People

16 Bit Microcomputer

USER GUIDE

OLYMPIA®

Introduction

- Design and Contents of Guide
- How to Use This Manual

Introduction

Introduction

This is the User Installation and Training Guide for the **PEOPLE** Personal Microcomputer. It is designed to explain everything you need to know in order to use the **PEOPLE.** We have made every effort to describe things in easy-to-understand terminology.

The Guide is divided into five sections plus an appendix. Read these sections in the suggested order, and you will be ready to begin using whatever software you purchased for your particular application—word processing, accounting, data management, etc.

The NOTES include helpful hints, warnings and other useful information to keep you on the right track while proceeding. Screen messages are in an easily recognizable typeface to keep you in synch with the **PEOPLE** Personal Microcomputer as you work through the manual.

Section 1 is an **overview** of **PEOPLE's** hardware components.

Section 2 contains **installation** and **hook up procedures**.

In Section 3 you will learn how to **start up** the system in order to begin working with your application package. This section also contains information on **handling diskettes**.

The CP/M-86 **operating system** is described in Section 4, as well as some of the command programs offered in the operating system.

Section 5 contains **test programs**.

The Appendix includes code tables, tables with the standard abbreviations for ASCII characters, technical data and a list of accessories and consumer products.

People System Overview

- General Information
- Components
- Main Unit
- Keyboard
- Display

People System Overview

Introduction

The first section of the User Guide gives you an overview of the basic hardware configuration of the **PEOPLE** Personal Microcomputer. This overview will enable you to:

- Recognize some of the many benefits of the **PEOPLE** Personal Microcomputer
- Identify the components of the **PEOPLE** Personal Microcomputer
- Learn how they work together

General Information

The Olympia **PEOPLE** Personal Microcomputer is a powerful 16-bit computer for data and text processing jobs in small, medium-size and large companies.

PEOPLE offers solutions to business professionals, small business owners and corporate management executives. The **PEOPLE** Personal Microcomputer can solve problems in the areas of accounting, word processing, law and the medical profession, among others. In the business realm the processing speed of the 16-bit **PEOPLE** achieves high throughput and therefore, quick response times. In the technical and scientific area, extensive calculations can be carried out quickly. Here are the principal advantages:

PEOPLE brings electronic data processing directly to the workplace.

PEOPLE furnishes managers immediately with all important technical information.

PEOPLE makes a direct exchange of information possible within the company.

PEOPLE significantly reduces turnaround times in preparing financial statements, general ledgers and many other accounting applications.

PEOPLE offers scientific information possibilities with decentralized information processing.

The well-coordinated range of memory sizes, diskette and hard disk capacities and the flexible expansion possibilities allow you to continually adapt **PEOPLE** to your new demands and growing amounts of data.

The modular concept of **PEOPLE** offers the advantage of expansion and adaptation through direct assembly at the workstation.

The total software of the microcomputer functions under the control of an operating system. The CP/M-86 operating system comes standard with **PEOPLE**.

Programs can be generated in the programming languages CBASIC, Pascal and COBOL. The number of programming languages which can be implemented is being continuously expanded.

Components

In its standard configuration, the **PEOPLE** Personal Microcomputer consists of:

- the **Main Unit** (16-bit Intel 8086 microprocessor)
- a detached, ergonomically designed **Keyboard**
- a detached, tilt and swivel **Display**
- a 1.3M byte **Dual Disk Drive**
- **128K RAM**
- a **Parallel Interface**
- a **Serial Interface**
- **Operating systems** and other ~CPM-86/DOS software (Refer to Section 5)

Following is a brief description of the characteristics of the main unit, keyboard and screen. More detailed specifications on these and the other components are contained in the Appendix. Again, refer to Section 5 for software information.

PEOPLE Main Unit

Most of the electronics are located in the basic version on two printed circuit boards. It operates on the **INTEL 8086**, a 16-bit microprocessor. A microprocessor is one of the principal components of a microcomputer. It is usually a single silicon chip (integrated circuit), containing microscopic switches used to register the presence or absence of electronic information. It "handles" all the instructions to and from the central processing unit.

