PicoIRIS v1.1 User Manual

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Contents

Getting Started

1.1 Powering the Device

PicoIRIS needs to be powered with a **Mobile Phone Charger of 5V/2A** power rating for full functionality. It can also be powered with other chargers/adapters of 5V/1A or lower current rating, but this will accordingly limit the current output of the device.

> **Note:** Use good quality branded mobile phone chargers for best results. Power line noise or ripples, if any, will affect the quality of signals measured/generated.

Figure 1.1: Micro-USB Type-B connector

Connect the 5V/2A mobile phone charger with MicroUSB Type-B cable to the **'Power Only' Micro-USB Type-B** port of the PicoIRIS device. Optionally, your device could also have a USB Type-C port or a DC Barrel Jack or a 2-pin Screw Terminal for power.

> **Warning:** Do not connect any of the 'Power Only' ports to PC/Laptop or any other host devices. These ports are designed only to power the PicoIRIS device using 5V/2A charger/adapter. Connecting to these ports can damage your PC/Laptop or the host device by drawing more than 2A of current.

1.2 Connecting to PC/Laptop

PicoIRIS can connect to the PC/Laptop either by using Bluetooth or USB. Based the device's model, PicoIRIS could be equipped with either Bluetooth or USB hardware for connectivity.

1.2.1 Bluetooth Connectivity

If the PicoIRIS device is equipped with Bluetooth, you will find a sticker on the device with the Device-ID and PIN for Bluetooth connectivity. PicoIRIS's Bluetooth needs to be paired with the PC/Laptop before establishing connection.

1.2.1.1 On Windows

Click on Windows Start icon and search for 'Bluetooth'. Select the 'Bluetooth and other devices settings' option from the results.

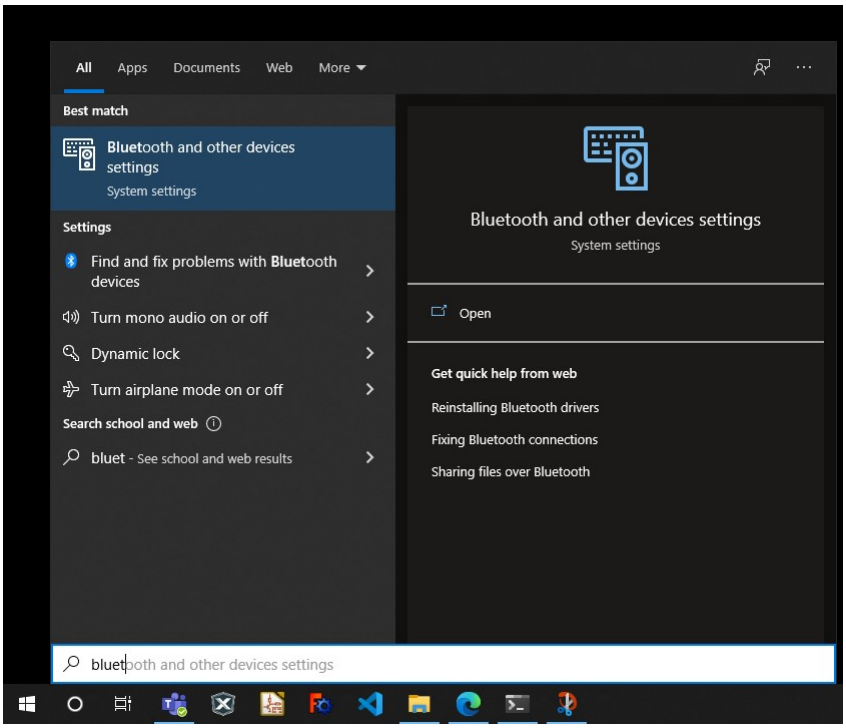

Figure 1.2: Screenshot of Bluetooth search

In the 'Bluetooth & other devices' settings window, select 'Add Bluetooth or other devices' option.

