

Personal LaserWriter 300

User's Guide

Apple Computer, Inc.

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Important

This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. See instructions if interference to radio or television reception is suspected.

Radio and television interference

The equipment described in this manual generates, uses, and can radiate radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with Apple’s instructions—it may cause interference with radio and television reception.

This equipment has been tested and complies with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. These specifications 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.

You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer or one of the peripheral devices.

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

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit from the television or radio. (That is, make certain the computer and the television or radio are on circuits controlled by different circuit breakers or fuses.)

If necessary, consult your authorized Apple dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet, prepared by the Federal Communications Commission: *Interference Handbook* (stock number 004-000-00345-4). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

△ **Important:** Changes or modifications to this product not authorized by Apple Computer, Inc., could void the FCC Certification and negate your authority to operate the product.

This product was tested for FCC compliance under conditions that included the use of shielded cables and connectors between system components. It is important that you use shielded cables and connectors to reduce the possibility of causing interference to radios, television sets, and other electronic devices. For Apple peripheral devices, you can obtain the proper shielded cables from your authorized Apple dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance. △

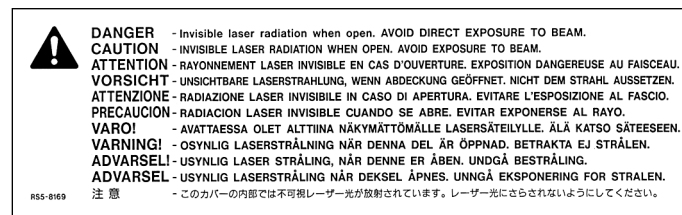
DOC Class B Compliance This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Observation des normes—Classe B Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe B prescrites dans les règlements sur le brouillage radioélectrique édictés par le Ministère des Communications du Canada.

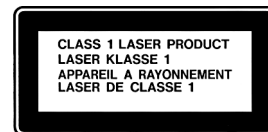
▲ **Warning:** Making adjustments or performing procedures other than those specified in your equipment's manual may result in hazardous exposure. ▲

▲ **Warning:** Do not attempt to disassemble the cabinet containing the laser. The laser beam used in this product is harmful to the eyes. The use of optical instruments, such as magnifying lenses, with this product increases the potential hazard to your eyes. For your safety, have this equipment serviced only by an authorized Apple service provider. ▲

This printer is a Class 1 laser product. It carries a Class 1 label underneath the printer and a service warning label inside the printer.



Service warning label



Class 1 label

About Your Personal LaserWriter 300


The Personal LaserWriter 300 includes many features designed to produce high-quality text and graphics and deliver the performance of higher-priced laser printers. This preface describes the printer's main features:

- **Energy conservation mode** maintains your printer in a standby state that conserves energy by shutting off most of the printer's functions when they are not in use. The printer "wakes up" automatically when you print a document.
- **TrueType fonts** produce sharp characters at any size on the screen or printer.
- **GrayShare software** lets you print grayscale images and share your personal printer with other users on a network.

Energy conservation mode

One of the first things you will notice about your Personal LaserWriter 300 is that it has no power on/off switch. This is because it is equipped with energy conservation mode, an automatic on/off feature that conserves energy by shutting off most of the printer's functions when they are not in use. The printer remains in a standby state.

When the printer detects something to be printed, it "wakes up" and goes to full power. After printing your document, the printer automatically returns to standby.

As long as the Personal LaserWriter 300 is plugged in, it will be on standby. While on standby, the Ready/In Use status light (marked with the icon ) glows steadily. When you send the printer something to be printed, the light will flash and you will hear a fan come on.

The Personal LaserWriter 300 is intended to be plugged in and on standby continuously. There is no need to unplug it, except for maintenance or moving. The printer consumes very little energy when it is on standby—less than 10 watts, about the same amount as a night-light.

TrueType fonts

All fonts supplied with the LaserWriter are TrueType fonts. TrueType is a font technology from Apple Computer that produces sharp characters at any size on the screen or printer.

The disks provided with your LaserWriter contain many widely used font families, including ITC Avant Garde®, ITC Bookman®, Courier, Helvetica®, Helvetica Narrow, New Century Schoolbook, Palatino®, and Times®, as well as four Apple fonts—Chicago, Geneva, Monaco, and New York—and three special-purpose fonts: Symbol, ITC Zapf Chancery®, and ITC Zapf Dingbats®.

The Personal LaserWriter 300 is compatible with all font technologies for the Macintosh, including TrueType, bitmaps, and Type 1 fonts used with Adobe Type Manager.

See “About Fonts” in Chapter 4, “Tips and Troubleshooting,” for more information.

GrayShare

Sharing your printer

With the GrayShare printer software provided, you can either use the Personal LaserWriter 300 as a personal printer available to your Macintosh only, or share the printer with additional users connected to your network.

When you share the printer, it remains connected to your own Macintosh. Network users can see the printer’s name and select it in the Macintosh Chooser like any other network printer. The documents they send to your printer are stored temporarily on your computer’s disk and printed in the order received.

You have complete control over the shared printer. You can turn sharing on or off at any time. You use the Print Monitor program in your Macintosh system software to view and delete the print jobs that have been sent to your printer. Chapter 3 provides complete instructions about sharing.

Printing grayscale

The Personal LaserWriter 300 prints images in more than 30 levels of gray. Grayscale printing produces finer images. Choosing grayscale printing is explained in “Printing a Document” in Chapter 3.

Chapter 1

Setting Up Your Printer

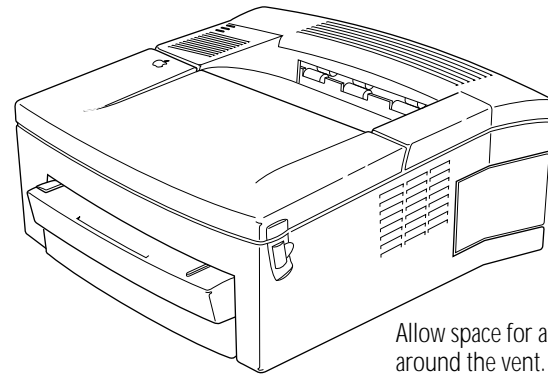
This chapter tells you how to connect the printer to your computer and install the printer software.

△ **Important:** Do not plug the printer in at this time. After you connect the printer to your computer, and install the printer software, you should continue with Chapter 2, “Adding Toner and Paper.” After you add the toner, you can plug the printer in. Plugging the printer in before adding toner can cause a paper jam when the printer starts up for the first time. △

Choosing a location for the printer

Choose a flat, stable surface with adequate room around the printer as shown. The area should be well ventilated and away from direct sunlight or sources of heat, cold, or humidity.

Allow 4 inches (10 cm) at the back of the printer for airflow.



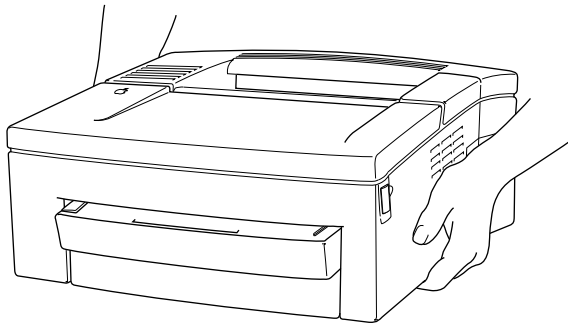
Allow space for airflow around the vent.

Allow 21 inches (52 cm) at the front of the printer to allow access to the paper cassette.

Carrying the Personal LaserWriter 300

To carry the Personal LaserWriter 300, hold it firmly and level with both hands. Holding the printer in positions other than the one shown may cause an accident.

Place the LaserWriter on the flat, stable surface you have chosen.



▲ **Warning:** Never lift the LaserWriter by the front and rear of the cassette, or the face-down delivery tray; otherwise, the printer may drop and be damaged. ▲

Important safety instructions

Always take the following precautions:

- Protect the printer from dampness and sources of liquids.
- Don't use devices that produce open flames, such as Bunsen burners, near the printer.
- Don't use alcohol-based or ammonia-based cleaners on or around the printer.
- Clean the printer with only a damp cloth and, if necessary, a mild soap or detergent. Be careful to avoid getting liquid in the printer or the power cord receptacle.

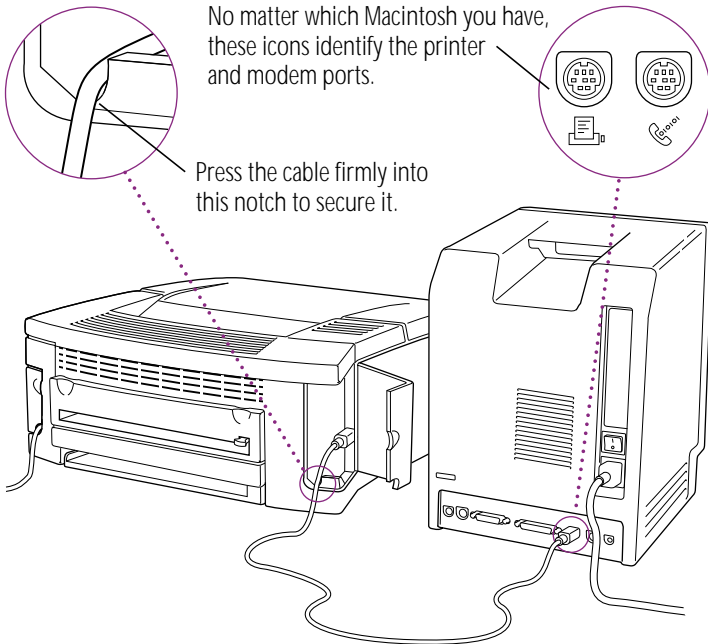
Disconnect the power plug immediately if any of the following situations occur:

- The power cord or plug is frayed or damaged.
- Liquid gets spilled on or into the printer.
- The printer needs cleaning, servicing, or repair.