The main unit contains two 5½ inch floppy disk drives, each with a 655K byte capacity. Disk drives are the two slots in the front of the main unit. They are used to read data from or write data to the diskettes. You'll find a complete description of diskettes in Section 2.

A parallel and an RS 232C serial interface are also provided in the base unit. Interfaces are devices which contain the electronic circuits necessary to physically connect the microprocessor to another device, such as a keyboard or printer.

A parallel interface transmits all the data bits simultaneously over separate data paths, whereas a serial interface transfers data items one after another in sequence over a single data path. Parallel operation is faster but requires more equipment and is limited in distance, while serial operation is slower, but can travel further across communications lines.

’EOPLE Keyboard

The 91-key keyboard is free-
standing. It is connected to the
main unit by a coil cable. In addi-
tion to the alphanumeric keys,
you also have access to special
characters, 12 freely program-
mable function keys, a separate
numeric keypad and 5 cursor
control keys.

PEOPLE Display
(monochromatic)

The **PEOPLE** Personal Micro-computer is an ergonomically designed, high-density, nonglare screen. It tilts and swivels to allow you to place it in the most comfortable position.
Be sure to place it on its base with the base free to move in all directions. The display is connected to the main unit via a plug-in connecting cable. An on/off switch, a brightness control and a contrast regulator can be operated separately for even greater comfort.

The screen has 128K bytes of its own memory and provides under-lining, inverse video and four levels of intensity. Two modes of operation are possible—character mode for rapid text transmission/display and a bit-map mode for dot by dot graphics transmission/display (640 x 475 pixels).

In the next chapter you'll learn how to install the system.

Installation
of the System

3

- Repacking Instructions
- Assembling the Components
- Which Plug Where?
- Display Control Knobs

Installation of the System

Introduction

Now that you are familiar with the hardware components that fit together to make up the basic **PEOPLE** Personal Microcomputer System, let's proceed to the next step—installing this system.

In this section you will cover:

- How to repack the **PEOPLE** Personal Microcomputer

- How to connect the components

- How to plug in your **PEOPLE** Personal Microcomputer

- Regulating the display control knobs

Refer to the photographs to see where each plug should be connected in order to join the components you have just learned about.

Repacking Instructions

As you now know, **PEOPLE** is shipped in two individual cartons. The packing order is illustrated below. Should you need to ship the system again, be sure that it is repacked according to this order. This will help prevent damage to the components.

After unpacking, check to make sure that no accessory (connecting cable, diskette, documents) is left in the packing material (see repacking instructions).

Save the cardboard sheets, which were inserted in the disk drives as a transport safety device. They should not be thrown away since they can be used to protect the read and write heads if the computer is to be shipped again.
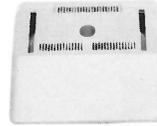
Video display unit

Styrofoam section, left
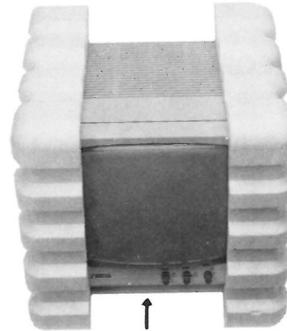
Styrofoam section, right

Swivel base

Swivel base

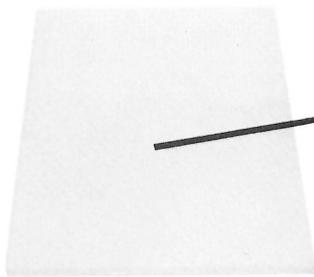Olympia carton

Styrofoam cover
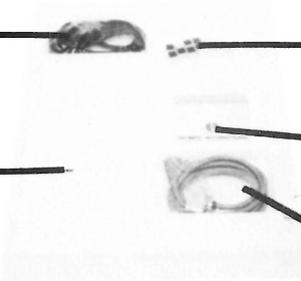
Power cord

Keytops (special parts
for the various countries)