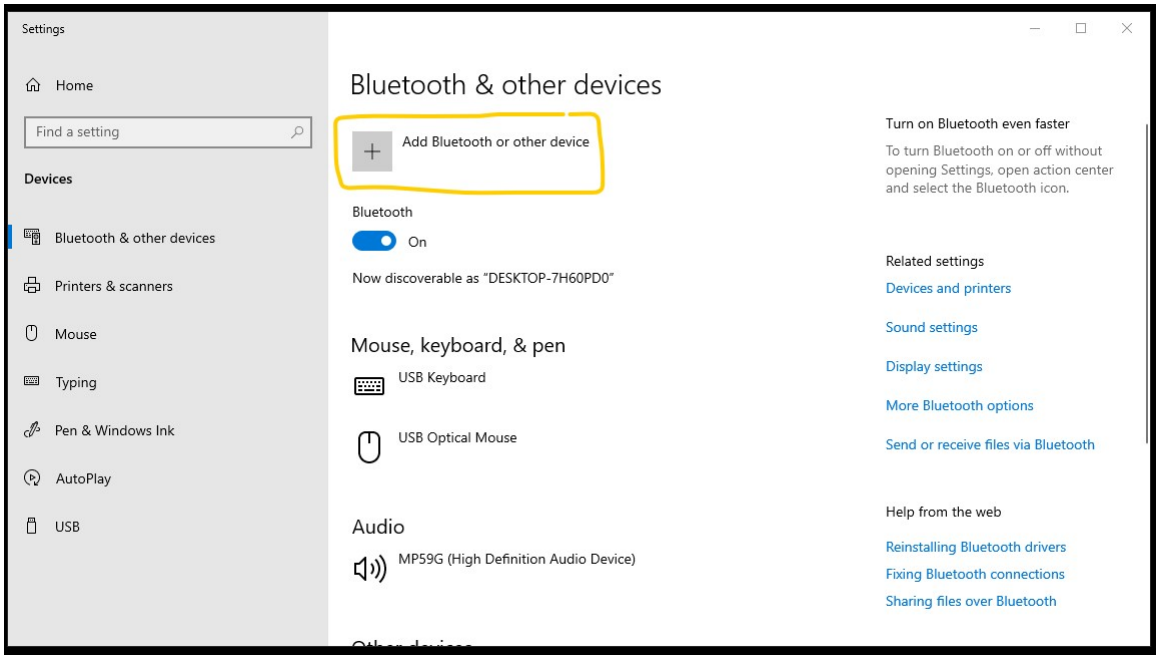

Figure 1.3: Screenshot of Bluetooth settings

In the 'Add a device' window, select 'Bluetooth'.

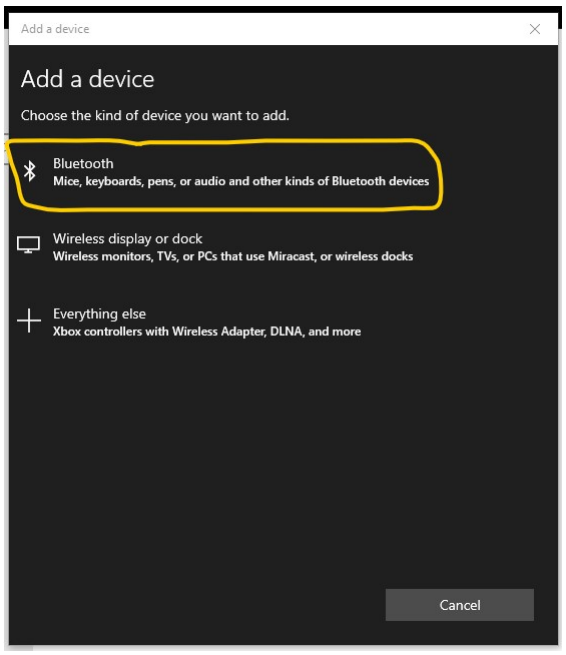

Figure 1.4: Screenshot of Add a device

After few seconds of searching, list of visible Bluetooth devices should appear.

Note: For the PicoIRIS's Device-ID to appear, PicoIRIS must be powered on.

PicoIRIS device should appear as `PicoIRIS-Bxxx`, where `xxx` denotes the corresponding device number.

