

Using the Computer

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Overview

This chapter describes how to use the resources of the computer to accomplish your computing needs.

The first section describes system start-up procedures.

The second section shows how to use the set up functions.

The third section describes how to run an application such as word processing or spreadsheets on the computer.

System Start-up

To start up the system, begin by locating the MS-DOS* diskette supplied with the computer and remove it from its storage case.

Next, do the following:

1. Insert the MS-DOS* Master diskette into floppy disk drive A.
2. Turn on power to the main unit. The system will go through its internal check procedures and display the following text on the screen:

```
The Sharp Personal Computer System
Firmware Version x.xx
Copyright (C) 1988 by Sharp Corporation
Copyright (c) 86, 87, 88 by Vadem Inc.
```

```
Processor      Passed.
Firmware ROM   Passed.
Keyboard       Passed.
Clock          Passed.
Setup RAM      Passed.
xxxK Memory.
```

```
Loading A:
```

Note: If you are using the computer for the first time or just replaced the battery, turning power on to the main unit displays the set up screen. For details about this screen, see the next section.

3. After a few seconds, the system begins to load MS-DOS* from the floppy diskette in drive A into main memory. Once MS-DOS* is loaded, the following message displays indicating that the system has started up (sometimes called "booted"):

```
The Sharp Personal Computer System  
I/O Subsystem Version x.xx  
Copyright (C) 1985,1986,1987,1988 by Vadem Inc.  
All Rights Reserved.
```

```
A>PATH
```

```
A>VER
```

```
MS-DOS Version 3.30
```

```
A>
```

```
A>
```

Copying MS-DOS*

After you have started MS-DOS* for the first time, the first thing you should do is to make one or more copies of the MS-DOS* original diskette. By specifying the country code and keyboard code for the backup diskette(s), the date and time format, currency symbol, decimal separator and keyboard arrangement corresponding to the specified codes will automatically be set whenever you start MS-DOS* using the backup diskette.

Prepare one or more blank diskettes. It is recommended to attach a label "Working diskette" on these diskettes.

Make sure that the original MS-DOS* diskette is set in drive A and the A > prompt is issued on the screen. Enter the following command.

```
SELECT xxx yy
```

xxx represents the country code, and yy represents the keyboard code. The available combinations are listed in the table below.

Country	Country code	Keyboard code	Date format	Time format
United States	001	US	mm-dd-yy	hh:mm:ss,cc
Netherland	031	US	dd-mm-yy	hh:mm:ss,cc
France	033	FR	dd/mm/yy	hh:mm:ss,cc
Spain	034	SP	dd/mm/yy	hh:mm:ss,cc
Italy	039	IT	dd/mm/yy	hh:mm:ss,cc
Switzerland-German	041	SG	dd.mm.yy	hh.mm.ss.cc
Switzerland-French	041	SF	dd.mm.yy	hh.mm.ss.cc
United Kingdom	044	UK	dd-mm-yy	hh:mm:ss,cc
Denmark	045	DK	yy-mm-dd	hh.mm.ss,cc
Sweden	046	SV	yy-mm-dd	hh.mm.ss,cc
Norway	047	NO	dd/mm/yy	hh.mm.ss,cc
Germany	049	GR	dd.mm.yy	hh.mm.ss,cc
Australia	061	US	dd-mm-yy	hh:mm:ss,cc
Finland	358	SU	dd-mm-yy	hh:mm:ss,cc

The SELECT command will perform the following:

1. Format a new diskette.
2. Make a copy of MS-DOS*/GW-BASIC* master diskette.
3. Set the keyboard arrangement, date and time format, etc.

To select United Kingdom, for example, type

```
SELECT 044 UK
```

and press **Enter**.

Note. If you are using the PC-4641 with an optional external floppy disk drive attached, disconnect it and execute all reset before executing the SELECT command.

For Users of the PC-4602

Enter the following command:

```
A>SELECT xxx yy
```

Then the following message appears on the screen:

```
SELECT is used to install DOS the first  
time. SELECT erases everything on the  
specified target and then installs DOS.
```

```
Do you want to continue (Y/N)? Y
```

Simply press the **Enter** key. Then after a few seconds, the following message is displayed:

```
Insert new diskette for drive B:  
and strike ENTER when ready.
```

Insert a blank diskette in drive B and press **Enter** when ready. The system begins to format a diskette in drive B and then copies system on it. After formatting is completed, the following message is displayed:

```
Format another (Y/N)?
```

Type **N** and press **Enter**. The system automatically begins to copy the contents of the diskette in drive A to the diskette in drive B. When all operations are completed, remove the original MS-DOS* diskette from drive A, and use the backup diskette for succeeding operation.

For users of the PC-4641

Enter the following command:

```
A> SELECT xxx yy
```

Then the following message appears on the screen:

SELECT is used to install DOS the first time. SELECT erases everything on the specified target and then installs DOS.

Do you want to continue (Y/N)? Y

Simply press the **Enter** key. Then after a few seconds, the following message is displayed:

Insert new diskette for drive B:
and strike ENTER when ready

Remove the original MS-DOS* diskette from drive A and insert a blank diskette into drive A. Press **Enter** when ready. The system begins to format a diskette in drive A and then copies system on it. After formatting is completed, the following message is displayed:

Format another (Y/N)?

Type N and press **Enter**. Then the following message appears:

Insert diskette for drive A: and strike
any key when ready

Insert the original MS-DOS* diskette into drive A and press any key on the keyboard. The following information issued on the screen. The computer then begins to load the contents of the original MS-DOS* diskette into memory.

Reading source file(s)...

When reading is over, the message below is displayed.

