
Getting Started with Your HP 9153/HP 9154 Disc Drive



September 1, 1986

**Manual Part No.
09153-90005**

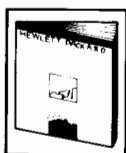
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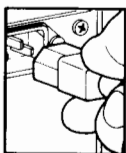
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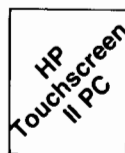
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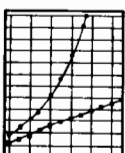
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**Greeley Division
700 71st Avenue
Greeley, CO 80634**

This manual describes the HP 9153A with serial numbers of 2641A00101 and beyond and HP 9154A with serial numbers of 2642A00101 and beyond and all models of the HP 9153/9154B.

Limited Warranty

One-year Limited Hardware Warranty

Hewlett-Packard warrants this peripheral/accessory against defects in materials and workmanship for a period of one year from receipt by the end user, except when used as part of an HP system. If HP receives notice of such defects during the warranty period, HP will either, at its option, repair or replace products which prove to be defective.

Should HP be unable to repair or replace the product within a reasonable amount of time, Customer's alternate exclusive remedy shall be a refund of the purchase price upon return of the product.

If this product was purchased as part of an HP system in a coordinated shipment, it is warranted against defects in material and workmanship during the same period as the HP system.

Exclusions

The above warranty shall not apply to defects resulting from improper or inadequate maintenance by Customer; customer-supplied software or interfacing; unauthorized modification or misuse; operation outside of the environmental specifications for the product; or improper site preparation and maintenance.

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.

Obtaining Warranty Service

To obtain warranty service, products must be returned to a service facility designated by HP. HP may repair on-site at the option of the customer. Customer is responsible for travel charges when on-site repair is requested.

Warranty service for products purchased as part of a system will be subject to service in accordance with the system support services.

Customer shall prepay shipping charges for products returned to HP for warranty service and HP shall pay for return of the products to customer. However, Customer shall pay all shipping charges, duties, and taxes for products returned to HP from another country.

Warranty Limitations

HP makes no other warranty, either expressed or implied, with respect to this product. HP specifically disclaims the implied warranties of merchantability and fitness for a particular purpose. Some states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion may not apply to you. However, any implied warranty of merchantability or fitness is limited to the one-year duration of this written warranty.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state, or province to province.

Exclusive Remedies

The remedies provided herein are customer's sole and exclusive remedies. In no event shall HP be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory. Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

HP offers complete service and maintenance worldwide. Maintenance agreements are available for 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 rates can be determined by contacting your local HP Sales Office.

**Federal Communications Commission
Radio Frequency Interference Statement
USA Only**

This equipment generates and uses radio frequency energy and may, if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, 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. Shielded data cables were used during the type test; therefore, properly shielded and terminated data cables should be used to reduce potential interference. 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.

FUNKENTSTORUNG DEUTSCHLAND

Herstellerbescheinigung

Hiermit wird bescheinigt, daß das Gerät HP 9153/9154 in Übereinstimmung mit den Bestimmungen von Postverfügung 1046/84 funkentstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Wird das Gerät innerhalb einer Anlage betrieben,

- so muß bei Inanspruchnahme der Allgemeinen Genehmigung FTZ 1046/84 die gesamte Anlage der oben genannten Genehmigung entsprechen.
- die mit einer FTZ-Serienprüfnummer gekennzeichnet ist, und für die eine Betriebsgenehmigung vorliegt oder beantragt wird, so sind in der Regel keine weiteren Schritte notwendig.

GERMAN ELECTROMAGNETIC INTERFERENCE REGULATIONS

Manufacturer's Declaration (English translation)

This is to certify that the HP 9153/9154 is in accordance with the Radio Interference Requirements of Directive FTZ 1046/84. The German Bundespost was notified that this equipment was put into circulation, the right to check the series for compliance with the requirements was granted.

If this equipment is to be operated with a system

- and if the General License is being claimed, the complete system has to comply with the General Licensing requirements.
- which has its own FTZ-Serial-License, and for which an operating license has been granted or requested, usually no further steps are necessary.

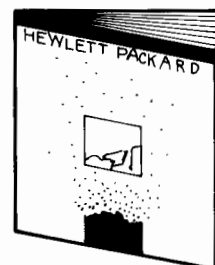
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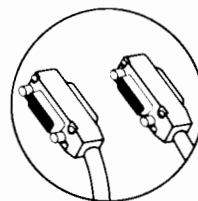
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CAUTION

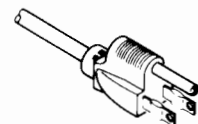
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HP-IB
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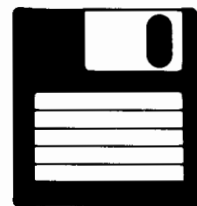
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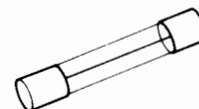
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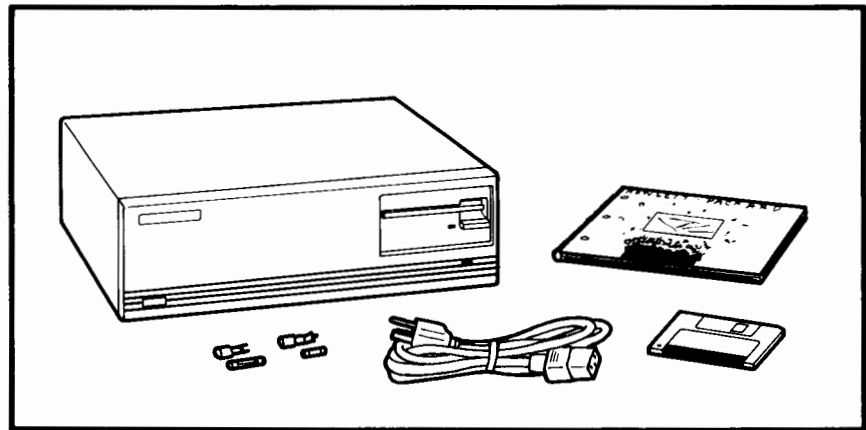
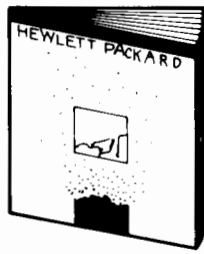
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Att använda skrivminnen



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Sicherung
Fusibile
Fusibile
Sikring
Zekering
Sulake
Sikring
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WARNING





CAUTION

Make sure the voltage switch is set correctly for your local power. Always turn off the disc drive before changing the voltage setting.

Assurez-vous que le sélecteur de tension est mis sur la position qui correspond à votre courant. Arrêtez toujours l'unité de disques avant de changer la position du sélecteur.

Prüfen Sie nach, ob die Einstellung des Spannungsschalters der Netzspannung entspricht. Schalten Sie das Gerät jedesmal aus, bevor Sie die Spannungseinstellung verändern.

Asegúrese de que el selector de voltaje está debidamente ajustado, de acuerdo con la red local. Apague siempre la unidad de disco antes de cambiar el ajuste de voltaje.

Assicuratevi che il selettore di tensione sia posizionato correttamente per la vostra corrente locale. Disinserite sempre l'unità disco prima di cambiare il posizionamento della tensione.

Sørg for at spændingsknappen er korrekt indstillet til Deres strømstyrke. Sluk altid for disc-aktivatoren før De ændrer strømstyrke.

Verzekert U zich ervan dat de voltageschakelaar juist is afgesteld voor Uw plaatselijke stroom. Zet de disk drive altijd af alvorens de voltageschakelaar af te stellen.

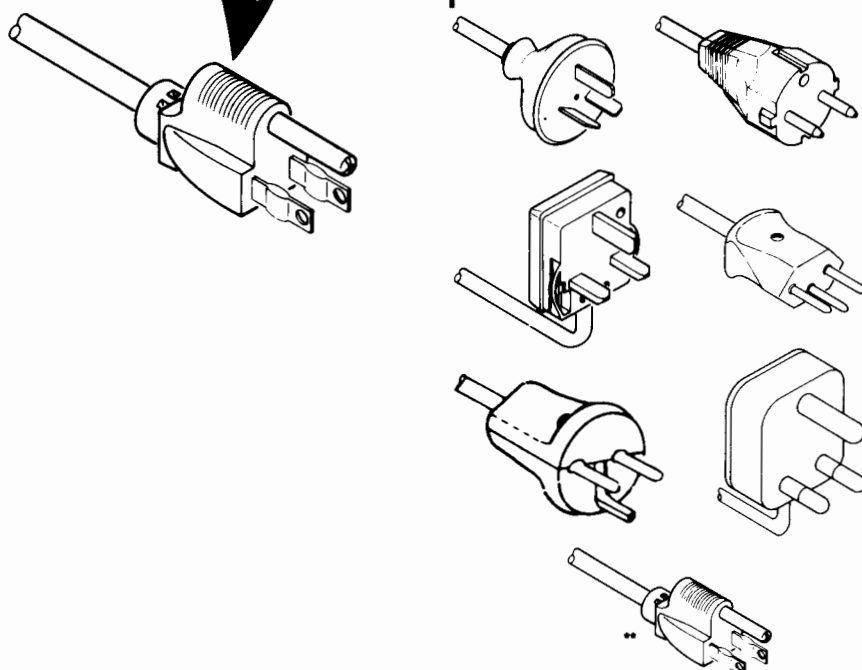
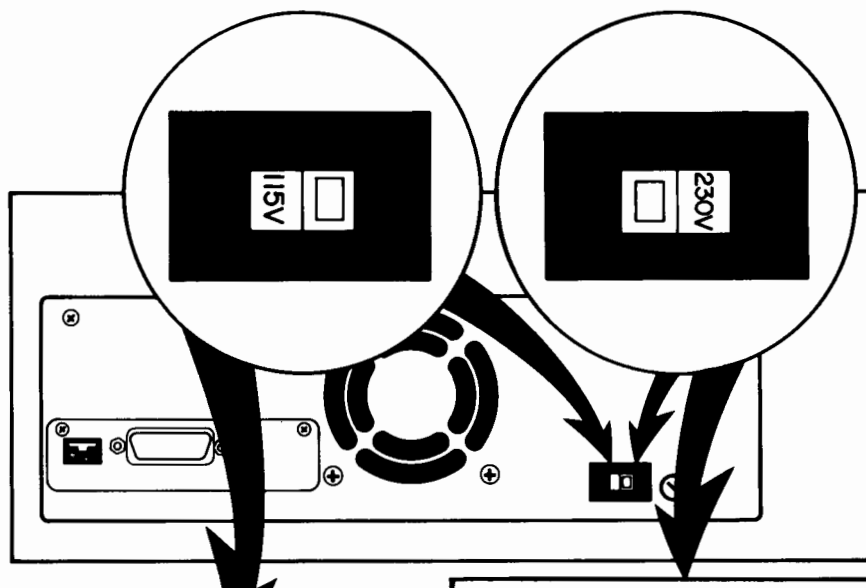
Varmista, että jännitekytkin on asetettu paikallisen tehon mukaan. Kytke aina levyasema pois päältä ennenkuin vaihdat jänniteasetusta.

Bekreft at spenningsbryteren er innstilt på den rette nettspenningen. Skru alltid av disc-driven før De forandrer spenningsbryteren.

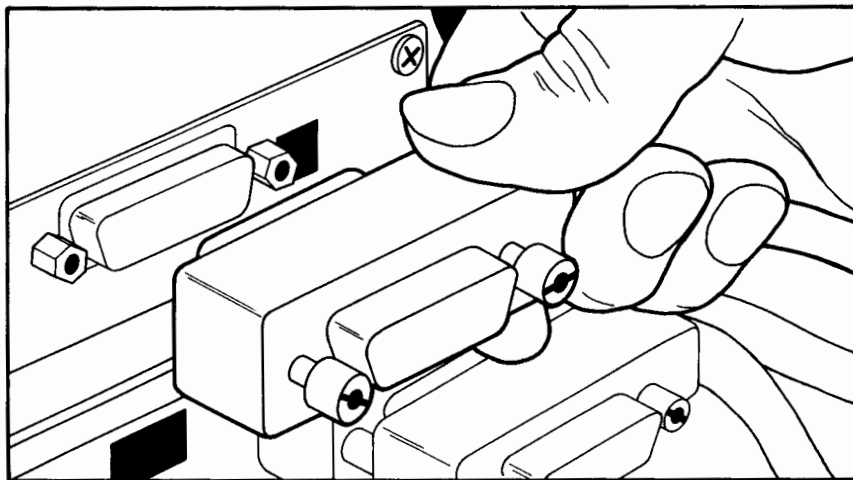
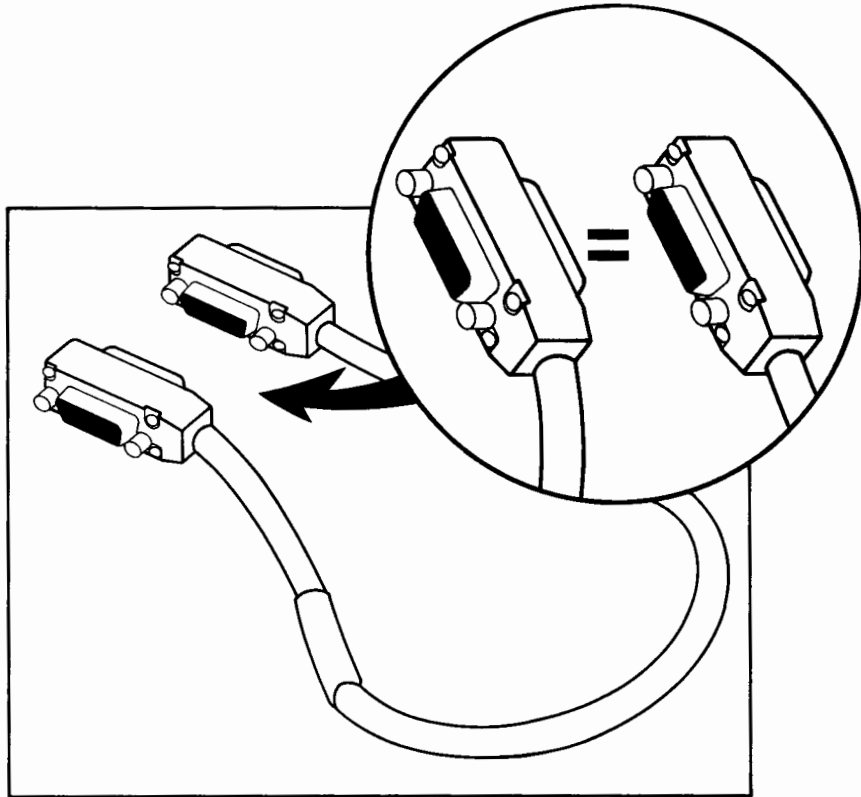
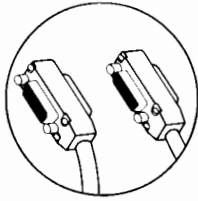
Försäkra dig om att spänningsomkopplaren har korrekt inställning enligt tillgänglig effekt. Slå alltid ifrån drivenheten för skivminne innan du ändrar spänningsinställningen.

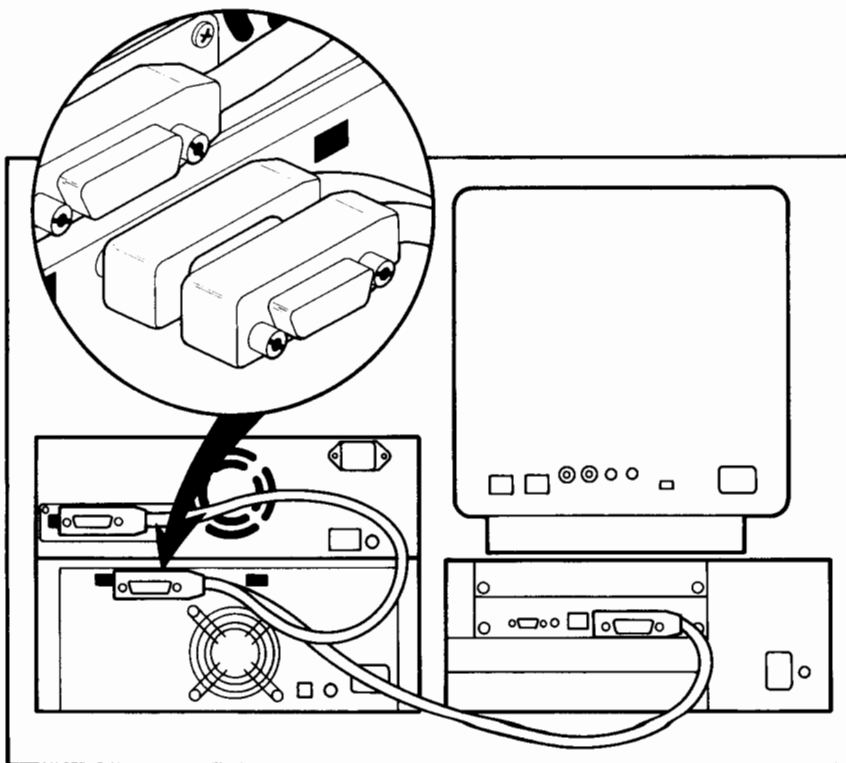
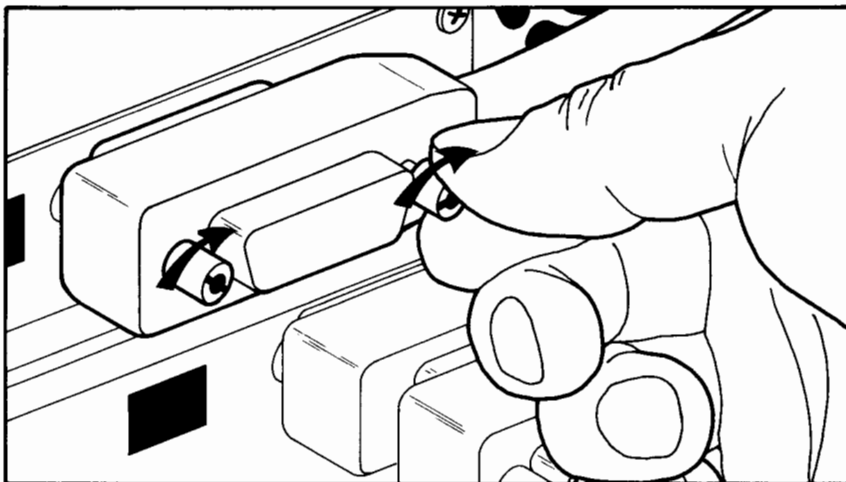
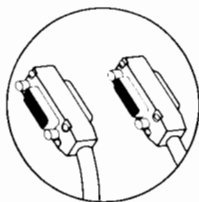


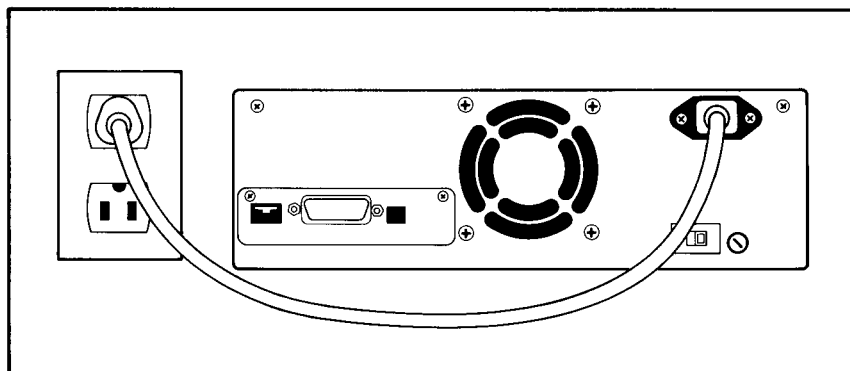
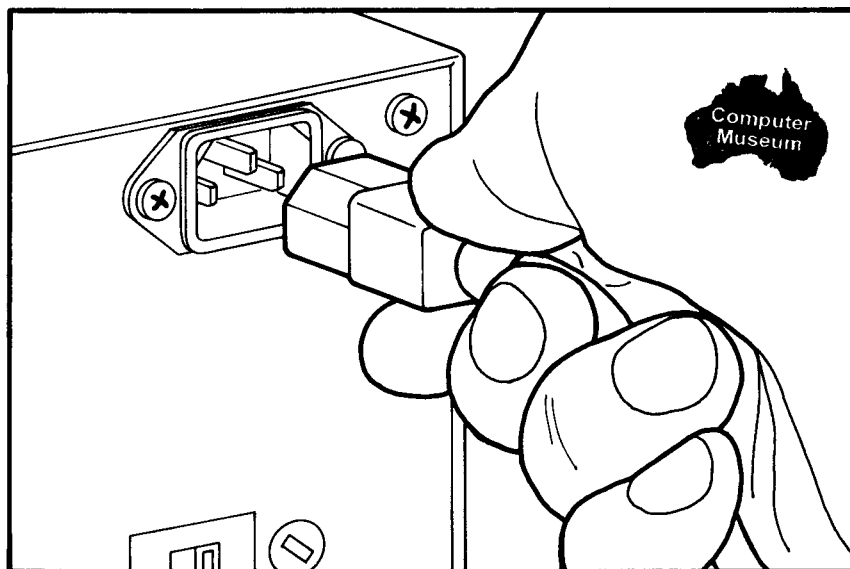
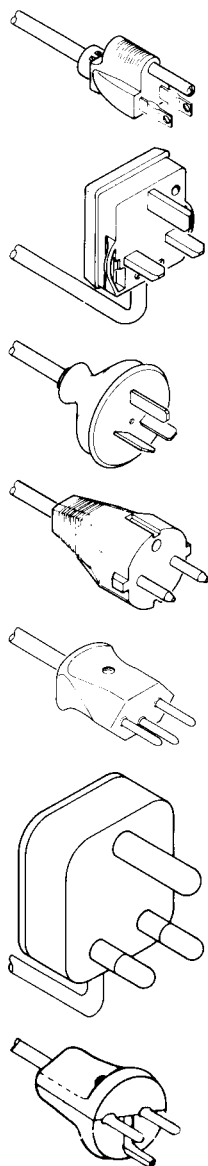
CAUTION



** Peru - 230V









If you are connecting your disc drive to a Series 200 computer, set the address wheel to 0. If you are connecting your disc drive to an HP Touchscreen PC, set the address wheel to 9.

