LaserWriter™ and LaserWriter Plus



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Warning

Caution: To prevent electrical shock, do not remove the LaserWriter cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with noncertified peripherals is likely to result in interference to radio and TV reception.

LaserWriter and LaserWriter Plus

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About This Manual

This manual is for Apple® LaserWriter™ and LaserWriter Plus owners. New owners should read the entire manual for setting up and printing instructions. If you've upgraded your LaserWriter to a LaserWriter Plus, or if you're part of a network using the LaserWriter or LaserWriter Plus, you need to read those parts of the manual that pertain to software—Chapter 2, "Installation and Printing," Chapter 3, "Using the LaserWriter," and "Troubleshooting" in Chapter 4. All instructions in this manual are for both printers.

- Chapter 1 gives step-by-step instructions for setting up the LaserWriter.
- Chapter 2 shows you how to set up your startup disks to work with the LaserWriter and how to print your documents.
- Chapter 3 contains summaries of basic instructions for using the LaserWriter.
- Chapter 4 shows you how to do planned maintenance and how to troubleshoot unplanned problems—paper jams, poor printing quality, and so forth.
- Chapter 5 gives you background information on type, samples of the work you can produce with a Macintosh™ and a LaserWriter, and some hints for making great-looking documents and making use of the LaserWriter and LaserWriter Plus fonts.
- The appendixes provide further information about the LaserWriter.

If you've never used the Macintosh before, be sure to read your Macintosh owner's guide. You need to be familiar with basic Macintosh vocabulary and operations to complete the instructions in this manual.

The word *Macintosh* refers to the Macintosh 512K, Macintosh Plus, or to the Macintosh XL. (If you have a Lisa® 2/5 or 2/10, you can upgrade to the Macintosh XL with MacWorks™ XL. See your authorized Apple dealer.)

You can order programming or more technical information about the LaserWriter by writing to the following address:

Inside LaserWriter, Apple Computer, Inc., 467 Saratoga Avenue, Suite 62, San Jose, CA 95129.

The LaserWriter and the LaserWriter Plus

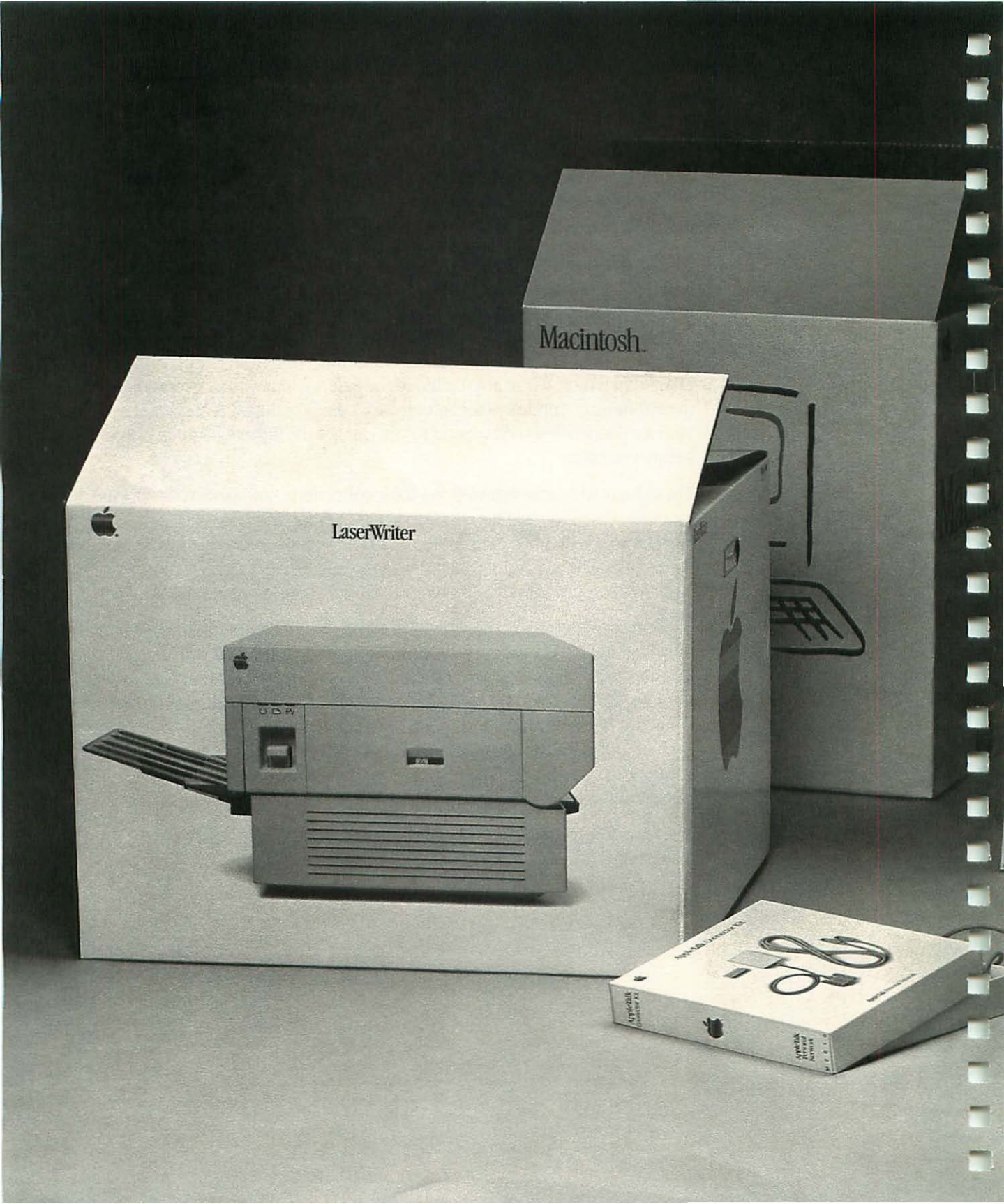
The revolutionary technology of the Macintosh personal computer and the LaserWriter printer lets you explore a world once reserved for professional typographers and graphic designers. You can combine text with graphics in Macintosh applications and use the LaserWriter to create high-resolution printed copy that's so good it can serve as a master for making copies and transparencies, or for instant printing.

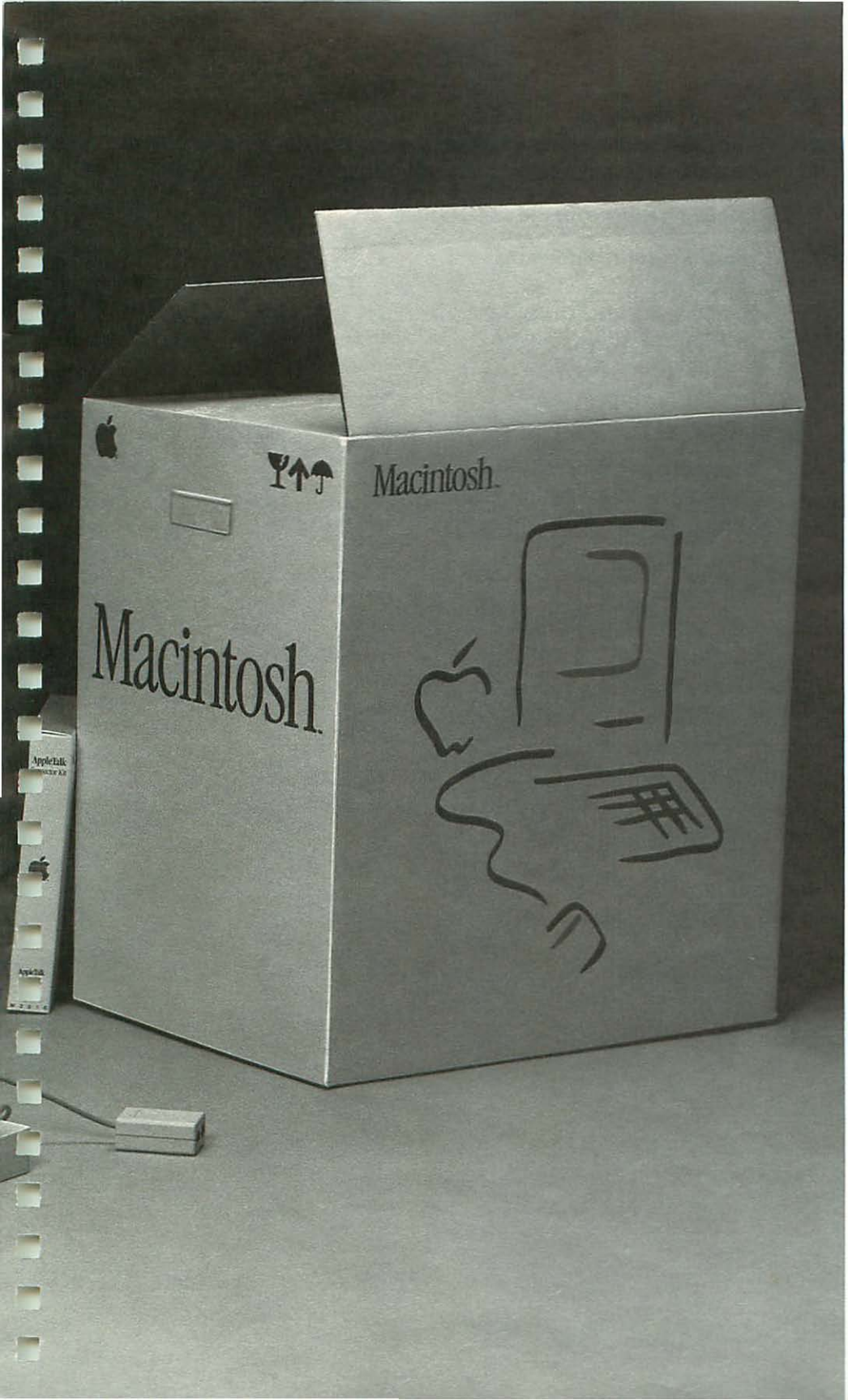
The LaserWriter's publication-quality output demands the highest quality **fonts**. You can use four **font families** built into the printer: Helvetica™, Times™Roman, Courier, and Symbol. (A font family is the various sizes and styles of a typeface.) Helvetica and Times are among the most popular fonts in use today. Courier is the font you may be familiar with from the IBM® typewriter. We've also included the Symbol font—a valuable tool for the scientific community (see Appendix E). Each of the four fonts comes with its Macintosh screen version so you can see the layout of your document before you print.

These fonts will serve you well as a basic collection—and whet your appetite for more. Once you begin to explore Macintosh applications (such as MacDraw™ or PageMaker from Aldus) that have powerful text and graphic capabilities, you may want to acquire a more extensive collection of LaserWriter fonts. The **LaserWriter Plus Kit** serves exactly that purpose.

You can upgrade a basic LaserWriter to a LaserWriter Plus, adding seven new built-in font families to your collection. In addition to Helvetica, Times, Courier, and Symbol, you have Palatino, ITC Bookman, ITC Avant Garde, New Century Schoolbook, ITC Zapf Chancery, Helvetica Narrow, and ITC Zapf Dingbats. With these additional fonts and the capability of adding printer fonts from other manufacturers, the LaserWriter and Macintosh become an even better desktop publishing team. Chapter 5 shows you LaserWriter and LaserWriter Plus fonts at work.

The LaserWriter printer works with all Macintosh applications on a Macintosh 512K, a Macintosh Plus, and a Macintosh XL.


Macintosh
LaserWriter



Chapter 1

Setting Up the LaserWriter

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3 Do You Have What You Need?
3 The LaserWriter
4 The LaserWriter Plus Kit

5 Choosing a Place for the LaserWriter

7 Unpacking and Setting Up
7 Unpacking
11 Installing the LaserWriter Toner Cartridge
15 Installing the Cleaning Pad
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17 Loading the Paper Cassette
19 Powering Up

23 Connecting to Your Macintosh
23 Plugging in the AppleTalk Connector
24 Testing the AppleTalk Connection

Do You Have What You Need?

The LaserWriter

Remove the accessory box, trays, and paper cassette from the top of the packing material and check to see that you have the following:

- ☐ Two trays—a manual feed guide and an output tray with extension
- ☐ A letter-size paper cassette
- ☐ An accessory kit containing, besides this owner's guide, the *Printer Installation Disk*, the *LaserWriter and LaserWriter Plus Fonts Disk*, and a power cord

In addition, you'll need the following from your authorized Apple dealer:

- ☐ The appropriate AppleTalk™ Connector Kit for each Macintosh and one for the LaserWriter

  For the LaserWriter and the Macintosh 512K: AppleTalk Connector Kit (M2010)

  For the Macintosh Plus: AppleTalk System Connector Kit (M2052)

  For the Macintosh XL: AppleTalk XL Connector Kit (M2012)
- ☐ The LaserWriter Toner Cartridge (includes a LaserWriter cleaning pad)



Don't forget the paper; use standard photocopy paper (or 16- to 20-pound standard paper stock) for best results. See "About Paper" in Chapter 2 for more information on paper and transparency materials.

Keep the packing materials to use if you ever need to transport the LaserWriter. *Never repack the LaserWriter with the LaserWriter Toner Cartridge installed, to avoid the toner powder spilling into the printer.*

The LaserWriter Plus Kit

The LaserWriter Plus Kit is both a software and hardware addition to the basic LaserWriter printer. You can buy the LaserWriter Plus or upgrade your present LaserWriter. Your authorized Apple dealer installs the hardware and you'll use the following disks to install the software:

- ☐ the *Printer Installation Disk*
- ☐ the *LaserWriter and LaserWriter Plus Fonts Disk*

These disks and the manual may be the same as those that came with your LaserWriter. Or your LaserWriter may come with earlier versions of the manual and software. If your LaserWriter comes with a *LaserWriter Installation Disk* rather than a *Printer Installation Disk*, you have all earlier versions of the materials. To avoid confusion, discard this older software and manual.

Besides having new fonts, the LaserWriter Plus (and all LaserWriters shipped with the *Printer Installation Disk*) lets you

- ☐ use LaserWriter printer fonts from other manufacturers, particularly Adobe Systems, Inc.
- ☐ use a newly designed Printer Installer, called Installer; Printer Chooser, called Chooser; Control Panel; and Key Caps.

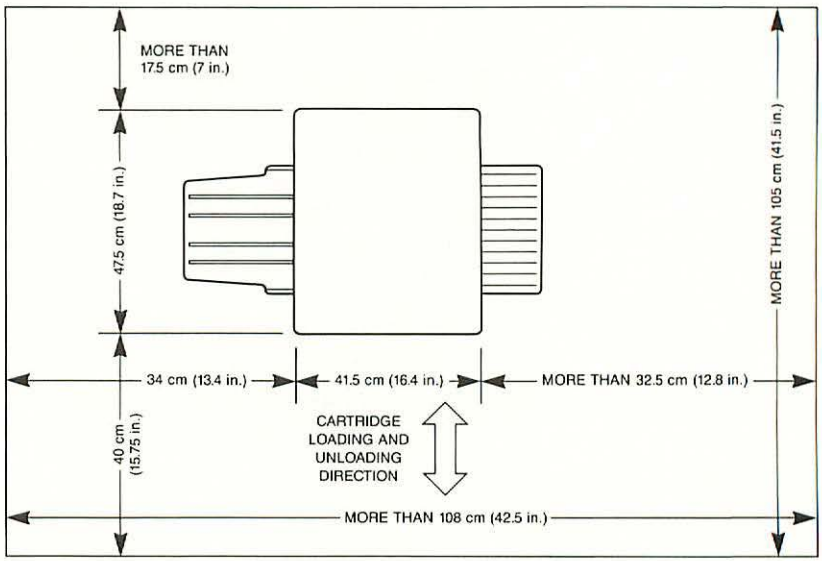
Choosing a Place for the LaserWriter

First, make sure your office area's electrical wiring is adequate. The line voltage should not vary more than 10 percent from the voltage marked on the printer nameplate. (The printer nameplate is on the back of the printer, near the power cord plug.) You probably don't need to do any rewiring unless you've noticed electrical problems in your office—for instance, a light flickering when the copier is turned on. *Always* plug your printer into a grounded (three-prong) AC outlet.

Place your LaserWriter in a well-ventilated area away from direct sunlight, where there are no abrupt changes in temperature or humidity; place it away from water faucets, humidifiers, refrigerators, heaters, air conditioners, and so forth.

- ☐ The temperature should be between 50 and 90 degrees Fahrenheit (10 and 32 degrees Celsius) and the relative humidity between 20 and 80 percent.
- ☐ Be sure your LaserWriter is not exposed to open flames (like Bunsen burners and gas stoves). And keep it away from areas with ammonia fumes or lots of dust. (Notify your maintenance staff not to use ammonia-based cleaners near the LaserWriter.)

□ Place the printer on a flat surface with the the back of the printer at least 7 inches (about 18 centimeters) away from a wall. Be sure you have room to open the cartridge door at the front of the printer and to install the manual feed guide on one side of the printer and the paper output tray on the other.



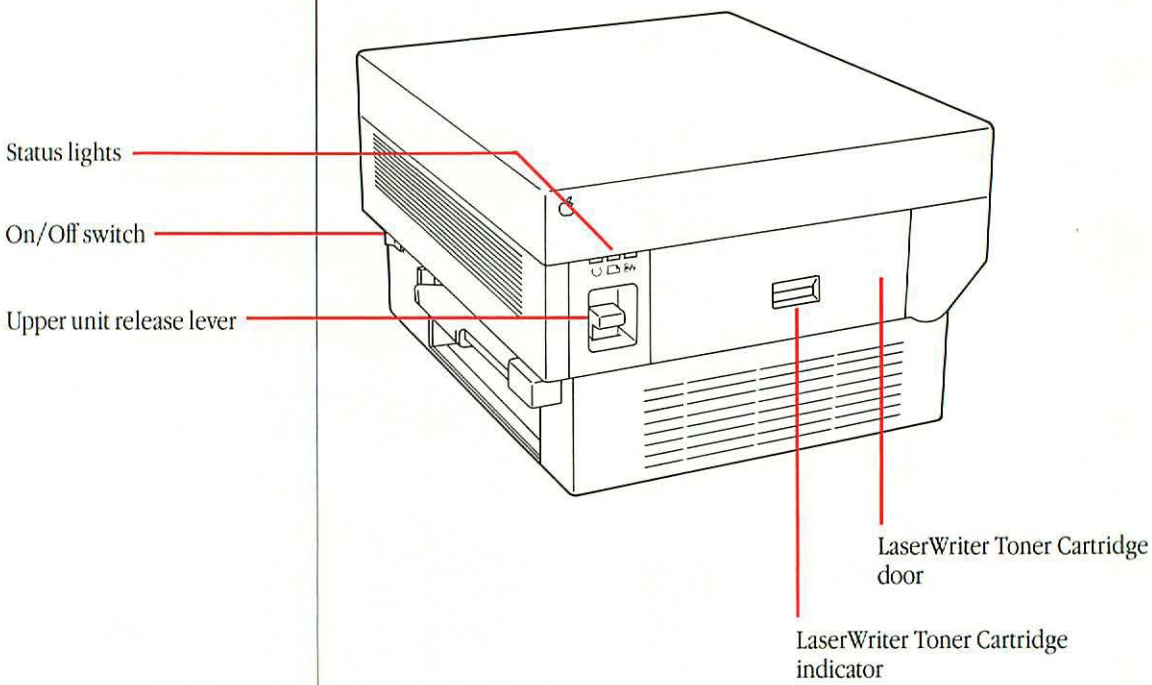
□ If your office is already using an AppleTalk Personal Network, choose a place near an AppleTalk connection box or cable extender for an easier hookup.

1 Unpacking

Your LaserWriter weighs 70 pounds, so it's imperative that someone help you lift it. And don't forget to bend at the knees to protect your lower back.

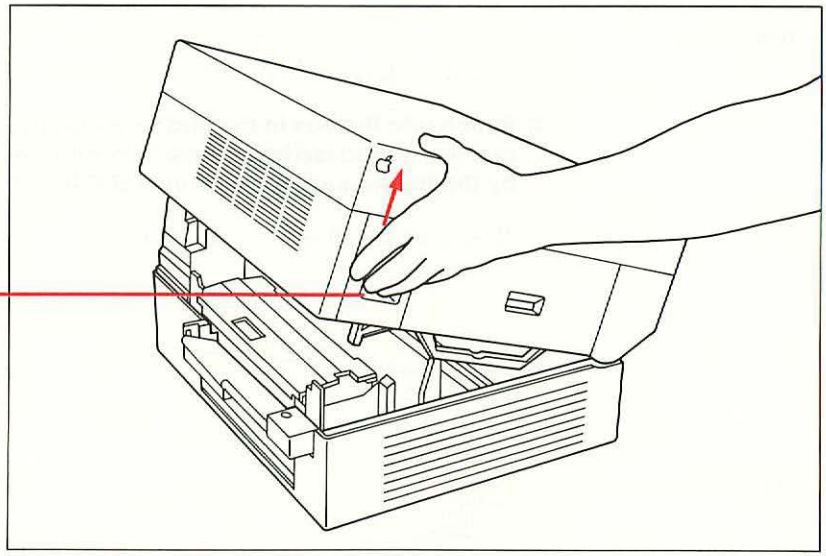
- **Reach into the box in the middle along the long sides of the printer. You can feel a grooved handle midway down on each side. Lift the printer by the handles and place it on a stable surface.**

  Make sure the front of the printer (the side with the Apple logo) is facing outward.

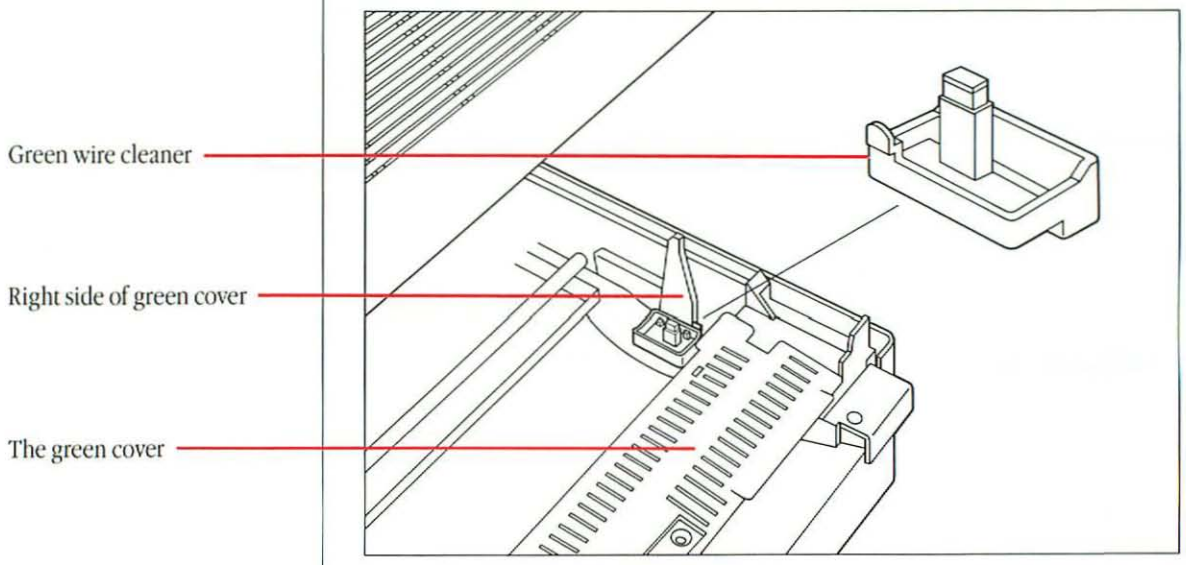


■ **Remove the items stored in the printer:**

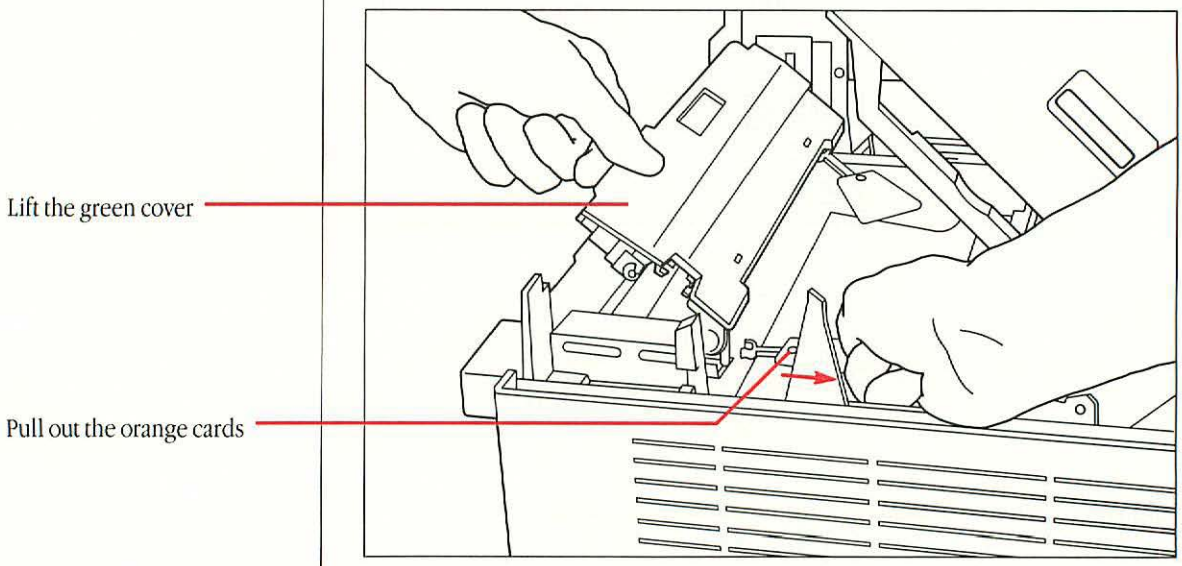
1. Lift the **release lever** and raise the upper unit of the printer.



2. Notice the green **toner cartridge wire cleaner** taped behind the orange card on the right. You'll use this tool for simple LaserWriter maintenance. See Chapter 4. The wire cleaner doesn't interfere with the printing process; you can keep it where it is, so it won't get lost.



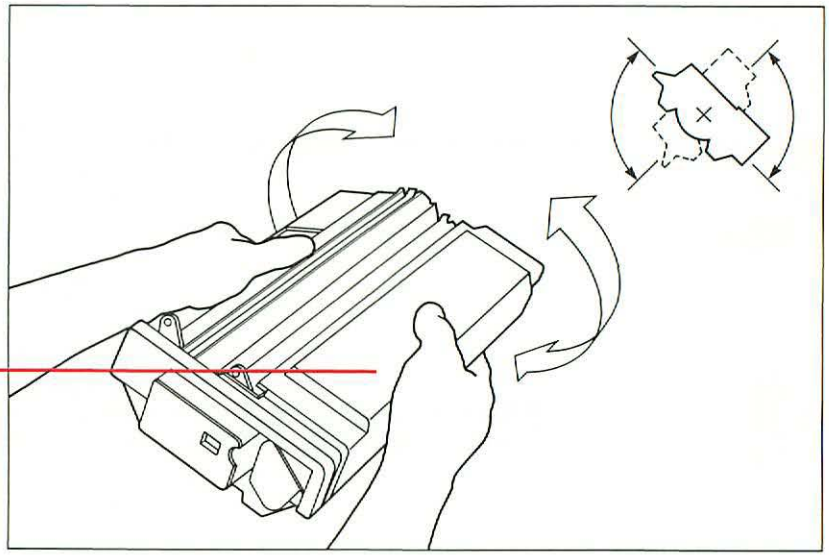
3. Lift the **green felt cover** and remove the **two orange cards** fitted into the cover's hinges.



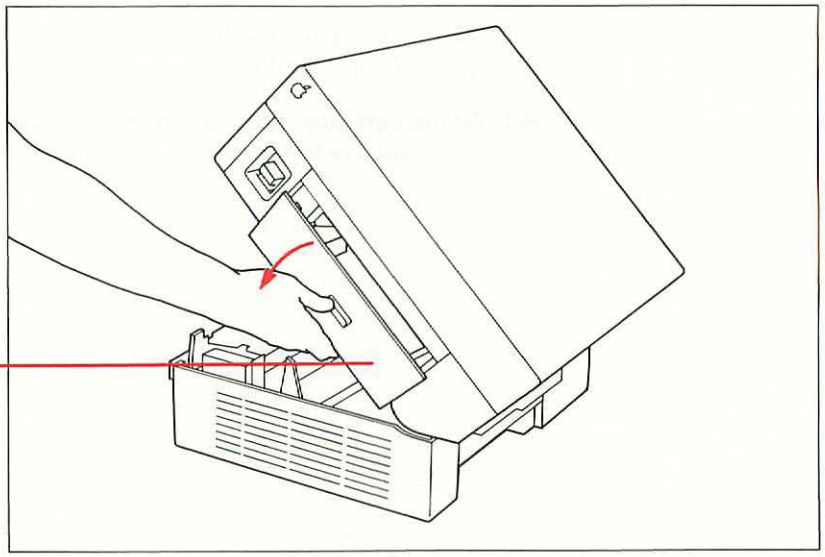
2 Installing the LaserWriter Toner Cartridge

To set up your printer, you'll need the **LaserWriter Toner Cartridge** (your first one is included with the LaserWriter when you buy it); the toner powder in the cartridge serves as "ink" to the printer. Open the cartridge box and remove the **cleaning pad** wrapped in plastic, and then remove the cartridge by its handle from the sealed metallic bag.