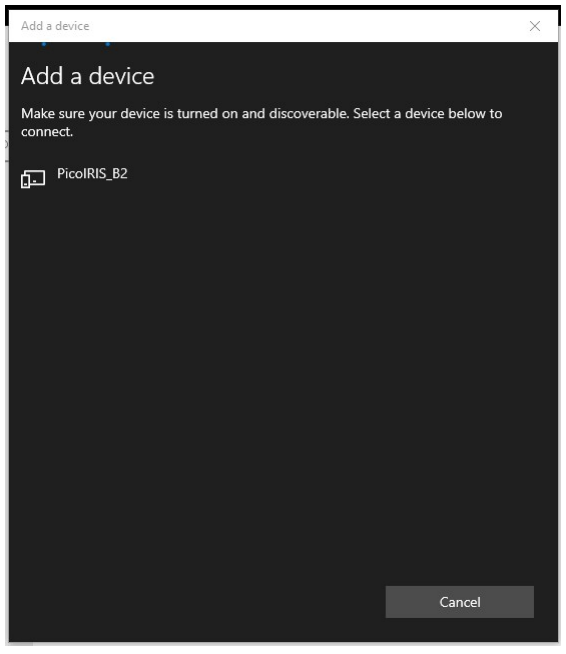

Figure 1.5: Screenshot of visible Bluetooth devices

Click on the PicoIRIS's Device-ID, enter the Bluetooth PIN corresponding to that device and select 'Connect' for pairing. By default the Bluetooth PIN is '`1234`'.

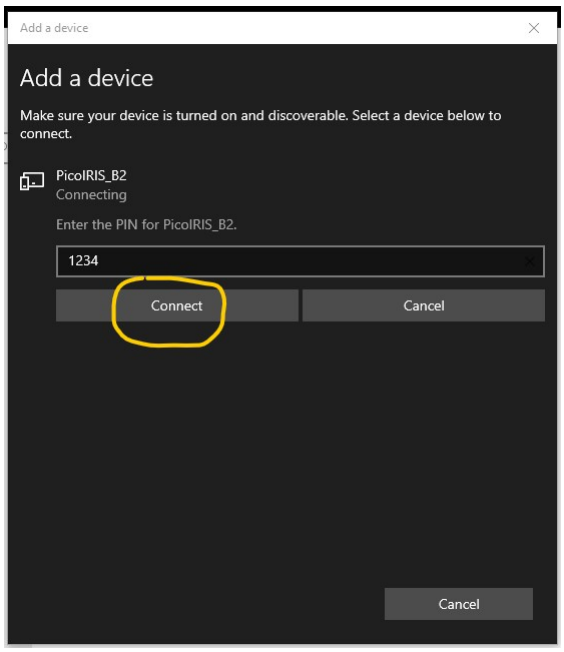

Figure 1.6: Screenshot of Bluetooth pairing

If all goes well, your PicoIRIS's Bluetooth should be paired with the PC/Laptop successfully.

1.2.1.2 On Ubuntu 21.04 or higher

1.2.1.3 On Ubuntu 16.04 or higher

1.2.2 USB Connectivity

1.2.2.1 On Windows

If your PicoIRIS device is equipped with Prolific-PL2303HXA USB hardware, you will need the USB drivers for the same. Go to `https://ankur-iitb.github.io/PicoIRIS-Manual/` and select 'Prolific-USB-UART-Driver' link. This should open a Google Drive zip file with the driver installer.

Download this zip file to your computer and extract it. Run the 'PL2303-Prolific-GPS-1013-20090319.exe' file by double clicking it. Follow the on screen instructions to install the driver successfully.

Note: Do not connect PicoIRIS's USB to PC/Laptop before installing the driver software.

After the driver is installed successfully, connect PicoIRIS's Prolific USB device to PC/Laptop. Open 'Device Manager' and look under 'Ports (COM & LPT)' list. If all goes well, 'Prolific USB-to-Serial Comm Port (COMxx)' should be listed.