Quand vous la connectez à un ordinateur de la série 200, tournez l'adresse sur 0. Quand vous connectez votre unité de disques à un HP 150 à écran tactile, tournez l'adresse sur 9.

Schließen Sie Ihr Plattenlaufwerk an einen Computer der Serie 200 an, stellen Sie den Adressendrehschalter auf 0. Stellen Sie den Adressendrehschalter auf 9, wenn Sie Ihr Plattenlaufwerk an einen HP 150 personal Computer anschließen.

Si conecta la unidad a un computador de la Serie 200, ponga la ruedecilla en el 0. Si usted conecta una unidad impulsora de disco a un computador personal HP 150, ponga la ruedecilla de dirección en el 9.

Se connettete la vostra unità disco ad un computer Serie 200, posizionate la ruota dell'indirizzo a zero. Se connettete la vostra unità disco ad un'HP Touchscreen PC, posizionate la ruota dell'indirizzo a 9.

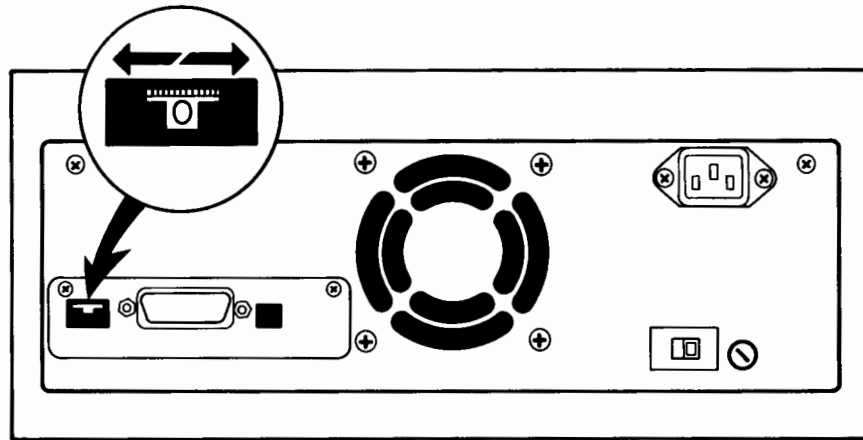
Hvis disk driven forbindes til en Series 200 computer, sæt adressehjulet på 0. Hvis disk driven forbindes til en HP 150, sæt adressehjulet på 9.

Indien U Uw disk drive op een Serie 200 computer aansluit, dient U het adreswiel op 0 af te stellen. Indien U Uw disk drive op een HP 150 aansluit, dient U het adreswiel op 9 af te stellen.

Jos levyasema yhdistetään Sarja 200 tietokoneeseen, on osoitepyörä asetettava 0-assentoon. Jos yhdistät levyaseman HP 150, aseta osoitepyörä asentoon 9.

Hvis platedrevet forbindes til en Series 200 datamaskin, sett adressehjulet på 0. Hvis platedrevet forbindes til en HP 150, sett adressehjulet på 9.

Om du ansluter din drivenhet för skivminne till en 200-serie dator, bör tumhjulsomkopplaren vara i läge 0. Om du ansluter din drivenhet för skivminne till HP 150, bör tumhjulsomkopplaren vara i läge 9.





A power-on selftest is performed when you turn on your disc drive. If the fault light remains lit after 30 seconds, the disc drive has not passed the selftest.

Un autotest de mise en route se déclenche à la mise sous tension de l'unité de disques. Si, après 30 secondes, le voyant lumineux reste allumé, l'unité de disques n'a pas passé l'autotest.

Beim Einschalten des Geräts wird automatisch ein Selbsttest durchgeführt. Leuchtet die Fehleranzeige für mehr als 30 Sekunden auf, verlief der Selbsttest nicht erfolgreich.

Quando se enciende la unidad impulsora de disco se efectúa automáticamente una autopruueba de la unidad. Si la luz indicadora de falla permanece encendida después de transcurridos 30 segundos, ello significa que la unidad no ha pasado la autopruueba.

Una prova di autocontrollo all'accensione viene eseguita quando inserite la vostra unità disco. Se il segnale luminoso di guasto rimane acceso dopo 30 secondi, l'unità disco non ha superato il test diagnostico.

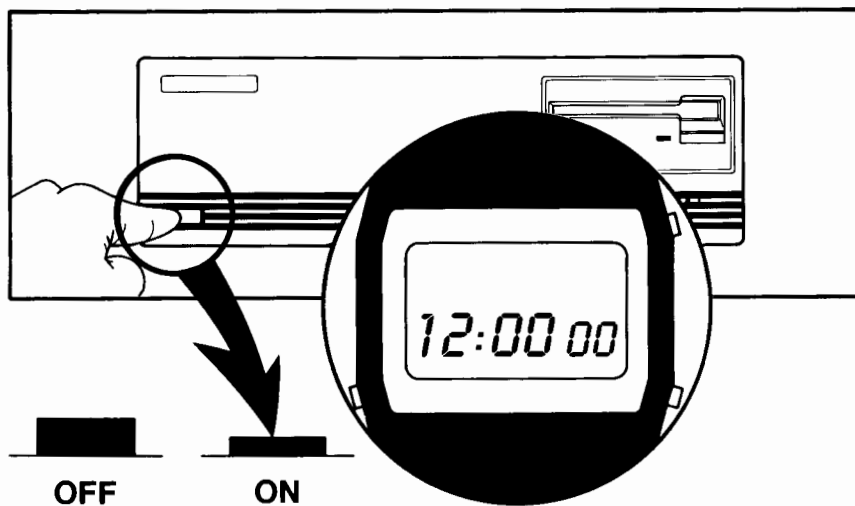
Når disk driven aktiveres, udfores der samtidigt en kontrol af "Power-on". Hvis kontrollampen forbliver tændt mere end 30 sekunder, har disk driven ikke bestået kontrollen.

Een zelftest wordt uitgevoerd wanneer U Uw disk drive aanzet. Indien het storingslicht langer dan 30 seconden blijft branden, is de zelftest van Uw disk drive niet geslaagd.

Kone suorittaa automaattisen virrantarkastuskokeen, kun kytket virran levyasemaan. Mikäli virhevalo on edelleen päällä 30 sek. Jälkeen, tiedät, ettei levyasema läpäissyt tarkastuskoetta.

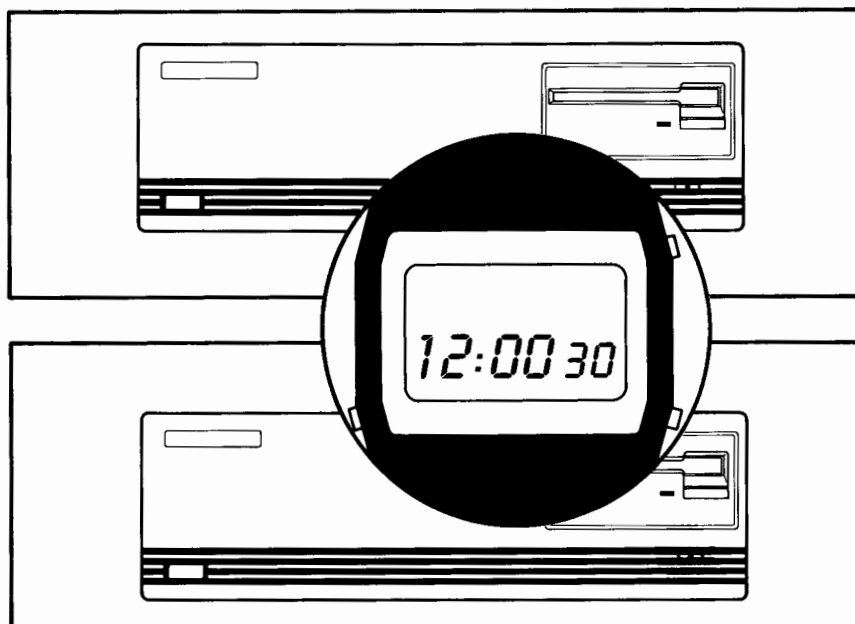
En "Power-on" kontrollprøve utføres samtidig som platedrevet blir slått på. Hvis feillyset fremdeles står på etter 30 sekunder, har platedrevet ikke bestått kontrollprøven.

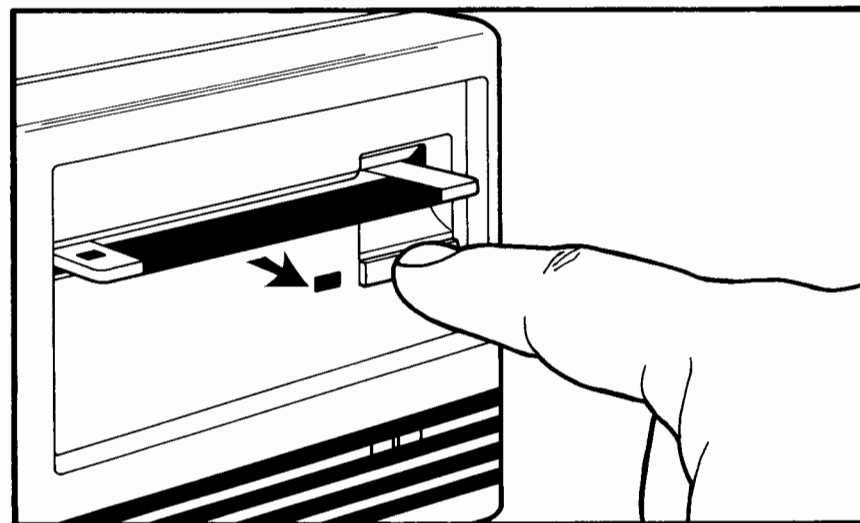
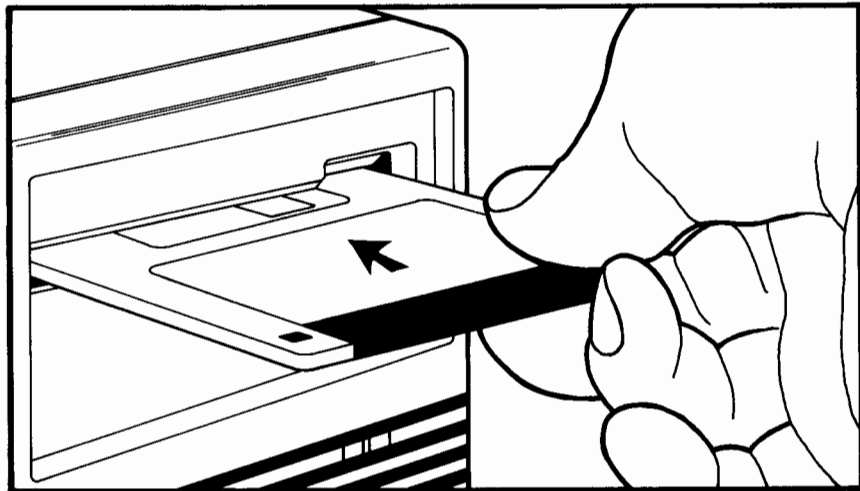
Datorn utför ett självtest när du kopplar på din drivenhet för skivminne. Om felindikeringslampan fortasätter att lysa mer än 30 sekunder, kan självtestet inte fullbordas.

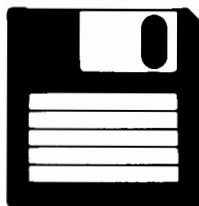


Pass
 Passe
 Bestehen
 Paso
 Superato
 Operationel
 Geslaagd
 Läpäise
 Bestått
 Fullbordat

Fail
 Echec
 Versagen
 Falla
 Bocciato
 Ikke operationel
 Niet geslaagd
 Epäonnistui
 Ikke bestått
 Misslyckat







Write protecting ensures that the disc drive cannot change or delete information on the disc. To write protect a disc, slide the plastic write-protect button down.

La protection de l'enregistrement garantit que l'unité de disques ne peut altérer ou effacer les données enregistrées sur le disque. Pour mettre cette protection, il suffit de pousser le taquet en plastique prévu à ce effet sur le disque.

Der Schreibschutz verhindert das Ändern und Löschen der auf der Platte gespeicherten Information. Um eine Platte vor dem Überschreiben zu schützen, schieben Sie den Schreibschutzknopf nach unten.

La protección contra escritura asegura el que la unidad impulsora de disco no podrá alterar o borrar información registrada en el disco. Para poner en efecto esta protección, deslice hacia abajo el botón de plástico correspondiente.

La protezione contro la sovrascrittura assicura che l'unità disco non può cambiare o cancellare informazioni sul disco. Se volete proteggere un disco contro la sovrascrittura, mettete una linguetta di protezione contro la sovrascrittura nella scanalatura di protezione contro la sovrascrittura.

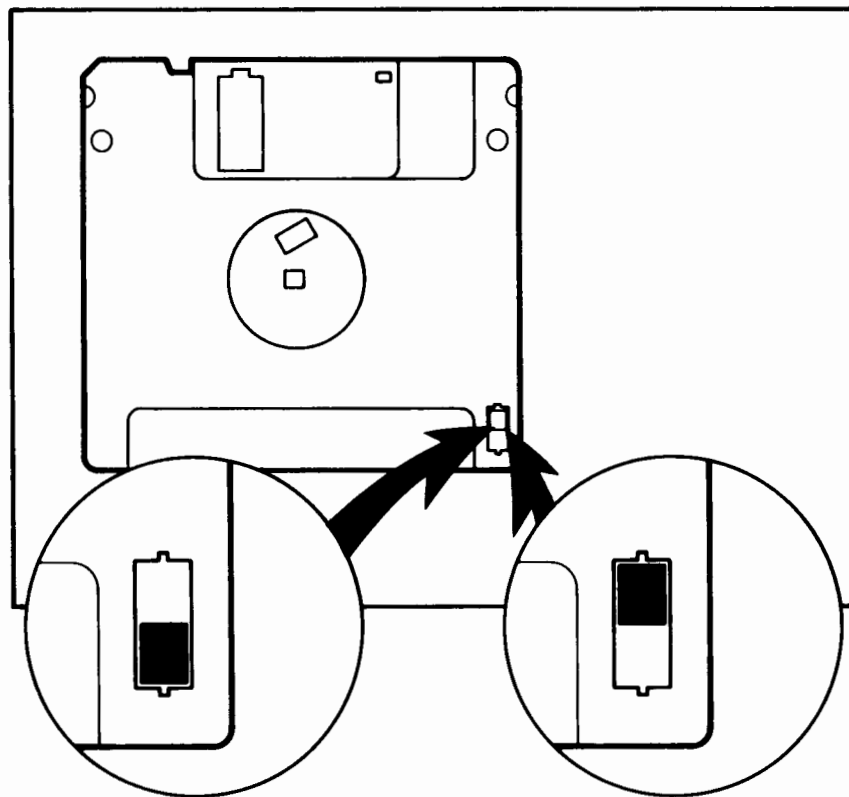
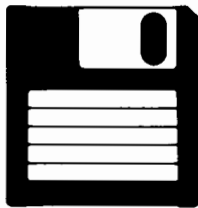
Skrivebeskyttelsen sikrer, at disk driven ikke kan ændre eller slette information på disketten. For at opnå skrivebeskyttelse af en diskette skubbes skrivebeskyttelsesknappen ned.

Schriftbescherming verzekert U ervan dat de disk drive geen gegevens op de disk kan veranderen of uitwissen. Indien U schriftbescherming wilt toepassen op een disk, dient U de plastic schriftbeschermingstoets naar beneden te schuiven.

Kirjoituksen soujaus varmistaa, ettei levyasema muuta tai poista levykkeelle talletettua tietoa. Jos haluat suojata levykkeellä olevan kirjoituksen, siirrä muovinen kirjoitussuojanappi alas.

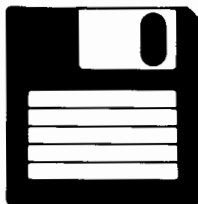
Skrivebeskyttelse forsikrer at platedrevet ikke kan forandre eller utviske informasjonen på magnetplaten. For å skrivebeskytte en magnetplate, la skrivebeskytterknappen gli ned.

Skrivskydd-funktionen förhindrar att en drivenhet för skivminne inte ändrar eller tar bort information på disketten. För att skrivskydda en diskett, skjut plastknappen ner.



WRITE PROTECTED
 PROTÉGÉ
 SCHREIBGESCHÜTZT
 PROTEGIDO CONTRA ESCRITURA
 PROTETTO CONTRO LA SOVRASCRITTURA
 SKRIVEBESKYTTET
 SCHRIFTBESCHERMD
 KIRJOITUSSUOJATTU
 SKRIVEBESKYTTET
 SKRIVSKYDDAD

NOT WRITE PROTECTED
 NON PROTÉGÉ
 NICHT SCHREIBGESCHÜTZT
 NO PROTEGIDO CONTRA ESCRITURA
 NON PROTETTO CONTRO LA SOVRASCRITTURA
 IKKE SKRIVEBESKYTTET
 NIET SCHRIFTBESCHERMD
 EI KIRJOITUSSUOJATTU
 IKKE SKRIVEBESKYTTET
 ICKE SKRIVSKYDDAD



The Media Monitor automatically monitors the condition of each flexible disc. When the flexible disc access light begins blinking continuously even after the disc has been accessed, copy the disc you are using.

Le Moniteur de Média surveille l'état de chacun des disques que vous utilisez. Si le témion d'accès au disque clignote ou si vous entendez un cliquetis, copiez immédiatement le disque que vous êtes en train d'utiliser.

Der Medienmonitor überwacht die Abnutzung jeder einzelnen Diskette. Kopieren Sie die Diskette, wenn die Zugriffsanzeige zu blinken beginnt und ein tickendes Geräusch zu hören ist.

El Monitor de Discos vigila automáticamente el uso de cada disco individual. Cuando la luz de acceso de disco flexible comienza a parpadear y se escucha un sonido de clics, copie el disco que esté utilizando.

Il Controllo del Supporto (Media Monitor) controlla automaticamente l'uso di ogni disco individuale. Quando il segnale luminoso di accesso al disco flessibile comincia a lampeggiare e si sente un ticchettio, copiate il disco che state usando.

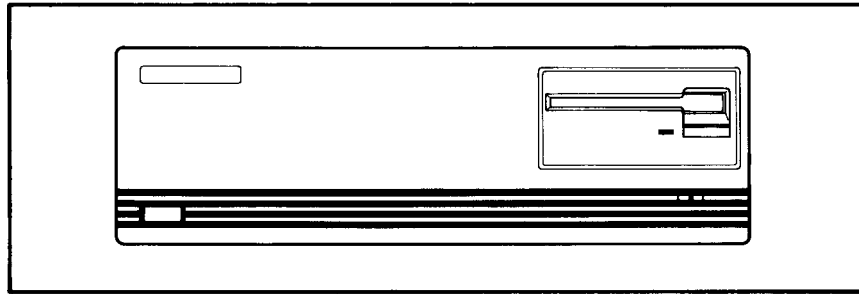
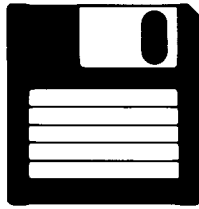
Media monitoren overvåger automatisk brugen af hver enkelt diskette. Når adgangsløset for den fleksible diskette begynder at blinke og der samtidigt høres en klikkende lyd, kopier da den diskette der benyttes.

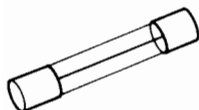
De Media Monitor controleert automatisch het gebruik van iedere afzonderlijke disk. Wanneer het flexibele disk toevoerlicht begint te knipperen en U een getik hoort, dient U de disk die U gebruikt te kopiëren.

Media Monitor ohjaa automaattisesti jokaisen levykkeen käytön. Kun levykemerkkivalo alkaa vilkkua ja kuulet naksahduksen, kopioi käyttämäsi levyke.

Media Monitor overvåker automatisk bruken av hver enkel magnetplate. Når adgangsløset til den fleksible magnetplaten begynner å blinke og en klikkende lyd blir hørt, kopier magnetplaten som brukes.

Media Monitorn kontrollerar automatiskt användning av varje individuell diskett. När en indikeringslampa börjar blinka och du hör ett knäppande ljud, bör du kopiera disketten som du använder.





WARNING

Because of a potential shock hazard, always unplug the power cord if you need to change a fuse. Put the fuse in the fuse-holder, and then put the fuse-holder back into the drive.

