HP 9114A Disc Drive
Operator's Manual

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HEWLETT
PACKARD

Warranty and Service

Hewlett-Packard products are warranted against defects in materials and workmanship. For Hewlett-Packard products sold in the U.S.A. and Canada, this warranty applies for ninety (90) days from date of installation.* Hewlett-Packard will, at its option, repair or replace equipment which proves to be defective during the warranty period. A copy of the complete warranty statement is available upon request.

HP offers complete service and maintenance worldwide. Maintenance agreements are available for all HP peripheral products. Advantages of these agreements to the customer include a fixed annual cost, individualized cost-effective contracts, and a choice of response time. Current U.S.A. rates can be determined by contacting your local HP Sales Office.

The selection and use of media, supplies, and consumables is the customer's responsibility. Hewlett-Packard reserves the right to exclude from the warranty or service agreement any repairs for damage to HP products which HP reasonably determines or believes were caused by use of non-HP media or cleaning supplies. Hewlett-Packard will, upon request, repair such damage on a time and material basis.

Repairs necessitated by misuse of the equipment, or by hardware, software, or interfacing not provided by Hewlett-Packard are not covered by this warranty.

NO OTHER WARRANTY IS EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. HEWLETT-PACKARD SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES.

* For other countries, contact your local Sales and Support Office to determine warranty terms.

Federal Communications Commission
Radio Frequency Interference Statement
USA Only

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- reorient the receiving antenna
- relocate the computer with respect to the receiver
- move the computer away from the receiver
- plug the computer into a different outlet so that computer and receiver are on different branch circuits

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV
Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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Worldwide Sales Offices

Chapter 1

YOU, THIS MANUAL, AND THE HP 9114A

About This Manual

This manual is divided into three main chapters: "Essentials",
Chapter 2, "Things You Might Want to Know", Chapter 3, and
"Read This if You Have Problems", Chapter 4. These chapters are
constructed to allow you to quickly get into the right section of the
manual and find what you need.

The pages of this manual are perforated between the binding and
the three-hole drill. Therefore, you can easily remove and discard
the portions of the manual that you do not need. If you wish, you
may also remove the portions of the manual that you wish to keep
and insert those pages into a three-hole binder, such as your
computer manual binder.

Here's what is in the chapters of this manual.

Essentials – takes you from unpacking the cartons through
connecting the disc drive to your system. Turning the system
on, verifying proper operation, and inserting a disc into the disc
drive are also included.

Things You Might Want to Know – explains the care and
handling of the discs and how to use the disc drive.

Read This if You Have Problems — talks more about the selftest and write protect and also explains the media monitor and errors you can get with your computer. Also included is information on ordering supplies, maintenance, and warranty information.

Also, this manual contains an index and a glossary for your use.

For First Encounters with HP Equipment

If you have just received your HP 9114A Disc Drive and haven't had any previous experience connecting Hewlett-Packard equipment together, please see the chapter titled "Essentials". Then at your convenience please read Chapters 3 and 4.

For Experienced HP Users

If you are an experienced HP-IL user, the HP-IL connections are the same as with any other HP-IL device so you can skip the Essentials chapter (Chapter 2). Sometime in the future you may want to skim through the entire manual.

The HP 9114A Disc Drive

The HP 9114A Disc Drive is a battery operated electronic storage device. Data and programs from your computer are stored on a removable flexible disc used with the disc drive. The HP 9114A uses a 3 1/2-inch disc providing as much as 710 thousand characters of storage capacity. Additional features include the following.

Media Monitor — Continual monitoring of media (flexible disc) useful life
Low battery indication — Flashing power light
Turn-on selftest — OK TO USE indication
Portability — Can be used away from home or office

The HP 9114A Disc Drive uses a 3 1/2-inch flexible disc. The disc is similar to a phonograph record that stores programs and data instead of music. The disc is called a flexible or micro-flexible disc or media. Data is stored on both sides of the disc, and thus the name double-sided disc.

Chapter 2

ESSENTIALS

Unpacking and Checking the Equipment Supplied

The following equipment is supplied with each HP 9114A.