Insert diskette for drive B: and strike
any key when ready

Remove the original MS-DOS* diskette from drive A and insert the formatted diskette into drive A. Press any key on the keyboard when ready. The contents temporarily stored in memory are written onto the blank new diskette.

Now, all operations are completed and A > prompt is issued. The new files (programs) have been automatically added to the copied MS-DOS* system diskette by the SELECT command.

Once backup diskettes are made, the original MS-DOS* diskette is seldom used. Keep it in a safe place where it is not affected by magnetic fields or heat and use the backup diskettes for daily operation.

Insert your new backup diskette in drive A and press the Ctrl, Alt and Del keys simultaneously. The message requesting you to enter the date is displayed, and you may notice that the month/day/year format is different from the original MS-DOS diskette. Enter the date and time, and the A > prompt is displayed. Press any character key on the keyboard, and you may find that different characters are displayed on the screen.

Additional Keyboard Operations

U.S. English Keyboard Mode. After changing the computer's internal key assignment, you can change the keyboard mode to the U.S. English mode and back to your keyboard mode any time. To change to the U.S. English mode, press the **F1** key while holding down **Ctrl** and **Alt**. To return to your keyboard mode, press the **F2** key while holding down **Ctrl** and **Alt**.

Dead Key Characters. There are some special characters on the keyboards other than the U.S. English, U.K. English, and Italian keyboards. When used alone, they display nothing on the screen and cause no cursor movement. They are called dead key characters, and used to accent some specific letters. To enter a letter with a dead key character, first type the dead key character and then the letter.

Special Characters. Some keyboards have characters on the front face or right side of keys. These characters can be typed using the **Ctrl** and **Alt** keys.

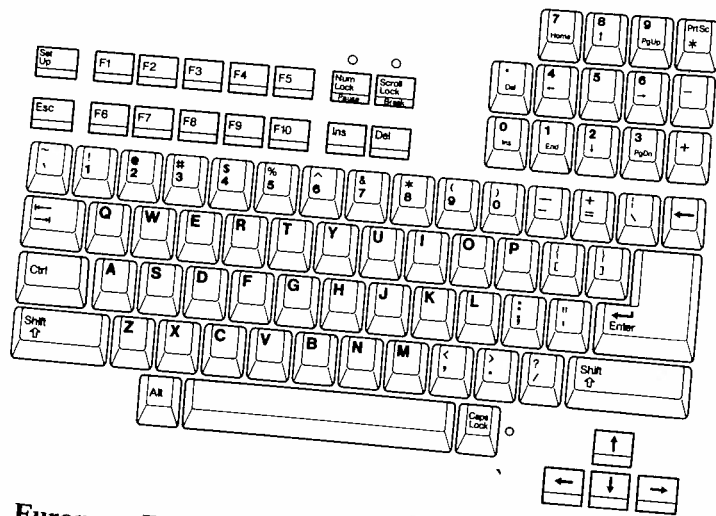
While holding down the **Ctrl** and **Alt** keys, press the key with a character on its front face or right side, and the character will be typed.

Keyboard Layouts

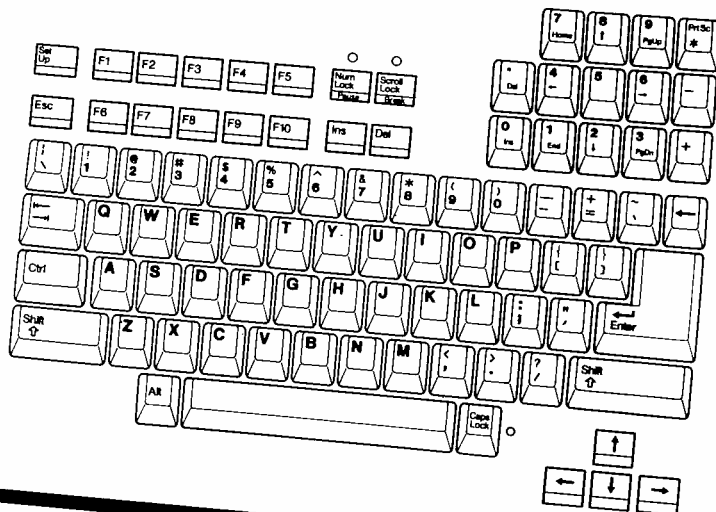
The following illustrations show the keyboard layouts which can be set using the **SELECT** command.

Note: The shaded characters are "dead key characters" described above.

