

Nanoptix EZ-LOAD & HD-KIOSK Printers (DSP version only)

Firmware Downloading & Installation Instructions

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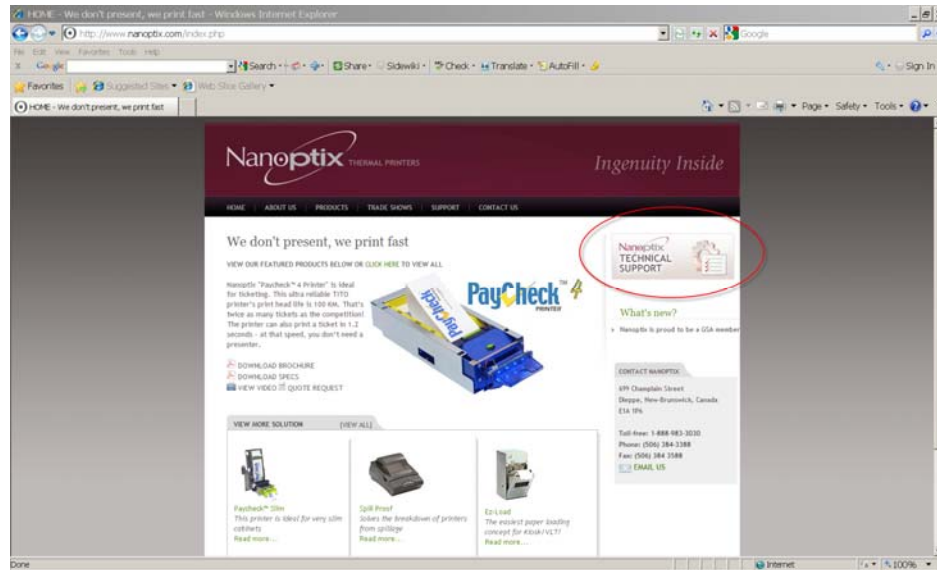


ESD protection (such as a wrist strap) must be used anytime a PCB is exposed

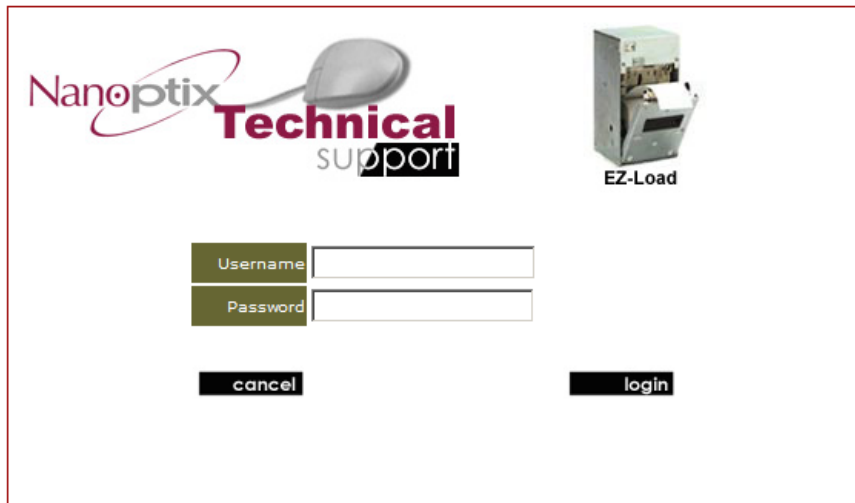


Section 1: Downloading and Installation

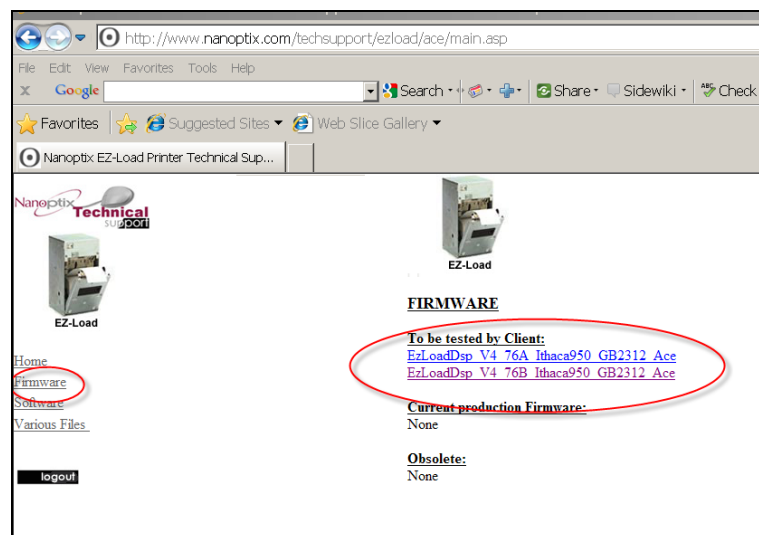
1. Go to www.nanoptix.com and select the “support” section.