Item	Part Number
One (1 metre) HP-IL cable	82167B
Battery Adapter/Recharger	Dependent on Location
One Flexible Disc	--
Operator's Manual	09114-90000

If you find any damage, immediately notify your dealer or nearest Hewlett-Packard sales office. Also file a claim with the carrier.
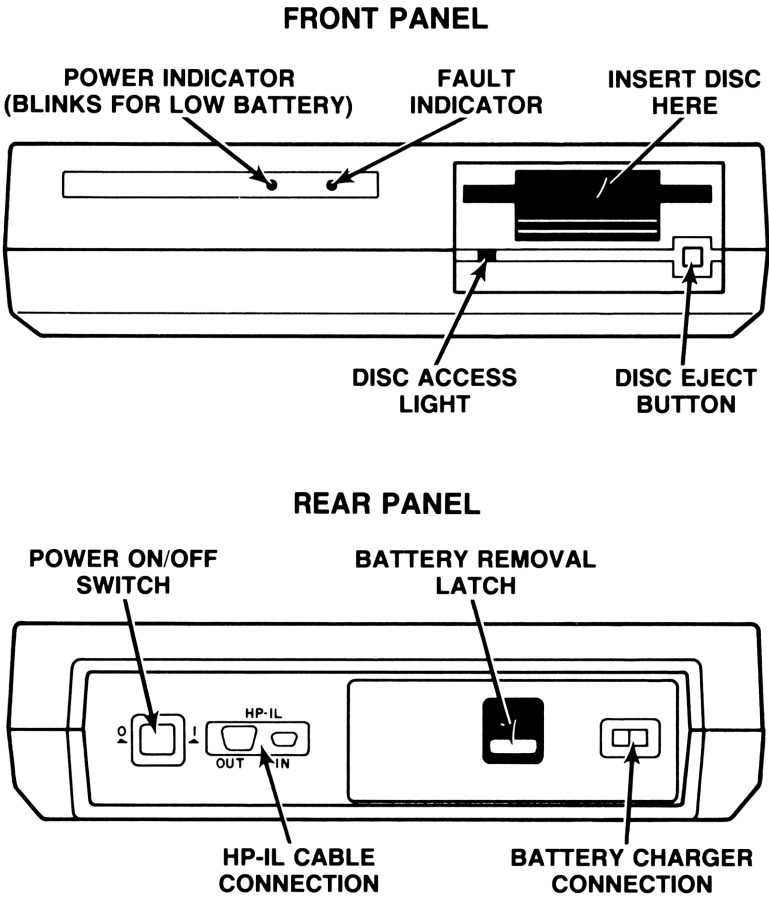
A Look at Your Disc Drive

FRONT PANEL

POWER INDICATOR (BLINKS FOR LOW BATTERY)   FAULT INDICATOR   INSERT DISC HERE

DISC ACCESS LIGHT   DISC EJECT BUTTON

REAR PANEL

POWER ON/OFF SWITCH   BATTERY REMOVAL LATCH

HP-IL
OUT   IN

HP-IL CABLE CONNECTION   BATTERY CHARGER CONNECTION

Figure 2-1. Controls and Indicators

Connecting the Disc Drive to Your System

The disc drive is connected to your computer or computing system using the HP 82167 HP-IL cable. Each device must have two cables connected to it, an "In" and an "Out". This is shown next.
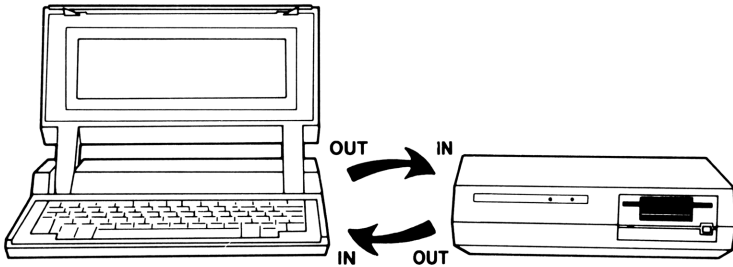
DISC DRIVE AND COMPUTER ONLY

Figure 2-2. Disc Drive Interconnect

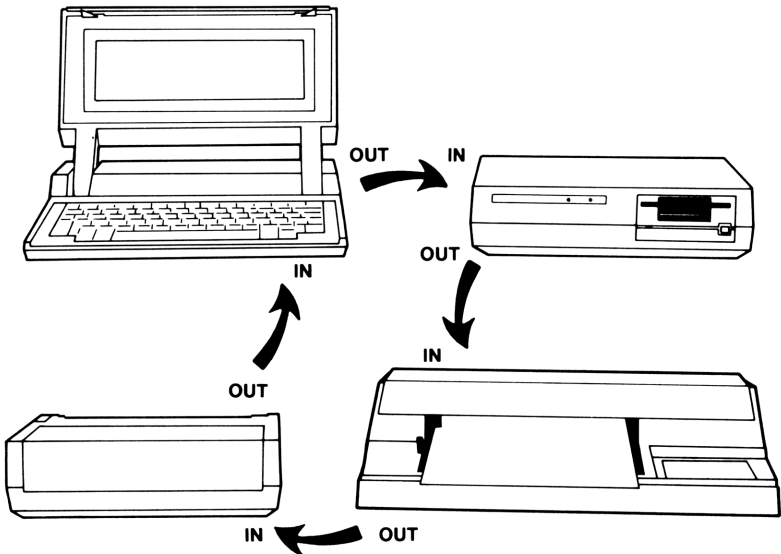**DISC DRIVE AND COMPUTER SYSTEM**

Figure 2-3. System Interconnects

These devices can be connected in any order. Also the devices can be in any location.