U.S. English



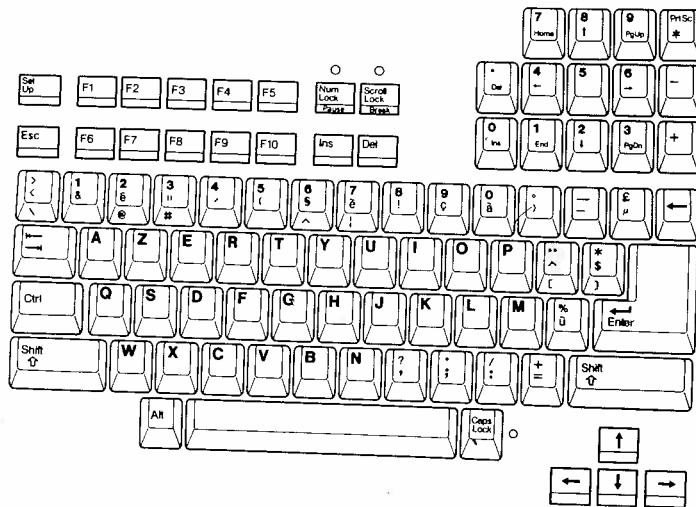
European English



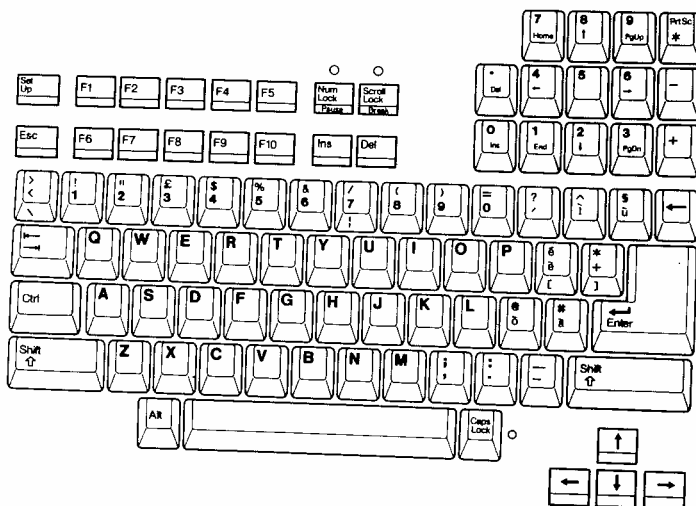
A detailed diagram of a standard 104-key computer keyboard layout. The keyboard is organized into several rows. The top row includes function keys (F1-F5), Num Lock/Pause, Scroll Lock/ScrP, and navigation keys (Home, End, PgUp, PgDn, Print Screen). The second row contains Esc, F6-F10, Insert/Delete, and a numeric keypad (0-9, =, -, /, *). The third row features a row of letters (Q-P), a bracket key, and a large spacebar. The fourth row includes Ctrl, letters (A-L), semicolon/apostrophe, Enter, and another Ctrl. The fifth row consists of Shift, letters (Z-M), comma/less-than, greater-than/question mark/slash, and Shift. The bottom row includes an Alt key, a long spacebar, another Alt key, and a set of arrow keys (Up, Down, Left, Right). The diagram uses simple line art to represent the keys and their arrangement.

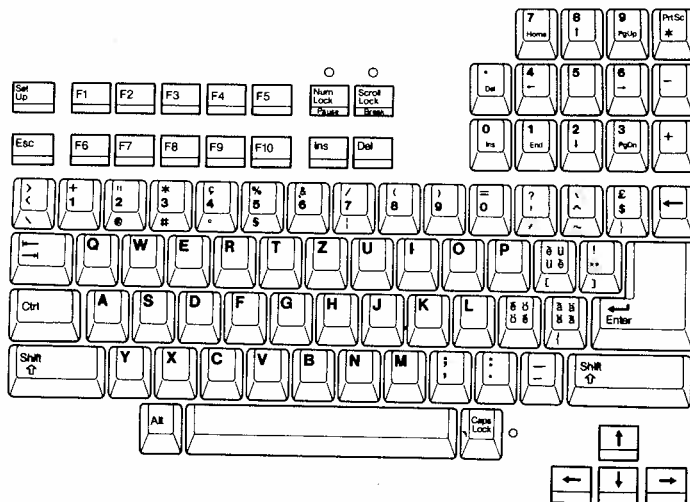
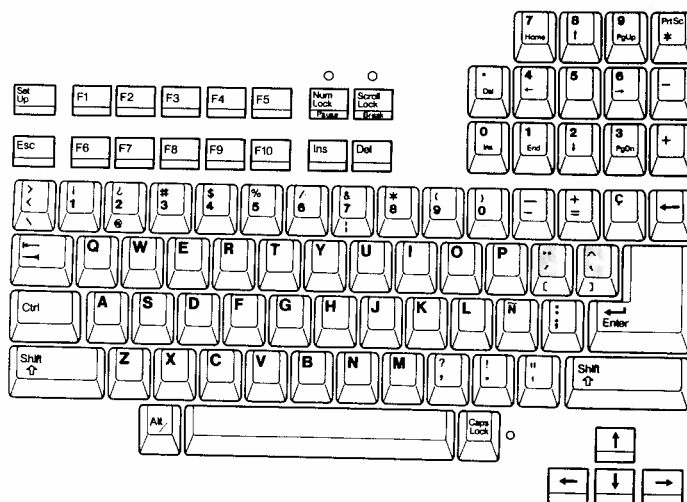
[illegible]