▲ **Warning:** Electrical equipment may be hazardous if misused. Operation of the printer must always be supervised by an adult. Do not allow children access to the interior of the printer and do not permit them to handle any cables. ▲

Connecting the printer to a Macintosh

To connect the printer, you need an Apple Peripheral-8 cable, part number M0197. The Apple Peripheral-8 cable has special shielding to reduce the possibility of causing interference to radios, television sets, and other electronic devices. If you do not have an Apple Peripheral-8 cable, you can obtain one from an authorized Apple dealer.



Choosing a port

Your Macintosh has a printer port (marked with the icon ) and a modem port (marked with the icon ). You can attach the printer cable to either of these ports.

If your computer is connected to a network, your printer port may already be connected to a network cable. If the printer port is unavailable, you can use the modem port.

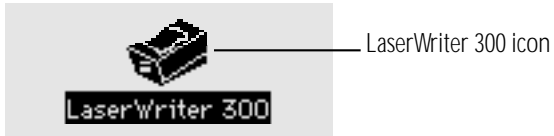
△ **Important:** If your computer is not connected to a network, and you plug your printer cable into the printer port, you must make sure that AppleTalk is inactive in the Macintosh Chooser desk accessory. See “Using the Chooser the First Time You Print” in Chapter 3. △

Installing the printer software

Before you can print, you may need to install the software from the disks that came with your printer. To protect the disks, it is a good practice to lock them before use. See your *Macintosh User's Guide* for information on locking floppy disks.

- ❖ *Is your software already installed?* Some Macintosh computers come with printer software already installed on the hard disk. If your computer has the LaserWriter 300 software already installed, you do not need to install the printer software. ❖

To see if your computer already has the LaserWriter 300 software, open the Apple () menu and choose the Chooser. If the LaserWriter 300 software is on your hard disk, the LaserWriter 300 icon will appear in the Chooser.



If you see the LaserWriter 300 icon, skip this section of this book, and go on to Chapter 2, "Adding Toner and Paper."

System requirements

The printer software can operate on a Macintosh using System 7 with at least 2 MB of memory, or System 6.0.7 with at least 1 MB of memory. Performance is best using System 7 with at least 4 MB of memory, or System 6.0.7 with at least 2 MB of memory.

If your system software is an earlier version, you need to obtain a system software upgrade from your computer or software dealer.

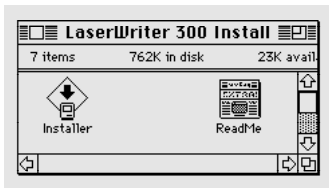
Installation

Before you install the printer software, quit any application programs that may be open. If you have virus protection software, turn it off.

Then follow these steps:

1. **Insert the *LaserWriter 300 Install* disk and open the disk icon.**

A window appears, showing the contents of the disk.



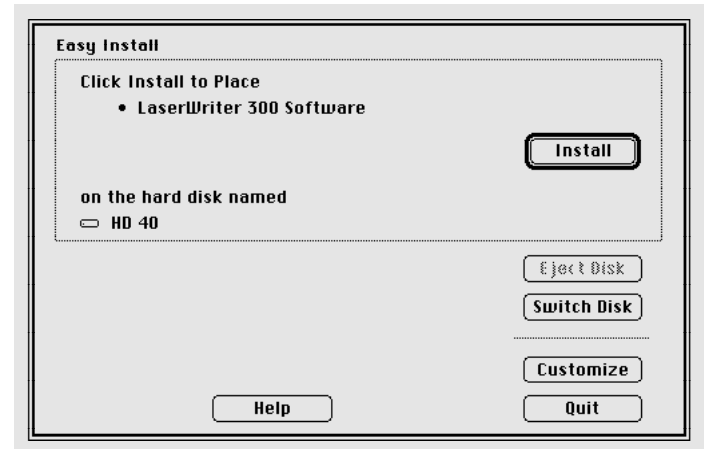
2. **Drag the TeachText icon to your hard disk.**

If you already have a copy of TeachText on your hard disk, you don't need to drag this icon.

3. **Double-click the Installer icon to open it.**

The Installer's Welcome screen describes the items that will be installed on your disk.

4. **Click OK to clear the Welcome screen and display the Easy Install dialog box.**



- ❖ *Installing customized printer software:* These instructions cover the Easy Install process, which is recommended for most Macintosh users. If you click Customize before you click Install, you can select individual items to install from the disks. This is not recommended unless you are an experienced user and know which items to select. ❖

continues ►

5. Make sure that the disk indicated on the screen is the one on which you want to install printer software.

If the wrong disk name appears, click Switch Disk until the correct name appears.

6. Click Install.

If any of your system's application programs are open, a message appears warning you that you must quit the applications before installing the printer software. Click Continue to quit the applications.

Status messages inform you of progress during installation.

7. Insert additional disks when messages on your screen request them.

8. When you see a message reporting that the installation was successful, click Restart.

Go on to Chapter 2 to install a toner cartridge and load the paper cassette, and then to Chapter 3 when you're ready to begin printing.

If you have virus protection software, turn it back on after the installation.

- ❖ *Read the ReadMe file:* The ReadMe file on the *LaserWriter 300 Install* disk contains the latest information about your Personal LaserWriter 300. Double-click this file to open and read it; then choose Quit from the File menu to close it. ❖

Chapter 2

Adding Toner and Paper

This chapter tells you how to install a toner cartridge into the printer and load paper into a cassette.

△ **Important:** If you are setting up your Personal LaserWriter 300 for the first time, please add toner and paper *before* you plug your printer into an outlet. Otherwise, a paper jam may occur when your printer starts up. △

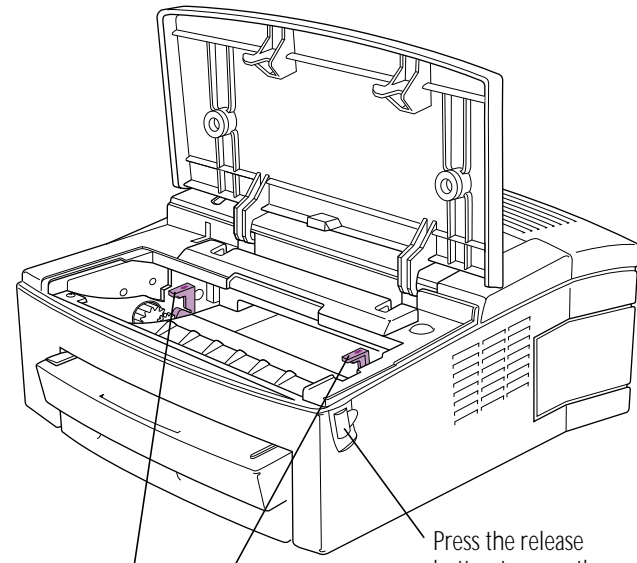
Removing the plastic shipping restraints

If you are installing a toner cartridge for the first time, you must remove the two orange plastic shipping restraints from inside the printer before you can install the cartridge.

1. Open the printer access door.

2. Remove the shipping restraints.

Press on the restraints to remove them.



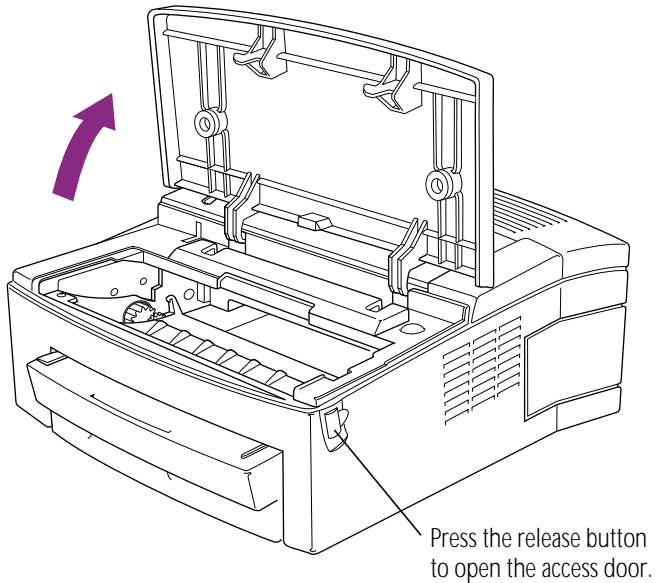
If you are installing for the first time, remove the plastic shipping restraints.

Press the release button to open the access door.