Styrofoam
upper section

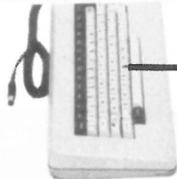Diskettes
Envelope (special parts)
Operating system

Connection cable (special part)
for printer

People manual

Styrofoam center
section A

Connection cable
for display

Keyboard

Styrofoam center
section B
with recess
for keyboard
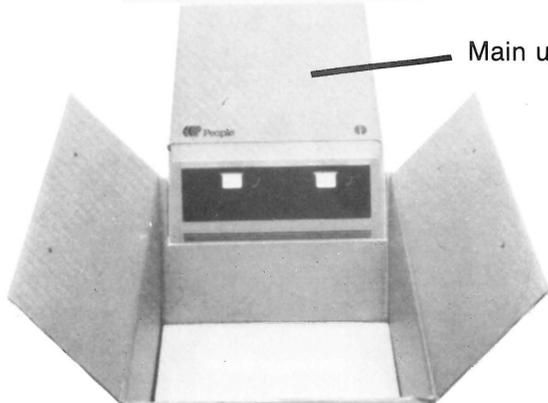
Main unit

Carton with
styrofoam
bottom section

Assembling the Components

PEOPLE Display

The following photographs show you the recommended order for assembling the different components of your **PEOPLE** Personal Microcomputer. Of course, the keyboard and display are completely detached and can be arranged in the optimum manner for your comfort with no negative effects on the system.

For detailed information on environmental conditions pertinent to installation, please refer to the Appendix.

The display with its tilt and swivel base fits onto the main unit. It can be pivoted forward and backwards, and laterally as needed for you to obtain the most optimal viewing position. Again, the display can be placed next to the main unit if so desired. The system should be placed so that there is some room at the back for ventilation.

DISPLAY
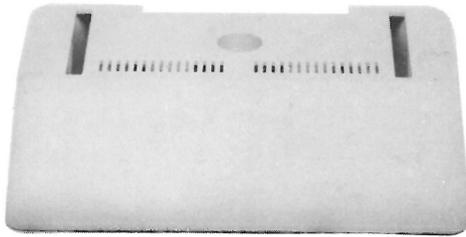
TILT AND SWIVEL
BASE for the display