French

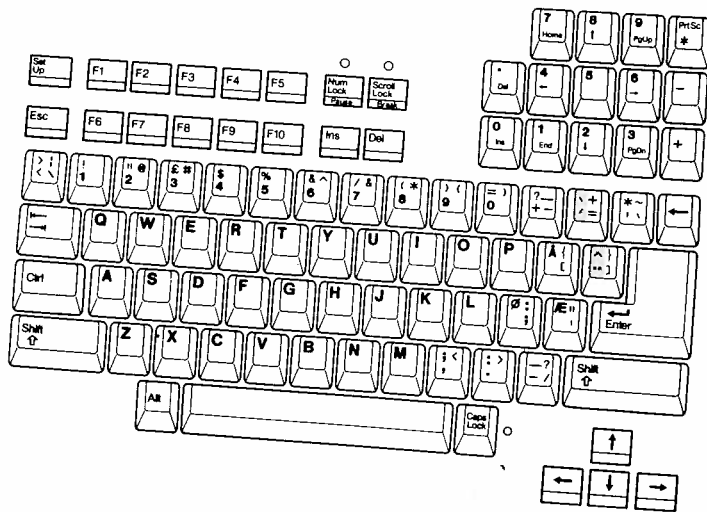


Italian

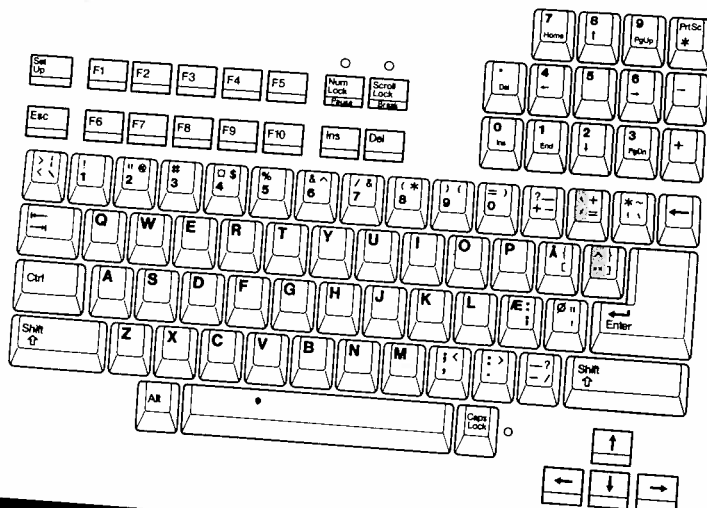


Swiss**Spanish**

Norwegian



Danish



A detailed diagram of a standard 104-key computer keyboard layout. The keys are labeled as follows:

- Top Row:** Caps Lock, Esc, F1, F2, F3, F4, F5, Num Lock, Num Pad (0-9, *, /), Scroll Lock, Print Screen.
- Second Row:** Tab, Q, W, E, R, T, Y, U, I, O, P, [(Backslash),] (Apostrophe), Enter.
- Third Row:** Ctrl, A, S, D, F, G, H, J, K, L, ; (Semicolon), ' (Quotation Mark), Enter.
- Fourth Row:** Shift, Z, X, C, V, B, N, M, < (Less Than), > (Greater Than), ? (Question Mark), / (Forward Slash), Shift.
- Fifth Row:** A single long key labeled "Alt" followed by a spacebar, then a key labeled "Caps Lock" and a key with an upward arrow.
- Bottom Row:** Three keys with left, down, and right arrows.

Using the Hard Disk (PC-4641)

As with the floppy diskette, the hard disk must be formatted in order to be used with MS-DOS*. Before formatting, however, the hard disk requires a special process to prepare the MS-DOS* area on the hard disk.

The hard disk can be divided into separate areas (partitions). Each partition is assigned to an operating system.

When you use the hard disk for the first time, no partition is assigned to the hard disk. You can create one or more MS-DOS* partitions on the hard disk using the MS-DOS* FDISK command.

Preparing the Hard Disk for Use

The MS-DOS* hard disk preparation program (FDISK) is used to create, change, or erase the MS-DOS* partition(s). You can treat only the MS-DOS* partition(s) with the FDISK command. Other partitions will be created, changed, or erased by the other operating system's hard disk preparation program.

You can create multiple MS-DOS* partitions on a hard disk of the size(s) you desire.

See Appendix D of the MS-DOS manual for further details.

Since the maximum size for one MS-DOS* partitions is approximately 32Mb, you must create two or more MS-DOS* partitions to use the entire (40Mb) hard disk.

The following procedure configures the hard disk as two 20Mb partitions, "primary" and "extended" and then formats them.

1. Insert the MS-DOS* diskette in floppy disk drive A and turn on power to the computer.
2. When the system has started up and the MS-DOS* prompt (A>) appears, enter the FDISK command and press the **Enter** key. The following display appears:

```
Fixed Disk Setup Program Version x.xx  
(C) Copyright Microsoft. 1985-1987.
```

FDISK Options

Choose one of the following:

1. Create DOS Partition
2. Change Active Partition
3. Delete DOS Partition
4. Display Partition Data

Enter choice:[1]

Press ESC to return to DOS

3. Press the **Enter** key, then the display changes to the following:

Create DOS Partition

Current Fixed Disk Drive: 1

1. Create Primary DOS Partition
2. Create Extended DOS Partition

Enter Choice: [1]

Press ESC to return to FDISK Options

4. Press **Enter** again, and the following appears:

```

Create Primary DOS Partition
Current Fixed Disk Drive: 1
Do you wish to use the maximum size
for a DOS partition and make the DOS
partition active (Y/N)..... ? [Y]
    
```

5. Type N and press **Enter**. The screen displays the following:

```

Create Primary DOS Partition
Current Fixed Disk Drive: 1
Partition  Status   Type   Start   End   Size
Total disk space is 614 cylinders.
Maximum space available for partition
is 614 cylinders.
Enter partition size ..... [614]
No partition defined
Press ESC to return to FDISK Options
    
```

6. Since we will make two partitions of a size, type 307 (half of the total size) and press **Enter**. This will create the first (primary) 20Mb DOS partition. Press **Esc** to return to the FDISK Options menu.

7. The second 20Mb DOS partition is created as an extended DOS partition. Press **Enter** in the FDISK Options menu to enter the Create DOS Partition menu, type 2 and press **Enter**. Then the following appears:

Create Extended DOS Partition

Current Fixed Disk Drive: 1

Partition	Status	Type	Start	End	Size
C: 1		PRI DOS	0	306	307

Total disk space is 614 cylinders.

Maximum space available for partition
is 307 cylinders.

Enter partition size [307]

Press ESC to return to FDISK Options

8. This time simply press **Enter** to use the default partition size.

9. The next step is to specify a drive letter to the second DOS partition. Press **Esc**. The following appears:

Create Logical DOS Drive(s)

No logical drives defined

Total partition space is 307 cylinders.

Maximum space available for logical
drive is 307 cylinders.