Installing or changing a toner cartridge

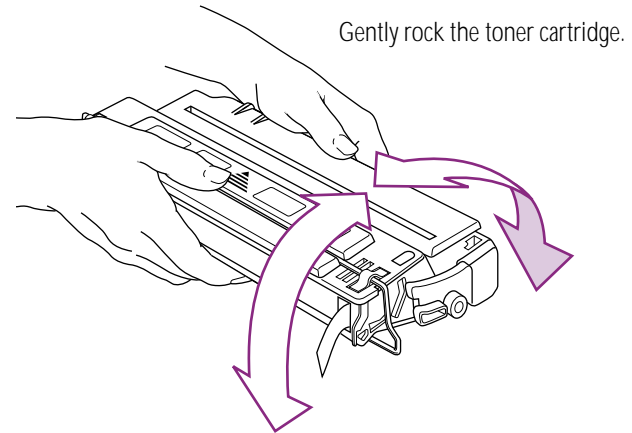
Toner is the powdered ink that produces the image on the paper. Follow these steps to install a toner cartridge into the printer.

1. Open the printer access door.



2. If you are replacing a used cartridge, remove the old cartridge and set it aside.

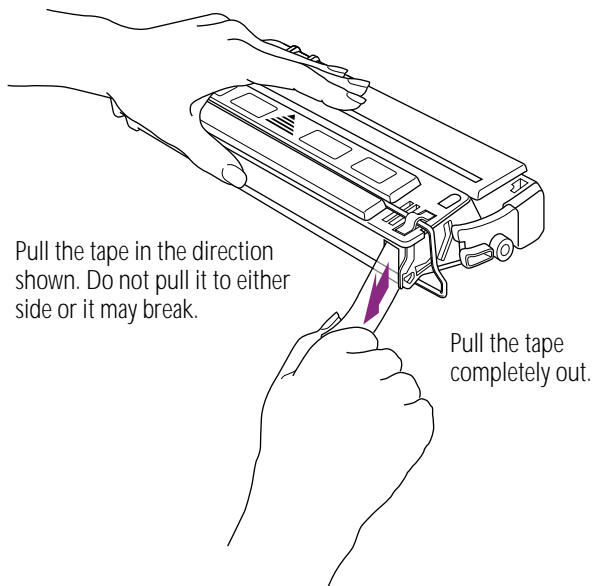
3. Unpack the new toner cartridge and gently rock it to distribute the toner inside.



Save the protective bag. If you move or transport your printer, you will need to remove the cartridge and transport it separately in the bag.

Do not expose the cartridge to direct sunlight. Don't expose it to room light for more than five minutes, or the life of the cartridge may be reduced.

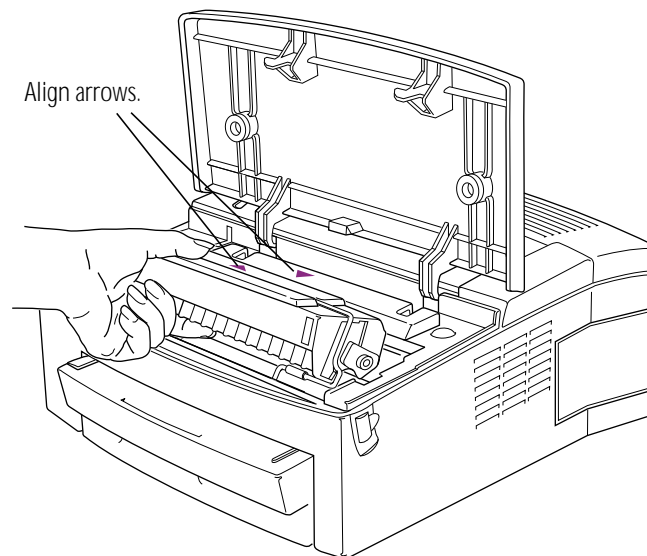
4. Pull the tab to remove the tape.



▲ **Warning:** Be sure to pull the tape in the direction shown. Don't pull it too quickly or at too sharp an angle; otherwise, the tape may break. ▲

5. Insert the cartridge into the printer.

Line up the markings on the sides of the cartridge with the arrows in the printer.

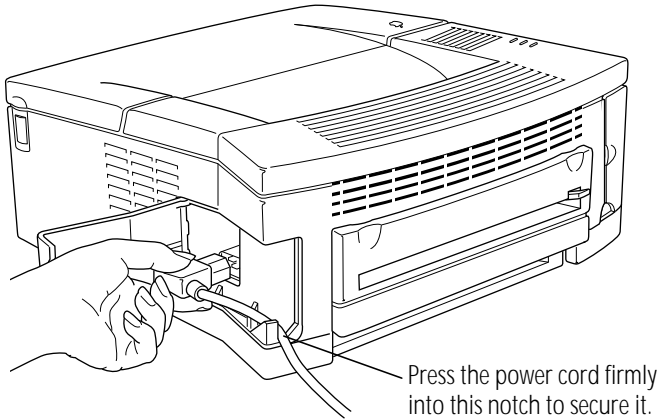


6. With both hands, press down gently on the cartridge to secure it in place.

7. Close the access door.

Plugging in the printer

A power cord is supplied with your printer.



Be sure the power cord is within easy reach, in case you want to unplug the printer.

When you plug the power cord into an outlet, the Ready/In Use light comes on.

▲ **Warning:** The Personal LaserWriter 300 is equipped with a three-wire grounding plug—a plug that has a third (grounding) pin. This plug fits only a grounding-type AC outlet. If you are unable to insert the plug into an outlet, contact a licensed electrician to replace the outlet with a properly grounded one. This equipment is meant to be electrically grounded. Do not defeat the purpose of the grounding plug! ▲

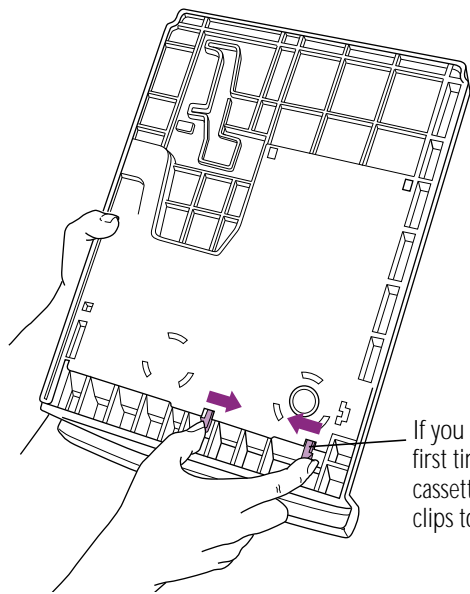
Loading the paper cassette

The universal paper cassette supplied with your printer holds up to 100 sheets of copier-weight bond paper. The paper size can be U.S. Letter, A4, U.S. Legal, or Executive. For good advice on paper quality, see Chapter 4, “Tips and Troubleshooting.”

To load the paper cassette:

1. **Take the cassette out of the printer and place it on a flat surface.**

If you are loading the paper cassette for the first time, remove the orange cardboard and plastic shipping inserts.

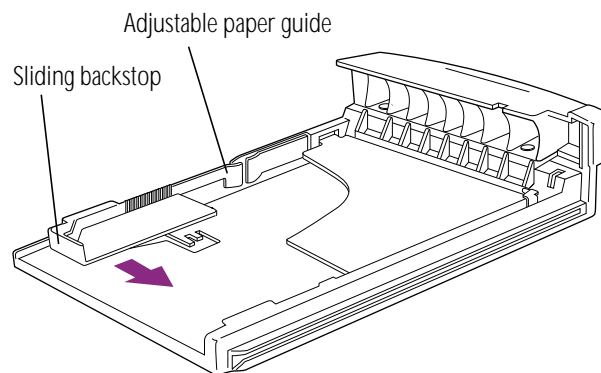


If you are installing for the first time, turn the paper cassette over and press both clips to remove the plastic insert.

2. **Adjust the sliding backstop in the cassette so it clicks into the notch for the appropriate paper size.**

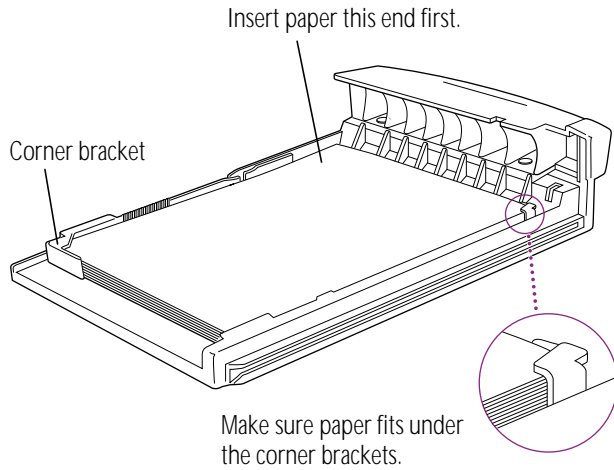
Be sure the backstop is in one of the notches. Setting it between notches will result in a printing error.

To change paper size, slide the paper guide in the direction of the arrow and line up the paper guide pointer with the paper size you want.

