PlotterWriter Setup Procedure

Before PlotterWriter can be used with either a Houston Instrument ImageMaker or an HP7475a, some steps must be taken to prepare the environment. Here I'll present the steps I've used to get things going.

- The first step is to get the right USB cables. I got mine on Amazon where they're both still available as of this writing (2021-04-30), and at reasonable prices.
    - **USB/Serial:** TRENDnet USB to Serial 9-Pin Converter Cable, TU-S9, Connect a RS-232 Serial Device to a USB 2.0 Port, Supports Windows & Mac, Supports USB 1.1, USB 2
    - **USB/Parallel: C2G 16898 USB to Centronics 36 (C36) Parallel Printer Adapter Cable, Beige (6 Feet, 1.82 Meters)** This cable is not a one-size-fits-all cable and was selected after trying 2 others that insisted that no matter what is sent out the USB port, what is delivered to the Centronics connecter *must* be in UniCode. Not very useful since this plotter technology predates UniCode in Windows by a few years. The C2G doesn't make this useless assumption.
    - **DB9/DB25 Null Modem:** StarTech.com 10 ft Cross Wired DB9 to DB25 Serial Null Modem Cable - F/M - Null Modem Cable - DB-9 (F) to DB-25 (M)
- Next is getting the cables properly installed and connected.
    - **USB/Serial:** This is very simple. Install the driver from the CD that ships with the cable, then connect it to any USB port. Then connect the DB9 to a DB9/DB25 Null Modem cable and connect the DB25 end to the plotter, turn on the plotter, and run PlotterWriter, which should find the port upon being instructed to open a serial port.
    - **USB/Parallal:** This is a bit more involved. The C2G cable is recognized immediately by Windows and needs no separate device driver to be installed. But then things get more interesting. Here are the steps that I've used:
        1. Connect cable. An icon will appear in the Devices and Printers window under "Unspecified" with the name "IEEE-1284 Controller".
        2. Delete all old USB-Parallel printers created.
        3. Create a new printer (any name will do, but use "USB Parallel Port" for clarity.
        4. Choose one of the USB ports listed and print a test page.
        5. If the test page doesn't print, right-click on the new printer and choose "Printer Properties" in the context menu.
        6. Delete all USB ports listed (unless USB001 is in use by a known-good printer device). A messagebox will appear indicating that the port can't be deleted. Ignore it.
        7. Select USB ports beginning with USB002 and print test page. Repeat with all available USB ports until the test page begins to print.
        8. If a test page won't print, disconnect the USB cable and re-connect it after a few seconds and try again. For some reason it doesn't always work immediately, but eventually it does.

        - NOTE: When the printer icon in the "Devices and Printers" window is grayed out, the printer isn't ready. Repeat step 8 until it is no longer grayed out.
        - After that, connect the Centronics end to the ImageMaker, turn it on, and PlotterWriter should be able to open a parallel port when instructed to do so.
    - Other notes:
        - NOTE: Once the plotter receives input on a port, it expects input only on that port and must powered off and back on to receive input on the other port. The other port may remain connected but any data sent on it will be ignored and discarded.
        - NOTE: The serial cable used in testing was the DB9/DB25 cable in the computer cables drawer in the plastic drawers cabinet, along with the RS-232 breakout box used to cross pin 2 from the cable to pin 3 to the plotter. Pins 2 & 3 must be turned off on the breakout box.
        - NOTE: Pin 2 on the adapter must connect to pin 2 on the plotter, pin 3 to pin 3, etc. "Straight-Through" pin-outs instead of "Null-modem".
        - NOTE: Procedure to remove obsolete COM ports:
            1. Open command prompt "Run as administrator"
            2. set devmgr_show_nonpresent_devices=1
            3. start devmgmt.msc
            4. In Device Manager: click View, then Show Hidden Devices.
            5. Expand "Universal Serial Bus controllers"
            6. On each grayed-out node, right-click and select "Uninstall"
        - Other notes:
            1. Right-click on the Serial Device you want to change and chose Properties.
            2. In the Properties window, click the Port Settings tab, then "Advanced".
            3. In the window that opens, chose an unused COM Port from the dropdown list.
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- Some more useful links:
    - **.3mm Black, Blue, Red, Green, Yellow HP Fiber-Tip Plotter Pens Pkg of 5**
    - **.3mm Black, Green, Aqua, Blue, Violet HP Fiber-Tip Plotter Pens Pkg of 5**
    - **11x17 Pkg 100 Opaque Bond Pen Plotter Paper 20lb**
    - **Refilling or Replacing Vintage HP Plotter Pens**