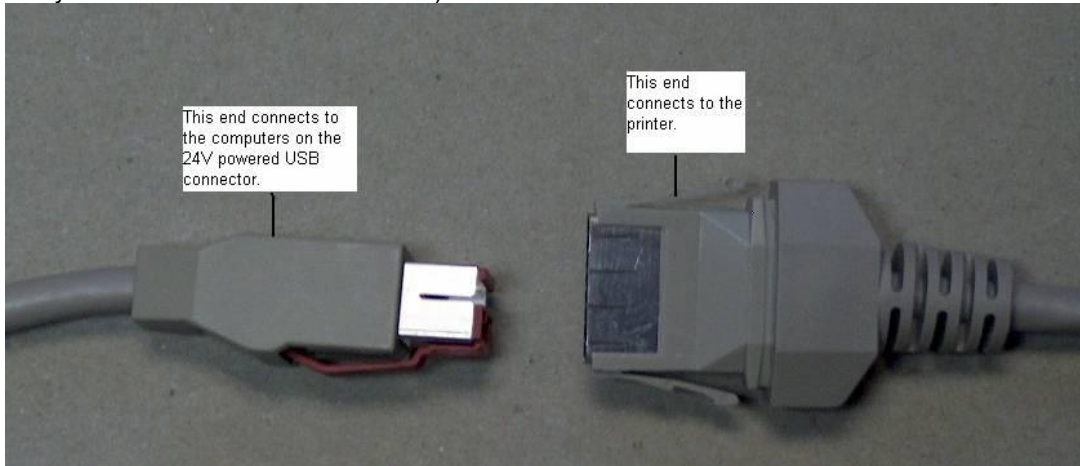


Connect printer to
this port (24V USB)

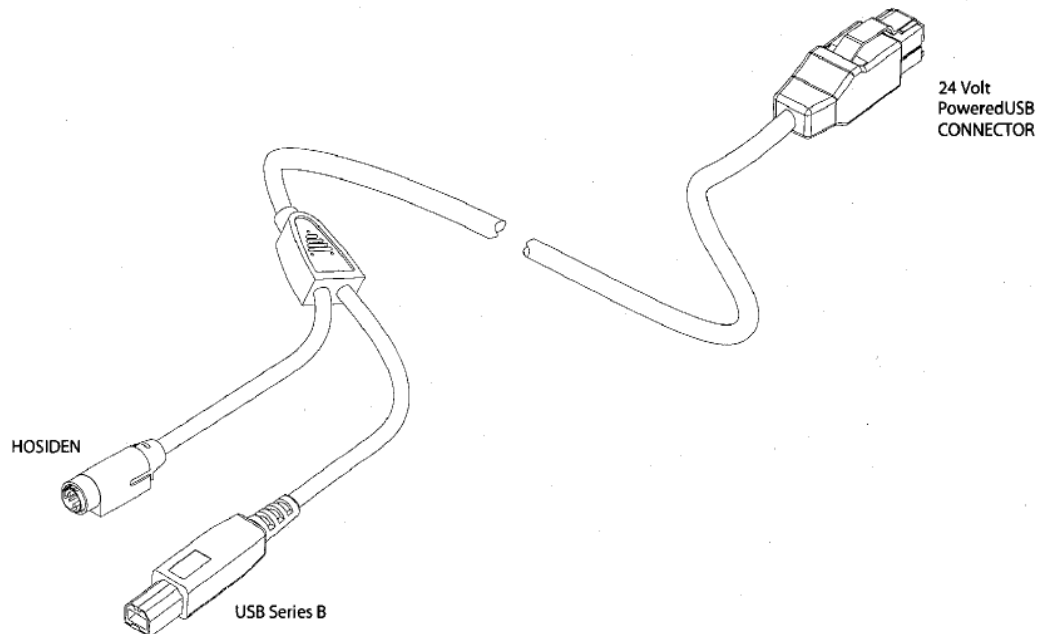
Note: The 24V powered USB port and cable are keyed differently than 12V powered USB connector, as well as the color.

1.1.2 **Powered USB Cable**

The following is the powered USB cable for single station printer and the hybrid printer (color of the cable maybe different than what is shown):



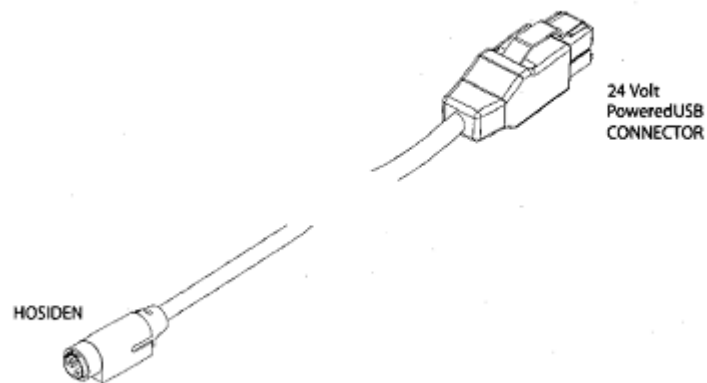
The following is the powered USB cable for the hybrid printer with imager:



The single station printer with serial interface requires two cables: power (hosiden) and serial data cable.



The following is the powered (hosiden) cable for the single station printer with serial interface:



The serial data cable is standard null modem cable and the following is the pin out of the cable:

Pin #	Pin #
1	NC (no connect)
2	3
3	2
4	6
5	5
6	4
7	8
8	7
9	NC (no connect)
Shield	Frame Ground

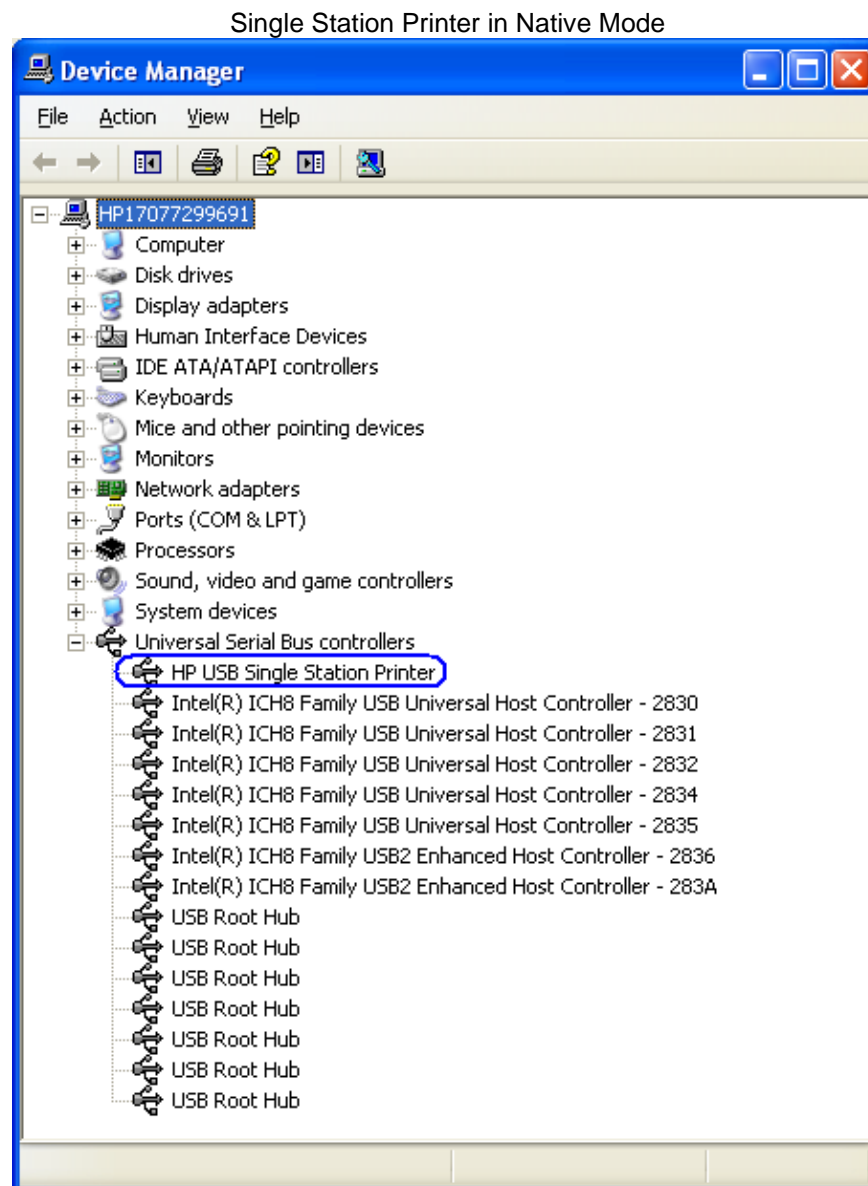
1.1.3 **NATIVE mode**

Please note that PRINTER CLASS is the default mode of the printer; please see next section for more details on PRINTER CLASS.