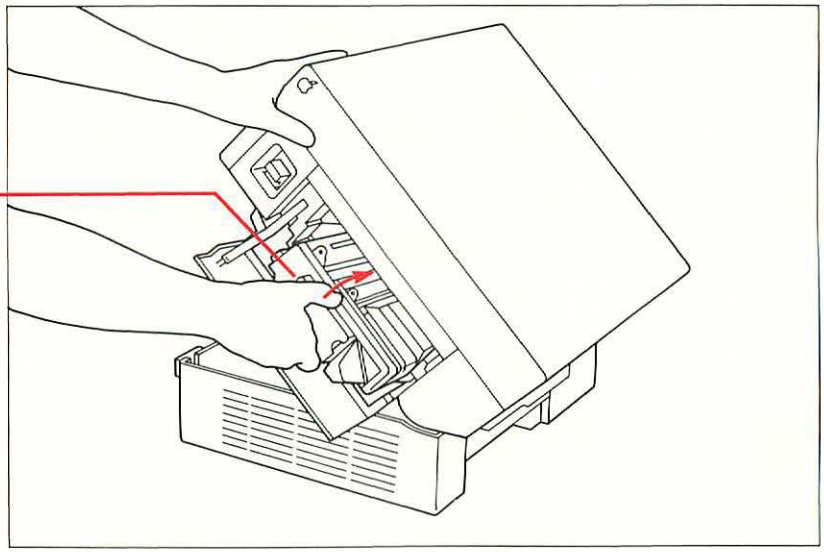
■ **Hold the cartridge horizontally and slowly rock it 45 degrees back and forth about five times to distribute the toner.**



■ **With the LaserWriter open, pull the toner cartridge door open.**



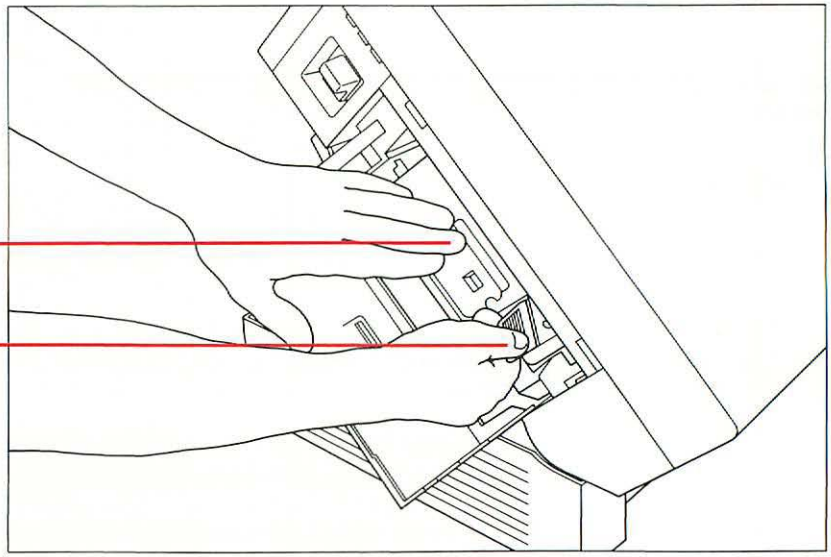
■ **Slide the cartridge completely into the printer (the end with the small metal disk enters first) until you hear it click into place.**



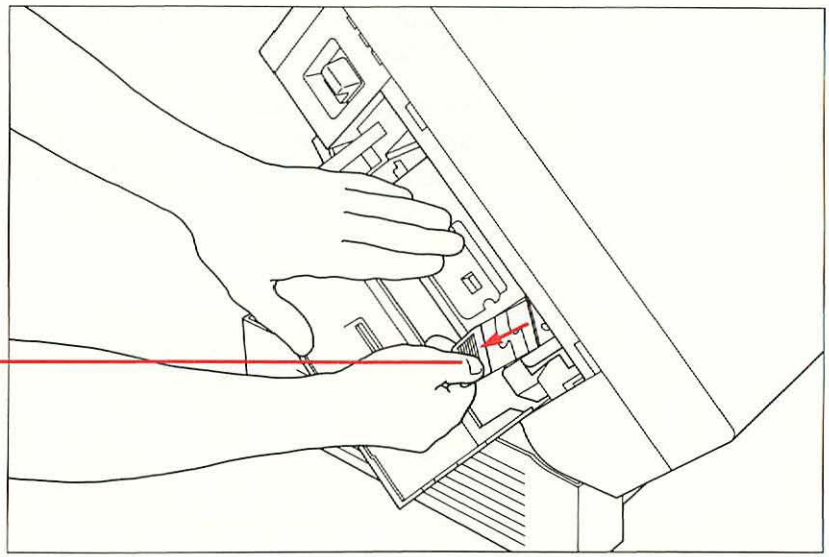
■ **Remove the sealing tape from the cartridge.**

This tape seals in the toner powder until the cartridge is installed and ready to use. If you forget to remove it after the cartridge is in place, the LaserWriter can't produce printed pages.

1. Holding the cartridge in place, flex the **black tab** on the right side of the cartridge *until the tab breaks loose*. The transparent tape is attached to the tab. *Don't tear the tab from the tape.* You'll use the tab to pull the sealing tape out of the toner cartridge.



2. Pull the tab and the tape out until the tape is completely removed.



If the tab and the tape come apart, take hold of the tape itself and pull it all the way out.

Warning: If you remove the cartridge after you remove the tape, don't hold the cartridge on end—toner powder may spill out!

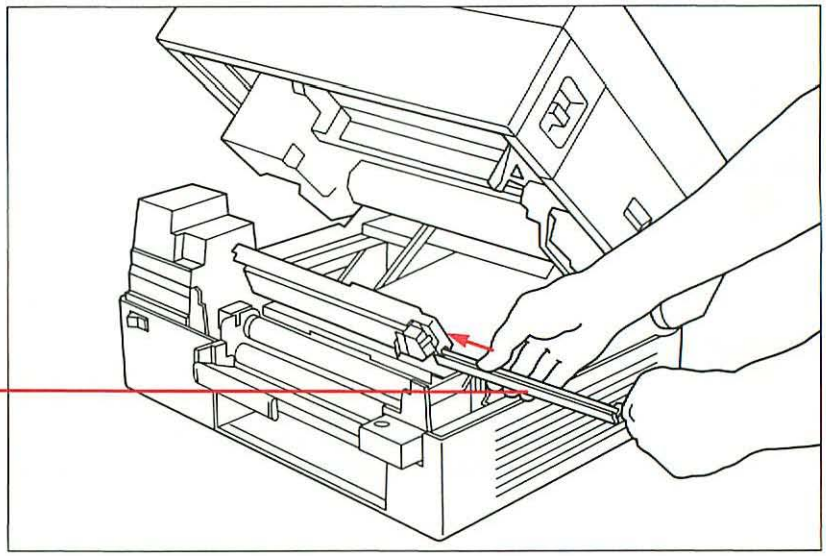
Also, never repack the LaserWriter with the LaserWriter Toner Cartridge installed, to avoid spilling the toner powder into the printer.

3 Installing the Cleaning Pad

The cleaning pad that comes with the LaserWriter Toner Cartridge keeps the LaserWriter printing mechanisms clean during the printing process.

- **Open the green cover inside the main unit if it's not open.**
- **Slide the cleaning pad into the groove on the underside of the green cover (toward the back).**

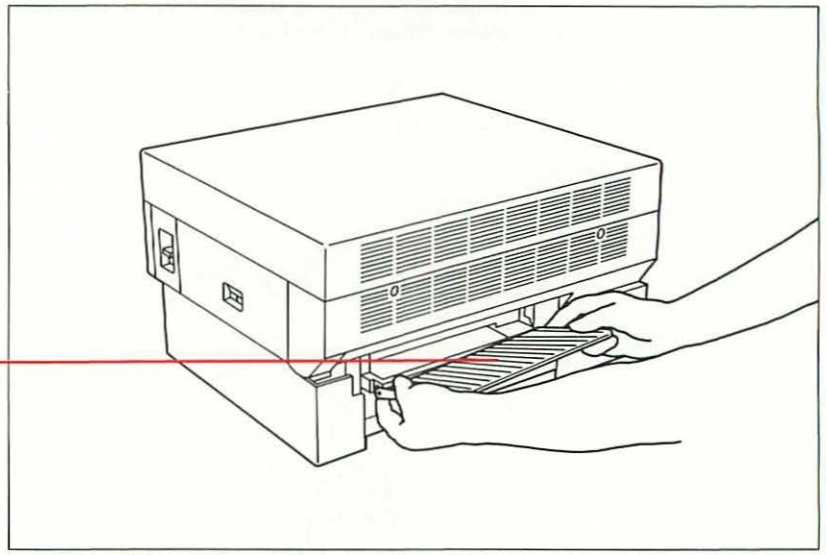
  Notice a cutaway on the top of the green cover where the green end of the cleaning pad fits.



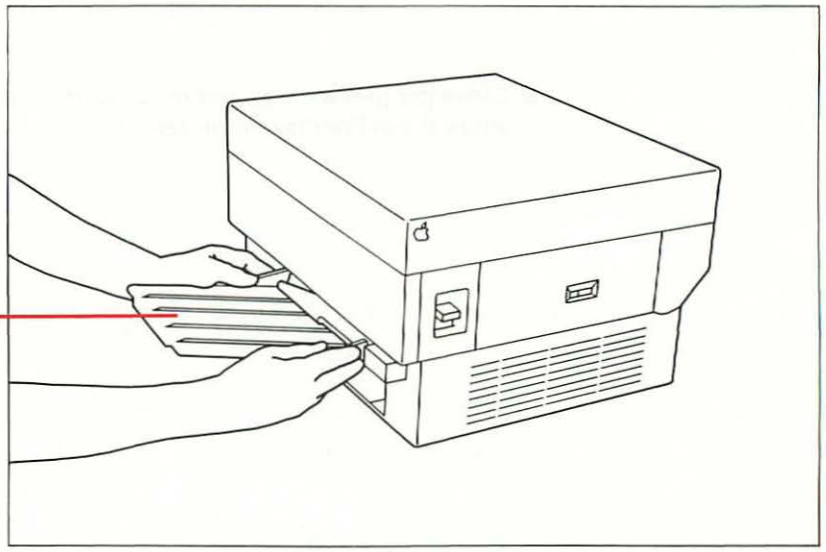
- **Close the green cover and then close the the printer. You'll hear a click when the printer is completely closed.**

4 Installing the Paper Trays

■ **Install the manual feed guide (the one *without* an extension) on the right side of the printer by fitting the pegs on the printer into the holes on the sides of the tray.**



■ **Fit the pegs of the paper output tray into the holes provided in the light brown exit area on the left side of the printer.**



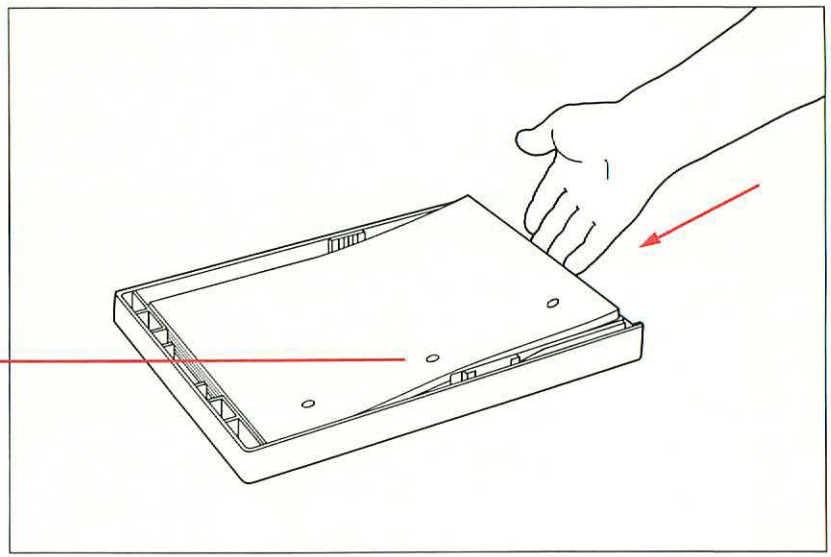
5 Loading the Paper Cassette

The LaserWriter paper cassette holds about 100 sheets of paper. In addition to the standard, letter-size cassette shipped with the LaserWriter, your authorized Apple dealer has or can order legal- and international-size paper cassettes.

If you want to use letterhead paper, load the paper face down with the letterhead near the clips. Load three-hole-punched paper so the holes are on your left as shown in the illustration. You'll always feed odd-size paper, such as an envelope, manually.

For additional information about the kinds of paper you can use, see "About Paper" in Chapter 2.

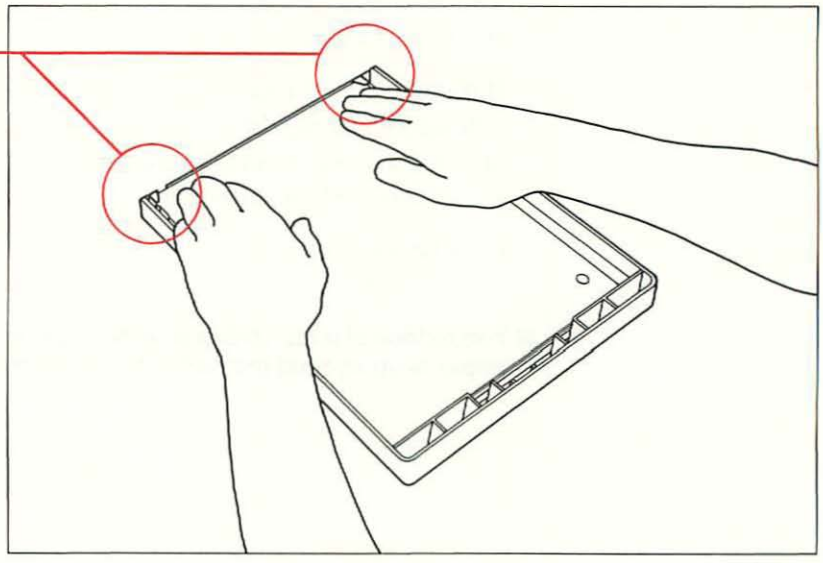
■ **Fan a stack of paper, place it in the paper cassette, and tap the end so the paper is up against the end of the cassette.**



Tap the paper up against the end of the cassette

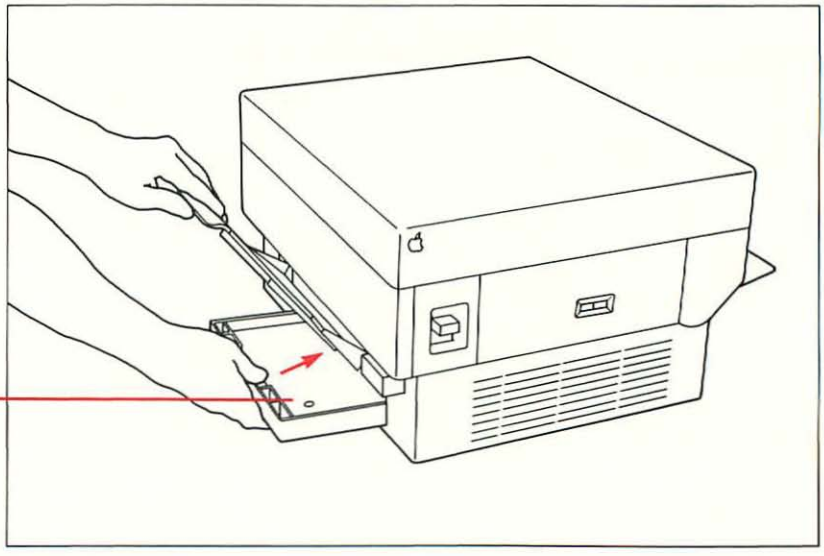
■ **Push the stack under the clips.**

Push the stack under the clip



■ **Slide the cassette into the lower slot on the same side of the printer as the paper output tray. The end with the clips enters first.**

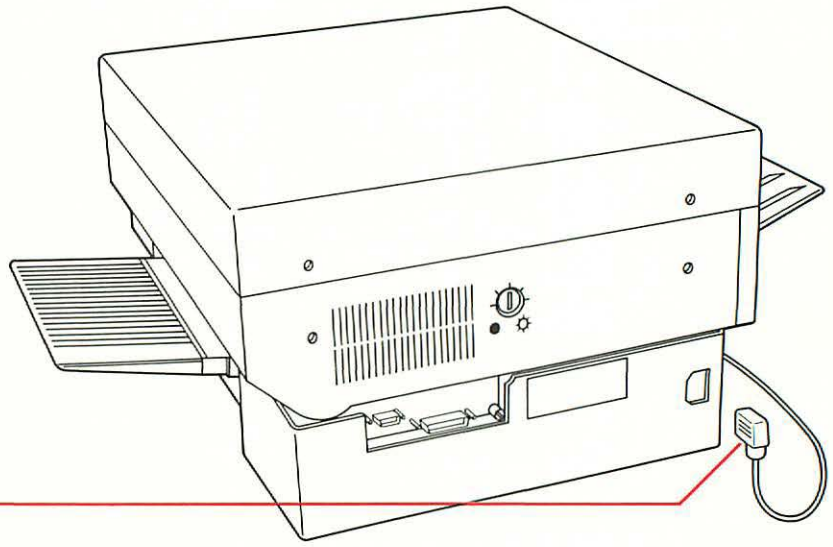
Slide the cassette into the left side of the printer



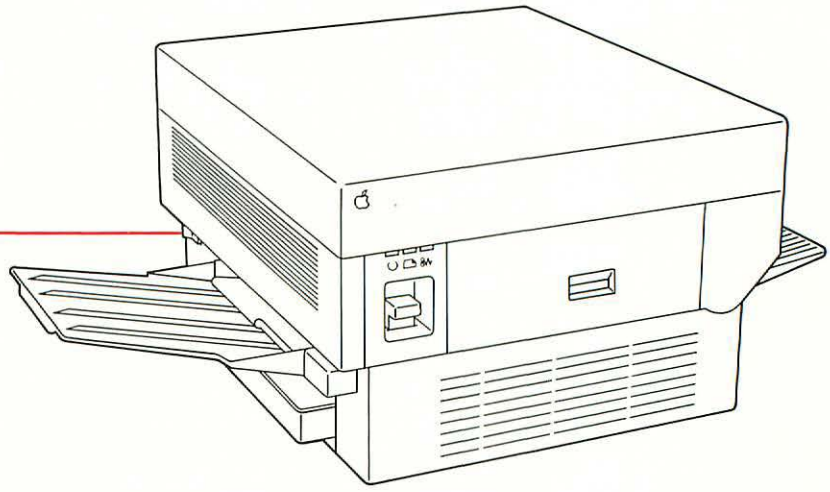
The cassette's in place when you can't push it in any farther.

6 Powering Up

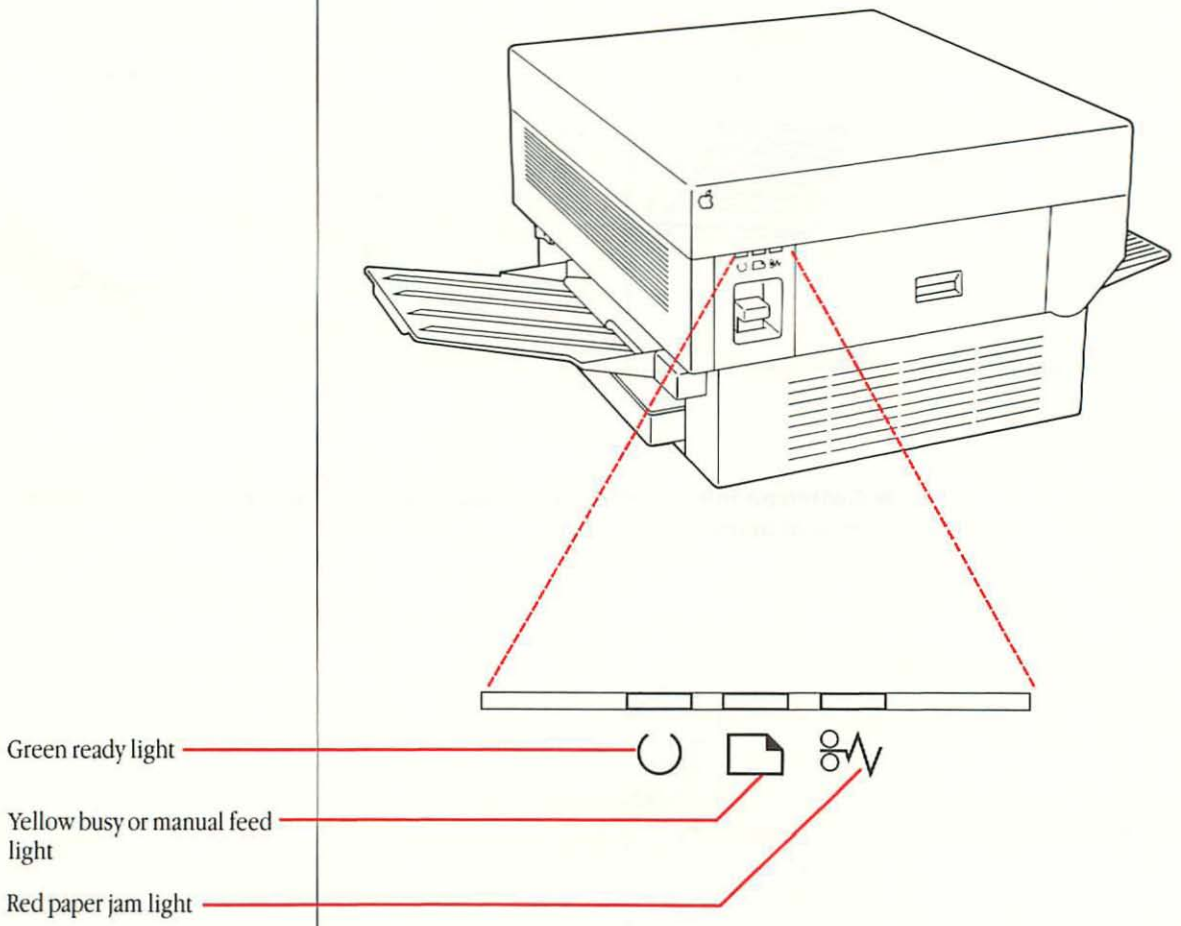
■ **Be sure the LaserWriter is switched off, and then plug the power cord into the back of the LaserWriter and the other end into a grounded AC outlet.**



■ **Switch on the LaserWriter and wait about 2 minutes for the test page to appear in the output tray.**

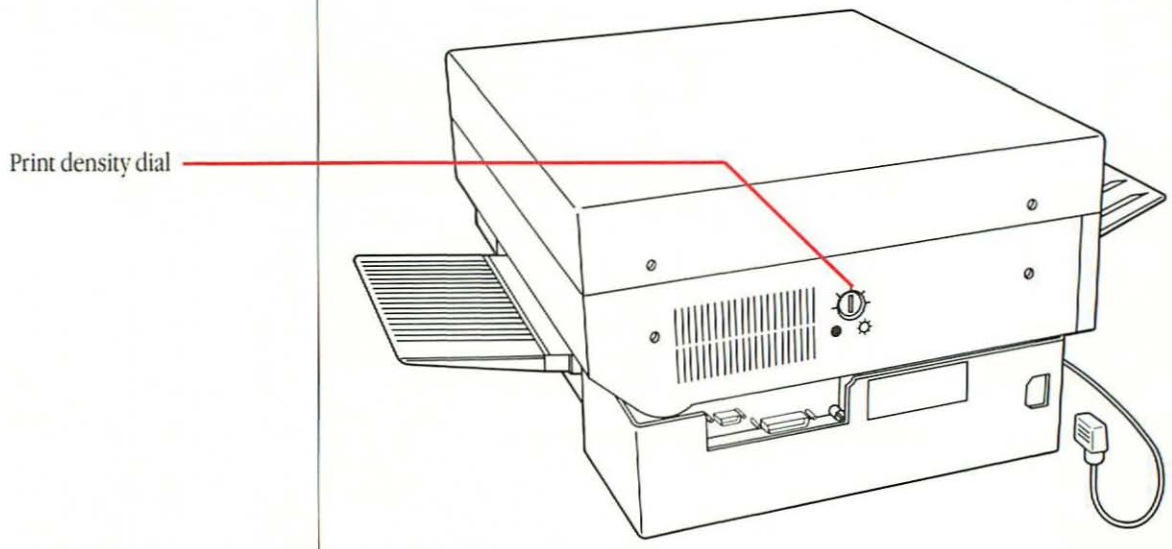


When you switch on the LaserWriter, it takes a little time to warm up, and then it automatically prints a test page. The green light on the left of the front of the LaserWriter flashes as the printer warms up, and then the yellow light next to it flashes to show that the LaserWriter is busy processing the test page. The yellow light goes out when the LaserWriter delivers the test page. See Appendix C, "LaserWriter's Status Lights, Sockets, and Switch," for more information on LaserWriter's status lights.

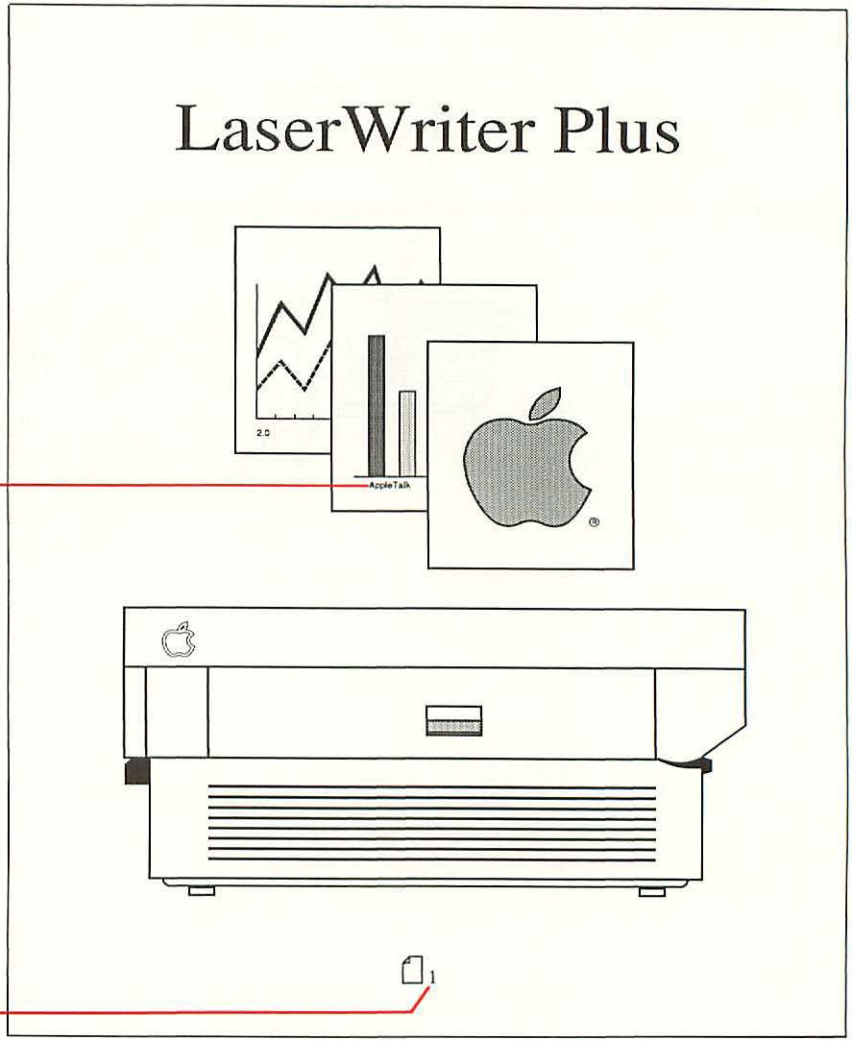


If the test page is too light or too dark, adjust the print density dial.

Turn it toward the gray dot for a darker print, or toward the hollow "sun" dot for a lighter one.



If you don't get a test page within 2 minutes, or if it isn't as clean and crisp as the following example, refer to "Troubleshooting" in Chapter 4.



The switch position used (see page 124)

The number of pages printed on this LaserWriter

Sometimes the test page will be spotty because toner has spilled out onto the cartridge during shipment. If this happens, switch the LaserWriter off and on again to print another test page. Try this procedure two or three times; then if there's still a problem, refer to "Troubleshooting" in Chapter 4.

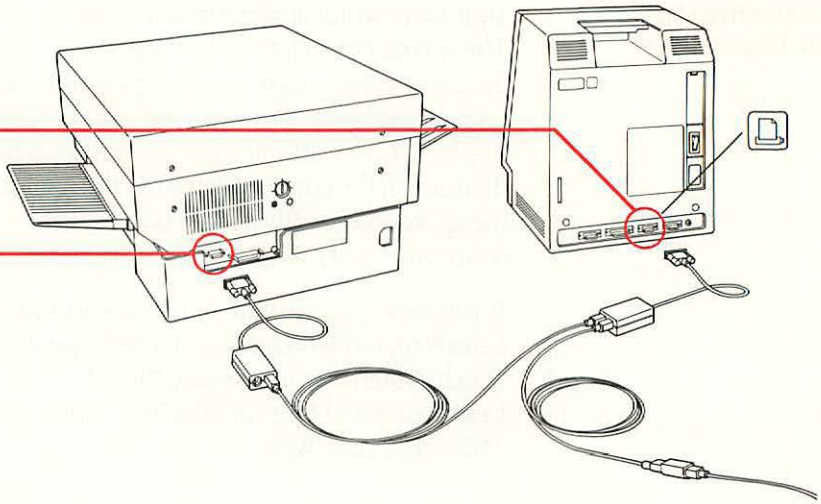
Connecting to Your Macintosh

Your LaserWriter attaches to your Macintosh with AppleTalk connectors. These **connectors** let you link Macintoshes and **peripheral devices** such as the LaserWriter together in an AppleTalk Personal Network. You place a **connection box** at each **workstation** where you want a device on the AppleTalk network, string the connection boxes together with **cables**, and then attach the connection box to the computer or peripheral device. With the appropriate software, the devices can communicate through the connectors and cables.

If you're setting up more than one LaserWriter, you'll need to give each LaserWriter a distinguishing name so people on the network will know which printer they're sending their documents to. After you've set up the LaserWriter and followed the installation instructions in Chapter 2, see "Naming a LaserWriter" in Chapter 3.

1 Plugging in the AppleTalk Connector

These instructions tell you how to connect your LaserWriter to a Macintosh 512K, Macintosh Plus, or Macintosh XL. If you plan to build a network, refer to the instructions that come with the appropriate AppleTalk Connector Kit. (See "Do You Have What You Need?" in this chapter.) You'll find that setting up a network is remarkably simple.



2 Testing the AppleTalk Connection

You tested the LaserWriter when you switched it on and it produced the test page. Now test the AppleTalk network connection between your Macintosh and the LaserWriter by using the *Printer Installation Disk* and following these steps. The *Printer Installation Disk* is preset to work with the LaserWriter on any Macintosh. If you try this test and can't print, you can be sure there's something wrong with the AppleTalk network.

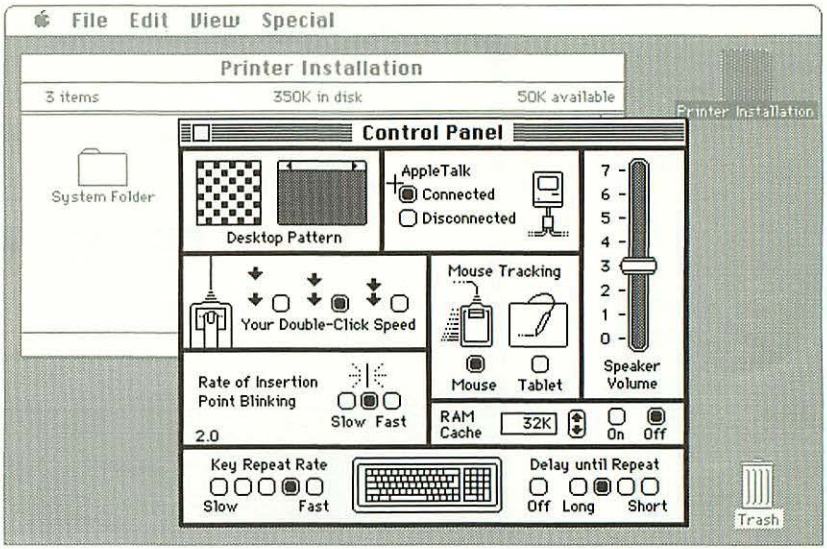
First make a copy of the *Printer Installation Disk* and set it aside for safekeeping. See your Macintosh owner's guide for how to copy a disk.

The steps in this test procedure are further explained in "Printing With the LaserWriter" in Chapter 2.

- **Switch on the LaserWriter and wait two minutes for a test page.**
- **Be sure the Macintosh is switched off. Then insert the *Printer Installation Disk* into the disk drive (metal end first, label side up) and switch on the Macintosh.**

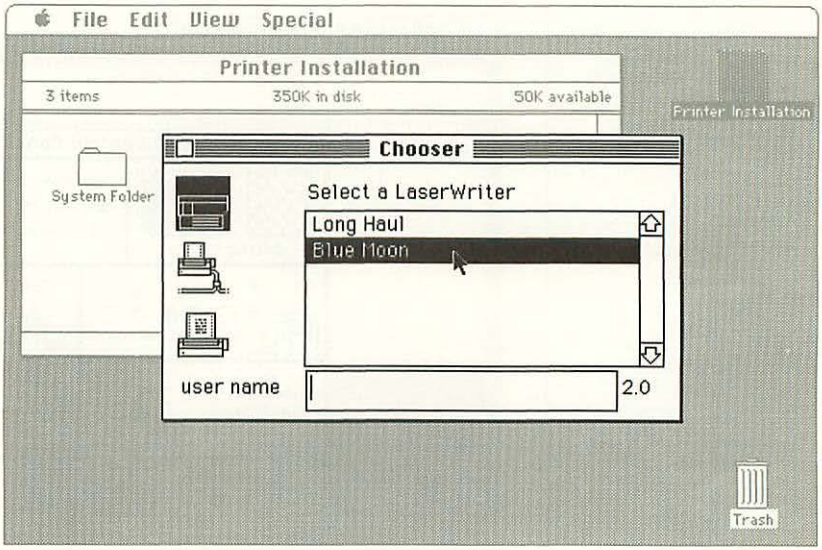
  If you have a Hard Disk 20 and are using the Hard Disk 20 Startup disk to start your Macintosh (you don't have a Macintosh Plus), you need to make the *Printer Installation Disk* the current startup disk. See Appendix D, "Current Startup Disk."