Enter logical drive size [307]

Press ESC to return to FDISK Options

10. Simply press **Enter** to specify the entire extended DOS partition as one drive.

11. Press **Esc** to return to the FDISK Options menu.

12. The next step is to make the primary DOS partition an active (bootable) partition. Type 2 in the FDISK Options menu and press **Enter**. The display changes to the following:

```

Change Active Partition
Current Fixed Disk Drive: 1

Partition  Status   Type   Start   End   Size
C: 1      PRI DOS      0      306   307
   2      EXT DOS    307    613   307

Total disk space is 614 cylinders.

Enter the number of the partition you
want to make active .....:1 ]

Press ESC to return to FDISK Options
    
```

Type 1 and press **Enter**. This will make the primary DOS partition active.

13. Press **Esc** twice to exit the FDISK command, and the following appears:

```

System will now restart
Insert DOS diskette in drive A:
Press any key when ready ...
    
```

By pressing any key, MS-DOS* will reboot. This is done so as to recognize the hard disk.

14. After the MS-DOS* prompt (A>) appears, execute the **FORMAT** command for hard disk DOS partitions to match the hard disk format with that of MS-DOS*. The following examples assume that your hard disk partitions are drives C and D.

Note: Drive names may shift depending on the options attached to the system. For more information, see Appendices.

CAUTION:

All data in the specified drives are destroyed once formatting starts.

Example:

```
A>FORMAT C:/S/V
```

```
WARNING. ALL DATA ON NON-REMOVABLE DISK  
DRIVE C: WILL BE LOST!  
Proceed with Format (Y/N)? Y
```

```
Format complete  
System transferred
```

```
Volume label (11 characters. ENTER for none)? HD1
```

```
A>FORMAT D:/V
```

```
WARNING, ALL DATA ON NON-REMOVABLE DISK  
DRIVE C: WILL BE LOST!  
Proceed with Format (Y/N)? Y
```

```
Format complete
```

```
Volume label (11 characters, ENTER for none)? HD2
```

When formatting is completed, the available memory capacity is displayed and the system returns to MS-DOS*.

15. Now confirm whether MS-DOS* starts up automatically from drive C by either turning the computer off and then on again, or by restarting it by pressing the **Del** key while holding down the **Ctrl** and **Alt** keys at the same time. When you do this, make sure drive A is not locked, because the computer attempts to load MS-DOS* from drive A if drive A is locked.

File Transfer to Hard Disk

This section explains how to transfer files from a diskette to the hard disk. In the following example, the contents of the MS-DOS* diskette are transferred.

1. Insert the MS-DOS* diskette in drive A.
2. Type COPY A: *.* C: *.* and press the **Enter** key to duplicate all files stored on the MS-DOS* diskette.
With this, the contents of the MS-DOS* diskette are completely duplicated on the hard disk.

Making Backup Copy of Hard Disk

The hard disk can store a number of programs and a great quantity of data. However, since it is possible to destroy the data by dropping or otherwise damaging the disk, Sharp recommends that you make a backup copy of the hard disk.

Procedures for making a backup copy of all files stored in the MS-DOS* area of the hard disk are explained below.

1. Determine the total size of the files that you want to copy. The number of diskettes necessary for backup is calculated as follows:

$$(\text{Hard disk total capacity}) / (\text{Floppy diskette capacity})$$

For example you need about 30 blank diskettes to back up the 20 Mb of information ($20480/720 \approx 29$).

2. Format all blank diskettes using the **FORMAT** command.
As you format them, place labels numbered from 1 to XX on these diskettes.
3. Start up MS-DOS* using the MS-DOS* diskette and enter the following when the MS-DOS* prompt (A>) is displayed.

BACKUP C: A:

Then press the **Enter** key. The following message appears:

```
Source disk is Non-removable  
Insert backup diskette 01 in drive A:  
Warning! Files in the target drive  
A: \ root directory will be erased  
Strike any key when ready
```

Insert diskette No. 1 in drive A and press any key to start the backup operation.

4. When the available area in the inserted diskette becomes full, the message shown in step 3 reappears, this time asking for diskette No. 2. When this occurs, remove diskette No. 1 and insert blank diskette No. 2 in drive A. Then, press any key to continue.
5. When you have completely copied all files on the hard disk, the system returns to MS-DOS*, indicating the backup operation has terminated. Be sure to keep your backup diskettes in a safe place.

Restoring Contents of Hard Disk

Procedures for restoring contents of the hard disk using the backup diskettes are described below.

1. Start up MS-DOS* using the MS-DOS* diskette and enter the following when the MS-DOS* prompt (A>) is displayed:

RESTORE A: C:/P

Then press the Enter key. The following message appears:

Target is Non-Removable

Insert backup diskette 01 in drive A:
Strike any key when ready

Insert diskette No. 1 in drive A and press any key to begin the restore operation.

CAUTION: If you have updated files on the hard disk, the backup files will no longer be the same. If you choose to restore the backup file, your updated file will be destroyed.

2. When the contents of backup diskette No. 1 have been completely transferred to the hard disk, the message in step 1 reappears, this time asking for backup diskette No. 2. Repeat the restore operation for this and the rest of the backup diskettes.
3. After all files have been transferred from the backup diskettes, the MS-DOS* prompt (A>) is displayed.

System Restarts

In certain instances, you may want to return the system to its start-up state — with only MS-DOS* in memory. For example, this can be used when a new application program diskette is inserted in drive A.

This procedure is called restart (sometimes called “warm boot”).

CAUTION:

Any information in main memory will be lost when this procedure is performed. Save your data and exit from any application first.

To perform this procedure, press and hold down the **Ctrl**, **Alt**, and **Del** keys simultaneously, then release. The system reacts as if power was just turned on, except that it bypassed an internal check.

If your system has no hard disk and there is no diskette in drive A or if the diskette in drive A does not contain MS-DOS*, the system displays an error message similar to this:

```
Loading A: ...  
Loading B: ... Error!  
  
Diskette Drive Empty...  
Please Insert a System Disk and Press any Key:_
```

If this occurs, insert a diskette containing MS-DOS* in drive A, then press any key.