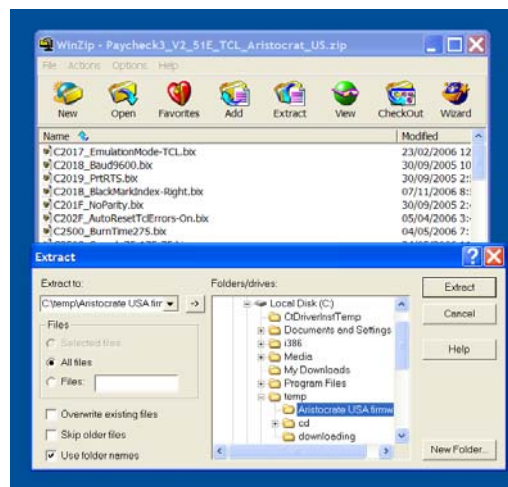
2. Login using
 - Username: **(Please contact Nanoptix for unique Username)**
 - Password: **(Please contact Nanoptix for unique Password)**
 - Click the **“login”** button



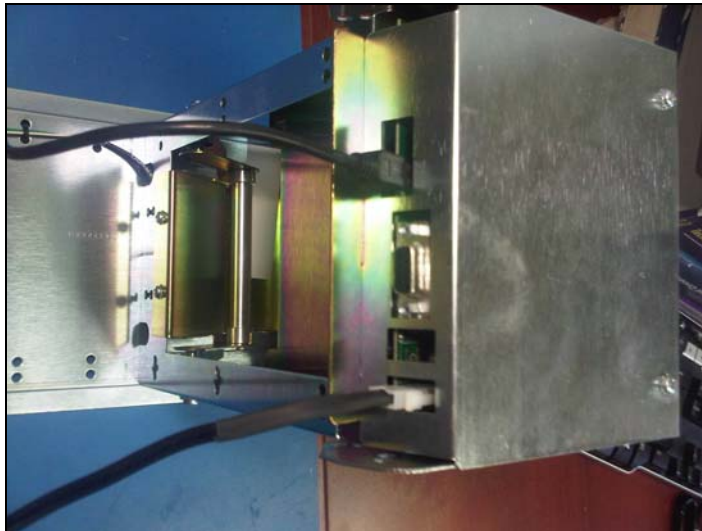
3. Once the page has finished loading, select the **firmware** section.
4. Select the desired firmware and download it to a known location on your local disk.



5. Extract the whole content of the “.zip” file to a known location on your local disk using “Winzip” or the “.zip” extractor of your choosing.
Note: Do not run the “flashimage.exe from the “.zip” file, doing so will cause the firmware upgrade to fail)



6. Make sure the printer is powered up with 24 VDC power source and connected using one of two communication options, **RS232 and USB**. The firmware downloading application: **flashimage.exe** will look for a known printer on the **USB** port first. If none are found, it will proceed to look at the installed **serial com ports** on your PC. *Note: The USB port is strongly recommended since it is much faster*



7. Run **flashimage.exe**, the application will search for printers. Once a printer is found, it will be put into “download” mode (LED and buzzer (when installed) will be activated once per second). Then **flashimage.exe** will download the *configuration files (*.bix)*.

```
C:\TEMP\Paycheck (Aristocrat US)\FlashImage.exe
First, Looking For Nanoptix Products in USB ports...
Will Now Verify Compability of Binary Image with Processor Type...Pass
Found 1 PatchCHECK DSP
Found 1 DSP Unit(s) in Download Mode
Opening callisto5.bin...
CRC of image with a seed of 0x0000 is A6D0
CRC of image with a seed of 0x1234 is D165
Send Configuration file C2017_EmulationMode-TCL.bix
Send Configuration file C2018_Baud9600.bix
Send Configuration file C2019_PrtRTS.bix
Send Configuration file C201F_NoParity.bix
Send Configuration file C202F_AutoResetTclErrors-On.bix
Send Configuration file C2500_BurnTime275.bix
Send Configuration file C2508_Speed_75-175-75.bix
Send Configuration file C252E_MotorCurrent-TwoThirdsMax.bix
Send Configuration file C2539_JournalCmdSet-Epson570.bix
Send Configuration file C2530_TclCmdSet-TCL.bix
Send Configuration file C2545_RealTimeCmd-On.bix
Send Configuration file C2546_CashLED-Off.bix
Send Configuration file C2547_Code128Type-Standard.bix
Send Configuration file C254B_BetweenCopyDelay-0.bix
Send Configuration file C254C_DemoConfigMode-Disabled.bix
Send Configuration file C254D_PermitMultiTclCopies-Off.bix
Send Configuration file C2550_BarCodeDoneBitType-AfterBarcodeTextPrinted.bix
```