- **Open the disk icon, if it's not open already, by clicking the disk icon and choosing Open from the File menu.**
- **Choose Control Panel from the Apple menu and click the AppleTalk Connected button if it's not already selected.**



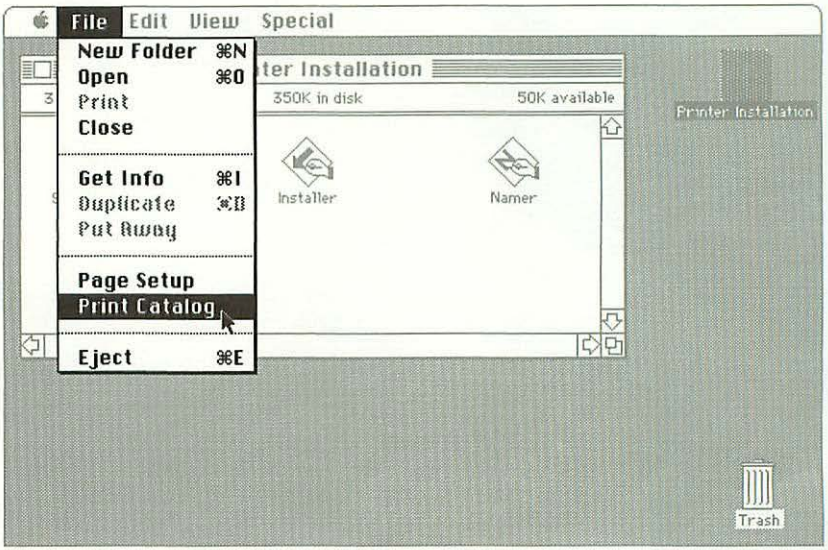
- **Close the Control Panel by choosing Close from the File menu or by clicking the close box.**

- **Choose Chooser from the Apple menu.**
- **Click the LaserWriter icon as the printer type.**
- **When the LaserWriter name appears, select the name by clicking it.**



- **Close the Chooser by choosing Close from the File menu or by clicking the close box.**

■ **Choose Print Catalog from the File menu.**



Print Catalog prints the contents of the active directory window.

■ **Click OK or press Return in the Print dialog box.**

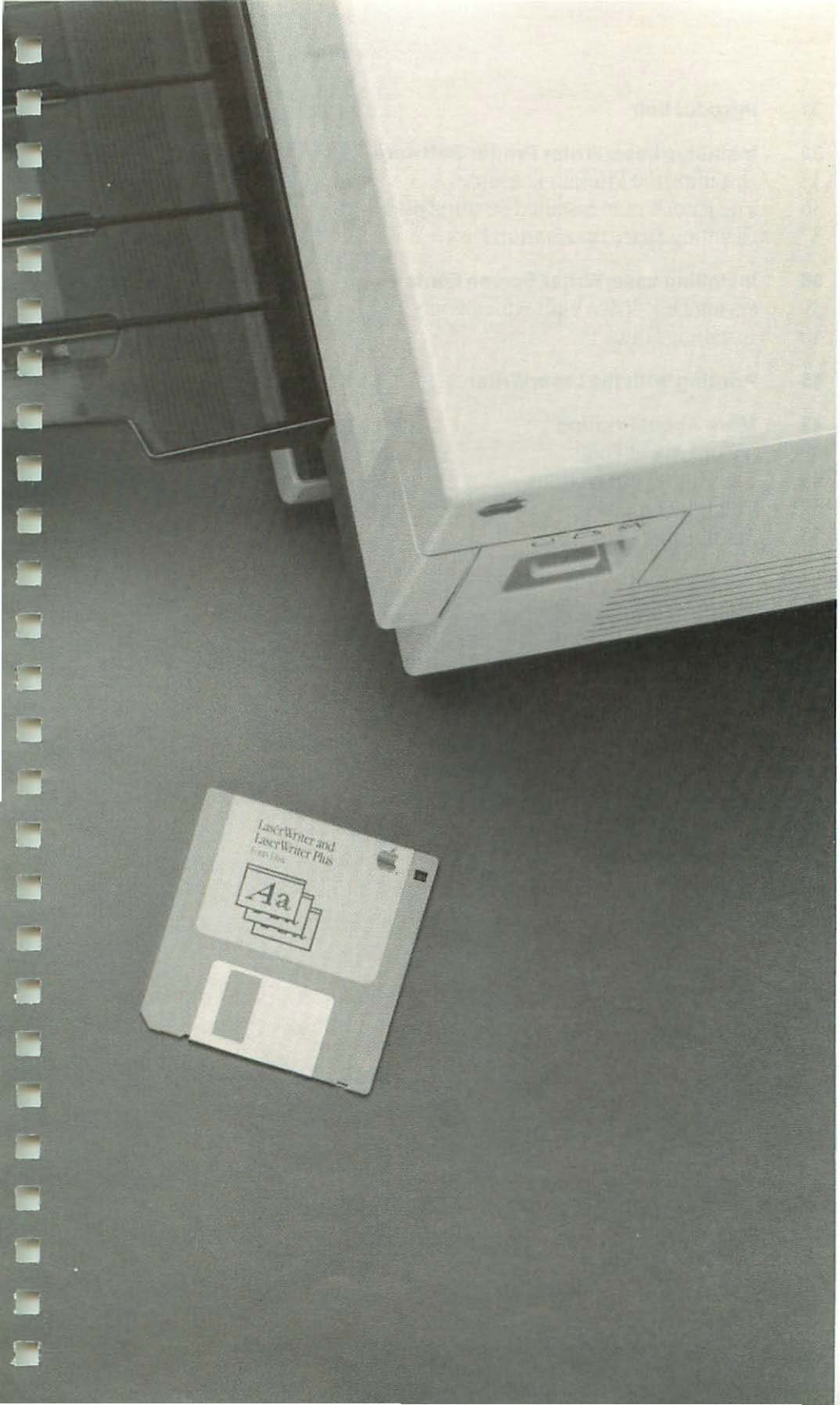
If the network and the LaserWriter are performing as they should, a **status message** appears on your Macintosh telling you that the LaserWriter is processing the document. At the same time, the LaserWriter's middle yellow light flashes.

■ **When the document has been printed, eject the *Printer Installation Disk*.**

If the LaserWriter doesn't print the document, turn to "Troubleshooting" in Chapter 4.

Use the *Printer Installation Disk* and this procedure only when you have trouble printing and need to find out if the problem is with the AppleTalk network rather than the LaserWriter or your application.


Printer
Backspace
Return
Clear
Enter



Chapter 2

Installation and Printing

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Introduction

Once you've set up the LaserWriter, you must update your startup disks so you can print with the LaserWriter. This chapter shows you how to do this step by step, and then how to print your documents.

Installing LaserWriter Printer Software

Before you begin the installation, it's a good idea to make one copy of the *Printer Installation Disk* for safekeeping, and perhaps several more copies for others on the AppleTalk network to use to install the LaserWriter printer software on their disks. See your Macintosh owner's guide for how to copy disks.

Everyone on the network must use the same version of the LaserWriter software; therefore, everyone on the network may need to update their startup disks using the Printer Installation Disk.

Next, check the disks on which you'll be installing the LaserWriter:

- ☐ Be sure each disk is a **startup disk**, a disk with system files inside the System Folder. The LaserWriter **printer software** will reside with the other system files in the System Folder.
- ☐ Make a copy of the startup disks as a safety precaution.

Then follow the installation instructions in this chapter. If you have a Hard Disk 20, see "Installing the LaserWriter Software on a Hard Disk 20" in Chapter 3.

A Helpful Hint

LaserWriter printer software and **screen fonts**, described later, take up quite a bit of room on a startup disk, especially the single-sided (400K) disk used with the Macintosh 512K, and XL. If you're installing on startup disks with applications and documents on them, you may not have room on your startup disk for the installation. In order to avoid having to stop in the middle of an installation and free space on a disk, try the following suggestion:

- ☐ Create as many startup disks without applications and documents as you want. See "Moving a Document, Folder, or Application From One Disk to Another" in Chapter 3. Also see "Creating a Startup Disk" in *Macintosh* or *Macintosh Plus*, your owner's guide.
- ☐ Use the installation instructions in this chapter to install printer software and the screen fonts you want.
- ☐ Move applications and documents to the LaserWriter-installed startup disk as room permits.

You may want to keep your applications and documents on a **non-startup disk**, a disk without system files. Or keep the application on the startup disk if there's room and reserve other non-startup disks for documents only (a data disk).

1 Installing the Printing Resources

You use the Installer on the *Printer Installation Disk* to install the LaserWriter printer software and a minimum set of screen fonts on each startup disk you want to use with the printer. A screen font is the screen version of the most popular sizes of the LaserWriter built-in fonts. See "Installing LaserWriter Screen Fonts" in this chapter for information about fonts and their installation.

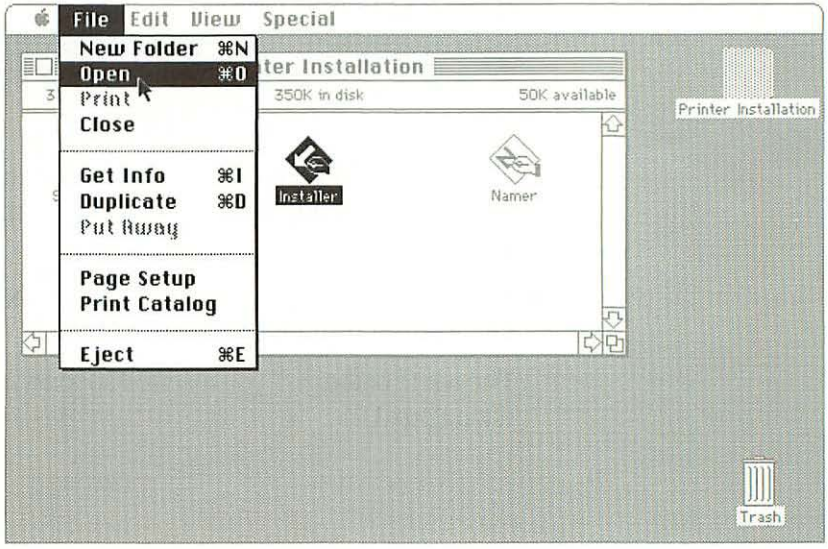
The Installer lets you install software on a series of disks, so have several disks ready for installation. In order to avoid having some disks with outdated or incorrect software, it's a good idea to update all your disks at the same time.

■ **Insert the *Printer Installation Disk* in the disk drive and open the icon representing the disk.**

Select the icon and choose Open from the File menu, or just double-click the icon.

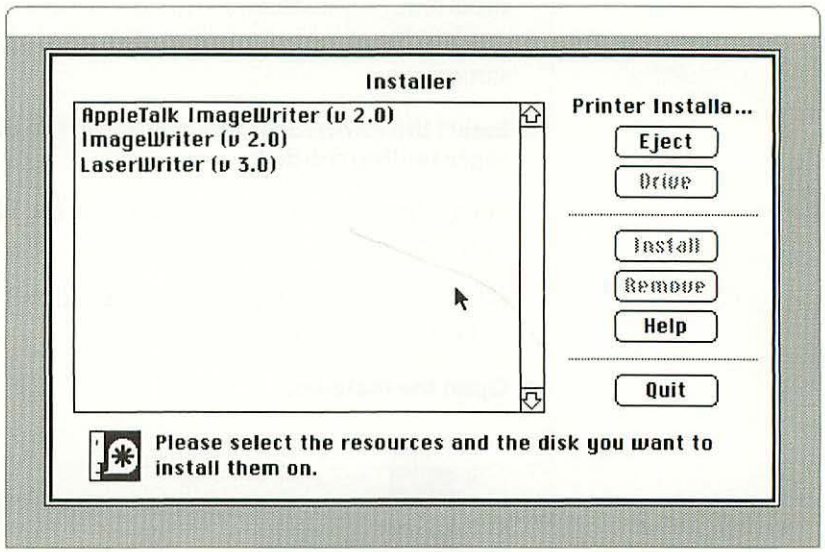
If you're using the Hard Disk 20, see "Installing the LaserWriter Software on a Hard Disk 20" in Chapter 3.

■ **Open the Installer.**



The Installer on the *Printer Installation Disk* lets you choose both LaserWriter and ImageWriter™ printer software. LaserWriter works for all Macintoshes except the Macintosh 128K.

The ImageWriter works with both the ImageWriter, either regular or 15-inch, and the ImageWriter™ II. The AppleTalk™ ImageWriter™ works with the ImageWriter II with the AppleTalk option card installed.



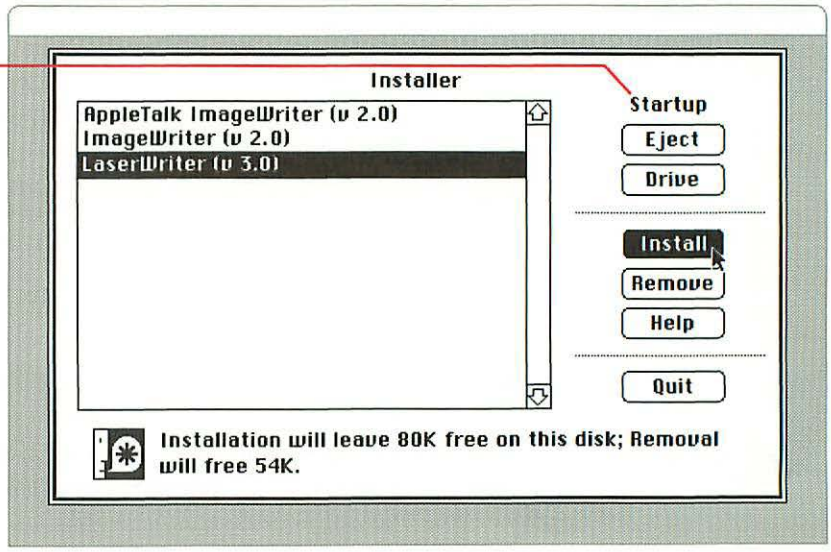
Note that the Installer lists the version number of each printing resource (sometimes called a driver). The Installer may show version numbers greater than those shown in this illustration.

- **Insert the destination disk, the disk on which you want to install the LaserWriter printing software.**

  The name of the disk you inserted appears in the top-right corner of the dialog box.

■ **Click the LaserWriter printing resource you want and click Install.**

The name of the disk you just inserted



You can select any combination of printers listed by holding down the Shift key as you click additional selections.

When you make a selection, a message at the bottom of the window tells you how much room you'll have left on the destination disk after the installation. Because you can also remove a selection, the Installer also calculates how much space on the destination disk you regain with a removal. See "Adding and Removing Printing Resources From a Startup Disk" in Chapter 3.

The Install button is dimmed unless adequate space is available for the installation, and a message tells you how much room you'll need on the destination disk. If you're short of disk space, see "Claiming Space on a Startup Disk" in this section for ways to free more space on your disk.

When you click Install, if you have a one-drive system, you may need to swap disks a few times to complete the installation.

■ **When the installation is complete, use Drive or Eject to switch to another startup disk and repeat the installation, or click Quit.**

2 The LaserWriter-Installed Startup Disk

If you've installed the LaserWriter printer software, the following items are automatically installed on your startup disk:

- □ the LaserWriter printing resource file in the System Folder
- □ the Laser Prep file in the System Folder
- □ the new Chooser, Control Panel, and Key Caps desk accessories in the System file in the System Folder
- □ the fonts Helvetica and Times in 10 and 12 point; Courier in 10 point; and Symbol in 12 point in the System file in the System Folder

The Laser Prep file prepares the LaserWriter for printing from the Macintosh each time the LaserWriter is switched on.

When a LaserWriter-installed startup disk is the current one, the Chooser desk accessory appears in the Apple menu and the LaserWriter screen fonts appear in the Font menu of any application started by the current startup disk. See Appendix D, "Current Startup Disk."

3 Claiming Space on a Startup Disk

To free more space on a disk, remove printing resources, documents, applications, or fonts that you don't need.

- ☐ Use the Installer to remove any printing resources you don't need, or simply drag the resource to the Trash. See "Adding and Removing Printing Resources From a Startup Disk" in Chapter 3.
- ☐ Remove documents or applications from the startup disk. See "Moving a Document, Folder, or Application From One Disk to Another" in Chapter 3.
- ☐ Use the Font/DA Mover to remove Macintosh or LaserWriter fonts or desk accessories you don't need. See "Adding and Removing LaserWriter Screen Fonts" in Chapter 3.

When you've finished, reinsert the *Printer Installation Disk* if you need to, and use the Installer to install the LaserWriter printer software.

Once you've installed the LaserWriter printer software, if you still want more room on your startup disks, you can remove the Laser Prep file as a last resort. However, if you're the first person to print after the LaserWriter is switched on, the Macintosh will ask you for the *Printer Installation Disk* if it can't find the Laser Prep file on the startup disk—an inconvenience most people choose to avoid.

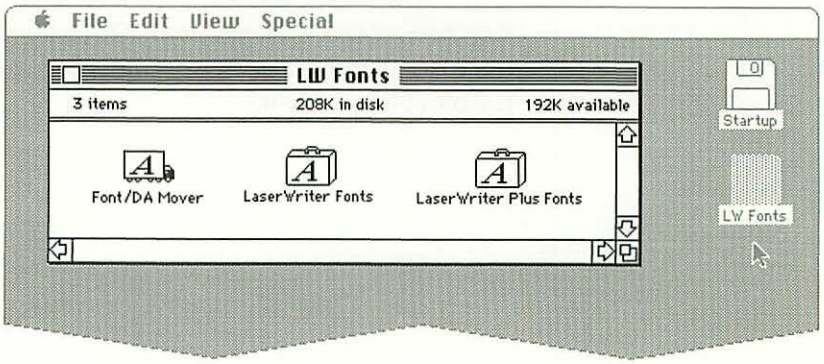
Installing LaserWriter Screen Fonts

When you install the LaserWriter printing resource on your startup disk, you also automatically install a minimum set of the Helvetica, Times, Courier, and Symbol screen fonts on the startup disk's System file (Helvetica and Times 10, 12 point; Courier 10 point; and Symbol 12 point). However, you may want to install other sizes of these four screen fonts; and, if you have a LaserWriter Plus, you must install the LaserWriter Plus screen fonts.

The LaserWriter screen fonts are the screen versions of the LaserWriter built-in fonts. When you print a document in one of these screen fonts, the LaserWriter prints the document using the publication-quality built-in font.

If you own a LaserWriter or a LaserWriter Plus, you must use the Font/DA Mover version 3.0 or greater on the *LaserWriter and LaserWriter Plus Fonts Disk* to install the LaserWriter screen fonts. Replace earlier versions of the Font/DA Mover with this version.

Besides the Font/DA Mover, the *LaserWriter and LaserWriter Plus Fonts Disk* contains the LaserWriter Fonts and LaserWriter Plus Fonts files.



The LaserWriter Fonts file contains Helvetica, Times, Courier, and Symbol. The LaserWriter Plus Fonts file contains Palatino, Avant Garde, Bookman, New Century Schoolbook, Zapf Chancery, Zapf Dingbats, and Helvetica Narrow. Each LaserWriter screen font family comes in sizes 10, 12, 14, 18, and 24 point.

If you don't have a LaserWriter Plus, you can still install the LaserWriter Plus screen fonts and print them on a LaserWriter or ImageWriter. The screen fonts will print just like Macintosh fonts, looking very much like they do on the screen.

1 Saving Disk Space With Scaled Fonts

Fonts take up quite a bit of room on a disk—the Helvetica family needs about 24K. You can install a screen font in all its sizes if you have space on your disk. With single-sided 3½-inch disks (used by Macintosh 128K, 512K, and XL), you may not be able to fit all the sizes of each screen font family on the disk.

To save disk space, you can install one or two sizes of either LaserWriter or Macintosh fonts and still have all the other sizes of each font that an application supports. If an application gives you the choice of larger or smaller font sizes than those installed, the Macintosh scales the installed size to create other font sizes—this is called font scaling. A **scaled screen font** may not be as attractive on the screen as the installed size of the screen font. You can improve a scaled font's appearance by installing the font in two sizes, one smaller, the other larger, such as 10 and 18 point.

Even if you install a complete LaserWriter font family, an application may still let you work in sizes larger than 24 point or smaller than 10 point. In this case, too, the Macintosh scales the installed fonts to create the other sizes on the screen.

Remember, whether a LaserWriter screen font is scaled or not makes no difference to the LaserWriter. The LaserWriter substitutes its equivalent built-in font for the LaserWriter screen version, scaled or not. And the LaserWriter has a built-in equivalent to any size LaserWriter screen font.

This is 12-point Helvetica as the LaserWriter prints it.

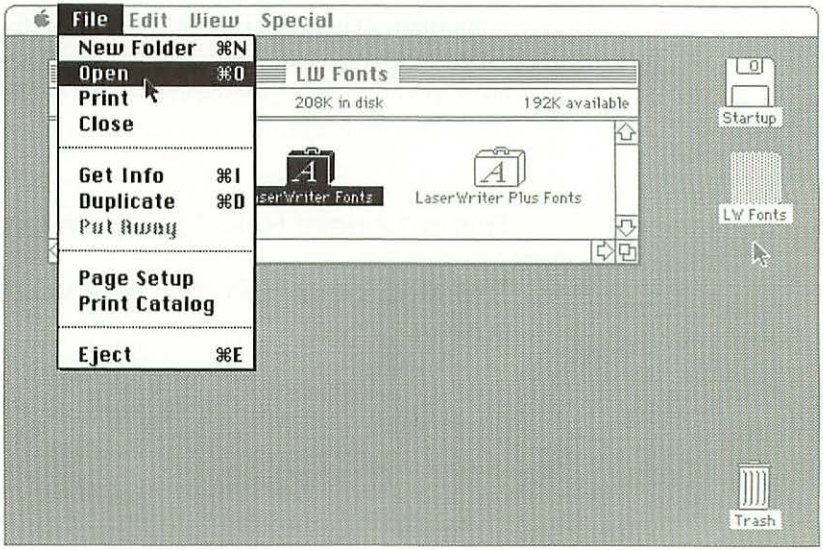
This is 12-point Helvetica as you see it on the Macintosh screen.

2 Installing Fonts

The main thing to remember about screen fonts is that in order for a font to appear in an application's Font menu, that font must be installed in the System file of the current startup disk. The Font/DA Mover lets you add to a System file from a font file or from another disk's System file. You can also remove fonts with the Font/DA Mover. Adding and removing desk accessories works exactly like adding and removing fonts. See "Adding and Removing LaserWriter Screen Fonts" in Chapter 3.

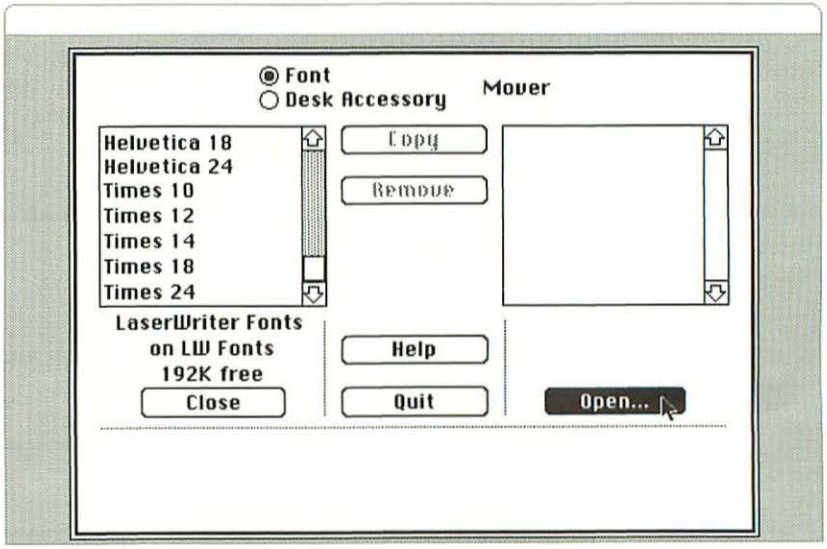
- **Start the Macintosh with the LaserWriter-installed startup disk on which you want to install the LaserWriter screen fonts.**
- **Insert the *LaserWriter and LaserWriter Plus Fonts Disk* in the disk drive and open the icon representing the disk.**

  Select the icon and choose Open from the File menu, or just double-click the icon.
- **Open the font file you want on the *LaserWriter and LaserWriter Plus Fonts Disk.***

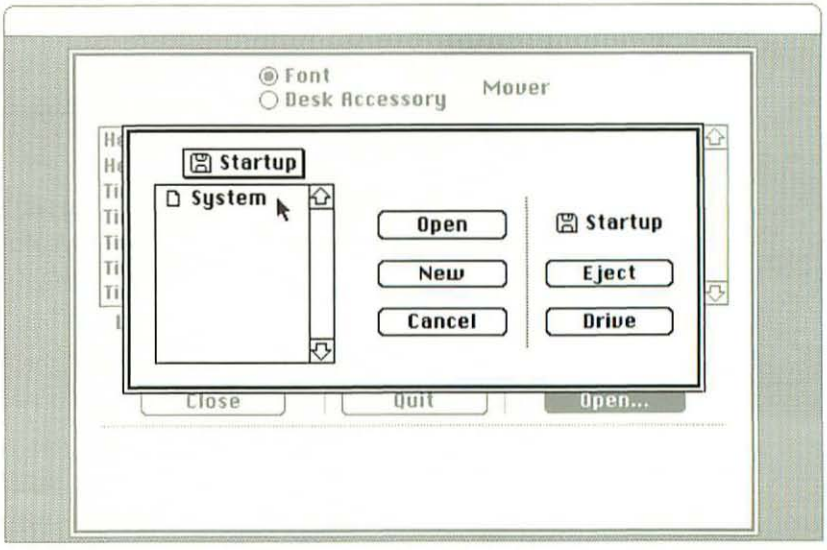


■ **Click the Open button below the list on the right to present the System file on the inserted disk.**

The list on the left shows you the fonts in the fonts file you opened.



Whenever you click an Open button below a list, you see a dialog box with the font files and the System file on the disk named in the box.

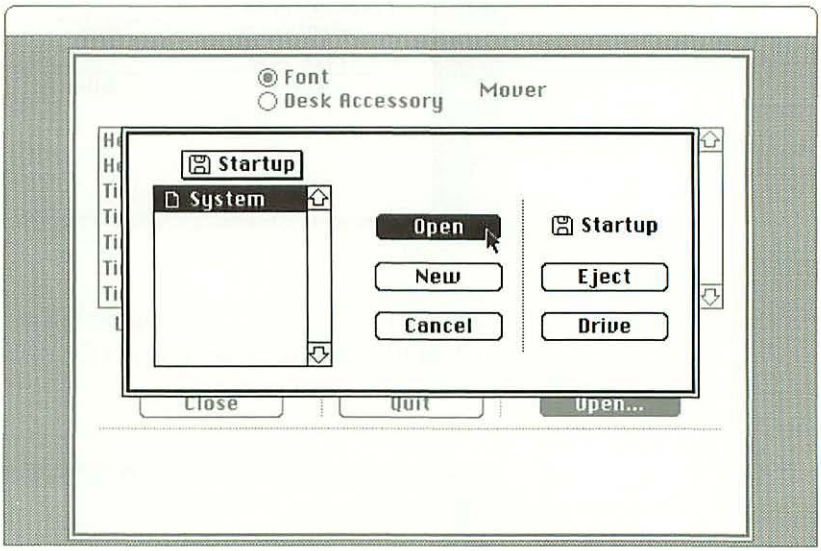


You may need to use the Drive button to switch to the startup disk.

Generally, you use Eject or Drive in the dialog box to see the font files and System file of any inserted disk or hard disk.

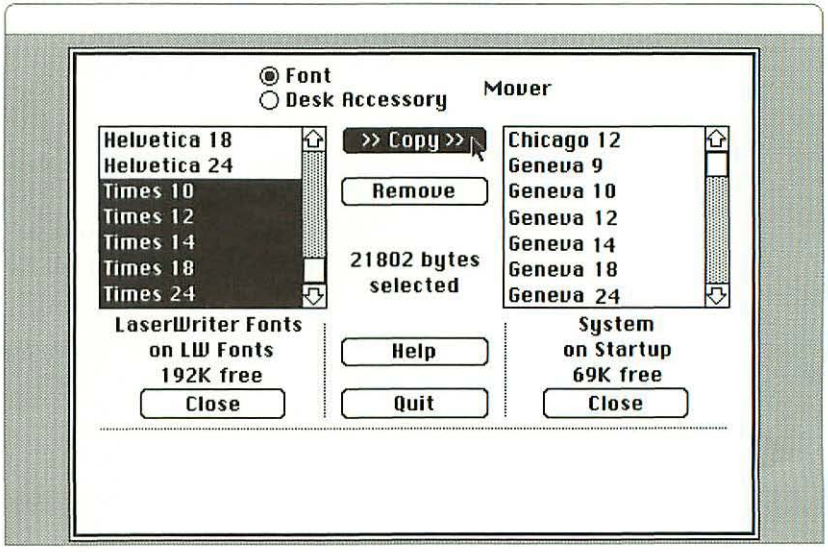
If you have a Hard Disk 20 or a Macintosh Plus, the dialog box works just like the Open dialog box explained in their respective manuals. You may have to open folders to see the files you want. You open a folder or file by selecting it and clicking Open, or just by double-clicking. You move through nested folders to the disk level by pressing on the directory name and dragging to the place you want.

- **Open the System file by selecting its name and then clicking Open, or by double-clicking its name.**



When you open a System file (or a font file), the dialog box disappears and the file's fonts are listed in the Font/DA Mover window.

■ **From the list of LaserWriter fonts, select the fonts you want to add to the list of fonts in the System file and click Copy.**



Click to select a single font; hold down the Shift key while you click to select additional single fonts or to deselect a selected font; or drag through a group of fonts.

When you select a single font, its name, size, and the space it occupies on the disk are shown, as well as a sample of the font. When you select more than one font, only the total amount of disk space occupied by those fonts is shown.

The Copy and Remove buttons become bold and ready to use when you select a font.

When you click Copy, the fonts you selected from the font file are copied to the System file of the startup disk and are available whenever it's the current startup disk. See Appendix D, "Current Startup Disk." If a font with the same name as one you selected already exists in the opposite list, it will be replaced by the selected font.

You can continue adding these fonts or other fonts to another startup disk by using the Close and Open buttons in the Font/DA Mover window to present an inserted disk's System file and font files, and by using the Drive and Eject buttons in the Open dialog box to switch to other startup disks. You'll be asked to reinsert the current startup disk a couple of times. If you consider that an annoyance, restart the Macintosh with each startup disk on which you want to install fonts.

The next time you want to add or remove fonts, see "Adding and Removing LaserWriter Screen Fonts" in Chapter 3.