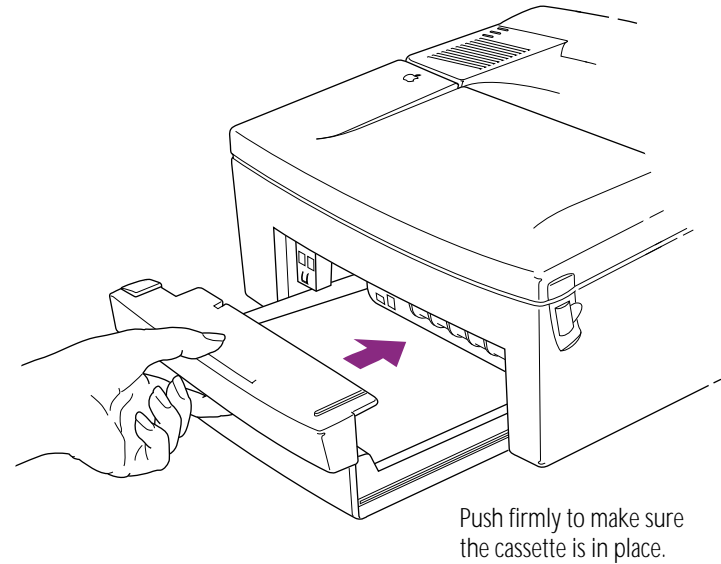


continues ►

3. Insert a stack of paper that fits below the top edge of the paper bracket inside the cassette.



4. Slide the cassette into the printer.

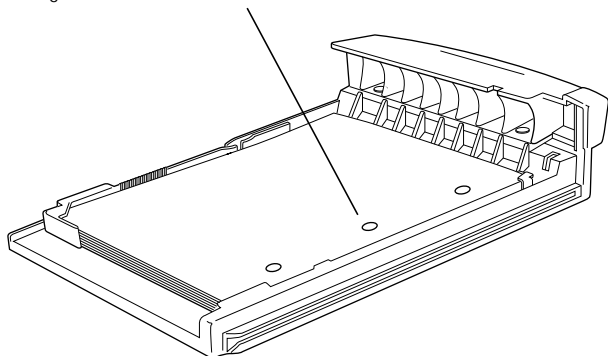


To remove the cassette to refill it, grasp it and pull firmly straight out.

Loading 3-hole punched paper

Follow the instructions for loading ordinary paper, and position the sheets as shown below.

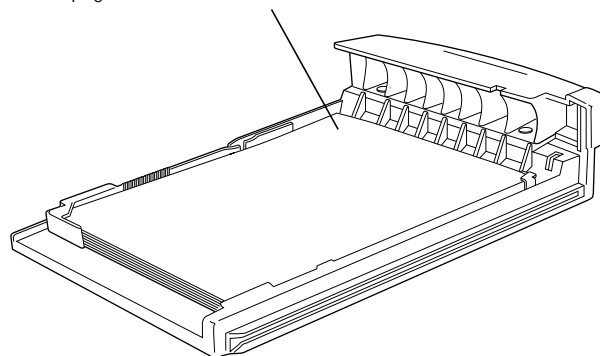
The holes should line up along this side of the cassette.



Loading letterhead paper

Follow the instructions for loading ordinary paper, and position the sheets as shown below.

Insert letterhead paper face down with the top of the page at this end of the cassette.



Loading legal-size paper

Follow the instructions for loading ordinary paper, adjusting the sliding backstop to accommodate legal-size paper.

Slide the cassette firmly into the printer. The cassette and paper will extend out the back of the printer.

Chapter 3

Printing

This chapter explains how to print documents on a Personal LaserWriter 300 connected to your own Macintosh, to share the printer with other users on a network, and to use shared printers connected to other computers on the network.

More printing instructions can be found in the manuals for your applications, such as word processing programs. These programs may include additional printing controls.


Before you use the printer, you should have installed the software as described in Chapter 1, and installed a toner cartridge and paper cassette as shown in Chapter 2.

Turning on the printer

One of the first things you will notice about your Personal LaserWriter 300 is that it has no power on/off switch. As soon as the printer is plugged into an outlet, its power is on and the printer is in a standby state. There is no wait for the printer to warm up.

The Personal LaserWriter 300 is equipped with an energy conservation mode, an automatic on/off feature that conserves energy by shutting off most of the printer's functions when they are not in use. The printer remains on standby.

When the printer detects something to be printed, it "wakes up" and goes to full power. After printing your document, the printer automatically returns to standby.

As long as the printer is plugged in, it will be on standby. While on standby, the printer's Ready/In Use status light (marked with the icon ) glows steadily. When you send the printer something to be printed, the light will flash and you will hear a fan come on.

The Personal LaserWriter 300 is intended to be plugged in and on standby continuously. There is no need to unplug it, except for maintenance or moving. When it is on standby the printer consumes very little energy—less than 10 watts, about the same amount as a night-light.

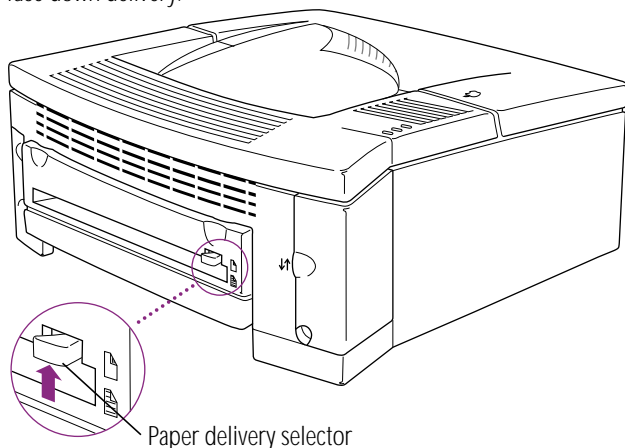
Choosing face-down or face-up delivery

You can select either face-down or face-up paper delivery with your Personal LaserWriter 300, depending on the type of paper you are using.

When you choose face-down delivery, paper comes out into the delivery tray on top of the printer, face down and stacked in order. The delivery tray can hold at least 25 sheets of standard copier-weight bond paper. Face-down delivery is useful when you want your document collated; but it is limited to plain paper only.

To select face-down delivery, set the paper delivery selector as shown here:

Set the selector for face-down delivery.

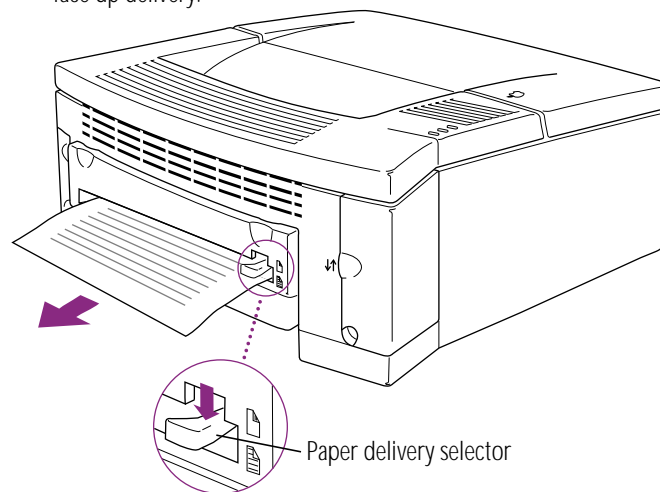


In face-up delivery, paper comes out of the face-up delivery slot at the back of the printer. Face-up delivery uses a straight paper path, which helps to avoid paper jams and curl. Face-up delivery is required for envelopes, transparencies, labels, and other special papers.

If you choose face-up delivery, be sure there is enough space behind the printer for the paper to come out.

To select face-up delivery, set the paper delivery selector as shown here:

Set the selector for face-up delivery.



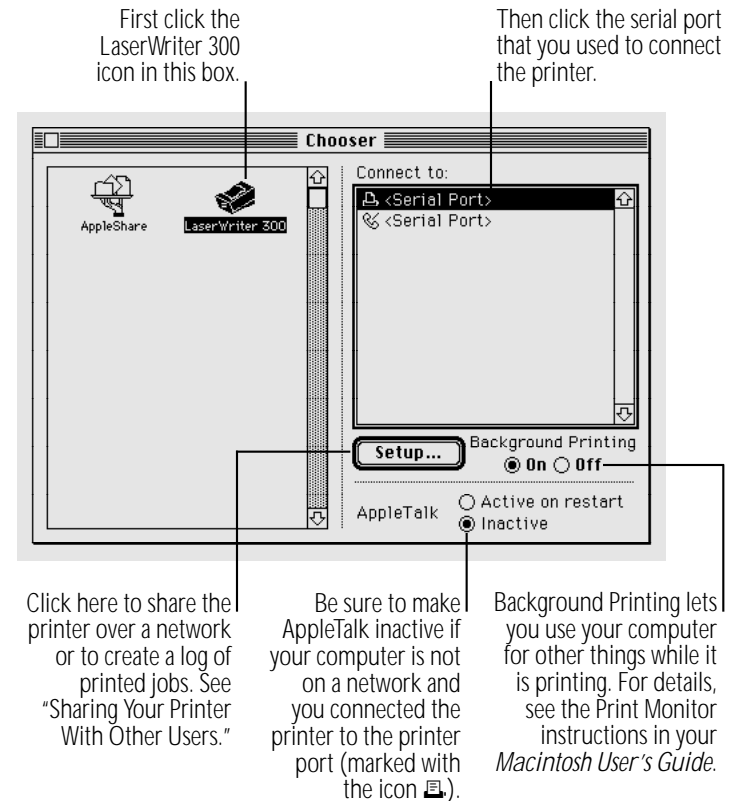
Using the Chooser the first time you print

You use the Chooser desk accessory to tell the Macintosh where to send print jobs.