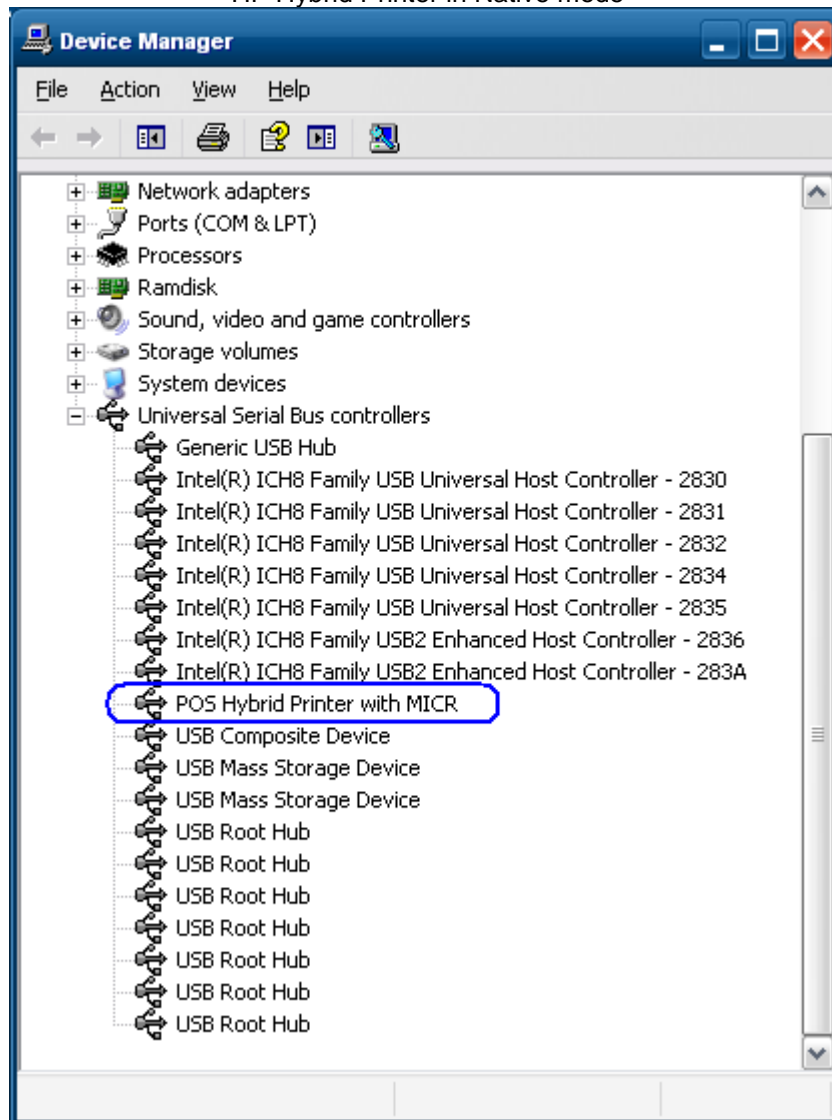
On the HP Point of Sale units with Windows operating system, the drivers for Windows device manager are installed on the image from the HP factory. When the printer is attached to the unit via the powered USB connection, Windows will load the drivers for the HP POS printer.

If the Windows USB drivers are needed for Device Manager when the printer is in native mode they can be found on the "HP Point of Sale System Software and Documentation CD" included with the peripherals.

The following is showing what appears in Windows Device Manager after the driver has been loaded for the printer in NATIVE mode (under XP / WEPOS / POSReady; NATIVE mode is not supported under Vista or Windows 7):



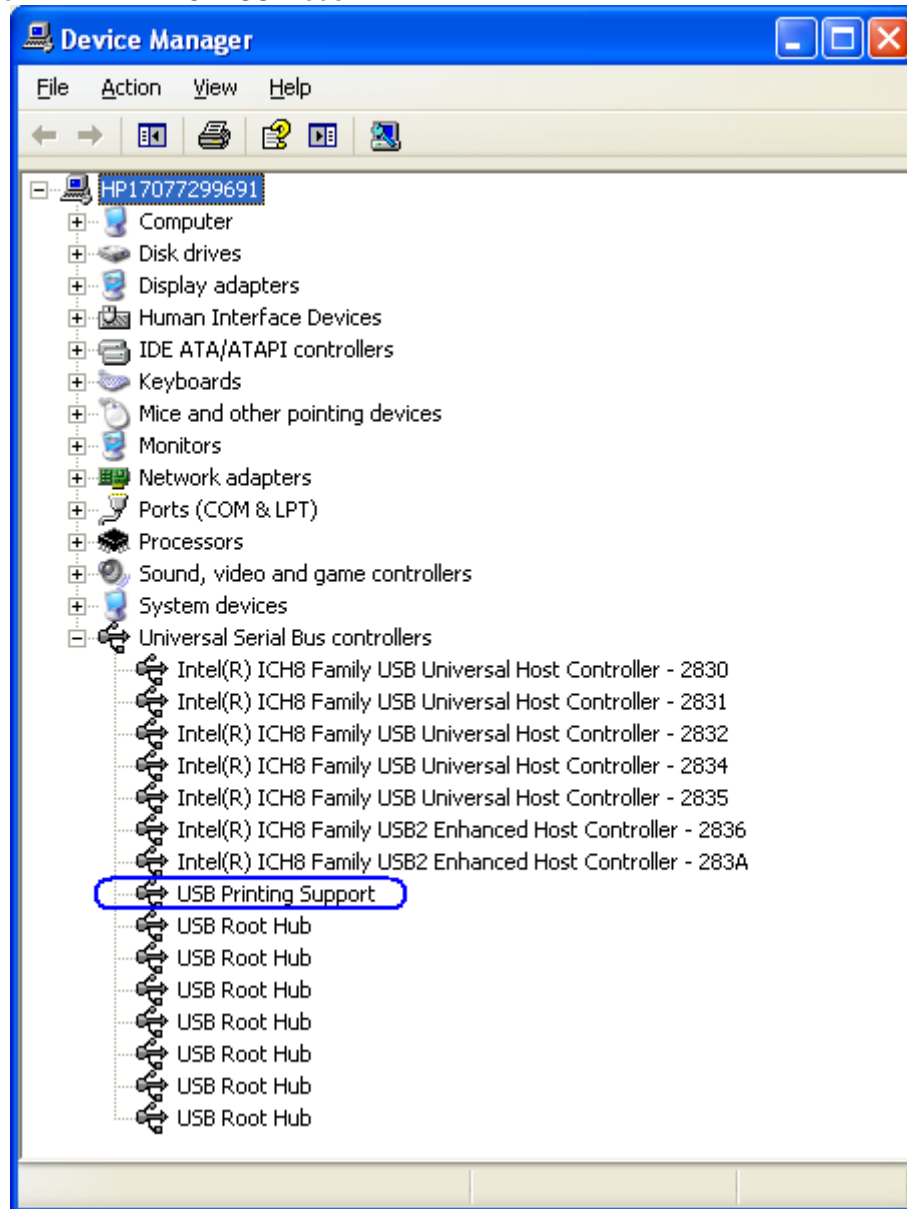
HP Hybrid Printer in Native mode



1.1.4 **PRINTER CLASS Mode**

When the printer is in PRINTER CLASS mode, the Microsoft Windows native drivers are loaded by operating system for device manager. PRINTER CLASS mode must be used when the POS application does not use OPOS driver to communicate the receipt printer.

The following is showing what appears in Windows Device Manager after the driver has been loaded for the printer in PRINTER CLASS mode:



1.1.5 **COMM CLASS Mode**

If the correct boot and flash firmware level are present on the printer (see table below) the printer can be put into COMM CLASS. When the printer is in COMM CLASS mode a virtual COM port is assigned to the printer USB interface for application that only communicate to the printer via serial port. One can look in Windows Device Manager → PORTS to determine the virtual com port that Windows assigned to the virtual printer COM port. Steps to change COMM class are covered in [USB MODE SELECTOR](#) section of the document).

Note: The COMM CLASS option is available only on the A799 powered USB model and A776 printer.
The following are minimum version of the firmware that supports the COMM CLASS option:

Firmware Version	A776	A799
Boot Firmware Version	1.25	1.06
Flash Firmware Version	2.00	1.08

Note: If the printer has later versions then what is listed in the above table, the printer firmware does not need to be downgraded to the version in the table.

In order to obtain the firmware that is installed on the printer, perform the following steps when you are in front of the printer:

1. Open the printer cover that holds the thermal receipt paper.
2. Hold down the printer form feed button and close the printer cover.
3. Release the form feed button on the printer and a diagnostics printout will be printed.