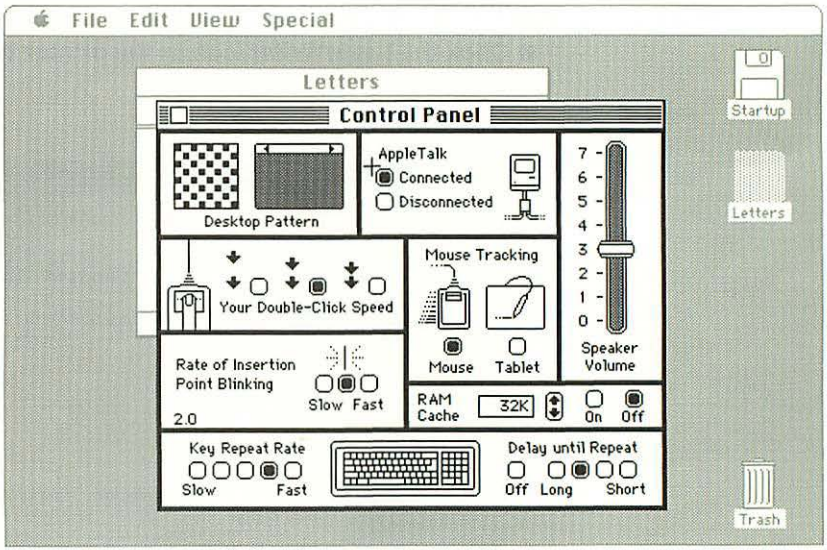
Printing With the LaserWriter

Once you've installed the LaserWriter software on a startup disk, you're ready to print.

Start your Macintosh with the startup disk. The application you're using should be on this current startup disk or on a disk without system files—a non-startup disk.

■ **Choose Control Panel from the Apple menu and click AppleTalk Connected.**

First be sure the AppleTalk connection box is attached to the Printer port, and then click the AppleTalk option, Connected.



The Control Panel settings remain as you set them even when you restart the Macintosh with another startup disk.

(RAM cache is a feature designed for the Macintosh Plus. Clicking it on has no effect on other Macintoshes.)

■ **Close the Control Panel by choosing Close from the File menu or clicking the close box.**

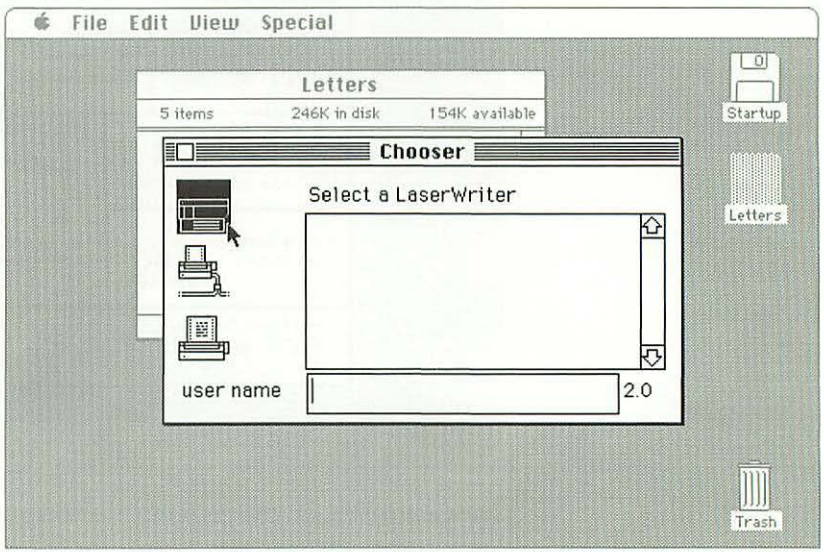
■ **Choose Chooser from the Apple menu.**

The Chooser lets you select the LaserWriter you'll use to print and lets you change a printer type if you're using more than one type of printer.

If you open the Chooser within an application, the Chooser reminds you to choose Page Setup and click OK. After you close the Chooser, do this to confirm the command whether or not you change any of its settings.

The Chooser settings pertain to the current startup disk (except for Macintosh Plus owners; see your owner's guide). If the Macintosh switches to another startup disk (making it the current one), reset the Chooser. See Appendix D, "Current Startup Disk," for a discussion of when the Macintosh switches to another startup disk.

■ **Click the LaserWriter icon as the printer type.**

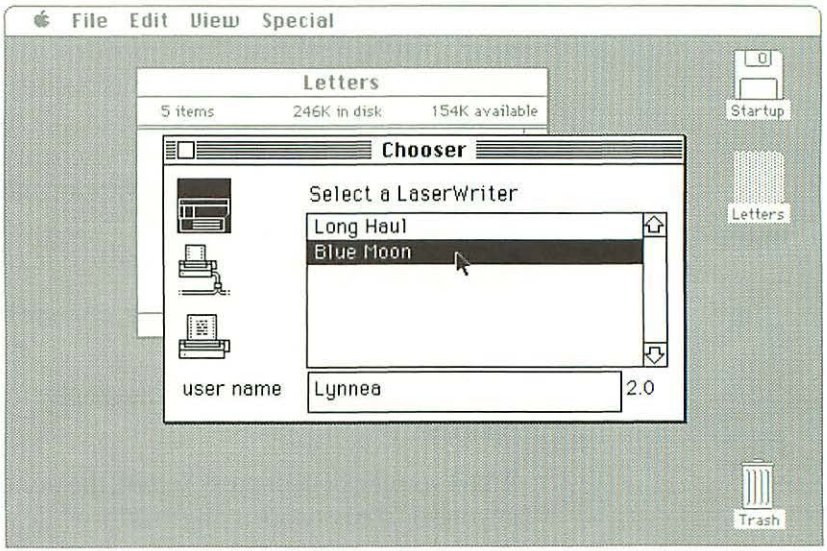


The Chooser shows the icons representing each printer resource installed on the startup disk. If the AppleTalk option in the Control Panel is set Disconnected, the LaserWriter or AppleTalk ImageWriter icons appear dimmed.

With AppleTalk connected in the Control Panel and attached to the Printer port, the Chooser lists each LaserWriter on the network. This may take a few seconds.

- **Click the name of the LaserWriter, and type your name in the space after User Name.**

  The Macintosh uses what you type here to identify your document in the status messages the Macintosh issues after you confirm the Print command.



See "Naming a LaserWriter" in Chapter 3 for how to name a LaserWriter.

- **Close the Chooser by choosing Close from the File menu or by clicking the close box.**

- **If you haven't opened a document, select a document to print from the Finder.**

  You can select several documents to print from the Finder. The order of printing in the icon view moves from left to right, top to bottom.

■ **If you've opened a document, confirm Page Setup from the File menu.**

Within an application, if you change printer types with the Chooser or the first time you print a document using the current startup disk, choose Page Setup and click OK, whether or not you change any of its options. If you do change options, they remain as you set them until you quit the application and return to the Finder.

See "More About Printing" in this chapter for an explanation of the Page Setup options.

With some applications, if you don't confirm Page Setup, part of the printed image may be reformatted or clipped off along the right side or across the bottom of the page. Clipping occurs because different printers (for example, the ImageWriter and the LaserWriter) have slightly different printable areas on the page. If you've changed printers by using the Chooser, but haven't told the application the new printable area by confirming Page Setup, the application sends the document to the printer with the old dimensions, and some text may appear clipped off.

■ **Choose Print from the File menu, change the preset options if you wish, and click OK or press Return.**

See "More About Printing" in this chapter for an explanation of the Print options.

When you click OK or press Return, the printer sends a message to you (and anyone on the network trying to print while your job is printing), identifying your job by the user name you typed in the Chooser and telling you the state of your printing job and the printer.

If the status message indicates someone else is using the printer, the LaserWriter finishes that job and starts the next one. (The LaserWriter stores part of the next job as it finishes the first.)

You can also check the LaserWriter's status lights on the front of the printer to tell if the printer is on, busy, out of paper, and so forth. See Appendix C, "LaserWriter's Status Lights, Sockets, and Switch," for information on the LaserWriter's status lights.

If you have difficulty with any part of the printing procedure, see "Troubleshooting" in Chapter 4.

More About Printing

To get the best results possible when you print with the LaserWriter, you need to use the built-in LaserWriter and LaserWriter Plus fonts, understand the various Page Setup and Print options, and use the correct paper or printing material.

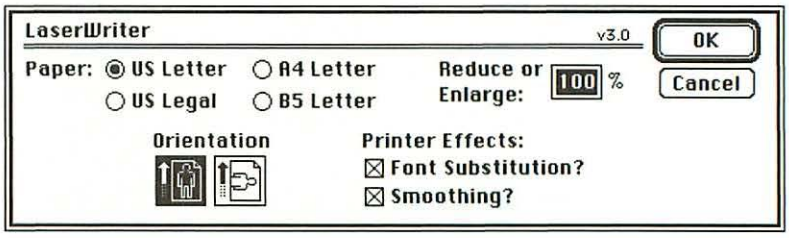
1 A Word About Fonts

Once you've installed the LaserWriter screen fonts on a disk, the font names are included in the Font menu of any application that uses that disk. With almost all applications, when you print a document with text in these LaserWriter screen fonts, the LaserWriter substitutes the equivalent built-in fonts to give you publication-quality printed copy. For those few applications (such as MacPaint™) that can't use the built-in printer fonts, the LaserWriter prints the screen version.

You can print Macintosh fonts, such as Geneva or New York, on the LaserWriter (they take longer to print). And you can print LaserWriter fonts, such as Times and Helvetica, on the ImageWriter (but you won't get publication-quality results). For best results, use the fonts designed for the specific printer: LaserWriter fonts for the LaserWriter and the other Macintosh fonts for the ImageWriter.

2 The Page Setup Options

When the LaserWriter is selected in the Chooser and you choose Page Setup from the File menu, a dialog box appears with options for the LaserWriter. Clicking OK or pressing Return confirms the selected options.



Paper

US Letter (8½ by 11 inches) is the preset option. The other sizes are: US Legal (8 ½ by 14 inches), A4 Letter (a standard European letter size, 8¼ by 11⅔ inches), and B5 Letter (a standard Japanese letter size, 7¼ by 10¼ inches).

Reduce or Enlarge

The Reduce or Enlarge option reduces or enlarges the print on a page by the amount you specify, just as this feature does on many copiers. The option is set at 100 percent (no enlargement or reduction). Simply type the number to specify a different percentage. (The LaserWriter chooses the closest percentage it can use to the amount you specify.) You can reduce print to 25% and enlarge it to 400%. Enlarged type may not fit on the page, so plan on experimenting if you use this option.

This is 12-point Helvetica at 150%.

This is 12-point Helvetica at 100%.

This is 12-point Helvetica at 50%.

Orientation

This option concerns the orientation of print on the page when the top of the page is defined as the end that enters the printer first. See "Inserting Paper for Manual Feed" in Chapter 3 for information about how to feed envelopes, letterhead, and so forth manually into the printer.



Orients the print upright on the page

Orients the print sideways on the page

Printer Effects

Font Substitution
If the Font Substitution option is checked, the LaserWriter substitutes LaserWriter built-in fonts for Macintosh fonts:

- New York changes to Times.
- Geneva changes to Helvetica.
- Monaco changes to Courier.
- Seattle, the font used in Multiplan®, changes to a modified version of Helvetica.

If your document is in a Macintosh font such as Geneva and you uncheck Font Substitution by clicking it, the LaserWriter prints the Macintosh fonts. You'll have to be patient; the LaserWriter takes more time to print these fonts.

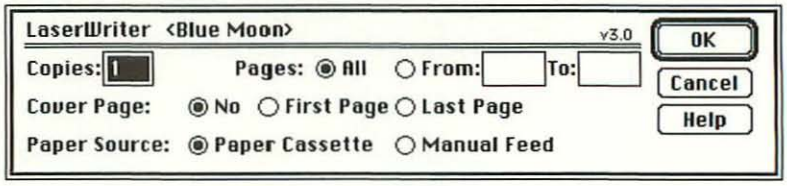
Font Substitution produces copy with a lot of space between and within words. Font Substitution is useful when you want to work in a Macintosh screen font but prefer the speed of printing with LaserWriter fonts. Before you print your final document however, change your document to a LaserWriter font rather than use Font Substitution.

Smoothing
The Smoothing option (preset On) is a fine-tuning feature that makes the text and graphics of some applications look better. Use it for all line graphics and Macintosh fonts (it speeds up printing, too). Smoothing doesn't affect LaserWriter fonts at all.

There are times when you'll want to turn Smoothing off; for instance, when you're printing material created with a digitizer such as ThunderScan™. Try experimenting with the Smoothing option until you get the results you want.

3 The Print Options

When the LaserWriter is selected in the Chooser and you choose Print from the File menu, a dialog box appears with options for the LaserWriter. Clicking OK or pressing Return sends the document to the printer. Clicking Help gives you information about manual printing and printing envelopes.



Copies

The Copies option lets you specify how many copies of the document to print. The option is set at 1.

Pages

The All option, which is the preset option, prints all pages in the document, from first to last. The From/To option lets you specify a range of pages to print. Select the insertion point in the boxes and enter numbers for the first and last pages.

Cover Page

The Cover Page option lets you tell the LaserWriter to print a page that identifies the document. The cover page contains the user name typed in the Chooser, the name of the document if there is one, the date and time. The No setting specifies no cover page. The First and Last settings refer to when the cover page appears, as the first page before the document starts to print or as the last page after the document has printed.

Paper Source

The Paper Cassette option specifies automatic feed from the paper cassette inserted in the LaserWriter. The Manual Feed option requires that you feed the paper by hand at the printer.

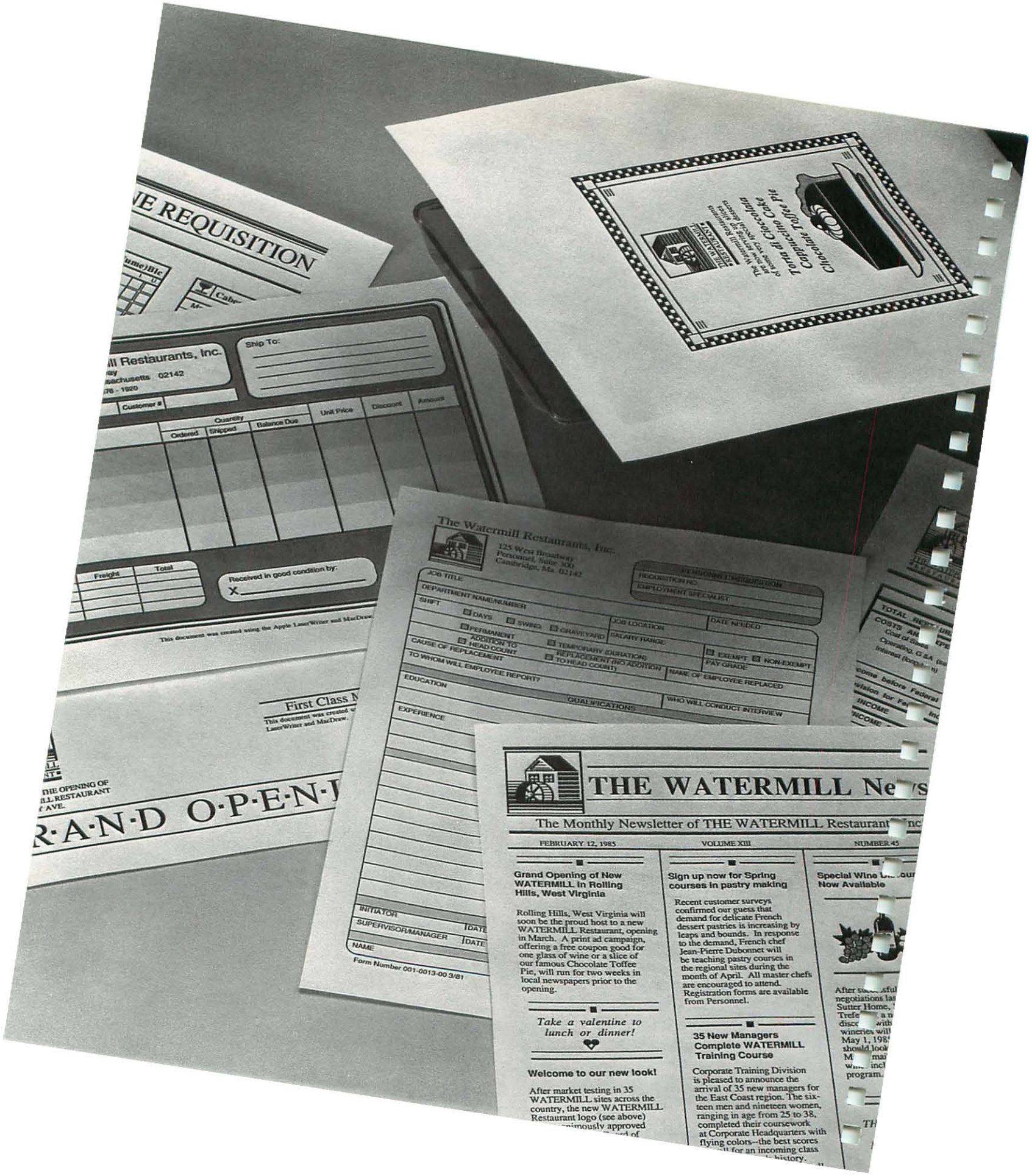
The LaserWriter prints beautifully on most kinds of paper stock, including most color stocks and letterheads; it produces very good results on standard photocopy paper (16- to 20-pound paper stock.)

To produce even clearer, sharper images, use a slightly heavier paper with a smoother surface than photocopier paper, such as Xerox 4024® Dual-Purpose 28 lb. (Avoid very smooth or shiny paper.)

Be sure that letterhead or three-hole-punched paper is loaded face down in the paper cassette with the letterhead at the clip-end of the tray. Keep the following in mind when printing on your letterhead:

- Temperature—Some letterheads use low-temperature dyes that vaporize and smear at the high temperature of the laser printing process (200 degrees Celsius). Many of the letterheads that have a slick texture—sort of an iron-on decal look—use a heat bonding process called thermography for bonding the letterhead to the paper. Letterheads produced this way may come undone in the LaserWriter.
- Paper Texture—Highly textured paper, the kind that feels rough to the touch, may not print sharply enough. When you begin printing, try a few sheets and see how you like the quality of the print.
- Paper Finish—Very smooth or shiny surfaces don't print well. Again, try a few sheets and see what happens.

You can also use the LaserWriter to create transparencies for presentation on an overhead projector. Just put transparencies in the cassette tray instead of paper. Use a medium-weight transparency, such as that available from 3M or Folex.



E REQUISITION

Ship To:

Received in good condition by:

This document was created using the Apple LaserWriter and MacDraw.

The Watermill Restaurants, Inc.
125 West Broadway
Personnel, Suite 300
Cambridge, Ma. 02142

JOB TITLE
DEPARTMENT NAME/NUMBER
SHIFT
EDUCATION
EXPERIENCE
INITIATOR
SUPERVISOR/MANAGER
NAME
Form Number 001-0013-00 3/81

THE WATERMILL News

The Monthly Newsletter of THE WATERMILL Restaurant Inc

FEBRUARY 12, 1985 VOLUME XIII NUMBER 45

Grand Opening of New WATERMILL in Rolling Hills, West Virginia

Rolling Hills, West Virginia will soon be the proud host to a new WATERMILL Restaurant, opening in March. A print ad campaign, offering a free coupon good for one glass of wine or a slice of our famous Chocolate Toffee Pie, will run for two weeks in local newspapers prior to the opening.

Take a valentine to lunch or dinner!

Welcome to our new look!

After market testing in 35 WATERMILL sites across the country, the new WATERMILL Restaurant logo (see above)

Sign up now for Spring courses in pastry making

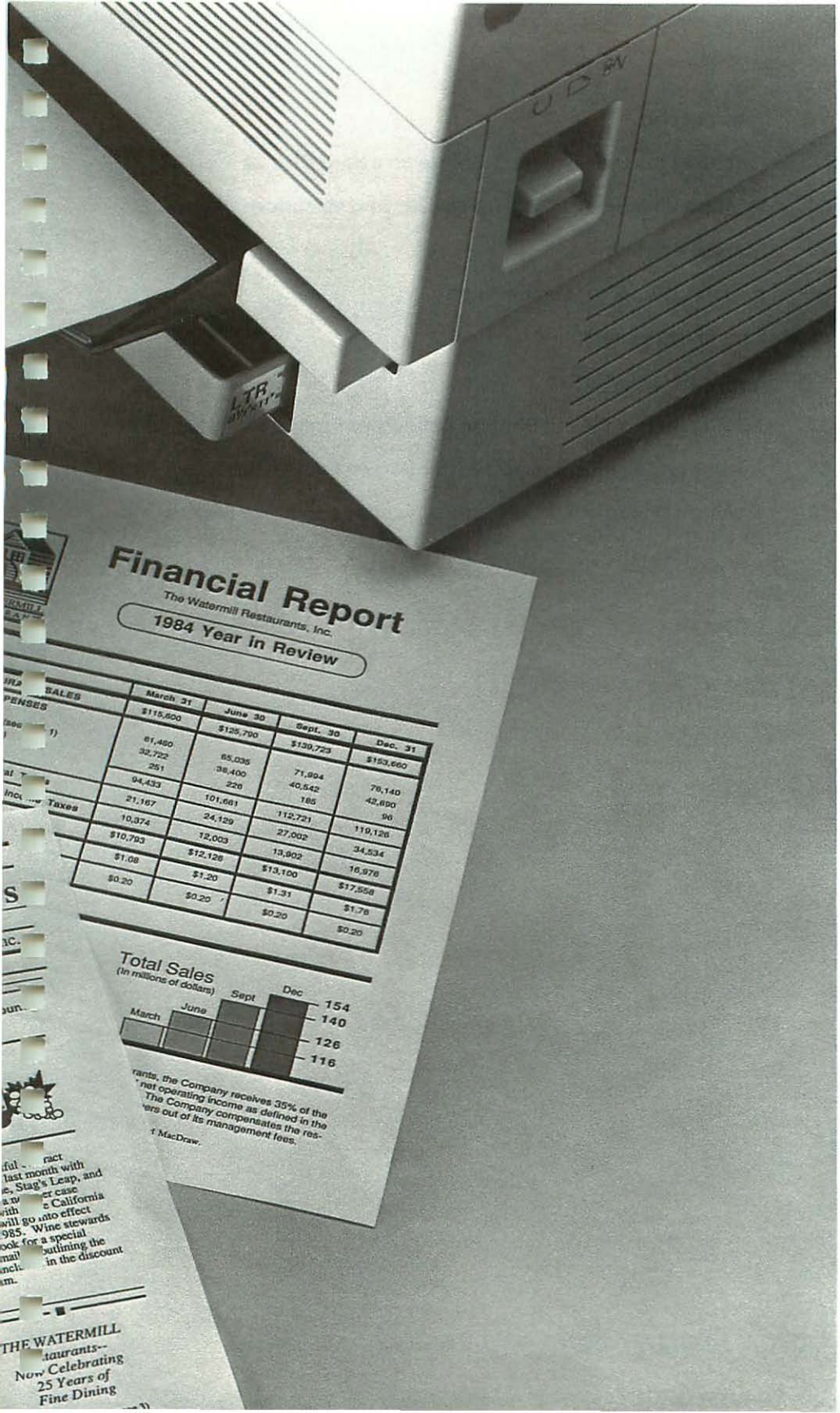
Recent customer surveys confirmed our guess that demand for delicate French dessert pastries is increasing by leaps and bounds. In response to the demand, French chef Jean-Pierre Dubonnet will be teaching pastry courses in the regional sites during the month of April. All master chefs are encouraged to attend. Registration forms are available from Personnel.

35 New Managers Complete WATERMILL Training Course

Corporate Training Division is pleased to announce the arrival of 35 new managers for the East Coast region. The sixteen men and nineteen women, ranging in age from 25 to 38, completed their coursework at Corporate Headquarters with flying colors--the best scores

Special Wine ... Now Available

After ... negotiations ... Sutter Home, ... Trefe... a n... disco... with ... wineries will ... May 1, 198... should look ... M... mai... w... incl... program.



Chapter 3

Using the LaserWriter

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Introduction

This chapter provides step-by-step instructions for most tasks associated with using the LaserWriter. You don't have to read the chapter topics in any particular order; each topic is independent of the others and includes cross-references where needed.

Installing the LaserWriter Software on a Hard Disk 20

The Hard Disk 20 requires a slightly different installation procedure than the one described in Chapter 2.

1. Start the Hard Disk 20 and the Macintosh.

If you have a Macintosh Plus, insert the *Printer Installation Disk* in the internal disk drive. Otherwise, use the *Hard Disk 20 Startup* disk as described in *Hard Disk 20*, the owner's guide.

2. If you used the *Hard Disk 20 Startup* disk, make the *Printer Installation Disk* the current startup disk.

Open the *Printer Installation Disk* in the built-in disk drive, and hold down the Option key while you double-click the Installer.

3. Follow the installation instructions in Chapter 2 until the installation is complete.

If you have a Macintosh Plus, your work is complete when you've completed the installation.

4. If you have a Macintosh 512K or XL, return to the Finder and restart the Macintosh.

Use the *Hard Disk 20 Startup* disk.

5. For Macintosh 512K and XL, move the LaserWriter printing resources to the System Folder.

All LaserWriter printing files must be with the System file and Finder in the System Folder. If the printing files aren't in the System Folder, the printers won't appear in the Chooser.

The Macintosh Plus puts the printer files in the System Folder automatically.

Printing With the Macintosh 512K, XL, and Macintosh Plus

To print a document with the LaserWriter, you must have the LaserWriter printer software installed on the current startup disk. (See Appendix D, "Current Startup Disk.") The application and document can be on that disk as well, or on a disk with no system files at all. (See Chapter 2 for instructions on installing the LaserWriter.) You must also have the AppleTalk connection box attached to the Printer port on the back of the Macintosh.

For information about loading paper, see "Loading the Paper Cassette" in "Unpacking and Setting Up" in Chapter 1. For information about the kinds of material the LaserWriter can print on, see "About Paper" in Chapter 2.

1. Choose Control Panel from the Apple menu and click AppleTalk Connected.

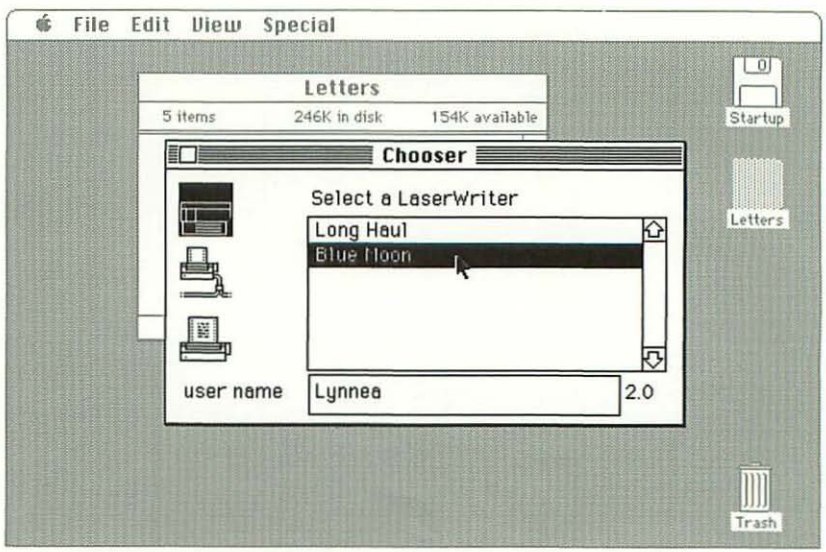
If you've been switching between printers or other peripheral devices, *first* be sure the AppleTalk connector is actually attached to the Printer port, and *then* click the AppleTalk option Connected.

2. Choose Chooser from the Apple menu and select the LaserWriter icon as the printer type.

The Chooser lists all the LaserWriters on the AppleTalk network by name.

The LaserWriter icon will be dimmed if you haven't clicked the AppleTalk Connected option in the Control Panel. Clicking a dimmed icon presents a message explaining why it's dimmed.

If you choose the Chooser within an application, the Chooser reminds you to choose Page Setup from the File menu. You'll do this after you close the Chooser. You don't confirm Page Setup if you're printing a document from the Finder; Page Setup in the Finder only applies to Print Catalog and not to a document.



3. Select the LaserWriter printer name and type your name in the space after User Name.

To name a printer, see "Naming a LaserWriter" in this chapter.

The Macintosh uses what you type after User Name to identify you in the status message that appears while your job is printing.

If you have a Macintosh Plus, the User Name appears each time you open the Chooser regardless of the current startup disk. If you have a Macintosh 512K or XL, the User Name is tied to the current startup disk.

4. Close the Chooser and, if you haven't opened a document, select a document to print from the Finder.

Choose Close from the File menu, or click the close box.

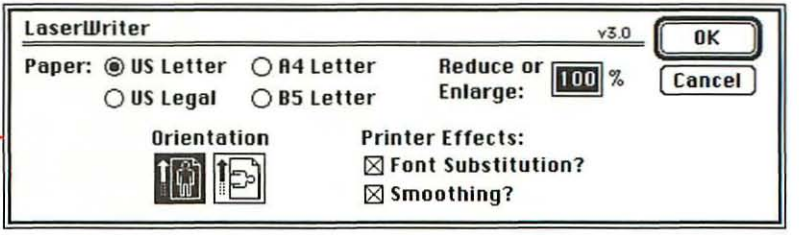
You can select several documents to print from the Finder. The order of printing in an icon view is left to right, top to bottom.

5. If you've opened a document, choose Page Setup from the File menu and change the preset options if you wish.

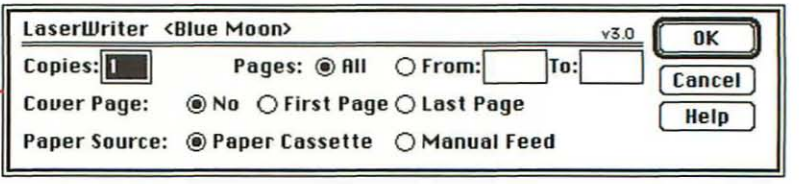
Click OK or press Return whether or not you change any of its options. See "Printing With the LaserWriter" in Chapter 2 for more information. Also, see "More About Printing" in Chapter 2 for explanation of the Page Setup options.

6. Choose Print from the File menu and change the preset options if you wish.

Page Setup dialog box



Print dialog box



7. Click OK or press Return.

A message appears identifying your printing job and telling you the status of the job and the printer.

You can also check the LaserWriter's status lights to see whether the printer is on, processing your document, out of paper, and so forth. See Appendix C, "LaserWriter Status Lights, Sockets, and Switch."

For complete information on the Print options, see "More About Printing" in Chapter 2.

Manual Printing

When you want to print something on odd-size paper, such as an envelope, you feed the paper by hand after you've specified the proper setting in the Page Setup and Print commands in the File menu.

1. Follow steps 1 through 5 in "Printing With the Macintosh 512K, XL, and Macintosh Plus" in this chapter.

If you're printing envelopes, be sure to specify the sideways icon under Orientation in the Page Setup dialog box.

2. Choose Print from the File menu and click Manual Feed and OK.

Change other print options if you wish.

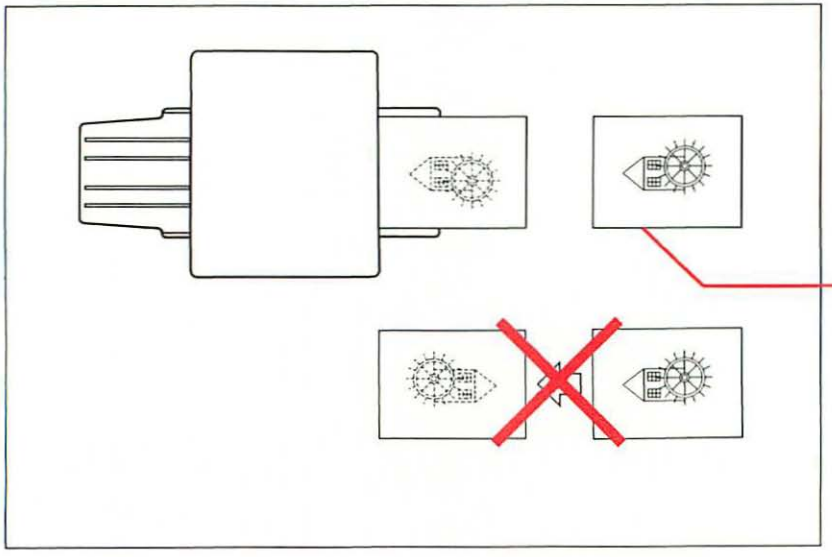
The Help button provides a summary of the manual feed instructions.