Au moment de changer un fusible, débranchez toujours le cordon d'alimentation, pour ne pas risquer de recevoir une décharge électrique. Insérez le fusible dans le porte-fusible, puis replacez l'ensemble dans l'unité de disques.

Da die Gefahr besteht, einen Stromschlag zu erhalten, ziehen Sie das Stromkabel aus der Steckdose, bevor Sie die Sicherung auswechseln. Setzen Sie die Sicherung zuerst in den Sicherungsschalter ein und dann in den Sicherungskasten.

Para evitar el peligro de electrocución, desenchufe siempre el cordón de alimentación antes de reemplazar un fusible. Coloque el fusible en el portafusible y luego coloque éste en la unidad de disco.

Per evitare il possibile rischio di una scossa elettrica staccate sempre il cavo di alimentazione se dovete cambiare un fusibile. Mettete il fusibile nel porta-fusibili e poi rimettete il porta-fusibili nell'unità disco.

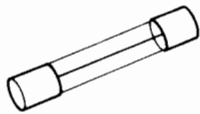
Træk – på grund af risiko for elektrisk stød – altid stikket ud, hvis det er nødvendigt at skifte sikring. Anbring sikringen i sikringsholderen og sæt derpå denne tilbage i disc-aktivatoren.

Om schokgevaar te voorkomen dient U altijd eerst de stekker uit het stopkontakt te verwijderen indien U een zekering moet vervangen. Plaats de zekering in de zekeringsdoos en plaats de zekering weer in de disk drive.

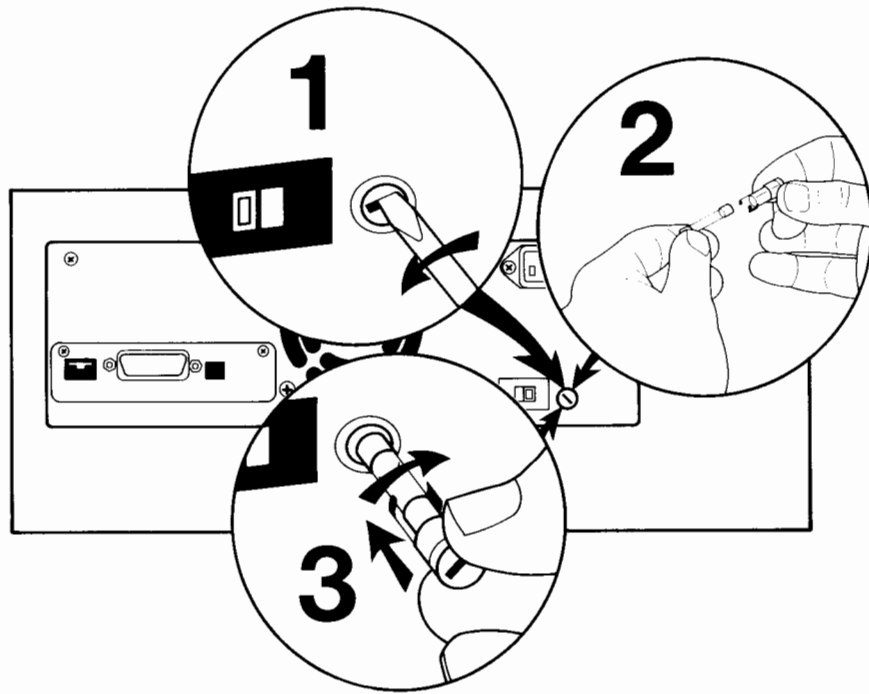
Mahdollisen sähköiskuvaaran takia on liitännäjäohdin irroitettava aina ennen sulakkeen vaihtamista. Pane sulake sulakkeenpitimeen ja aseta sulakkeenpidin takaisin levyasemaan.


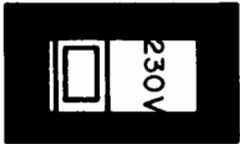


På grunn av eventuell fare for stød, trekk alltid ut den strømførende ledningen, hvis De må skifte sikring. Sett sikringen inn i sikringsbeholderen og sett så sikringsbeholderen tilbake i disc-driven.

På grund av ev. stötfara, försäkra dig om att nätsladden är fränkopplad, om du behöver byta en säkring. Sätt säkringen i säkringshållaren och sätt sedan säkringshållaren tillbaka i drivenheten för skivminne.



WARNING



	
 3.0 A 250 V~	 1.5 A 250 V~

Part 2: Start-Up, Operating, and Reference Information

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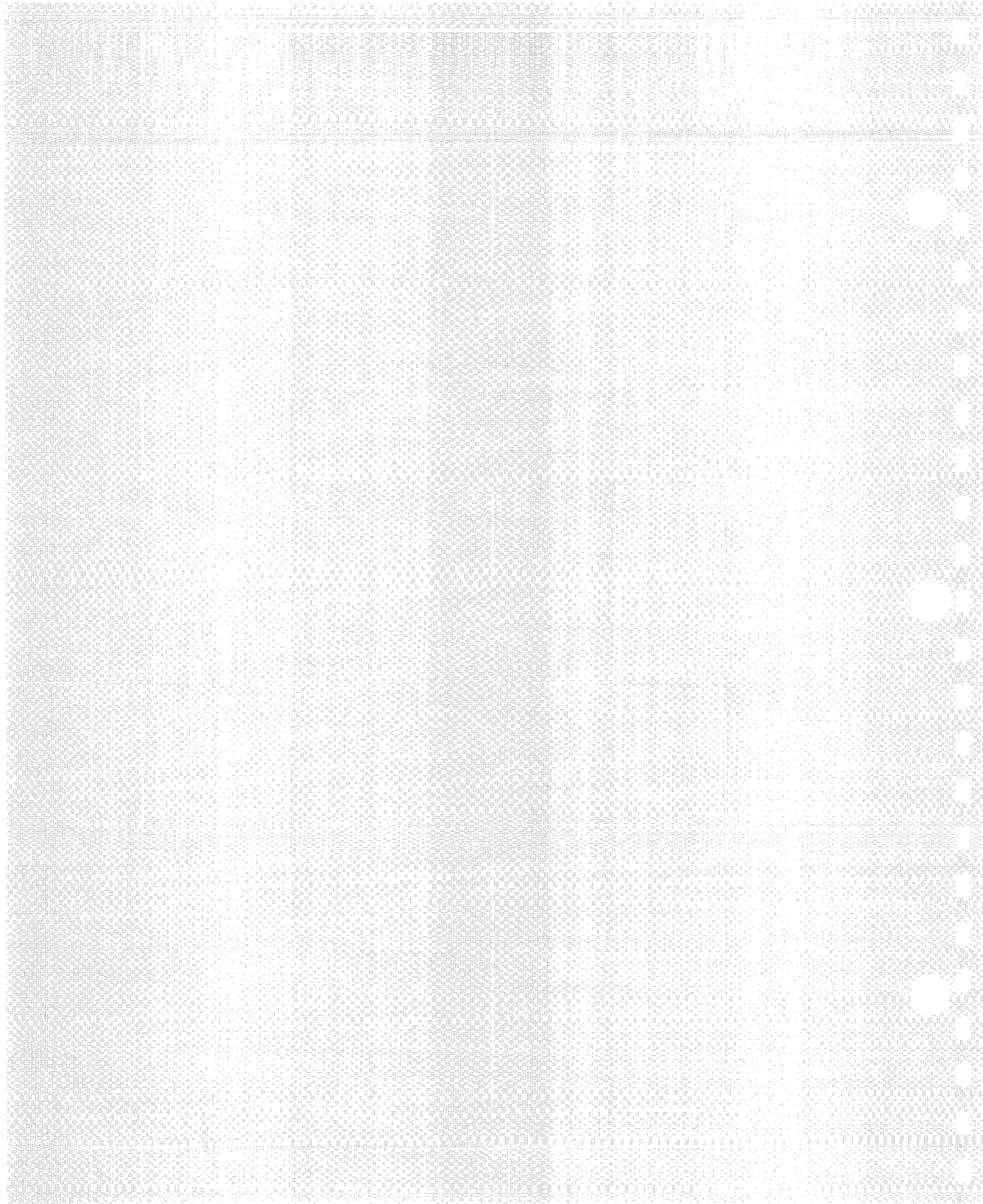
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1

Introduction

Welcome to one of Hewlett-Packard's most powerful data storage solutions. Designed for engineering, industrial, and business applications, the HP 9153 and HP 9154 hard disc drives are rugged and versatile performers. Whether you're expanding or setting up your system, you'll find that you have found an answer to your storage needs.

About This Manual

If you're this far, you've probably skipped all of those pictures and languages in the front. Or, maybe you've been through them, set up your system, and are wondering what to do next.

- **If you'd like a little more detail**, read on. Chapter 2 offers step-by-step instructions on setting up your drive. Chapters 3 through 8 provide some operating information for specific computers, and Chapters 9 and 10 describe basic maintenance and troubleshooting and the care and use of flexible discs.
- **If you're confident about setting up your system and are ready to start using it**, move on to the chapter which offers some operating information specific to your computer. Chapters 9 and 10 provide reference information.

Chapters 3 through 7 cover the following computers:

- 3: HP Series 200/300 with BASIC
- 4: HP Series 200/300 with Pascal
- 5: HP Series 200/300 with HP-UX
- 6: HP Touchscreen II PC
- 7: HP Integral PC

If you can't find your computer in this list, please refer to Chapter 8. You can usually find operating information in the disc drive or mass storage section of your computer documentation, and Chapter 8 offers some direction in the maze of manuals describing your system.

If you're connecting this drive to an HP Vectra PC or any non-HP computer, you must also order an HP 88500A Interface. The Interface Package includes a manual with installation and operating information.

Keep this start-up manual as a reference, inserting it into a three-hole book such as your system manual binder.

About Your Disc Drive

A disc drive is a device that allows a computer to read data that is stored on a disc or write data to a disc. A disc is similar to a phonograph record, but it stores programs and data instead of music. A disc can be flexible or hard.

A flexible, or "removable," disc can be removed from the disc drive. The disc is called flexible because it is made from a flexible, synthetic material. There are two kinds of flexible discs, single-sided and double-sided: data can be stored on only one side of a disc, or on both sides.

A hard, or "fixed," disc usually cannot be removed from the disc drive and is made from rigid aluminum. A hard disc is often called a Winchester disc.

The **HP 9153A** is a 10 megabyte hard disc with a 3 1/2", double-sided, flexible disc drive. The **HP 9154A** is a 10 megabyte hard disc drive only.

The **HP 9153B** is a 20 megabyte hard disc with a 3 1/2", double-sided, flexible disc drive. The **HP 9154B** is a 20 megabyte hard disc drive only.

Let's set up your new disc drive.

2

Setting Up

You'll go through these eight steps in this chapter:

- Step 1: Before You Begin**
- Step 2: A Look at Your Disc Drive**
- Step 3: Setting the Voltage**
- Step 4: Setting the Configuration Switch**
- Step 5: Connecting the Interface Cable**
- Step 6: Connecting the Power Cord**
- Step 7: Setting the Address**
- Step 8: Try It!**

If you've already set up the drive and want to start using it, move now to the chapter which describes your particular computer. You may also refer to the disc drive or mass storage section of your computer documentation.

Chapters 9 and 10 provide information on basic maintenance and trouble shooting and the care and use of flexible discs.

Step 1: Before You Begin

1. Check that the following items are packaged with your disc drive:
 - Power cord.
 - User's manual.
 - Two fuses (one for 115V operation and the other for 230V operation) and two fuse inserts.
 - If you have an HP 9153, you received one flexible disc.
2. Inspect your disc drive for any physical damage that may have occurred during shipment.
3. If you find any damage, notify your dealer or the nearest Hewlett-Packard Sales and Support Office and file a claim with the carrier.

CAUTION

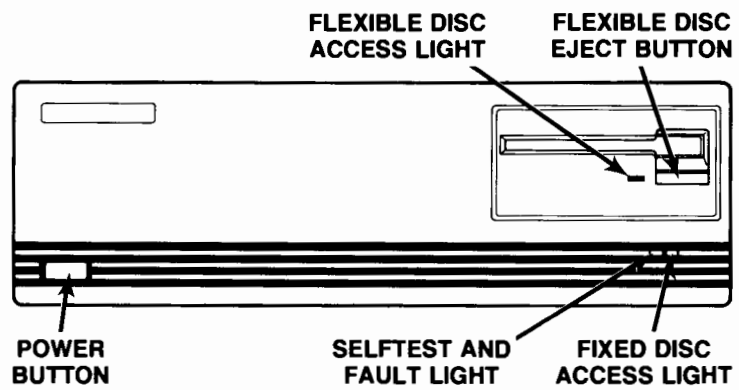
If you have an HP 9153, pull out the protective rubber wedge in the flexible disc drive slot, and then *fully* depress the eject button to remove the plastic shipping disc.

NEVER turn on the drive with the shipping disc inserted; doing so will damage the drive.

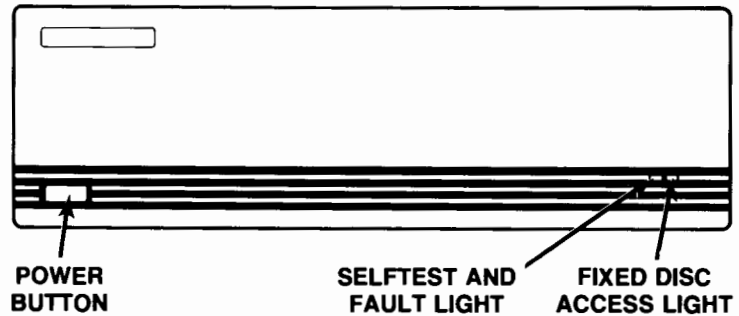
-
4. If you plan to transport your disc drive in the future, save the shipping carton, and, if you have an HP 9153, save the shipping disc and wedge. This shipping material is carefully designed to protect your drive from shock and vibration.

Before you move the drive, insert the shipping disc and wedge in the flexible disc drive. Seal the disc drive in a plastic bag and repack it in the shipping carton. If you'd like to order a new shipping disc and wedge, see Chapter 9 for information.

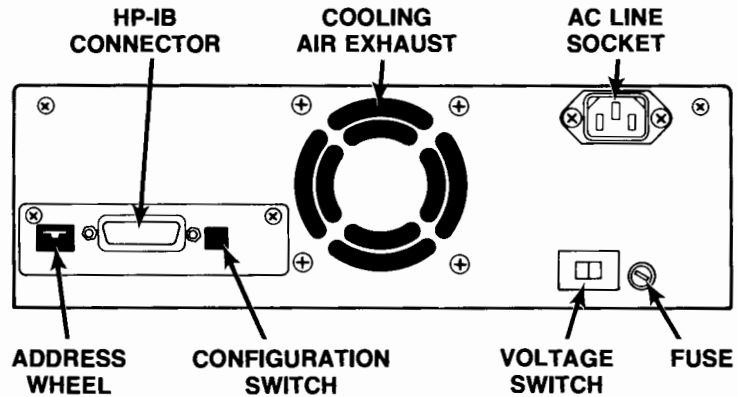
Step 2: A Look at Your Disc Drive



HP 9153 Front Panel



HP 9154 Front Panel



HP 9153/9154 Rear Panel

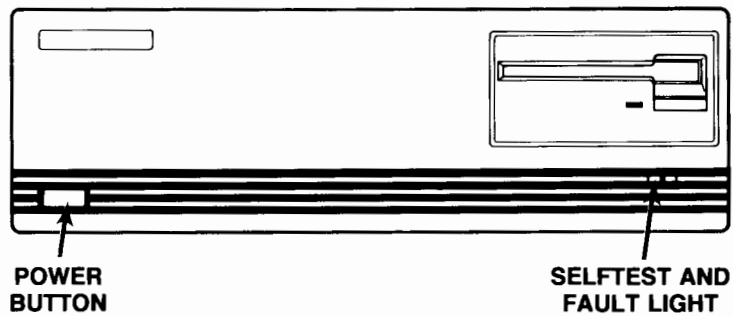
- Note the cooling air exhaust vent on the rear panel. When you position your drive, don't block this exhaust.

NOTE

Both the HP 9153 and the HP 9154 are rugged disc drives, designed to operate in a variety of environments. They are precision instruments, however, and should be treated with care.

If you have an HP 9153, please follow the guidelines in Chapters 9 and 10 and in the Appendix. We recommend operating flexible disc drives in clean environments.

If you have an HP 9154, please follow the guidelines in Chapter 9 and in the Appendix.



Power Button and Fault Light

Before we begin, find the power button on the front panel of your disc drive. The drive is on when the button is IN, and off when the button is OUT. *PERFORM THE STEPS THAT FOLLOW WITH THE DRIVE UNPLUGGED AND TURNED OFF.*

Step 3: Setting the Voltage

1. Find the voltage switch on the rear panel of your disc drive.

CAUTION

To avoid damaging the drive, make sure the drive is unplugged and turned off before changing the voltage setting.

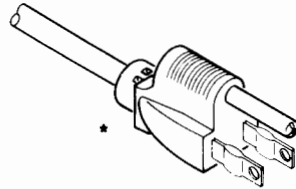
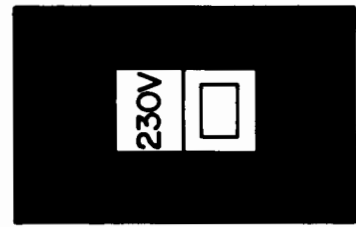
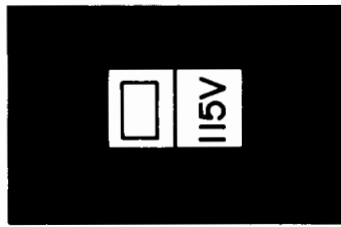
Operating the drive at an incorrect setting may affect performance or damage the drive.

2. Make sure the voltage switch is set correctly. See the following table to determine which setting is correct for your local power. (Ranges shown in the table are based on normal usage.)

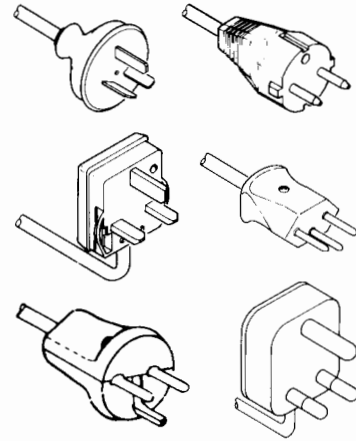
Voltage Settings and Fuses

Country	Voltage Setting	Nominal Range	Fuse P/N	Fuse Holder
U.S. Mexico Canada Japan Most South American Countries	115V~	100-120V~	3.0 AF 250V~ HP P/N 2110-0003	Gray
Most European Countries	230V~	200-240V~	1.6 AF 250V~ HP P/N 2110-0673	Black

3. If necessary, use your fingernail or a screwdriver to slide the voltage switch sideways until the switch displays the proper setting.
4. A fuse was installed in your drive at the factory, and, unless your voltage setting requires a different fuse (see table), DO NOT replace it. If you do need to change the fuse, follow the instructions in Chapter 9.
5. Check that your power cord is correct for your setting. The following figure illustrates the power cords used with each voltage setting.



* Peru allows usage of this power cord at a voltage setting of 230V.



Voltage Settings and Power Cords

Step 4: Setting the Configuration Switch

Configuration switches allow you to divide or partition your hard (fixed) disc into sections. You can select the arrangement of volumes best suited to the number and sizes of your particular applications.

The configuration switch on the rear panel of the HP 9153/9154 has three basic functions. Use it to:

- partition your hard disc into easily-managed sections called volumes.
- initialize (format) the hard disc or re-initialize existing volumes.

-
- prevent accidental writing to and re-initializing of the hard disc.
-

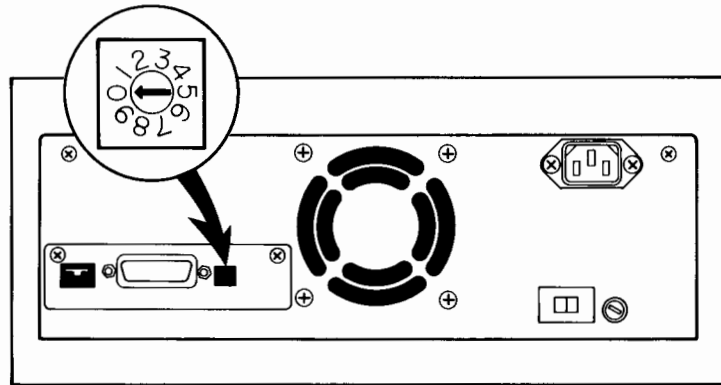
CAUTION

Not all computers support these switch functions. The setting you select depends on your particular computer. If you do not take the proper steps, you may lose data.

- If you have a Series 200/300 computer, you may want to set the configuration switch to partition the hard disc into multiple volumes. Please see Chapter 3 (BASIC), Chapter 4 (Pascal), or Chapter 5 (HP-UX) in this manual for switch setting information and instructions *after* completing this chapter.
- If you have an HP Touchscreen II PC, make sure the configuration switch is set to 0. *The Touchscreen Series computers do not support multiple volumes.* The switch is set to 0 at the factory and does not need changing. After formatting the hard disc, you may change the setting to 9 to prevent accidental formatting. Please move to Chapter 6 *after* completing this chapter.
- If you have an HP Integral PC, refer to Chapter 7 *after* completing this chapter for configuration switch setting instructions.
- Other users should refer to Chapter 8, their system manuals, or to their HP Sales Office for instructions *after* completing this chapter. If your computer supports volumes, you may also use the charts in Chapter 3 for setting and volume size information. If your computer does not support volumes, leave the switch at the factory setting of 0.