The system can be restarted under most operating conditions.

If a situation occurs where you are unable to restart the system with this procedure, turn power off to the computer, wait five seconds, then turn power on, or perform a compulsory system off by pressing **Ctrl/Alt/Set Up**.

Note: Setting dip switch 1 on the bottom of the unit to the ON and then OFF position is an alternate procedure that requires resetting the set up menu. See Chapter 3 for further information.

Set Up Functions

The computer allows you to customize the configuration of your system through the functions on the set up screen.

Note: This screen provides an alternative to the MS-DOS* DATE, TIME, and MODE commands.

Accessing Set Up

Once your system is turned on, you can access these configuration settings by pressing the **Set Up** key located in the upper left corner of the keyboard.

Note: When you are running an application, the set up function may not be accessible. If this occurs, exit the application, then press **Set Up**. In some rare cases, the application will not accept the settings specified by the set up function.

Here's what the standard set up screen looks like:

SHARP PERSONAL COMPUTER SYSTEM SET-UP MENU (Version x.xx xx/xx/xx)		
----- Clock ----- Time: 03:16:54 Date: Sat March 21, 1987	-----Communication----- COM1: Standard SIO COM2: Not Present	----- Printer ----- Interface: Parallel Port Address: 3BCh
----- Power ----- On Condition: None	-----COM1: Standard SIO----- Baud Rate: 1200 Data Bits: 8 Stop Bits: 1 Parity: None	----- System ----- Speed: Standard Key Click: Off Console: CGA Drive A: Internal 3.5" Font Set: General
----- Display ----- Display Mode: Graphics Cursor Blink: 2/second Cursor Type: Underline Character Blink: 1/second Background: Standard Backlight: On Backlight Timeout: 2 minutes		----- Hard Disk ----- Motor Off: 2 minutes Default Setup: F1
1. Position cursor using cursor keypad 2. Press Spacebar to change 3. Press Set Up key to Update and Exit		

This screen displays eight set up function categories — clock, power, display, communication, standard SIO, printer, system, and hard disk — with the default settings for each field. Default means the setting that the system assumes unless you tell it otherwise.

If you have installed the CE-451B serial I/O card, or CE-451A CRT adaptor, additional categories display. See Chapter 6 for more information about these settings.

Making Selections

When you first access this screen after turning on the computer, the cursor is positioned in the first field. There are several ways to move the cursor from field to field on this screen.

To move forward through each field, use the **Right Arrow** or **Down Arrow** key. To move backward through each field, use the **Left Arrow** or **Up Arrow** key.

Once you are in a field, press the **Space Bar** to cycle through the possible settings for the field. Once the desired setting appears, go to another field or press **Set Up** to exit the screen.

If you change any settings, then decide you want to return all fields to their default settings, press the **F1** key. The system then restores all fields, except date and time, to their default settings.

When you press **Set Up** to exit the screen, the system saves your entries.

If you changed a setting that requires system restart, the system prompts you to press **Enter** after pressing the **Set Up** key.

When you press **Esc**, the system exits the set up screen without saving your entries.

Note: A limited number of keys are active in the set up screen. A beep will sound if you press any key other than those described above.

The set up screen is backed up by lead battery. All selections are maintained even when power is turned off. If the system is stored for an extended period of time, however, it may be necessary to reset the values. For recharging battery, see "AC Adaptor Connection" in Chapter 3.

The following is a description of each field.

Clock

The computer contains a battery operated clock that keeps track of the time and date. When you first purchase the system, the current time and date must be set.

Time. This field is divided into three parts – hours, minutes, and seconds. Time is set in a 24-hour clock format. For example, 6 p.m. would be 18 hours.

Date. This field is divided into three parts – month, day, and year. The day of the week (i.e., Mon, Tue, Wed, etc.) is set automatically after the month, day, and year have been entered.

Note: This is equivalent to entering the DATE and TIME commands in MS-DOS*.

Power

This category contains the setting for power control. Power is usually turned on and off by pressing the ON/OFF button provided at the right side panel.

If you select Alarm in the On Condition field and specify time in the next field, power is automatically turned on to the computer when the specified time comes.

On Condition. The possible settings are: None or Alarm.

Alarm Time. This field appears when you select Alarm in the On Condition field. Specify the alarm time in the same format as Time in the Clock category.

Display

This category contains the settings that control the screen. These settings have no effect on a CRT connected to the system except for the cursor type.


Display Mode. Certain applications require the screen to operate in graphics or monochrome mode. The display mode can be set to emulate a color/graphics adaptor or monochrome adaptor.


The possible settings are: Graphics, or monochrome.

Note: Display mode only controls the computer's screen — it does not control a CRT connected to the system. For the mode setting for a CRT, see Chapter 6.

Cursor Blink. The cursor blink rate is the number of times per second that the cursor blinks on the screen. Possible settings are: No Blink, 1/second, 2/second, or 4/second.

Cursor Type. The cursor's appearance can be changed. The possible settings are: Underline, Underbar or Block.

Underline 

Underbar 

Block 

Character Blink. Some applications cause characters to blink on the screen. For example, in word processing, an entire word might blink if it is spelled incorrectly. The possible settings are: 1/second, 2/second, or 4/second.

Background. The screen background can be set to display in standard — dark characters on a light background — or inverse — light characters on a dark background. The possible settings are: Standard or Inverse.

Backlight. The screen's backlight can be turned on or off. The possible settings are: On or Off.

Backlight Timeout. After a certain period in which no keys are pressed, the system automatically shuts off the backlight. You can determine the approximate length of this timeout period or allow the backlight to stay on continuously. The possible settings are: Always On, 2 minutes, 5 minutes, or 10 minutes.