What is a Flexible Disc?

A flexible disc is similar to a phonograph record that stores programs and data instead of music. The computer can record data and programs on the disc and can later recall the programs and data from the disc. A box of 10 flexible disc can be ordered using the HP part number 92192A.

CAUTION

Disc drive performance and reliability are dependent on the type of media used. Disc drive specifications can be assured only when using HP media. The use of improper media can result in premature disc failure or damage to the disc drive.

On some disc products, HP may qualify other non-HP media. When tested, this media met HP specifications. However, HP does not warrant or support this media and cannot control changes in its specifications or quality. The selection and use of such products is the customer's responsibility. HP reserves the right to exclude from warranty and maintenance agreement coverage any repairs which HP reasonable determines or believes were caused by the use of media not provided by HP. HP will upon request provide such repairs on a time and material basis.

Warranty and maintenance agreement coverage of repairs not caused by the use of non-HP media is unaffected.
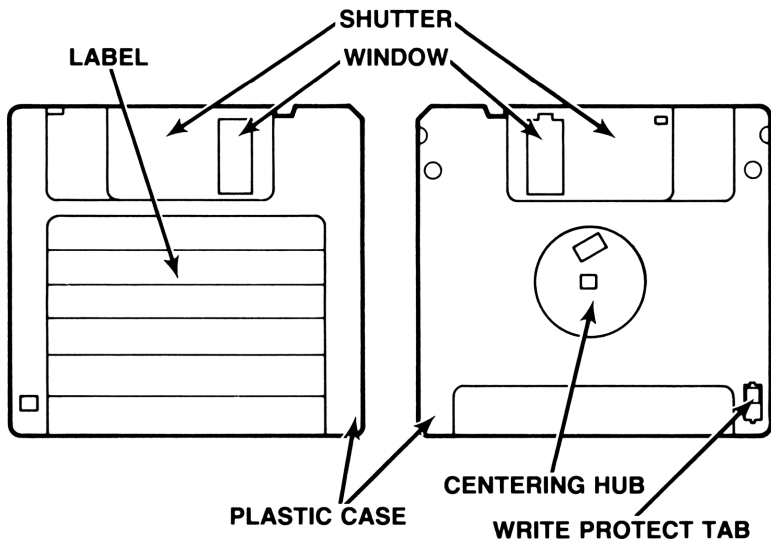

A Look at the Flexible Disc

Figure 2-4. Parts of the Flexible Disc

Window and Auto Shutter

The disc drive reads and writes data to and from the disc using a window space which exposes the disc. This window is covered by a metal shutter. The shutter helps protect the disc surface from particles and accidental fingerprints.

The disc drive is equipped with a shutter opener. This means that when the disc is placed in the drive, the shutter is automatically opened exposing the disc surfaces. You do not need to manually open the shutter before inserting the disc in the drive or close the shutter when removing the disc from the drive.

Centering Hub

On the back of the plastic jacket is a round metal center, called the centering hub. The centering hub ensures rapid and accurate positioning when the disc is inserted in the drive.

Using the Write Protect Tab

Write protecting ensures that the disc drive cannot write over or delete information on the disc.

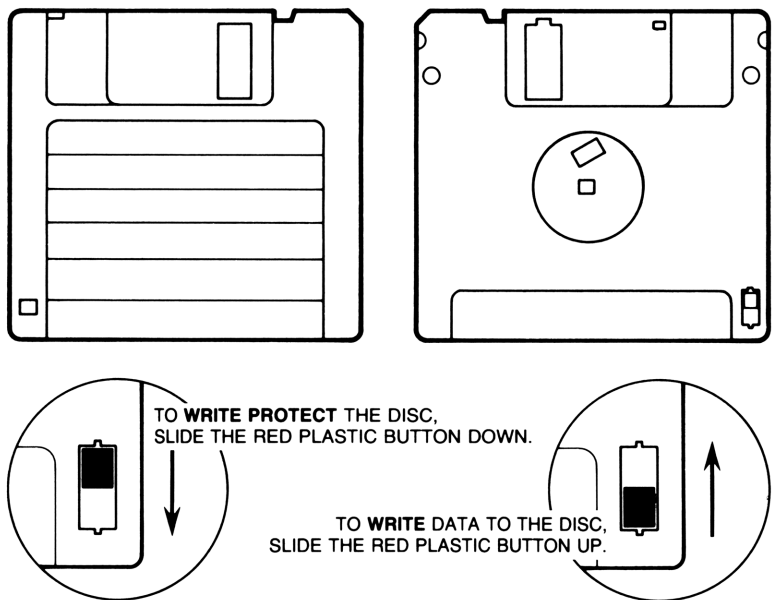Write protect discs that contain valuable programs and data.