In the Chooser, you choose the port to which you connected the Personal LaserWriter 300, and can also choose among printers connected to your network, if any.

△ **Important:** Once you choose the printer in the Chooser, you won't need to repeat this step unless you change printers or change the way your printer is connected. △

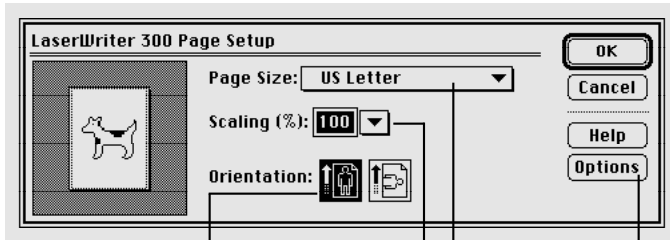
1. Choose the Chooser from the Apple (🍏) menu.



2. After you choose the printer, close the Chooser.

Defining the page setup

The Page Setup command is found in the File menu of nearly all Macintosh programs. Depending on the program you are using, some of the options in this dialog box may change. You need to choose Page Setup only if you want to change settings.

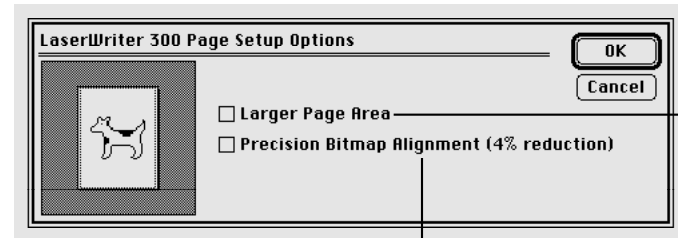


Click one of these icons to choose vertical or horizontal page orientation.

Type any size from 5% to 999% or choose a preset size.

Choose from six paper sizes: U.S. Letter, U.S. Legal, Executive, A4, #10 Envelope, and Monarch Envelope.

Click Options to display the page setup options.



Click here to reduce the image by 4%. This makes the printed dots proportional to the dots on your screen so there is no distortion when you print a bitmapped image.

Click here to reduce the margins and print closer to the edge of the page.

Printing a document

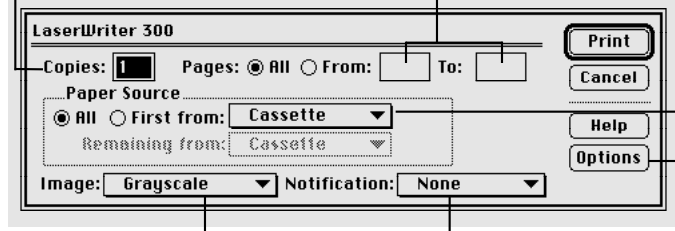
The Personal LaserWriter 300 prints your document using the cassette or manual feed. See the next section for instructions if you choose Manual Feed as the paper source.

1. Open the document you want to print or select its icon in the Macintosh Finder.
2. Choose Print from the File menu.
3. Choose the appropriate settings and click Print.

To print more than one copy, type a number here.

If you don't want to print all pages, click in these boxes and type the first and last page to print.

Choose the paper source from the top menu. To print the first page on special paper, click "First from" and use both menus.



The screenshot shows the LaserWriter 300 print dialog box. It has a title bar "LaserWriter 300" and a "Print" button. Below the title bar are fields for "Copies:" (a spinner set to 1), "Pages:" (radio buttons for "All" and "From:" followed by "To:"), and "Paper Source" (radio buttons for "All" and "First from:" followed by a dropdown menu set to "Cassette"). Below "Paper Source" is a "Remaining from:" dropdown menu also set to "Cassette". At the bottom are "Image:" (a dropdown menu set to "Grayscale") and "Notification:" (a dropdown menu set to "None"). On the right side, there are buttons for "Print", "Cancel", "Help", and "Options".

Choose Grayscale or Black and White printing. If your document contains colors or shades of gray, Grayscale produces a sharper image. Black and White printing is faster, but produces a coarser image.

Choose from an alert message or a system sound to notify you when a print job is finished.

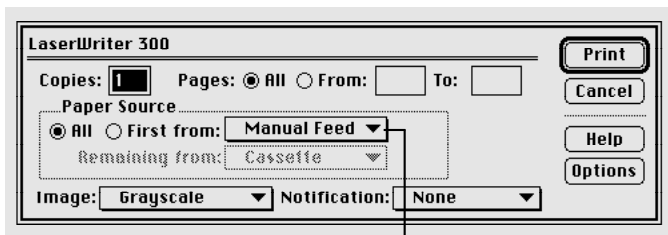
Click here to display the printer's density control. See "The Image Is Too Light or Too Dark" in Chapter 4 for details.

After a moment, the Ready/In Use light begins to blink. Then you will hear the fan come on. There will be a brief wait before printing.

Printing paper or envelopes with the manual feed slot

If you want to use paper that is different from the paper in the cassette, you can use the manual feed slot to insert sheets one at a time as the document is printed. You can also use this slot to print on envelopes and other nonstandard paper sizes.

1. Open the document you want to print or select its icon in the Macintosh Finder.
2. Choose Print from the File menu.
3. In the Print dialog box, choose Manual Feed from the Paper Source pop-up menu.

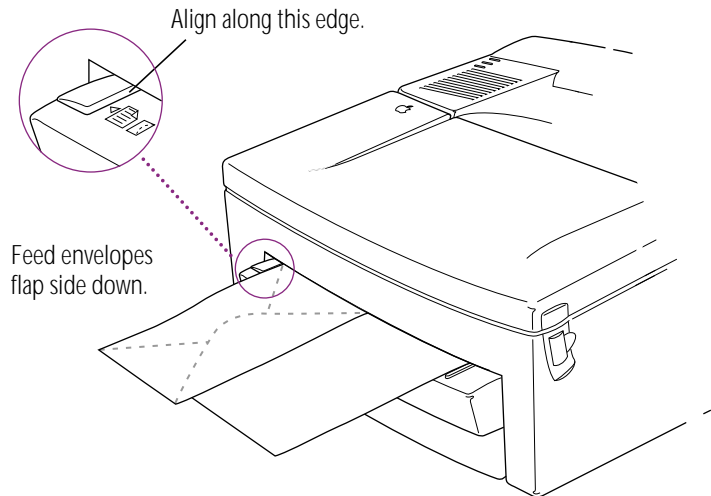


Choose Manual Feed.

4. Click Print.

The sheet you inserted is printed. If the document has additional pages, a message on your screen will alert you each time a new sheet is needed. To avoid paper jams, always wait for the prompt before inserting a new sheet.

5. Insert a sheet of paper or envelope as shown. Be sure to keep the page straight so it feeds correctly.

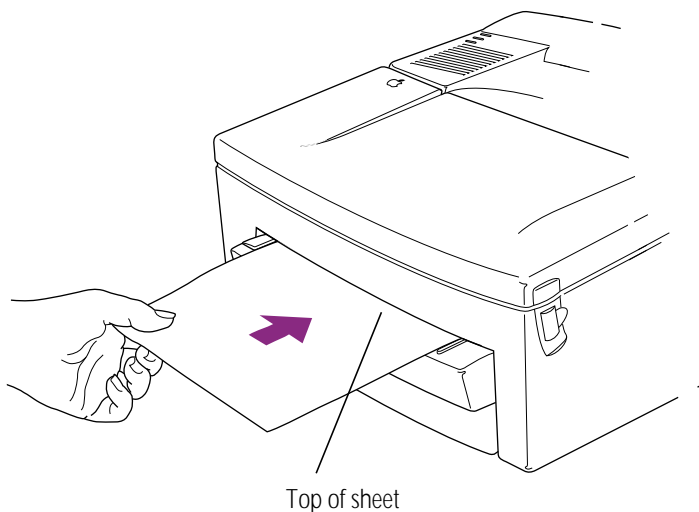


Printing on both sides of a page

Follow these steps to print a document using both sides of the paper.

1. **Print the first side of the page using manual feed or the paper cassette.**
2. **Take out the printed sheet, turn it over, and print the second side using manual feed, inserting the sheet as shown here.**

Always use manual feed for printing the second side. To avoid jams, don't load already printed pages into the paper cassette.

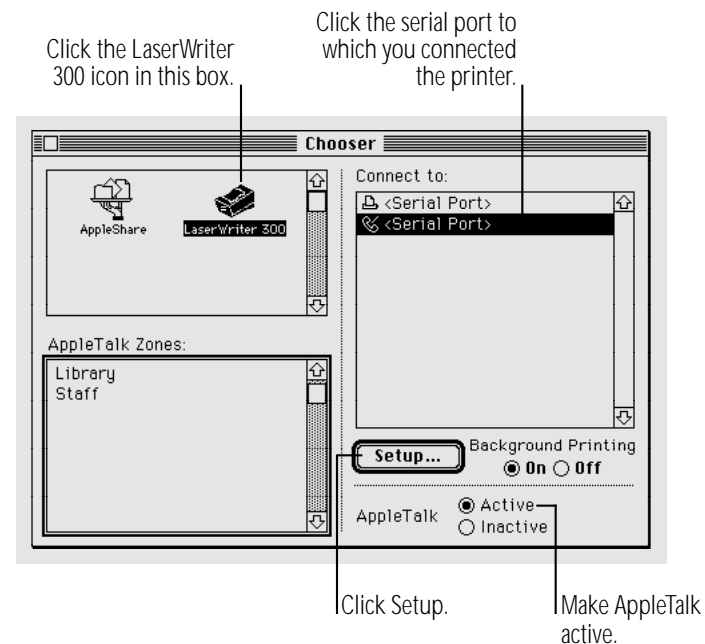


Sharing your printer with other users

If your Macintosh is connected to a network, you can set up your printer to let other users on the network use it.