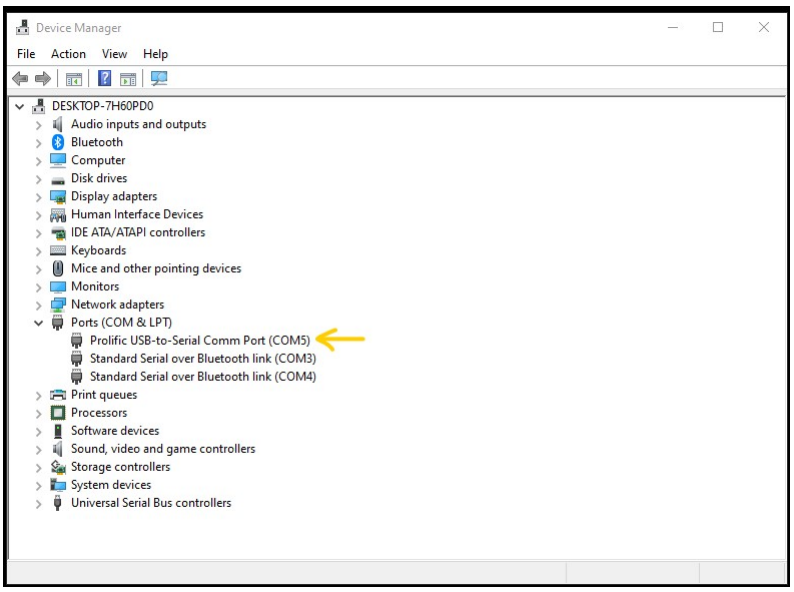

Figure 1.7: Screenshot of Device Manager with PicoIRIS-USB connected

1.2.2.2 On Ubuntu

1.3 PicoIRIS-GUI Software

To use PicoIRIS, download the **PicoIRIS-GUI** software from the following link - `https://ankur-iitb.github.io/PicoIRIS-Manual/`. Under the 'Software' section, latest versions of the PicoIRIS-GUI software are available for both Windows and Ubuntu systems.

1.3.1 For Windows

If you are on a Windows 10 system, download the 'PicoIRIS-GUI-xxxxxx-windows-10.zip' file to your computer. Extract this zip file to your desired folder to get the 'PicoIRIS-GUI-xxxxxx-windows-10.exe' file. Double click this exe file to directly open the software. No installation is required.

This software has not been designed to work on Windows 7 or earlier versions, as they are obsolete. It may or may not work on these systems.

1.3.2 For Ubuntu

- If you are on Ubuntu 21.04 or higher version, download the 'PicoIRIS-GUI-xxxxxx-ubuntu-21-04' file to the desired location on your computer.
- Else if you are on Ubuntu 16.04 or higher version, download the 'PicoIRIS-GUI-xxxxxx-ubuntu-16-04' file to the desired location on your computer.

Note: On Ubuntu, this software requires `sudo` previlege to connect to the PicoIRIS device.

To run this software, go to folder where the software was downloaded. Right-click and select 'Open Terminal' to open the default terminal window. Or else, open your desired Terminal application, navigate to the directory of the downloaded software. Enter the following command in the Terminal.

```
sudo ./PicoIRIS-GUI-211114-ubuntu-16-04
```

Enter your password when prompted. After a few seconds delay, the PicoIRIS-GUI software should open.

1.3.3 Safety Undertaking

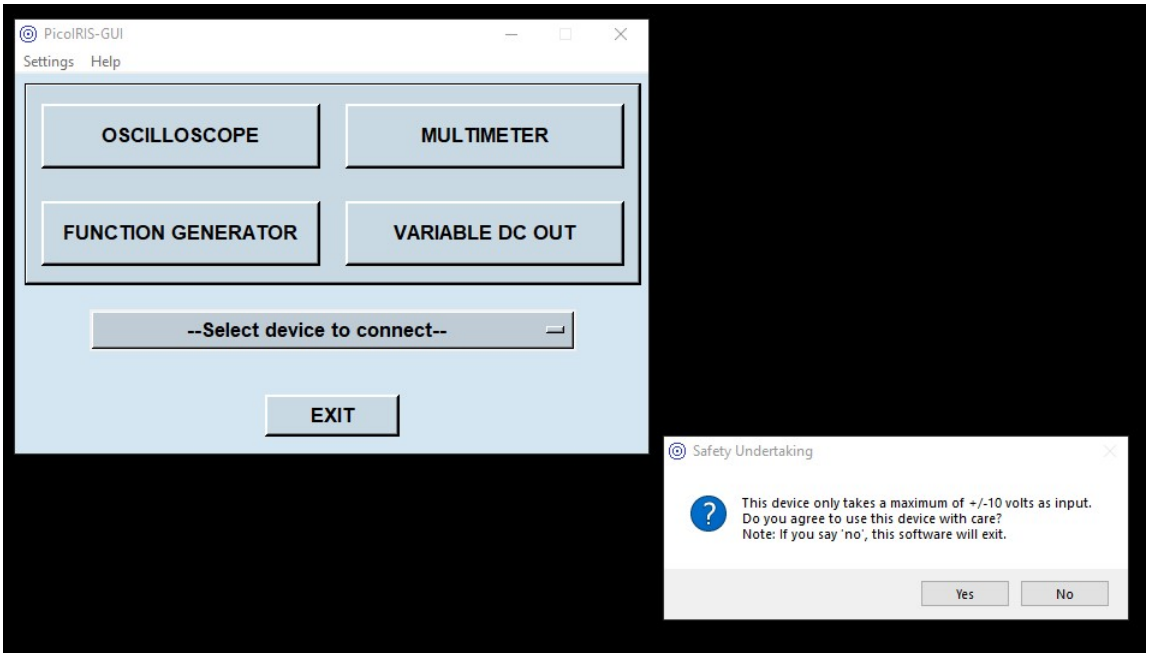

Figure 1.8: Screnshot of PicoIRIS-GUI with Safety Undertaking

Once the PicoIRIS-GUI software is opened, a 'Safety Undertaking' message pops-up. Please read the message carefully before you agree to use the device with care. In case you disagree to the safety undertaking, the software would close automatically.