8. Next, the *firmware image (*.bin)* will be sent to the printer in blocks of 64KB. In the critical 20 final seconds of the download, the printer then transfers all this information from its RAM to its Flash. Finally, the printer reboots and is put back into “RUN” mode. *Note: Do not disconnect power or communication until the download is complete.*

```

C:\TEMP\Paycheck (Aristocrat US)\FlashImage.exe
Send Configuration file C254D_PermitMultiCopies-Off.bix
Send Configuration file C2556_BarCodeDoneBitType-AfterBarcodeTextPrinted.bix
Send Configuration file C2557_UserString-S B.2.4.0.bix
Send Configuration file C2561_UserString-Off.bix
Send Configuration file C2563_ActiveTemplatesSet-Standard.bix
Send Configuration file C2564_EnforceTcSizes-True.bix
Downloading Bank 0...SUCCESS!
Downloading Bank 1...SUCCESS!
Downloading Bank 2...SUCCESS!
Downloading Bank 3...SUCCESS!
Downloading Bank 4...SUCCESS!
Downloading Bank 5...SUCCESS!
Downloading Bank 6...SUCCESS!
Downloading Bank 7...SUCCESS!
Downloading Bank 8...SUCCESS!
Downloading Bank 9...SUCCESS!
Downloading Bank 10...SUCCESS!
Downloading Bank 11...SUCCESS!
Downloading Bank 12...SUCCESS!
Downloading Bank 13...SUCCESS!
Done Downloading!
Saving CRC in EEPROM D165
WILL NOW FLASH IMAGE FROM RAM, PLEASE DO NOT POWER OFF PRINTER
THIS TASK WILL TAKE APPROX. 20 SECONDS

```

9. As verification a **power on test ticket** can be printed. To print the test ticket, the printer must be powered "ON" while holding the paper feed button for approximately 5 seconds. A status ticket similar to below will be printed. Pressing the button again will result in blank tickets. This ticket can be used to verify the *firmware version*.

```

Model: PAYCHECK 3
Firmware: PAY-2.51E
Protocol: NTL
COMMUNICATION
Interface: Serial
Baud: 9600
Data Bits: 8
Parity: NONE
Handshaking: PRT + RTS
Print mode: NTL
Back USB: Fw Controlled
Aux Port: Disabled
PRINT CONTROL
Print Method: No HPQ
Speed: 175 mm/s
Black Bar Index: Right
No HPQ Burn Time: 275 uS
Motor Current: 2
Real Time Commands: Enabled
Auto Reset Status: Enabled
PRINTER ENVIRONMENT CONDITIONS
Voltage: 23.9 Volts
Temperature: 21 Celsius
SYSTEM RESOURCES
FLASH -Used: 48110
-Free: 17425
LIBRARY INVENTORY
Templates:
0,1,2,3,4,5,6,7,8,9,A,B
Print Regions:
1,2,3,4,5,6,7,8,h,9,A,B,C,D,E,F,G,I,J,K,L,N,O,P,Q,R,
S,T,U,Z,X,a,b,c,d,e,f,g,i,j,k,l,m,n,o,p,q,
Fonts: 0,2,3,4,5,7,8,15
Graphics:
MANUFACTURING INFORMATION
Printer ID: N000024
Date Code: 07D20B14
A to D: 03de, 01da, 00ea, 03c4
Dip Switch Config (1234): 0000
Status:
*S|0|PAY-2.51E|@|@|@|I|D|P|*

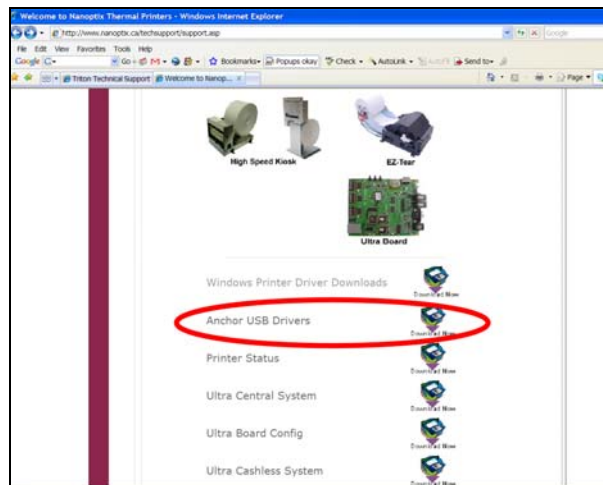
```