The following are examples of the diagnostics printout:

HP Single Station Printer (A799)

```

*** A799 - Diagnostics Form ***
ReceiptWare Enabled

Model number       : A799-C40W-HN00
Serial number      : K084602682

Boot Firmware
Revision           : V1.06
CRC                : 2E86
P/N                : 189-7940248A

Flash Firmware
Revision           : V1.08
CRC                : 35DB
P/N                : 189-7940253B

H/W parameters
Flash Memory Size  : 4 Mbytes
Flash Logos/Fonts  : 64 kbytes
Flash User Storage : 64 kbytes

```

HP Hybrid Thermal Printer (A776)

```

*** A776 / B780 - Diagnostics Form ***
ReceiptWare Enabled

Model number       : A776-C21W-H000
Serial number      : K084905284

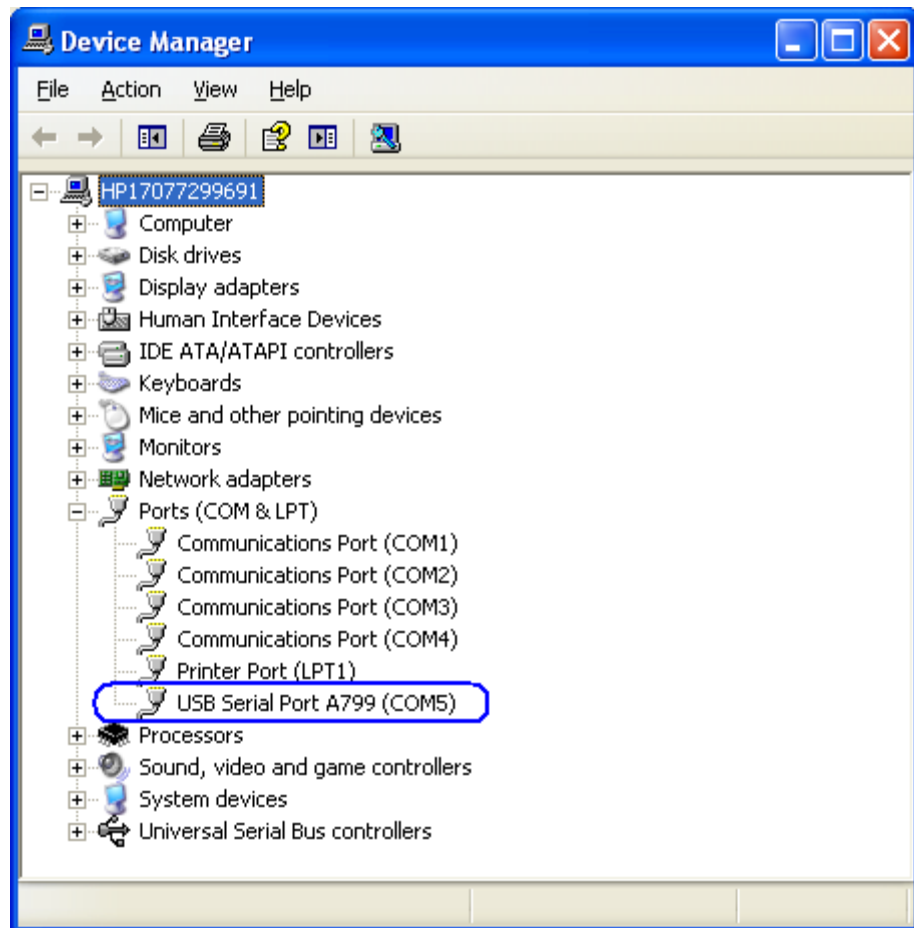
Boot Firmware
Revision           : V1.25
CRC                : FC97
P/N                : 189-7760899A

Flash Firmware
Revision           : V2.00
CRC                : 8910
P/N                : 189-7760897A

H/W parameters
Flash Memory Size  : 2 Mbytes
Flash Logos/Fonts  : 896 kbytes
Flash User Storage : 64 kbytes

```

The following is showing what appears in Windows Device Manager after the driver has been loaded for the printer in COMM CLASS mode:



1.1.6 Serial Printer

The serial version of the printer will not show as a unique device in Windows device manager. Ensure that the serial port in device manager is present and does not have yellow bang.

1.1.7 Windows Drivers for the Receipt Printer Drivers

The printer has two modes: NATIVE and PRINTER CLASS. PRINTER CLASS is the default mode of the printer.

The PRINTER CLASS mode is used with POS application that use Windows printer driver to print, they do not use OPOS to communicate to the printer.

Note: The Windows mini-drivers and the OPOS drivers cannot be set to the same COM port.

1.1.7.1 Install Windows Printer Driver (USB)

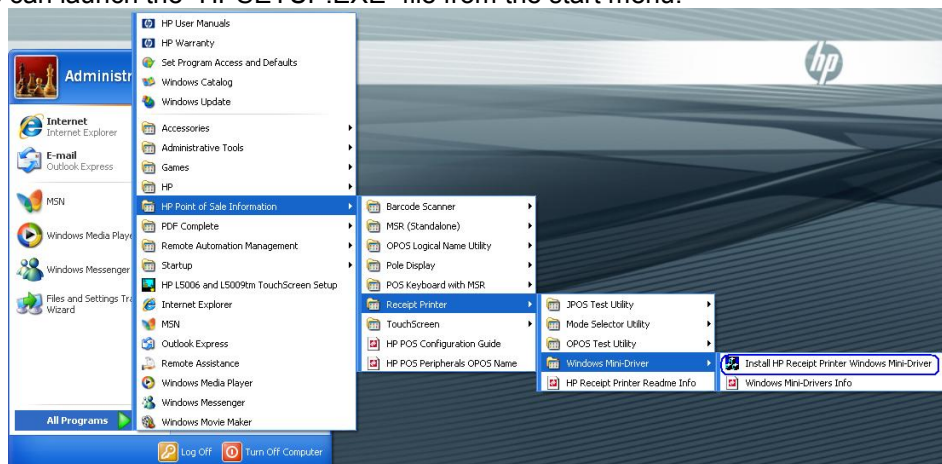
The following is an overview of the steps to test the receipt printer followed by detailed steps:

1. Start the setup program for the Windows mini-drivers by launching the “HPSETUP.EXE” program and click “OK” on the main GUI (graphical user interface).
2. Select if running 32-Bit or 64-Bit operating system.
3. Select the printer model that you wish to install.
4. Select the printer driver option that you wish to install from the drop down menu.
5. Select the USBxxx (Virtual Printer Port of USB) printer port from the drop menu (towards the bottom of the menu).
6. Click “OK” to install the printer driver and a small test print out will occur if the option was selected.

Detail Steps

1. Start the setup program for the Windows mini-drivers by double clicking on “HPSETUP.EXE” file and click “OK”.

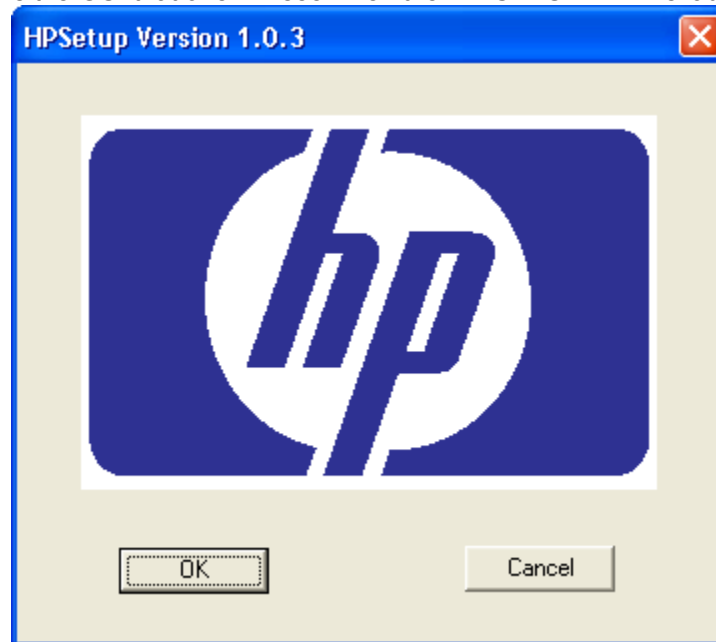
One can launch the “HPSETUP.EXE” file from the start menu:



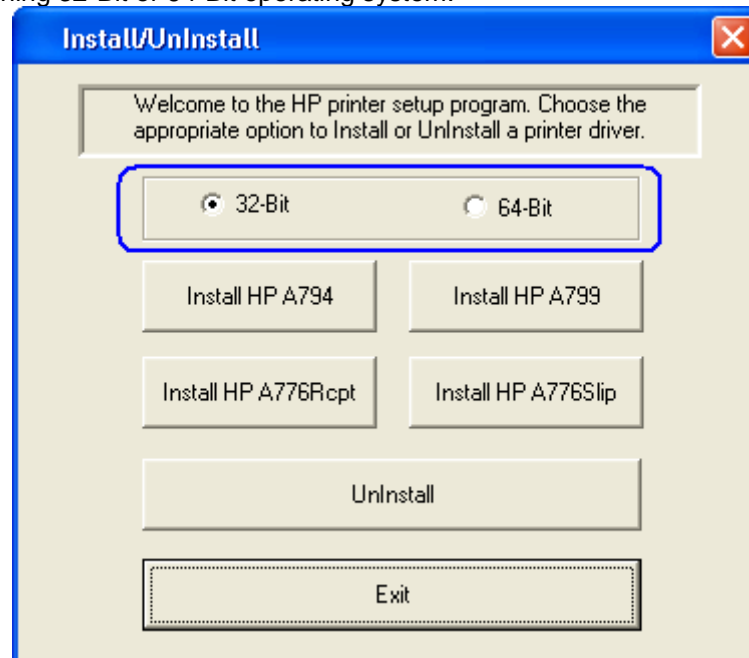
or

go to the “C:\xxxxx\Point of Sale\Receipt Printer\Windows Receipt Printer Drivers” folder and double click on the “HPSETUP.EXE” file.