Warning: PicoIRIS is a sensitive Test & Measurement electronic instrument. Please do not connect signals with voltages higher than 10 volt in either polarity. All signals, both input and output, are measured with respect to the device's 'GND'.

1.4 Connecting PicoIRIS using Bluetooth

1.5 Connecting PicoIRIS using USB

1.5.1 On Windows

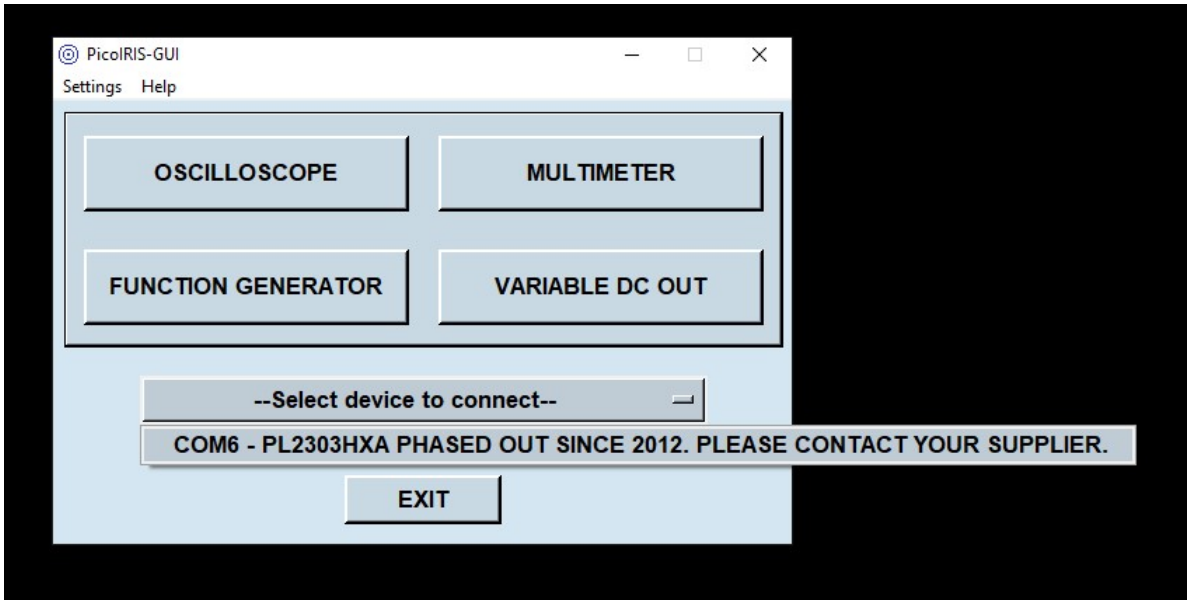

Figure 1.9: Screnshot of PL2303HXA Phased out Error

