# Enumerating PicoPak Clock Measurement Modules

W.J. Riley
Hamilton Technical Services
Beaufort, SC 29907 USA

Multiple PicoPak clock measurement modules can be connected and used on the same computer. This brief note shows some of the ways that those modules can be enumerated.
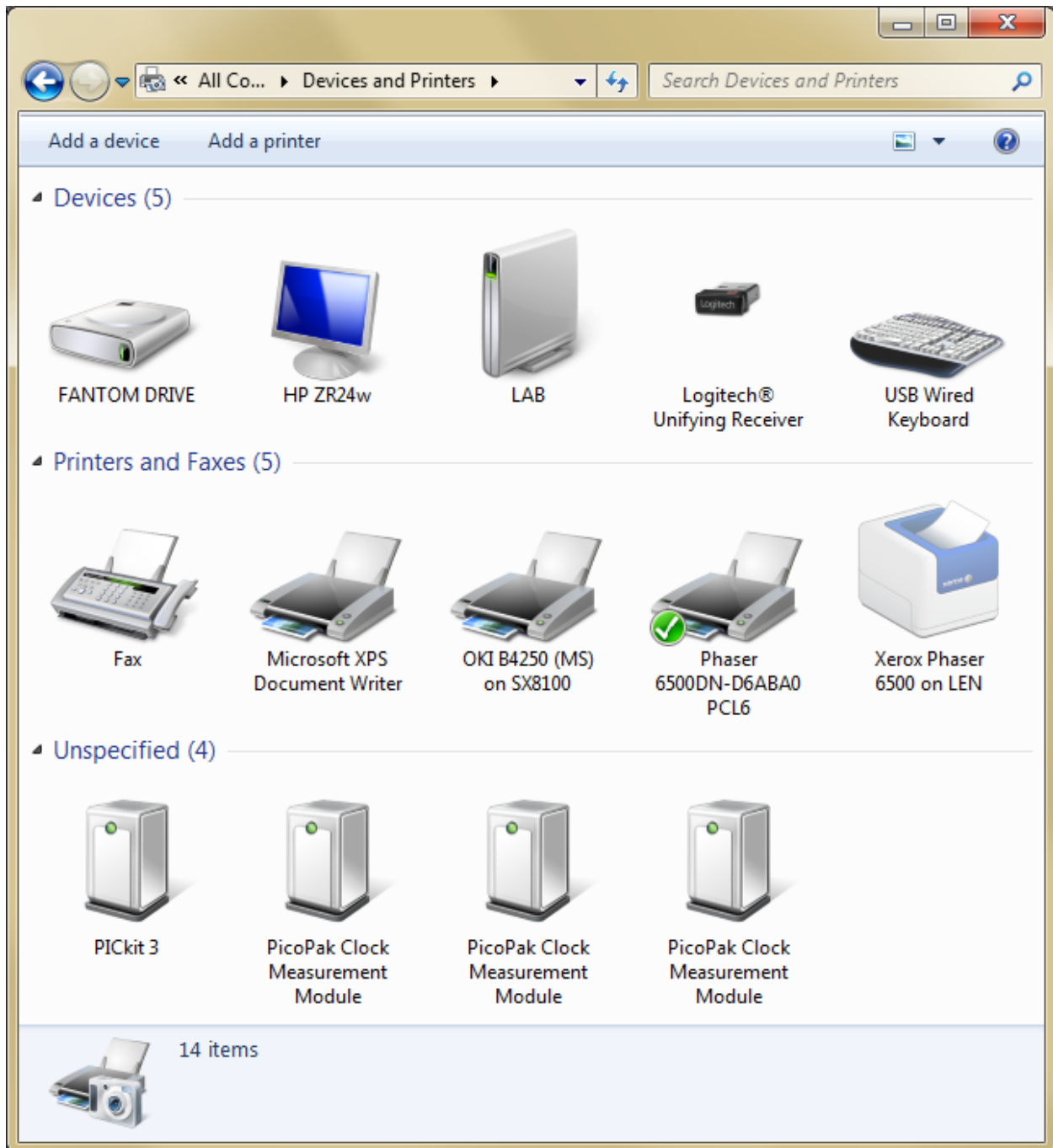
1. Device Manager