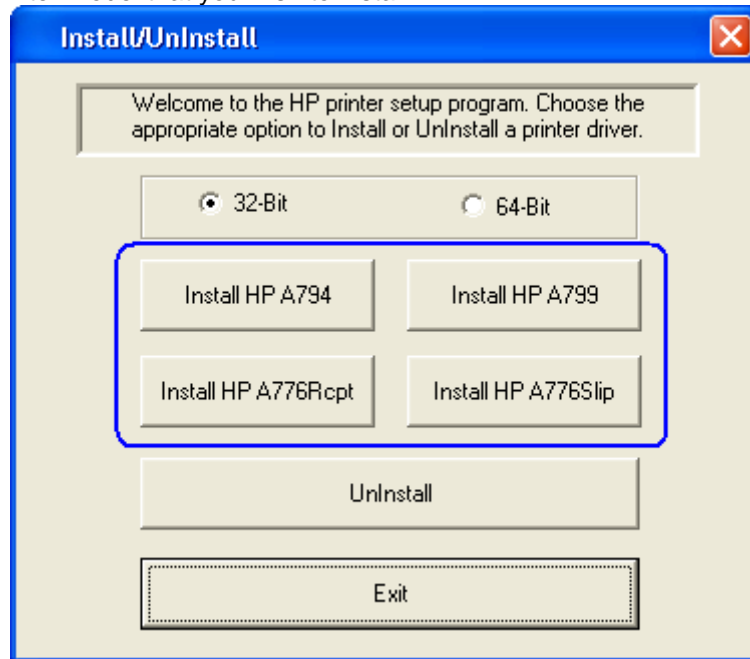
The following is the GUI that one will see when the “HPSETUP.EXE” is launched:



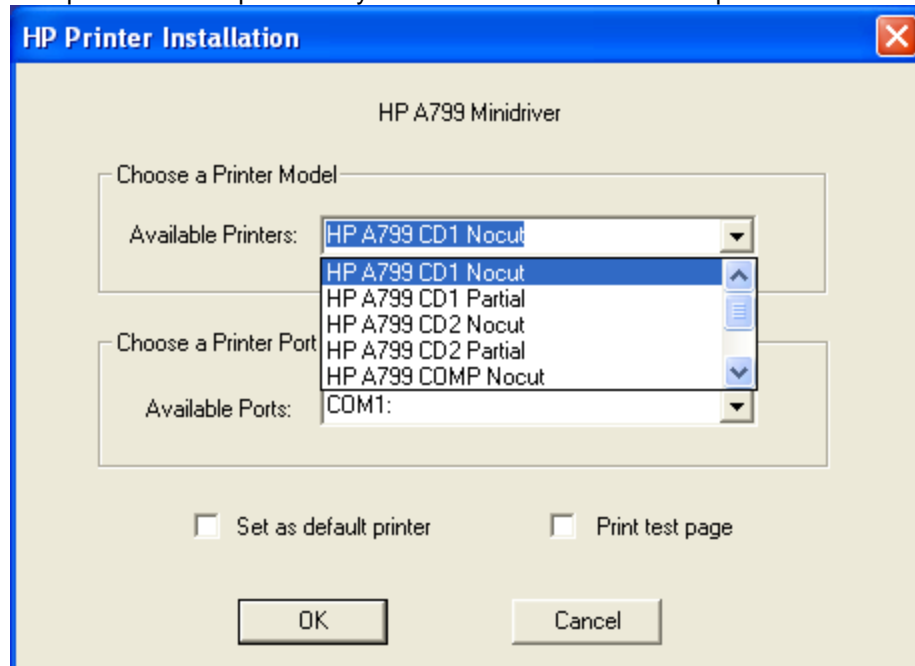
2. Select if running 32-Bit or 64-Bit operating system.



3. Select the printer model that you wish to install.



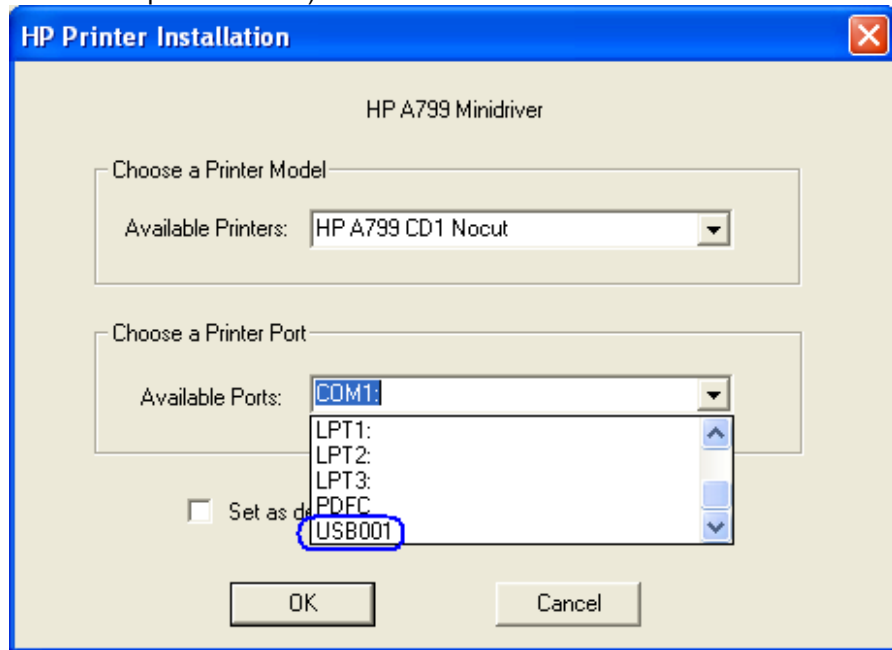
4. Select the printer driver option that you wish to install from the drop down menu.



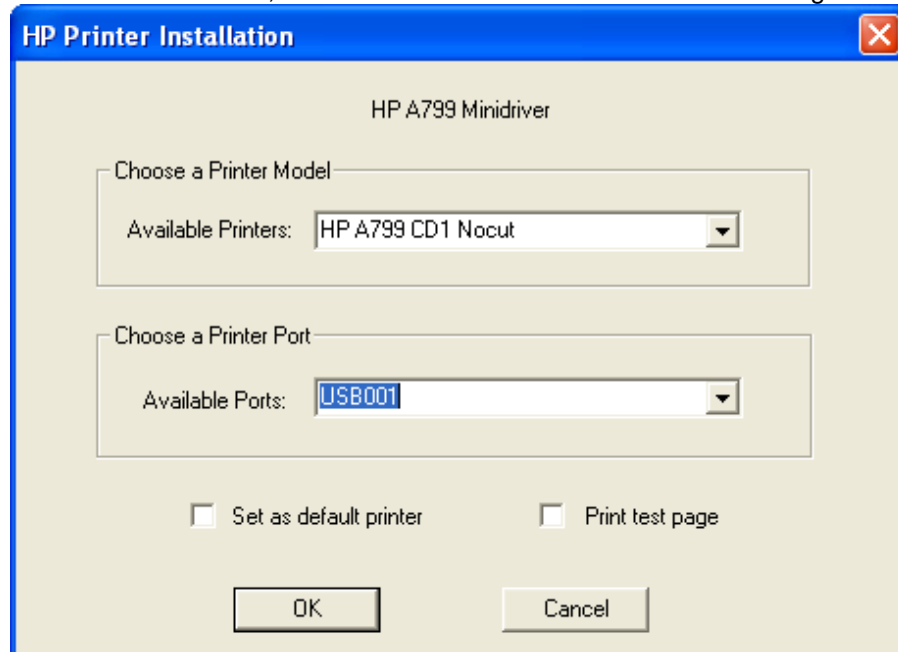
- The HP A7xx CD#1 and HP A7x CD#2 versions generate a pulse to open cash drawer 1 or 2, respectively after each document. The HP A7xx COMP version does not send the reset command at the start of every document.

Note: "xx" is the complete model number of the printer, (i.e. A794 / A799 / A776).