If you look at the configuration switch on the back panel, you'll see ten possible settings, 0 through 9.

- 0 Initialize Enable. This setting allows you to initialize (format) the hard disc or to re-initialize existing volumes.
- 1 - 7 Select Number of Volumes. These settings allow you to select the number and sizes of volumes.
- 8 Write Protect. This setting prevents you from writing data to the first volume of the disc. It also prevents accidental re-initializing of the entire disc.
- 9 Initialize Protect. This setting prevents accidental re-initializing (formatting).



Configuration Switch

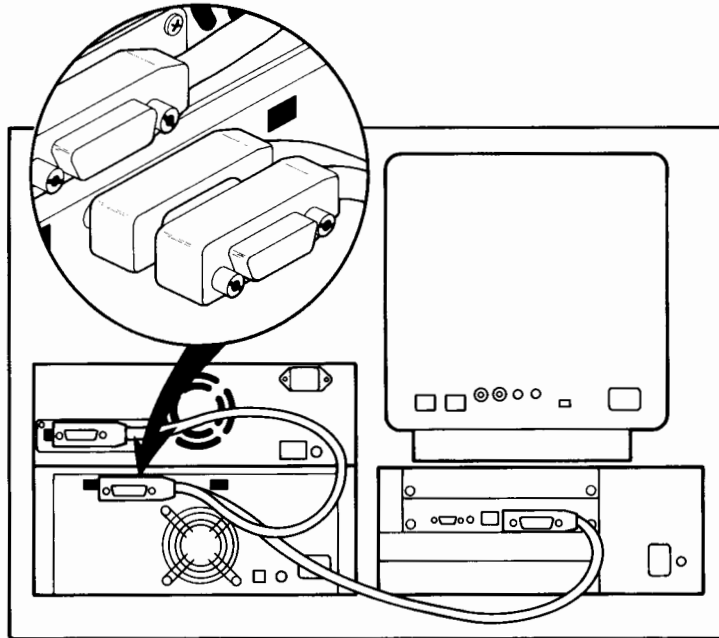
Setting the Switch

You'll set the switch when you read the chapter that describes your particular computer.

NOTE

Whenever you change the configuration switch setting, you must turn the drive off and then on again for your system to know that a change has occurred.

Step 5: Connecting the Interface Cable



Interface Cable

1. Make sure your disc drive and computer are turned off.
2. Attach one end of the cable onto the HP-IB connector of your disc drive, and tighten the screws on the cable with your fingers.
3. Attach the other end of the cable onto the HP-IB connector of your computer, and tighten the screws on the cable with your fingers.

Notice that the interface cable covers the configuration switch. When you set the switch, you will have to remove the cable from the disc drive.

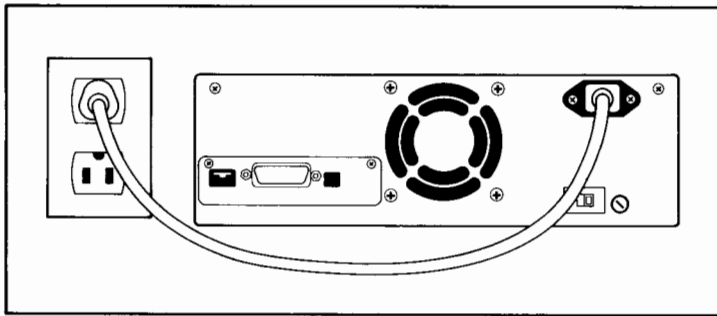
NOTE

Look at the inset in the preceding figure.

The end of the interface cable allows you to connect, or "piggyback," other cables. If you need to add another peripheral, you can plug another interface cable into the back of the cable you have just hooked up. We recommend, however, that no more than four piggyback connectors be stacked on one piece of equipment; the resulting weight could damage the connector mounting.

Refer to the Appendix for more details on interface restrictions.

Step 6: Connecting the Power Cord



Power Cord Connection

WARNING

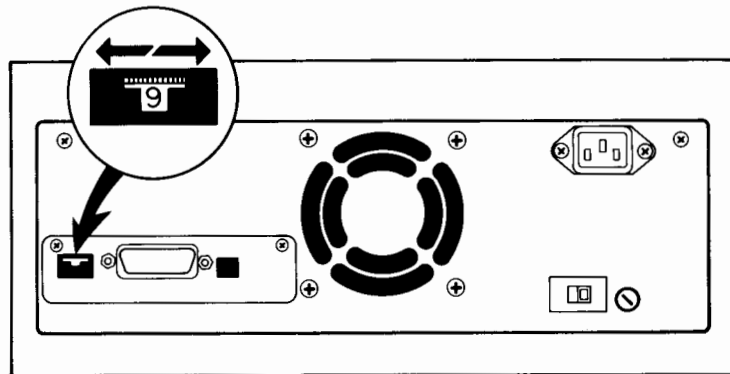
This product is equipped with a power cord and plug designed for your safety. Plug the power cord into a properly grounded receptacle to avoid possible electrical shock.

1. Make sure your disc drive and computer are turned off.
2. Connect the power cord to the socket labeled "AC LINE" on the rear panel of your disc drive.
3. Plug the power cord into an electrical outlet.

Step 7: Setting the Address

Each Hewlett-Packard peripheral connected to the same HP-IB on your personal computer must have a unique address, just as each house on a block must have a unique address. Your computer uses that address to communicate with the peripheral.

Hewlett-Packard sets your disc drive address to 9 at the factory. You'll find the proper address setting and instructions in the chapter which describes your computer.



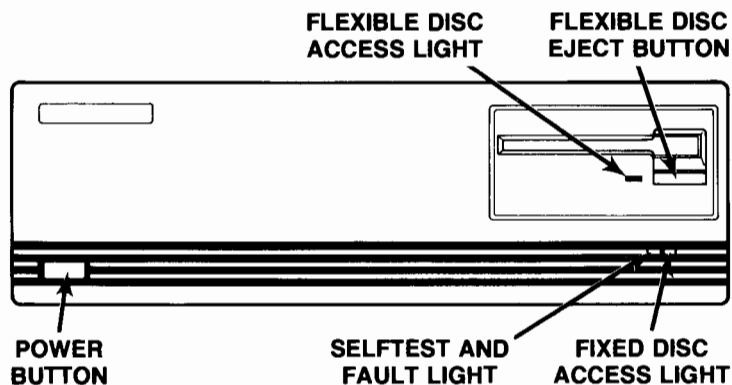
Address Wheel

Whenever you need to change the address,

1. Make sure the disc drive is turned off.
2. Turn the thumb wheel to the desired setting.

NOTE Whenever you change the address, you must turn the drive off and then on again for your system to know that a change has occurred.

Step 8: Try It!



HP 9153 Front Panel

CAUTION Do not turn off your disc drive when the hard disc access light ("ON LINE" light) on the front panel is on. The hard disc access light is on when your computer is storing data to, and retrieving data from, the hard disc. It lights momentarily when the drive is turned on.

If you have an HP 9153, do not press the flexible disc eject button nor turn the drive off while the flexible disc access light is on. Like the hard disc access light, the flexible disc access light is on when the computer is accessing the flexible disc and when a new disc is inserted.

-
1. Locate the power button on the front panel of your disc drive. Push the button IN to turn on your disc drive.
-

NOTE You'll hear a whirring noise when you turn on your disc drive. This sound is normal and does not indicate a problem with the drive.

2. When you turn on your disc drive, the flexible and hard disc drives perform a selftest which takes about 30 seconds. During this time, the yellow selftest light on the front panel of your disc drive is lit.
3. After about 30 seconds, the selftest light should go out, indicating that your disc drive has passed the selftest.
4. If the light remains on or flashes, turn off your disc drive. Turn your disc drive on again to repeat the selftest.
5. If the light flashes or is still lit after you repeat the selftest, contact your dealer or the nearest Hewlett-Packard Sales Office. Chapter 9 also offers some problem-solving steps.

Using Your Disc Drive

Move now to the chapter which describes using the HP 9153/9154 with your particular computer. You may also refer to the disc drive or mass storage section of your computer documentation. Chapters 9 and 10 provide reference information.

3

Using Your HP 9153/9154 with Series 200/300 and BASIC

Introduction

This chapter offers some steps to help you start using your HP 9153/9154 with BASIC and your Series 200/300 computer.

These steps will get you started:

- Step 1: Before You Begin**
- Step 2: Setting the Configuration Switch**
- Step 3: Understanding Mass Storage Unit Specifier**
- Step 4: Booting Your System**
- Step 5: Initializing the Hard Disc**
- Step 6: Protecting Your Data**
- Step 7: Initializing Flexible Discs**
- Step 8: Using Other Mass Storage Commands**

Please refer to your Series 200/300 and BASIC documentation for complete operating information. Manuals you will find helpful include *BASIC Programming Techniques*, the *BASIC Language Reference*, and the *BASIC User's Guide*.

The HP 9153/9154 is supported on BASIC 3.0 or later versions with Series 200 computers and on BASIC 4.0 or later versions with Series 300 computers.

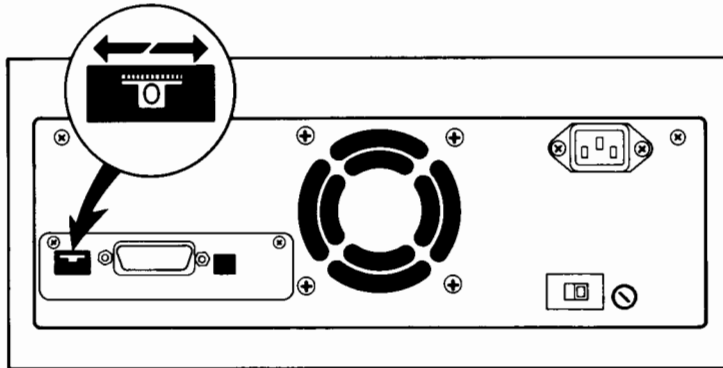
NOTE

You may use the following instructions for both the HP 9153 and the HP 9154. Please note, however, that you cannot "boot" (load the operating system and utilities) from the HP 9154 until you copy BASIC to the hard disc.

Step 1: Before You Begin

1. Set up your drive according to the instructions in Chapter 2.
2. Set the address wheel to any address between 0 and 7. Do not select an address used by any other peripheral connected to your computer. (Address settings 8 and 9 are designed for Touchscreen users.)

To change the address, turn off your disc drive and turn the thumb wheel to the desired setting.



Address Wheel

NOTE

Whenever you change the address, you must turn the drive off and then on again for your system to know that a change has occurred.

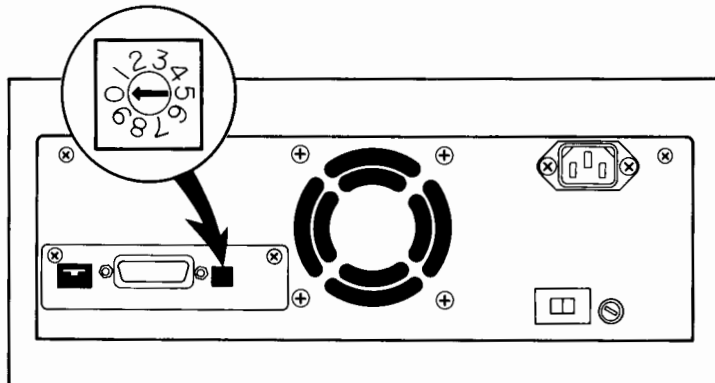
Step 2: Setting the Configuration Switch

The configuration switch on the rear panel of your disc drive has three basic functions. Use it to:

- partition your hard disc into easily-managed sections called volumes.
- initialize (format) the hard disc or re-initialize existing volumes.
- prevent accidental writing to and re-initializing of the hard disc.

CAUTION

Set the switch to the number of volumes desired *before* you initialize the hard disc.



Configuration Switch

Settings are described in the following tables:*

HP 9153/9154A 10 Megabyte Disc Drive

SETTING	NUMBER OF VOLUMES	VOLUME SIZE (MB/VOL)						
0	Allows re-initializing of existing volumes. At first, if you leave the switch at the factory setting of 0, the hard disc is initialized as one volume (it defaults to setting 1).							
1	One	10.0						
2	Two	5.0			5.0			
3	Three	3.32		3.32		3.32		
4	Four	2.49		2.49		2.49		
5	Five	2.0		2.0		2.0		
6	Six	1.66	1.66	1.66	1.66	1.66	1.66	
7	Two	3.01		7.02				
8	Prevents writing to the <i>first</i> volume of the hard disc. Prevents accidental re-initializing of the hard disc.							
9	Prevents accidental re-initializing of the hard disc.							

HP 9153/9154B 20 Megabyte Disc Drive

SETTING	NUMBER OF VOLUMES	VOLUME SIZE (MB/VOL)						
0	Allows re-initializing of existing volumes. At first, if you leave the switch at the factory setting of 0, the hard disc is initialized as one volume (it defaults to setting 1).							
1	One	20.0						
2	Two	10.06			10.06			
3	Three	3.01	3.01	14.1				
4	Four	5.03	5.03		5.03	5.03		
5	Two	5.03	15.09					
6	Six	3.35	3.35	3.35	3.35	3.35	3.35	
7	Two	3.01	17.11					
8	Prevents writing to the <i>first</i> volume of the hard disc. Prevents accidental re-initializing of the hard disc.							
9	Prevents accidental re-initializing of the hard disc.							

* Refer to the Appendix for complete volume specifications.

HINT

Use the setting suitable for the number and size of your files and applications. 20 megabyte disc users, for example, may follow these guidelines:

If you want to organize your activities into equal sections, use settings 2, 4, or 6.

Settings 3, 5, and 7 provide optimal performance if you are using BASIC with large applications like EGS or AXE.

To set the configuration switch, complete the following steps:

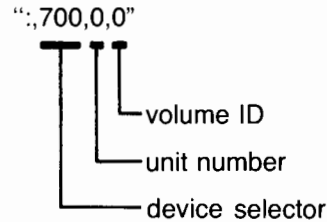
1. Turn off your disc drive.
2. Remove the interface cable attached to the HP-IB connector on the rear panel of the drive.
3. Insert a small screwdriver into the slot on the configuration switch.
4. Rotate the switch to the desired setting.
5. Re-attach the interface cable.
6. Turn on your disc drive.

Let's move on to **Step 3**. After you initialize the hard disc, we'll tell you how to set the configuration switch to protect your data.

Step 3: Understanding Mass Storage Unit Specifier

Before you initialize discs or use other BASIC commands, you need to understand the Mass Storage Unit Specifier (MSUS). MSUS is what the computer uses to identify your disc drive. *All commands have the same format: the command followed by the MSUS of the disc drive to which the command is directed, and any other additional command-specific parameters.*

For example, the MSUS of an HP 9153 might appear as follows:



The MSUS is composed of three parts, separated by commas.

The *device selector* refers to the address of your disc drive. The first number is 7 as long as you are using the internal HP-IB connection. The last two numbers of the device selector are the address of your disc drive. These numbers may vary from 00 to 07, depending on the address setting. In this example, the disc drive address is 00.

The *unit number* refers to the drive you wish to access. In this example, the unit number of 0 means that you wish the computer to access the hard disc drive of the HP 9153. If you wish the computer to access the flexible disc drive of the HP 9153, the unit number is 1. (If you are using an HP-IB address of 8 or 9, unit numbers are reversed: the flexible disc is unit 0, and the hard disc is unit 1.)

The *volume ID* refers to the volume you wish to access. If the volume configuration switch is set for one volume, you do not have to specify a volume ID. **However, if your configuration switch is set for multiple volumes, you must specify a volume ID, because each volume of your hard disc must be initialized separately.**

HINT

Volumes on your fixed disc are numbered consecutively from 0. For example, if your hard disc is partitioned into four volumes, the volume IDs are 0, 1, 2, and 3. (You do not have to specify a volume ID when referring to the flexible disc drive.)

Step 4: Booting Your System

"Booting" loads the operating system and utilities. Boot your system using the following steps:

1. Turn on your disc drive, and wait for it to complete the selftest. Make sure your computer is not turned on.
2. Insert the BASIC System Disc in the flexible disc drive.
3. Turn on your computer. Your computer automatically loads the BASIC operating system.* When the prompt *BASIC Ready X.X* appears on the screen, the operating system is loaded. Loading the operating system takes 30 to 50 seconds.
4. Remove the BASIC System Disc and insert the BASIC Driver Disc into the flexible disc drive.

NOTE

If you are using BASIC 4.02 (or later), your System Disc contains an AUTOST program which completes the next steps for you. You need only follow the instructions provided on the screen.

5. Type **LOAD BIN "HPIB"** and press **Exec** (or **Return**).*
6. When the prompt *BASIC HPIB X.X* appears, type **LOAD BIN "CS80"** and press **Exec** (or **Return**).*
7. The system is now ready to use with BASIC.

* Refer to your *BASIC User's Guide* for detailed instructions.

The next steps describe INITIALIZE and other frequently used BASIC commands.

Step 5: Initializing the Hard Disc

Before you initialize the hard disc, read **Step 2: Setting the Configuration Switch** in this chapter.

- Remember that each volume on your hard disc must be initialized separately. We recommend that you initialize all volumes at one sitting.

CAUTION

All discs, including hard discs, must be initialized before they can be used. Initializing is the process of preparing a blank disc to receive information and ensuring that your disc will record that information reliably. Initializing takes about 60 seconds per megabyte, depending on the way you have set up your system.

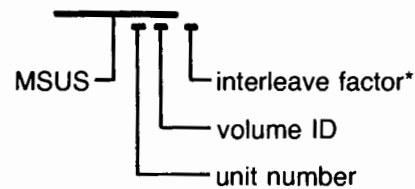
Initializing erases any data already stored on the disc.

Initialize the hard disc using a command similar to the following example.

Press **Enter** after typing in your command.



INITIALIZE ".,700,0,0",1



** OPTIONAL. Interleaving changes the order in which the computer reads the sectors on a disc. Although the interleave factor is considered optional in this command, the HP 9153/HP 9154 hard disc is designed to run automatically and most efficiently at an interleave of 1. You need not select an interleave factor.*

The above example tells the computer that you wish to initialize volume 0 of a device at address 0 with an interleave factor of 1. The Mass Storage Unit Specifier (MSUS) is described in more detail in a previous section of this chapter.

Step 6: Protecting Your Data

You may now do one of three things:

1. You may leave the switch at the volume setting you selected prior to initializing the hard disc. Here's an example:

Roger selected setting 3, which breaks up his 10 megabyte disc into three, equal-sized volumes of 3.32 megabytes. Thinking that he may want to re-initialize and store data on the disc frequently, he leaves the setting at 3 after initializing. Later, he can re-initialize any volume(s) without changing the switch.

2. After storing data to the disc or to one volume on the disc, you may change the switch to setting 8. Setting 8 will prevent you from writing over the first volume (*volume 0*) of your hard disc. It will also prevent you from re-initializing any volume of your hard disc.

Here's an example:

Irene selected setting 5, which breaks up her 20 megabyte disc into two volumes. The first volume (*volume 0*) is 5.03 megabytes, and the second volume (*volume 1*) is 15.09 megabytes. After initializing the volumes, Irene stores important data on the first volume. To prevent writing over or re-initializing that data, Irene changes the setting to 8. The 5.03 megabyte volume is protected, but she may write to the other volume. Later, she may change the switch to re-initialize volumes.

Setting 8 write protects only the first volume of the disc. If you choose to use the disc as one entire volume, the entire disc is write and initialize protected.

3. After initializing all volumes on the hard disc, you may prevent later re-initialization and loss of data by setting the configuration switch to 9. Setting 9 prevents you from re-initializing any volume of the hard disc; you may still write to the disc. Here's an example:

Fred selected setting 2, which breaks up his 20 megabyte disc into two volumes of 10.06 megabytes. Remembering that he had once accidentally re-initialized the hard disc while trying to initialize a flexible disc, Fred changes the switch to 9.

To change the configuration switch, follow these steps:

1. Turn off your disc drive.
2. Remove the interface cable attached to the HP-IB connector on the rear panel of the drive.

3. Note your original switch selection, writing it down for future reference.
4. Using a small screwdriver, turn the switch to 8 or 9, depending on your needs.
5. Re-attach the interface cable.
6. Turn on your disc drive.

NOTE

Whenever you change the configuration switch, you must turn the drive off and then on again for your system to know that a change has occurred.

Later, if you want to re-initialize volume(s), follow these guidelines:

- If you DO NOT want to change the number of volumes, change the switch to 0 and re-initialize the desired volume(s).
- If you DO want to change the number of volumes, change the switch to the setting of the desired number of volumes and initialize each volume.
- Use the preceding instructions to change the setting.

Step 7: Initializing Flexible Discs

When you are initializing a flexible disc, you have several formatting options from which to choose.

You must remember two important things when selecting a format option:

1. Single-sided formatting is allowed on single- OR double-sided flexible discs in single- OR double-sided disc drives.
2. Double-sided formatting is allowed ONLY on double-sided discs in a double-sided drive.

The following table illustrates your choices:

Flexible Disc Formatting Options

Format Option	Sectors/Track	Tracks/Surface	Surfaces/Disc	Number of Sectors	Sector Size	Capacity (Bytes)
0,1 Default	16	77	2	2464	256	630,784
2	9	77	2	1386	512	709,632
3	5	77	2	770	1024	788,480
4	16	66	1	1056	256	270,336
16 (IBM)	9	80	2	1440	512	737,280

When you select a formatting option, you must also select an *interleave factor* for the flexible disc.