3. When the printer's middle yellow light glows steadily, line up the paper on the right side of the manual feed guide.

Wait for a steady middle yellow light, and insert the paper into the manual feed guide until it stops. After a couple of seconds, the middle yellow light turns off, and the LaserWriter draws the paper into the printer.

If your document is several pages long, wait a couple of seconds until the middle yellow light is steady again, and insert the next sheet into the manual feed guide. You'll have about a minute and a half to go to the printer and insert it. If you take longer than 1½ minutes, the printer cancels your job and returns to feeding paper automatically from the paper cassette.

When your printing job is done, the middle yellow light goes off, the green one comes on, and the printer reverts to automatic feed using the paper cassette.



Flip the page over and insert head first for double-sided printing

Inserting Paper for Manual Feed

When feeding paper manually, be sure to wait for the middle yellow light to come on steadily before you insert the paper into the manual feed guide. *And be sure to insert the paper until you sense it stop.*

For more information about what kind of paper the LaserWriter prints on, see "About Paper" in Chapter 2.

To print on both sides of the paper

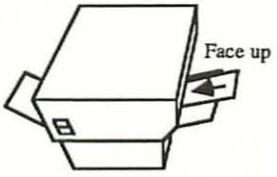
- Print the first page and take it out of the output tray.
- Flip the printed side *face down* with the top of the page entering the printer first.
- Insert the page in the manual feed guide.

See the illustration under "Manual Printing" in this chapter.

To print envelopes

- Within the application, click the sideways icon under Orientation in the Page Setup dialog box.
- Place the long, top edge of the envelope *face up* against the right side of the manual feed guide.



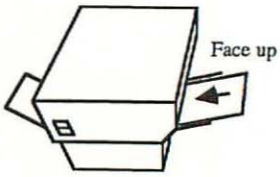


To print letterheads or three-hole-punched paper

- Insert the letterhead page *face up* with the letterhead entering the printer first.

OR

- Insert a page of three-hole-punched paper with the side without holes against the manual feed guide.



Changing Printers

The Chooser desk accessory lets you switch to other printers. You must have the Chooser and the printer's printing resource on the current startup disk. Be sure the printer is attached to the Macintosh.

1. Match the AppleTalk setting in the Control Panel to AppleTalk's physical connection to the Printer port.

First, physically connect AppleTalk to or disconnect it from the Macintosh's Printer port and then make the AppleTalk setting in the Control Panel match.

2. Choose the Chooser from the Apple menu and click the icon of the printer type you want.

You can change printers from the Finder or within an application. If you change printers from within an application, confirm Page Setup from the File menu before you choose Print. Just click OK whether or not you change its options.

3. Depending on the printer type you've chosen, select the printer's name or port.

If you choose the ImageWriter icon, select the port to which the printer is attached. The Modem port appears preselected and the Printer port is dimmed if the AppleTalk Connected option is set in the Control Panel. If AppleTalk is set Disconnected, you can select either port.

If you've selected a LaserWriter or AppleTalk ImageWriter, click the printer's name that appears in the list.

Clicking a dimmed name or icon presents a message explaining why it's dimmed.

Naming a LaserWriter

If you have more than one LaserWriter on your network, you'll want to give each a distinguishing name. When you name a LaserWriter, that name and the name of any other LaserWriter you can communicate with are listed in the Chooser desk accessory if the LaserWriter icon is selected.

If you don't name each LaserWriter, the Macintosh distinguishes each one by adding a number 1 to the second printer you switch on, a number 2 to the next, and so forth. These names appear in the Chooser desk accessory when the LaserWriter icon is selected as the printer type.

1. Switch off each LaserWriter; insert the *Printer Installation Disk* in the Macintosh disk drive and open Namer.

Network Citizenship: If you're changing the name of a printer, be sure to notify everyone on the network of the change. Once the name is changed, everyone on the network must use the Chooser to select the new name.

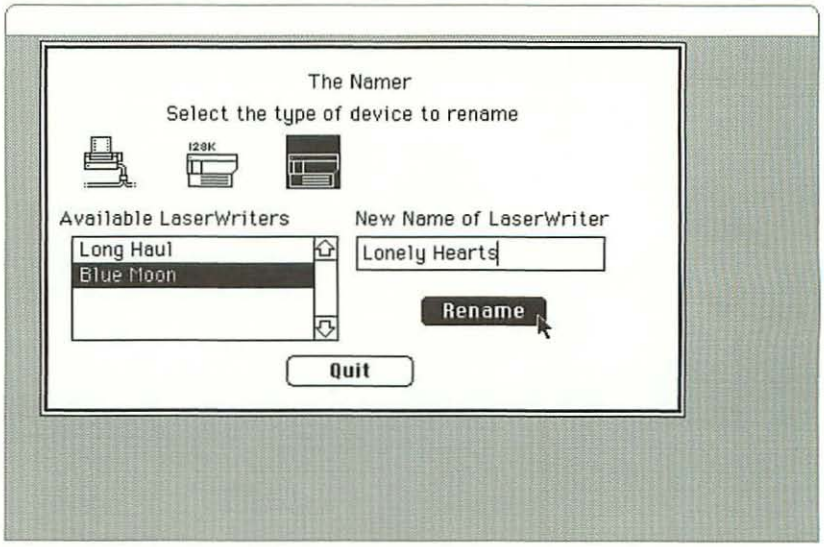
2. Switch on the first LaserWriter you want to name.

3. Wait until the printer produces a test page; then type a new name in Namer.

After the LaserWriter produces a test page, the name "LaserWriter" appears selected in the list in the Namer dialog box. Type a new name to replace the old one and click Rename.

This name will now appear in the Chooser desk accessory and on the LaserWriter test page the printer produces when you restart the printer.

Switch on the next printer you want to name, wait until it produces the test page, select the name "LaserWriter" in the list, type its new name, and then click Rename.



Adding and Removing Printing Resources From a Startup Disk

For safety's sake, always make a copy of any disk you plan to change.

1. Start the Macintosh with the *Printer Installation Disk*.

2. Open the Installer and insert the disk you want to change.

Use the Eject and Drive buttons to switch to other disks.

The Help button gives you a summary of these installation procedures.

3. Select the printing resource you want to add or remove, and click Install or Remove.

The message area at the bottom of the Installer tells you how much room your addition leaves on the destination disk or, if there's not enough room on the disk, how much more room is needed, and how much disk space you'll have after removing a printing resource.

You'll find added printing resource files in the same folder as the System file and Finder file. If you have a Hard Disk 20 but not a Macintosh Plus, you must move the printing resources into the System Folder.

You can also remove a printing resource by dragging it to the Trash. Be sure to drag any accompanying files, such as Laser Prep, to the Trash, too.

Adding and Removing LaserWriter Screen Fonts

You may want to change the font selection on a startup disk's system file to add the LaserWriter Plus screen fonts, to add LaserWriter screen fonts to the minimum set already installed, or to remove fonts you can do without, such as the Macintosh fonts Geneva and New York.

When you're deciding which fonts to add or remove, remember that the Macintosh can take one font size—12 point, for instance—and enlarge or reduce it to create all the other sizes of that font. These "scaled" fonts may not be quite as attractive on the screen, but the feature allows you to save space on a startup disk. You can have more readable "scaled" screen fonts if you install two sizes of a font, such as 10 and 18 point. See "Saving Disk Space With Scaled Fonts" in Chapter 2 for more information about scaled fonts.

And remember, the LaserWriter doesn't use the LaserWriter screen fonts, scaled or not, to print a document; it substitutes its publication-quality, built-in fonts.

You can add and remove desk accessories just as you do fonts. Simply click Desk Accessory when you open the Font/DA Mover, and then follow the instructions for adding and removing fonts.

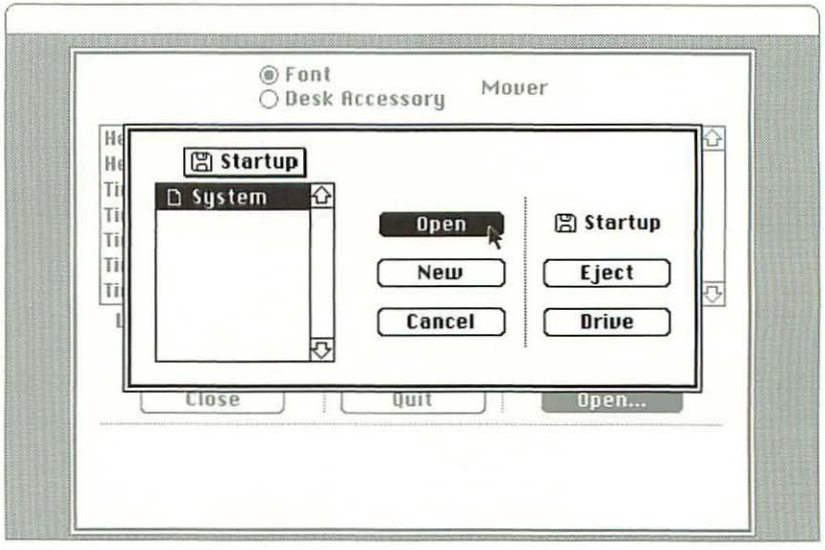
1. Start the Macintosh with a LaserWriter-installed startup disk.

Or make an inserted startup disk the current one. See Appendix D, "Current Startup Disk."

2. Open a font file or the Font/DA Mover on the *LaserWriter and LaserWriter Plus Fonts Disk*.

Select the icon and choose Open from the File menu, or just double-click the icon. Opening a font file opens the Font/DA Mover.

If you open the Font/DA Mover, the list on the left includes all fonts in the System file on the current startup disk. If you open a font file, the list on the left shows you the fonts in that file. The list on the right is empty.



3. Use the Open buttons to present a directory of any other System file or font files on any inserted disk or hard disk.

If necessary, first click Close to close the file whose contents are currently displayed.

When you click an Open button, a dialog box appears with a list that contains the System file and any font files on the disk named in the dialog box.

If you have a Hard Disk 20 or a Macintosh Plus, you're presented with the font files and folders of the directory named above the list. You can open folders and move through the hierarchy of folders just as you do in the Open command explained in *Macintosh Plus* or *Hard Disk 20,* the owner's guides, or see "Installing Fonts" in Chapter 2 for a summary of the procedure.

4. Open the System file or font file you want by selecting its name and then clicking Open.

When you open a System file or a font file, the dialog box disappears and the fonts are listed in the Font/DA Mover window.

Rather than copying fonts to a System file or existing font file, you can create a new font file by clicking New, naming the file in the dialog box that appears, and clicking Create.

5. From the list of fonts, select the fonts you want to add or remove.

Click to select a single font; hold down the Shift key while you click additional single fonts; or drag through a group of fonts. Shift-click to deselect a selection.

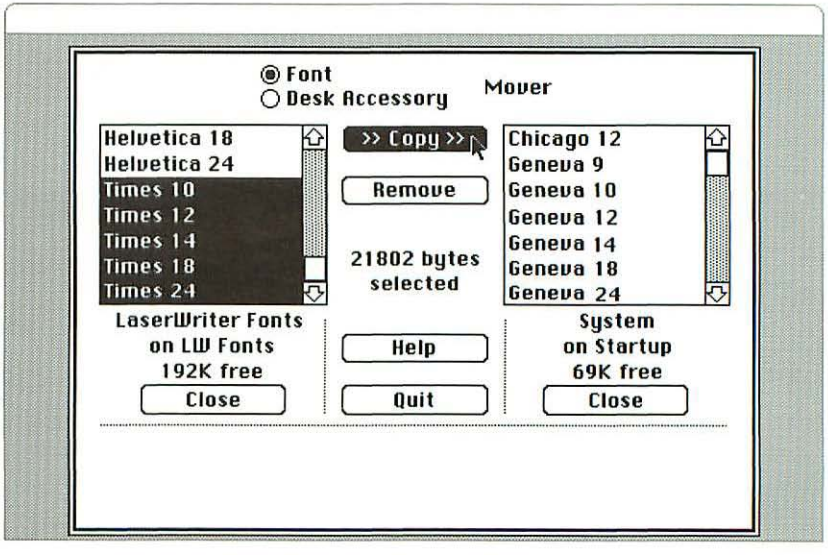
When you select a single font, its name, size, and the space it occupies on the disk are shown, as well as a sample of the font. When you select more than one font, only the total amount of disk space occupied by the selected fonts is shown.

The Copy and Remove buttons become bold and ready to use when you select a font.

6. Click Copy or Remove, then click Quit when you're finished.

Clicking Copy copies fonts to the opposite file, clicking Remove removes the fonts from the file they're in. If a font with the same name as one you selected already exists in the opposite list, it will be replaced by the selected font.

If you remove all the fonts from a fonts file, the file itself will be gone the next time you click Open.



Moving a Document, Folder, or Application From One Disk to Another

LaserWriter printer software and screen fonts can take a lot of disk space, so you may need to move documents and applications to another disk to create more room on a disk.

You can move a document, folder, or application to a different disk as long as the icon of the disk to which you're moving is on the Macintosh desktop.

1. If necessary, insert the disk you want to move something to, so its icon will be present.

2. If necessary, insert the disk that contains what you want to move.

If you're using a one-drive system, eject the disk you're moving to before you insert the disk you're moving from.

3. Select the icon or name for the document, folder, or application you want to move.

You can drag or Shift-click to select more than one icon (or, in any text view, name) to copy.

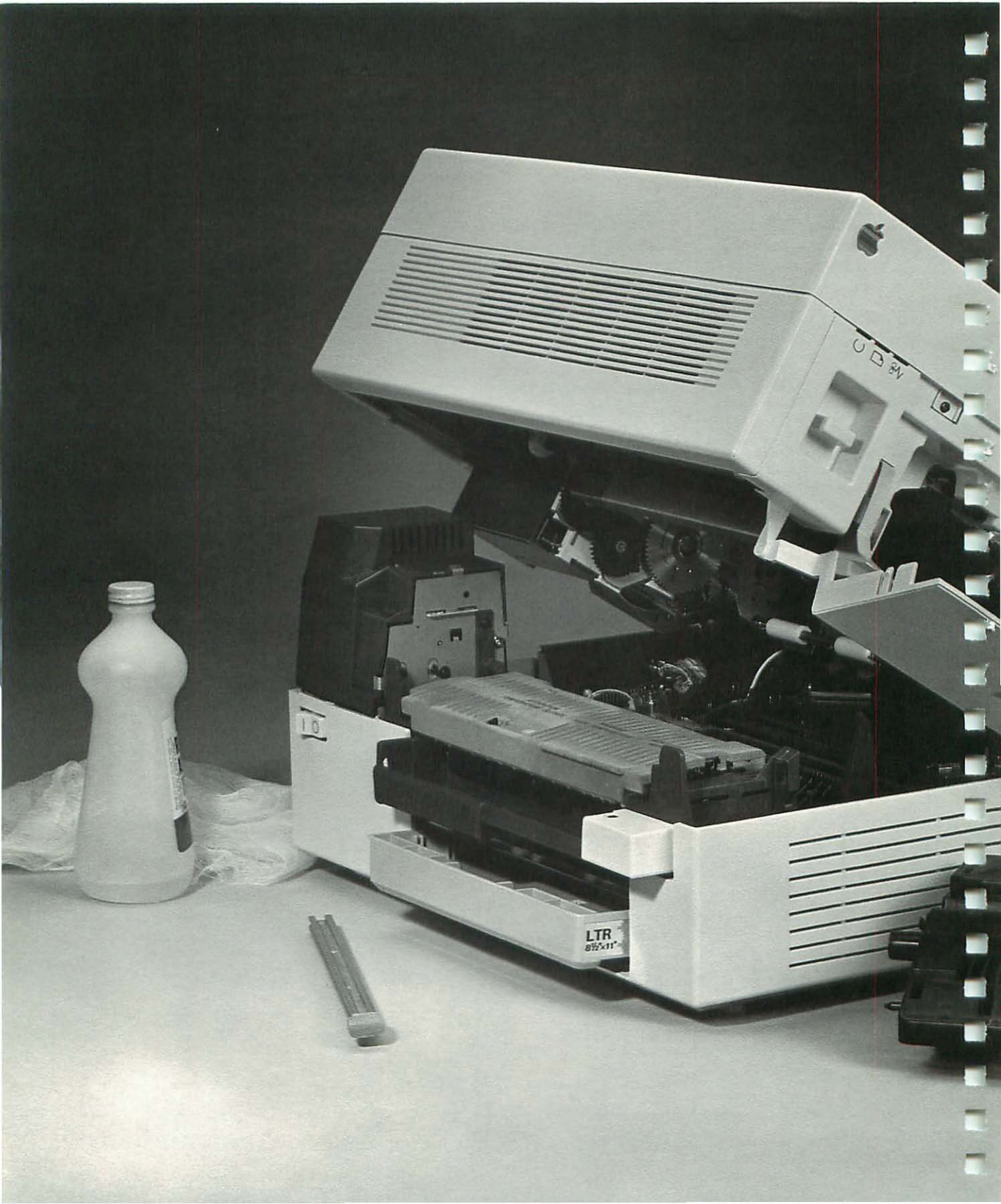
4. Drag the icon to the disk you want to move to.

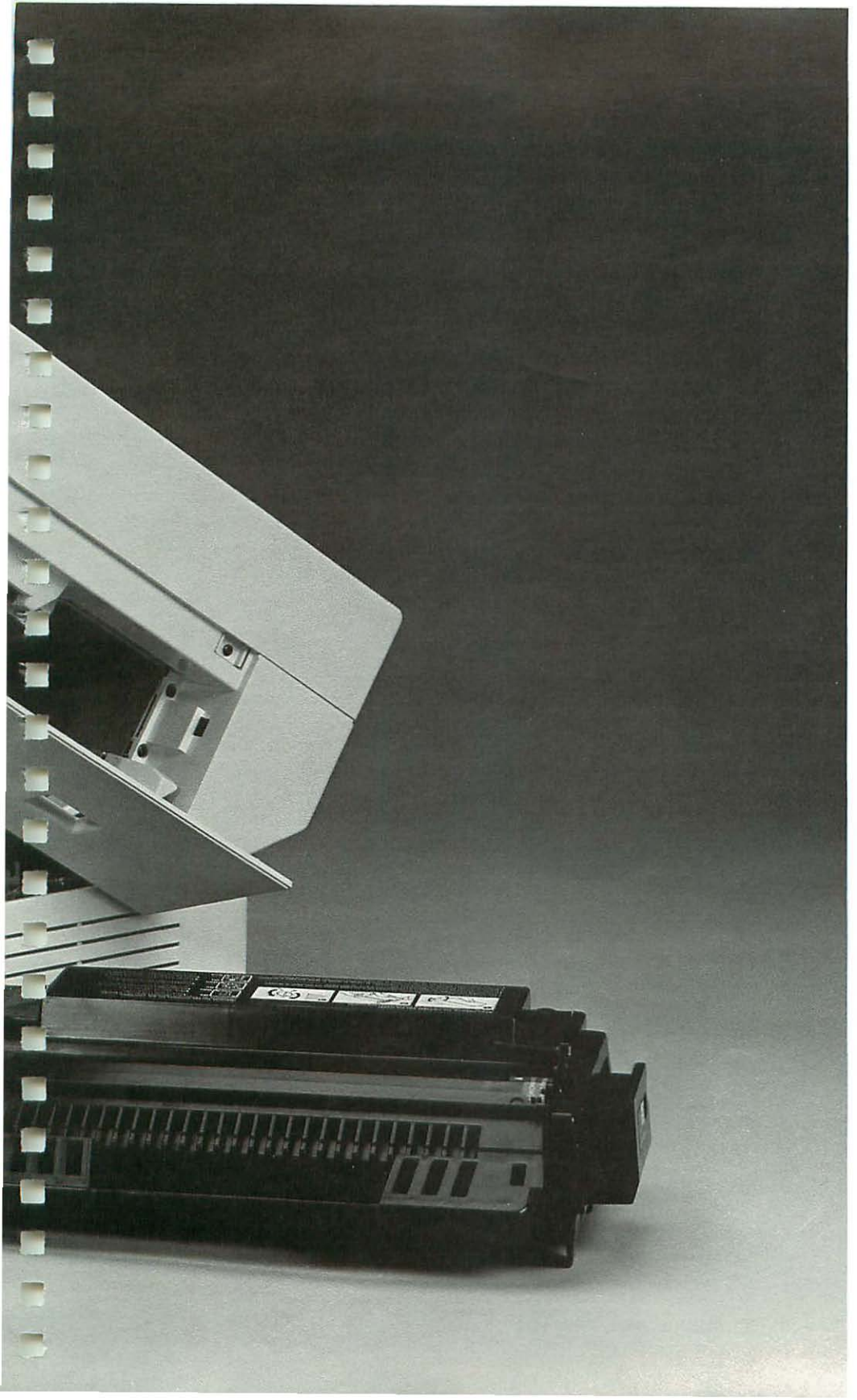
In any text view, drag a name by dragging the small icon to the right of the name. You can drag an icon to an open or closed folder to a disk window, or to a disk icon, including a hollow icon. The disk you're copying to can be arranged by icon or by any other arrangement.

The Macintosh copies the document or application to the other disk. If you're using a one-drive system, you may need to swap disks a few times.

You can also drag the files you don't want to the Trash and choose Empty Trash from the Special menu.

5. Drag the icon left behind on the original disk to the Trash and choose Empty Trash from the Special menu.


LTR
8½"x11"



Chapter 4

Maintenance and Troubleshooting

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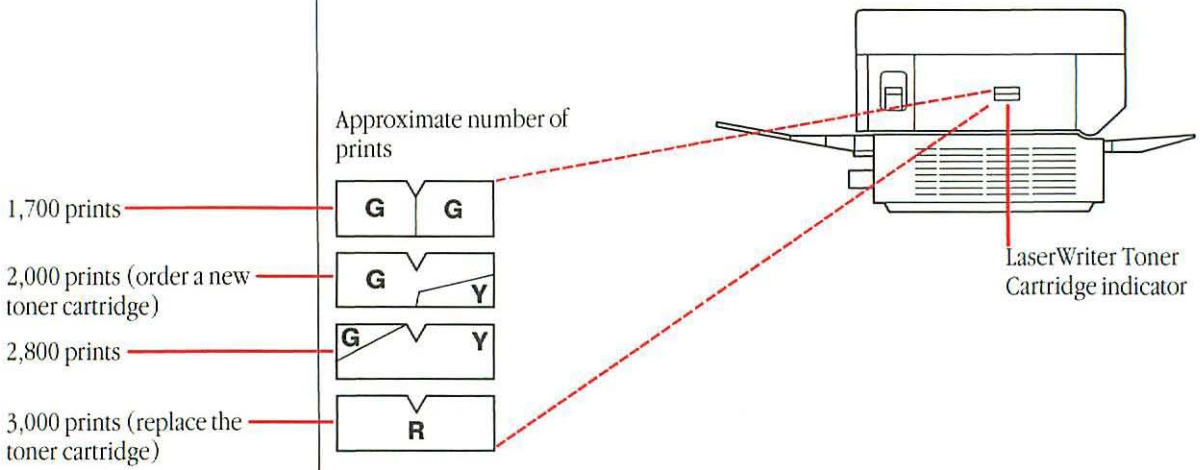
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Taking Care of the LaserWriter

The LaserWriter is designed to print virtually trouble free, giving you clear, crisp printed copy. Regular maintenance involves no more than replacing the LaserWriter Toner Cartridge and cleaning pad (which comes in the box with each new cartridge) every 3,000 copies or so, and doing some minor cleaning.

Replacing the LaserWriter Toner Cartridge

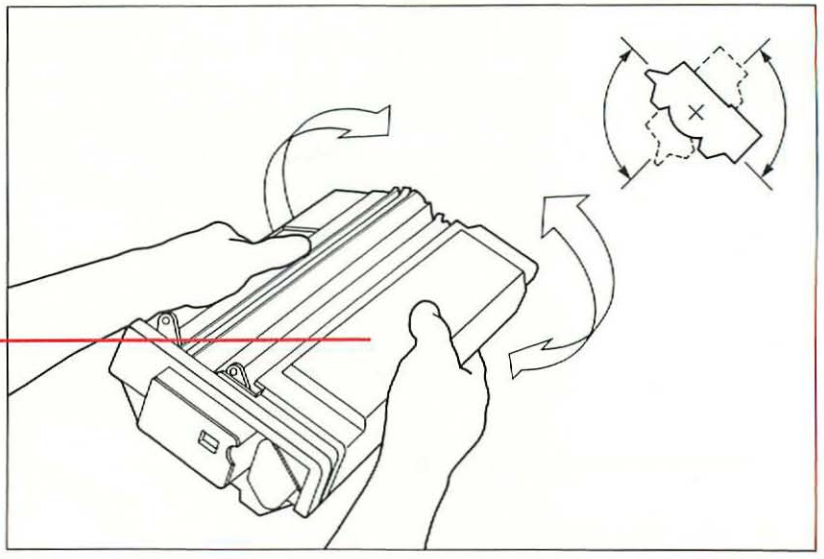
The LaserWriter Toner Cartridge holds the toner—a plastic powder—that forms the images on your printed copy. The cartridge indicator that you see through the front of the cartridge door shows green for a new cartridge, becomes yellow when the cartridge is about half used up, and finally turns to red when the cartridge and cleaning pad are ready to be replaced.



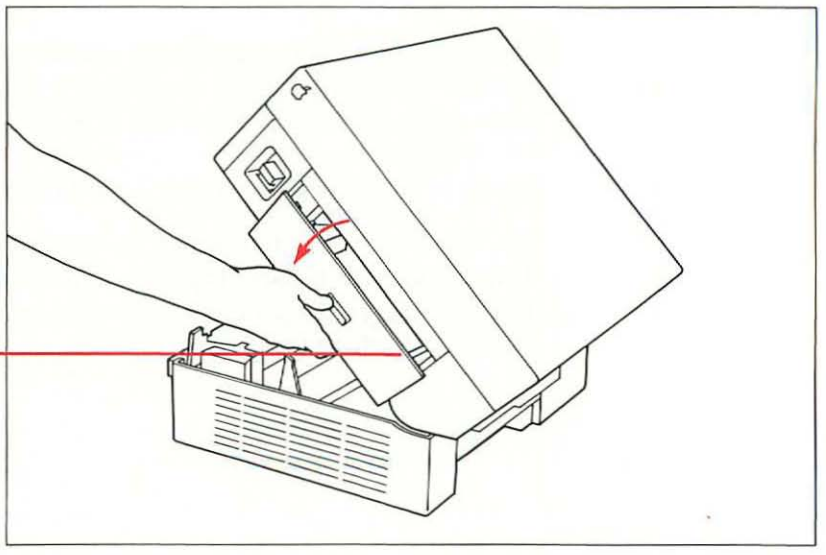
The LaserWriter's cartridge indicator actually reflects the number of prints the cartridge makes and not how much toner is used up. If you're printing many pages of graphic designs or text with large fonts, you'll use up toner faster because these pages take more toner to print than standard text. You may need to replace the cartridge even though the indicator isn't red yet.

When the image on your pages begins to appear too light or when thin vertical white lines appear in dark images, it's time to change the cartridge. You can also try coaxing more prints out of the cartridge by removing it, gently rocking it back and forth, and reinserting it.

- **Remove the new cartridge from its metallic bag, holding it by the handle.**
- **Hold the cartridge horizontally and slowly rock it 45 degrees back and forth about five times to distribute the toner.**



- **Open the upper unit of the LaserWriter by pulling up on the release lever, and then pull the cartridge door open.**



■ **Pull out the old toner cartridge.**

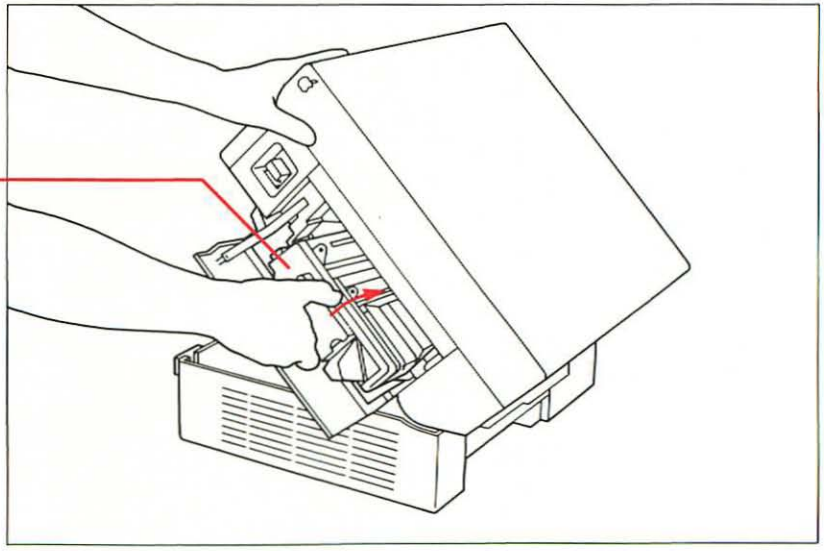
Warning: Don't hold the cartridge on end; the toner will spill out the bottom.

Don't hold the cartridge on end



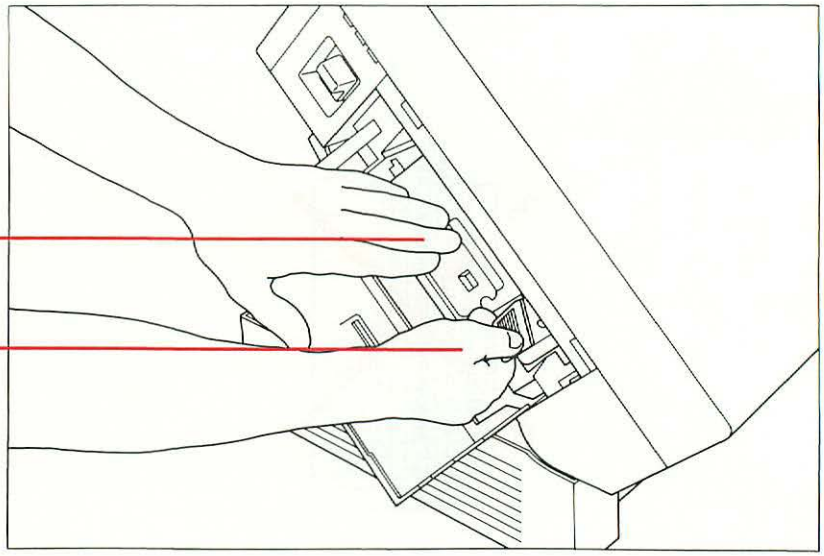
■ **Slide the new cartridge completely into the printer (the end with the small metal disk enters first) until you hear it click into place.**

Slide the cartridge into the printer

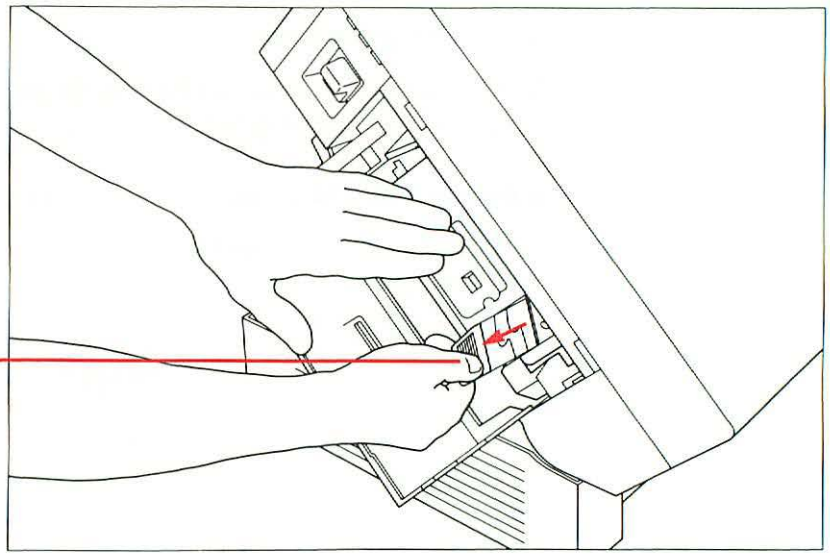


■ **Remove the sealing tape from the cartridge.**

Flex the black tab on the right side of the cartridge until it breaks loose. A transparent tape is attached to the tab.



