

# Peripherals for Writing Programs

**Printer.** Undoubtedly the most important peripheral for writing, printers allow documents to be set forth on paper (or on a transparency or even a ditto master). Printers range from the inexpensive dot matrix ( e.g., ImageWriter) to the high-quality laser printer (e.g., LaserWriter). The highest quality printers produce typeset quality documents and print graphics at 300 dots per inch with no noise; the less expensive printers are a bit coarser (72 dots per inch) and can be heard throughout the classroom. Modern printers can use regular paper, and be networked to serve several computers at once.

**Hard Disk Drive.** A fixed disk drive has enough room to store all your programs, documents, maps, and data files in one place, reducing the need for floppy disks and making it easy to use the computer for a variety of purposes throughout the school day. Such drives are available in sizes to hold 20 megabytes (10,000 pages) of information up to 160 megabytes (80,000 pages); they can be installed inside the computer itself, or purchased in a separate unit that plugs into the back of the computer. Hard disk drives are more reliable, faster, and easier to use than floppy disks.

**CD-ROM Drive.** A Compact Disc Read Only Memory is a 5" plastic and metal disc that can hold over 400 megabytes of information -- as much as several shelves full of textbooks. A CD-ROM drive reads the data from these discs and sends it to the computer's memory. Publishers release encyclopedias, reference works, and databases in this format. Some software publishers combine all their programs on a single CD-ROM, and make this available to schools for easy access by students. The Apple CD-SC drive can read these discs, and also play standard music CD's.

**LCD Projection Device.** This device puts the computer display onto a standard overhead projector so an entire class can see what's on the screen. LCD projectors use a clear glass plate with Liquid Crystal Display (LCD) pixels, which is connected by a wire to the computer. The device itself sits on top of a standard overhead projector. In this way, the computer becomes a presentation tool: anything that you see on the computer screen—text, charts, graphics—is visible in large format to a roomful of people. Next to the printer, this is probably the most important peripheral for writing instruction. An LCD projector is invaluable for direct instruction and modeling of writing, and it adds a social/collaborative dimension to any computer lesson.

**Modem.** This small device allows a computer to connect to a standard telephone line. The modem takes data signals from the computer, which are too fast to send on a phone line, and **MO**dulates them onto a slower audio signal that you can hear and the phone line can handle. At the other end of the line, another modem **DE**Modulates the signal, converting it back into computer data. In this way, two computers can communicate with each other over great distances. A modem is used as part of a telecommunication network. Telecommunication networks can support written communication activities with distant audiences.

**Scanner.** With the Apple scanner and your Macintosh computer, you can easily combine line art and photographs from many sources with your documents. An Apple scanner captures any two-dimensional image that fits on its flat-bed scanning surface. You then combine this image with text or graphics that you have previously created to produce student books, newsletter, reports, etc. A

scanner can also be helpful to students (and teachers) who are conducting research on a topic in preparation for writing a research paper. Optical character recognition software such as OmniPage and Read-It! OCR lets you “scan” printed matter directly into a Macintosh file—eliminating the drudgery of retyping. Data retrieval software such as GOfar and Sonar then acts as your reference librarian—searching, locating, and retrieving whatever textual information you request.

**Videodisc Player.** A videodisc is a 12" plastic disc that contains video information, up to 100,000 still pictures or an hour of movies with sound. Any of these can be accessed and displayed instantly when a computer is combined with a videodisc player that includes a computer connection. Publishers such as ABC News Interactive and National Geographic now release instructional packages that combine computer data files and videodisc images into multimedia products. The output from the videodisc player is usually displayed on a conventional TV monitor.