See Figure 2-5.

TO **WRITE PROTECT** THE DISC,
SLIDE THE RED PLASTIC BUTTON DOWN.

TO **WRITE** DATA TO THE DISC,
SLIDE THE RED PLASTIC BUTTON UP.

Figure 2-5. Write Protect Tab

Loading the Flexible Disc

To insert and remove flexible discs, perform these steps.

1. Remove the cardboard disc from the drive by pressing the disc eject button.
2. Hold the disc with the label up (centering hub down).
3. Slide the disc into the drive (shutter side first) until you feel thedisc drop into the drive. The disc physically drops about 1/8 inch. Do not force the disc.
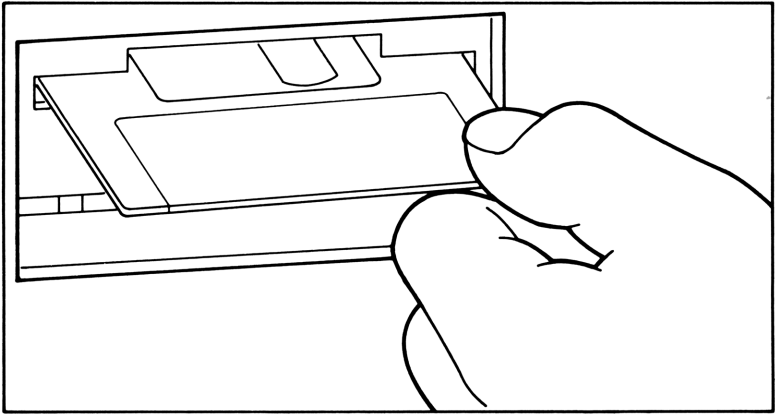

Figure 2-6.   Proper loading of the flexible disc

4. Remove the disc by pressing the disc eject button. Pull the disc straight out.

CAUTION
Never turn the disc drive off or remove the disc from the drive when the disc access light is on; doing so can cause loss of data.

TRY IT!

After connecting your system together, you are ready to turn on your disc drive. Locate the power (on/off) button on the back panel. This is a rocker switch with labeling on each side, "0" and "1". Pressing in the rocker on the "0" side, turns the drive off. Pressing in on the side labeled "1" turns the drive on. Now, let's turn it on.

Power-on Selftest

A power-on selftest is performed automatically when you turn on the disc drive. The Fault light is the selftest indication. This light is on when selftest is in operation. The selftest takes approximately 6 seconds after which the fault light goes out. If you have a disc inserted in the drive, read and write testing (involving the disc) takes an additional 5 seconds or a total of approximately 11 seconds. If the Fault light stays on after the normal testing time an error within the disc drive has been detected. If this ever happens, please see Chapter 4. Make sure that the disc used in the selftest is not write protected. If this disc is write protected, only the 6 second test is performed.

Use It

System operation information is included as a supplement to this manual. This supplement (P/N 09114-90012) is to be updated as system operation information becomes available. For further information on system operation see the following manuals.

> HP 110 MS-DOS User's Guide P/N 00090-90007
> HP-71 HP-IL Interface Owner's Manual P/N 82401-90001
> HP-70 Owner's Manual P/N 00075-90001
> Series 40 HP-IL Module Owner's Manual P/N 82160-90001

Installing the AC Adapter/Recharger

The power light on the front panel flashes whenever it's time to charge the battery. When you get the low battery indication, the battery provides a reserve operating time of about five minutes, or a standby time of about thirty minutes. After the battery voltage drops below a minimum, the drive will not respond to read or write operations. This is to protect your data.
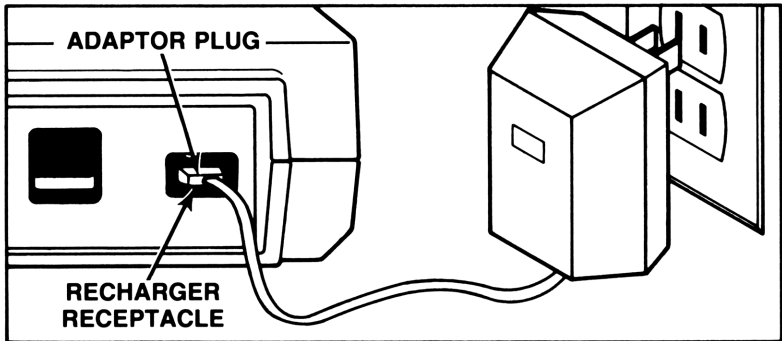

Figure 2-7.   Connecting the Adapter/Recharger

The adapter/recharger can be connected to the disc drive at any time. If you connect the recharger during read/write operations (disc access light is on), avoid jarring the drive.