    Opening Windows Control Panel/Device Manager shows all connected PicoPak modules and their COM port numbers in the Ports (COM &LPT) section:
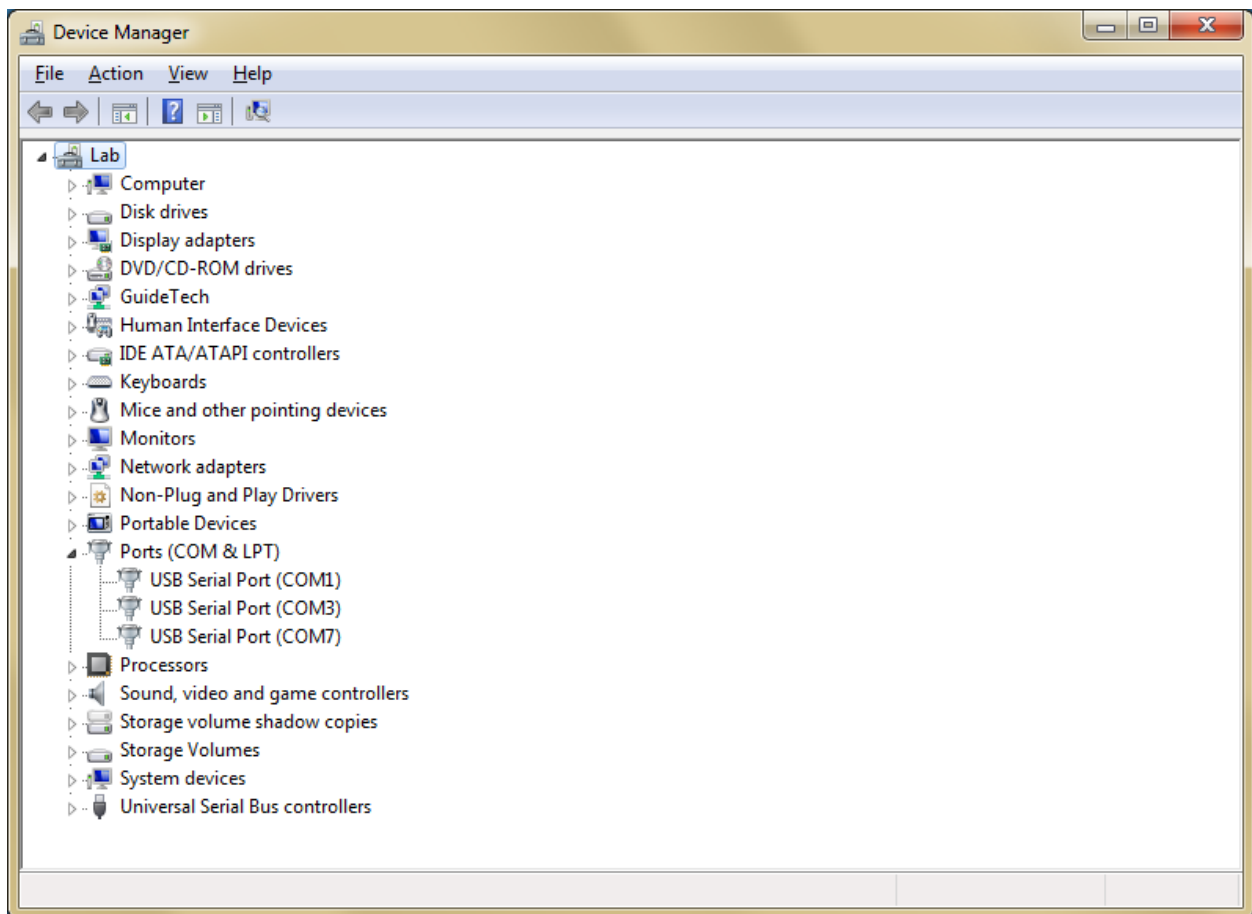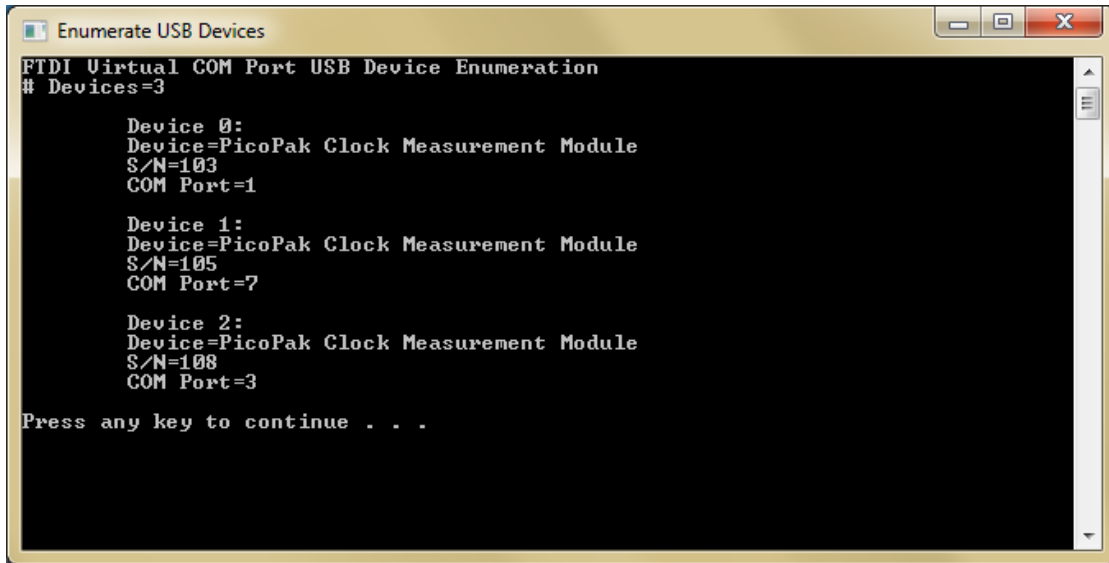

