

This document contains excerpts from the MS-DMT User Guide for MARS

APPENDIX F: Data Port

The management of com ports under Windows is covered in Appendix K to include dealing with Ghost ports.

When Data Port use is required a value between 1..255 is entered for the Data Port com port field on the Common panel for the active serial port to be used.

The default Data Port parameters are 8 data bits, no parity and 1 stop bit and No Handshaking where the user can check the "HS" box on the Common panel to enable CTS/RTS handshaking as required.

When the Data Port is enabled REMOTE mode operation is in affect and there is no display of incoming data on the MS-DMT internal terminal.

The Data Port support is usually accomplished by a paired (null modem) set of Virtual Serial Ports (VCP) on the same host computer as the external terminal application being used.

The free VSP server application recommended is:

VspManager (<http://k5fr.com/DDUtilV3wiki/index.php?title=VSPM>)

Any other (32bit or 64 bit as required) server tools can be used with the 3rd party terminal software when running on the same PC as MS-DMT. The use of a signed VCP server is required for Windows 7 and later.

VCP servers tested that offer baud rate emulation do not seem to work, thus the selected baud rates between the MS-DMT and external software do not seem to matter when using VCP ports as they do when using a physical RS-232 port.

An option when the system resources are too low or DPC latency is too high on the same PC to support both the MS-DMT and external terminal or when the DMS-DMT is running under another operating from the external terminal application, real physical serial ports can be used along with a Null Modem. It is not recommended to use real serial ports on the same PC running both applications as the effects of RS-232 interrupts has on DPC latency. The selected port parameters much match between the MD-DMT and external software when using physical serial ports.

When the Data Port is enabled no received data is sent to the internal terminal for display. The MS-DMT Data Port is always opened in binary mode to support extended ASCII characters 0-255 as the modem itself passes the full range.

The internal terminal only displays data in the normal printable ASCII character range and some extended characters. Any unprintable characters (between ASCII decimal 0-31) any such characters when pasted for sending or when received will be automatically displayed as a box [] character within the MS-DMT display.

The Data Port follows the selection of ASYNC_EOM, SYNC_EOM and SYNC modes available for selection to process the data port data stream consisting of ASCII, Binary or mixed Binary/ASCII.

APPENDIX K: COM Port Management

Ghosts in the Machine? Do you find your PC's automatic allocation of serial port numbers challenging and perhaps a bit confusing? Perhaps the serial port for your radio CAT control is less than 16 but for your external USB sound device interface it may be greater than 16. Yet you don't currently have any other serial devices plugged in and only say 1 or 2 system devices with low COM port numbers? Herein we shall explain why and what you can do to address the issues involved.

Recent versions of MS-Windows support 255 serial ports as does MS-DMT. In the past MS-DMT was limited to the first 16 com ports which made com port management even more critical.

Any serial device installed can be re-assigned to any com port between 1..255 that is not currently being used. However MS-DMT must not be running when doing so. The drill for physical serial devices is to open Windows Device Manager and select the serial device of interest "Port Settings" as seen below.

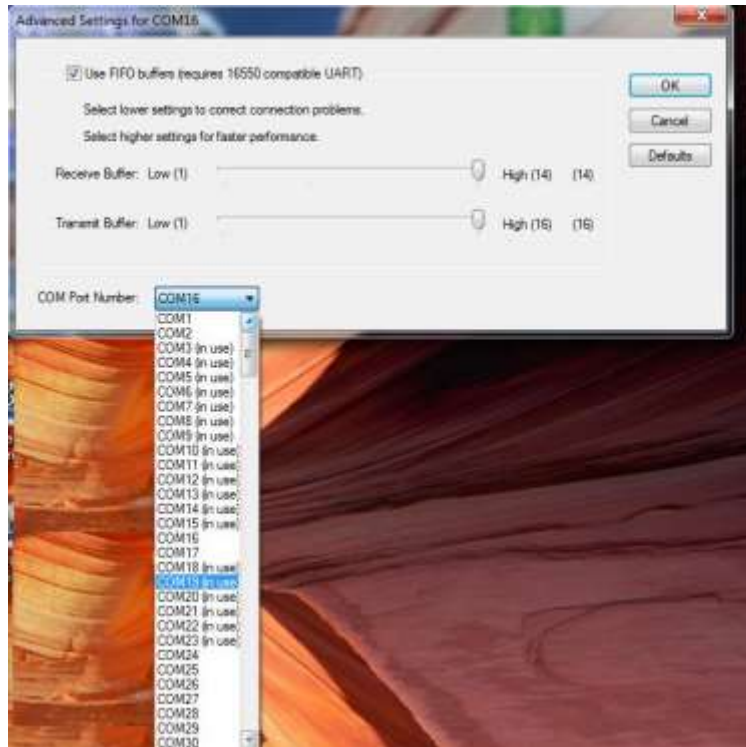


Then click on "Advanced" which leads to the following dialog below.

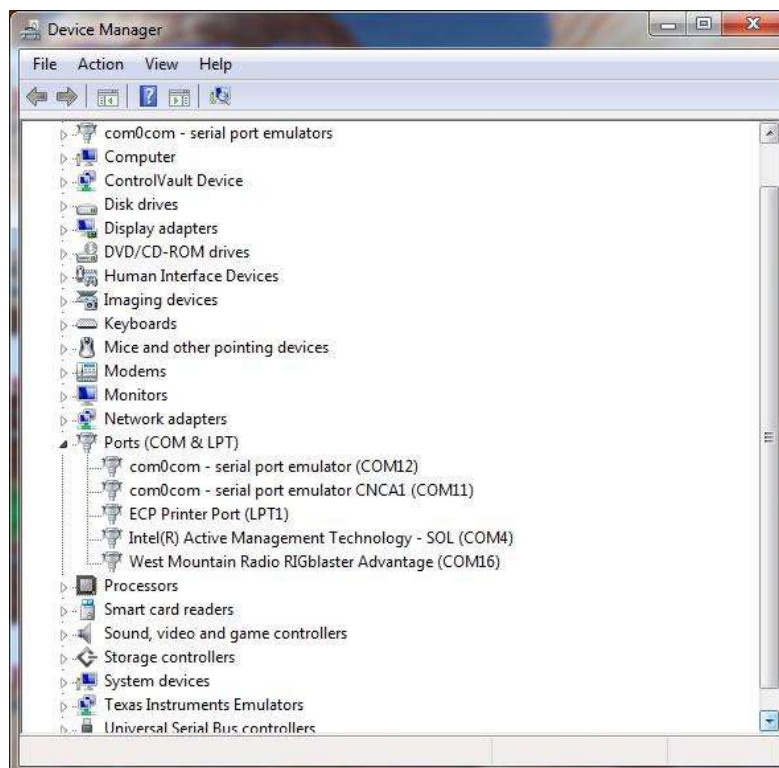
NOTE: When it comes to Virtual Serial Ports, a configuration utility is usually provided to re-assign ports.

The "COM Port Number" pulldown will display which ports are in use vs. free including both physical and virtual ports.

I have 4 ports installed in this example, however something appears to be wrong as there are many more than the 4 ports listed as seen below.



Can there really be that many ports in use?



The answer is Yes! The reason is due to hidden ghost ports for past physical serial devices that were plugged in previously.

When Windows installs a new plug 'n play device and assigns resources, such as COM port number, it retains those assignments. Thus although may currently appear to have free ports below, you may not as you have “ghost devices” in the system. If you do many things with devices that make use of COM port designations eventually you can get into pretty high COM port numbers and that can be really annoying.

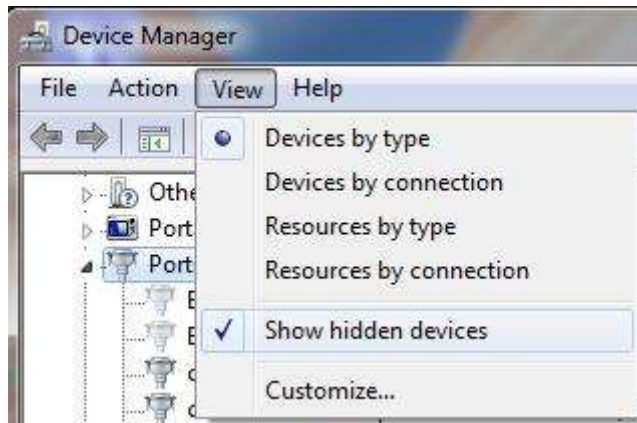
At some point you may want to figure out what were all those other COM ports and perhaps uninstall the ghost devices. Under windows this isn't particularly easy unless you know how. First up, you'll have to open up a **Command Prompt** and in Windows 7 later it has to be run as administrator. Open up the start menu and start typing in "Command" until the black C:\ icon appears. Right click and select **Run as Administrator**.



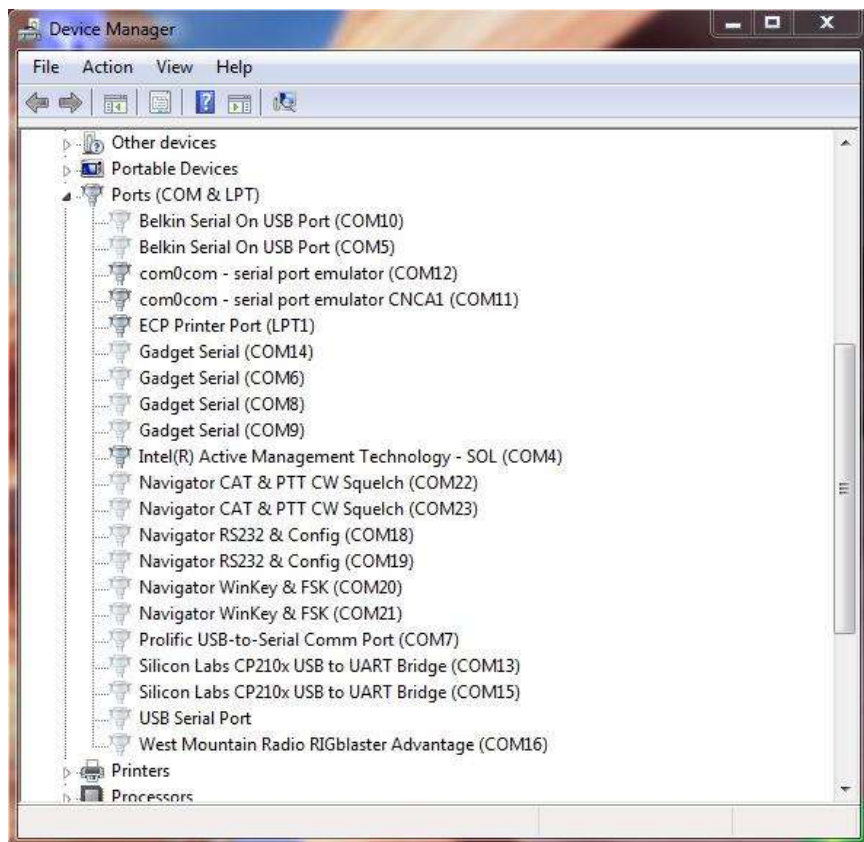
Now type in set “devmgr_show_nonpresent_devices=1” as seen below which is the command to show ghost devices followed by start “devmgmt.msc” which starts up the device manager.



Then once device manager is up and running click on “View” then “Show Hidden Devices” as seen below.



Now all your serial devices in use will be displayed to include all hidden devices as seen below.



Now with the big picture of your serial devices you can select which ones you may want to uninstall so the COM port number can be recycled or reset the COM port number to get what you desire. Whenever you want to display hidden devices the previously steps will need to be repeated.

The above screen shot was taken from my Windows 7 Professional laptop used for development where you can see the Navigator listed which is just being used on that system for base band audio testing with the HF Channel Simulator and thus always has its serial ports assigned above COM16. Whereas the RigBlaster Advantage is sitting at COM16 for its PTT port. The Silicon Labs CP210x is for the ICOM IC-7200 radio USB interface by the way on COM15.