Insert the adapter/recharger plug into the recharger receptacle on the back of the disc drive.

Insert the power plug of the adapter/recharger into an AC power outlet.

You can use the disc drive while the battery pack is charging. In fact, it is recommended that you use the adapter/recharger whenever possible, even when the battery is fully charged.

After 5 hours of charging the battery pack will be 80% charged, and after 12 to 16 hours the battery pack will be fully charged.

A fully charged battery pack typically provides 8 hours of typical operation, 20 hours of stand-by operation, or 40 minutes of continuous read and write operations.

The sealed lead-acid battery operates best on shallow, less than 30% discharge cycles, or constant "trickle" charge with the recharger usually connected.

Normal battery life is 3 to 5 years. Replacement batteries are available; order HP 88014A Rechargeable Battery Pack.

To preserve the maximum capacity of your battery pack, charge it fully and operate as much as possible with the recharger connected.

WARNING

Do not short the battery. This will blow a fuse internal to the battery pack and make the pack inoperative.

Do not incinerate. The battery can burst if thrown into a fire.

Do not put within reach of children.

Do not disassemble the battery. The strong acid electrolyte sealed inside can burn your skin and clothes.

If the battery is accidently broken and the electrolyte (gelled sulfuric acid) leaks out, neutralize the acid with some available alkaline substance, such as ammonium solution or baking powder (sodium hydrogen carbonate) and wipe up the spill with a cloth.

In the event electrolyte contacts the skin, immediately flush with water and consult a doctor.

Adapter/Rechargers

CAUTION

This battery pack is designed specifically to work with an HP recharger; Therefore HP is not responsible for damages caused by using a non HP recharger.

The adapter/rechargers listed next are recommended for use with the HP 88014A Rechargeable Battery Pack.

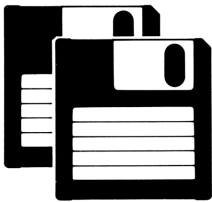| Model	AC Voltage	Identification
HP 82059B	90 to 120	United States
HP 82066B	210 to 250	Europe
HP 82067B	210 to 250	United Kingdom
HP 82067B Opt 001	210 to 250	Republic of South Africa
HP 82068B	210 to 250	Australia
HP 82069B	90 to 120	Europe

Chapter 3

THINGS YOU MIGHT WANT TO KNOW

Flexible Disc Usage and Handling

Congratulations on your selection of the 3 1/2-inch disc drive. The 3 1/2-inch microflexible disc is safer and more reliable than the larger flexible discs on the market. This is due to the hard case and automatic shutter. The 3 1/2-inch disc is maintenance free. Here are some specific DOs and DON'Ts for the handling of your discs.
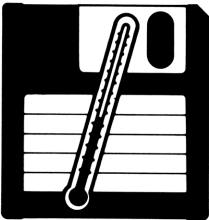
Do

Back Up Discs Frequently

There is always a chance of losing data when mass storage devices are accessed. Causes of loss of data include programming bugs, operator errors, power failures, and hardware failures. Data may also be lost due to flexible disc contamination or wear. **One protection against data loss is frequent backup of your files onto other discs**. Store discs upright in a dust free container. The box in which the discs are shipped, or a similar container, is a good choice.

Operate your system in a relatively clean environment

Airborne contaminants and particles accidently dropped onto the disc will cause your disc to wear prematurely and may cause unreliable data storage and retrieval operations. Some of the most common contaminants are DUST, SMOKE, ASHES, ERASER CRUMBS, and BREADCRUMBS. NEVER ATTEMPT TO BLOW SMALL PARTICLES FROM THE DISC. Chemical vapors may also cause premature disc wear.

Maintain proper temperature and humidity

The proper operating range is 10°C (50°F) to 40°C (104°F) and 20% to 80% relative humidity. While temperature can be controlled, it may be necessary to make special provisions to keep the humidity in the proper range. Although the disc will continue to operate outside the normal humidity range, it will wear more quickly and will have a higher error rate.

Avoid magnetic fields

The data is stored on the disc magnetically, and can be erased by an external magnetic field. Avoid placing a disc near power transformers, magnets, large disc memories, motors or CRTs (Cathode Ray Tube).

Don't

Do not touch the surface of the disc

The thickness of a fingerprint is enough to lift the head off the disc and cause errors. The oils in a fingerprint also collect dust which can cause the disc to wear faster.

Do not try to clean a disc

The inside surface of the disc jacket is covered with a special material that cleans the disc as it rotates. Any other method of cleaning can cause solvent damage to the media or scratch the disc, causing loss of data. If a disc becomes dirty or scratched, immediately transfer the data to a new disc and dispose of the old disc.