Interleaving changes the order in which the computer reads the sectors on a disc. If your flexible disc usage is limited to the flexible disc drive in the HP 9153, select an interleave factor of 1. (A factor of 1 provides fast transfer rates and maximizes performance for most flexible disc applications.)

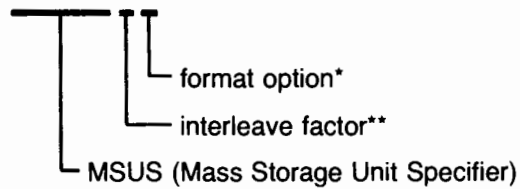
NOTE

If you also use the same flexible discs in older flexible disc drive models (the HP 9122D/S or the HP 9133D/H/L, for example), use a minimum interleave factor of 2.

Initialize the flexible disc using a command similar to the following example.

Press **Enter** after typing in your command.

INITIALIZE ".,700,1",1,1



* OPTIONAL. You may specify a format option; default is double-sided and 256 byte sectors. The preceding table and your system manual outline formatting options if you have questions.

** OPTIONAL. When you specify a format option, you must also specify an interleave factor.

NOTE

If you *re-initialize* a flexible disc, the default interleave is the factor you selected when you first initialized the disc. For example, if you initialize a disc with an interleave factor of 2, and then re-initialize that disc without specifying an interleave, it is again initialized with an interleave of 2.

Step 8: Using Other Mass Storage Commands

The following system commands are those you will use most often while using the disc drive. These commands operate as described in your BASIC language documentation.

All commands have the same format: the command followed by the MSUS of the disc drive to which the command is directed, and any other command-specific parameters.

CAT	Lists or prints the directory of files on the disc.
COPY	Copies a volume or file.
CREATE	Creates a data file.
ENTER	Reads data from a data file.

GET	Reads an ASCII file into memory as a program.
INITIALIZE	Formats the disc: checks the disc for defects, establishes a volume label on the disc, and creates a directory.
LOAD	Reads a program file into memory.
MSI	Specifies the default storage device.
OUTPUT	Writes data to a data file.
PURGE	Deletes a file from the directory.
RE-STORE	Rewrites a program to the disc, and then purges the old version.
SAVE	Creates an ASCII file and writes BASIC program lines from memory into the file.
STORE	Writes a program to the disc.

One of the first things you may want to do is to copy files from flexible discs to your new hard disc. First, place the disc that you wish to copy in your flexible disc drive. Then, copy individual files from the disc using a command similar to this example:

COPY "Filename:,700,1" TO "Filename:,700,0"

where *Filename* is the name of the file you wish to copy, and the address of the HP 9153 is 0.

CAUTION

The command **COPY ":",700,1" to ":",700,0"** limits the capacity of the hard disc. We recommend that you use this command only after understanding image commands as described in your BASIC manuals.

This chapter is intended to get you started using your HP 9153/9154 with Series 200/300 and BASIC. For more complete operating instructions, refer to your Series 200/300 and BASIC documentation.

4

Using Your HP 9153/9154 with Series 200/300 and Pascal

Introduction

This chapter offers some steps to help you start using your HP 9153/9154 with Pascal and your Series 200/300 computer.

Please refer to your Series 200/300 and Pascal documentation for complete operating information. Manuals you will find helpful include the *Pascal Language Reference* and the *Pascal User's Guide*.

The HP 9153/9154 is supported on Pascal 3.0 or later with Series 200 computers and on Pascal 3.1 or later versions with Series 300 computers.

These steps will get you started:

- Step 1: Before You Begin**
- Step 2: Setting the Configuration Switch**
- Step 3: Initializing Discs**
- Step 4: Protecting Your Data**
- Step 5: Copying Discs**

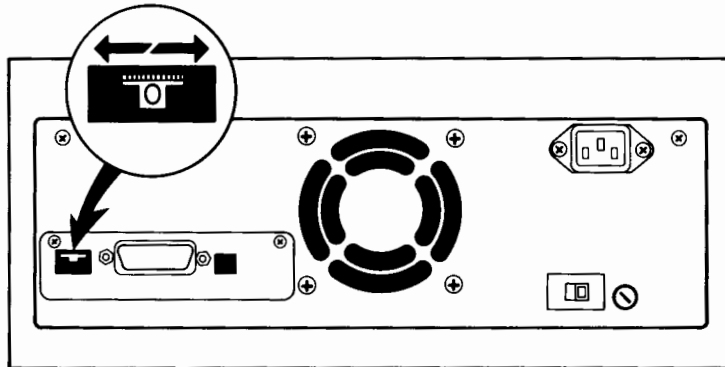
NOTE

You may use the following instructions for both the HP 9153 and the HP 9154. Please note, however, that you cannot "boot" (load the operating system and utilities) from the HP 9154 until you copy Pascal to the hard disc.

Step 1: Before You Begin

1. Set up your drive according to the instructions in Chapter 2.
2. Set the address wheel to any address between 0 and 7. Do not select an address used by any other peripheral connected to your computer. (Address settings 8 and 9 are designed for Touchscreen users.)

To change the address, turn off your disc drive and turn the thumb wheel to the desired setting.



Address Wheel

NOTE

Whenever you change the address, you must turn the drive off and then on again for your system to know that a change has occurred.

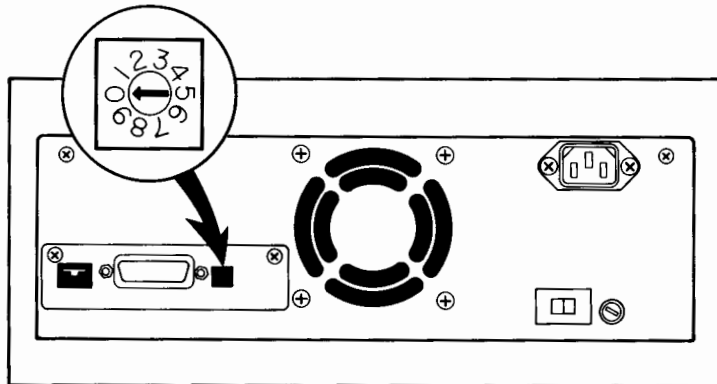
Step 2: Setting the Configuration Switch

The configuration switch on the rear panel of your disc drive has three basic functions. Use it to:

- partition your hard disc into easily-managed sections called volumes.
- initialize (format) the hard disc or re-initialize existing volumes.
- prevent accidental writing to and re-initializing of the hard disc.

CAUTION

Set the switch to the number of volumes desired *before* you initialize the hard disc.



Configuration Switch

Settings are described in the following tables:*

HP 9153/9154A 10 Megabyte Disc Drive

SETTING	NUMBER OF VOLUMES	VOLUME SIZE (MB/VOL)						
0	Allows re-initializing of existing volumes. At first, if you leave the switch at the factory setting of 0, the hard disc is initialized as one volume (it defaults to setting 1).							
1	One	10.0						
2	Two	5.0			5.0			
3	Three	3.32		3.32		3.32		
4	Four	2.49		2.49		2.49		
5	Five	2.0		2.0		2.0		
6	Six	1.66		1.66		1.66		
7	Two	3.01		7.02				
8	Prevents writing to the <i>first</i> volume of the hard disc. Prevents accidental re-initializing of the hard disc.							
9	Prevents accidental re-initializing of the hard disc.							

HP 9153/9154B 20 Megabyte Disc Drive

SETTING	NUMBER OF VOLUMES	VOLUME SIZE (MB/VOL)						
0	Allows re-initializing of existing volumes. At first, if you leave the switch at the factory setting of 0, the hard disc is initialized as one volume (it defaults to setting 1).							
1	One	20.0						
2	Two	10.06			10.06			
3	Three	3.01	3.01	14.1				
4	Four	5.03	5.03		5.03	5.03		
5	Two	5.03	15.09					
6	Six	3.35	3.35	3.35	3.35	3.35	3.35	
7	Two	3.01	17.11					
8	Prevents writing to the <i>first</i> volume of the hard disc. Prevents accidental re-initializing of the hard disc.							
9	Prevents accidental re-initializing of the hard disc.							

* Refer to the Appendix for complete volume specifications.

HINT

Use the setting suitable for the number and size of your files and applications. 20 megabyte disc users, for example, may follow these guidelines:

If you want to organize your activities into equal sections, use settings 2, 4, or 6.

Settings 3, 5, and 7 provide optimal performance if you are using Pascal with large applications like EGS or AXE.

Note that Pascal may further split volumes, putting divisions on top of the divisions the configuration setting creates. If you use setting 8 to write protect the first volume and Pascal further splits the volumes, the *original* volume 0 will be write protected.

To set the configuration switch, complete the following steps:

1. Turn off your disc drive.
2. Remove the interface cable attached to the HP-IB connector on the rear panel of the drive.
3. Insert a small screwdriver into the slot on the configuration switch.
4. Rotate the switch to the desired setting.
5. Re-attach the interface cable.
6. Turn on your disc drive.

Move on to the next step, **Initializing Discs**. After you initialize the hard disc, we'll tell you how to set the configuration switch to protect your data.

Step 3: Initializing Discs

Use the following steps to initialize a disc:

1. Turn on the HP 9153/9154. Wait for completion of the selftest.
2. Turn on the rest of the computer system and wait for completion of the selftests. The computer now searches for an operating system.

CAUTION

All discs, including fixed discs, must be formatted before they can be used. Formatting is the process of preparing a blank disc to receive information and ensuring that your disc will record that information reliably. Formatting takes about 60 seconds per megabyte.

Formatting erases any data already stored on the disc.

3. Insert the **Boot:** disc in the flexible disc drive.
4. The computer now loads the utilities. When the screen displays *New system date?*, type the date and press **Enter**.
5. When the screen displays *New system clock time?*, type the time and press **Enter**.
6. The following command line appears on the screen:
Command: Compiler Editor Filer Initialize Librarian Run eXecute Version?
When the command line appears, remove the current disc and insert the **Access:** disc.
7. Type **X** for eXecute.
8. The screen displays:
Execute what file?
Type **ACCESS:MEDIAINIT** and press **Enter**.

9. The screen prompts:

Volume ID?

If you wish to initialize the hard disc, type **#11**.

If you wish to initialize a flexible disc, type **#3**.

Press **Enter**.

10. Remove the Access: disc.

To initialize a flexible disc, insert the disc into the flexible disc drive. Move on to the next step.

To initialize the hard disc, move on to the next step.

11. You'll see this line:

Are you sure you want to proceed? Y/N

Type **Y** if you wish to continue with the initialization procedure. Type **N** if you wish to stop the initialization procedure.

12. If you are initializing the hard disc, move to step 14.

If you are initializing a flexible disc, the screen now prompts:

Formatting Option? (defaults to 0)

You have several choices, as described in the following table:

Flexible Disc Formatting Options

Format Option	Sectors/Track	Tracks/Surface	Surfaces/Disc	Number of Sectors	Sector Size	Capacity (Bytes)
0,1 Default	16	77	2	2464	256	630,784
2	9	77	2	1386	512	709,632
3	5	77	2	770	1024	788,480
4	16	66	1	1056	256	270,336
16 (IBM)	9	80	2	1440	512	737,280

You must remember two important things when selecting a format option.

- A. Single-sided formatting is allowed on single- OR double-sided flexible discs in single-sided OR double-sided disc drives.
 - B. Double-sided formatting is allowed **ONLY** on double-sided discs in a double-sided drive.
13. Press **Enter** if you wish to select the default option of 0. Otherwise, type the number of the format option that you wish to select, and press **Enter**.
14. This prompt appears:

Interleave factor (defaults to ____)

Interleaving changes the order in which the computer reads the sectors on a disc.

If you are initializing a flexible disc, the default interleave is 1. If your flexible disc usage is limited to the flexible disc drive in the HP 9153, select an interleave factor of 1. (A factor of 1 provides fast transfer rates and maximizes performance for most flexible disc applications.)

NOTE

If you also use the same flexible discs in older flexible disc drive models (the HP 9122D/S or the HP 9133D/H/L, for example), use a minimum interleave factor of 2.

If you are initializing the hard disc, you need not specify an interleave factor. Although the interleave factor is considered optional, the HP 9153/9154 hard disc is designed to run automatically and most efficiently at an interleave of 1. You can simply type 1 or press **Enter** when prompted for an interleave factor.

15. Press **Enter** after selecting the interleave factor.

This message appears:

Medium initialization in progress.

16. At the end of the initialization process, another line is added to the display on your screen. The screen now displays:

Medium initialization in progress

Medium initialization completed

About ten seconds later, you'll see this message:

Volume zeroing in progress

Volume zeroing completed

17. The disc has been successfully initialized.

NOTE

If you *re-initialize* a flexible disc, the default interleave is the factor you selected when you first initialized the disc. For example, if you initialize a disc with an interleave factor of 2, and then re-initialize that disc without specifying an interleave, it is again initialized with an interleave of 2.

Step 4: Protecting Your Data

You may now do one of three things:

1. You may leave the switch at the volume setting you selected prior to initializing the hard disc. Here's an example:

Roger selected setting 3, which breaks up his 10 megabyte disc into three, equal-sized volumes of 3.32 megabytes. Thinking that he may want to re-initialize and store data on the disc frequently, he leaves the setting at 3 after initializing. Later, he can re-initialize any volume(s) without changing the switch.

2. After storing data to the disc or to one volume on the disc, you may change the switch to setting 8. Setting 8 will prevent you from writing over the first volume (*volume 0*) of your hard disc. It will also prevent you from re-initializing any volume of your hard disc. Here's an example:

Irene selected setting 5, which breaks up her 20 megabyte disc into two volumes. The first volume (*volume 0*) is 5.03 megabytes, and the second volume (*volume 1*) is 15.09 megabytes. After initializing the volumes, Irene stores important data on the first volume. To prevent writing over or re-initializing that data, Irene changes the setting to 8. The 5.03 megabyte volume is protected, but she may write to the other volume. Later, she may change the switch to re-initialize volumes.

Setting 8 write protects only the first volume of the disc. If you choose to use the disc as one entire volume, the entire disc is write and initialize protected.

3. After initializing all volumes on the hard disc, you may prevent later re-initialization and loss of data by setting the configuration switch to 9. Setting 9 prevents you from re-initializing any volume of the hard disc; you may still write to the disc. Here's an example:

Fred selected setting 2, which breaks up his 20 megabyte disc into two volumes of 10.06 megabytes. Remembering that he had once accidentally re-initialized the hard disc while trying to initialize a flexible disc, Fred changes the switch to 9.

To change the configuration switch, follow these steps:

1. Turn off your disc drive.
2. Remove the interface cable attached to the HP-IB connector on the rear panel of the drive.

3. Note your original switch selection, writing it down for future reference.
4. Using a small screwdriver, turn the switch to 8 or 9.
5. Re-attach the interface cable.
6. Turn on your disc drive.

NOTE

Whenever you change the configuration switch, you must turn the drive off and then on again for your system to know that a change has occurred.

Later, if you want to re-initialize volume(s), follow these guidelines:

- If you DO NOT want to change the number of volumes, change the switch to 0 and re-initialize the desired volume(s).
- If you DO want to change the number of volumes, change the switch to the setting of the desired number of volumes and initialize each volume.
- Use the preceding instructions to change the setting.

Step 5: Copying Discs

To save access time, you may want to copy files on your flexible disc to your hard disc. You can choose to copy ALL or SOME files.

To copy ALL the files on a flexible disc to the hard disc, follow these steps:

1. Once you have loaded the operating system, insert the **Access:** disc into the flexible disc drive.
2. This command line appears:

Command: Compiler Editor Filer . . .

Type **F** for Filer.

3. The Filer line appears:

Filer: Change Get . . . ,

Remove the **Access:** disc. Place the disc that you wish to copy in the flexible disc drive.

4. Type **F** for Filecopy.

5. The screen prompts:

Filecopy what file?

NOTE

The volume numbers used in the following commands are only examples. To determine the unit number of your flexible disc, use the **Volume** command as described in your Pascal documentation.

Type **#3:=** and press **Enter**.

This tells the computer that you wish to copy **ALL** of the files from the flexible disc.

6. The screen displays:

Filecopy to what?

Type **#11:\$** and press **Enter**.

This tells the computer that you wish the copy to go **TO** the hard disc.

7. You'll see this message:

Reading ...

The flexible disc access light is now on.

8. You now see this line:

Writing ...

The disc access light is lit alternately on the flexible and hard disc drives. The copying process takes only a few minutes.

9. You'll see this filer line when copying is complete:
Filer: Change Get ...
10. Type **Q** for Quit and press **Enter**.
11. Refer to the *Filer* section of your *Pascal User's Guide* for additional information.

Use the following steps when you want to copy SOME of the files on a flexible disc to the hard disc:

1. Once you have loaded the operating system, insert the **Access:** disc into the flexible disc drive.
2. This command line appears:
Command: Compiler Editor Filer ...
Type **F** for Filer.
3. The Filer line appears:
Filer: Change Get ...
Remove the **Access:** disc. Place the disc that you wish to copy in the flexible disc drive.
4. Type **F** for File copy.
5. The screen prompts:
Filecopy what file?
Type **#3:Filename** and press **Enter**.
Filename is the name of the file to be copied. This tells the computer that you wish to copy *Filename* FROM the disc that is in the flexible disc drive.
6. The screen displays:
Filecopy to what?
Type **#11:Filename** and press **Enter**.
This tells the computer that you wish to copy *Filename* TO the hard disc.
7. You'll see this message:
Reading ...
The flexible disc access light is now on.

8. You now see this line:

Writing ...

The disc access light is lit alternately on the flexible and hard disc drives. The copying process takes only a few minutes.

9. You'll see this filer line when copying is complete:

Filer: Change Get ...

10. Type **Q** for Quit and press **Enter**.
11. Refer to the *Filer* section of your *Pascal User's Guide* for additional information.

These steps are intended to help you begin using your HP 9153/9154 with Pascal. Please read your Series 200/300 and Pascal documentation for detailed instructions.

5

Using Your HP 9153/9154 with Series 200/300 HP-UX

Introduction

This chapter offers some steps to help you start using your HP 9153/9154 with HP-UX and your Series 200/300 computer.

Please refer to your Series 200/300 and HP-UX documentation for complete operating information. Manuals you will find helpful include the *HP-UX Reference Manual*, the *HP-UX System Administrator Manual*, and the *HP-UX User's Guide*.

These steps will get you started:

- Step 1: Before You Begin**
- Step 2: Setting the Configuration Switch**
- Step 3: Initializing Discs**
- Step 4: Protecting Your Data**

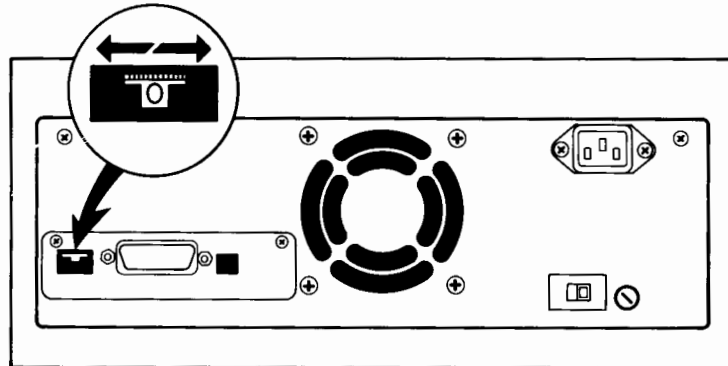
NOTE

You may use the following instructions for both the HP 9153 and the HP 9154. Please note, however, that you cannot "boot" (load the operating system and utilities) from the HP 9154 until you copy HP-UX to the hard disc.

Step 1: Before You Begin

1. Set up your drive according to the instructions in Chapter 2.
2. Set the address wheel to any address between 0 and 7. Do not select an address used by any other peripheral connected to your computer. (Address settings 8 and 9 are designed for Touchscreen users.)

To change the address, turn off your disc drive and turn the thumb wheel to the desired setting.



Address Wheel

NOTE Whenever you change the address, you must turn the drive off and then on again for your system to know that a change has occurred.

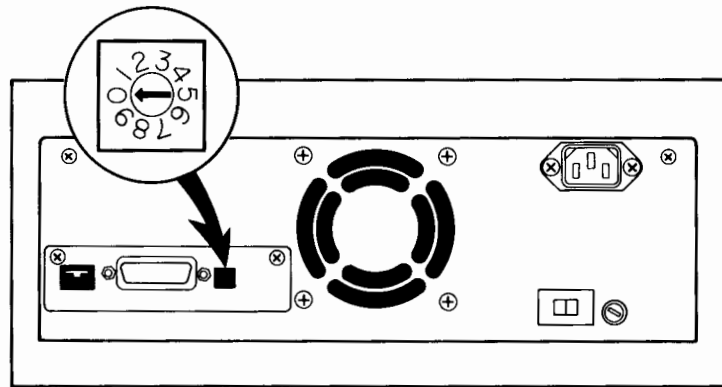
Step 2: Setting the Configuration Switch

The configuration switch on the rear panel of your disc drive has three basic functions. Use it to:

- partition your hard disc into easily-managed sections called volumes.
- initialize (format) the hard disc or re-initialize existing volumes.
- prevent accidental writing to and re-initializing of the hard disc.