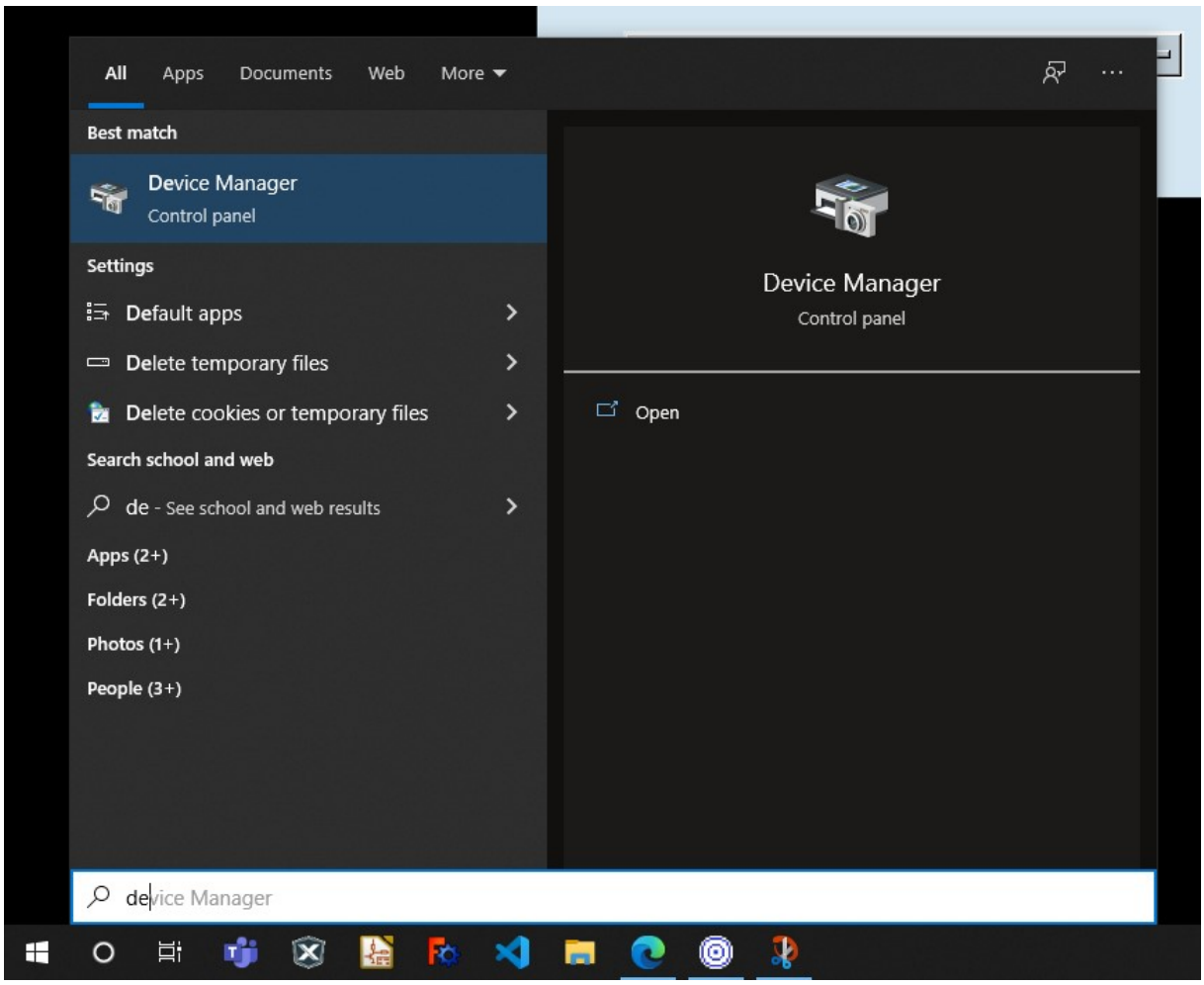

Figure 1.10: Screnshot of

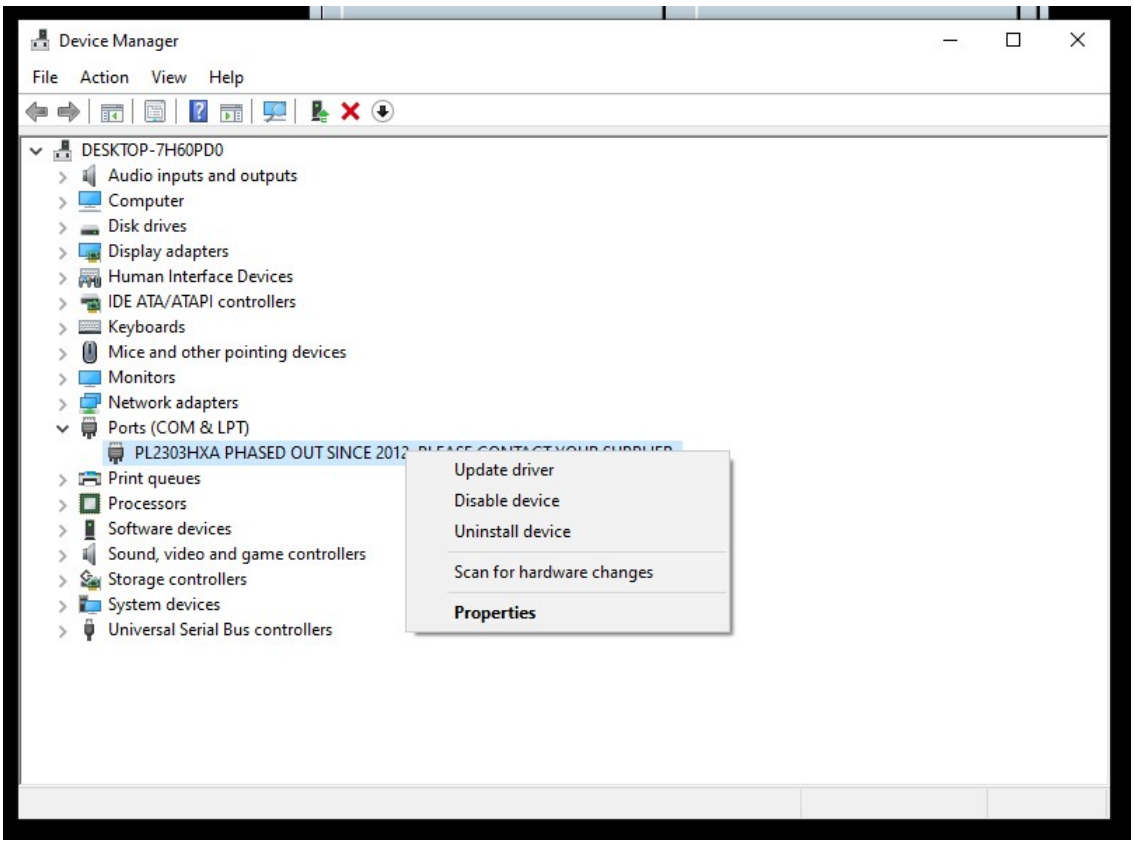

Figure 1.11: Screnshot of

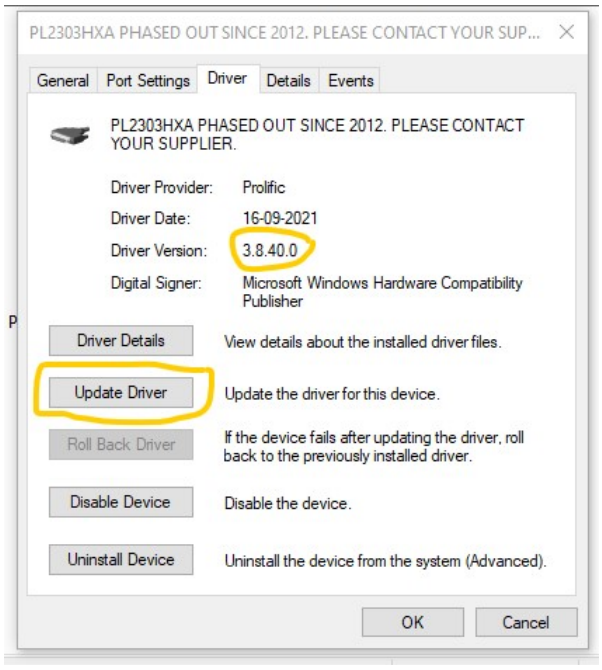

Figure 1.12: Screnshot of

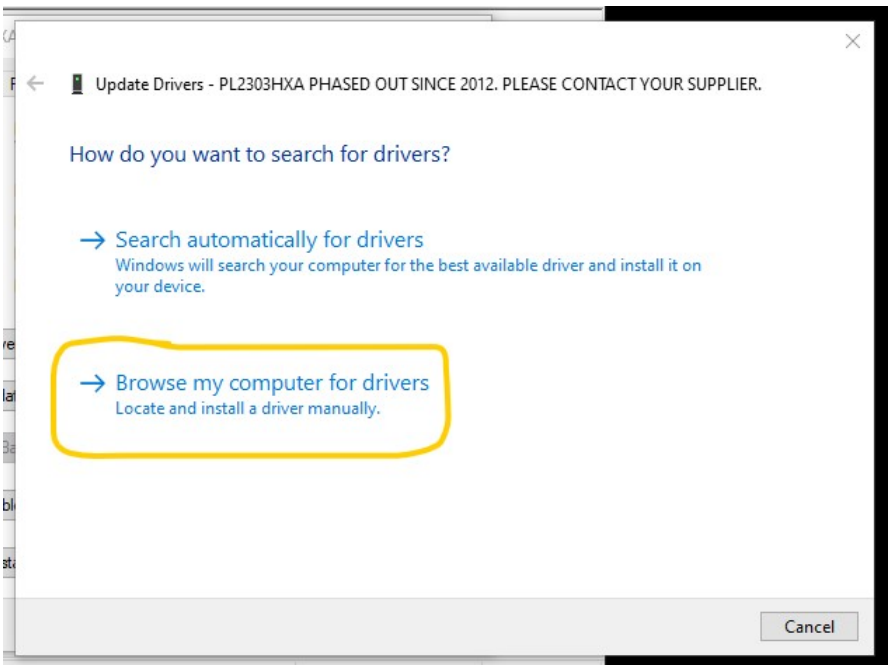