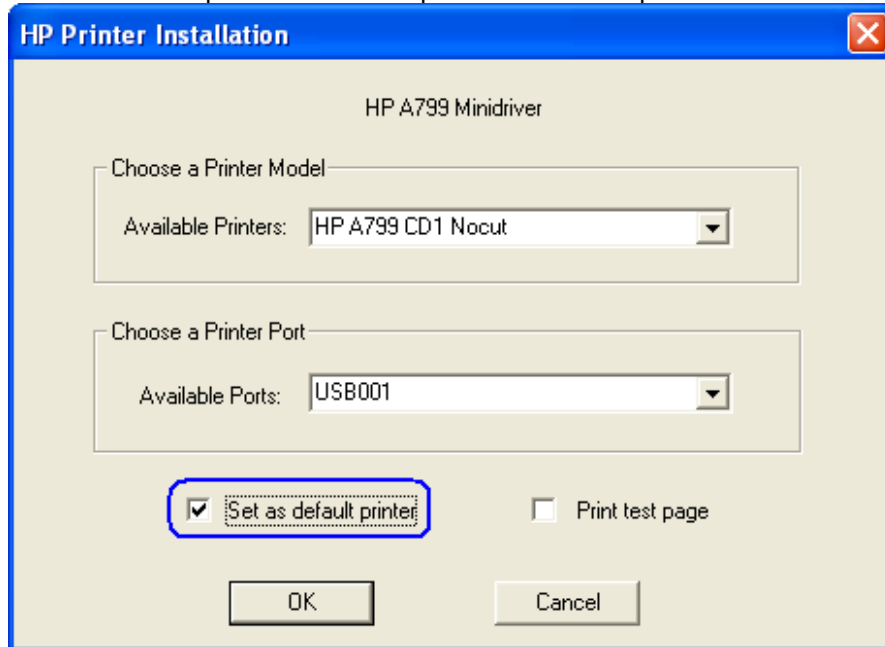
5. Select the USBxxx (Virtual Printer Port of USB) printer port from the drop menu (towards the bottom of the drop down menu).



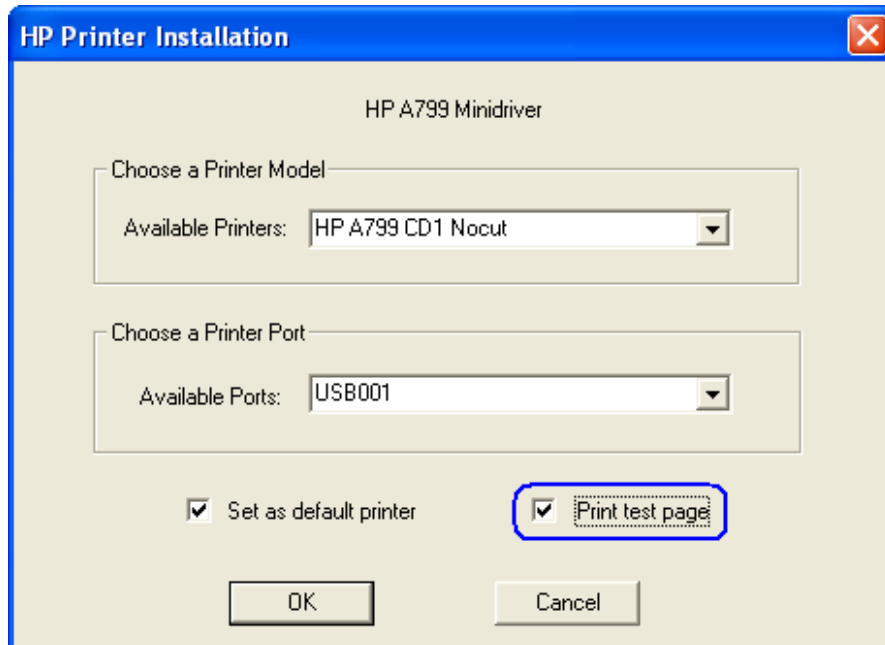
When the selections are made, the selection should be similar to the following screen:



In order to make the printer the default printer select the option “Set as default printer”.



If one wishes to print a very small test page, select the option “Print test page” in the GUI.



6. Click “OK” to install the printer driver and a small test print out will occur if the option was selected.

Note: If the option was selected to install the printer driver with “NoCut” when “Print Test Page” is selected during the driver install process, the test print out will print and it will cut the receipt paper.

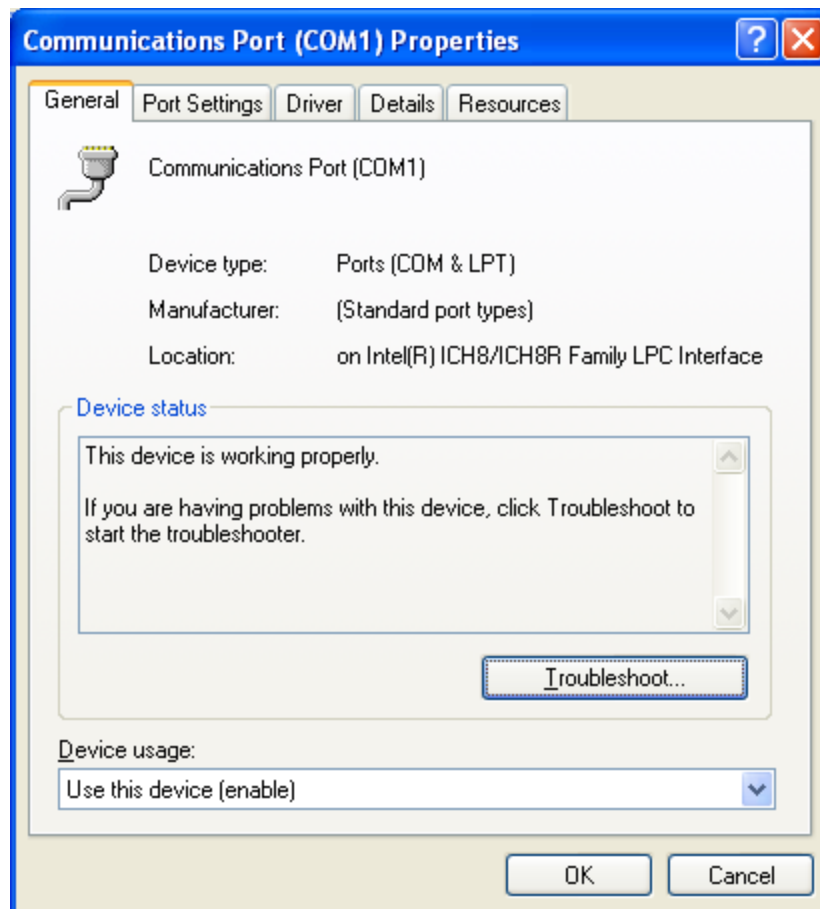
1.1.7.2 Install Windows Printer Driver (Serial)

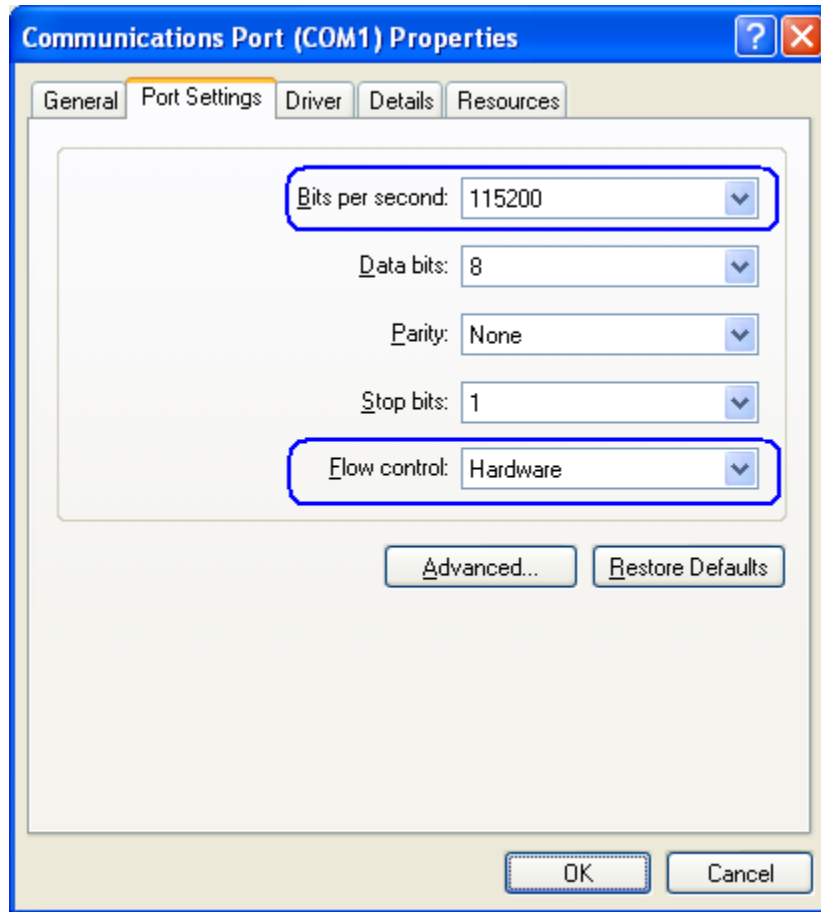
The following is an overview of the steps to test the receipt printer followed by detailed steps:

1. Print out the diagnostic form on the printer in order to obtain the baud rate the printer is set to.
2. Go into the communication port properties to change the Windows baud rate to the printer is set to on the diagnostics form (previous step) and flow control to "Hardware" for port that the printer is attached.
3. Start the setup program for the Windows mini-drivers by launching the "HPSETUP.EXE" program and click "OK" on the main GUI (graphical user interface).
4. Select the printer model that you wish to install.
5. Select the printer driver option that you wish to install from the drop down menu.
6. Select the COM (serial) port the printer is attached to.
7. Click "OK" to install the printer driver and a small test print out will occur if the option was selected.

