

Modem Installation - Internal

1. Shut down system and unplug power cable.
2. Remove case enclosure and discharge yourself of static electricity by touching the metal frame of the computer or the power supply housing.
3. If there is a modem currently installed in the system, carefully remove it by removing the screw holding the bracket and pulling the card out of the slot.
4. Make sure there is an appropriate place for the new modem to go.

Note: There are two slot types modems will commonly use. One is an ISA type, which is about 6 inches long, split into two sections and is almost always black. The other is the PCI type, which is about 3 inches long, a single section and almost always white. Once you have determined which type of slot your new modem uses, verify that there is an available slot of the correct type in the system. It is also necessary to verify that the length and width of the card will fit in the available space (see figure 1).



5. Remove modem from anti-static bag carefully, handling it only from the edges or the metal bracket on the end.
6. Configure the modem to use an available port on your system. Examine the modem and documentation and, if needed, setup any jumpers that may need to be configured. Keep in mind when doing this that your modem needs to be set to an available COM port, as well as the IRQ associated with that COM port, in the system to operate. Here are some common COM ports and the resources usually associated with them.

| Port | I/O Address | IRQ |
|-------|-------------|-----|
| COM 1 | 03F8 | 4 |
| COM 2 | 02F8 | 3 |
| COM 3 | 03E8 | 4 |
| COM 4 | 02E8 | 3 |

7. Also understand that most motherboards will have two onboard serial ports, COM1 and COM2, which take resources if they are enabled. If they are not being used, it is a good idea to disable them to make resources available for the modem you are installing. This is usually done in the system BIOS utility. The BIOS can be accessed using a key combination during the first few seconds the system is powered on. Once you enter the BIOS program, there should be a menu selection that will allow you to disable the serial ports. They are sometimes labeled COM ports or UARTS in the BIOS utility and there is almost always two of them. Once they are disabled, be sure to save your new settings when you exit the utility or they will not be used. You may need to refer to the motherboard documentation or contact the manufacturer to get more details about disabling unused serial ports on your system.
8. Setup the modem driver in Windows. As Windows boots up for the first time with the modem installed, it will detect the new modem and add it to its device list. It will almost always prompt you for a driver at this time. Insert the installation floppy or CD into the drive and choose that location for Windows to search for a driver. If needed, browse to the folder where the drivers are located on the disk. If prompted to do so, restart the system after Windows has loaded the modem drivers.
9. Test the modem. Once the system has booted back up, go to the modem's properties and query the modem.
 - a. Open the modem properties (Start>Settings>Control Panel>Modems)
 - b. Click the **diagnostics** tab.
 - c. Click the **COM port** associated with the modem.
 - d. Click the **More Info** button.
 - e. If the modem responds with a series of AT codes in a white box, then the system is communicating with the modem.
10. The next step is to connect to another modem. Make sure the number your calling is the correct type for the modem you are using. This can be your current ISP, a free ISP (www.netzero.com) or if you are testing a 56K V.90 modem, by calling 3com's 56K V.90 test phone number (www.3com.com/56k/need4_56k/linetest.html). 56K V.90 connection speeds vary greatly for many reasons, but mostly because of the low quality of phone lines.