MAIN UNIT
with inserted transport safety
devices for read/write head
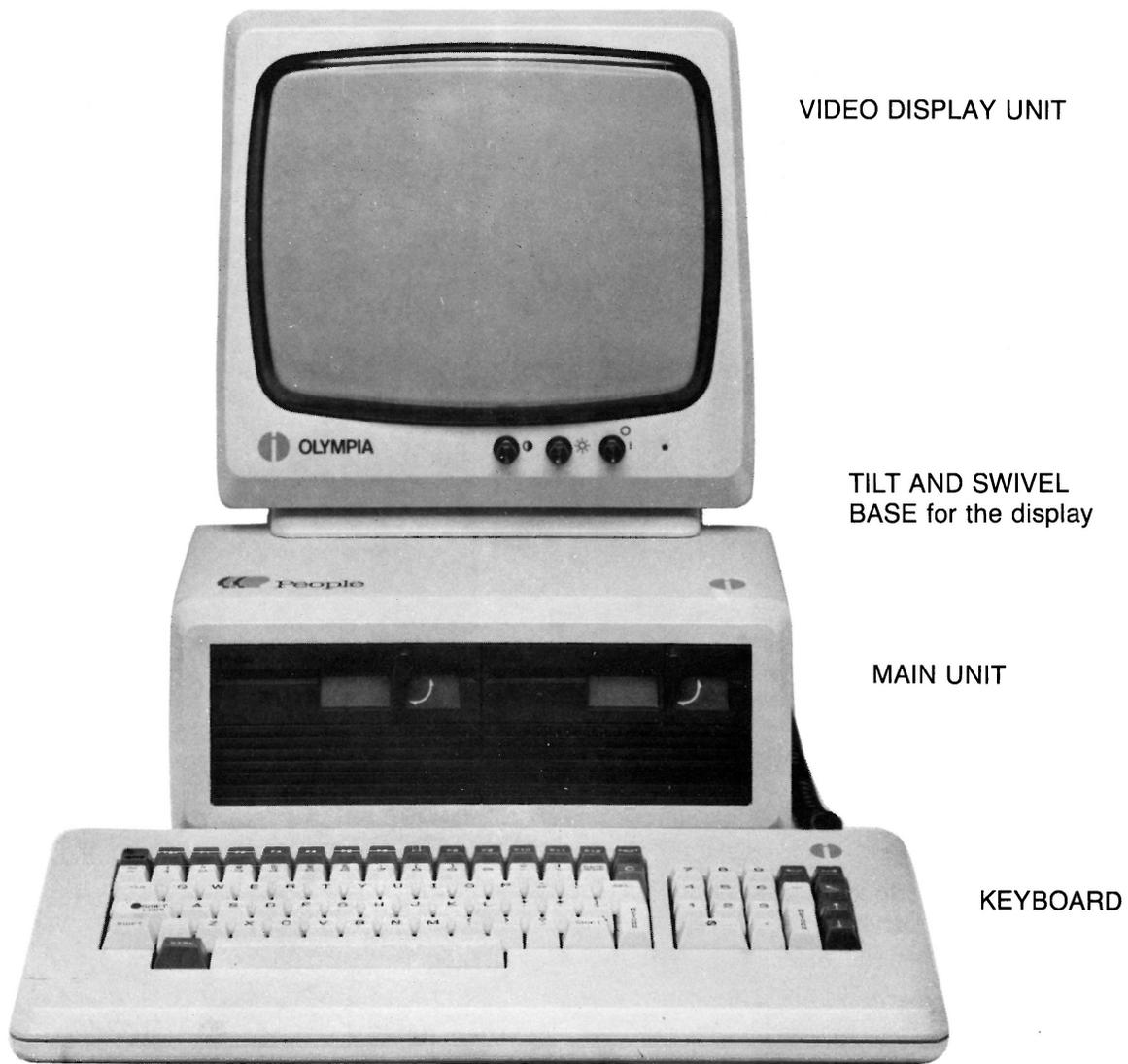
VIDEO DISPLAY UNIT

TILT AND SWIVEL
BASE for the display

MAIN UNIT

KEYBOARD

The separate, flat keyboard contains three key fields: an alphanumeric key field, a numeric key field, and a function key field. The alphanumeric keys correspond to regular typewriter keys for typing text in upper and lower case. A numeric key field facilitates entering numbers quickly. The definition of the individual function keys is determined by whichever operating system or user program you are using.

NOTE:
For more information please refer to **Special Keyboard Functions** in the section on operating system descriptions.

The ASCII key, located upper left on the keyboard, and the SHIFT LOCK key are supplied with an LED indicator so that the operator always knows when these keys are in use.

As with the display, the keyboard is detached and can be placed wherever you desire.

Which Plug Where?

Once you've assembled the components, there is still one more step **before** connecting the power. The following photographs show you the proper plugs to connect the main unit to the display and the keyboard to the main unit. If you are using a printer, you must also connect it before connecting the power.

IMPORTANT:
Be sure to connect these components to each other before connecting the power. Do **not** disconnect them before separating the system from the power supply.

Plug 1
Connection of the keyboard to the main unit (back side)

Plug 2
for parallel connection
Centronics interface 7-bit ASCII, TTL

Plug 3
for RS-232-C interface, (V24) asynchronous-synchronous from 150 to 9600 Baud