Communication

This category contains the settings allowing you to define the use of COM1, COM2: communication ports for the standard SIO, the internal modem or internal SIO.

The setting for the standard SIO (COM1 or COM2) appears in the next category.

Baud Rate. The possible settings are: 110, 150, 300, 600, 1200, 2400, 4800, or 9600.

Data Bits. The possible settings are: 7 or 8.

Stop Bits. The possible settings are: 1 or 2.

Parity. The possible settings are: None, Even, or Odd.

Note: If you install the optional CE-451B serial I/O card, an additional category appears below the standard SIO category. For this setting, see Chapter 6.

Printer

This category defines the settings for printers used with your computer.

Interface. Industry standard printers can be connected to either the parallel or serial port. If a printer is connected to the parallel port, select parallel. If a printer is connected to the serial port, select serial. The possible settings are: Serial or Parallel.

Port address. The port address parameter allows you to change the printer port address to match the address used by your software application. In the vast majority of applications, the default address, 3BCH should be used.

3BCH: Represents the port address of the parallel port on the IBM* monochrome display and printer adaptors. This address is used by most applications.

378H: Represents the address of another parallel port. Some applications may be written to directly address this port. Try this address when your application does not address the default port address.

System

There are five miscellaneous fields in this category.

Speed. This field determines the speed of the processor. The standard processor can run at the faster 10 MHz or at a slower speed required by some applications. The possible settings are: Standard or Slow.

Key Click. This field is for click On/Off setting. If this setting is ON, you hear a click whenever you press any key. The possible settings are: On or Off.

Console. This field determines which display type becomes the system console upon boot when the optional CRT adaptor is attached.

Since the liquid crystal display or the CRT can be either monochrome or color graphics, this selection tells the system which display should be the console. The display console can also be changed by using the MODE command. The possible settings are: CGA (color graphics adaptor) or MDA (monochrome display adaptor).

Note: The set up screen appears only on the console which is in the same display mode as specified in this field.

Drive A. This field is used to assign Floppy Disk Drive A to Internal 3-1/2" FDD or External 5-1/4" FDD. If External 5-1/4" is selected, DOS can be run from 5-1/4" diskette. The possible settings are: Internal 3.5" or External 5.25".

Font Set. This field is used to determine the computer's internal font set. The possible settings are General or Denmark/Norway.

Note: This field is not displayed in some countries.

Hard Disk

Motor Off. After a certain period with no access to the hard disk, the spindle motor power of the hard disk is automatically turned off. You can determine the settings are: Always On, 2 minutes, 5 minutes or 10 minutes.

Default. If you change any fields on this screen, then decide you want to return all entries to the default values, press the F1 key in any field. Time and date are not affected.

Running an Application

The computer allows you to run a wide variety of application software. This section provides a general overview of the steps involved in installing and running an application on the system.

In general, application software must be installed before it can be used. Installation procedures vary greatly from one application to another depending upon such factors as software copy protection, hardware options, etc.

In order to properly install a specific application, follow the instructions provided with the software.

To illustrate a typical session, we will describe sample procedures for running a word processing application. These steps provide a conceptual overview only.

Note: MS-DOS* commands that are discussed in this chapter are described in more detail in Chapter 5.

Getting Started

In this example, the word processor is supplied on two diskettes:

- ▲ Master word processing diskette
- ▲ Master spell checker diskette

The master word processing diskette contains the word processing software. The master spell checker diskette contains the spell checker software. Since neither of these diskettes contain MS-DOS*, they could not be used to start up – or boot – the system.

The steps to follow when installing an application on floppy diskettes and on the hard disk are substantially different.

Using Two Disk Drives (PC-4602)

Before running our example word processor, two steps must be completed:

1. Create boot diskettes.
2. Create data diskettes.

Create Boot Diskettes. We need to create two new diskettes. One diskette will contain MS-DOS* plus the word processing software. The other will contain MS-DOS* plus the spell checker software.

The following is an example of how to create a boot diskette.

1. Insert your working copy of MS-DOS* in drive A and a blank (or re-usable) diskette in drive B.
2. Turn power on to the system. (If the power is already turned on and you are in MS-DOS*, you can press **Ctrl/Alt/Del** to restart the system.)
3. Once the MS-DOS* prompt appears (**A>**), enter the command shown below:

```
A>FORMAT B:/S
```

This will format and copy MS-DOS* to the blank diskette in drive B.

4. Remove the MS-DOS* diskette in drive A and replace with the master word processing diskette.
5. Enter the command shown below.

```
A>COPY A:*. * B:
```

This will copy all the files from the diskette in drive A to the target diskette in drive B.

6. Once this process is completed, remove the diskette and label it as the word processor boot diskette.

The same process would be followed for creating the spell checker boot diskette.

The boot diskettes are now created. In the process, the master diskettes can now be stored in a safe place as backups.

Create Data Diskettes. There is one last step to perform before the application can be used. A data diskette needs to be created for the permanent storage of files created in word processing.

The following is an example of how to create a data diskette.

1. Insert your working copy of MS-DOS* in drive A.
2. Insert a blank (or re-usable) diskette in drive B.
3. Enter the command shown below.

```
A>FORMAT B:
```

This prepares — or formats — a blank diskette in drive B to store files created by the word processor.

Using the Hard Disk (PC-4641)

It is assumed you have already prepared the hard disk for use. If not, prepare it referring to “Preparing the Hard Disk for Use” in the “System Start-up” section in this chapter.

Before describing how to install the application on the hard disk, we must discuss the concept of “directory”.