CAUTION

Set the switch to the desired number of volumes *before* you initialize the hard disc.



Configuration Switch

Settings are described in the following tables:*

HP 9153/9154A 10 Megabyte Disc Drive

SETTING	NUMBER OF VOLUMES	VOLUME SIZE (MB/VOL)						
0	Allows re-initializing of existing volumes. At first, if you leave the switch at the factory setting of 0, the hard disc is initialized as one volume (it defaults to setting 1).							
1	One	10.0						
2	Two	5.0			5.0			
3	Three	3.32		3.32		3.32		
4	Four	2.49		2.49		2.49		
5	Five	2.0		2.0		2.0		
6	Six	1.66		1.66		1.66		
7	Two	3.01		7.02				
8	Prevents writing to the <i>first</i> volume of the hard disc. Prevents accidental re-initializing of the hard disc.							
9	Prevents accidental re-initializing of the hard disc.							

HP 9153/9154B 20 Megabyte Disc Drive

SETTING	NUMBER OF VOLUMES	VOLUME SIZE (MB/VOL)						
0	Allows re-initializing of existing volumes. At first, if you leave the switch at the factory setting of 0, the hard disc is initialized as one volume (it defaults to setting 1).							
1	One	20.0						
2	Two	10.06			10.06			
3	Three	3.01	3.01	14.1				
4	Four	5.03	5.03		5.03	5.03		
5	Two	5.03	15.09					
6	Six	3.35	3.35	3.35	3.35	3.35	3.35	
7	Two	3.01	17.11					
8	Prevents writing to the first volume of the hard disc. Prevents accidental re-initializing of the hard disc.							
9	Prevents accidental re-initializing of the hard disc.							

* Refer to the Appendix for complete volume specifications.

HINT

Use the setting suitable for the number and size of your files and applications. 20 megabyte disc users, for example, may follow these guidelines:

If you want to organize your activities into equal sections, use settings 2, 4, or 6. Settings 3, 5, and 7 provide optimal performance if you are using large applications like EGS or AXE.

To set the configuration switch, complete the following steps:

1. Turn off your disc drive.
2. Remove the interface cable attached to the HP-IB connector on the rear panel of the drive.
3. Insert a small screwdriver into the slot on the configuration switch.
4. Rotate the switch to the desired setting.
5. Re-attach the interface cable.
6. Turn on your disc drive.

Move now to the next step, **Initializing Discs**. After initializing discs with the help of your HP-UX manuals, come back to **Step 4: Protecting Your Data**. That section tells you how to set the configuration switch to protect your data.

Step 3: Initializing Discs

To initialize discs, follow the instructions in the *HP-UX System Administrator* manual.

When you are prompted for an interleave factor while initializing the hard disc, select an interleave of 1. Although the interleave factor is considered optional, the HP 9153/9154 hard disc is designed to run automatically and most efficiently at an interleave of 1.

Step 4: Protecting Your Data

After initializing the hard disc, you may do one of three things:

1. You may leave the switch at the volume setting you selected prior to initializing the hard disc. Here's an example:

Roger selected setting 3, which breaks up his 10 megabyte disc into three, equal-sized volumes of 3.32 megabytes. Thinking that he may want to re-initialize and store data on the disc frequently, he leaves the setting at 3 after initializing. Later, he can re-initialize any volume(s) without changing the switch.

2. After storing data to the disc or to one volume on the disc, you may change the switch to setting 8. Setting 8 will prevent you from writing over the first volume (*volume 0*) of your hard disc. It will also prevent you from re-initializing any volume of your hard disc. Here's an example:

Irene selected setting 5, which breaks up her 20 megabyte disc into two volumes. The first volume (*volume 0*) is 5.03 megabytes, and the second volume (*volume 1*) is 15.09 megabytes. After initializing the volumes, Irene stores important data on the first volume. To prevent writing over or re-initializing that data, Irene changes the setting to 8. The 5.03 megabyte volume is protected, but she may write to the other volume. Later, she may change the switch to re-initialize volumes.

Setting 8 write protects only the first volume of the disc. If you choose to use the disc as one entire volume, the entire disc is write and initialize protected.

3. After initializing all volumes on the hard disc, you may prevent later re-initialization and loss of data by setting the configuration switch to 9. Setting 9 prevents you from re-initializing any volume of the hard disc; you may still write to the disc. Here's an example:

Fred selected setting 2, which breaks up his 20 megabyte disc into two volumes of 10.06 megabytes. Remembering that he had once accidentally re-initialized the hard disc while trying to initialize a flexible disc, Fred changes the switch to 9.

To change the configuration switch, follow these steps:

1. Turn off your disc drive.
2. Remove the interface cable attached to the HP-IB connector on the rear panel of the drive.
3. Note your original switch selection, writing it down for future reference.
4. Using a small screwdriver, turn the switch to 8 or 9.
5. Re-attach the interface cable.
6. Turn on your disc drive.

NOTE

Whenever you change the configuration switch, you must turn the drive off and then on again for your system to know that a change has occurred.

Later, if you want to re-initialize volume(s), follow these guidelines:

- If you DO NOT want to change the number of volumes, change the switch to 0 and re-initialize the desired volume(s).
- If you DO want to change the number of volumes, change the switch to the setting of the desired number of volumes and initialize each volume.
- Use the preceding instructions to change the setting.

This chapter is intended to help you begin using your HP 9153/9154 with HP-UX and Series 200/300. For complete operating instructions, read your HP-UX and Series 200/300 documentation. Use the *HP-UX Documentation Roadmap* to find the manual you need.



6

Using Your HP 9153/9154 with the HP Touchscreen II PC

Introduction

This chapter will help you get started using your HP 9153/9154 with your HP Touchscreen II PC. You'll go through these six steps:

- Step 1: Before You Begin**
- Step 2: Loading the Operating System**
- Step 3: Configuring**
- Step 4: Formatting the Fixed Disc**
- Step 5: Loading (Booting) from the Fixed Disc**
- Step 6: Installing Applications**

Note the following points *before* you start:

- **If you have an HP 9154**

Because the HP 9154 has no flexible disc, it is supported only as an add-on drive. This means that you can connect an HP 9154 to your HP Touchscreen II PC only if you already have a flexible disc drive connected to the computer.

Make sure your flexible disc drive is set to address 0. If it is not, set it to 0 and change your *Op Sys Dev* to *HP-IB 0 0*. If you need help, "Using Global Configuration" in your *Using Your HP Touchscreen II PC* manual provides instructions.

- **If you have an HP 9153 and an HP 9123D**

Use the HP 9154 instructions that follow throughout this chapter.

- **If you have an HP 150 or HP Touchscreen PC**

If you would like to connect your HP 9153/9154 to an HP 150 or an HP Touchscreen PC, you must upgrade your

system to an HP Touchscreen II PC or equivalent system. Please contact your HP Sales and Support Office for information.

Step 1: Before You Begin

1. Set up the HP 9153/9154 according to the instructions in Chapter 2.
2. Locate the address wheel and the configuration switch on the rear panel of the disc drive.
3. **If you have an HP 9153**

Set the address wheel to 9. This setting tells your computer that the flexible disc drive is **Drive A** and that the fixed disc is **Drive B**. This setting also allows you to load the operating system from the flexible disc drive until you copy it from your flexible disc to your HP 9153 fixed disc.

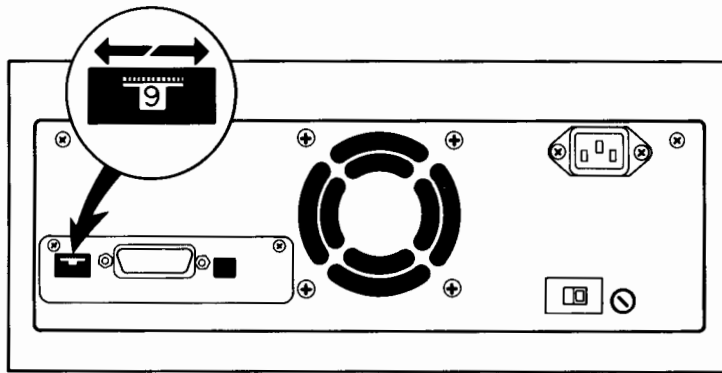
To change the address, turn off your disc drive and turn the thumb wheel to the desired address.

If you have an HP 9154

Set the address wheel to 2. This setting allows you to load the operating system from your flexible disc drive until you copy it to your HP 9154 fixed disc.

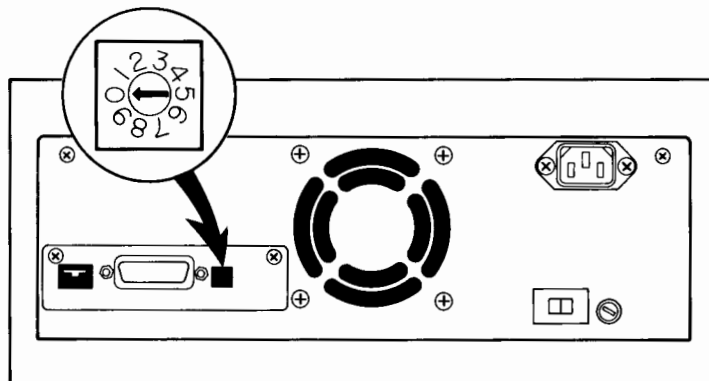
To change the address, turn off your disc drive and turn the thumb wheel to the desired address.

NOTE Whenever you change the address, you must turn the drive off and then on again for your system to know that a change has occurred.



Address Wheel

4. The configuration switch (behind the connected interface cable) is set to 0 at the factory. The HP Touchscreen II PC does not support multiple volumes, so leave the setting at 0. (After formatting the hard disc, you may change the setting to 9 to prevent accidental formatting. Instructions follow in Step 4.)



Configuration Switch

Step 2: Loading the Operating System

Load P.A.M. (Personal Applications Manager) and the operating system as follows:

1. Turn on your disc drive and wait for completion of the selftest. (The disc drive has passed the selftest when the selftest light on the front panel goes out.)
2. Insert the System Master Disc into the flexible disc drive.
3. Turn on your Touchscreen. In approximately 30 seconds, a screen labeled *Personal Applications Manager* appears.

NOTE

What if I get a message on my screen that says, *Load Op Sys failed, Op Sys device not found. Press RETURN to clear.?*

- A. Press **Return**.
- B. Make sure the disc drive is plugged in, turned on, and has passed the selftest.
- C. Make sure you have connected the HP-IB cable from your computer to your disc drive.
- D. Press the **Shift, CTRL** and **Reset** keys at the same time. Your HP Touchscreen II PC should load the operating system and then display the P.A.M. screen.

-
4. You now have to tell the Touchscreen that you have added the HP 9153/9154 to your system. Move to **Step 3**.

Step 3: Configuring

1. From the P.A.M. screen, highlight *DEVICE CONFIG* using the **Tab** or **Arrow** key.
2. Next, press **Start Applic (F1)**.
3. You need to edit the *MS-DOS Device Configuration* Screen which now appears.

A. If you have an HP 9153, you see this screen:

MS-DOS Device Configuration										Main	
System Devices											
	Interface	Address	Model	Print Wheel		Interface	Address				
PRN:	HP-IB	1	82808A			PLT:	Port2				
LST:	Port2		2802A	USASCII		COM1:	Remote				
AUX:	Remote					COM2:	Port2				
Disc Drives											
			Maximum Sector Size	812 bytes					RAM Disc Size		bytes
	Interface	Addr	Drive			Interface	Addr	Drive		Interface	Addr
A:	HP-IB	0	0		E:	No Device			I:	No Device	
B:	HP-IB	0	1		F:	No Device			J:	No Device	
C:	HP-IB	2	0		G:	No Device			K:	No Device	
D:	HP-IB	2	1		H:	No Device			L:	No Device	
<div> <input type="button" value="Previous Choice"/> <input type="button" value="Next Choice"/> <input type="button" value="Save Config"/> <input type="button" value="3"/> <input type="button" value="1"/> <input type="button" value="Default Values"/> <input type="button" value="Active Values"/> <input type="button" value="Exit Config"/> </div>											
Num Pad 10:59											

- 1) Set Disc Drive B: to HP-IB 0 1.
 - a. Use the **Tab** key to move the cursor to the *Interface*, *Addr*, and *Drive* blocks.
 - b. Press **Previous Choice** or **Next Choice** until B: is set to Interface HP-IB, Address 0, and Drive 1.
- 2) Set Disc Drive C: to HP-IB 2 0.
- 3) Set Disc Drive D: to HP-IB 2 1.

B. If you have an HP 9154, you see this screen:

MS-DOS Device Configuration										Main	
System Devices											
	Interface	Address	Model	Print Wheel		Interface	Address				
PRN:	HP-IB	1	82906A			PLT:	Port2				
LST:	Port2		2602A	USASCII		COM1:	Remote				
AUX:	Remote					COM2:	Port2				
Disc Drives											
			Maximum Sector Size	812 bytes					RAM Disc Size		bytes
	Interface	Addr	Drive		Interface	Addr	Drive		Interface	Addr	Drive
A:	HP-IB	0	0		E:	No Device			I:	No Device	
B:	HP-IB	0	1		F:	No Device			J:	No Device	
C:	HP-IB	2	0		G:	No Device			K:	No Device	
D:	No Device				H:	No Device			L:	No Device	
<div> <input type="button" value="Previous Choice"/> <input type="button" value="Next Choice"/> <input type="button" value="Save Config"/> <input type="button" value="Default Values"/> <input type="button" value="Active Values"/> <input type="button" value="Exit Config"/> </div>											
Num Pad 10:59											

- 1) Set Disc Drive A: to HP-IB 0 0.
 - a. Use the **Tab** key to move the cursor to the *Interface*, *Addr*, and *Drive* blocks.
 - b. Press **Previous Choice** or **Next Choice** until A: is set to Interface HP-IB, Address 0, and Drive 0.
- 2) Set Disc Drive B: to HP-IB 0 1.
- 3) Set Disc Drive C: to HP-IB 2 0.
4. Press **Save Config (F4)**. You now see this message:
Device Configuration has been saved.
5. Press **Exit Config (F8)**.
6. In order for your system to know the changes you've made, you must reboot. ("Booting" loads the operating system and utilities, and will, in this case, tell your computer the new configuration information.) Reboot by pressing **Shift, CTRL**, and **Reset**. The P.A.M. screen will appear. Your disc is now ready to format.

Step 4: Formatting the Fixed Disc

To format your fixed disc, (let's assume it's drive C), complete these steps:

CAUTION

All discs, including fixed discs, must be formatted before they can be used. Formatting is the process of preparing a blank disc to receive information and ensuring that your disc will record that information reliably. Formatting takes about 60 seconds minute per megabyte.

Formatting erases any data already stored on the disc.

1. Make sure your HP 150 System Master Disc is write protected. (A disc is write protected if the window on the corner of the disc is open. If you need help write protecting the disc, please see Chapter 10 in this manual.)
2. Insert the HP 150 System Master Disc into the flexible disc drive and press **Reread Discs (F4)**.
3. When P.A.M. appears on your screen, highlight **FORMAT**.
4. Press **Start Applic (F1)**.
5. The screen now displays a list of disc drives. Since you wish to format the fixed disc, use the **Tab** or **arrow** keys to point the arrow to **Drive C**.
6. Press the **Select** key.
7. You'll see this prompt:
Type the disc label (11 characters or less) and press Return.
Type a name for the disc or press **No Disc Label (F8)**.
8. At the same time you format your fixed disc, you will probably want to copy the operating system and P.A.M. to the fixed disc. To copy, press **Copy System (F4)**. An asterisk (*) in the **Copy System** block

indicates that the operating system will be copied to the fixed disc during the formatting process.

- 9. Press Start Format (F5).** When you press **Start Format**, you may see this message:

This disc has files. Do you want to destroy them? Select Yes or No.

IF YOU DO NOT SEE THIS MESSAGE, GO TO STEP 10.

IF YOU SEE THIS MESSAGE, STOP. Remember that formatting erases any data already stored on the disc.

If this is the first time you have used your HP 9153/9154:

- A.** Make sure the HP 150 System Master Disc in your flexible disc drive is write protected. This is a precautionary measure. You **DO NOT** want to format this master disc accidentally.
- B.** You **DO** want to format the fixed disc. Therefore, go ahead and select a **Yes** response. The formatting process begins.

If you have been using your disc drive and have stored information on the fixed disc:

- A.** Make sure the disc drive highlighted on your screen is the one you want to format.
- B.** If you **DO** wish to destroy the data already contained on this disc, select a **Yes** response. The formatting process begins.
- C.** If you **DO NOT** want to destroy the information already on the disc, select a **No** response. The formatting process stops, and you may then start over.

NOTE

After you select **yes**, indicating that you wish to begin formatting, your disc drive performs a 20-second selftest. If you decide that you do not want to format the fixed disc, **TURN OFF THE DISC DRIVE** during the 20-second selftest. If you turn off the disc drive during this selftest, you will retain all data stored on your disc. If you turn off the disc drive after the completion of this selftest, data will be lost. *Remember, formatting erases any data already stored on the disc.*

10. If you are copying the operating system, the HP Touchscreen II PC reads all operating system files from the flexible disc. During formatting, then, you may notice that the flexible disc access light is on. When all the files have been read and are ready for transfer, this message appears:
All system files have been read. Insert disc(s) to be formatted.
Since you are formatting the fixed disc, simply press **Return**.
11. The *Formatting* screen appears, and the disc that you selected for formatting is highlighted. Formatting takes one to two minutes per megabyte. The yellow light on the front panel indicates that the disc is being formatted.
12. After your disc is formatted, the screen displays the message, *Press Start Over or Exit Format*. Press **Exit Format (F8)** to return to P.A.M.

NOTE

Often, users re-format their fixed discs accidentally while trying to format their flexible discs. To prevent that from happening to you, set the configuration switch on the rear panel of the drive to 9. (Remember to set the *configuration* switch, not the address wheel.) Follow these steps:

- A.** Turn off your disc drive.
- B.** Remove the interface cable from the HP-IB connector on the rear panel of the drive.
- C.** Insert a small screwdriver into the slot on the configuration switch.
- D.** Rotate the switch to 9.
- E.** Re-attach the interface cable.
- F.** Turn on your disc drive.

Later, if you'd like to re-format the fixed disc, change the setting back to 0. Whenever you change the configuration switch setting, you must turn the drive off and then on again for your system to know that a change has occurred.

Step 5: Loading (Booting) from the Fixed Disc

If you have copied the operating system to your fixed disc, you need to make some changes so that the operating system loads or "boots" from the fixed disc rather than the flexible disc drive.

If you have an HP 9153

- 1.** Turn off your computer and your disc drive.
- 2.** Reset the address wheel on the back of the disc drive to 0. This change tells your computer that the fixed disc is **Drive A** (your system boots from **Drive A**) and that the flexible disc is **Drive B**.

(You may want to label your drives using the letter stickers found in your Touchscreen *Getting Started* manual.)

3. Turn on the disc drive and wait for completion of the selftest.
4. Turn on your computer. P.A.M. and the operating system should now load automatically from the fixed disc. If P.A.M. appears on your screen, you have loaded P.A.M. and the operating system from your fixed disc.
5. Move now to **Step 6: Installing Applications.**

If you have an HP 9154

1. Turn off your disc drive.
2. From P.A.M., select *Device Config.*
3. Press **Start Applic (F1)**. The *MS-DOS Device Configuration Screen* appears.
4. Press the red **System** key. System functions should now appear at the bottom of the screen.
5. Press **Config Keys (F8)**.
6. Press **Global Config (F1)**.
7. Using the **Tab** key, move the cursor to *Op Sys Dev.*
8. Press **Previous Choice (F3)** or **Next Choice (F2)** until *HP-IB 2* is displayed.
9. Press the **Tab** key once. Press **Previous Choice** or **Next Choice** until *0* appears.
10. Press **Save Config (F1)**. The *MS-DOS Device Configuration Screen* reappears.
11. Set drives *B*, *C*, and *D* to the following:

<i>B:</i>	<i>HP-IB</i>	<i>2</i>	<i>1</i>
<i>C:</i>	<i>HP-IB</i>	<i>0</i>	<i>0</i>
<i>D:</i>	<i>HP-IB</i>	<i>0</i>	<i>1</i>

These changes tell your Touchscreen that the fixed disc is **Drive A** (your system boots from **Drive A**), and that the flexible discs are **Drives C and Drive D**.

- 12.** Press **Save Config (F7)**.
- 13.** Turn on the disc drive and wait for the completion of the selftest.
- 14.** Turn on your computer. P.A.M. and the operating system should now load automatically from the fixed disc. If P.A.M. appears on your screen, you have loaded P.A.M. and the operating system from your fixed disc.

NOTE What if my operating system does not load from the fixed disc, so that the P.A.M. menu is NOT on my screen now?

- A.** First, try resetting your computer. Press the **Shift**, **CTRL**, and **Reset** keys at the same time.
- B.** If P.A.M. still does not appear on your screen, repeat the above directions for **Configuring, Formatting the Fixed Disc**, and **Loading from the Fixed Disc**. When you repeat the first steps from this section, make sure that you turn off the disc drive and computer before changing the address wheel.
- C.** If P.A.M. still does not appear on your screen, contact your nearest Hewlett-Packard Sales and Support Office.

-
- 15.** Move now to **Step 6: Installing Applications**.