Plug 4
to connect the display
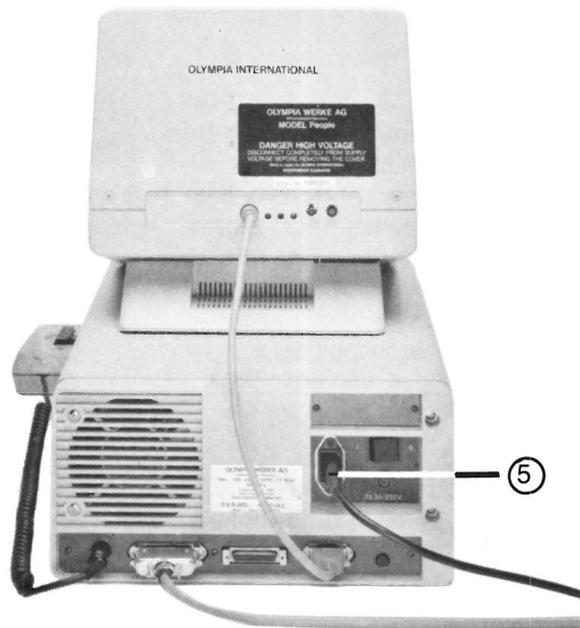
Plug 5
to connect the power supply
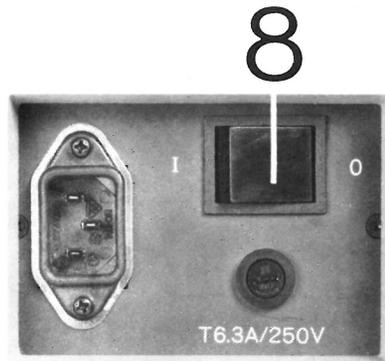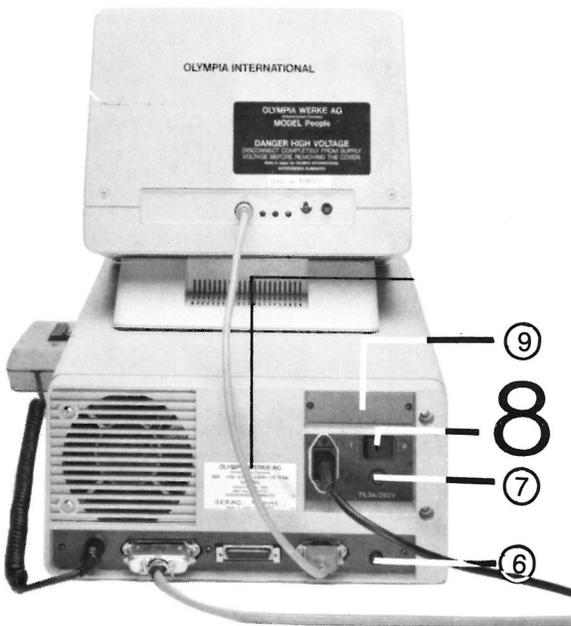
Reset button 6
Program abort key

Cover 7
Cover for 6.3A safety

Switch 8
On/off switch of the main unit

Cover 9
Housing opening, covered,
for later options

Control Knobs on
the Back of the
Display
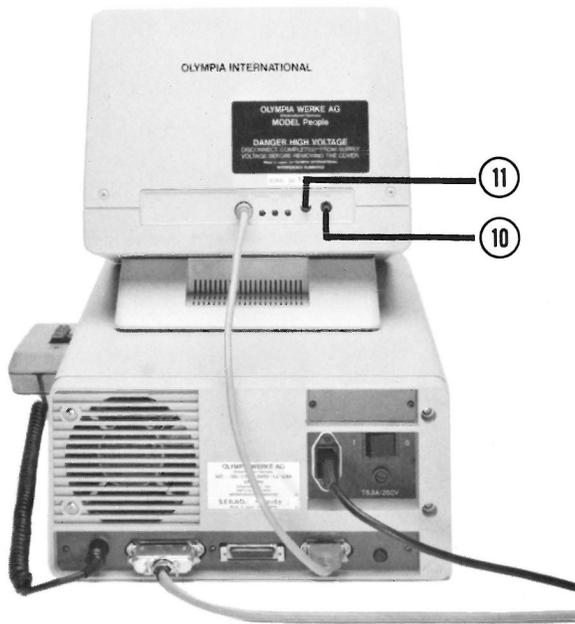
11 Control knob for **vertical** hold

10 Control knob for **horizontal**
hold

Start-Up

- Switching the System On
- Working Storage Capacities
- Bootstrap Operation
- Loading the System Diskette
- Guidelines for Handling Diskettes
- Loading User Software
- Switching the System Off

Start-Up

Introduction

Now that you've assembled and connected all of the components of your **PEOPLE** Personal Micro-computer, you're ready to start up the system.