Follow these steps to turn on the printer's sharing feature:

1. **Choose the Chooser from the Apple (🍏) menu.**
2. **Click the LaserWriter 300 icon.**



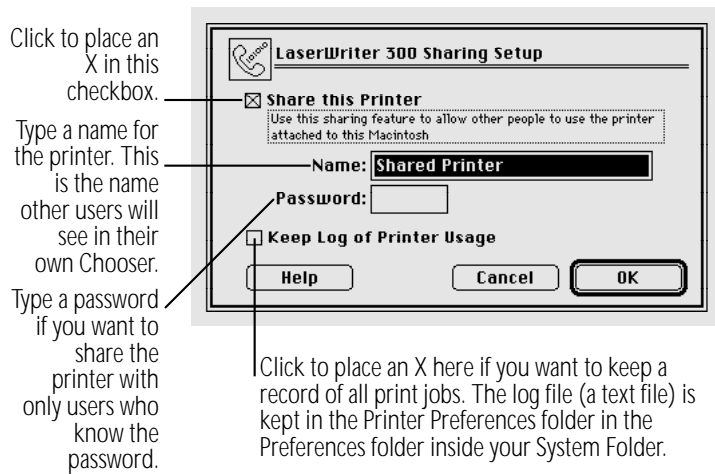
continues ►

3. Make AppleTalk active if it is not already active.
4. Click Setup.
5. Click Share this Printer and enter the options for the shared printer and in the Setup dialog box.

Background printing is automatically turned on when a printer is shared. For details, see the Print Monitor instructions in your *Macintosh User's Guide*.

6. Click OK.
7. Close the Chooser window.

Network users can now choose your printer in their Chooser (see the next section for details).



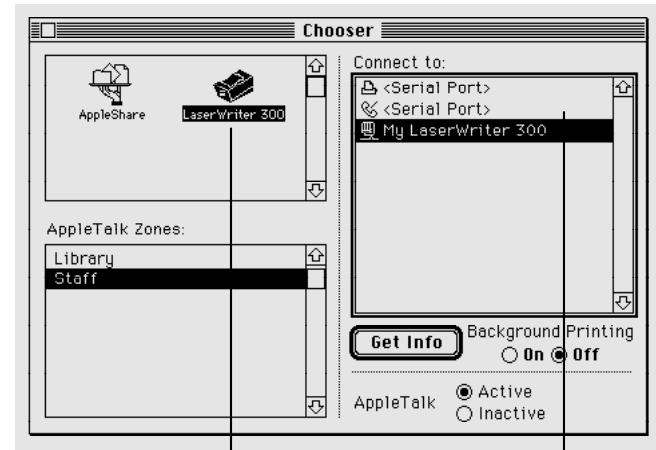
Using a shared printer connected to another Macintosh

To print on a shared Personal LaserWriter 300, network users must have the LaserWriter 300 driver installed on their computers, AppleTalk must be active, and the shared printer and Macintosh must be turned on.

Each user wanting to use the shared printer should use the LaserWriter 300 installation disks and follow the instructions in Chapter 1 to install the printer software.

Once the software is installed, the shared printer appears in the list of network printers available in the Chooser desk accessory.

1. **Choose the Chooser from the Apple () menu.**
2. **Click the LaserWriter 300 icon.**
3. **In the list of printers on the right, click the name of the shared LaserWriter you want to use.**



First click the LaserWriter 300 icon.

Then click the name of the shared printer.

You can click the Get Info button in the Chooser window to see whether any fonts in your system are unavailable on the selected printer. If your document contains any such fonts, printing will be slower, because information about the fonts must be sent from your computer to the printer. (For faster printing, use a printer on which the fonts are available, or install the fonts on the Macintosh to which the shared printer is connected.)

4. **Close the Chooser.**

Your Macintosh will now send all subsequent print jobs to the shared printer.

Controlling the use of your printer by others

After you turn on the sharing feature, you still have complete control over the shared printer:

- You can turn sharing on or off at any time.
- You can type a password in the Sharing Setup dialog box so only those who know the password can use your printer.
- You can use the Print Monitor program in your Macintosh system software to view a list of print jobs that have been sent to your printer, and to delete any jobs in the list.

The Print Monitor program is available when you have Background Printing turned on in the Chooser, and comes on automatically when others use your shared printer. Refer to your *Macintosh User's Guide* for more information about the Print Monitor program.

- ❖ *Your computer's performance:* When others use your printer, their documents are printed in the background so your work is not interrupted. While your computer is printing in the background, you may experience an occasional pause or other symptoms of reduced performance. ❖

Chapter 4

Tips and Troubleshooting

This chapter provides solutions to printing problems you may encounter while using your printer.

▲ **Warning:** If you have a problem with your printer and nothing presented in this chapter solves it, see the service and support information that came with your printer or computer. If you attempt to repair the printer yourself, any damage you may cause to the printer will not be covered by the limited warranty. ▲

See page 2 for additional safety information.

Safety precautions

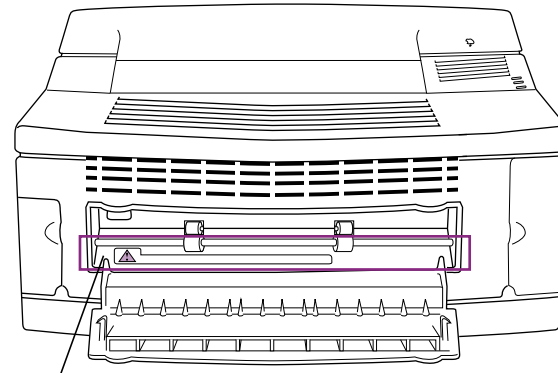
Consider these rules of safety before you open the printer or attempt to troubleshoot problems:

- Don't attempt to disassemble the printer.
- Don't use oil inside the printer.
- Don't use ammonia-based cleaners on or around the printer. They may react with the toner.
- Don't use alcohol-based cleaners on or around the printer. They may react with the plastic case.
- Don't leave the access door open. Exposing the toner cartridge to light may damage the cartridge.

continues ►

- Don't open the drum-protection shutter on the toner cartridge.
- Be sure the power cord is within easy reach, should you want to unplug the printer at any time. Since the Personal LaserWriter 300 has no power switch, unplugging it is the only way to turn it off.
- Never try to manually defeat the interlock switches inside the printer.

△ **Important:** The fixing assembly in the printer operates at very high temperatures. When you need to open the printer, be careful not to touch the fixing assembly. △

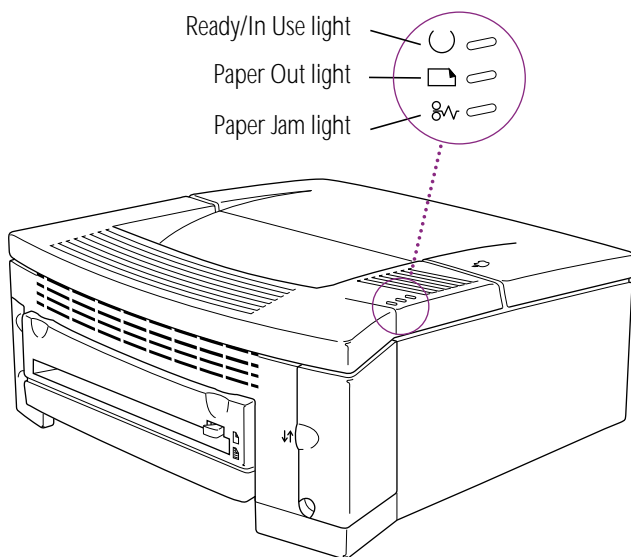


Fixing assembly.
This area gets very hot.

Some odor from the heat of the printing process is normal.

Checking the printer's status lights

Always check the status lights first when a printing problem occurs. These often tell you the cause of the problem.

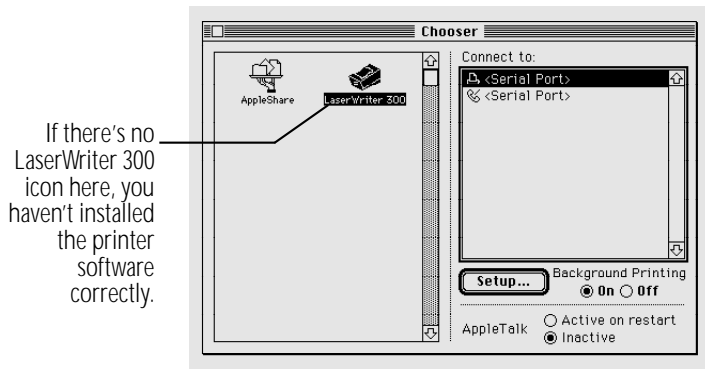


- The Ready/In Use light should glow steadily whenever the printer is on, and blink when it is printing.
- The Paper Out light is on only when there is no paper in the cassette, or the printer is waiting for manual feed.
- The Paper Jam light is on when any obstruction occurs in the paper path.