Labeling the Flexible Disc

When you order boxes of flexible discs (HP part number 92192A for a box of 10), you receive a packet of labels with the discs. Note that the labels come in a variety of colors. Position the label on the disc so that the colored portion of the label is folded over the lower edge of the disc. See Figure 3-1.

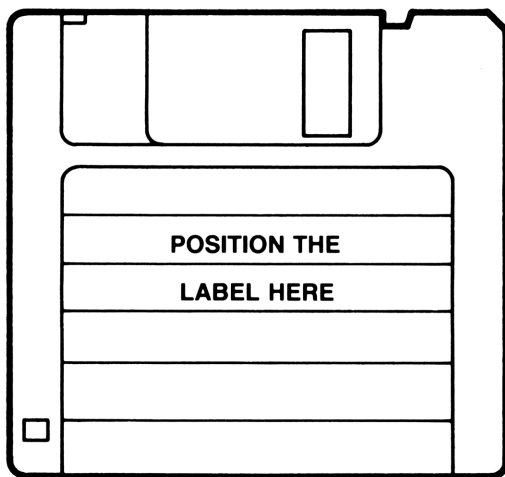**POSITION THE**

LABEL HERE

Figure 3-1.   Usual positioning of the label on the disc

You can establish a color-coded system for cataloging your discs. For example, discs containing memos may be labeled in red while discs containing personnel files can have blue labels. Store your discs upright in a container so that the colored edge of the labels are visible. You may use the colors to select the category of discs you desire, and then read the labels to select the specific disc needed.

What is the Life Expectancy of a Flexible Disc?

The read/write heads of the disc drive touch the disc. As a result, the flexible disc media does wear. The Media Monitor indication help assure reliable operation.

Media Monitor

Through a feature called Media Monitor, your disc drive automatically monitors the cumulative use of each individual disc. When the usage of a disc is approaching a level at which there is a risk of loss of data through normal disc wear, the disc access light on the front panel blinks and a clicking sound is heard. Once this point has been reached in the life span of a disc, read and write commands are still performed by the computer. However, after a command has been performed, the disc drive immediately resumes the warning indication.

When the Media Monitor warning occurs, immediately copy your disc. If you continue to use this disc, the disc drive will eventually automatically write protect the disc. After that time, you will only be able to read data from the disc or copy the disc.

Write Protect Error on Initialization

A motor speed check is performed when a disc is inserted into the drive. If the motor speed is on either side of the tolerance allowed, a Write Protect Error is generated and the disc cannot be initialized or used. If your drive is operating properly, this indication is one of a defective disc. Discard the disc.

Chapter 4

READ THIS WHEN YOU HAVE TROUBLE

Caring for Your Disc Drive

Guidelines for Transporting the Disc Drive

The 9114A Disc Drive is a portable device, but transportation requires some care. A drop of more than 5 inches can damage the read/write heads. Also do not move the disc drive when the disc access light is on (when reading or writing to the disc). The preferred method is to transport the drive in the following manner.

1. Insert the cardboard disc used in shipping the drive to you, or if that is not available, use a discarded disc or uninitialized disc (For data safety reasons don't use a disc containing your valuable data.)

2. A system carrying case is available for the HP 110 and HP 9114A. This case is ordered using HP part number 13269V and should be used when transporting your system.

Caring for the Case

The disc drive case is made from a white plastic material and is not painted. The rear panel has a durable, non-toxic label. In the event of damage to the case finish, consult your HP Sales Office for touchup paints.

Before cleaning the case, disconnect the charger and HP-IL cables. Make sure that any disc is removed from the drive. Dampen a clean, soft, lint-free cloth in a solution of clean water and mild soap. Wipe the soiled areas of the case, making sure that no cleaning solution gets inside the case. For cleaning more heavily soiled areas, a solution of 80% clean water and 20% isopropyl alcohol may be used. Dry the areas that had cleaning solution applied with another clean, soft, lint-free cloth. A non-abrasive eraser may be used to remove pen and pencil marks.

Warranty

The complete warranty statement for the U.S. and Canada is included inside the front cover of this manual. If you have questions concerning the warranty, please contact your dealer or the nearest HP sales office. In countries other than the U.S. and Canada, contact your dealer or the nearest HP sales office for the warranty statement.

Maintenance

Your disc drive does not require regular maintenance. However, the performance and life of the disc drive and the flexible discs depend on how carefully they are handled. Be sure to follow the disc care and handling guidelines presented in Chapter 3 and the environmental restrictions presented in the Specifications Table in Appendix I.

What If Something Goes Wrong?