Step 6: Installing Applications

An application is a computer program that performs a special function. Your System Master Disc contains several application programs, such as **FORMAT** and **DEVICE CONFIG**. In order to make these applications more convenient to use, install them onto your fixed disc by following these steps:

1. Continue only if you have formatted your fixed disc. Also, make sure P.A.M. is on your screen.
2. The **Install** program is on your System Master Disc. Therefore, insert the System Master Disc in the flexible disc drive.
3. Press **Reread Discs (F4)**.
4. Highlight **Install**.
5. Press **Start Applic (F1)**.
6. Press **Install Applic (F1)**.
7. You now see this line:

Select the correct discs below. Press show applics.

You are going to install applications from flexible discs to your fixed disc. Therefore, use the **Tab** and **arrow** keys to select the flexible disc drive letter in the *From* column and the fixed disc drive letter in the *To* column.

8. You want to copy all of the application programs on the System Master disc that is in your flexible disc drive. Therefore, press **Show Applic (F5)** to list the application programs. Use the **Tab** and **Select** keys to highlight the names of all the programs you wish installed.
9. Press **Start Install (F5)**.
10. When installation is complete, press **Exit Select (F8)**.
(Use this process to install all of your applications.)
11. Press **Main Menu (F8)**.
12. Press **Exit Install (F8)** to return to P.A.M. You can now start using your HP 9153/9154 with your HP Touchscreen II PC.

This chapter is intended to help you begin using your HP 9153/9154 with your HP Touchscreen II PC. For complete operating instructions, read your Touchscreen manuals.

7

Using Your HP 9153/9154 with the Integral PC

Introduction

This chapter offers some steps to help you start using your HP 9153/9154 with your HP Integral PC.

Please refer to your Integral documentation for complete operating information. Manuals you will find helpful include the *Integral User's Guide* and the *Integral Comprehensive Guide*.

These steps will get you started:

- Step 1: Before You Begin**
- Step 2: Setting the Configuration Switch**
- Step 3: Formatting the Hard Disc**
- Step 4: Protecting Your Data**

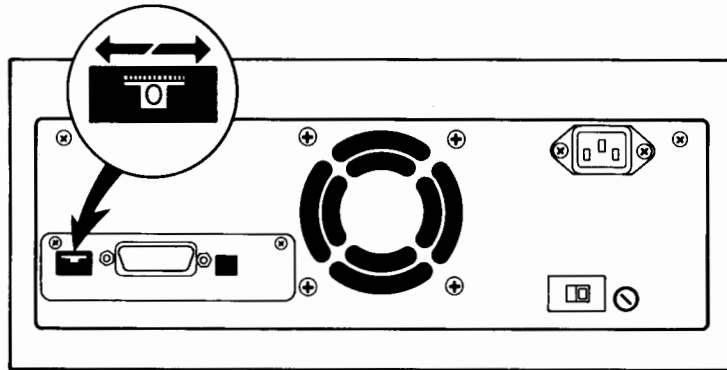
NOTE

You may use the following instructions for both the HP 9153 and the HP 9154. Please note, however, that you cannot "boot" (load the operating system and utilities) from the HP 9154 until you copy the operating system to the hard disc.

Step 1: Before You Begin

1. Set up your drive according to the instructions in Chapter 2.
2. Set the address wheel to any address between 0 and 7. Do not select an address used by any other peripheral connected to your computer. (Address settings 8 and 9 are designed for Touchscreen users.)

To change the address, turn off your disc drive and turn the thumb wheel to the desired setting.



Address Wheel

NOTE

Whenever you change the address, you must turn the drive off and then on again for your system to know that a change has occurred.

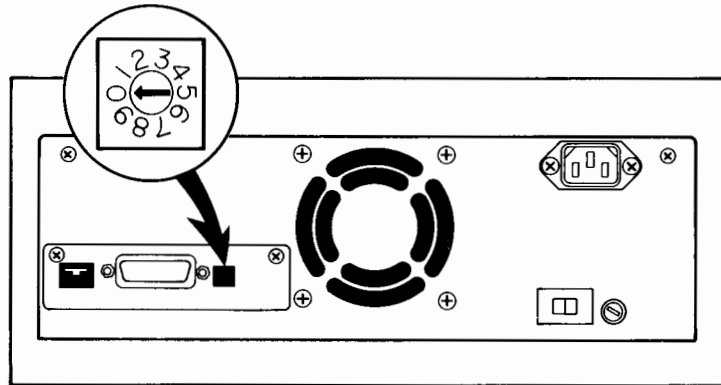
Step 2: Setting the Configuration Switch

The configuration switch on the rear panel of your disc drive has three basic functions. Use it to:

- partition your hard disc into easily-managed sections called volumes.
- format (initialize) the hard disc or re-format existing volumes.
- prevent accidental re-formatting of and writing to the hard disc.

CAUTION

Set the switch to the number of volumes desired *before* you format the hard disc.



Configuration Switch

Settings are described in the following tables:*

HP 9153/9154A 10 Megabyte Disc Drive

SETTING	NUMBER OF VOLUMES	VOLUME SIZE (MB/VOL)						
0	Allows re-initializing of existing volumes. At first, if you leave the switch at the factory setting of 0, the hard disc is initialized as one volume (it defaults to setting 1).							
1	One	10.0						
2	Two	5.0			5.0			
3	Three	3.32		3.32		3.32		
4	Four	2.49		2.49		2.49		
5	Five	2.0		2.0		2.0		
6	Six	1.66	1.66	1.66	1.66	1.66	1.66	
7	Two	3.01		7.02				
8	Prevents writing to the <i>first</i> volume of the hard disc. Prevents accidental re-initializing of the hard disc.							
9	Prevents accidental re-initializing of the hard disc.							

HP 9153/9154B 20 Megabyte Disc Drive

SETTING	NUMBER OF VOLUMES	VOLUME SIZE (MB/VOL)						
0	Allows re-initializing of existing volumes. At first, if you leave the switch at the factory setting of 0, the hard disc is initialized as one volume (it defaults to setting 1).							
1	One	20.0						
2	Two	10.06			10.06			
3	Three	3.01	3.01	14.1				
4	Four	5.03	5.03		5.03	5.03		
5	Two	5.03		15.09				
6	Six	3.35	3.35	3.35	3.35	3.35	3.35	
7	Two	3.01	17.11					
8	Prevents writing to the <i>first</i> volume of the hard disc. Prevents accidental re-initializing of the hard disc.							
9	Prevents accidental re-initializing of the hard disc.							

* Refer to the Appendix for complete volume specifications.

HINT

Use the setting suitable for the number and size of your files and applications. 20 megabyte disc users, for example, may follow these guidelines:

If you want to organize your activities into equal volumes, use settings 2, 4, or 6.

Settings 3, 5, and 7 provide optimal performance if you are using large applications like EGS or AXE.

To set the configuration switch, complete the following steps:

1. Turn off your disc drive.
2. Remove the interface cable attached to the HP-IB connector on the rear panel of the drive.
3. Insert a small screwdriver into the slot on the configuration switch.
4. Rotate the switch to the desired setting.
5. Re-attach the interface cable.
6. Turn on your disc drive.

Move on to the next step, **Formatting the Hard Disc**. After you format the hard disc, we'll tell you how to set the configuration switch to protect your data.

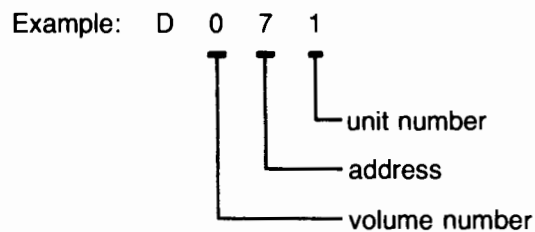
Step 3: Formatting the Hard Disc

Follow these steps to format the hard disc:

1. Make sure your disc drive is on and has passed the selftest. (The drive has passed the selftest when the selftest light on the front panel goes out.)
2. Insert the HP-UX Operating System Utilities disc into the *internal* flexible disc and turn on the Integral.
3. Press **Close** (exit the P.A.M. screen).
4. Select *dev* (using the arrow keys), then press **Return**.

The screen should now display all of the devices connected to your Integral. When your computer powered up, it checked for all discs and put the names in the *dev* folder. The name(s) assigned the 9153/9154 in the *dev* folder depends on the configuration and address switch settings.

A *drive name* uniquely identifies the drive as follows. The name consists of the letter *D* followed by three numbers.



The first number is the volume number of the disc. The first volume is *0*, the second volume is *1*, and so on.

The second number is the address of the disc drive, the address you selected in **Step 1: Before You Begin**.

The third number is the unit number. The hard disc is unit *0* and the flexible disc is unit *1*. (If you are using an HP-IB address of 8 or 9, units numbers are reversed: the flexible disc is unit *0* and the hard disc is unit *1*.)

(Read *Installing and Using Peripherals* in your *Integral Comprehensive Guide* for a detailed explanation of drive names.)

5. Write down the name(s) of the disc(s) in the *dev* folder you wish to format.
6. Close the *dev* folder.
7. Select *util* and press **Return**.
8. Move the highlighter to *format__disc* and press **Return**.
9. You are now asked which disc you wish to format. You'll see the following questions:
What will the new disc name be? *disc*
Which drive will contain the disc? *internal*
(*disc* and *internal* are the default options.)
10. To change the default options:
 - A. Press **Change Name** and enter a name of your choice (up to eight characters.)
 - B. Press **Change Drive** and enter the first drive name you wrote down in step 5. (Each drive must be formatted separately.)
11. Press **Start Format**. *Remember that each volume of the hard disc requires formatting, and that each disc is formatted separately.*
12. Move on to the next step.

Step 4: Protecting Your Data

You may now do one of three things:

1. You may leave the switch at the volume setting you selected prior to formatting the hard disc. Here's an example:

Roger selected setting 3, which breaks up his 10 megabyte disc into three, equal-sized volumes of 3.32 megabytes. Thinking that he may want to re-format and store data on the disc frequently, he leaves the setting at 3 after formatting. Later, he can re-format any volume(s) without changing the switch.

2. After storing data to the disc or to one volume on the disc, you may change the switch to setting 8. Setting 8 will prevent you from writing over the first volume (*volume 0*) of your hard disc. It will also prevent you from re-formatting any volume of your hard disc. Here's an example:

Irene selected setting 5, which breaks up her 20 megabyte disc into two volumes. The first volume (*volume 0*) is 5.03 megabytes, and the second volume (*volume 1*) is 15.09 megabytes. After formatting the volumes, Irene stores important data on the first volume. To prevent writing over or re-formatting that data, Irene changes the setting to 8. The 5.03 megabyte volume is protected, but she may write to the other volume. Later, she may change the switch to re-format volumes.

Setting 8 write protects only the first volume of the disc. If you choose to use the disc as one entire volume, the entire disc is write and format protected.

3. After formatting all volumes on the hard disc, you may prevent later re-formatting and loss of data by setting the configuration switch to 9. Setting 9 prevents you from re-formatting any volume of the hard disc; you may still write to the disc. Here's an example:

Fred selected setting 2, which breaks up his 20 megabyte disc into two volumes of 10.06 megabytes.

Remembering that he had once accidentally re-formatted the hard disc while trying to format a flexible disc, Fred changes the switch to 9.

To change the configuration switch, follow these steps:

1. Turn off your disc drive.
2. Remove the interface cable attached to the HP-IB connector on the rear panel of the drive.
3. Note your original switch selection, writing it down for future reference.
4. Using a small screwdriver, turn the switch to 8 or 9.
5. Re-attach the interface cable.
6. Turn on your disc drive.

NOTE Whenever you change the configuration switch, you must turn the drive off and then on again for your system to know that a change has occurred.

Later, if you want to re-format volume(s), follow these guidelines:

- If you DO NOT want to change the number of volumes, change the switch to 0 and re-format the desired volume(s).
- If you DO want to change the number of volumes, change the switch to the setting of the desired number of volumes and format each volume.
- Use the preceding instructions to change the setting.

You can now use the HP 9153/9154 with your Integral. This chapter is intended to get you started; for more complete operating instructions, refer to your Integral manuals.

8

Using Your HP 9153/9154 with Other Computers

The HP 9153 and HP 9154 are supported on computers and instruments not described in this manual. For your convenience, here is a list of manuals that may help you operate your particular system. If yours is not listed here, consult your HP representative. She or he will provide the resources you need.

IBM Compatibles

Using Your HP Disc Drive or Tape Drive

HP Portables

110 Portable Computer Owner's Manual
110 Portable Computer MEMOMAKER User's Manual
110 Portable Computer MICROSOFT MS-DOS
Operating System User's Guide
Getting Started with the Portable PLUS
Using the Portable PLUS

HP Series 80

HP 83/85 Pocket Guide
HP 83/85 Mass Storage ROM Owner's Manual
HP 85B Owner's Manual and Programming Guide
HP 86/87 Pocket Guide
HP 86/87 Operating and BASIC Programming Manual
HP-IB Interface Owner's Manual

HP Series 500

Series 500 BASIC Condensed Reference Manual
BASIC Manual Package
HP-UX Concepts and Tutorials Manual (Vols. 1-4)

HP 250/260

Operating the HP 250
HP 250 General Information Manual
HP 250 BASIC Programming Binder

HP Series 1000 (A)

HP-IB in HP 1000 Computer System User's Manual

9

Problem Solving, Repairs, and Supplies

Caring for the Case

1. Before cleaning the case, disconnect the power cord and HP-IB cables. Make sure that a disc is not inserted in the flexible disc drive.
2. Dampen a clean, soft, lint-free cloth in a solution of clean water and mild soap.

CAUTION

Chemical spray-on cleaners used for appliances and other household and industrial applications may damage the case finish. Do not use cleaners that contain ammonia, benzenes, chlorides, or abrasives.

3. Wipe the soiled areas of the case, making sure that no cleaning solution gets inside the case. For cleaning more heavily soiled areas, use a solution of 80% clean water and 20% isopropyl alcohol.
4. Wipe the areas with cleaning solution with another clean, soft, lint-free cloth. Remove pen and pencil marks with a non-abrasive eraser.

Warranty

A warranty summary for the United States is included in the front of this manual. If you have questions concerning the warranty, please contact your dealer or the nearest Hewlett-Packard Sales Office. In countries outside the United States, contact your dealer or the nearest HP Sales Office to determine warranty terms.

Maintenance

Your disc drive does not require regular maintenance. However, the performance and life of your disc drive depend on how carefully it is handled. Be sure to follow the environmental restrictions in the Appendix.

If you have an HP 9153, follow the flexible disc care and handling guidelines in Chapter 10.

Changing the Fuse

A new fuse was installed in your disc drive at the factory, and you normally do not need to replace it. Should you need to change the fuse, follow these guidelines and steps carefully.

WARNING

To avoid getting shocked, unplug the power cord if you change a fuse. Place the fuse into the fuse holder and then into the unit.

For continued protection against fire hazard, replace the fuse only with the same type and rating fuse.

Voltages and Fuses

Country	Voltage Setting	Nominal Range	Fuse P/N	Fuse Holder
U.S. Mexico Canada Japan Most South American Countries	115V~	100-120V~	3.0 AF 250V~ HP P/N 2110-0003	Gray
Most European Countries	230V~	200-240V~	1.6 AF 250V~ HP P/N 2110-0673	Black

The ranges in the preceding table are based on normal usage. To change the fuse:

1. Turn off and unplug your disc drive.
2. Verify that the voltage setting is correct for your local power. (See table.)
3. Use a screwdriver to turn the fuse holder in a counter-clockwise direction while pushing in gently.
4. When you have loosened the fuse holder, pull it out with your fingers.
5. Remove the old fuse.
6. Select the correct fuse for your local power and voltage setting.
7. Put the new fuse into the fuse holder, and then insert the fuse holder into the unit. Do not hold the metal portion of the fuse while inserting the fuse into the unit.
8. Turn the fuse holder in a clockwise direction while pushing gently.

What If Something Goes Wrong?

The error messages you see depend on your particular computer and disc drive.

If you have an HP 9153, the error message could refer to the hard disc *OR* to the flexible disc. If you have an HP 9154, the message refers to the hard disc.

■ What if the flexible disc access light begins blinking when the flexible disc isn't being accessed?

The blinking of the flexible disc access light is a feature of your disc drive called the Media Monitor. This warning indicates that the flexible disc you are using should be replaced. As soon as possible, copy the worn disc and discard it. For further information about the Media Monitor, please read the "Media Monitor" section in Chapter 10.

■ **What if the selftest light remains on or flashes after the selftest?**

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

1. Turn off your disc drive. Then turn the drive back on and wait for the drive to repeat the selftest.
2. If the selftest fails again, check the temperature and humidity of the environment in which you use the drive. Make sure you are using your drive in an area within the environmental ranges specified in the Appendix.

Your disc drive may have experienced abrupt temperature or humidity changes. For example, an abrupt change in temperature occurs when you take your drive out of an air-conditioned office, take it to a warm car, and then set it up in another air-conditioned office. *If your drive has been moved from one type of environment to another, allow the drive to stabilize in the new area for two hours before turning it on.* If you turn the drive on without allowing it to stabilize, it may fail the selftest.

3. If your disc drive still fails the selftest, contact your dealer or the nearest HP Sales Office.

NOTE **For Series 200/300 BASIC Users**

The selftest light stays lit for 20-30 seconds when the drive is being initialized.

■ **I get an error stating that the disc is write protected. What should I do?**

If the message refers to the flexible disc:

1. You may be using a flexible disc that you have write protected. If you wish to write information on the disc, reverse the write-protect tab on the disc (see Chapter 10). If you wish to keep the disc write protected, insert another disc.
2. The flexible disc may also have been automatically write protected by the Media Monitor. If the Media Monitor warning is on, copy the information to a new disc and discard the old disc.
3. If you still receive a write-protect error, try another flexible disc. 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 HP Sales Office.

If the message refers to the hard disc:

If you try to initialize (format) the hard disc when the configuration switch is set to 9, you will see the write-protect error. If you wish to initialize the hard disc, change the switch setting to 0. **Consult Chapter 2 and the chapter describing the use of this drive with your particular computer for switch setting instructions. If you do not take the proper steps, you may lose data.**

If you try to re-initialize any volume or try to write to the first volume of the hard disc when the configuration switch is set to 8, you will see the write-protect error. If you wish to initialize or write to that first volume, change the switch setting to 0. **Consult Chapter 2 and the chapter describing the use of this drive with your particular computer for switch setting instructions. If you do not take the proper steps, you may lose data.**

■ **What should I do if I get a message that says *Disc Not Present* or *No Discs Were Found*?**

If the error message refers to the flexible disc:

1. Be sure your disc drive is turned on.
2. Make sure all power cables are securely connected.
3. Be sure that you have a disc in the flexible disc drive and that the flexible disc has been initialized (formatted).
4. Check that your disc drive is addressed correctly.
5. Check that your computer is configured properly. See your computer manual for details.
6. If these steps fail, you may have a bad flexible disc. Try another flexible disc. If this fails, contact your dealer or HP Sales Office.

If the error message refers to the hard disc:

1. Be sure the disc drive is turned on.
2. Make sure all power cables are securely connected.
3. Be sure that the hard disc has been initialized (formatted).
4. Check that your disc drive is addressed correctly.
5. Check that your computer is configured properly. See your computer manual for details.
6. If these steps fail, contact your dealer or HP Sales Office.

■ **What if I get an error message that says *Disc Error Reading Drive ____*?**

If the error message refers to the flexible disc:

1. Your flexible disc may be worn or damaged. Try using other discs to see if you get the same message.

2. If you receive the message on only one flexible disc, copy the disc immediately and discard it. (Please note that if the disc is worn or damaged, the copy may not work.)
3. If you receive the same message on several flexible discs, contact your dealer or HP Sales Office.

If the error message refers to the hard disc:

1. Try to copy the files from your hard disc to flexible discs or to HP's 1/4-inch cartridge tape backup. (You may not be able to copy all files because of this error.)
2. Initialize (format) the hard disc. Remember that initializing destroys any data already stored on the disc. Make sure you have copied all of the files you can to flexible discs or to a tape backup before you initialize the disc.
3. Re-install your operating system, software, and files from the flexible discs or from the tape backup.
4. If you cannot format the hard disc, or if you still receive an error message, contact your dealer or HP Sales Office.

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

If the message refers to the flexible disc:

1. Be sure your disc drive is turned on.
2. Make sure all power cables are securely connected.
3. Be sure that you have a disc in your flexible disc drive.
4. Check that your disc drive is addressed correctly.

5. Check that your computer is configured properly. See your computer manual for details. (BASIC users should check that the MSUS is correct.)
6. If these steps fail, you may have a bad flexible disc. Try another disc. If this also fails, contact your dealer or HP Sales Office.

If the message refers to the hard disc:

1. Be sure your disc drive is turned on.
2. Make sure all power cables are securely connected.
3. Be sure that the hard disc has been initialized (formatted).
4. Check that your disc drive is addressed correctly.
5. Check that your computer is configured properly. See your computer manual for details. (BASIC users should check that the MSUS is correct.)
6. If these steps fail, contact your dealer or the nearest HP Sales Office.

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 HP Sales Office.