Solving some common problems

The Chooser doesn't show the LaserWriter 300 icon

If the LaserWriter 300 icon is missing from the box that identifies different printer types, you need to install the printer software from the disks that came with your printer.



To install the software, follow the instructions in "Installing the Printer Software" in Chapter 1. Then make sure you select the printer, as shown in "Using the Chooser the First Time You Print," in Chapter 3.

The Macintosh can't find the printer

If you have selected the printer icon in the Chooser but nothing prints or you get a message that no printer has been found, one of the following may be the cause:

- The printer has been unplugged. Make sure it is plugged securely into an outlet (the green status light should be on).
- In the Chooser, you may have chosen the wrong printer or selected the wrong serial port (the modem port instead of the printer port, or vice versa). Select the correct Chooser options as described in "Using the Chooser the First Time You Print," in Chapter 3.
- There's a loose plug somewhere. Check to make sure that both ends of the cable are properly connected. See Chapter 1, "Setting Up Your Printer."
- If you are connected to a network and are printing on a shared Personal LaserWriter 300, check to be sure you have chosen the correct zone in the Chooser. The Macintosh to which the printer is connected must be turned on.

If you still can't resolve the problem, the printer may not be functioning properly. Contact an authorized Apple service provider about repairs.

Printing takes a long time

Printing may be slow on pages containing complex graphics or pages printed using landscape (horizontal) orientation.

The processing speed of your computer and the amount of memory it has directly affect printing time. A faster computer or more memory results in faster printing.

The printer won't print a particular page or document

If a document contains a page with very complex graphic images, the printer may be unable to print the page. You will see a message telling you that your printer has "insufficient memory."

Remove some of the complex detail from that page (or spread the information over two pages) and try again to print it. You are more likely to experience this problem when printing legal-size documents.

Type looks jagged or some text changes to the Geneva font

The most likely cause of this problem is that you are using a non-TrueType font.

LaserWriter 300 printers use two kinds of fonts: outline fonts and bitmapped fonts. TrueType fonts are outline fonts. Each character in an outline font is produced by instructions that describe its shape. A character from an outline font can be printed smoothly in any size you specify. Your Personal LaserWriter 300 comes with a set of TrueType fonts (see “About Fonts,” later in this chapter). Bitmapped fonts are fixed in shape *and* size: Your printer can produce smooth bitmapped characters only in the sizes for which it has instructions (a map of dots for each font size). If you use a bitmapped font in a size for which your printer does not have instructions, your system tries to create the size you want. The resulting type can look jagged. Even a font that looks good on your screen can look bad when printed out.

The best solution to this problem is to switch to a TrueType version of the font you want to use. To see if you have a TrueType version:

1. Find your Fonts on your system.

If you have System 7, version 7.1 or higher, open your System Folder and then open your Fonts folder.

If you have an earlier version of System 7, open your System Folder.

If you have System 6, insert your *LaserWriter 300 Install* disk and double-click the Font-DA Mover.

2. Look in the list of fonts for the font you wish to use.

If it is a TrueType font, its icon will look something like this:



If it is a non-TrueType font, its icon will look like this:



— This number tells you the size of the font.

If you are using System 6, you will see a list of font names in the Font-DA Mover. If the font name has a number next to it, then it is a non-TrueType font.

If a TrueType version of your font is available, use it in your documents.

When your computer runs low on memory, TrueType turns itself off and some TrueType fonts may be displayed and printed in the Geneva font. If you've installed fixed-size versions of your TrueType fonts, they will not change to Geneva, but they will look very jagged when TrueType is turned off.

For more help with fonts, see "About Fonts," later in this chapter.

The printer prints on only part of the paper

Make sure you have selected the appropriate paper size in the Page Setup dialog box.

Check the adjustment of the sliding backstop in the paper cassette to make sure it is correct for your paper size. See “Loading the Paper Cassette” in Chapter 2.

Paper is jammed

To avoid paper jams, make sure the paper cassette is properly loaded with one of the recommended paper types. (See “Paper Feeds Improperly,” next.) If you are using manual feed, be sure to wait for the prompt before inserting a new sheet.

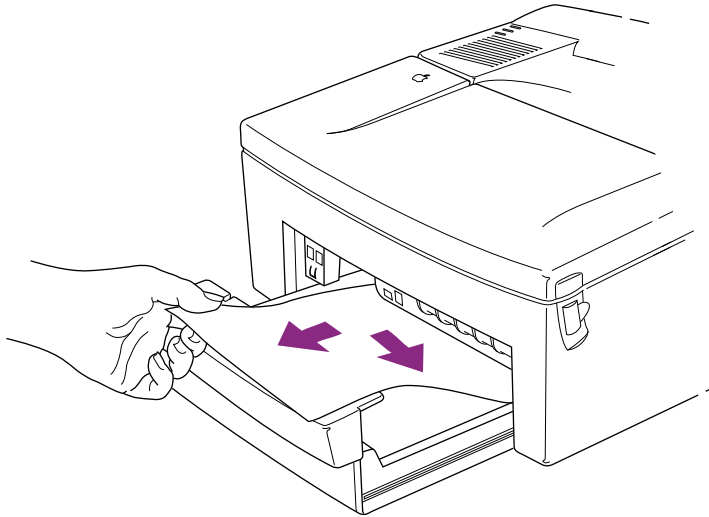
Paper jams are sometimes caused by moving or jarring the printer.

If the Paper Jam status light is on, follow these steps:

1. Remove the paper cassette.

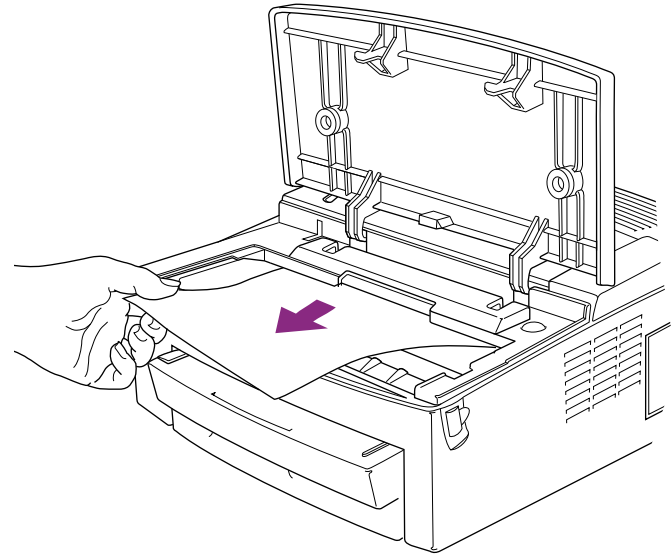
Be sure the paper is loaded correctly in the paper cassette. The stack of paper should fit under all the corner brackets.

With the paper cassette removed, look inside the printer and remove any jammed sheets you see.



2. Open the printer and remove the cartridge.

Look inside the printer and remove any jammed sheets you see. Pull the sheet straight out. Avoid pulling at an angle that might tear the paper and leave scraps inside the printer.

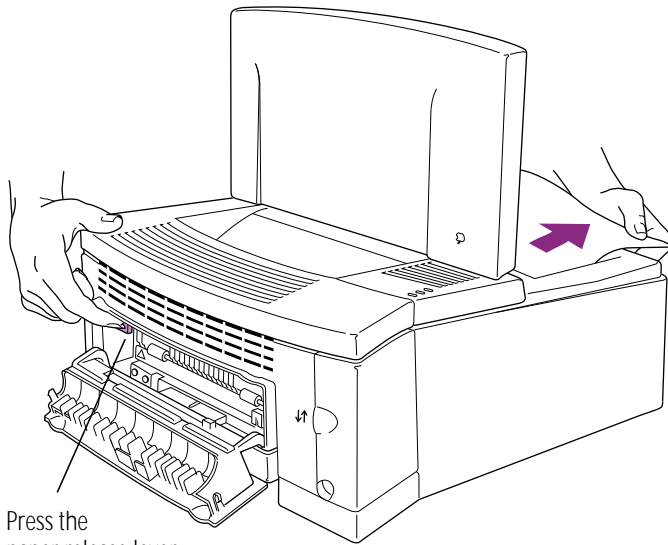


Replace the toner cartridge when done.

continues ►

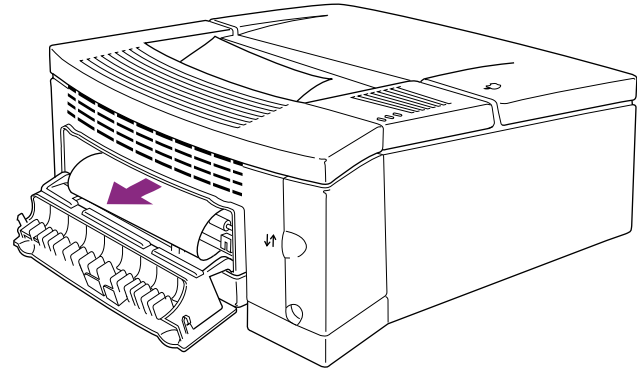
3. Open the printer's back door as shown below. Press the paper release lever and pull the jammed sheet out through the front.