1. *What if the disc access light begins blinking and the disc drive makes a clicking noise?*

    The blinking of the disc access light and the clicking noise are a feature of your disc drive, called the Media Monitor. This warning indicates that the disc currently in use in the blinking and clicking drive should be replaced. Immediately copy the worn disc and discard it. For further information about the Media Monitor, please see the "Media Monitor" section of Chapter 3.

2. *What if my disc drive does not pass the selftest?*

    If your disc drive does not pass the selftest, take the following actions:

    A) Turn off your disc drive. Then turn the disc drive back on; this repeats the selftest.

    B) If the Fault indication is still on, contact your dealer or the nearest HP sales office.

3. *When I try to initialize my disc, I get an error stating that the disc is write protected. What should I do?*

    First, check to make sure that you are not using a disc that you have write protected or that has been automatically write protected by the Media Monitor.

    When a disc is inserted to be initialized, the disc drive performs a motor speed check. If the motor speed is out of specification a Write Protect Error is generated and the disc is not initialized. This indicates a defective disc. Discard the disc.

    Please note that if you receive a Write Protect Error on several discs in a row, your disc drive may not be operating properly. Contact your dealer or the nearest HP sales office.

4. *When I try to store information on a disc, I get an error stating that the disc is write protected. What should I do?*

    You are trying to store information on a disc that you have write protected. If you wish to write information on this disc, reverse the write protect tab on the disc (see Chapter 2). If you wish to keep this disc write protected, insert another disc.

    Also, the disc may have been automatically write protected by the Media Monitor. If the Media Monitor warning is on, the disc should be copied and discarded.

5. *What should I do if I get a message that says, "Disc Not Present", "No Discs Were Found", "Not Ready Error, Reading Drive --", or "Bad Unit Error, Reading Drive --"?*

A) Be sure the disc drive is turned on.

B) Check your cables to make sure they are secure.

C) Be sure that you have a disc in the correct disc drive.

D) Be sure that the disc has been initialized.

E) If all this fails, you may have a bad disc. Try another disc.

6. *What if I get an error message saying, "Disc or Data Error, Reading Drive ?"*

Your disc is probably worn or damaged. Try using other discs to see if you get the same message. If you receive the message on only one disc, copy the disc immediately and discard it. (Please note that if the disc is worn or damaged, the copy may not work.) If you receive the same message on several discs, contact your dealer or HP Sales Office.

7. *What should I do if I get a message that says, "Disc drive is empty, off, or undefined"?*

A) Be sure the disc drive is turned on.

B) Be sure that you have a Disc in your disc drive.

C) If all this fails, you may have a bad disc. Try another disc.

Your disc drive can be repaired only by a trained service person. If you suspect that your disc drive is malfunctioning, contact your dealer or the nearest HP Sales Office.

How to Order Supplies

DESCRIPTION	HP PART NUMBER
Gray Double-Sided Micro Flexible Discs (10 discs/box)	92192A for 9114A
AC Adapter/Charger[1]	See footnote
HP-IL Cable	82167A 0.5 metre
	82167B 1.0 metre
	82167D 5.0 metre
HP 9114A Operator's Manual	09114-90000
Rechargeable Battery Pack	88014A

[1] Power connectors are dependent on delivered location. Please consult your dealer or nearest HP sales office if you need to order an AC Adapter/Charger.

Order supplies for your disc drive by contacting your dealer or the nearest HP sales office. You may also contact the Hewlett-Packard Computer Supplies Operation at the following address:

Computer Supplies Operation
1320 Kifer Road
Sunnyvale, California 94086

Telephone: (800) 538-8787 toll free in the United States
(406) 738-8858

Appendix I

TECHNICAL REFERENCE

Technical Specifications

Listed next are the electrical and physical specifications for the HP 9114A disc drive.

Number of drives	1
Net Weight	2.68 kg (5.9 lbs)
Height	75 mm (3.0 in.)
Depth	200 mm (8.0 in.)
Width	287.5 mm (11.5 in.)

Interface	HP-IL
HP Double Density Format	
Encoding:	MFM
Rotational Speed:	600 RPM
Bit Density @ 600 RPM:	Track 79 (Inside track)
	8717 BPI
Track Density:	135 tracks per inch
Tracks per Surface:	80
Surfaces used per disc:	2

Capacity

	HP 110	Series 40 and 70
Bytes/Sector:	512	256
Sectors/Track:	9	16
Bytes/Drive (Formatted):	710 Kbytes	630 Kbytes
See note below.		

NOTE

All of HP's computers spare tracks for data reliability. The spared tracks are used as replacements for bad sections of the disc to assure reliable data storage. As a result, the actual usable space on the HP 9114A is 710 Kbytes/drive.

