

# Installing PE6.2 with AXE027 Serial Cable on Linux Mint 22.2 Cinnamon

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Ultimately, I found I can run the Windows PICAXE Editor 6.2.0.0 app with the AXE027 Serial Cable using Wine and Winetricks loaded from the Linux Mint Software Manager.

Not wanting to rely on PICAXECLOUD, or try the seemingly old Visual Studio Code or AXEpad options, my first challenge in Linux was to run the PICAXE Editor locally. As a DOS/Windows user of almost 40 years it was a baptism of fire to figure this out!! So I hope these notes prove useful to you or me in future. I don't understand it all myself!

Please let me know if there are errors or updates and I'll be happy to re-issue the file.

## Step 0: Install Linux Mint 22.2 Cinnamon

- Follow instructions at <https://linxuimint.com/>
- Note1: I had the AXE027 plugged in from this early stage.
- Note2: On my first Linux install I followed some security advice to create a separate user to run Windows apps so any bugs or viruses are contained. This was a pain swapping between users and setting a shared space between users. In the end, PE was my only Windows app and the extra user account was not added on my 2<sup>nd</sup> Linux install. Also I encrypted the whole disk instead of home folders, which seems worth doing although there's a power-on password.

## Step 1: Download PE6.2

- Download the “PICAXE Editor 6 (Main installer)” from <https://picaxe.com/software/picaxe-editor-6/index.html#download>
- Note: The file is “picaxeeditor6\_2\_0.exe” and it should be in your Downloads folder.

## Step 2: Add the Wine app from the Software Manager

- Use: Menu → Administration → Software Manager
- Search for “wine” and install the Wine (Microsoft Windows Compatibility Layer).
- Note: Most Wine files are held in a hidden .wine folder under your home folder. It looks like a Windows file structure from “\$HOME\.wine\drive\_c”. When PE6.2 saves to /home/alan/.wine\drive\_c\users\username\Documents\PICAXE Editor, it’s actually a symbolic link to /home/username/Documents/PICAXE Editor.

## Step 3: Add the Winetricks app from the Software Manager

- From the Software Manager, search “winetricks” and install it.
- Note: Don’t worry about 64bit warnings.
- After installation do a reboot so that Start Menu->Wine can show other options besides “Browse C: Drive”.

## Step 4: Set the default Wine environment to Windows 10

- From Start Menu->Wine select Wine configuration.
- Click “default settings” and change Windows Environment to Windows 10 and click Apply and OK.

## Step 5: Configure Wine to support Microsoft .NET 3.5 SP1 for PE6.2

- From the Start Menu search for “winetricks” and click on the app to launch it.
- Note: Don’t worry about 64bit warnings.

- Click “Select the default wineprefix” then OK, then “Install a Windows DLL or component” and press OK.
- I don’t know why a “wineserver -w” warning popped up a couple of times but I pressed OK.
- Choose the “dotnet35sp1” because the PE requires .Net 3.5 SP1 package and press OK. Then accept the Microsoft .NET Framework terms and click install and after a while you should be able to click Exit.
- Then close Winetricks.

#### **Step 6: Install PE6.2**

- The next step seems bizarre but select Start Menu->Wine->Uninstall Wine Software, which actually takes you to Add/Remove Programs.
- Click “Install...”, then “Look in” the Downloads folder and change the display filter, “Files of type” to “All files”.
- Select “picaxeeditor6\_2\_0.exe” and click Open.
- Follow the instructions and install for all users. Then close Add/Remove Programs.
- After this the PE app is available but the com port won’t work yet.

#### **Step 7: Allow your Linux account username access to the serial port**

- From the command line terminal enter “sudo usermod -a -G dialout username” this adds you to the dialout group to give access to the linux serial ports, known as “tty”.

#### **Step 8: Modify config to recognise the AXE027 adaptor as a serial port using the FTDI driver**

- Create a new empty file using “sudo touch /etc/udev/rules.d/99-ftdi.rules”.
- Edit the file with admin privileges using the Text Editor “xed” by using “xed admin:///etc/udev/rules.d/99-ftdi.rules”.
- Paste this config, courtesy of Revolution Education’s instructions, into the file as 1 line, excluding the very outermost quote marks, and then save and close “ACTION==“add”, ATTRS{idVendor}==“0403”, ATTRS{idProduct}==“bd90”, RUN+="/sbin/modprobe ftdi\_sio” RUN+="/bin/sh -c 'echo 0403 bd90 > /sys/bus/usb-serial/drivers/ftdi\_sio/new\_id'””
- Then enter “sudo udevadm control -R”.

#### **Step 9: Check the serial cable is recognised.**

- Restart the computer again (I don’t think this should be needed but the following didn’t work without it).
- From a the terminal type “dmesg | grep -i FTDI”. The output should include “FTDI USB Serial Device converter now attached to ttyUSB0”.

#### **Step 10: Assign the Linux ttyUSB0 port to the Wine COM1 port**

- In the terminal type “wine regedit”.
- Select “HKEY\_LOCAL\_MACHINE\Software\Wine\Ports”, then right click in the right pane, click “New” and add a new “String value” of “COM1” and press enter.
- Double click the entry and type the “Value” as “/dev/ttyUSB0” and click OK.
- Then close the app.

#### **Step 11: Run PE6.2 from Linux**

- Start the PE, which can be done by using Start Menu->Wine->PICAXE Editor 6.
- On the PE you’ll probably see lots of Com ports available but just use “Com1”.
- If it works then you should be able to run the Com Port Test, run the Terminal, or Program a PICAXE!!!.
- I suggest setting these PE File->Options: Editor (Tab size 4), Fonts(DejaVu Sans Mono).
- Wow, now it’s time for a cuppa!