Pull the tab and the tape out until the tape is completely removed.



If the tab and the tape come apart, take hold of the tape itself and pull it all the way out.

Installing the New Cleaning Pad

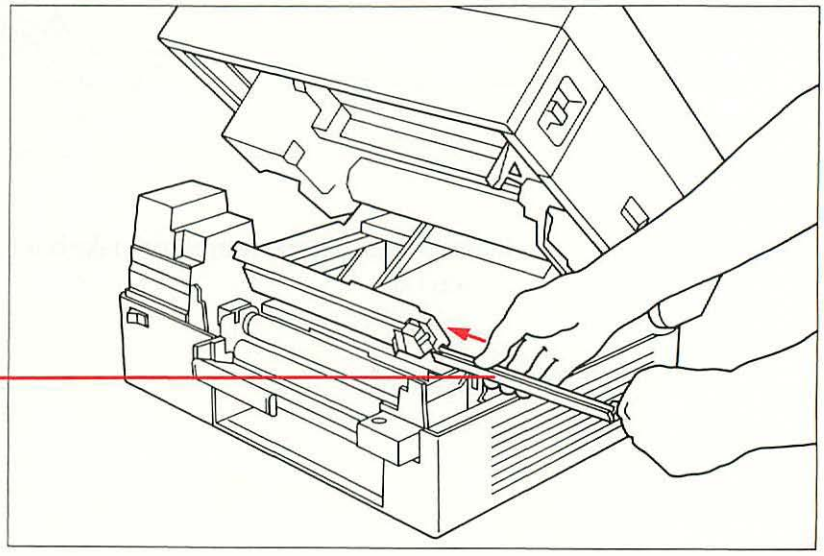
The cleaning pad that comes with the LaserWriter Toner Cartridge keeps the LaserWriter printing mechanisms clean during the printing process.

■ **Open the green cover inside the main unit if it's not open.**

Warning: If the LaserWriter has been on, the green cover may be hot, and the orange rollers *will be very hot.*

■ **Remove the old cleaning pad and insert a new one.**

Notice the cutaway on the top of the green cover where the green end of the cleaning pad fits. Take hold of the green end and slide it out. Slide a new one into the same groove.



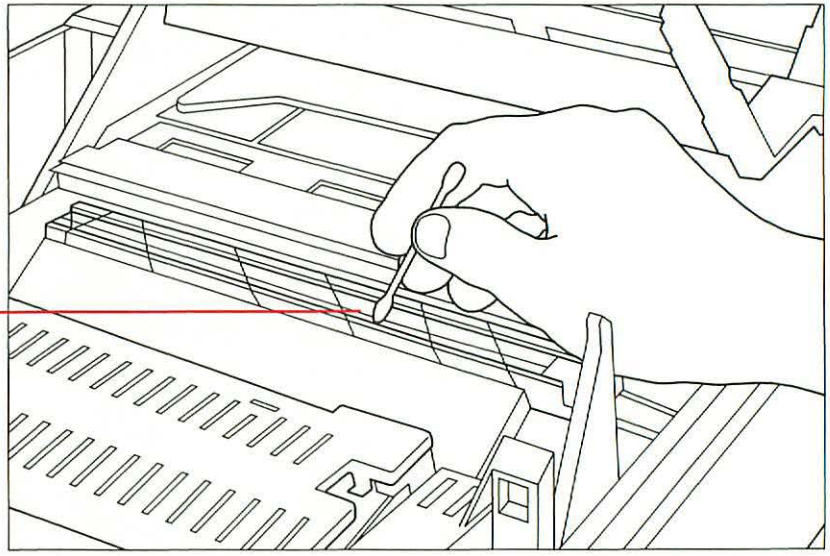
Remove the old and insert the new cleaning pad

■ **Close the green cover.**

After you've installed the cartridge and the cleaning pad, clean the **transfer wire** and **transfer guide** behind the green cover in the main unit.

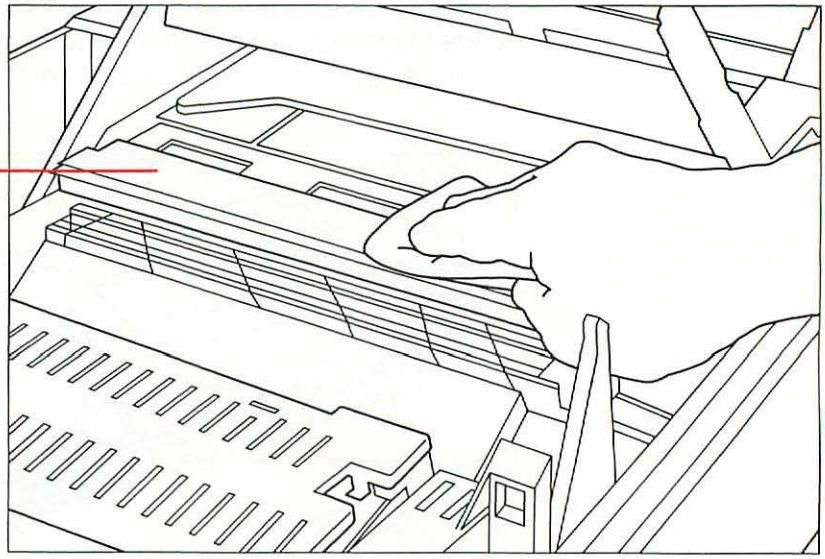
- **With the printer open, dip a cotton swab in isopropyl alcohol and *gently* wipe the transfer wire until there's no residue on the cotton swab.**

The transfer wire is hard to see. It's a very thin wire located under the almost-transparent crossed wires you see in the middle area inside the printer. Be gentle cleaning the wire; it's rather fragile.



■ **Dampen a cloth with water and wipe the transfer guide clean.**

The transfer guide is the brass-colored metal plate located behind the transfer wire.



Cleaning the LaserWriter

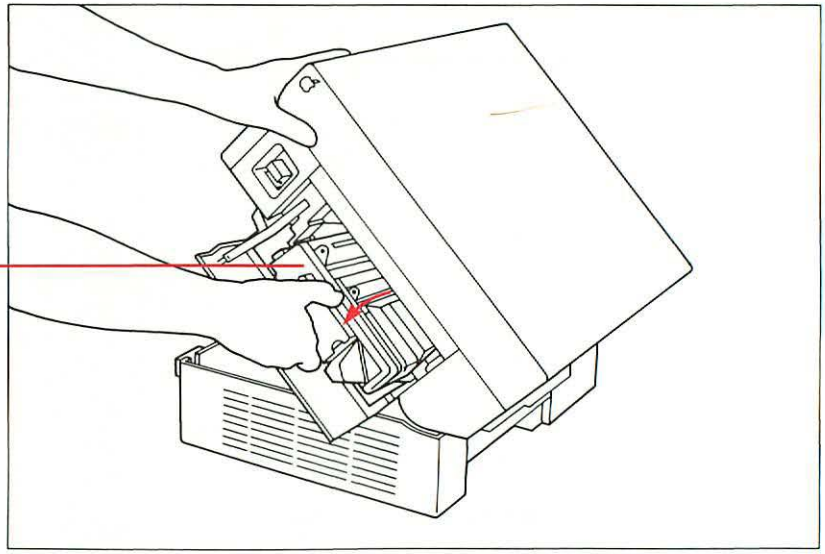
Some parts of your LaserWriter need to be cleaned only occasionally, when the printed page shows stains.

Cleaning the LaserWriter toner cartridge wire.

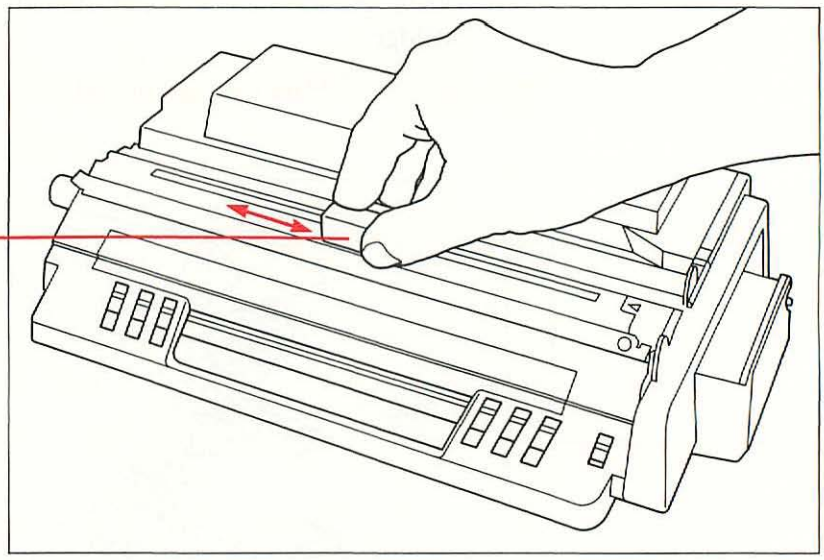
Do the following when you see fuzzy vertical lines on a printed page.

1. With the printer open, pull open the cartridge door and pull out the cartridge.

Warning: Don't hold the cartridge on end; the toner will spill out the bottom.



2. Insert the green **toner cartridge wire cleaner** into the long slot on top of the cartridge and slide it back and forth several times. (The cleaning tool slides along a black protective plastic cover inside the slot.) The wire cleaner is shipped with the LaserWriter (see "Unpacking and Setting Up" in Chapter 1).



Slide the wire cleaner back and forth in the slot several times

3. Put the cartridge back into the printer.

■ **Cleaning the rollers.**

Do the following when you see stains on the back of a printed page.

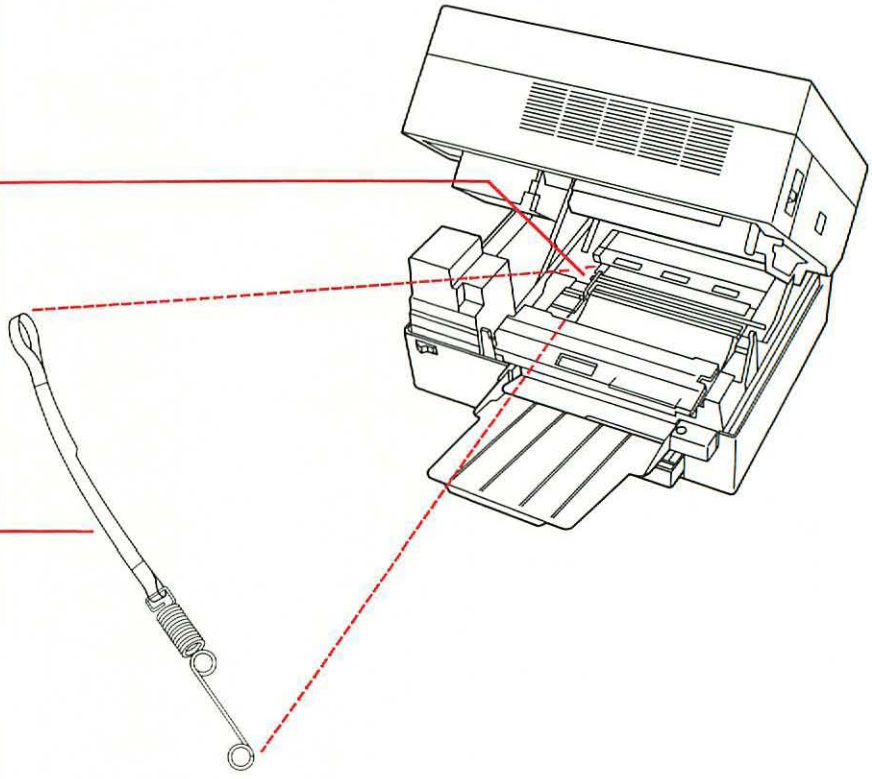
1. Turn off the printer and let the rollers cool off.
2. Open the printer cover and then open the green cover.

Warning: If the LaserWriter has been on, the green cover may be hot, and the orange roller *will be very hot.*

3. Clean the black and orange rollers with a damp cloth and then dry the rollers.

Replacing or Cleaning the Separation Belt

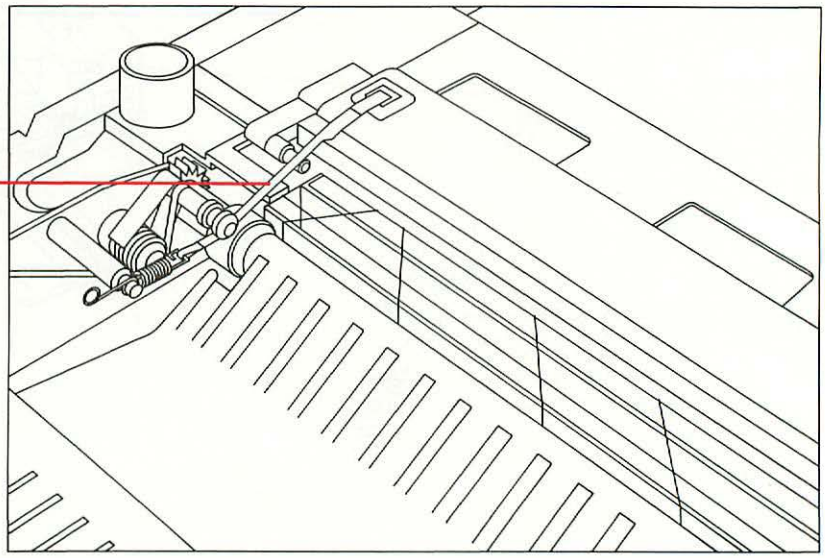
When paper is not feeding properly or is actually jammed in the printer, you can usually solve the problem by replacing the **separation belt**—a small clear plastic strip located inside the printer on the left, behind the green cover.



Follow the steps below and refer to the illustration to see how the separation belt should look when properly installed. If your final effort doesn't look like the illustration, pages won't feed correctly through the printer.

■ **Replacing the separation belt.**

1. Remove the old separation belt by slipping the loop off the handles and sliding it out from under the roller.
2. Take the new separation belt and slip the top loop over the peg at the top. *Be sure the indentation is on the right side.*
3. Pass the new separation belt over the first roller and under the second roller.
4. Hook the bottom loop on the lower handle as shown below.



A properly installed separation belt

■ **Cleaning the separation belt.**

If a black line appears down the right side of your printed pages, you'll need to clean the separation belt.

Remove the separation belt and use a cotton swab or soft tissue dipped in water (not alcohol) to clean it. Then reinstall it.

Troubleshooting

Most of the problems you'll have with the quality of printing on the LaserWriter can be solved by replacing the LaserWriter Toner Cartridge. And most of the problems you might encounter while printing a document can be avoided by observing the following guidelines:

- If you're using more than one disk, always print from a current startup disk that has the LaserWriter installed. The document's application can be on that disk or on a non-startup disk. See Appendix D, "Current Startup Disk," for more information.
- If you're working with both the LaserWriter and the ImageWriter, be sure to install the latest ImageWriter printing resource on your startup disks. See "Adding and Removing Printing Resources From a Startup Disk" in Chapter 3.

The Chooser Isn't Present

If the Chooser isn't present in the Apple menu, your current startup disk doesn't have the LaserWriter installed.

If you're using two startup disks, one with current system software and one with earlier versions, the Macintosh may switch to the startup disk without the LaserWriter printer software, and you may not find the printing resources you expect in the menus—the Chooser desk accessory, the LaserWriter fonts, and the correct Page Setup and Print dialog boxes. The LaserWriter printing resource must be installed on the current startup disk. See Appendix D, "Current Startup Disk."

To check the current startup disk:

- Open the disk in the top-right corner of the desktop. That icon always represents the current startup disk.
- Look for the LaserWriter and Laser Prep icons in the System Folder. If they're not there, install the LaserWriter by using the *Printer Installation Disk*. See "Adding and Removing Printing Resources From a Startup Disk" in Chapter 3.

You automatically install the Chooser when you install a printing resource using the Installer on the *Printer Installation Disk*. If you're a Macintosh Plus owner, you also install the Chooser when you update your startup disks to use with the Macintosh Plus.

You can also move the document or application to a disk that does have the LaserWriter installed, but you must make this disk the current startup disk before trying to print. See "Moving a Document, Folder, or Application From One Disk to Another" in Chapter 3, and see Appendix D, "Current Startup Disk."

The Chooser Won't Open

If you used the Font/DA Mover to put the Chooser on a startup disk, you may get an alert telling you the Chooser is not correctly installed. When you use the Installer to install a printer, the Chooser is automatically (and correctly) installed.

The LaserWriter Icon Isn't Present in the Chooser

- □ If the LaserWriter icon isn't present in the Chooser, you don't have the LaserWriter installed on the current startup disk. See "Installing LaserWriter Printer Software" in Chapter 2.
- □ If you have a Hard Disk 20 and the LaserWriter and Laser Prep files are not in the System Folder with the System file and Finder, drag the files to the folder that contains the System file and Finder.

The LaserWriter Icon Is Dimmed in the Chooser

If the LaserWriter icon is dimmed in the Chooser, one of the following is the problem:

- □ The AppleTalk option is not connected in the Control Panel desk accessory.
- □ The application you're using won't allow you to change the printer type. The application alerts you when you click on the icon.
- □ The version of the LaserWriter printer files on the current startup disk is earlier than 3.0. The Chooser requires version 3.0 or later of the LaserWriter printer software. Update the disk using the Installer on the Printer Installation Disk.
- □ AppleTalk software isn't properly installed. Use the Installer and reinstall the LaserWriter; AppleTalk is automatically installed.

The LaserWriter Isn't Listed in the Chooser

If you select the LaserWriter icon but no LaserWriters appear in the Chooser, then one of the following is the problem:

- ☐ The LaserWriter has been turned off. Check the green light and if it's off, turn on the printer and wait for the test print to be printed.
- ☐ The green test light on the back of the printer is on, indicating the electronics in the printer aren't working. Call your authorized Apple dealer.
- ☐ The mode switch on the back of the LaserWriter is not set at AppleTalk. Check the switch and set it to AppleTalk. See Appendix C, "LaserWriter's Status Lights, Sockets, and Switch."
- ☐ There's a problem in the AppleTalk network somewhere between your Macintosh and the printer you want to use. See "Checking the AppleTalk Network" in this section for how to find problems in the network.

If there's more than one LaserWriter on the network, and if some are listed but not the one you want to use, follow the above checklist for the problem.

The LaserWriter Doesn't Print the Test Page

If the LaserWriter doesn't print the test page, one of the following may be the problem:

- ☐ The LaserWriter isn't switched on.
- ☐ The LaserWriter Toner Cartridge isn't in the printer or you haven't removed the sealing tape.
- ☐ The status lights indicate a problem such as paper jam or out of paper.
- ☐ The green test light on the back of the printer is on, indicating a problem. See the next topic for an explanation of LaserWriter status lights.

The LaserWriter Doesn't Print a Document

Go through the entire procedure for printing (select the printer using the Chooser from the Apple menu, confirm the Print command from the File menu). If you still can't print, check the Mactinosh status messages about the printer and check the LaserWriter itself.

Check the Macintosh status messages

The Macintosh alerts you to the status of the printer as in the following typical example.

```
user name: Lynnea; job: Presentation; status: processing job
```

- User Name—tells whose job is currently printing.
- Job—tells you the name of the document the LaserWriter is printing.
- Status—tells you whether the LaserWriter is idle, processing the job, waiting in the middle of a job for more input, printing (paper in motion), or having a problem such as paper jamming or being out of paper.

If you or someone on the AppleTalk network is using a version of the LaserWriter software different from everyone else's, you'll see a message telling you to update your software.

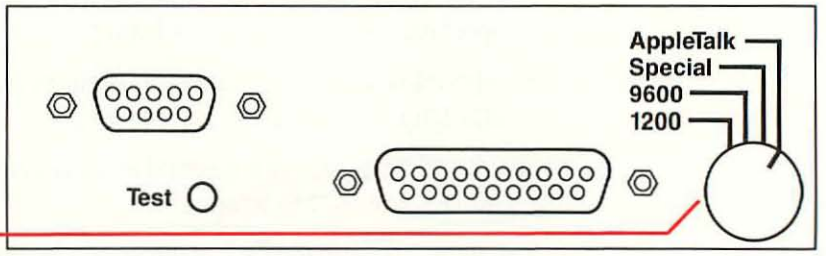
Use the *Printer Installation Disk* to update everyone on the network with the latest version of the printer software (see Chapter 2 for instructions). Then turn the printer on and off again before you print.

Check the LaserWriter status lights

- ☐ No green light—The LaserWriter has no power or the toner cartridge isn't installed in the printer. Check the power switch and the power connections; open the toner cartridge door and check the toner cartridge. See "Unpacking and Setting Up" in Chapter 1.
- ☐ Steady yellow light—The paper tray is empty or not installed. See "Unpacking and Setting Up" in Chapter 1.
- ☐ Steady red light—Paper is jammed in the printer. See "A Paper Jam" in this section for how to clear a paper jam.
- ☐ Test light—Look in the back of the printer below the 9-pin connector and see if a green light, labeled Test, is on. If it is, the electronics in the printer aren't working. Call your authorized Apple dealer or your Apple salesperson.

Green	Yellow	Red	Test	Means	Action
Off	Off	Off	Off	No power or no toner cartridge	Check power cord, On/Off switch
Flashing	Off	Off	Off	Warming up	Wait
On	Off	Off	Off	Ready	Print
On	Flashing	Off	Off	Processing a job	Wait
On	On	Off	Off	Manual feed	Insert paper in feed guide
Off	On	Off	Off	Out of paper	Add paper
On	Off	On	Off	Paper Jam	See page 95
On	Off	Off	On	Electronic failure	Call service; see page 136

Check the LaserWriter mode switch
Be sure the mode switch is set to AppleTalk.



The switch should be set on AppleTalk

Check the LaserWriter Toner Cartridge
Be sure the tab and attached tape have been pulled out of the toner cartridge. See "Taking Care of the LaserWriter" in this chapter.

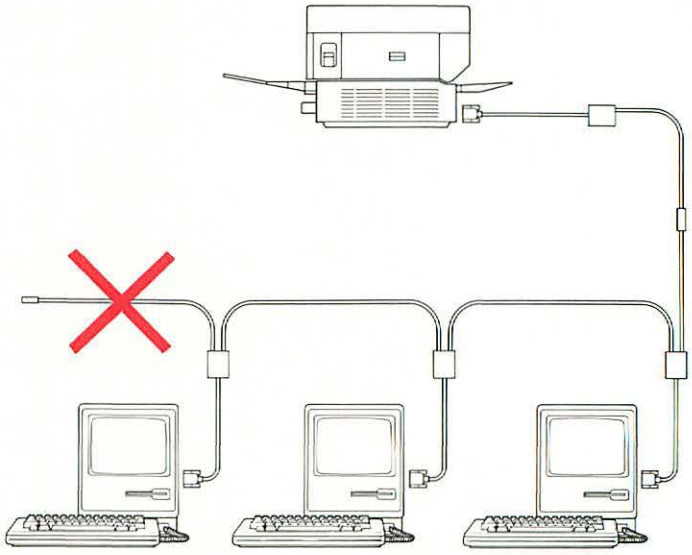
Have the LaserWriter print its test page
Turn the LaserWriter off and on. If it doesn't produce a test page, call your authorized Apple dealer. If it does produce a test page, the problem may be with your document. Try again. If that doesn't work, check the AppleTalk network.

Checking the AppleTalk Network

If you or someone else on the network can't find a LaserWriter in the Chooser after you've selected the LaserWriter icon as the printer type, something is usually wrong on the AppleTalk network between the Macintosh having the problem and the printer.

- ☐ Start with the Macintosh having the problem and check to see that the AppleTalk connection box is firmly attached to the Printer port on the back of the Macintosh.
- ☐ Making the *Printer Installation Disk* the current startup disk, check the Macintoshes on either side of you until you find the LaserWriter in the Chooser.
- ☐ The break in the AppleTalk network is between the computer that shows the LaserWriter in the Chooser and the computer that doesn't show it.
- ☐ At that point, check that the cables are connected to the connection boxes. If the connection is OK, replace the cables because they may be faulty. If that doesn't work, replace the connection box.
- ☐ If you can't identify a particular workstation that has a connection problem, check the layout of the network.

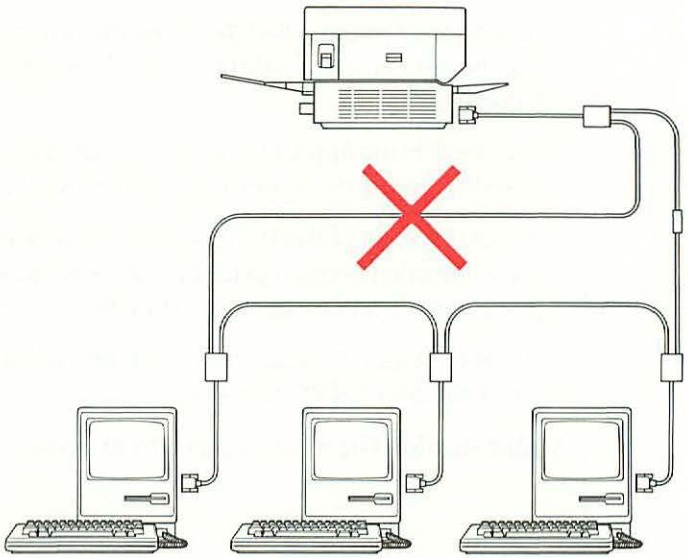
A cable shouldn't be left unattached from a connection box.



Someone may have disconnected a cable and you may be on that part of the network no longer connected to the LaserWriter.

The network shouldn't be connected in a loop.

The first and last connection boxes on the network should have only one cable attached to each.



☐ Check to see if someone's printing on the ImageWriter with an old ImageWriter printing resource.

The network stops working correctly when someone inadvertently prints a document from a disk with an old ImageWriter printing resource installed and has the AppleTalk connection box attached to the Printer port. The old ImageWriter resource tells the Macintosh to send the document to the ImageWriter through the Printer port—and it does just that even though the Printer port now belongs to AppleTalk and the LaserWriter.

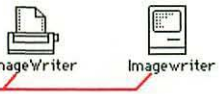
Everyone on the network needs to wait until that Macintosh finishes spewing out every bit of the document through the Printer port; the network will start working again as soon as the document has gone through its unsuccessful "printing" process.

Here are the icons for the different versions of the ImageWriter printing resource.

New ImageWriter resource



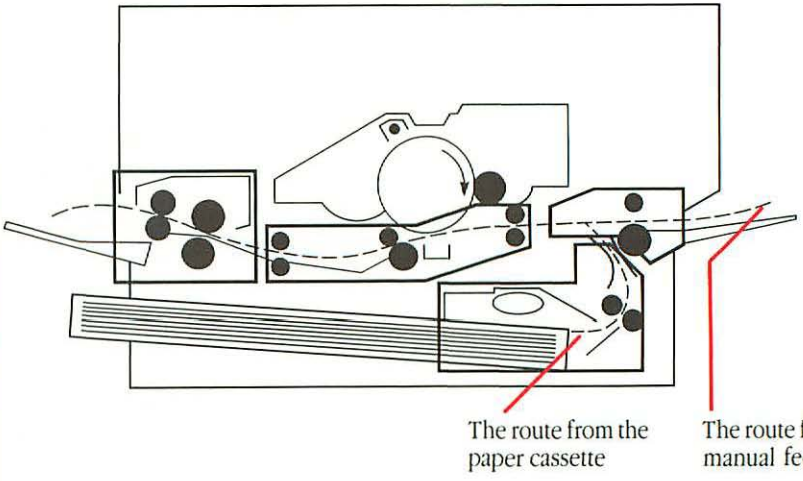
Old ImageWriter resources



Everyone on the network should use the *Printer Installation Disk* to update their startup disks with the most current printer software.

A Paper Jam

Paper feeds through your LaserWriter along a direct, uncomplicated route, and there's little opportunity for paper jams. However, if the paper jams in the printer, remove the jammed paper and then always check the separation belt inside the printer. If the belt is broken or improperly installed, paper won't feed properly through the printer. See "Taking Care of the LaserWriter" in this chapter.

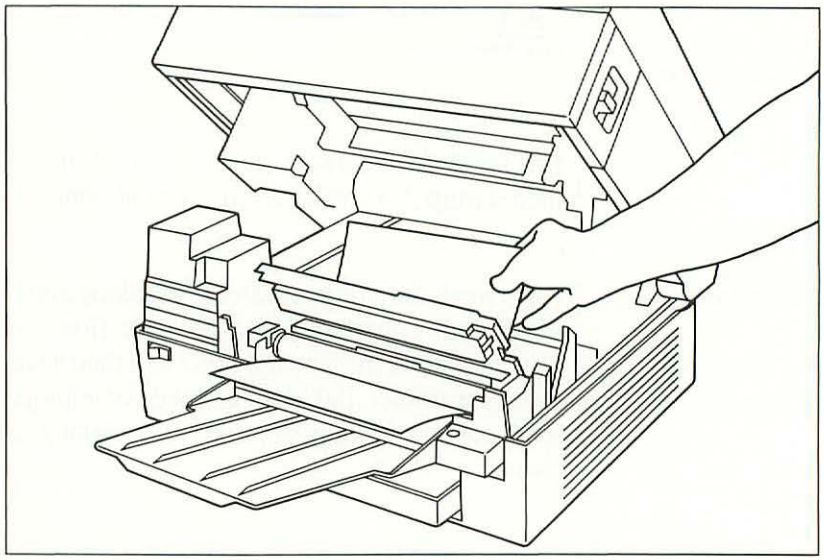


If the red "paper jam" light on the LaserWriter comes on, look for jammed paper in the following areas:

- ☐ Open the cover and look for paper *behind* the green cover or *under* the green cover.

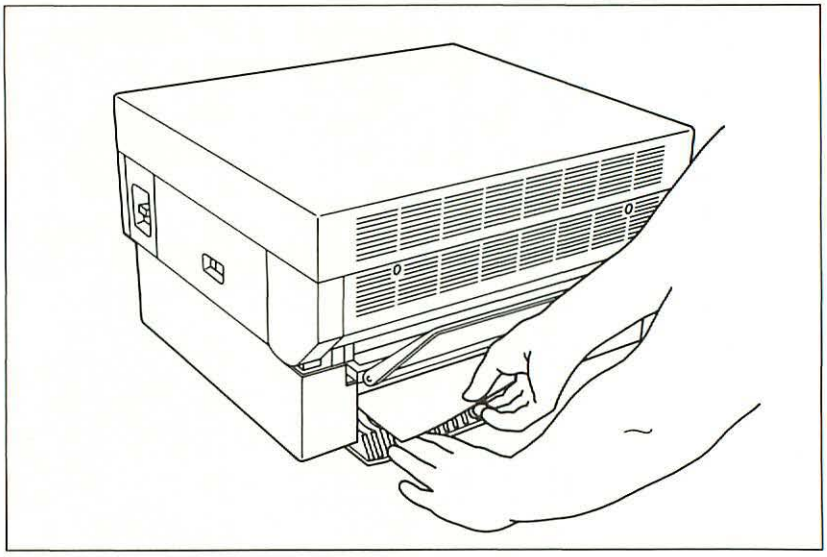
  Remove any paper jammed under the cover by raising the cover and gently pulling the paper from behind the cover, toward the side of the printer.

