

How does the Arduino IDE detect on which serial Port the Teensy is attached

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10-19-2017, 10:20 AM

#1

**Olovskos** ◉

Junior Member

Join Date: Aug 2015

Posts: 9

#### How does the Arduino IDE detect on which serial Port the Teensy is attached

Hi @ all,

when I connect my Teensy 3.1 in serial Mode to the PC, the Arduino IDE show under "Port" -> "COM7 (Teensy). How is the Arduino IDE capable of detecting the correct Port?

I want to write my own Windows exe that behaves like a terminal program for example like putty but I want to detect automatically which Port Number the Teensy was assigned to.

Thanks in Advance

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10-19-2017, 10:25 AM

#2

**PaulStoffregen** ◉

Senior Member



Join Date: Nov 2012

Posts: 23,097

The answer is somewhere in this code:

Java:


<https://github.com/arduino/Arduino/blob/master/src/java/ArduinoSerialManager.java>  
<https://github.com/arduino/Arduino/blob/master/src/java/ArduinoDiscovery.java>  
<https://github.com/arduino/Arduino/blob/master/src/java/ArduinoSerialPortsLister.java>

Native:

<https://github.com/arduino/libserialport>  
<https://github.com/arduino/listSerialPortsC>

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10-19-2017, 11:10 AM #3

**luni**   
Senior Member  
Join Date: Apr 2014  
Location: Germany  
Posts: 1,232

In case you are using c# for your windows application you can use TeensySharp <https://github.com/luni64/TeensySharp> for finding out the port numbers of all connected Teensies.

Here a snippet from the examples

Code:


```
var Watcher = new TeensyWatcher();

Console.WriteLine("Currently the following Teensies are connected:");
foreach (var Teensy in Watcher.ConnectedDevices)
{
    if (Teensy.Type == USB_Device.type.UsbSerial)
    {
        Console.WriteLine("USBSerial: " + Teensy.SerialNumber);
    }
    else
    {
        Console.WriteLine("HalfKay: " + Teensy.SerialNumber);
    }
}
}
```

You can also watch the bus in the background and get a notification if Teensies are connected / disconnected.

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10-19-2017, 12:33 PM #4



**Olovskos**   
Junior Member  
Join Date: Aug 2015  
Posts: 9

Thank you for your answers, I will dig into the code later, I think the C# code will be pretty straight forward but I think I will convert it to Java because Java it is Platform Independent 😊

I just glanced through the code and it seems like the program is just looking for the correct PID/VID. The resulting keyword "Teensy" in "COM7 (Teensy)" is determined intern by the Arduino IDE by the PID/VID or is it the string descriptor of the USB config of the Teensy?

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10-19-2017, 12:59 PM #5



**PaulStoffregen**   
Senior Member  
  
Join Date: Nov 2012  
Posts: 23,097

No matter which language you use, for Windows it always involves Microsoft's oh-so-painful setup API, sometimes even with a bit of configuration manager thrown in. Best if you can reuse code someone else already suffered that setup API pain.

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10-19-2017, 01:06 PM #6

**PaulStoffregen**   
Senior Member

 Originally Posted by **Olovskos** 

I just glanced through the code and it seems like the program is just looking for the correct PID/VID. The



Join Date: Nov 2012  
Posts: 23,097

resulting keyword "Teensy" in "COM7 (Teensy)" is determined intern by the Arduino IDE by the PID/VID or is it the string descriptor of the USB config of the Teensy?

Yes, Arduino's serial discovery manager is just looking at the VID/PID numbers. For the text, it's matching them against these lines from boards.txt:

Code:

```
teensy31.vid.0=0x16C0
teensy31.vid.1=0x16C0
teensy31.vid.2=0x16C0
teensy31.vid.3=0x16C0
teensy31.vid.4=0x16C0
teensy31.pid.0=0x0483
teensy31.pid.1=0x0487
teensy31.pid.2=0x0489
teensy31.pid.3=0x048A
teensy31.pid.4=0x0476
```

To actually trace this connectivity you'd probably spend days unraveling the complex Arduino prefs system and the numerous (and perhaps extraneous) classes the Arduino devs have built in the last few years. I don't recommend putting your time into that, unless you're really seriously wanting to become a regular Arduino contributor!

These's also a small (and perhaps ugly) hack Teensyduino patches into the IDE code for SerialBoardsLister.

<https://github.com/PaulStoffregen/Ar...079daa9b36R155>

Which is the reason you see "(Teensy)" in the menu, rather than "(Teensy 3.2)". I'm definitely not above dirty little hacks if they improve end user experience...

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10-19-2017, 07:39 PM

#7

**Olovskos** ◉

Junior Member

Join Date: Aug 2015  
Posts: 9

Originally Posted by **PaulStoffregen** ➡

... These's also a small (and perhaps ugly) hack Teensyduino patches into the IDE code for SerialBoardsLister...

Nice 😊

Thank you for that.No I don`t want to dig into the Arduino Code I just wondered how it works and now that I know, it really is simple ^^

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10-22-2017, 01:55 AM

#8

**pictographer** ◉

Senior Member

I don't have the details handy, but the Python serial library (serialport?) also gives you access to this information and is cross platform.



Join Date: May 2013  
Location: San Jose, CA  
Posts: 681

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