In this section you'll learn the procedures necessary before you can start working with your particular software package— word processing, spreadsheet or database.

This portion of your User Guide teaches you the following:

• How to switch the system on

• How to boot the system

• Storage capacity

• How to load the system diskette

• How to handle mini diskettes

• How to load user software

• How to switch the system off

Switching the System On

Of course, the first thing you must do is switch on the **PEOPLE** Personal Microcomputer.

- Flip the toggle switch 8 (Diagram page 3/8) located on the back of the main unit.

  The LED indicator in the ASCII key, located upper left on the keyboard, lights up when the system is turned on.

CAUTION!
No diskette may be in the system when switching on and off.

- Turn on the display with the separate on/off knob. The green indicator lamp lights up.
- You can adjust brightness and contrast using the two controls.

NOTE:
If the screen display is not optimal despite brightness and contrast adjustments, a horizontal and vertical fine adjustment can be carried out using the control knobs on the back of the screen. (See Diagram page 3/9)

- If a printer is connected, it must be switched on separately.

— Indicator lamp
— On/off switch
— Brightness control
— Contrast control
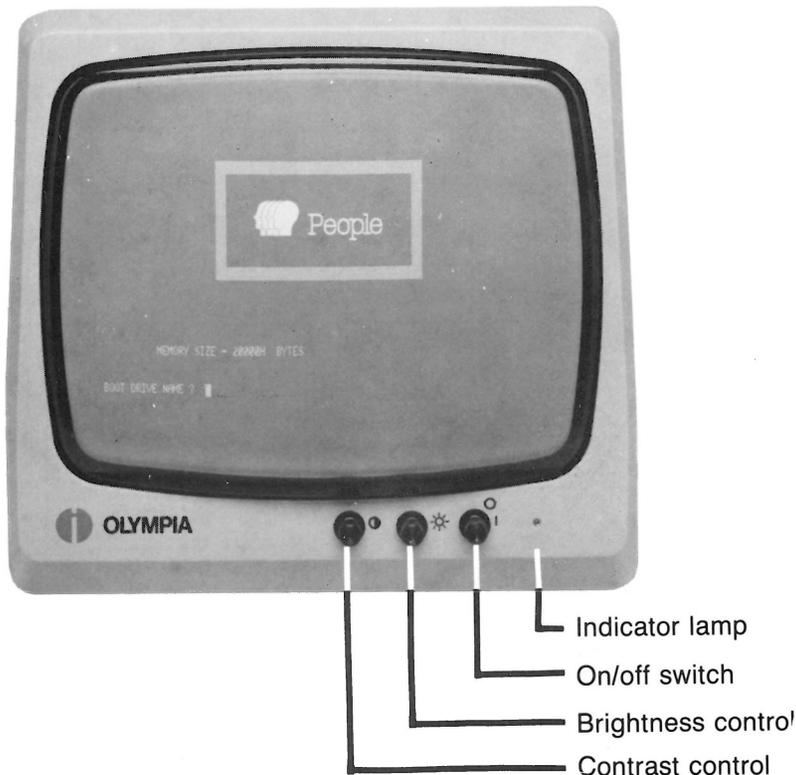
The above picture appears on the display when the system is switched on. If the display remains dark despite attempts to adjust the brightness, depress the reset knob 6 (Diagram page 3/8) located on the back of the main unit.

CAUTION!
Never press the reset button while a program is running. This would **immediately** erase the whole program together with the data in working storage.