Detail Steps

1. Print out the diagnostic form on the printer in order to obtain the baud rate the printer is set to.
2. Go into the communication port properties to change the Windows baud rate to the printer is set to on the diagnostics form (previous step) and flow control to "Hardware" for port that the printer is attached.

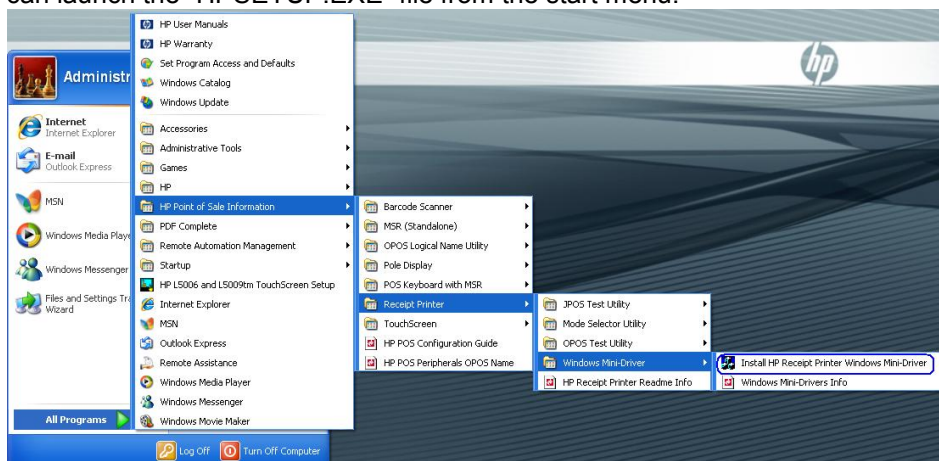




Note: The baud rate may be different than the screen shot shown above.

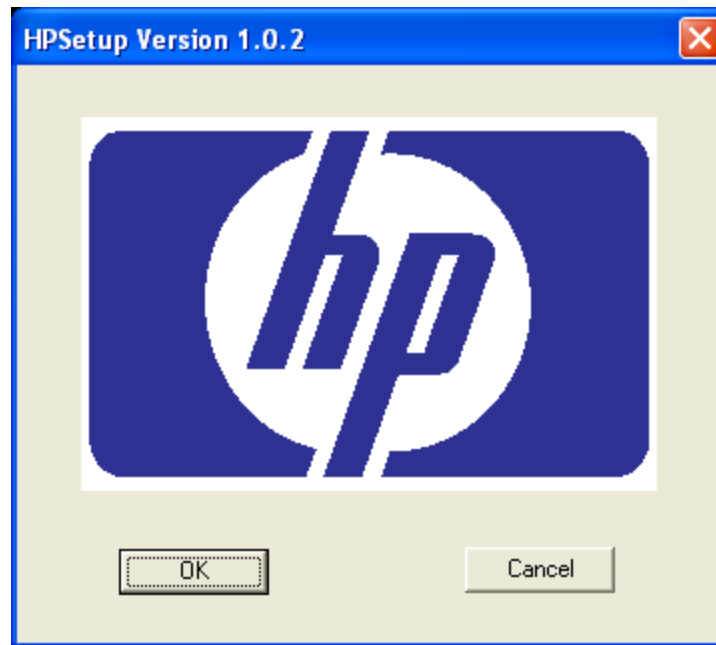
3. Start the setup program for the Windows mini-drivers by double clicking on "HPSETUP.EXE" file and click "OK".

One can launch the "HPSETUP.EXE" file from the start menu:

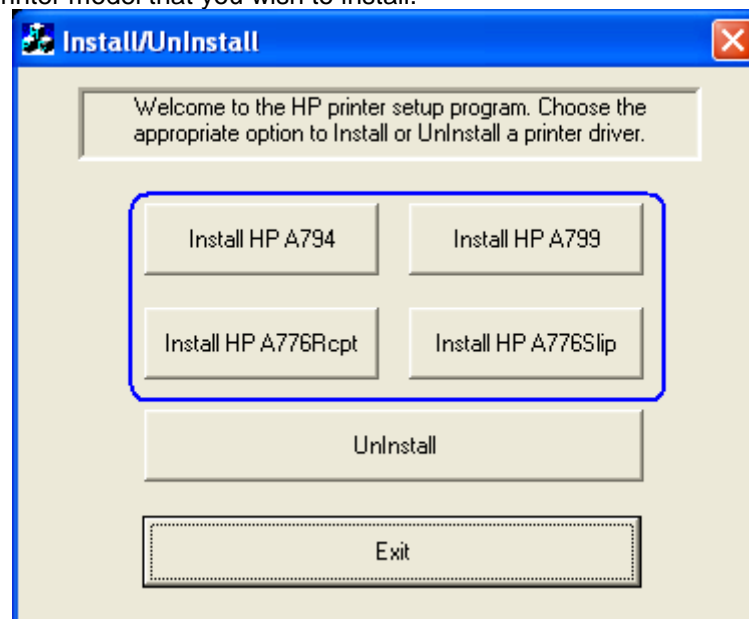


or go to the "C:\xxxxx\Point of Sale\Receipt Printer\Windows Receipt Printer Drivers" folder and double click on the "HPSETUP.EXE" file.

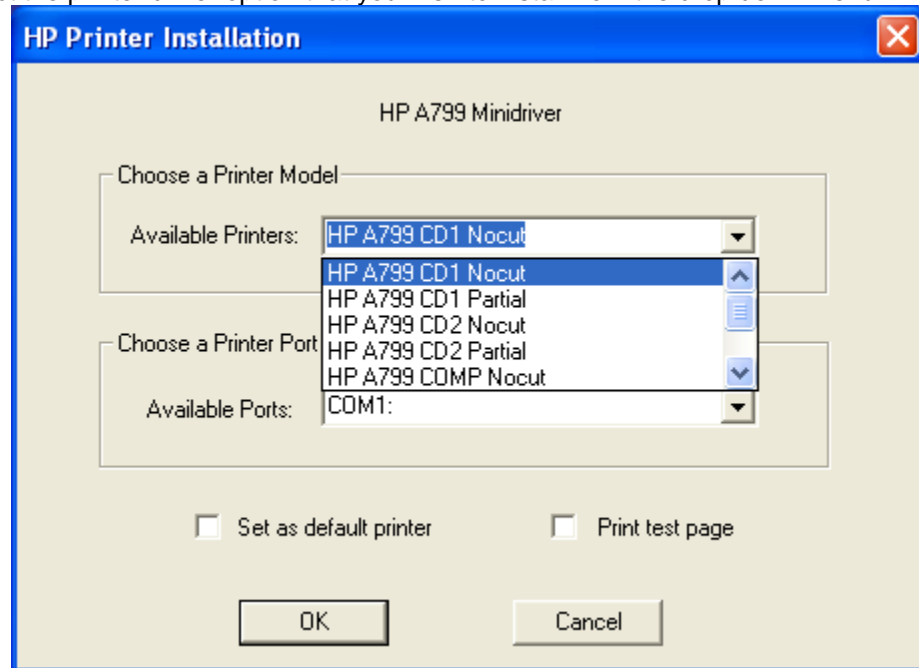
The following is the GUI that one will see when the "HPSETUP.EXE" is launched:



4. Select the printer model that you wish to install.



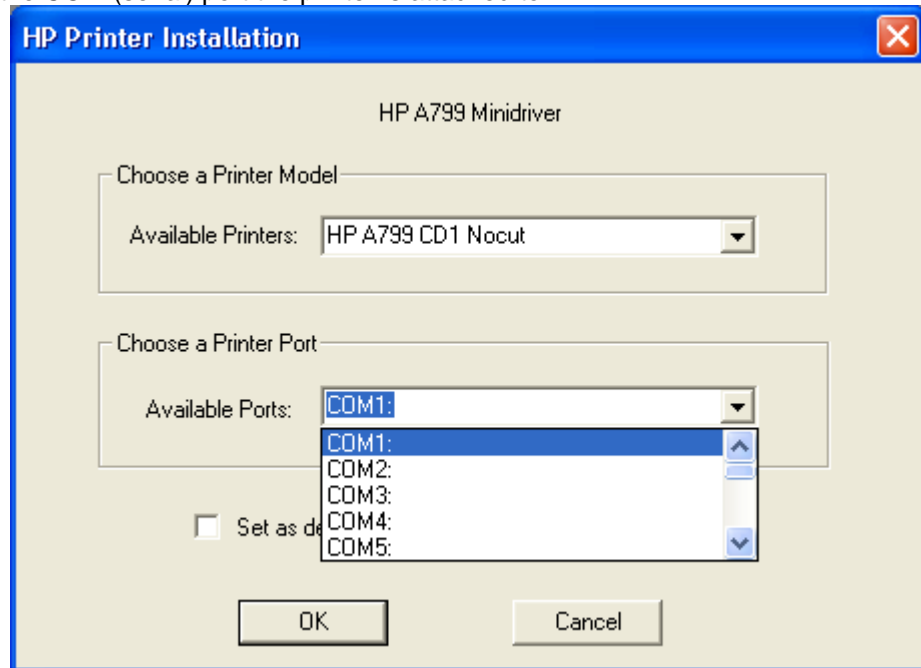
5. Select the printer driver option that you wish to install from the drop down menu.