This type of jam is often caused by an interruption in printing.



Press the paper release lever.

4. If the paper is wrapped around the roller, remove it as shown below.



Paper feeds improperly

If paper tears, gets skewed, or comes through the printer crumpled, it may not be entering the printer properly.

Remove any jammed sheets from inside the printer. Remove the paper cassette, turn the stack of paper over, and replace the cassette (most paper has one side that prints better). It may also help to fan the edge of the stack with your thumb, in case some of the sheets are stuck together.

Make sure the stack of paper is loaded correctly into the paper cassette, and fits under all the corner brackets.

Some papers cause jams because they are not intended for use with laser printers. See "About Paper," later in this chapter, for advice on choosing papers.

Unwanted lines or stripes appear

If white or dark lines appear on the page, try the following:

- Remove the toner cartridge and rock it to redistribute the toner. Be sure to hold the cartridge horizontally.

Toner stains appear on printed pages

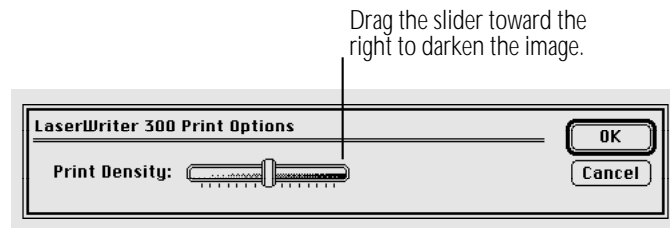
If the printed pages are not clean, there may be a buildup of toner on the printing rollers. If stains appear on the backs of printed pages, you may have printed an image that is larger than the paper, causing toner to be deposited in the paper path.

To clean the rollers, print several blank pages until the stains disappear.

The image is too light or too dark

If printing is too light or too dark, try the following:

- Take out the toner cartridge and rock it gently to distribute toner. If this doesn't help, you may need to replace the cartridge. See "Installing or Changing a Toner Cartridge" in Chapter 2 for instructions.
- Choose Print from the File menu and click Options to display the Print Density control.



- If the problem occurs on paper other than the recommended copier-weight bond, the toner may not adhere well to the paper you are using. Try using a fresh package of paper. For advice on choosing paper for your laser printer, see "About Paper," next.

About paper

Many problems, such as toner smearing, paper curling, or paper feeding improperly, can be caused by the paper you are using. To assure good results, use only paper, envelopes, and transparencies that are manufactured for use with laser printers and photocopy machines.

Make sure any paper you use is free of tears, wrinkles, dust, and oil stains. Paper with cutouts or perforations is not recommended.

Here is a list of papers to avoid:

- extremely slick or shiny paper
- erasable typewriter paper
- paper that is highly textured
- coated paper
- stapled paper
- envelopes that contain fasteners or snaps
- multipart forms

▲ **Warning:** Do not use paper printed using low-temperature dyes or thermography. Such materials can peel away from the paper or melt inside the LaserWriter and cause damage. Colored paper can be used as long as the color is added during the paper-making process, not after, and the color can withstand the heat generated by the printer's fixing assembly (approximately 190° C or 374° F). Envelopes, transparencies, and labels are acceptable as long as they contain no fasteners and can withstand the heat generated by the fixing assembly. ▲

The paper cassette can hold U.S. Letter, A4, U.S. Legal, and Executive paper.

About fonts

The disks provided with your LaserWriter contain fonts from the most widely used font families. Font families (also called typefaces) can be classified into two groups: *serif* and *sans serif*.

T

Serif

T

Sans Serif

The small accents at the ends of the strokes of the letters are serifs. Fonts that do not have these accents are “sans” serifs.

How to use different kinds of fonts

Serif fonts are considered more readable than sans serif fonts. For long passages of text, typographers generally choose serif fonts.

Sans serif fonts are used for headlines and short passages.

Your font disks contain seven serif typefaces: ITC Bookman®, Courier, New Century Schoolbook, Palatino®, Times®, Chicago, and New York. All but Courier are commonly used for both long passages and headlines or captions. Courier is designed to look like output from a typewriter, and does not give a page a typeset appearance. Times is the most commonly used typeface in the selection, and is considered to be one of the most readable fonts.

The disks include five sans serif typefaces: ITC Avant Garde®, Helvetica®, Helvetica Narrow, Geneva, and Monaco. These fonts are appropriate for headlines, posters, and captions; they are sometimes also used for short passages in brochures, invitations, and so forth. Helvetica and Helvetica Narrow are the most widely used of the sans serif typefaces in the selection. Because of its compact width, Helvetica Narrow is also convenient for mathematical expressions and spreadsheets.

Your font disks also contain three special-purpose fonts: Symbol, ITC Zapf Chancery®, and ITC Zapf Dingbats®. Symbol is handy for technical documents that contain equations and formulas. Zapf Chancery is highly decorative, and is useful for invitations, diplomas, and the like. Zapf Dingbats contains arrows, pointing fingers, small pictures (icons), and other symbols for decorating and illustrating your documents.

Use restraint when choosing fonts

A good rule of thumb to use when choosing fonts for your documents is: *Avoid using more than two font families on the same page.*

It is fine to use several sizes and styles (such as bold or italic) of the same font family on the same page. Using too many font families on the same page gives your document a “ransom note” appearance. A good combination is one sans serif font for your headings and one serif font for your body text. Avoid combining two serif or two sans serif font families on a page.

The two-font family rule does not apply to the Symbol and ITC Zapf Dingbats® fonts: You can add these as needed in addition to the regular fonts you have chosen.

Add emphasis and contrast

To add emphasis and contrast to your documents, use bold, italic, and, occasionally, all caps.

Don't underline unless there is a special purpose for it, as in a formula or equation. Underlining is a throwback to the typewriter and gives your document an unprofessional look.

Italics is the best choice for putting emphasis on passages within your body text. It is also useful for book titles and foreign phrases.

Bold is best used for headings. Type set in bold looks important and authoritative. Using all caps has a similar effect. Use type set in all caps sparingly, however, because it is very difficult to read.

Don't use outline or shadow styles except for decoration on posters, in logos, and similar pieces.

Be careful setting alignment and columns

Properly aligning your text can enhance or detract from your document's readability. One of the most common mistakes is to set a document in many narrow columns, with full justification (text lined up on the left *and* right). This allows for only a few words per line, and "darkens" a page by eliminating the white space around the edges of the text.

Flush-left alignment with a ragged right edge lends an informal feeling, and is generally considered to be the most readable of settings.

Centering is useful for formal announcements or invitations, but avoid centering long passages.

Choose the right size

Use 9- to 12-point type for long passages of body text. Smaller sizes can be very difficult to read. Note, however, that different typefaces of the same point size vary in "visual size": 9-point Helvetica looks larger than 9-point Times.

Find out more

There are many excellent sources to help you produce professional-looking documents. Look for books and magazines on desktop publishing, graphic design, and typography.

Specifications

Print quality

- 300 dots per inch for text and graphics

Printer RAM

- 512K of RAM

Printer fonts

- Standard TrueType font families. The Personal LaserWriter 300 can support additional fonts from Apple and from other suppliers.

Speed

- Four pages per minute maximum. Actual speed depends on the images printed and the computer used.

Interface

- Serial, externally clocked

Life expectancy

- Minimum life expectancy is 150,000 pages, with no monthly page limit.

Paper feed

- Automatic feed from paper cassette; manual feed for single sheets

Printing materials

Apple recommends 20-lb. photocopy bond (75 g/m²). You can use 16-lb. (64 g/m²) to 28-lb. (105 g/m²) paper with manual feed; the paper cassette accepts 16-lb. (64 g/m²) to 24-lb. (90 g/m²) paper. Accepts most letterhead and colored stock, and medium-weight laser printer transparencies. Print labels using manual feed. Use envelopes recommended for laser printers. Print envelopes, transparencies, and other special media using manual feed and face-up delivery.

Paper sizes and capacity

The paper cassette can hold up to 100 sheets of U.S. Letter, U.S. Legal, A4, and Executive paper sizes.

Imageable area

- Maximum printable line: 203 mm (8.00 in.)
- Minimum top and bottom margins: 6.35 mm (0.25 in.)
- Minimum left and right margins: 6.35 mm (0.25 in.)

Actual imageable area may vary depending on the application program.

Dimensions

- Height: 16.1 cm (6.3 in.)
- Width: 38.5 cm (15.2 in.)
- Depth: 37.9 cm (14.9 in.)

Weight

- 7 kg (15.4 lb.) not including cartridge

Operating environment

Temperature

- 50° to 90.5° F (10° to 32.5° C)

Humidity

- 20 to 80 percent, noncondensing

Toner cartridge storage environment

- 32° to 95° F (0° to 35° C)

Input electrical requirements

U.S./Japan

- 100–120 V ($\pm 10\%$), 50–60 Hz (± 2 Hz)

Europe/Australia

- 220–240 V ($\pm 10\%$), 50 Hz (± 2 Hz)

Power consumption

Operating

- 450 W maximum at 115 V or 220 V

Standby

- 10 W or less

Ozone emission

- Less than 0.05 parts per million maximum, measured in accordance with ECMA 129 or UL114 standards for ozone density measurement

Laser Specifications

- Type: Anode Common Type
- Wavelength: 775–795 nm
- Output power: 5 MW

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