Figure 1.13: Screnshot of

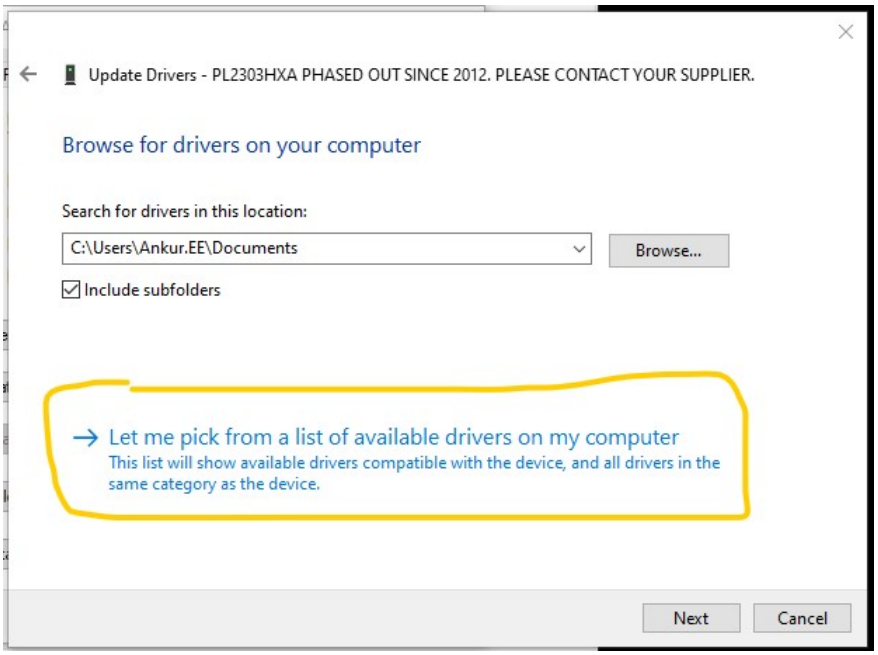

Figure 1.14: Screnshot of

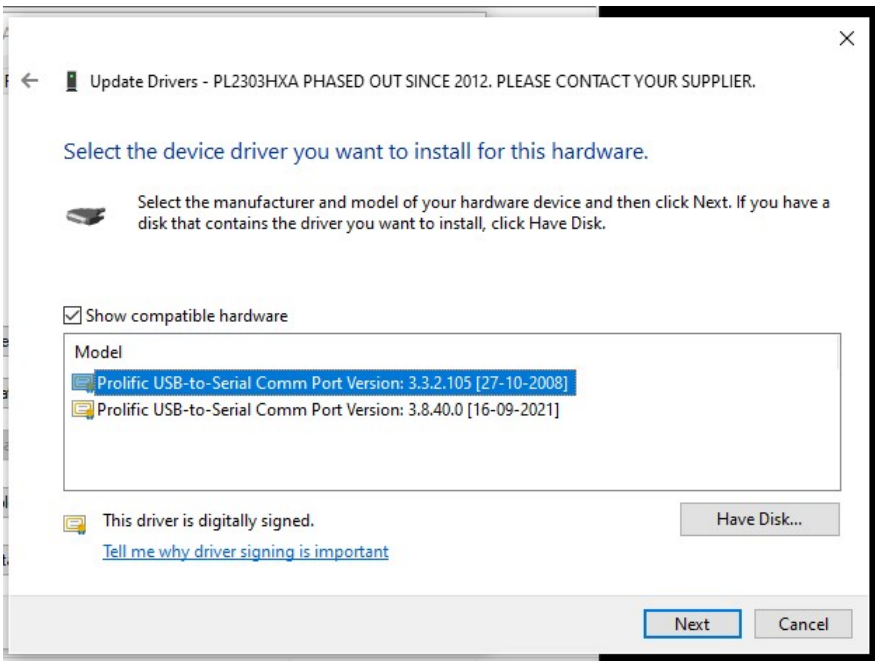

Figure 1.15: Screnshot of

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