Warning: If the printer has been on, the green cover may be hot, and the orange rollers *will be very hot.*



If the paper is in the area behind the green cover, carefully pull it out.

□ If you don't find paper jammed inside the printer, open the printer's **rear door** under the manual feed entrance and check there. Pull the paper out of this area and close the door.



□ After you've freed the jammed paper, shut the LaserWriter's top cover, or open and shut it if it isn't open already.

□ When the green light stops blinking, the LaserWriter will continue to print your document, starting with the page that was printing when the paper jam occurred.

Image Problems

When you have problems with the quality of the printing, try the following possible solutions in the order in which they're presented. Where solutions involve cleaning, removing, or replacing of parts, see "Taking Care of the LaserWriter" in this chapter for complete instructions. Where the solution is to use the recommended paper, see "About Paper" in Chapter 2 for more information.

Image Density

Image is too light

- □ Turn the print density dial, located on the back of the printer, one number higher. See "Powering Up" in "Unpacking and Setting Up" in Chapter 1.
- □ If the LaserWriter Toner Cartridge is new, run 100 to 200 copies of a printed page to break in the cartridge.
- □ If the LaserWriter Toner Cartridge indicator is red, replace the cartridge.
- □ If the LaserWriter Toner Cartridge is OK, check to see if the black tab and sealing tape are still in the cartridge and remove them if they are.
- □ Use the recommended paper.

Image is too dark

- □ Turn the print density dial, located on the back of the printer, one number lower.

Black image

- □ Replace the LaserWriter Toner Cartridge.

Blank page

- □ Remove the sealing tape from the LaserWriter Toner Cartridge.
- □ Replace the LaserWriter Toner Cartridge.

Stains on Paper

Stain along the right side of the paper

- □ Clean the separation belt or the area around the belt.
- □ Replace the LaserWriter Toner Cartridge.

Stains on the back of the paper

- □ Clean the area around the manual feed slot with a damp cloth, and then dry the area.
- □ Clean around the area behind the green cover toward the back of the printer with a damp cloth, and then dry the area.
- □ Clean the printer rollers.
- □ Clean the underside of the LaserWriter Toner Cartridge with a damp cloth, and then dry the area.
- □ Replace the cleaning pad.

Toner smears when rubbed

- ☐ Use the recommended paper.

Lines Through the Print

Dark vertical lines

- ☐ Replace the cleaning pad.
- ☐ Replace the LaserWriter Toner Cartridge.

Sharp horizontal black lines

- ☐ Call your authorized Apple dealer.

Fuzzy horizontal lines

- ☐ Replace the LaserWriter Toner Cartridge.

Fuzzy vertical lines

- ☐ Clean the LaserWriter Toner Cartridge wire.
- ☐ Replace the LaserWriter Toner Cartridge.

White horizontal lines (or other shapes) on black background

- ☐ Use the recommended paper.
- ☐ See if the paper is damp. If it is, replace it and check the humidity in your paper storage area.

Thin vertical white lines or stripes

- ☐ Replace the LaserWriter Toner Cartridge.
- ☐ If the LaserWriter Toner Cartridge indicator isn't showing red, remove the cartridge, gently rock it back and forth, and reinsert the cartridge. (Shaking the cartridge may cause it to leak toner. If you notice smears on the prints, remove the cartridge, wipe it with a damp cloth, and then dry it.)
- ☐ Replace the cleaning pad.
- ☐ Clean the transfer wire.

Miscellaneous

Paper excessively curled

- ☐ Use the recommended paper.

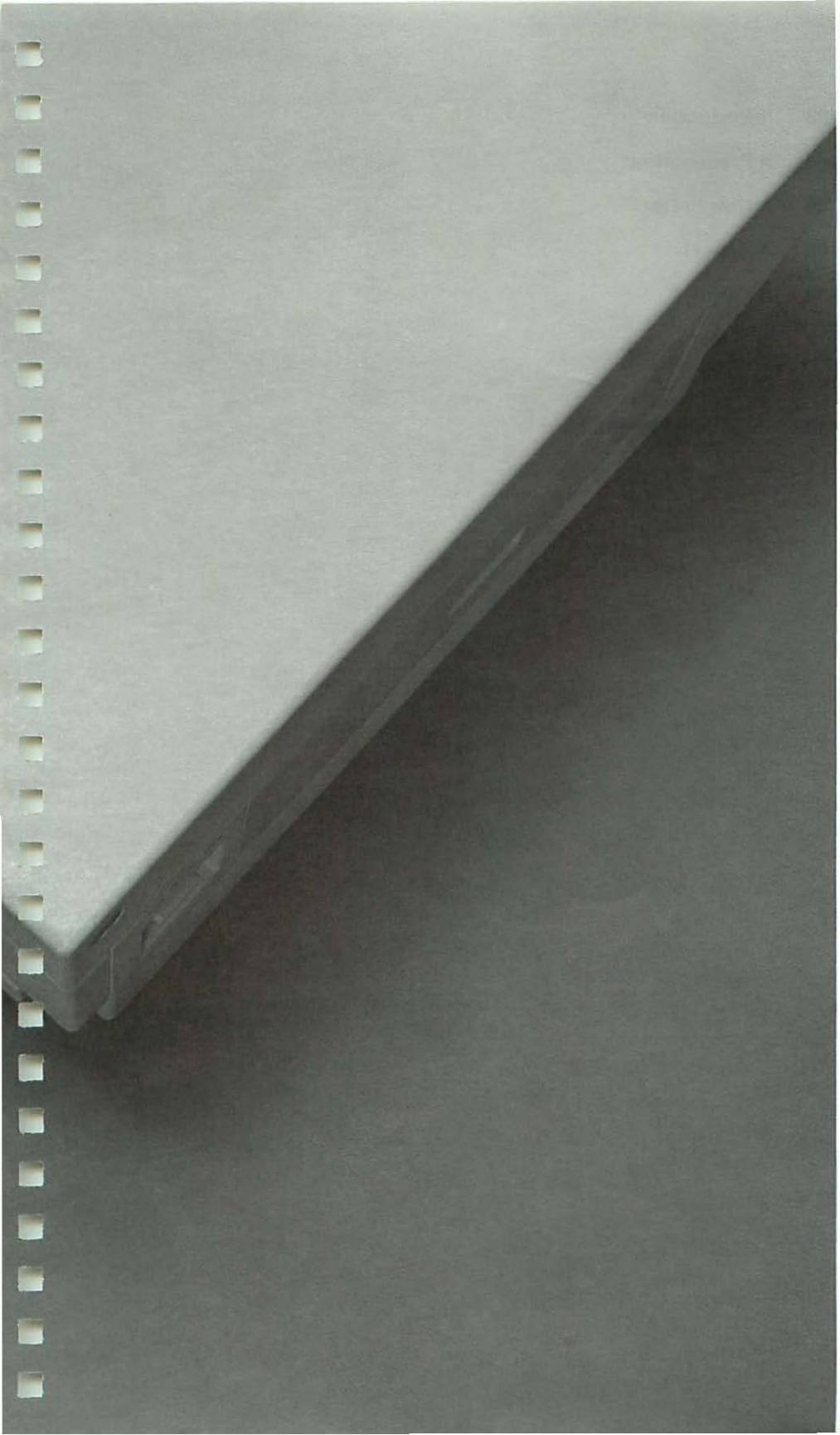
Image is crooked on the page

- ☐ Use the recommended paper.

Wavy or distorted image

- ☐ Call your authorized Apple dealer.

THE WATERMILL
RESTAURANT
The Watermill Restaurants
are now serving up slices
of some very special desserts
Torta di Cioccolata
Cappuccino Cake
Chocolate Toffee Pie



Chapter 5

Designing for the LaserWriter

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104 A Presentation

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112 A Mailer

114 Other Fonts

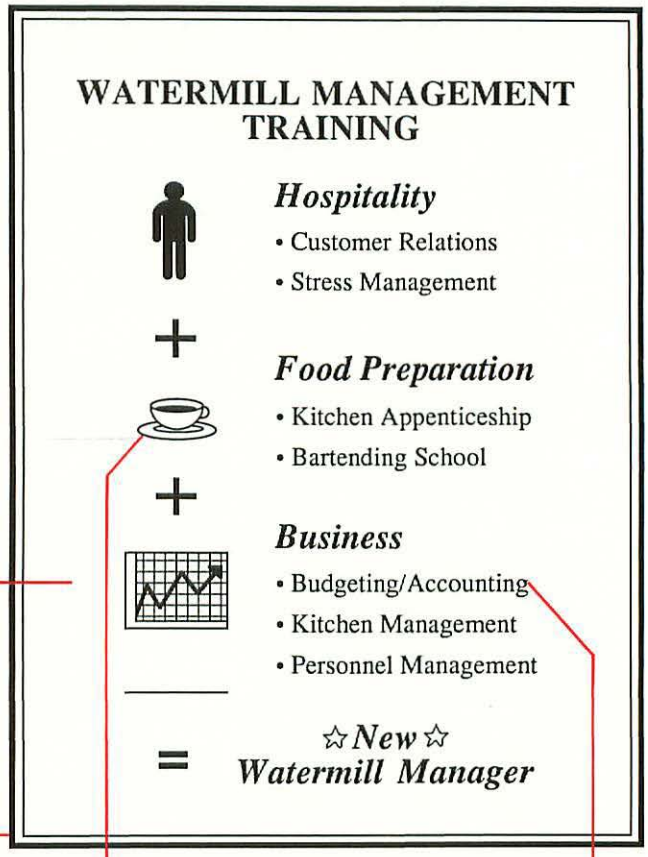
116 Suggested Readings

Introduction

This chapter shows some of the great things you can do with a Macintosh application and a LaserWriter printer. We've used MacDraw from Apple, PageMaker from Aldus, and Excel and Chart from Microsoft®—all available from your Apple dealer—to create the following examples of the Macintosh and the LaserWriter at work. Along with each example are a few ideas about type and design to help you when you begin to experiment on your own.

A Presentation

The LaserWriter can help you make more effective and persuasive presentations. The LaserWriter's high-resolution printing, large type sizes, ability to combine text and graphics, and ability to print directly on transparency material make it ideal for creating presentation materials like the one on the right.



Leave plenty of white space in your layout

One border ties the whole page together; avoid putting too many boxes within boxes

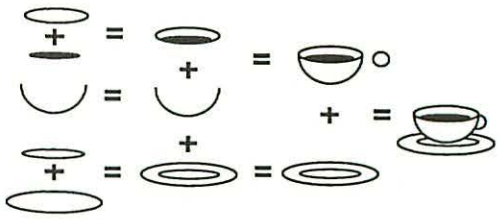
Pictures reinforce the point, and help people remember what you say

For materials to be projected on a screen, use 18-point type, or larger

Notes

In presentations to a live audience, drawings, charts, and diagrams catch people's attention more quickly and communicate your point more persuasively than words. Once you've defined your message, consider how to express it visually.

- ☐ Not too many pictures, though. A few sketches have a greater impact than a dozen elaborate diagrams crammed onto a single page.
- ☐ With programs like MacPaint and MacDraw, you can create simple images that capture the essence of an idea. And you can cut other illustrations out of collections such as those of ClickArt, Mac the Knife, and Art Portfolio™. For instance, here's a coffee cup put together in MacDraw.



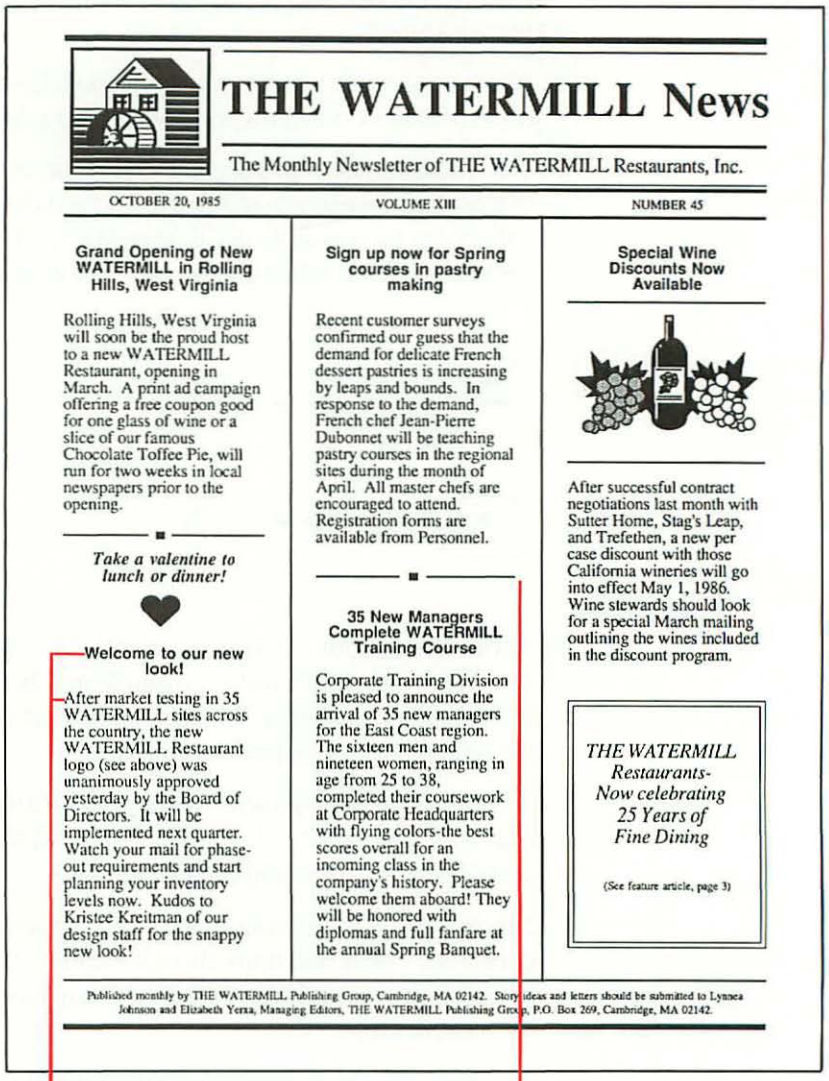
- ☐ Always use an application's alignment tools (such as tabs, margins, and rulers) for best results with the LaserWriter. Because of the LaserWriter's high-resolution printing, something you've aligned by eye may look fine on the screen but crooked when printed.
- ☐ When you're showing a series of transparencies projected against the far wall of a room, less is more. Most audiences can digest about three main points—and under each main point, a few examples.
- ☐ Leave plenty of room around each point. That way, people can distinguish it, concentrate on it, and think about it without distraction. White space is not something to be conquered and filled; it is a friendly environment that sets off your message.

Uppercase letters give weight to a brief headline, but they're not a wise choice for longer messages. That's because it takes readers longer to recognize all uppercase words. An initial capital then lowercase speeds up understanding.

TRAINING Training

A Newsletter

The LaserWriter can help you present a lot of information on a page in clear, readable form. In fact, the LaserWriter's typeset-quality output can contain up to 40 percent more information than a typed page produced on a daisywheel printer, a dot matrix printer, or a typewriter.



THE WATERMILL News

The Monthly Newsletter of THE WATERMILL Restaurants, Inc.

OCTOBER 20, 1985 VOLUME XIII NUMBER 45

Grand Opening of New WATERMILL in Rolling Hills, West Virginia

Rolling Hills, West Virginia will soon be the proud host to a new WATERMILL Restaurant, opening in March. A print ad campaign offering a free coupon good for one glass of wine or a slice of our famous Chocolate Toffee Pie, will run for two weeks in local newspapers prior to the opening.

Take a valentine to lunch or dinner!

Welcome to our new look!

After market testing in 35 WATERMILL sites across the country, the new WATERMILL Restaurant logo (see above) was unanimously approved yesterday by the Board of Directors. It will be implemented next quarter. Watch your mail for phase-out requirements and start planning your inventory levels now. Kudos to Kristee Kreitman of our design staff for the snappy new look!

Sign up now for Spring courses in pastry making

Recent customer surveys confirmed our guess that the demand for delicate French dessert pastries is increasing by leaps and bounds. In response to the demand, French chef Jean-Pierre Dubonnet will be teaching pastry courses in the regional sites during the month of April. All master chefs are encouraged to attend. Registration forms are available from Personnel.

35 New Managers Complete WATERMILL Training Course

Corporate Training Division is pleased to announce the arrival of 35 new managers for the East Coast region. The sixteen men and nineteen women, ranging in age from 25 to 38, completed their coursework at Corporate Headquarters with flying colors-the best scores overall for an incoming class in the company's history. Please welcome them aboard! They will be honored with diplomas and full fanfare at the annual Spring Banquet.

Special Wine Discounts Now Available

After successful contract negotiations last month with Sutter Home, Stag's Leap, and Trefethen, a new per case discount with those California wineries will go into effect May 1, 1986. Wine stewards should look for a special March mailing outlining the wines included in the discount program.

THE WATERMILL Restaurants- Now celebrating 25 Years of Fine Dining

(See feature article, page 3)

Published monthly by THE WATERMILL Publishing Group, Cambridge, MA 02142. Story ideas and letters should be submitted to Lynnea Johnson and Elizabeth Yerxa, Managing Editors, THE WATERMILL Publishing Group, P.O. Box 269, Cambridge, MA 02142.

Use variations of only one or two fonts to make distinctions and add emphasis

Layout programs let you create rules to separate text.

Notes

The LaserWriter produces publication-quality output using fonts designed for both beauty and readability. You've started your font collection with a solid foundation: Helvetica, Times, Courier, and Symbol. Times is great for the body text of reports and newletters; Helvetica works particularly well for headlines, forms, and overhead presentations; Courier gives a typewritten look. The Symbol font offers a mathematical font for the scientific community.

One major difference between fonts are the handles that extend beyond the end of a stroke. These are known as **serifs**. Serifs tend to link one letter to the next, drawing us forward; the variations in the line keep the eye alert. Many contemporary fonts such as Helvetica end without serifs, and are known as **sans serif** fonts. These fonts seem to work best for short, large headings, and for small words and numbers, where serifs might make a blur out of the whole line.



Serif Sans-serif

Spacing, too, can be an important difference between fonts. For instance, to understand why using a font designed to be typeset (such as Helvetica) lets you put more text on a page, look at the difference between the spacing of these two fonts.

```
Rolling Hills, West Virginia will
soon be the proud host to a new
WATERMILL Restaurant, opening
in March.  A print ad campaign,
offering a free coupon good for
one glass of wine or a slice of
our famous Chocolate Toffee
Pie, will run for two weeks in
local newspapers prior to the
opening.
```

Rolling Hills, West Virginia will soon be the proud host to a new WATERMILL Restaurant, opening in March. A print ad campaign, offering a free coupon good for one glass of wine or a slice of our famous Chocolate Toffee Pie, will run for two weeks in local newspapers prior to the opening.

The first, Courier, looks typewritten. The second, Times, looks typeset. The significant difference is in the spacing between letters. Courier is monospaced (every character and space is the same width). Times is proportionally spaced (the space given to each character varies according to the width of the characters), so it can condense much more text into a given area.

A Report

With the Macintosh you can combine text, charts, and images to produce a single page with more information than you could squeeze into several pages of text. And with the LaserWriter you can produce publication-quality output much faster than if you had hired a design team, and paid for someone to lay out type.

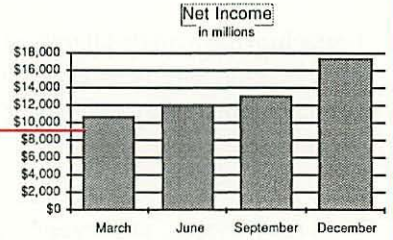
The Watermill Financial Group

To: Executive Staff
From: Jonathan Price
Subject: 1986 Year in Review

Here is the summary of the 1986 numbers. A detailed analysis is attached. Please return your comments as soon as possible.

	A	B	C	D	E
1		Mar-31	Jun-31	Sep-31	Dec-31
2	TOTAL RESTAURANT SALES	$115,600	$125,790	$139,723	$153,660
3	COSTS AND EXPENSES				
4	Cost of Sales	$61,460	$65,035	$71,994	$76,140
5	Operating, G & A (see Note 1)	$32,722	$36,400	$40,542	$42,890
6	Interest (long-term)	$251	$226	$185	$96
7		$94,433	$101,661	$112,721	$119,126
8	Income before Federal Taxes	$21,167	$24,129	$27,002	$34,534
9	Provision for Federal Income Taxes	$10,374	$12,003	$13,902	$16,976
10	NET INCOME	$10,793	$12,126	$13,100	$17,558
11	NET INCOME PER SHARE	$1.08	$1.20	$1.31	$1.76
12	CASH DIVIDENDS	$0.20	$0.20	$0.20	$0.20

(Dollars in thousands, except per share amounts.)



•Note 1. Six restaurants owned by others, including certain directors and officers of the Company, are managed by the Company under contracts entered into in fiscal year 1972. As consideration for managing the restaurants, the Company receives 35% of the restaurants' net operating income as defined in the agreements. The Company compensates the restaurant managers out of its managers fees.

Vertical rules help separate information

Business software such as Microsoft® Chart lets you turn totals into visual forms, such as bar charts

The clean lines of a sans serif font like Helvetica make numbers easier to read, particularly when they're small

Notes

People tend to turn to graphs for a quick grasp of the key facts. Be sure that your graphs focus on vital information, leaving supporting facts in the background.

- ☐ A table, particularly one with vertical rules, helps sort our your figures, while the graph repeats the essential point, in visual form.
- ☐ By taking totals from your spreadsheet, business graphics software lets you create a wide range of charts and graphs, in which you can use textures, shading, and scale to demonstrate the main movement of the figures.

Be sure to use the Macintosh's punctuation characters found in the Key Caps desk accessory. You can use the keyboard equivalents listed below to insert these characters into your text. You can print these characters with the LaserWriter or ImageWriter. See Appendix E for information about Key Caps.

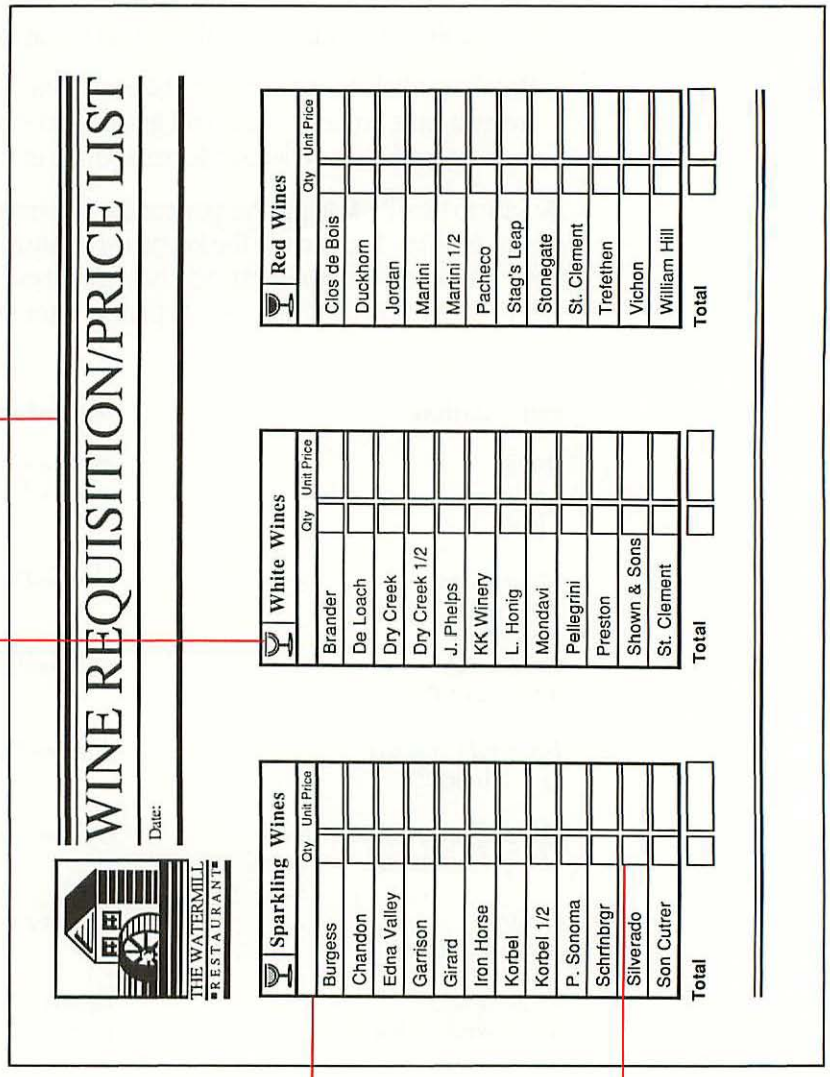
Punctuation	**Macintosh Keyboard Equivalents**
Bullets • Rock • Roll	*Option-8*
Minus Sign 2–3+4=3	*Option-Dash*
Em Dashes This—not that	*Option-Shift-Hyphen*
Inverted Commas Go 'Niners'!	*Option-] and Option-Shift-}*
Opening and Closing Quotes "Stop!" cried Hal.	*Option-[and Option-Shift-{*
Ellipsis And so it goes...	*Option-;*
Copyright© *Registered trademark®*	*Option-g* *Option-r*

A Form

You can make office forms that suit your special needs by designing them in-house and producing the master on the LaserWriter. The LaserWriter's publication-quality fonts let you pack a lot of information onto a page.

The LaserWriter can print your forms upright (like a business letter) or sideways (spread out horizontally on the page)

Adding an icon can make a category clear at a glance



Separating material into specific areas makes it easier for people to find their way through your form

People find it easer to check something off than to write it in

Notes

When you design a form, group the individual questions or topics into several meaningful categories, then set those categories apart visually so that people can quickly figure out what to fill in and where.

☐ Rules (lines) and boxes help set apart categories—and visual icons make them even more distinct.



☐ Include a title for each grouping. The title should probably be in a differenct weight or size from the text of the individual entries.

In type, size is measured in points. 72 points make up a font one inch high, measured from the lowest descender (the hanging part of a lowercase *y*) to the highest ascender (the top line of an uppercase *T*).



☐ We usually distinguish importance by size, so experiment with larger sizes for your main titles and labels.

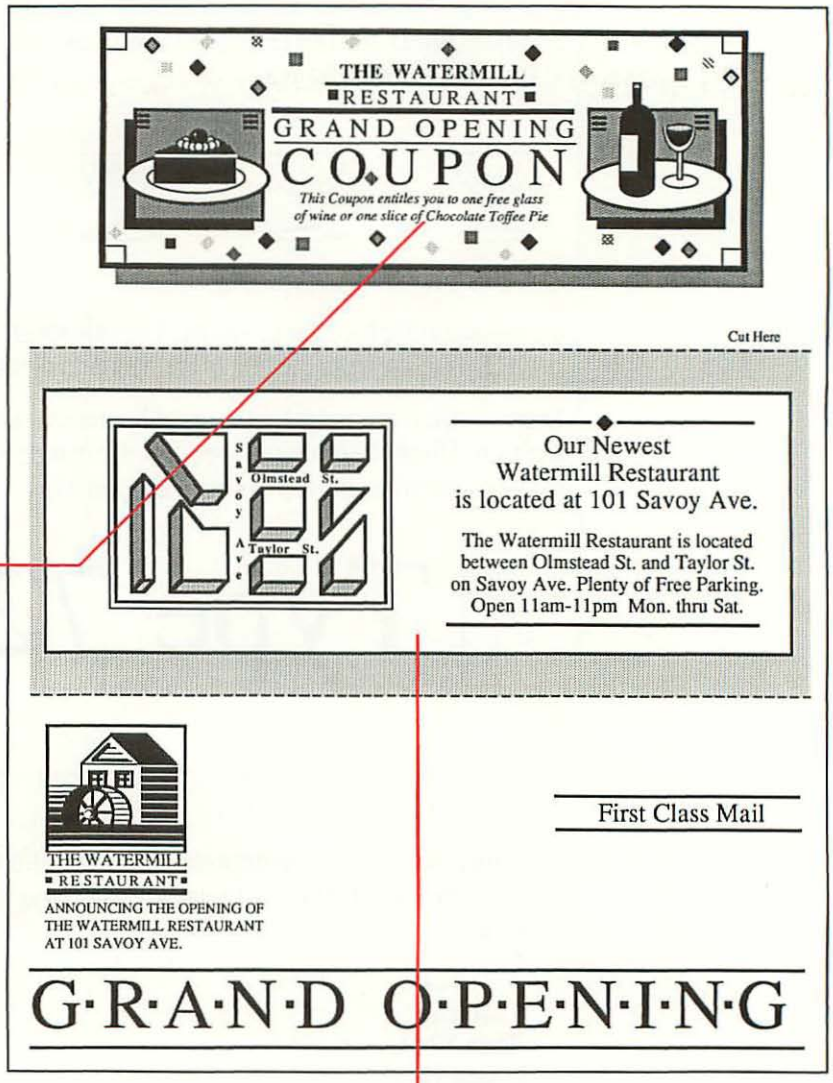
☐ Regular text, being less important than the title, reads well at smaller sizes. The same size in different fonts may look larger, wider, darker, or more ornate.

Times 9 pt.
Times 10 pt.
Times 12 pt.
Times 14 pt.
Times 18 pt.
Times 24 pt.
Times 48 pt.

A Mailer

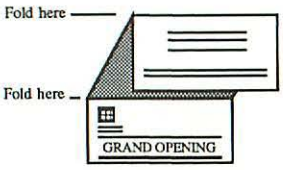
With Macintosh applications such as MacPaint or MacDraw, you can develop your ideas, experiment with design, and perfect the layout of mailers like the one shown here. The LaserWriter turns your work into camera-ready copy that can go directly to instant printing, or to a more sophisticated printing process.

Using a different style of the same font—Times in italic—creates a varied yet consistent look



Centering both text and graphics keeps all elements of the mailer consistent

Notes



Any kind of advertising, such as the mailer on the left, a display ad or a newspaper, or a full-page ad in a magazine, needs strong graphics to catch the eye, a clear division into parts so readers know where they are, and a consistent approach (one or two fonts, no more) to tie the whole thing together.

- ☐ The big news on the mailer is the grand opening—announced in bold letters across the front of the address section; the next most important item is the coupon, with its images of what you can get; and the least important item is the map (unless you're lost). Notice how the type declines in size from the most to the least significant message.
- ☐ Changing the weight, size, and style of type *within a word or phrase* calls attention and adds interest.

*F*ormal

*C*elebrate !

GRAND
OPENING

- ☐ Of course, because the Macintosh comes with a wide variety of fonts, font styles, and sizes, it's easy to get carried away with all the possibilities. But a cluttered design may distract readers from your message.

Our Newest Watermill Restaurant
is located at *101 Savoy Ave.*

- ☐ Generally, try not to use more than two fonts on a page. Use type styles sparingly, too.

Other Fonts

The LaserWriter Plus Kit brings you some of the finest fonts used in publishing.

When comparing one font with another, take a passage that requires boldface, plain text, and italics, all from the same typeface. Watch how the different styles fit together—or fall apart—as you set the passage in different typefaces.

Each font establishes its own mood, implies something about you and your tone. As you experiment with each font, you'll probably notice how your favorite magazines and books use these fonts, and how they affect your evaluation of what you read.

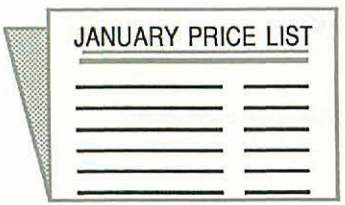


ITC AVANT GARDE

This perfectly geometric face has a clean, modern look to it that works particularly well in big, bold headlines. Avant Garde is well-suited to ad and presentation headlines.