A directory is a group of files. At the time of power on, you are in the directory called “root directory”. You can create subdirectories under the root directory, and also you can create subdirectories under each subdirectory. In this way, you can construct a “tree” structure of directories on a diskette or hard disk.

Directories are convenient when you have a lot of files and want to store them into several groups. For details, see chapter 5.

The following is an example of how to install an application in a subdirectory on the hard disk.

1. With no diskette in drive A, turn power on to the system. (If the power is already turned on and you are in MS-DOS*, you can press **Ctrl/Alt/Del** to restart the system with no diskette in drive A.)
2. Once the MS-DOS* prompt appears (C>), enter the command shown below:

Note: When using the external floppy disk drive, the MS-DOS* prompt will be “D>”.

```
C>CHDIR \
```

This command takes you back to the root directory if you are not there so that you can create a subdirectory for the application under the root directory. Please note that “\” means the root directory.

3. Next, enter the command shown below:

```
C>MKDIR WP
```

This will make a subdirectory named “WP” under the root directory.

4. Enter the command shown below:

```
C>CHDIR WP
```

This will take you to the new subdirectory “WP”.

5. Insert the master word processing diskette in drive A.
Then enter the command shown below:

```
C>COPY A:*.*
```

This will copy all the files from the diskette in drive A to your current hard disk directory, \WP.

The same process would be followed for creating the spell checker boot diskette.

The word processing application is now installed on the hard disk. In the process, the master diskettes can now be stored in a safe place as backups.

The data files can be created on the hard disk, so you need not create a data diskette.

Using the Application

Using Floppy Disk Drives

You now are ready to use the application.

Suppose you now want to write a memo to your sales staff on the word processor. Here's what to do.

1. Insert the word processing boot diskette in drive A.
2. Insert the data diskette in drive B.
3. If the system's power has been turned off, turn on the power.
4. Once MS-DOS* is loaded from the boot diskette in drive A, you can enter a command – defined by the system – to start the application. In our example, this command is the following:

A>WP

The application is then read into main memory. Once fully loaded, the application software displays on the screen. You can then follow the application software's documentation to complete the desired task – in this case, create a memo.

Once the memo is created, it is saved through the application onto a data diskette in drive B. The memo can then be printed, retrieved for future editing, or sent via the modem to another computer.

When finished with the word processor, the system returns you to MS-DOS* where you can load another application, use MS-DOS* commands, or remove the diskettes and turn off the system.

Using the Hard Disk

1. With no diskette in drive A, turn on the power.
2. Once MS-DOS* is loaded from the hard disk, you can change the directory to the one you have created for the application. In our example, enter as follows:

```
C>CHDIR WP
```

3. Enter a command defined by the system to start the application. In our example, this command is the following:

```
C>WP
```

The application is then read into main memory. Once fully loaded, the application software displays on the screen. You can then follow the application software's documentation to complete the desired task — in this case, create a memo.

Once the memo is created, it is saved through the application in the data file in the hard disk. The memo can then be printed, retrieved for future editing, or sent via the modem to another computer.

When finished with the word processor, the system returns you to MS-DOS* where you can load another application, use MS-DOS* commands, or turn off the system.

Backing Up Data

- **Using Floppy Disk Drive**

When important files have been created on a data diskette, the diskette should be copied to insure that data is not lost if something should happen to the diskette.

This process is called backing up your data. It is performed by using the DISKCOPY command. See Chapter 5 for more information about this command.

- **Using the Hard Disk**

When important data files have been created on the hard disk, they should be copied onto a diskette to insure that data is not lost if something should happen to the hard disk.

This process is called backing up your data. It is performed by formatting a blank diskette using the FORMAT command and then backing up the files using the BACKUP command. See chapter 5 and the optional MS-DOS* manual for more information about these commands.

Device Indicator

When installing applications software, you may be asked to identify the type of hardware being used. If specific selections for this computer are not listed, you may select other hardware settings that provide similar features. Use the following guidelines when making these selections:

Display. When identifying the display, select IBM* color/graphics adaptor mode (when in Graphics mode) or IBM* monochrome display adaptor mode (when in Monochrome mode).

Keyboard. When identifying the keyboard, select IBM* PC layout.

Optional Color Monitor. When identifying the color monitor, select IBM* color graphics adaptor 640 × 200 two-color black and white mode or 320 × 200 four-color mode.

Optional Monochrome Monitor. When identifying the monochrome monitor, select IBM* monochrome display adaptor mode.

In some cases, more than one suitable selection may be available. It may be necessary to experiment with these settings to determine the best choice.

Operating Addendum

In a limited number of cases, when installing or running application software, it may be necessary to follow some special operating procedures.

The following guidelines are supplied for your use.

System Files on the MS-DOS* diskette. In certain cases it may not be possible to transfer the system files from the MS-DOS* diskette onto a program diskette using the SYS command. If this occurs, do not attempt to create a bootable diskette; instead, load the MS-DOS* diskette in drive A then remove, and place the program diskette in drive A.

Cursor Type and Blink Rate. The computer allows you to select underline, underbar, or block cursor types as well as cursor blink rate for the illuminated crystal display. Certain application software, however, does not support changes to cursor type or blink rate and will either ignore those settings in the set up menu or cause unpredictable results on the display.

Aspect Ratio. Graphics, e.g., a circle, on the CRT display will appear slightly elongated in the horizontal direction when displayed on the illuminated crystal display. This is because the aspect ratio of the illuminated crystal display differs from that of the CRT display.

System Reaction When Running Application. In some rare cases when running certain application programs, the ON/OFF button and/or the key lock indicators may react slowly. If the ON/OFF button does not function at all, return to MS-DOS*, then press the button again. If the problem continues, execute the system off by pressing the Set Up key while holding down the Ctrl and Alt keys.