PICKING OUT EQUIPMENT

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You may find that choosing equipment is the hardest part of all. There is so much to choose from, and you need to be selective. You have to find the right software as well as the correct hardware to enable you to contact BBSes. You should ask friends, computer retailers, and others for advice on what you should get. You can find places that will allow you to test and try different programs to find out which ones you are interested in. To call a BBS, you will need only four things:

* A Computer
* A Modem
* A Communications program for your computer
* A Telephone Line

This section will show you all of the details and what you need to look for when dealing with each of these items and programs.

Computers

Obviously, the first thing you will need is a computer. You will need to find a computer with a keyboard, a display screen, and disk drive, for entering and storing data. You may also wish to have a hard drive so that you can store data in the computer instead of on disks. You can use just about any computer for telecommunications.

Serial ports-- Your computer must have a serial port, also known as a modem port. A port is a connector that is located in the back of the computer that allows you to plug cables into it. The port accepts data one bit at a time, and then places it on the screen. First, the start bit comes through, then the data (information), and finally the stop bit.

Parallel ports-- Your computer probably also has a parallel port. Unlike the serial port, which accepts information one bit at a time, parallel ports accept information all at once, by using a multiple set of wires.

Parallel ports will operate faster than the serial ports. That is because all of the information is transmitted at one time, instead of bit by bit by bit.

The thing to realize is that although parallel ports may be quicker, they don't work any faster for BBSes. Most modems cannot send information fast enough for you to tell a difference between the two. Put simply, modems slow the transmission of data because they only send information serially.

Chips-- There are chips on the market that will do "serial-to-parallel" conversion. They build bytes serially and then transmit them in parallel form; that way, all bits go through at once.

Put Simply-- Your computer needs to have a serial port for an external modem, or make sure that your computer has room for an internal modem that can be hooked up to an internal serial port.

Modems

The modem is used to transmit electric pulses into tones and then transmit the tones over the telephone wire, and then transmits tones back into pulses that go back into the computer.

Compatibility-- There are many ways that modems can send and receive signals. Although all of them can be effective, you need to understand all of them, so that your computer can be compatible with the other person's computer.

At first, AT&T only permitted Bell System modems to be connected to its phone lines. One modem that was developed by Bell System was the Bell 212. Its frequencies and timing became an industry standard for 1200 bps operation, so any modem that uses these frequencies and the timing is said to be Bell 212-compatible. Therefore, any modem that you buy for BBSes must be Bell 212-compatible.

The term Hayes-Compatible is a term that is frequently used to mean the same thing as Bell-Compatible, but there is a difference. Hayes Microcomputer Products, Inc. manufactures a high-quality modem that has a number of distinct features such as auto dialing, auto answering, and other things. The ability of a modem to understand these types of commands makes it Hayes-Compatible. Most of the time, if a modem is Hayes-Compatible, it will also be Bell-compatible.

Speed-- You will need to decide how fast a modem you want to buy. You should take into consideration the speed that the majority of BBSes use, because you will have to at least match their speeds. As the speed increases, so does the cost of the modem. You might like to know, though, that as the years go on, the price comes down. A modem that cost $300 5 years ago, now will cost you about $75. You will probably want a 2400-bps modem. It will allow you to send and receive most files that you will run across.

If you intend to do a lot of file transferring, you will want the 9600-bps modem. You will find that even though it costs a little more, you will make up the difference by saving on access time.

As the speed of the modem increases, so does the need for a "clean" phone line. If you have an older phone line or phone circuit, then it will be hard for you to use a 2400- or 9600-bps modem. Any noise that comes across the line will be picked up by the modem, and you will not get a clear signal. If you think that your phone lines may have static, or that your phone service is not the best, see if you can test a modem before you but it. It would be a waste of money to buy a fast modem and not be able to use it at top speed.

External Modems

Most modems you will find will be external, meaning that they have a power source of their own. They sit on the outside of the computer, and connect with a serial port with a cable that will run from the modem to the computer.

External modems have a screen on them that has a series of lights that will flash on and off to show you the status of the modem (whether it is sending

or receiving, etc.).

There are several advantages of external modems. The following is a general list:

* They will run with almost any computer. All you have to do is connect the modem with the serial port on the back of the computer that you want to use it with.

* They are portable. If you want to use the modem with another computer, all you have to do is unplug the modem, and hook it up to another computer and you are ready to go.

* The Status Display. Unlike the internal modem, where you can't see anything going on, you are able to see the display lights to see what the modem is doing.

*They don't take up computer space. If you need slots in your computer for other internal devices, then you can have this modem outside of the computer, and it will not take space.

Internal Modems

Internal modems look just like the inside of your computer. Most people would say it looks just like a bunch of messed up trash. It really is very unique, and has a special function. The internal modem is a printed circuit board that has its own serial port. The main difference between the internal and external modem is that the internal doesn't have a status display. Obviously, you don't need one; you couldn't see it anyway.

The advantages of an internal modem would be:

* No extra space needed. With an external modem, you have to find space on the desk for it. Most desks already have enough junk on them as it is. You won't need extra space with an internal modem. Since they have their own power source, you don't have to take up an extra plug in your power strip.

* They have their own serial port. If you have an external modem, then you have to make sure that you have an available serial port to hold the modem. When you have an internal modem, it comes with a serial port, so you don't use an extra one.

* Usually, thay are cheaper. Internal modems tend to cost less for one reason: they don't need an extra power supply. They come with a serial port, so you don't pay for it.

* They are specialized for one computer. Internal modems are customized so that they work just for your computer, therefore being more effective.

If it doesn't make much difference to you, you should probably go with the

external. That way, you don't have to mess with hooking up the internal modem. You also don't have to guess when trying to figure out what is wrong with the modem. The external modem has the status display, so that you can see what your modem is doing.

Modem Features

There are a number of features that come standard with most modems. When looking to buy a modem, you should try to get as many of these features as you possibly can:

Auto-dial (automatic dialing): This is the ability for the modem to dial a number from your communications program.

Automatic speed sensing (A.K.A. automatic baud-rate sensing): This allows your modem to detect the speed of the modem that is sending you something. A modem of this sort will have all speeds included. You set the modem on the highest speed, and then when a modem calls your modem, it will start at the highest, and work its way down speeds until it connects.

Auto-answer (automatic answering): This is simply the ability of the modem to answer without having you tell it to. All BBSes have auto-answer, so that you don't have to be there to receive information. If you set up your own BBS you will have to have this feature.

Speaker: This may seem odd, but it is really an essential part of a modem. This will tell you when the modem gets a dial tone, and when it connects. If you do not have a speaker, then the only way to tell if you connect OK is to pick up the phone and listen.