How to Order Supplies

DESCRIPTION	HP PART NUMBER
Gray Double-Sided Flexible Discs (10 discs/box)	92192A
Fuse, 3.0 AF 250 V (115V Setting)	2110-0003
Fuse, 1.6 AF 250 V (230V Setting)	2110-0673
Power Cord*	See footnote
HP-IB Cable, 1-meter length	10833A
HP-IB Cable, 2-meter length	10833B
HP-IB Cable, 0.5-meter length	10833D
Shipping Disc and Wedge	
Disc	1535-4881
Wedge	9223-0648
HP 9153/9154 User's Manual	09153-90005

** Power cords are dependent on your location. Please consult your dealer or HP Sales Office if you need to order a power cord.*

Order supplies for your disc drive by contacting your HP Sales Office. Worldwide sales offices are listed in the back of this manual. You may also contact the Hewlett-Packard Direct Marketing Division at the following address:

Direct Marketing Division
1320 Kifer Road
Sunnyvale, California 94086

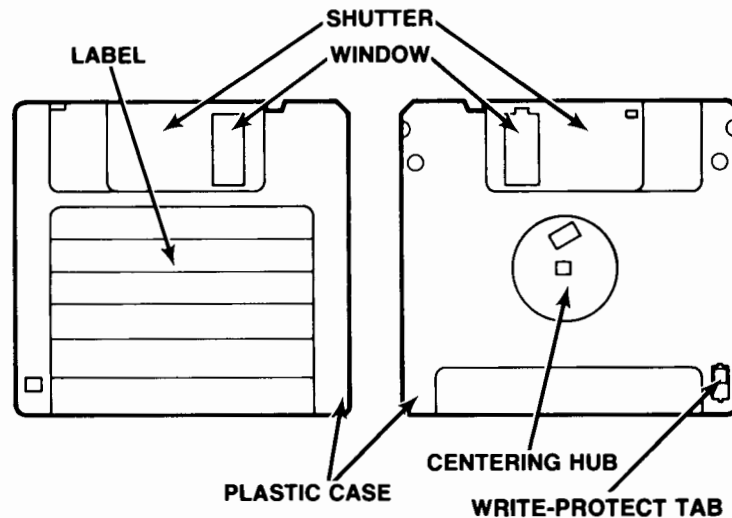
Telephone: (800) 538-8787 toll free in the United States
(406) 738-4133 in California, Alaska, and Hawaii

10

Using Flexible Discs

You'll find this chapter helpful if you have an HP 9153.

A Look at the Flexible Disc



Parts of the Flexible Disc

Window and Auto Shutter

Your disc drive reads data from the disc and writes data on the disc in the space beneath the window. The window is covered by a metal shutter.

When you place the disc in the drive, this shutter automatically opens to expose the disc surface. When you remove the disc from the drive, the shutter closes to protect the disc surface.

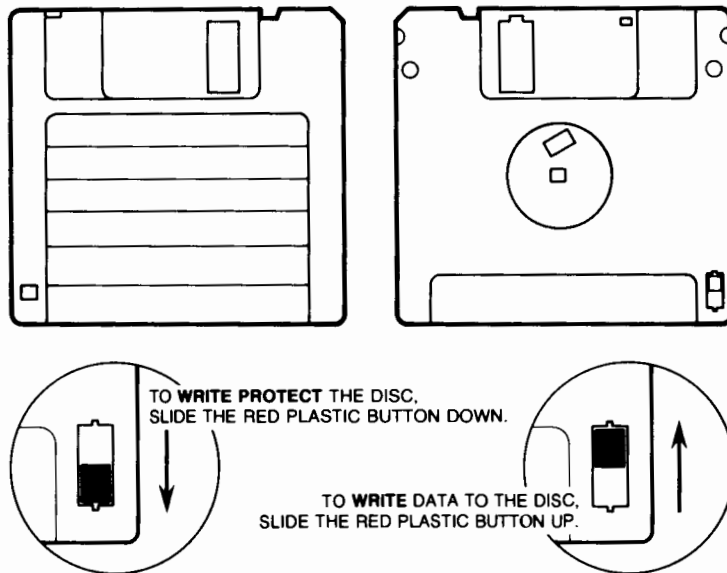
CAUTION

If you manually open the window, do not touch the disc surface or expose it to dust. Follow the guidelines in the next section to prolong the life of your flexible discs.

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

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

Write protect discs that contain valuable programs and data.



Write-Protect Tab for Double-Sided Discs

If you want to write protect a double-sided Hewlett-Packard disc:

1. Place the tip of a pen in the small hole at the top of the write-protect tab.
2. Slide the tab downward until it locks into place.
3. If you no longer wish to write protect the disc, slide the tab up.

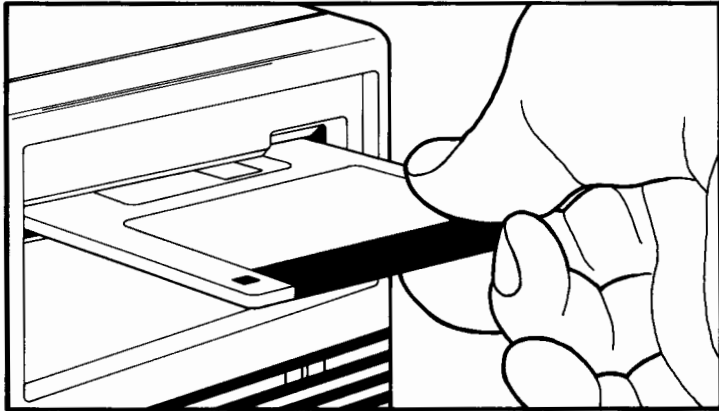
If you have a disc with the write-protect tab missing, the disc is write protected (the opening isn't covered).

Handling Discs

The Media Monitor and the disc's plastic case and metal shutter make HP's 3 1/2-inch flexible discs more reliable than comparable 5 1/4-inch products. However, because your discs contain valuable data and programs, you should treat your discs very carefully. Follow these guidelines to avoid data loss and to prolong the life of both your flexible discs and your disc drive.

- Use the disc in a clean environment to avoid dust or dirt particles scratching the disc.
- Avoid magnetic fields, such as appliances with motors, to prevent magnetically erasing the data on your discs.
- Insert the disc fully into the drive slot.
- Store discs in a cool, dry place to prevent moisture and heat damage.
- Don't touch the surface of the disc. Fingerprints contaminate the disc, shortening disc life and causing data loss.
- Don't try to clean the disc. The plastic jacket contains a mechanism for cleaning the disc surface. Other cleaning methods may damage the disc.

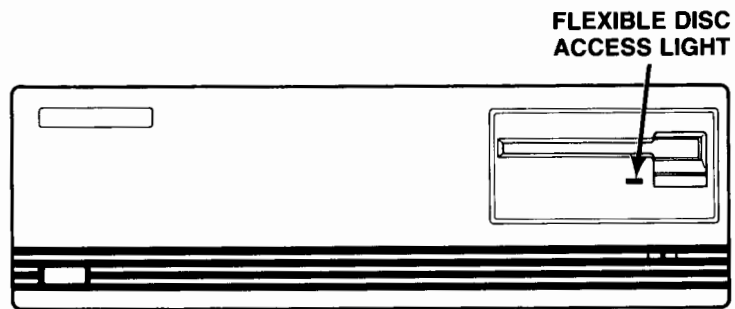
Loading Discs



Loading the Disc

1. Insert the disc by holding the disc with the label on top and the shutter pointing at the slot in your disc drive.
2. Slide the disc completely into the drive until the disc clicks into place. The disc will drop about 1/4 inch. Do not force the disc.
3. Remove the disc by pressing the disc eject button. Pull the disc straight out of the drive.

The Media Monitor



Flexible Disc Access Light

- The Media Monitor automatically checks how much the disc has been used. When there is any risk of losing data, the flexible disc access light on the front panel continues blinking even after the disc has been accessed.
- When this occurs, your disc drive still accepts and performs commands from the computer but will immediately resume the Media Monitor warning when the command has been performed.
- When you see the Media Monitor warning, copy the disc you are using as soon as possible. Begin using the copy and discard the original disc. If you continue to use the original disc, the drive will eventually write protect the disc. At that time, you will only be able to read data from that disc or copy it; you will not be able to store data on that disc.

Single and Double-Sided Discs

The terms double-sided and single-sided can be confusing. Here's a glossary to help you understand how the terms are used.

Single-Sided Disc Drive:	Has only one read/write head. Records data on only one side of a disc.
Double-Sided Disc Drive:	Has two read/write heads. Records data on both sides of a disc.
Single-Sided Disc:	Data can be recorded on only one side of this disc. Hewlett-Packard single-sided discs are blue and are labeled "single-sided."
Double-Sided Disc:	Data may be recorded on both sides of this disc. Hewlett-Packard double-sided discs are gray and are labeled "double-sided."
Single-Sided Formatting:	Prepares a disc for one-sided recording of data. You may format "single-sided" on either single-sided or double-sided discs.
Double-Sided Formatting:	Prepares a disc for two-sided recording of data. You should format "double-sided" ONLY on double-sided discs in a double-sided disc drive.

The HP 9153 records data on both sides of a flexible disc. The following chart elaborates on the recommended use of single-sided and double-sided discs. Words used in the table are defined as follows:

exchange only means that the discs should be used only for exchanging data and programs with single-sided disc drives and should not be used on a daily basis.

OK means that the discs may be used on a daily basis.

Recommended Use of Discs

Single-sided HP discs	exchange only
Double-sided HP discs in single-sided	OK
Double-sided HP discs in double-sided format	OK
HP software	OK

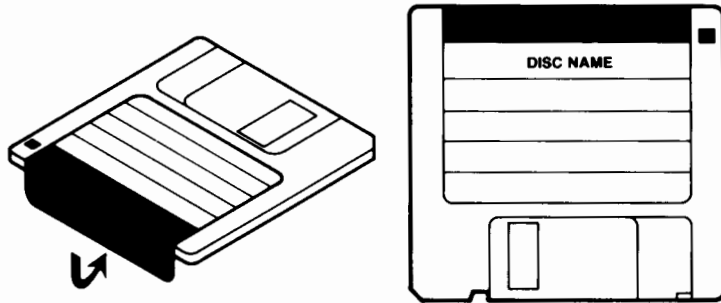
CAUTION

We recommend gray, double-sided Hewlett-Packard discs for daily use in an HP 9153.

Both sides of a double-sided disc are treated with a lubricant that reduces wear on the read/write head. The unused side of a single-sided disc *is not* coated with this lubricant, so using a single-sided disc in a double-sided drive exposes the read/write head to an unprotected surface. While occasional use does not damage the read/write head, repeated use of single-sided discs in a double-sided drive can cause wear and eventual failure both to the discs and to the read/write head.

Labeling Discs

When you order boxes of discs, you receive a packet of labels with the discs. Position the label on the disc so that the colored portion of the label is folded over the lower edge of the disc. Write the name of the disc immediately beneath the colored edge of your disc, as shown in the following figure.



Positioning the Label

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

Ordering Discs

To order a ten-pack of gray, double-sided flexible discs, specify HP part number 92192A. Order the package from Hewlett-Packard Direct Marketing Division, 1320 Kifer Road, Sunnyvale, California 94086. Telephone (800) 538-8787 toll free in the United States or (406) 738-4133 in California, Alaska, and Hawaii.

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 your 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 are the customer's responsibility. HP reserves the right to exclude from warranty and maintenance agreement coverage any repairs which HP reasonably 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.

Appendix: Technical Reference

HP-IB Interface Restrictions

- The total length of cable in one bus system must be *less than or equal to* two meters times the number of devices connected to your system (maximum cable length \leq two meters X the number of devices). Your computer counts as one device, and the total length of cable must not exceed 20 meters.

Here's an example:

You have a total of three devices. $2 \text{ meters} \times 3 \text{ devices} = 6 \text{ meters}$. Your system can be connected together with cables that have a total length less than or equal to 6 meters.

- The individual lengths of cable may be arranged in any manner, as long as the total length does not exceed the maximum. If you are going to connect more than ten devices together, use cables shorter than two meters between the devices to keep the total cable length less than 20 meters.
- The maximum number of devices that you may connect together in one bus system is 15. Up to eight of these devices may be disc and tape drives. There are no restrictions to the way cables may be connected together. We recommend, however, that no more than *four* piggyback connectors be stacked on one device since the resulting weight could damage the connector mounting.
- Use only properly shielded and terminated HP-IB cables to reduce potential interference to radio and television reception.

Specifications

Listed below are the performance characteristics, environmental ranges, physical characteristics, and power requirements for HP 9153/9154A and HP 9153/9154B disc drives.

These specifications describe the HP 9153A with serial numbers 2641A00101 and beyond and HP 9154A with serial numbers of 2642A00101 and beyond and all models of the HP 9153/9154B.

Performance Characteristics*

Flexible Disc Specifications

Format Option	Sectors/Track	Tracks/Surface	Surfaces/Disc	Number of Sectors	Sector Size	Capacity (Bytes)
0,1 Default	16	77	2	2464	256	630,784
2	9	77	2	1386	512	709,632
3	5	77	2	770	1024	788,480
4	16	66	1	1056	256	270,336
16 (IBM)	9	80	2	1440	512	737,280

	Flexible Disc	HP 9153/9154A	HP 9153/9154B
Maximum Sustained Transfer Rate	17 kb/s	150 kb/s	150 kb/s
Average Access Time	225 ms	75 ms	75 ms

* Actual figures depend on your computer.

10 Megabyte Hard Disc Volume Specifications

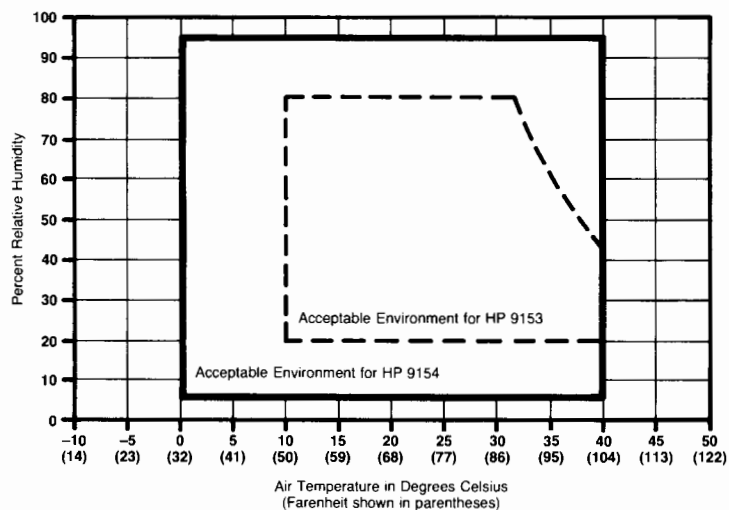
Setting	Number of Volumes	Sectors/Track	Tracks/Surface	Surfaces/Disc	Number of Sectors	Sector Size	Capacity (Bytes)
0	Initialize Enable						
1	1	28	698	2	39088	256	10006528
2	2	28	349	2	19544	256	5003264
3	3	28	232	2	12992	256	3325952
4	4	28	174	2	9744	256	2494464
5	5	28	140	2	7840	256	2007040
6	6	28	116	2	6496	256	1662976
7	2	Vol 0	28	210	2	11760	3010560
		Vol 1	28	490	2	27440	7024640
8	Write Protect						
9	Initialize Protect						

20 Megabyte Hard Disc Volume Specifications

Setting	Number of Volumes	Sectors/Track	Tracks/Surface	Surfaces/Disc	Number of Sectors	Sector Size	Capacity (Bytes)
0	Initialize Enable						
1	1	28	1404	2	78624	256	20127744
2	2	28	702	2	39312	256	10063872
3	3	Vol 0	28	210	2	11760	3010560
		Vol 1	28	210	2	11760	3010560
		Vol 2	28	984	2	55104	14106624
4	4	28	351	2	19656	256	5031936
5	5	Vol 0	28	351	2	19656	5031936
		Vol 1	28	1053	2	58968	15095808
6	6	28	234	2	13104	256	3354624
7	2	Vol 0	28	210	2	11760	3010560
		Vol 1	28	1194	2	66864	17117184
8	Write Protect						
9	Initialize Protect						

degrees C and ambient humidity (roughly 30% at 23 degrees C) with no errors or performance degradation.

Humidity		
	(See following graph)	
Operating	20% to 80%	5% to 95%
(non-condensing)		
Non-Operating	20% to 80%	5% to 95%
(non-condensing)	(29 degrees C maximum wet-bulb)	
Altitude		
Operating	0 to 4572m (0 to 15000 ft)	0 to 4572m (0 to 15000 ft)
Non Operating	-304 to 15240m (-1000 to 50000 ft)	-304 to 15240m (-1000 to 50000 ft)



Physical Characteristics

Dimensions

Height	106 mm (4.2 in.)
Width	325 mm (12.8 in.)
Depth	285 mm (11.2 in.)

Weight

Net	7.7 kg (16.2 lbs)
Shipping	9.4 kg (20.8 lbs)

HP 9153A/B

HP 9154A/B

106 mm (4.2 in.)
325 mm (12.8 in.)
285 mm (11.2 in.)

Power Requirements

Nominal Voltage (selected by rear panel switch)	100-120V~ (115V~ setting) 200-240V~ (230V~ setting)
Voltage Range	86-127V~ (115V~ setting) 195-253V~ (230V~ setting)
Nominal Frequency	50-60 Hz
Frequency Range	48-66 Hz
Maximum Power Consumption	50W

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 disc drive, plotter, and printer must each have a unique address.
BACKUP	A duplicate copy of a disc made in case the original disc is lost or damaged. Backup can be done on HP's 1/4-inch tape products as well as on flexible discs.
BOOTING	Puts your computer in a ready-to-run condition. The computer "pulls itself up by its bootstraps" and gets ready to go. (Booting loads the operating system and utilities into your computer's memory.)
BUS	A bundle of wires over which computer devices can communicate. The bus is similar to a telephone line shared by several telephones with different numbers.
BYTE	A unit of measurement for memory storage. A byte is often used to represent one character, such as a single letter, number, or other symbol.
CABLE	Provides the connection between computers and peripherals (printers, plotters, and disc drives). The cable used with this drive is the HP-IB (H ewlett- P ackard I nterface B us).
CONFIGURATION SWITCH	A rear panel switch that allows most users to partition the hard disc into more than one volume. All users can use this switch to prevent accidental hard disc initialization (formatting).
CRT	An 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	<p>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. Hewlett-Packard's 3 1/2-inch flexible disc is enclosed in a plastic case.</p> <p>A disc may be flexible or hard. The flexible disc may also be single-sided or double-sided.</p>
DISC ACCESS LIGHT	A light that comes on whenever the computer is getting information from the disc drive or sending information to the disc drive.
DISC DRIVE	A device that allows a computer to read data that is stored on a disc or write data on a disc.
FAULT LIGHT	The yellow light on the front panel of the unit. This light goes on during selftest and stays on if there is an problem. It also remains on for 20-30 seconds during BASIC hard disc initialization (formatting). (Also called the selftest light.)
FIXED DISC	A disc that cannot be removed from your disc drive. Also called "hard" or "Winchester" disc.
FLEXIBLE DISC	A disc which can be removed from your disc drive. The disc is called flexible because it is made from a flexible piece of polyester.
FORMATTING	<p>The process by which a disc is prepared to receive and store data. Also known as "initializing."</p> <p>If you think of your disc as 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.</p>
HARD DISC	Also called a "fixed" or "Winchester" disc. A hard disc is called hard because it is made from rigid aluminum.

HARDWARE	The physical parts of the computer system; the computer and the peripheral devices.
HEAD	The part of the disc drive that touches the surface of the disc. It reads data from your disc and writes data onto your disc.
HP-IB	Stands for H ewlett- P ackard I nterface B us. The HP-IB is a bundle of wires that allows the computer and the peripherals to communicate.
INITIALIZE ENABLE	In addition to selecting volumes, the configuration switch has a setting which allows hard disc initialization (formatting). See the chapter describing your computer for details.
INITIALIZE PROTECT	In addition to selecting volumes, the configuration switch has a setting which prevents accidental hard disc initialization (formatting). See the chapter describing your computer for details.
INITIALIZING	The process by which a disc is prepared to receive and store data. Also known as "formatting."
INTERLEAVE	Interleaving changes the order in which your computer reads the sectors on a disc. The interleave factor affects system performance.
KBYTES	A unit of measurement for memory storage, also called "k" or "kilobyte." One kbyte is equal to 1,024 bytes.
LOAD	To read programs from a disc or tape into a computer's memory.
MBYTE	A unit of measurement for memory storage, also called "Mb" or "megabyte." One megabyte is technically equal to one million bytes.
MFМ	Modified frequency modulation (MFМ); an encoding method used to store 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).

PIGGYBACKING	Hooking one HP-IB cable into the back of another HP-IB cable. Piggybacking is one way to connect more peripheral devices to your computer system.
PROGRAM	A set of instructions or steps telling the computer how to handle a problem or task.
READ/WRITE HEAD	See <i>HEAD</i> .
SELFTEST	A series of internal routines the drive performs when you turn it on. These routines check that the drive is functioning correctly. (See <i>FAULT LIGHT</i> .)
SOFTWARE	A computer program or set of programs.
UTILITY	A program that performs a task required by most users. For example, most users need to make copies of discs. The copy utility is a program that tells the computer how to copy discs.
WINCHESTER DISC	Another name for the fixed disc. The original model of the fixed disc had two discs that held 30 megabytes of data each. As the story goes, the inventors appropriately named this 30-30 disc after the famous western 30-30 rifle, the "Winchester."
WRITE PROTECT	A method of protecting disc information from being erased or overwritten. HP 9153/9154 users may use the write-protect switch to prevent writing to the first volume of the hard disc. See the chapter describing your computer for details.

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