Access Time
   Track-to-Track Seek: 15 ms/track
                                         plus 42 ms settling
   Maximum Track-to-Track Seek: 1242 ms
                                         (80 tracks)
   Average Track-to-Track: 447 ms
   Maximum Rotational Latency: 100 ms
   Average Rotational Latency: 50 ms
   Spindle Motor on time: 400 ms
   Maximum Data Access Time
     (Seek plus Latency
       plus Motor on time):   1742 ms
   Average Data Access Time: 497 ms (motor on)
   Maximum Sustained Transfer
     Rate: 6 Kbytes/second

Environmental Specs
  Operating Limits
    Temperature: 10°C to 40°C
                       (50°F to 104°F)
    Humidity: 20 to 80% with maximum wet bulb
                       temperature (non-condensing) not
                       to exceed 29°C (85°F)
    Altitude: 0 to 4572 m (0 to 15,000 ft)

Non-operating Limits
  (Storage and Transit)
    Temperature: -40°C to 60°C
                       (-40°F to 140°F)
    Altitude: -304 to 15240 m (-1000 to 50,000 ft)

NOTE

Your disc drive is designed for operation in a typical office environment. Use of the equipment in an environment containing dirt, dust, or corrosive substances will drastically reduce the life of the disc drive and of the flexible discs.

A-2

Appendix II

GLOSSARY

ADDRESS A number that identifies the exact location to which your computer can send data or from which your computer receives data. Just as you have a unique home address, your computer, disc drive, plotter and printer must each have a unique address.

BACKUP A backup is a duplicate copy of a disc made in case the original disc is lost or damaged.

BOOTING Booting up your computer puts it in a ready-to-run condition. The computer literally "pulls itself up by it's bootstraps" and gets ready to go. (Booting loads the operating system and utilities.)

BYTE A byte is used to represent one character, such as a single letter, number, or other symbol.

CABLE Cables provide the connection between computers and peripherals (printers, plotters, and disc drives). The cable used in this manual is the HP-IL.

CONFIGURATION Configuration is the way you let your computer know which disc drive it is talking to, where the disc drive is on the bus, and which drive you want the computer to access.

CRT Acronym for cathode ray tube. The CRT is the video screen of the computer.

DIRECTORY The table of contents for the files stored on a disc.

DISC	A circular plate of magnetically coated material used to store computer information. The disc is similar to a phonograph record that stores programs and data instead of music. HP's 3 1/2-inch flexible disc is enclosed in a plastic jacket.
	A disc may be flexible or hard. The flexible disc may also be single-sided or double-sided.
DISC DRIVE	A device that allows a computer to read data that is stored on a disc or write data on a disc.
FORMATTING	The process by which a disc is prepared to receive and store data. Also known as "initializing."
	If you think of your disc as being like a filing cabinet, formatting is equivalent to getting an empty file cabinet and preparing the cabinet for use. First, you check the cabinet for any damage. Similarly, the disc drive checks the disc for any damaged areas in which data cannot be stored. Second, you place hanging folders and dividers in your file cabinet. Likewise, the disc drive sets up storage areas on the disc. Finally, you label your filing cabinet so that you know what is in each drawer. Similarly, the disc drive sets up a directory on your disc.
HARDWARE	The physical parts of the computer system; the computer and the peripheral devices.
HEAD	The part of the disc drive that reads data from your disc and writes data onto your disc.
HP-IL	The HP-IL is a connector that allows the computer and the peripherals to communicate.
INITIALIZING	The process by which a disc is prepared to receive and store data. Also known as "formatting."
INTERFACE	The interface makes communication possible between the computer and its peripherals.
INTERLEAVE	Interleaving a disc is a method of alternately numbering sectors on the disc to improve data acquisition efficiency. See the interleave section of your computer programming manual for additional information.

KBYTES	A unit of measurement for memory storage. One Kbyte is equal to 1,024 bytes (or 1,024 characters). Also called "K" or "kilobyte."
LOAD	To read programs into a computer.
MEMORY	The size of the computer's brain. Memory is the combination of hardware and/or discs on which data is stored.
MFM	Modified frequency modulation (MFM) is a method for storing data on discs.
PERIPHERALS	Devices that are external to and controlled by the computer. Peripherals are so called because they are not part of the computer (e.g. tape drives, disc drives, printers, and plotters).
PROGRAM	A set of instructions or steps telling the computer how to handle a problem or task.
READ/WRITE HEAD	The part of the disc drive that reads data from your disc and writes data onto your disc.
SOFTWARE	A computer program or set of programs.
UTILITY	A utility is a program that performs a task required by most users. For example, most users need to make copies of discs. Therefore, the copy utility is a program that tells the computer how to copy discs.
WRITE PROTECT	A method of protecting disc information from being erased or overwritten.

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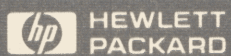* Richardson, Texas
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