CNS /Update Newsletter Feature

A Technical Introduction to Choosing a Telephone Modem

CNS Document ID: u970703a
Last Updated: 7/16/02

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A Technical Introduction to Choosing a Telephone Modem


Previous /Update installments in this series covered: Modem terminology -- particularly modem speed protocols (Part I, December '96); Error correction and data compression (Part II, January '97); Modem compatibility with regard to various types of computing services and applications (Part III, March '97); pros and cons of internal and external modems (Part IV, April '97); and hardware/platform compatibility issues (Part V, June '97).

Now that you know all about the basics of modems, here are a few more things to consider when choosing a modem for your computer. Many of these are considered "optional" but you may deem them necessary for your daily networking activities. This is the final installment of this article and lists other resources to turn to if you still have questions or want more information.

Other Features to Look for When Selecting a Modem

There are a number of specific features that you might want to look for when selecting a modem:

**Built-in speaker**

A built-in speaker will allow you to monitor the progress of a call so that you will know immediately if you reach a wrong number, for instance, or if the line is busy. Although speakers are found on most modems now being sold, the built-in speakers on some modems have volume levels so low that it is difficult to hear them in a moderately noisy home or office. In most cases you can turn off the speaker if it becomes distracting, but some modems that include speakers do not have adjustable volume. Stand-alone modems sometimes come with a volume control similar to that on a portable radio. Often the volume can be adjusted through software.

**Indicator lights and displays.**

As mentioned earlier in our discussion of internal versus stand-alone modems, indicator lights on a stand-alone modem can be a very useful feature. Lights allow you to see in what activity the modem is engaged. Many external modems have eight or more indicator lights, and some models, as mentioned earlier, have alphanumeric displays.

**Nonvolatile memory**

Many modems include circuitry to store configuration information such as phone numbers and communications settings in nonvolatile memory. Although most communications programs allow you to store this type of information on a disk, it may still be a convenience to have this
information stored in the modem itself.

**Special circuitry for noisy lines**

Some modems provide special circuitry to work well even on very noisy phone lines. In general, modems are more affected by line noise at higher speeds than at lower speeds.

**Security features.**

Some modems have security features designed to prevent unauthorized users from connecting to a remote computer. For example, some modems can automatically hang up after answering an incoming call and receiving a password, and the modem that received the call can then automatically call the user back.

**Fax capability**

Even if you are planning to use a modem primarily to connect to other computers, it still might be worth taking a look at the fax capabilities of any modem you are considering. Most high-speed modems on the market today have features for sending and receiving faxes. If you choose to get a fax modem, you should be aware that you will need special software in order to use the fax capability. Generally, fax modems come bundled with software for this purpose. Note that some fax modems can send faxes but not receive them; if you want to send and receive faxes, you will need to make sure that the modem has that capability. Also, if you plan to make extensive use of fax capabilities, you might want to think about getting a fax modem that uses the V.17 protocol, which can send faxes at up to 14400 bps (compared with 9600 bps for modems that use the V.29 protocol).

**Voice and automatic switching capabilities**

Some modems can determine whether an incoming call is a voice call, a modem call, or a fax, and route the call accordingly. Some modems even offer voice-mail capabilities (such as the ability to store digitized voice messages).

**Macintosh-specific and PC-specific bundles**

A number of modem manufacturers offer bundles that include a stand-alone modem and cable (or an internal modem) and software designed to work with a specific type of computer. If you have questions about specific modem software, please call the UF Computing Help Desk at 392-HELP. In addition, these bundles often include subscriptions or discounts to services such as CompuServe or America On Line.

**Support**

Most modems come with warranties of at least two years, but five-year and seven-year warranties are not uncommon. Some vendors even offer lifetime warranties. In addition to finding out about the warranty, you should also find out what sort of support the vendor provides. Some vendors provide toll-free help lines, bulletin board systems, and sites on the World Wide Web. Also, find out if the vendor has an upgrade policy, particularly if you are buying a high-speed modem. High-speed modems have become popular only fairly recently, and the technology is still fairly new. Vendors often release upgrades in the form of new
"firmware" or read-only memory (ROM) chips in response to problems that are discovered.

As with any purchase, you should try to get a thorough demonstration of any modem that you are seriously considering. It is also a good idea to look at the documentation to see whether it is comprehensible.

**Educational discounts**

Before purchasing a modem, it would be a good idea to check to see if educational prices are available.

**For more information**

This article just scratches the surface of the subject of modems and telecommunications.

There are a number of very useful documents, Web pages, and other resources regarding modems available through the Internet:

- 56K.com Modem Central [http://www.56k.com/]
- Navas 28800 Modem FAQ. This Web page, located at http://modemfaq.home.att.net/, provides breaking news about high-speed modems and answers to common questions.
- The comp-sys-mac-comm-faq.txt Usenet posting. This frequently asked question list is posted periodically to the comp.sys.mac.comm newsgroup. It includes extensive information about modems from a Macintosh perspective, including information on how to make a "hardware-handshaking" modem cable, Macintosh file formats, and file-transfer protocols.
- Usenet newsgroups. Some useful newsgroups that regularly feature discussions of modems include comp.dcom.modems, comp.sys.ibm.pc.hardware.comm and comp.sys.mac.comm.

In addition, computer magazines often have reviews of modems; reading through the reviews can help you a great deal in selecting a modem.

**Your Comments are Welcome**

We welcome your comments and suggestions on this and all UFIT documentation. Please send your comments to:

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