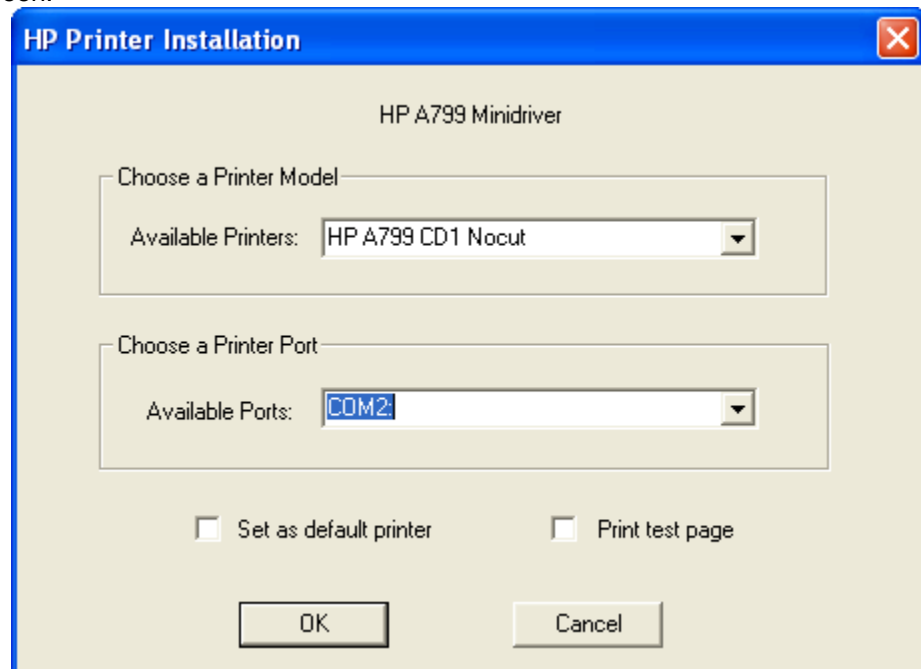
- The HP A7xx CD#1 and HP A7x CD#2 versions generate a pulse to open cash drawer 1 or 2, respectively after each document. The HP A7xx COMP version does not send the reset command at the start of every document.

Note: “xx” is the complete model number of the printer, (i.e. A794 / A799 / A776).

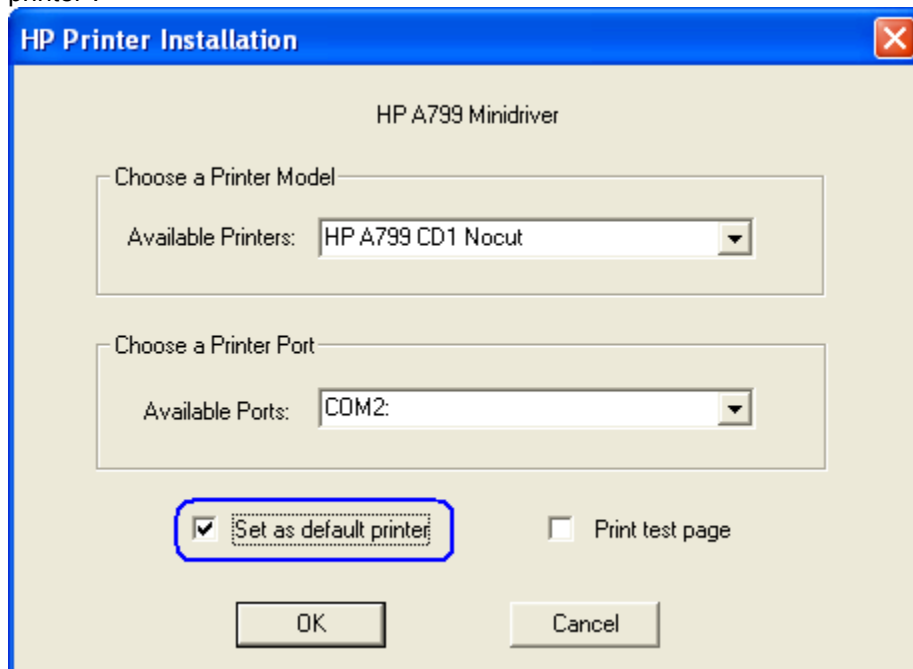
6. Select the COM (serial) port the printer is attached to.



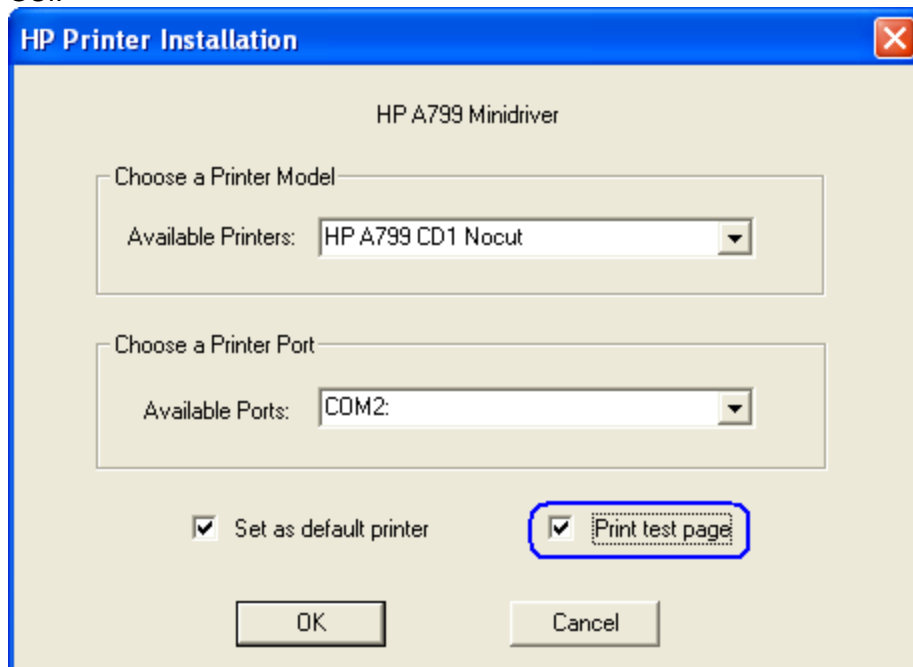
When the selections are made, the selection should be similar to the following screen:



In order to make the printer the default printer select the option “Set as default printer”.



If one wishes to print a very small test page, select the option “Print test page” in the GUI.



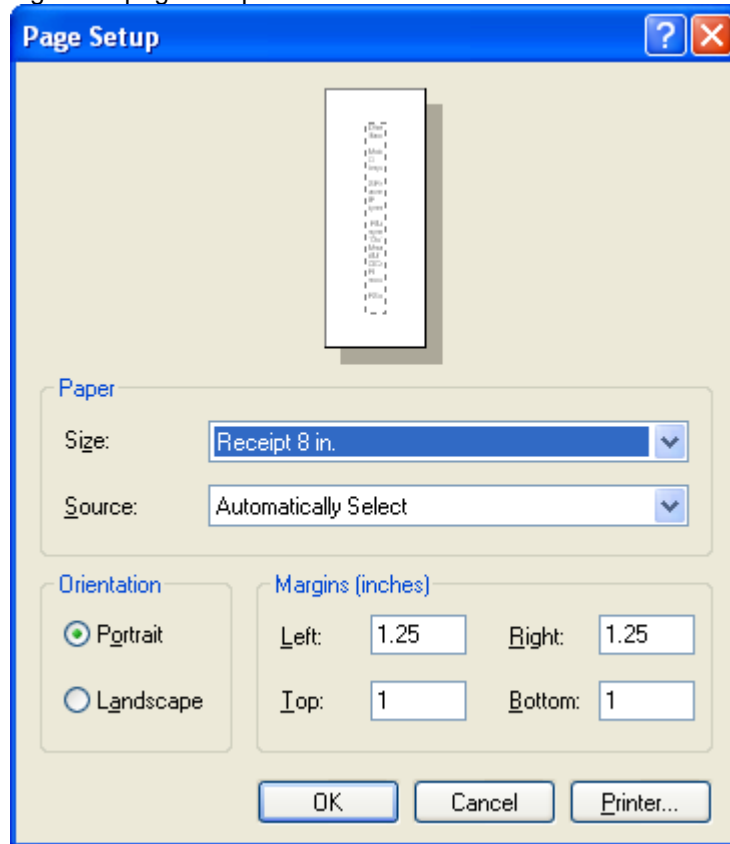
- Click “OK” to install the printer driver and a small test print out will occur if the option was selected.

Note: If the option was selected to install the printer driver with “NoCut” when “Print Test Page” is selected during the driver install process, the test print out will print and it will cut the receipt paper.