Section 2: Restoring printer's firmware to factory boot

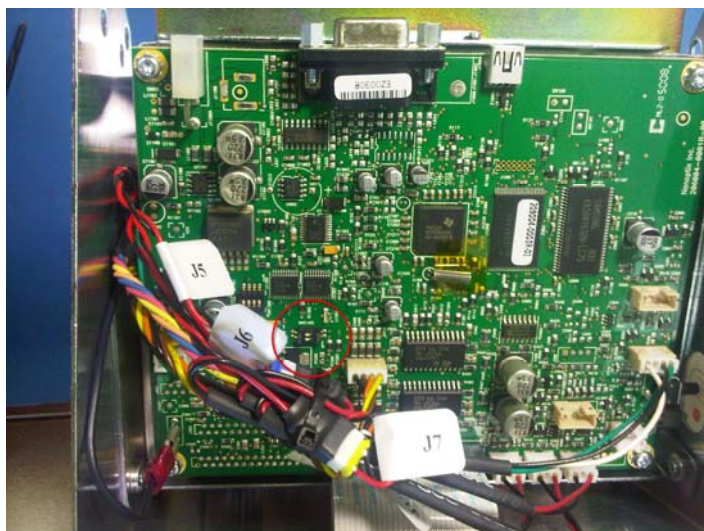
If the printer's power is interrupted while **FlashImage.exe** is downloading the settings or the firmware banks into RAM, the printer will power up again already in download mode and the upgrade can be restarted by closing and reopening **FlashImage.exe**.

On the other hand, if the printer's power is interrupted during the final 20 seconds of downloading, it might not have been able to finish the transfer from RAM to Flash. If the power is restored to the printer and it is non responsive (Does not feed paper), the printer will have to be restored to its **default factory boot**.

1. When a printer is first received from the factory or if the current firmware is not valid it is possible to place it into a **factory boot mode** in order to download a fresh new version of firmware. Some drivers need to be downloaded from the Nanoptix web site in order for windows to detect the printer in its factory boot mode. The drivers are called **Anchor USB Drivers** and can be downloaded from the Nanoptix support web site at <http://www.nanoptix.ca/techsupport/support.asp>.



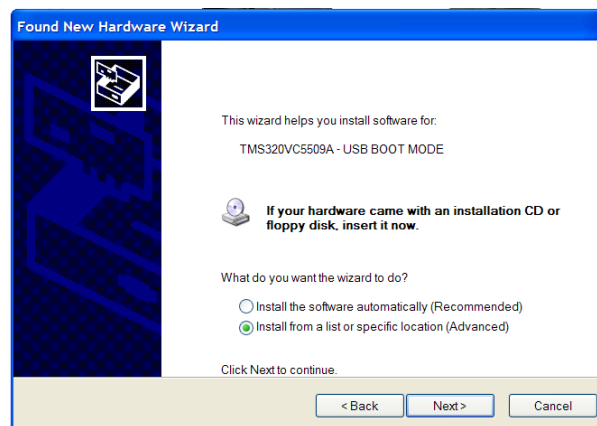
2. Download the **.zip** file and extract the content to a known location on your local disk. These files will be used a few steps further, in *section 7*.
3. To place a printer into **factory boot mode** you first need to locate the "boot mode dip switch bank" on the main controller board. Depending on the printer model, there can be several dip switch banks present on the board. The boot mode dip switch bank is the one with **two (2)** dip switches.