2. Devices and Printers

    Opening Windows Control Panel/Devices and Printers shows all connected PicoPak modules under Unspecified:
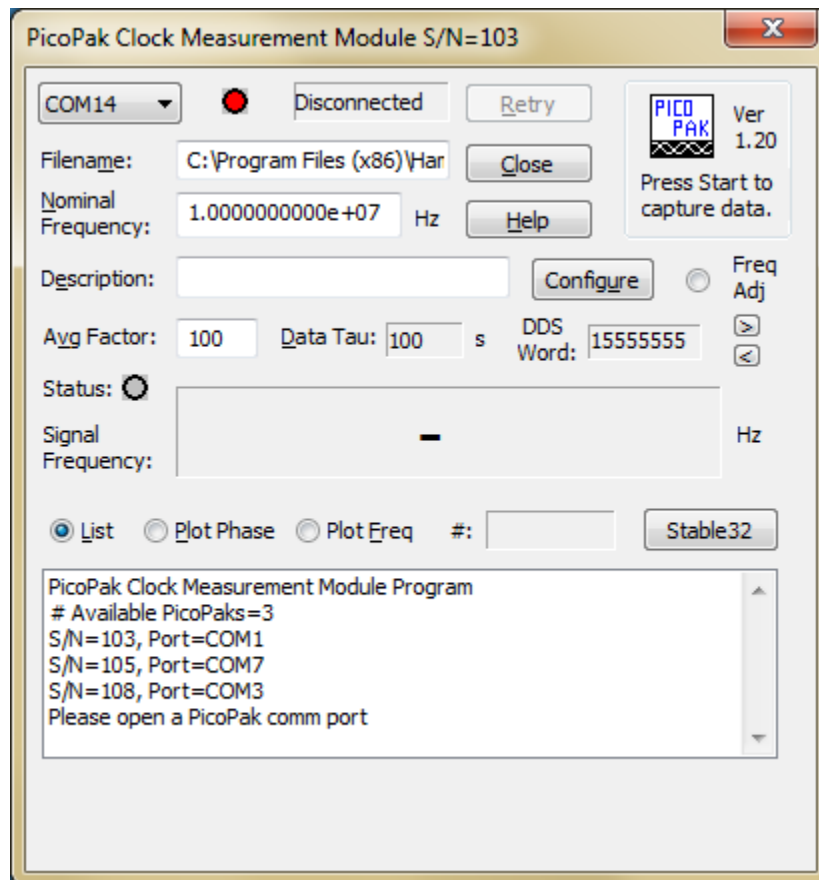
3. EnumerateUSB Program

Launching the supplied EnumerateUSB program from the Windows command line shows all connected PicoPak modules along with their S/Ns and COM port numbers:

```
 Enumerate USB Devices                                    _  □  X

FTDI Virtual COM Port USB Device Enumeration
# Devices=3

        Device 0:
        Device=PicoPak Clock Measurement Module
        S/N=103
        COM Port=1

        Device 1:
        Device=PicoPak Clock Measurement Module
        S/N=105
        COM Port=7

        Device 2:
        Device=PicoPak Clock Measurement Module
        S/N=108
        COM Port=3

Press any key to continue . . .
```

4. PicoPak User Interface Application

Launching the normal PicoPak user interface application with an unused COM port number displays a list of all available PicoPak modules along with their S/Ns and COM port numbers. One of them can be used by selecting and opening its COM port:


```
PicoPak Clock Measurement Module S/N=103                    X

 COM14   ▼    ●   Disconnected    Retry      PICO    Ver
                                             PAK     1.20
 Filename:   C:\Program Files (x86)\Har    Close
                                                    Press Start to
 Nominal                                            capture data.
 Frequency:  1.0000000000e+07    Hz        Help

 Description:                             Configure   ○  Freq
                                                         Adj
 Avg Factor:  100    Data Tau: 100   s    DDS             ▷
                                          Word: 15555555   ◁
 Status: ○

 Signal                        —                         Hz
 Frequency:

 ◉ List   ○ Plot Phase  ○ Plot Freq   #:          Stable32

 PicoPak Clock Measurement Module Program
 # Available PicoPaks=3
 S/N=103, Port=COM1
 S/N=105, Port=COM7
 S/N=108, Port=COM3
 Please open a PicoPak comm port
```

The screen shot below shows these three PicoPak modules connected to three instances of the PicoPak Windows user interface application and ready to start and perform their measurements: