

HOW TO RECOGNIZE WHAT PORTS YOUR COMPUTER HAS

Different computers have different ports on the back and some even have ports on the front. These ports have changed over the years, so some ports that older computers had are not on newer computers and vice versa. How do you know what ports are on your computer? What ports do you need on your computer? These are questions everyone should know. You should check which ports your computer has before you buy it, but a lot of people just assume a computer made by a name brand manufacturer is going to have everything they need and never question it.

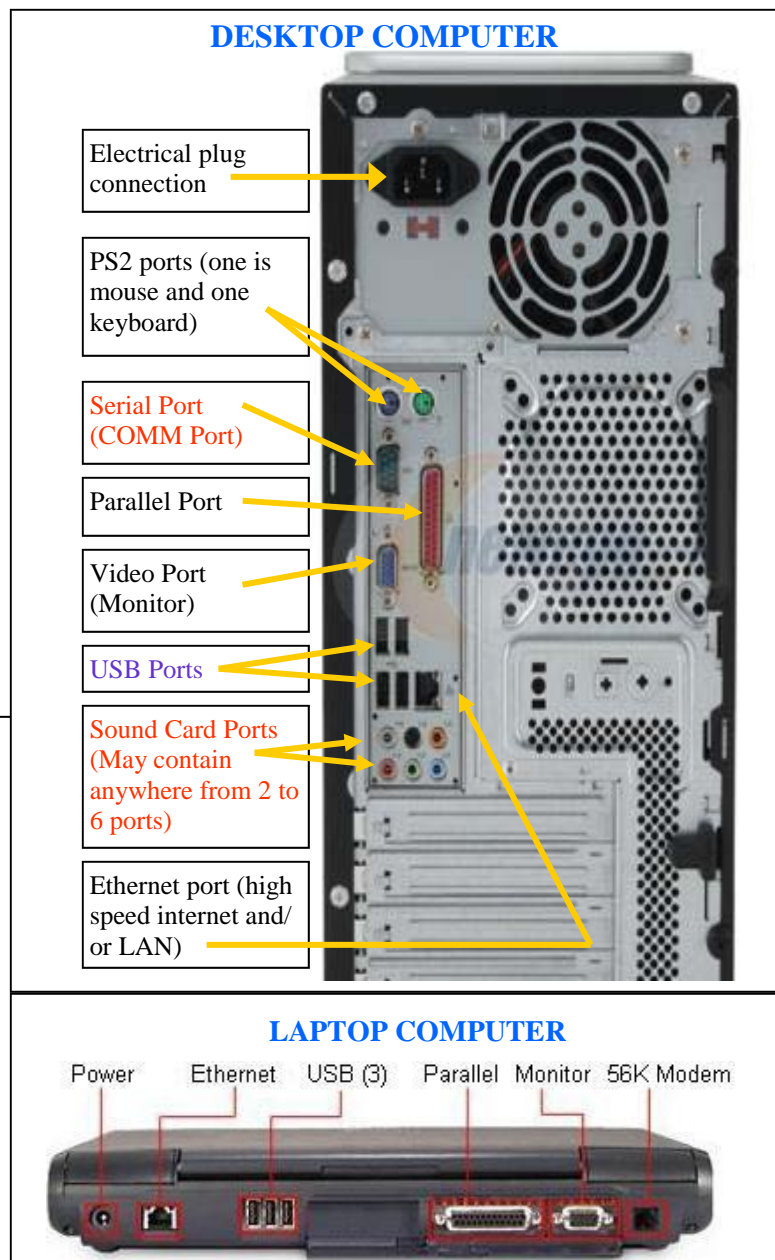
Most computer manufacturers are not Amateur Radio operators and therefore do not take digital modes operation seriously enough to check what their Amateur Radio customers might need. Let's look at the computer ports normally on a computer and see what you will need if you are using a Donner's Digital Interface for digital modes. (NOTE: This applies to other manufacturers digital interfaces also.)

Ports listed in RED are the ones you need for your interface. Ports listed in PURPLE can also be used but will need an adapter.

Remember all computers are different, and desktop computers are even different from laptops. The examples at the right are typical but not necessarily what your computer has. Let's look at how to tell which ports are what.

ELECTRICAL CONNECTION:

The port for the electrical connection is usually on the power supply. It is a three pronged port that connects to the back of your



computer and to the electrical outlet (or surge protector which plugs into an outlet) on the wall in your home. This is needed for your computer to run. You will not have to worry about this connection as it will be filled already.

PS/2 PORTS:

These are small round ports with 6 holes. They are female ports. These are also called 6 pin mini DIN ports.

Depending on your radio, your interface could have a 6 pin mini DIN connector. **DO NOT** plug your interface into one of these ports on your computer. If your interface has a 6 pin mini DIN connection it is to be plugged into your RADIO data port. You will **NEVER** plug an interface into the PS/2



port on your computer. The computer PS/2 ports are designed specifically for a mouse and a keyboard. There is no other use for the PS/2 ports on your computer. However, you might not be using them at all if you use a mouse and/or keyboard that connects to a USB port. The PS/2 ports on the back of your computer will be labeled to show you which is for the mouse and which is for the keyboard. They are also color coded. Purple is the keyboard and green is the mouse port usually. I have seen others colors used, so check the label or the manual that came with your computer before hooking them up. If you hook them up backwards (mouse in keyboard port or vice versa) they will not work.

If you have an older computer you may have only one PS/2 port, or no PS/2 ports at all. Instead your keyboard will plug into a 5 pin DIN connection. The 5 pin DIN connection is round but is larger than the PS/2 connection.

SERIAL PORTS: (This one is important!)

This one is very important. On older computers (before PS/2 ports) there was always at least one and usually two serial ports. The serial port is a male connection with 9 pins organized in two rows. One row has 5 pins while the other has 4 pins. (Very old computers may even have a 25 pin serial port on them. These can be easily changed to 9 pin versions by using an adapter.)



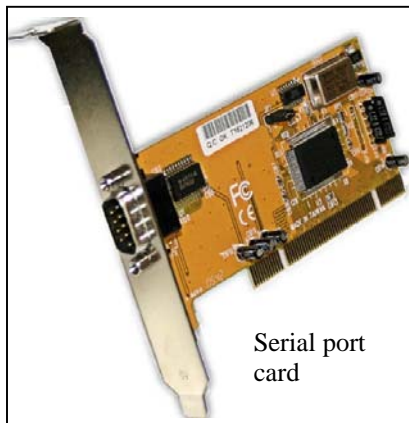
The serial port was primarily used for connecting the old style mouse to the computer. It could also be used for external modems, PDA's, and many other devices. However, when the PS/2 port came along mice changed to PS/2 connections. Then the USB ports and Ethernet ports came along for the modems, PDA's and lots of other devices. Computer manufacturers have slowly started making computers without serial ports. This is bad for Amateur Radio operators who want to do digital modes, because at this time nearly all software programs for doing digital modes are setup to use a serial port for keying the radio. No other port will work as well as a standard serial port for this purpose. That is why we make our interfaces with serial connectors. Until the software changes to use another port, digital interfaces have to use serial ports.

Even though manufacturers leave the serial port connection off newer computers and laptops, there are several things you can do...

1. When you buy a new computer you can request that it have a serial port connection on it. There are still motherboards available that have the serial port connections and most

computer manufacturers will be happy to add a serial port if requested (for a slight fee).

2. You can use a USB to serial port adapter. This adapter has a USB connector on one end and a SERIAL connector on the other. Plug the USB connector into any USB port on your computer and plug the digital interface into the serial port on the other end. NOTE: It is very important that you install the driver that comes with your adapter. Otherwise it won't work correctly. This type of adapter uses a USB port but tells your computer to treat it like a serial port. Our interfaces work well with these. Pictured at the right is one USB to Serial adapter. There are many types and our interfaces should work with any of them. These are available at computer stores and on the internet and vary in price from about \$15 to over \$100 depending on what sort of bells and whistles



you want with it and how many serial ports. We recommend one that has just one serial port for best performance. This can be used on either a desktop or laptop computer.

3. You can install a card into your computer that has one or more serial ports on it. The photo at the left shows a serial port card for a PCI slot. You can find them for any type of slot your computer has. At the moment the PCI slot is probably the most used. These can be purchased at computer stores and on the internet also. They range in price from about \$20 and up. This is the best solution if your desktop computer does not have a serial port as it connects directly to the motherboard on your computer.

PARALLEL PORTS:

Parallel ports were originally used for printers. They are also called LPT ports and Printer ports. A few other accessories for computers were made that connected to them, but not many. This port looks a lot like a serial port but bigger and it is a female port. It has 25 connectors in two rows - 13 in one row and 12 in the other. There are very few uses for this port today, and computer manufacturers are slowly removing it from computers also. Our interfaces do NOT use this port at all.



VIDEO OR MONITOR PORT:

This port looks even more like a serial port, but don't get them confused. If you look closely at both ports you'll notice some very striking differences. First off, the video or monitor port is a female connection while the serial port is a male connection. Next the video port has 15 connectors located in three rows of 5 each. At a casual glance this port is most often confused with the serial port and we receive phone calls saying our interface won't fit. This is NOT a port that is used by our interfaces. All desktop computers and most laptop computers have at least one of these monitor or video



ports on them. Please note the photo of the back of a laptop on the first page. It has a video/monitor port but no serial port. Do not confuse these ports. They are the same size over all but very different if you look closely.

USB PORTS:

USB ports are the most popular ports in use on computers today. You can use them for everything from cameras, to PDA's, to printers and much much more. Older computers will not have these ports on them, but if you have bought your computer within the last 5 or so years your computer will have from one to 6 or even more USB ports on it. Some computers have them both on the back of the computer and on the front. While our interfaces don't use USB ports directly since the software for digital modes doesn't support using a USB port, these ports are only important to us if you use a USB to serial port adapter. See the section on SERIAL PORTS for more information on USB to SERIAL port adapters. Using a USB to Serial port adapter makes your computer think it has a serial port when it is actually using a USB port. This is the only way at this time that you can use a USB port with one of our interfaces. Other manufacturers who say they sell an interface that connects to the USB port are simply selling you a USB to serial adapter with their interface. We choose to sell them separately, so people who already have one do not have to purchase a second one from us.



SOUND CARD PORTS:

Sound cards are about as different as computers. All use a 3.5 mm (1/8 inch) stereo plug. If you have a laptop computer (also called a notebook computer) you will probably only have 2 ports (speaker and microphone). If

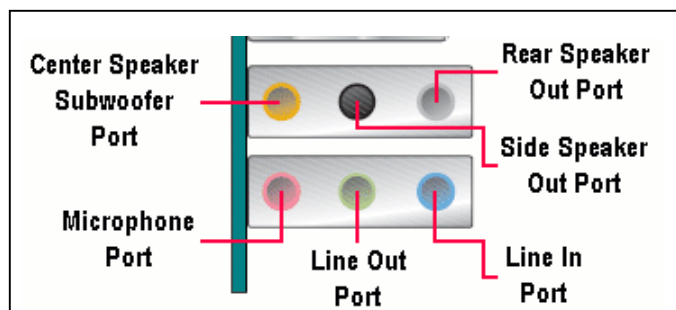


you have a desktop computer you could have from 2 to 6 ports on your soundcard. Most often you will see just three ports though — something similar to the one pictured above. These 3 port sound cards come in a variety of colors (or no color at all), but if you bought your computer in the last few years you'll have colors like those pictured above. **The green color port is for speakers.** **The blue port is usually line-in** (although some computers will allow it to be changed to line-out — check your computer instructions). **The pink (or sometimes red) port is for the microphone.** If you have a soundcard with four ports (as on the left), the fourth port will be a yellow (or yellowish orange) color. On this type of sound card the green and yellow ports are both for speakers ... one is for front speakers and one for rear speakers. If you have 6 ports you can look at the graphic below to see what each is used for.



When using one of our interfaces you'll notice one stereo plug is marked with a red cover. DO NOT plug the red plug into the pink (or red) port on your sound card. The red plug goes into the line-out or speaker (green) port. Just think of Christmas and plug the red plug into the green port. <grin>

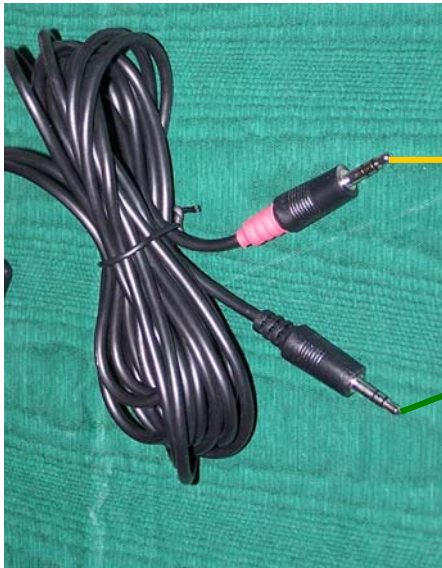
The black plug on our interfaces goes into the line-in (possibly blue) or microphone (pink or red) port. Note that the microphone port



is more sensitive than the line-in port, so you will have to adjust your sound card settings tighter if using the microphone port. If you are using a laptop computer you probably only have two ports — one for speakers and one for microphone. In this case you will plug the red interface plug into the speaker port and the black interface plug into the microphone port.

DONNER'S DIGITAL INTERFACE

YOUR SOUND CARD



Assuming your computer has the blue port setup as line-in. NOTE the graphic above or beside the blue port shows a line pointing in (opposite of what the green ports graphic shows). Also note that your pink port has a small microphone graphic beside or above it.

OR ...