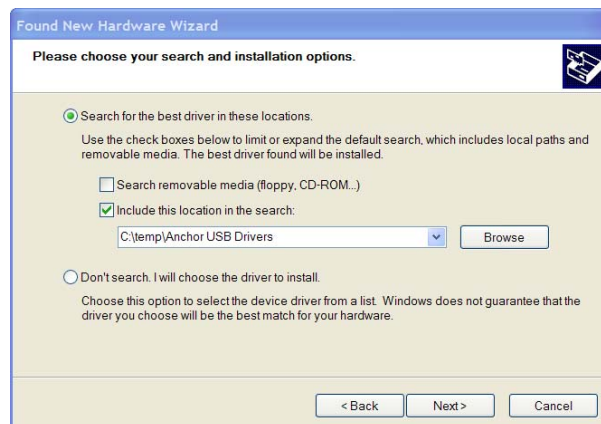
4. With the printer's **power turned off**, move the two dip switches **from the OFF position to the ON position** and then turn the printer's power on. When the processor powers up and sees the two dip switches in the ON position it goes into an internal **factory boot mode**. After the printer is powered on, the dip switches need to be switched back to the OFF position.
5. Connect the printer to the host via USB. The Windows USB detection will discover an unknown device and ask for drivers. The following screen will be displayed, Select "No, not this time" and then click "next"



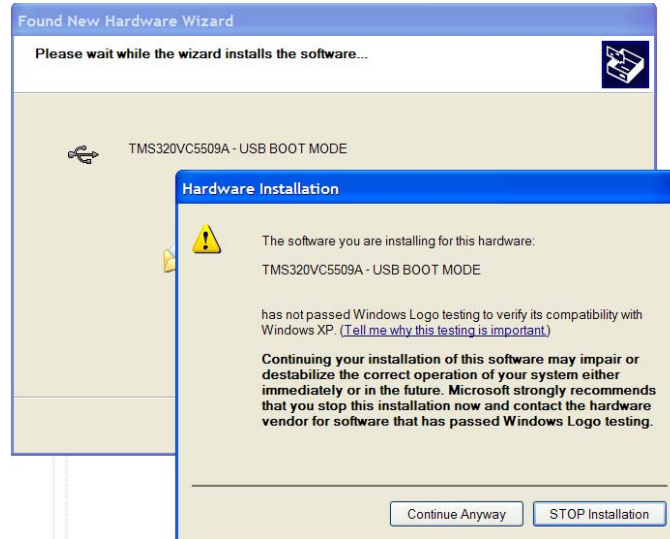
6. Select "Install from a list or specific location" and then click "next"



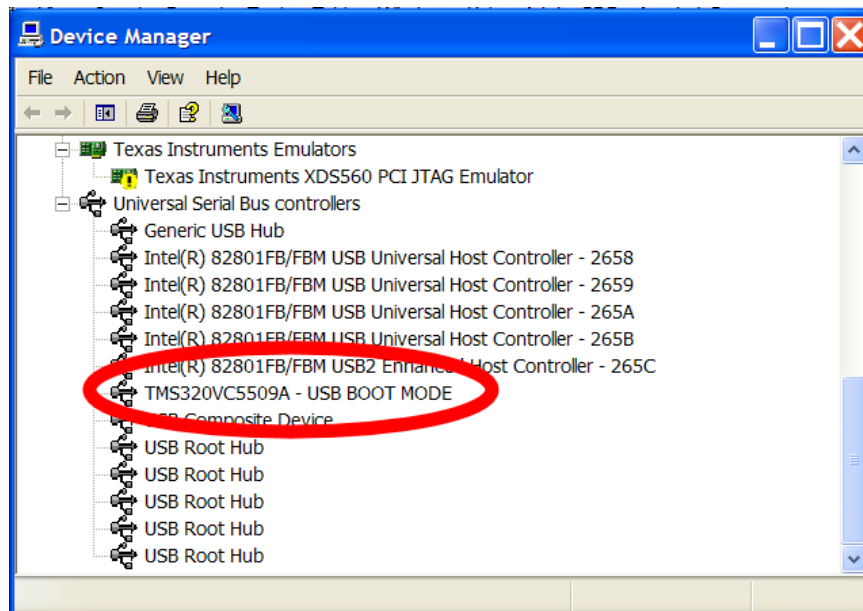
7. Browse to the **Anchor USB Drivers** which have been downloaded and extracted to a known location, then click "next"



8. Click “Continue Anyway” and then “finish”



9. Open the device manager to verify that the printer (in USB Boot mode) was correctly detected by Windows. To do this, select: **Start / Control panel / System / Hardware / Device Manager**, scroll down to **“Universal serial bus controller”** and make sure that **“TMS320VC5509A – USB BOOT MODE”** is listed



10. At this point everything is ready. Run **FlashImage.exe**. Because of the previous steps, when Windows looks for **“USB BOOT MODE”** drivers, they will have already been installed and the download will proceed and should complete successfully.

*Note: The **USB ANCHORE DRIVERS** have to be installed for every single USB port on your computer.*