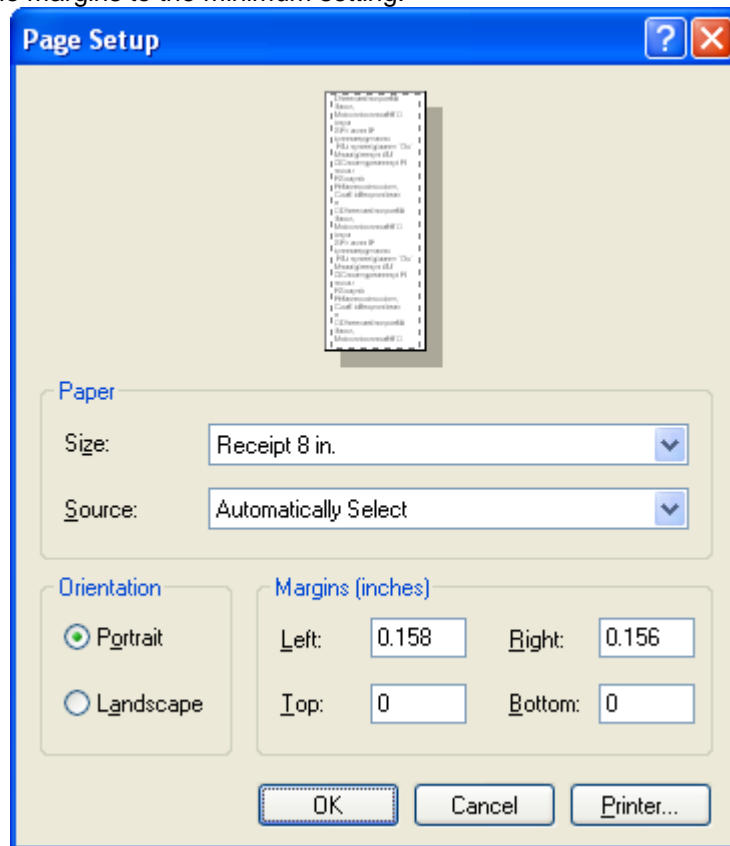
1.1.7.3 Test Receipt Printer in Windows Environment (non-OPOS)

In addition to the test option during the Windows mini-drivers installation, once the printer driver is loaded one may use notepad (or WordPad) to confirm the drivers are loaded and communicating to the printer. Type in a sentence or two in Notepad/WordPad and select the option to print; what was type should appear on the print out. If the Windows mini-driver with “CD#1” was selected, the cash drawer should also open.

Included with the mini drivers is a file that can be used for testing using WordPad; this test file will have barcodes on the printout. The file can be found in the in the following location “C:\xxxxx\Point of Sale\Receipt Printer\Windows Receipt Printer Driver”. Ensure all the margins to the minimum setting in the page setup



or one can set all the margins to zero "0". By setting the margins to zero "0", WordPad to automatically set the margins to the minimum setting.



The following is a partial example of appears on the print out using the file that is included with mini-drivers:

HP A799 Minidriver
Fonts & Barcodes

```
123456789.....12345 tab tab
23456789 12345 tab tab
3456789 12345 tab tab
456789 12345 font change
56789 12345 height
change
6789 12345 width change
789 12345 pitch change
89 12345
9 12345
```

Codabar Plain &
HRI:

E0D57+9\$32:A



Code 39 Plain &
HRI:



ITF Plain & HRI:



Jan8 Plain & HRI:



Jan13 Plain & HRI:



1.1.8 Knife Cut Commands

Some POS application that use the Windows mini-drivers request the knife cut command so the application can perform a cut after something is printed (i.e. No Sale). The following the decimal commands:

Perform full knife cut

ASCII	EM	ESC i
Hexadecimal	19	1B 69
Decimal	25	27 105

Perform partial knife cut

ASCII	SUB	ESC m
Hexadecimal	1A	1B 6D
Decimal	26	27 109

The partial knife cut leaves 5mm (0.20 inch) of paper on the left edge.

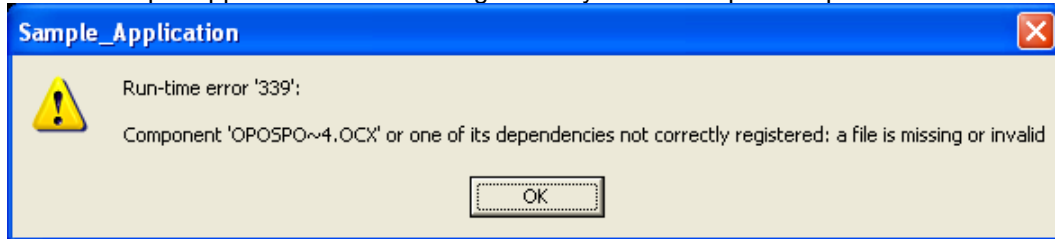
2 Q & A

2.1 HP USB Receipt Printer

Question: When I run the sample application I receive a message stating dependencies not correctly registered. How do I correct this?

Answer: If you run the cash drawer sample application and receive the following screen, it indicates that either the CCO or the OPOS drivers are not installed and registered. Install the CCO drivers and install the printer OPOS package. After the installation is complete, please restart Windows.

Printer Sample Application Error message when you click on printer option



Question: What firmware version is required to be able to switch between native and printer class mode on the A794 printer?

Answer: The A794 printer must have firmware 3.48 or later. If the printer has firmware prior to 3.48, there is softpaq available on the HP.COM web site that will allow one to update the firmware.

Question: Can one switch the printer between native and printer class mode?

Answer: Yes, one may switch the printer between native and printer class mode. On the HP.COM web site there is firmware softpaq that may be obtained that has the option to switch the printer between printer class and native mode.

Question: How do I tell if the printer is in NATIVE or PRINTER CLASS mode?

Answer: One can obtain this information in one of two ways:

- 1 ... Print out the diagnostic form on the printer by holding down the form feed button when you close the printer cover. In the COMM. INTERFACE section of the print out see if the USB DRIVER TYPE states NATIVE or PRINTER CLASS.
- 2 ... Look in Windows device manager USB section. If it states HP USB Receipt printer, the printer is in NATIVE mode. If you it has USB PRINTING SUPPORT, the printer is in PRINTER CLASS mode.

Question: Downloaded an updated JAVA from the web site, now the JPOS test utility does not launch?

Answer: The batch file sets the location where the runtime of JAVA folder is located. Need to change the location in the batch file to reflect the update JAVA folder.

Question: Why do I not see an option for “USB001 (Virtual USB Port) in the Windows mini-drivers setup?

Answer: In order for the port to appear, the printer must be attached to the unit AND the printer must be in printer class mode.

Question: What are the ASCII codes to open the cash drawer?

Answer: The ASCII codes to open the cash drawer are:

Cash drawer 1	Cash Drawer 2
27 112 0 8 8	27 112 1 8 8

Detail explanation of the cash drawer command:

Generate pulse to open cash drawer

ASCII	ESC p n p1 p2
Hexadecimal	1B 70 n p1 p2
Decimal	27 112 n p1 p2
Value of n:	00, 48 (Decimal) = Drawer 1; 01, 49 (Decimal) = Drawer 2
Value of p1:	0-255
Value of p2:	0-255

Question: What are the ASCII codes to cut the paper (knife cut)?

Answer: The ASCII codes to cut the paper (knife cut) are:

Perform full knife cut

ASCII	EM	ESC i
Hexadecimal	19	1B 69
Decimal	25	27 105

Perform partial knife cut

ASCII	SUB	ESC m
Hexadecimal	1A	1B 6D
Decimal	26	27 109

The partial knife cut leaves 5mm (0.20 inch) of paper on the left edge.

Question: How do I obtain the baud rate that the serial printer is set to?

Answer: Perform the following steps to obtain a diagnostics printout which has the baud rate information:

- Open the printer cover.
- Pull the paper out slightly.
- Press and hold the form feed button on the printer.
- Close the printer cover.
- When the diagnostics form prints, let go of the form feed button. Close to the middle of the diagnostics print out is the baud rate of the printer. Below is an example of the diagnostics print out:

```
*** A799 - Diagnostics Form ***
ReceiptWare Enabled

Model number       : A799-C40W-HN00
Serial number      : K083100426

Boot Firmware
Revision           : V1.08
CRC                : A91F
P/N                : 189-7940360A

Flash Firmware
Revision           : V1.12
CRC                : DAB7
P/N                : 189-7940401A

H/W parameters
Flash Memory Size  : 4 Mbytes
Flash Logos/Fonts  : 704 kbytes
Flash User Storage : 64 kbytes
Flash Perm'nt Fonts: 2240 kbytes
Flash Journal Size : 64 kbytes
SRAM Size           : 512 kbytes
Head setting        : F
Motor ID            : 1
Paper Type setting  : Type 0, Monochrome
Color Density Adj   : n/a
Print Density,Mono  : 100 %
Max Speed           : 250 mm/sec
Paper Width         : 80 mm
Max Power           : 55 W
Knife               : Enabled
Partial Cut         : 135 steps
Paper Low Sensor    : Enabled
No Paper Low Extension

Comm. Interface
RX Buffer Size      : 4096
Interface type      : RS232/USB
Parameters
Baud Rate           : 115200
Data Bits           : 8
Stop Bit            : 1
Parity              : NONE
Flow Control        : DTR/DSR
Reception Errors    : Ignore
USB Driver Type     : Printer Class
USB Packet w/Error  : Reject
```