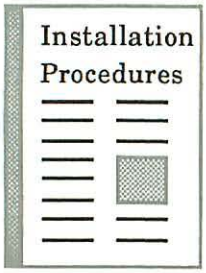
ITC BOOKMAN

Bookman's full, round shape makes it an easy-to-read, informal text face. Try using Bookman for the text, Avant Garde for the headlines, and you've got a great-looking combination for brochures and flyers.



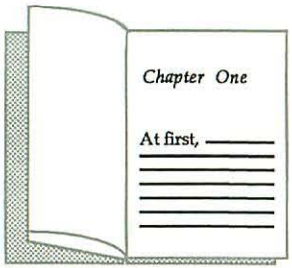
HELVETICA NARROW

Every retailer's dream is to update price lists and catalogs as needed, without the expense of pasteup and typesetting and the risk of introducing typographical errors. Use Helvetica Narrow to pack lots of information in minimal space; the LaserWriter lets you change as often as necessary!



NEW CENTURY SCHOOLBOOK

As its name suggests, this typeface has long been used in school textbooks. One of the workhorses of type, this readable face is perfect for any publication with lots of copy—newsletters, manuals, reports, internal memos.



PALATINO

This simple, elegant typeface with chiseled edges is reminiscent of the work of ancient stonecutters. Palatino lends a certain solid dignity to any formal publication—books, executive reports, formal proposals.

You are cordially invited . . .

ITC ZAPF CHANCERY

Need an invitation to a fund-raiser? An elegant way to say thank you to the Board of Directors? ITC Zapf Chancery gives you an in-house calligrapher. The perfect typeface for any work that requires a hand-lettered look – invitations, menus, agendas, bulletins.

ITC ZAPF DINGBATS

A delightful collection of starbursts, bullets, boxes, and other fancy stuff, ITC Zapf Dingbats will be sprinkled throughout brochures, in-house memoranda, technical documentation—wherever emphasis is needed.

✿▲❋❖✳✳✎○✳✍✝✗✔✑❑❄❄✳✳⑩❞❺❋❶⑥❽❵❧♠

Suggested Reading

Listed below are a few books and a magazine that may be of interest to you:

- *Communication Arts Magazine*, Richard Coyne, ed. Palo Alto, Calif.
- Ernst, Sandra B. *The ABC's of Typography: A Practical Guide to the Art and Science of Typography*. New York: Art Direction Book Company, 1977.
- Gates, David. *Type*. New York: Watson-Guptill Publications, 1973.
- Kleper, Michael L. *The Illustrated Dictionary of Typographic Communications*. Rochester, N.Y.: Technical and Education Center of the Graphic Arts, Rochester Institute of Technology, in cooperation with Graphic Dimensions in Pittsford, N.Y., 1983.
- Ruder, Emil. *Typography*. Visual Communications Books, Hastings House Publishers, 1981.

Appendixes

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Appendix A

How the LaserWriter Works

The LaserWriter works with laser light, electrical charges, and a plastic powder called toner.

When you send a document to the LaserWriter, the Macintosh sends a description of each page to the printer over AppleTalk. The LaserWriter uses this description to build a picture of the page in its massive memory.

The description is in a language called PostScript, a new industry standard for describing pages. The LaserWriter has a built-in computer that understands PostScript and converts the PostScript description into a bit image from which it prints. (If you're interested in using PostScript to program the printer, see "About This Manual" to order programming information.)

LaserWriter takes this bit image of the page and transfers it to a light-sensitive drum. The drum holds a positive electrical charge when it's rotated. The laser light scans the rotating drum, drawing the picture in its memory on the drum by "neutralizing" the spot where black should be, leaving the surrounding area positively charged where white should be.

The toner is a positively charged powder. When the drum rolls through the toner powder, the positive toner avoids the positive surface of the drum, but sticks to the zero-charged dots. Those toner-filled dots or groupings of dots make up a picture of a page of your document.

The LaserWriter transfers the picture from the drum to paper using those same principles of attraction and repulsion that caused the dots to fill with toner. As the paper enters the printer, the LaserWriter gives the paper a negative charge. Opposites attract: The toner is positive and the paper is negative. When the paper passes over the drum, the dots stick to the paper. Then the paper passes between two heated rollers, which fuse the dots onto the paper at about 200 degrees Celsius, and your perfectly printed document appears in the output tray.

Once the LaserWriter has stored the images in its memory, this process clips along at a rate of about eight pages per minute. The crispness and near-typeset quality of the print is due to the precision of the laser light: it forms 300 tiny, precise dots per inch—that's 6.8 million dots per page.

Appendix B

LaserWriter Specifications and Ordering Information

Marking Engine
Canon LBP-CX laser-xerographic engine.

Controller
Controller hardware contains 12 MHz 68000, ½ Mbyte ROM, 1½ Mbyte RAM, and AppleTalk and RS-232C interfaces.

Print Quality
All text and graphics are printed at 300 dots per inch.

Built-In Fonts
Times, Times Bold, Times Italic, Times Bold Italic; Helvetica, Helvetica Bold, Helvetica Oblique, Helvetica Bold Oblique; Courier, Courier Bold, Courier Oblique, Courier Bold Oblique; Palatino, Palatino Italic, Palatino Bold, Palatino Bold Italic; ITC Avant Garde Gothic Book, ITC Avant Garde Gothic Book Oblique, ITC Avant Garde Gothic Demi, ITC Avant Garde Gothic Demi Oblique; ITC Bookman Light, ITC Bookman Light Italic, ITC Bookman Demi, ITC Bookman Demi Oblique; Helvetica Narrow, Helvetica Narrow Oblique, Helvetica Narrow Bold, Helvetica Narrow Bold Oblique; ITC Zapf Chancery Medium Italic; ITC Zapf Dingbats; New Century Schoolbook, New Century Schoolbook Italic, New Century Schoolbook Bold, New Century Schoolbook Bold Italic.

Underline, Shadow, and Hollow styles for the above fonts can also be generated. Supports full international character sets and all Macintosh fonts as downloaded bit maps.

Built-In Font Sizes
Full range of sizes from 4 point up. Limited at the low end by the resolution of the printer and at the high end by the size of the paper.

Speed
Eight pages per minute maximum throughout. Actual performance depends on the specific application.

Interface
AppleTalk and RS-232C.

Printing Protocols Supported
PostScript and a subset of Diablo® 630 command set.

Recommended Duty Cycle
Up to 4,000 pages per month.

Printing Material Feed
Automatic from paper input cassette. Manual single-sheet feed.

Printing Materials
Best results with 16-20 lb, single-sheet photocopy bond. Can use most letterhead and colored stock from 8-34 lb. Can also use standard medium-weight overhead transparency material. Envelopes and labels supported via manual feed.

Printing Material Sizes and Capacity
Supports Letter, Legal, A4, and B5 sizes. Input cassette holds 100 sheets; output tray holds 20 sheets.

Maximum Printable Surface
Letter: The imageable area is 8.0 by 10.92 inches, centered on an 8.5 by 11 inch page.

Legal: The imageable area is 6.75 by 13.0 inches, centered on an 8.5 by 14 inch page.

B5: The imageable area is 7.69 by 10.16 inches, centered on an 8.5 by 11.66 inch page.

A4: The imageable area is 7.41 by 10.86 inches, centered on an 8.25 by 11.66 inch page.

Voltage Consumption (maximum):
15% more than the rated voltage of your LaserWriter (found on the label on the back of the LaserWriter).

Dimensions

Width	18.5 inches
Depth (body only)	16.2 inches
Depth (with trays)	28.2 inches
Height	11.5 inches
Weight	77 lbs.

Power

US Model	115 VAC (± 10 percent) 60 Hz
European Model	220 VAC (± 10 percent) 50 Hz or
	240 VAC (± 10 percent) 50 Hz

Safety and Environmental Compliance
UL 660F listed
CSA LR49439 certified
FCC Class B
BRH certified Class I laser product

Ordering Information

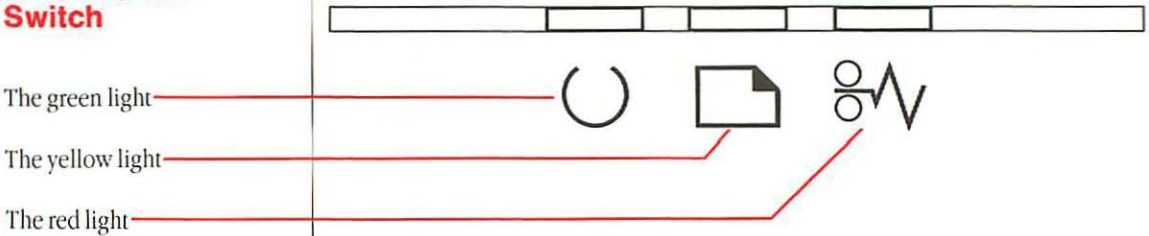
Order Number	Part
M0156	LaserWriter (110V)
M0156Z	LaserWriter (220V)
M0191	LaserWriter Plus Kit
M0180	LaserWriter Toner Cartridge
M0160	LaserWriter + Toner Cartridge
M0181	LaserWriter Letter-Size Paper Cassette
M0182	LaserWriter Legal-Size Paper Cassette
M0183	LaserWriter A4-Size Paper Cassette
M0184	LaserWriter B5-Size Paper Cassette
M2110	AppleTalk Connector Kit (DB-9) Master-Pack
M2010	AppleTalk Connector Kit (DB-9), single
M2052	AppleTalk System Connector Kit, single
M2112	AppleTalk XL Connector Kit (DB-25) Master-Pack
M2012	AppleTalk XL Connector Kit (DB-25), single
M2114	AppleTalk Cable Kit Master-Pack
M2014	AppleTalk Cable Kit, single
M2022	AppleTalk Custom Wiring Kit

Appendix C

LaserWriter's Status Lights, Sockets, and Switch

Status Lights

The LaserWriter's status lights on the front of the printer give you the following information about the state of the printer.



- ☐ Flashing green light—The LaserWriter is warming up.
- ☐ Steady green light—The LaserWriter is warmed up and ready to print.
- ☐ Single flashing yellow light—The LaserWriter is busy processing a job to be printed.
- ☐ Steady yellow light—The paper cassette is empty or not installed, or the LaserWriter is set for manual feed.
- ☐ Steady red light—Paper is jammed in the printer.
- ☐ Green test light (on the back of the printer)—The electronics in the printer aren't working.

Sockets

The LaserWriter has two sockets at the back, a 9-pin and a 25-pin socket.

- ☐ The 9-pin socket is an RS-422 serial port to which you attach the AppleTalk connection box.
- ☐ The 25-pin socket is an RS-232 serial port; you use it to connect an IBM PC or any other device that uses an RS-232 serial port.

Pin Assignments

The signal pin assignments for the 9-pin (RS-422) connector are:

3	Signal ground	
4	Transmit data	+
5	Transmit data	−
8	Receive data	+
9	Receive data	−

This pin assignment is compatible with the Macintosh; therefore, it's possible to connect a LaserWriter directly to a Macintosh using an Apple Modem cable and to communicate with it using MacTerminal.

The signal pin assignments for the 25-pin (RS-232) connector are:

2 Transmit data

3 Receive data

4 Request to send (optional; needed only if host requires it)

7 Signal ground 20 Data Terminal Ready (optional; needed only if host requires it)

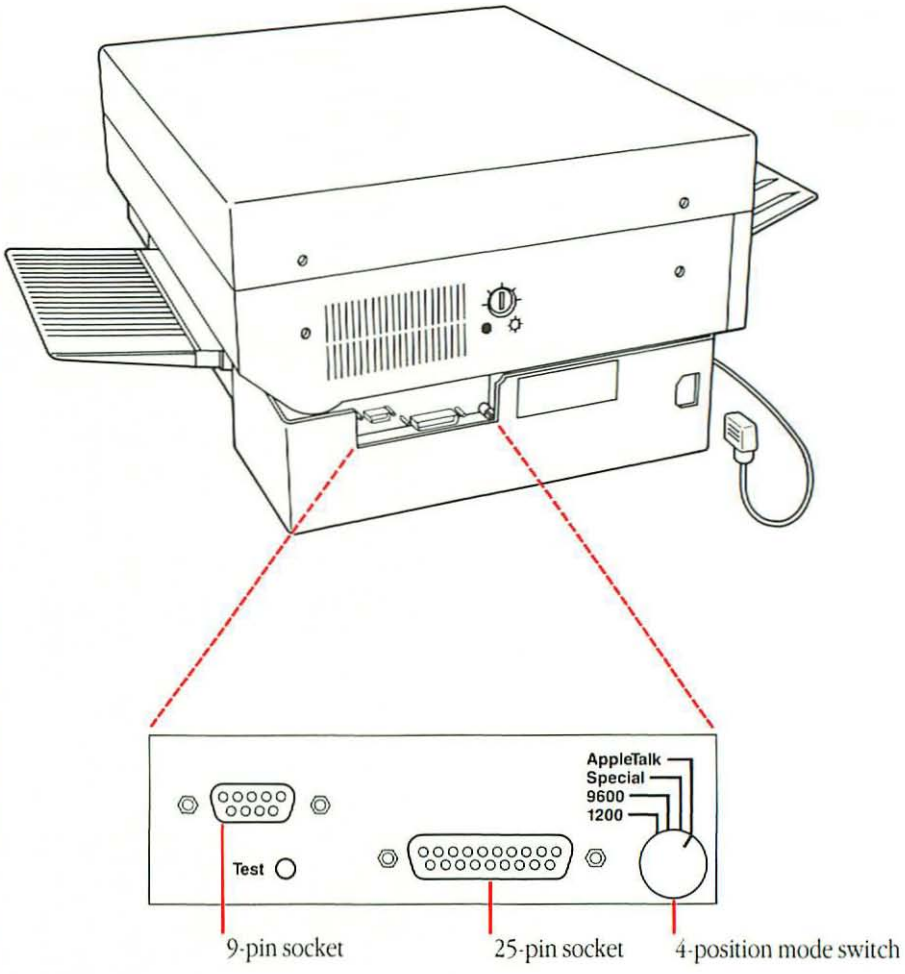
The other signals are not used. Technically, the LaserWriter has a "DTE" type of RS-232 interface. This means it can be connected directly to a host computer or a modem, with no signal reversals required. Connecting to a terminal requires interposing a modem eleminator (null modem) cable, which at a minimum involves reversing the transmit data and receive data signals.

The Mode Switch

The mode switch is preset at the AppleTalk position. As long as you use the AppleTalk connector attached to the 9-pin socket, you won't change this switch. The other positions are used as follows:

- Special—1) makes the printer emulate a Diablo 630 printer when a device is connected to the 25-pin socket; 2) sends PostScript, the LaserWriter's programming language, back and forth between MacTerminal™ and the LaserWriter
- 9600 or 1200—preset baud rates for RS-232/422 communication with either the 9-pin or 25-pin serial connector

Inside LaserWriter, a set of materials published by Apple Computer, Inc., contains information about programming with PostScript and other technical information about the LaserWriter. See "About This Manual" for ordering information.


AppleTalk
Special
9600
1200
Test
9-pin socket
25-pin socket
4-position mode switch

Appendix D

Current Startup Disk

A startup disk is a disk with system files that must include the System and Finder files. (See *Macintosh* or *Macintosh Plus*, your owner's guide, for how to create a startup disk.) The current startup disk is the startup disk whose system files the Macintosh is currently using. The current startup disk contains the printing resources and fonts (in the System file) available to an application. Unless you're using a Hard Disk 20, the current startup disk changes if you work with multiple startup disks. Read the following to understand how the Macintosh determines the current startup disk so you can change it when you want the resources on another one.

When you start or restart the Macintosh, the Macintosh looks for a startup disk in its built-in disk drive. If the Macintosh doesn't find a startup disk there, it looks for a startup disk in attached devices in this order: an external 3½-inch drive, a Hard Disk 20 (starting with the one attached to the Macintosh, if there's more than one), a disk device attached to the SCSI port of the Macintosh Plus.

If you own a Hard Disk 20 and use the *Hard Disk 20 Startup* disk (you haven't upgraded your Macintosh to a Macintosh Plus), the Hard Disk 20 starts as the current startup disk.

The Macintosh switches to a different startup disk when you do one of the following:

- Open an application on another startup disk.
- Open a document that's started by an application on another startup disk. The Macintosh switches to the startup disk containing the application it's starting, no matter where the document is located.
- Hold down the Option key while you open an application on another startup disk.
- Hold down the Option and Command keys while you double-click the Finder icon on another startup disk.

  You're asked if you want to rebuild the desktop; click OK.

Once the Hard Disk 20 becomes the current startup disk on any Macintosh, the startup disk remains current. You can force the Macintosh to switch to another startup disk only by using the third or fourth method described above.

Appendix E

Keyboard Equivalents for the Symbol Font and Zapf Dingbats Font

The keyboards shown below are Macintosh Plus keyboards. On the Macintosh 512K or Macintosh XL the Backslash key (\) is the key to the upper right of the Return key, but it produces the same character. Otherwise, the character keys are in the same position as shown.

Symbol Font

To type a character from the Symbol font, you use the following combination of Macintosh keys:



White = The label of the key on the keyboard
Black = Character produced when you type the key
Red = Character produced by holding down the Shift key while you type the key



White = The label of the key on the keyboard
Black = Character produced by holding down the Option key while you type the key
Red = Character produced by holding down the Option key and the Shift key while you type the key

Zapf Dingbats Font

To type a character from the Zapf Dingbats font, you use the following combination of Macintosh keys:



White = The label of the key on the keyboard
Black = Character produced when you type the key
Red = Character produced by holding down the Shift key while you type the key



White = The label of the key on the keyboard
Black = Character produced by holding down the Option key while you type the key
Red = Character produced by holding down the Option key and the Shift key while you type the key

Using Key Caps

The Key Caps desk accessory now presents the keyboard characters and alternate character sets of a specific font. When you choose Key Caps from the Apple menu, a Key Caps menu appears in the menu bar. The Key Caps menu contains a list of all the fonts installed on the current startup disk. Choose the font you want from the menu. When you copy characters from Key Caps, the characters appear in the Geneva font in your document. You must select the pasted characters and change the font again.

Appendix F

Using the LaserWriter for Non-AppleTalk Products

PC Software That Supports PostScript

If your MS-DOS™ software supports printing to the LaserWriter with PostScript, you can use the following procedure to print via the LaserWriter serial port.

1. Connect the COM1: serial port on your computer to the LaserWriter's 25-pin socket (the RS-232 port) using a modem eliminator cable (Apple part number 590-0029-00).
2. Set the mode switch on the back of the LaserWriter to "9600," and turn on the LaserWriter. Wait for the test page to print.
3. Use the MS-DOS **Mode** command to configure your computer for serial communication with the proper parameters. The following two commands are required:

```
MODE COM1:9600,N,8,1,P
MODE LPT1:=COM1:
```

4. Install your PostScript printer driver. (The printer driver is a program that translates your print files into the PostScript language that the LaserWriter understands.) This installation process varies from application to application. See your application manual for instructions.

Note: It's easiest to perform steps 3 and 4 by including the necessary commands in your AUTOEXEC.BAT file. This will set your computer's appropriate communications parameters each time you start the operating system. (For more information about the AUTOEXEC capability, see your operating system documentation.)

Diablo 630 Emulation

The LaserWriter is capable of printing text intended for the Diablo 630 daisywheel printer. In Diablo emulation mode, the LaserWriter accepts documents with Diablo formatting commands and produces printed copy. The emulation is primarily for printing output from software packages (IBM-compatible) that do not directly support PostScript, the LaserWriter's programming language. Courier 12 Point is the only font the LaserWriter supports in the Diablo 630 emulation mode.

To invoke the Diablo emulator:

1. Set the mode switch on the back of the LaserWriter to the "Special" position.
2. Connect one of the LaserWriter's serial ports (9-pin or 25-pin sockets) to the host's RS-232 interface with a modem eliminator (null modem) cable.
3. Switch on the LaserWriter. You will not receive a test page.
4. Start the IBM with DOS (the disk operating system). Use the Mode command to configure your computer for serial communication with the proper parameters. The following two commands are required:

```
MODE COM1:9600,N,8,1,P
MODE LPT1:=COM1:
```

See the note in the previous section about using these commands in an AUTOEXEC.BAT file.

5. Install the software with the Diablo 630 printer driver.
6. Follow the instructions for the particular application.

The data transfer rate in this mode is 9600 baud using the XON/XOFF protocol and no parity bit.

The LaserWriter emulates the Diablo as closely as possible; however, there are some differences that you should be aware of.

- The LaserWriter does not have any way to detect that the end of a document has been reached other than by noticing that data has stopped arriving. All Diablo printer settings (margins, tabs, spacing, and so forth) remain in effect for about 30 seconds after the last page is processed.

- The LaserWriter actually prints a page when it either reaches the bottom of the page or receives a form-feed character. If the last page of a document is not full and does not have a form-feed at the end, it will not be printed immediately. Instead, it will be printed when the LaserWriter resets approximately 30 seconds later, or as part of the next document (at the top of the first page). When documents are being printed in close succession, make sure that each one has a final form-feed so that documents do not run together.

The following Diablo 630 commands are not supported by the LaserWriter:

- print suppression
- HY-Plot
- extended character set
- the ability to download information for print wheels, including program mode
- the ability to override printwheel spacing (for proportional spacing), although the offset for proportional spacing can be changed
- page lengths other than 11 inches
- paper feeder control
- hammer energy control
- remote diagnostic
- backward printing control (note, however, that "reverse printing" is supported)

Sending PostScript via MacTerminal

See "Pin Assignments" in Appendix C.

Appendix G

Radio and Television Interference and Safety Instructions

The LaserWriter generates and uses radio frequency energy. If it is not installed and used properly, that is, in strict accordance with Apple's instructions, it may cause interference to radio and television reception.

Your LaserWriter has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of Federal Communications Commission (FCC) rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation, especially if a "rabbit ear" TV antenna is used. (A rabbit ear antenna is the telescoping rod type usually contained on TV receivers.)

You can determine whether your printer is causing interference by turning it off. If the interference stops, it was probably caused by the LaserWriter.

If your printer does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- ☐ Turn the TV or radio antenna until the interference stops.
- ☐ Move the printer to one side or the other of the TV or radio.
- ☐ Move the printer farther away from the TV or radio.
- ☐ Plug the printer into an outlet that is on a different circuit from the TV or radio. (That is, make certain the computer and the TV or radio are on circuits controlled by different circuit breakers or fuses.)
- ☐ Consider installing a rooftop TV antenna with coaxial cable lead-in between the antenna and the TV.

If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions.

Warning: *Never* try to remove the cover from the main unit. The LaserWriter contains extremely high-voltage components that retain an electrical charge, even after the unit is switched off.

Important Safety Instructions: The LaserWriter is intended to be electrically grounded. It's equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounded AC outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact a licensed electrician to replace the outlet and, if necessary, install a grounding conductor. Do not defeat the purpose of the grounding-type plug.

Appendix H

Service and Support

To help you get the best performance from your system, Apple Computer, Inc., has established a worldwide network of full-support authorized Apple dealers. If you need answers to technical questions or information about product updates, your Apple dealer can help you. Apple's Technical Support organization backs each dealership to ensure prompt and reliable assistance.

If service is required on your LaserWriter or any Apple product, take it to your local authorized Apple dealer. If you have moved, take it to the nearest authorized Service Center. There are more than 2100 authorized Apple dealers and Serivce Centers throughout the world. For the location nearest you, in the United States call (800) 538-9696; in Canada, (800) 268-7282. Or if you prefer, write to

Apple Computer, Inc., Attn: Customer Relations, 20525 Mariani Avenue, Cupertino, CA 95014

Apple also offers the AppleCare® Service Agreement, which keeps your warranty protection in force for an additional year. AppleCare is one of the lowest-priced service packages in the industry, and your AppleCare agreement will be honored at all participating authorized Service Centers within the country of purchase—an added benefit if you relocate. Local service means time saved in getting your Apple system back to work.

You may purchase AppleCare at any time, but for uninterrupted protection, it's a good idea to buy the service along with your system. In addition to providing you with complete coverage, AppleCare purchased along with your system avoids an owner-paid dealer inspection if your warranty has expired. AppleCare is available through your authorized Apple dealer.

Glossary

8-pin mini circular plug
The plug on an AppleTalk connector to attach to a Macintosh Plus.

9-pin plug
The plug on an AppleTalk connector to attach to a Macintosh 128K or 512K. The AppleTalk 9-pin plug actually uses only four pins.

25-pin plug
A standard plug used on an AppleTalk Macintosh XL connector to attach to a Macintosh XL or other accessory. The AppleTalk 25-pin plug actually uses only four pins.

AppleTalk Personal Network
A collection of computers and peripherals such as printers and file servers linked together by means of connectors and cables. Specially designed software allows the devices on the network to send and receive information.

black tab
A tab on the LaserWriter Toner Cartridge that you break to pull out the tape attached to it. The tape seals the toner into the cartridge and must be removed before printing.

built-in fonts
The LaserWriter and the LaserWriter Plus comes with fonts built into the printer, such as Times and Helvetica. These fonts have Macintosh screen versions that you use to create your documents. The LaserWriter substitutes the built-in font for the screen version when you print.

cable
The insulated wire used to carry the AppleTalk network. Apple sells standard cable lengths with plugs attached and bulk cable for custom lengths.

cable extender
A small plastic adapter with an AppleTalk socket on either end that allows you to connect two AppleTalk cables together.

Chooser
A desk accessory that is installed along with the LaserWriter (and new ImageWriter) printer software.

cleaning pad
A part you install with the LaserWriter Toner Cartridge that cleans the rollers used in the printing process.

connection box
A small white box at one end of an AppleTalk connector. Cables plug into the box, allowing network signals to flow through the box.

connector
The piece of equipment consisting of a connection box, short cable, and an 8-, 9-, or 25-pin plug that allows a device to be part of an AppleTalk network.

Cover Page
An option in the page setup command that prints a page identifying your document by title, User Name, date, and time. You set whether the page appears before or after the document is printed.

current startup disk
The disk that has the system files the Macintosh is currently using. Its icon always appears in the top-right corner of the desktop.

desk accessory
"Mini-applications" that are available from the Apple menu regardless of which application you're using.

device
Any piece of equipment that can be attached to a network—a Macintosh, a Macintosh XL, a LaserWriter, a file server, or other peripheral.

disk space
The amount of space available on a disk for storing or processing a document or application.

font
A collection of letters, figures, punctuation, and special characters with a consistent appearance, such as Helvetica.

font family
A font in various sizes and styles.

font file
A file containing fonts, such as the LaserWriter font files on the *LaserWriter and LaserWriter Plus Fonts Disk*. To add or remove fonts from a startup disk, you copy fonts to and from this file to the disk's System file. You can create a new font file with the Font/DA Mover.

Font/DA Mover
An application available on the *LasserWriter and LaserWriter Plus Fonts Disk* that allows you to add to or remove fonts and desk accessories from a disk's System file or from a font or desk accessory file.

font scaling
A feature that allows the Macintosh to create all sizes of a font from one size. Scaled fonts in larger sizes are usually not as attractive as the installed font, and scaled fonts smaller than 9 point may not be readable on the screen. See *installed font.*

Font Substitution option
An option in the Page Setup dialog box (from the File menu) that lets you choose whether or not the Macintosh automatically substitutes LaserWriter fonts for equivalent Macintosh fonts.

installation
The process of adding information to the System file or adding new system files, such as the LaserWriter printing resource, to the System Folder of a startup disk.

Installer
A tool on the *Printer Installation Disk* that installs the LaserWriter and new ImageWriter printer software.

installed font
A font in a specific size that you install with installation software or with the Font/DA Mover.

Laser Prep
A system file installed automatically when you install the LaserWriter printing resource. The first time someone prints after the LaserWriter has been switched on, Laser Prep prepares the printer to work with the Macintosh. Everyone on the network must have the same version of Laser Prep on their startup disks.

LaserWriter Toner Cartridge
A cartridge that contains the toner for the printing process. Only the LaserWriter Toner Cartridge will work with the LaserWriter printer.

Macintosh Plus
A Macintosh with a built-in 800K disk drive and one megabyte of memory. The Macintosh Plus has different ports on the back of the computer and a different version of the keyboard than what's available with the Macintosh 128K and 512K.

Modem port
A socket on the back of the Macintosh marked by a telephone icon.

mode switch
A four-position switch on the back of the LaserWriter that lets you place the LaserWriter in another mode of operation for programming the printer, for emulating a Diablo 630, and so forth.

Namer
When you have more than one LaserWriter, you use this application on the *Printer Installation Disk* to name each LaserWriter.

network
A group of devices linked together that communicate by using the appropriate software.

peripheral device
Any device you attach to your Macintosh to increase its usefulness.

point
A unit of measurement for type. One point equals approximately 1/72 inch. 12 points equal one pica.

print density dial
A dial on the back of the LaserWriter that allows you to change how dark or light the image is on the printed page.

Printer port
A socket on the back of a Macintosh marked by a printer icon. An AppleTalk connector is attached to this port.

printer software
Software needed for printing that includes the printing resource and other related files or information that's installed when you install the printing resource.

printing resource
A program (sometimes called a driver) that translates the file you're printing into the language the printer understands—PostScript for the LaserWriter. A printing resource file is represented by an icon named after the printer. You cannot use a printer attached to the Macintosh unless the correct resource is installed on the current startup disk. Use the Installer on the *Printer Installation Disk* to install the LaserWriter printing resources.

Reduce or Enlarge option
An option in the Page Setup dialog box (from the File menu) that lets you reduce or enlarge the print on a page just as many copiers do.

release lever
The lever on the front of the LaserWriter's upper unit that opens it.

rollers
The rollers (found inside the printer under the green cover) that help in the process of fusing toner to paper. Cleaning them occasionally is part of the normal maintenance of the LaserWriter.

sans serif
Certain typeface designs, such as Helvetica, without an ending stroke on the arms, tails, and stems of characters.

screen fonts
The LaserWriter's built-in fonts have equivalent versions for the Macintosh screen. You use the Installer on the *Printer Installation Disk* to install the screen fonts on a disk along with the LaserWriter's printer software.

sealing tape
See *black tab.*

separation belt
A small, clear plastic belt, located toward the back of the inside of the printer. When it breaks or is improperly installed, paper jams in the printer.

serif
An ending stroke on the arms, tails, and stems of characters in certain typeface designs.

Smoothing option
An option in the Page Setup dialog box (preset On) that makes most MacPaint documents look better.

startup disk
A disk with all the files needed to use the Finder and possibly one or more application programs. See *current startup disk.*

status lights
Lights on the front of the LaserWriter that indicate the status of the printer—on, paper jam, processing a job, and so forth.

status messages
Messages the LaserWriter sends to the Macintosh when you confirm the Print command. The message may tell you the status of your job or alert you to a problem with the printer.

test light
The green light on the back of the printer. When on, it indicates a problem with the printer's electronics.

test print
A print produced by the LaserWriter each time you switch it on.

toner cartridge door
The door on the front of the LaserWriter that you open to insert the LaserWriter Toner Cartridge into the printer.

toner cartridge indicator
An indicator on the toner cartridge that shows through a hole in the toner cartridge door. The indicator's color shows approximately how many times the LaserWriter has printed and turns red when it's time to change the cartridge.

toner cartridge wire
A wire in the toner cartridge necessary for printing that must be cleaned occasionally with the cartridge wire cleaner.

toner cartridge wire cleaner
A green tool shipped with the LaserWriter and found inside the printer toward the front.

toner powder
A special plastic powder in the toner cartridge that serves as "ink" for the LaserWriter.

transfer guide
A brass-colored area behind the transfer wire that must be cleaned occasionally as part of regular maintenance.

transfer wire
The wire inside the printer, in the area behind the green cover, that must be cleaned occasionally as part of regular maintenance.

typeface
See *font*.

workstation
A person's individual work area that includes one or more devices on a network.

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