Working Storage
Capacities
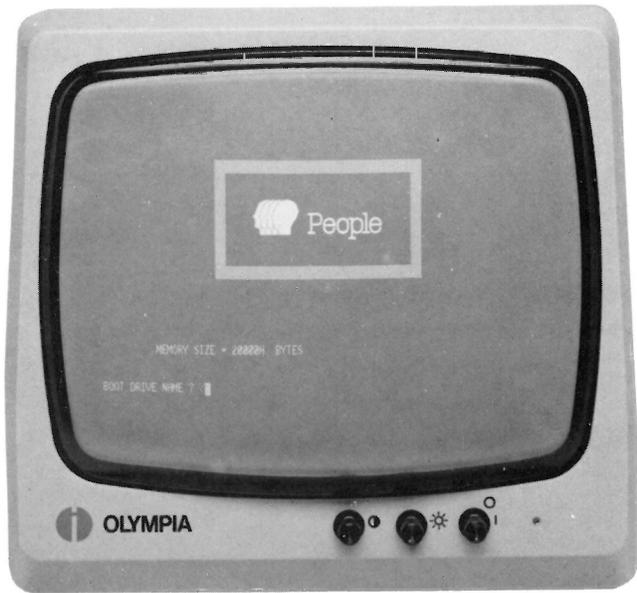
You will notice a second message on the screen along with **BOOT DRIVE NAME?**. This display gives the capacity of available working storage in the **PEOPLE** Personal Microcomputer. The following chart gives equivalencies for capacity messages you may see on your screen:

MEMORY SIZE = 20000H BYTES
            = 128KB RAM

Since working storage can be expanded by inserting an additional board and additional memory modules, the display can also read as follows:

MEMORY SIZE = 40000H BYTES
            = 256KB RAM
MEMORY SIZE = 60000H BYTES
            = 384KB RAM
MEMORY SIZE = 80000H BYTES
            = 512KB RAM

The size of working storage can be quickly adapted to meet the requirements of certain applications. This can be done at the workplace.

Bootstrap Operation
(Cold Start or Cold Boot)

Bootstrapping is the most basic procedure for starting up the computer. This system start, which occurs at the lowest system state, is also termed **cold start** or **cold boot**.
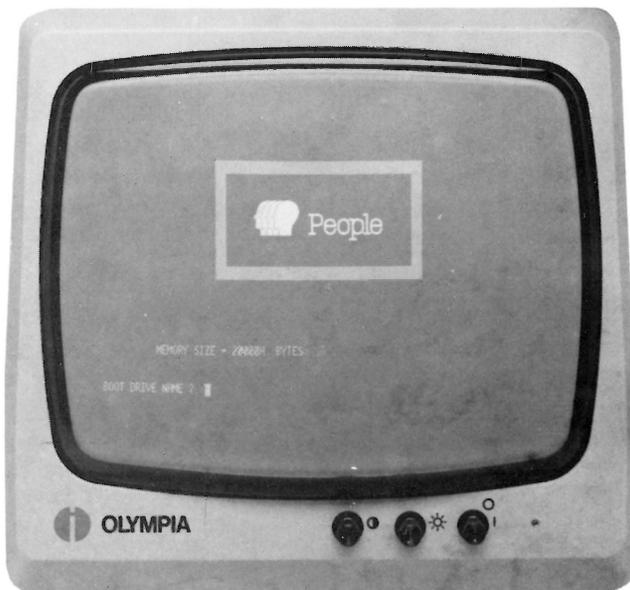
It is a machine routine which readies the computer to accept instructions from other sources, such as the software or operating system. Without bootstrapping the computer would not respond to any of the instructions you might enter.

• Once the main unit and display have been turned on, the cursor blinks following the question: **BOOT DRIVE NAME?**

This question is asking you which drive, A or B, should be "started up" for use with a diskette. Follow the next steps to load the appropriate software to perform specific tasks on your **PEOPLE** Personal Microcomputer.

Loading the
System Diskette

The **PEOPLE** includes two system diskettes, CP/M-86 and MS-DOS. In this Guide we have written a section on each of these operating systems that is available on the **PEOPLE** Personal Microcomputer.

NOTE:
For an explanation of operating systems, please refer to the next section.

- Insert your system diskette into whichever drive you want to work on, either A (left side) or B (right side) with the write protection notch pointed left as you see in the diagram below.

Write-protect notch

Ⓐ   Ⓑ
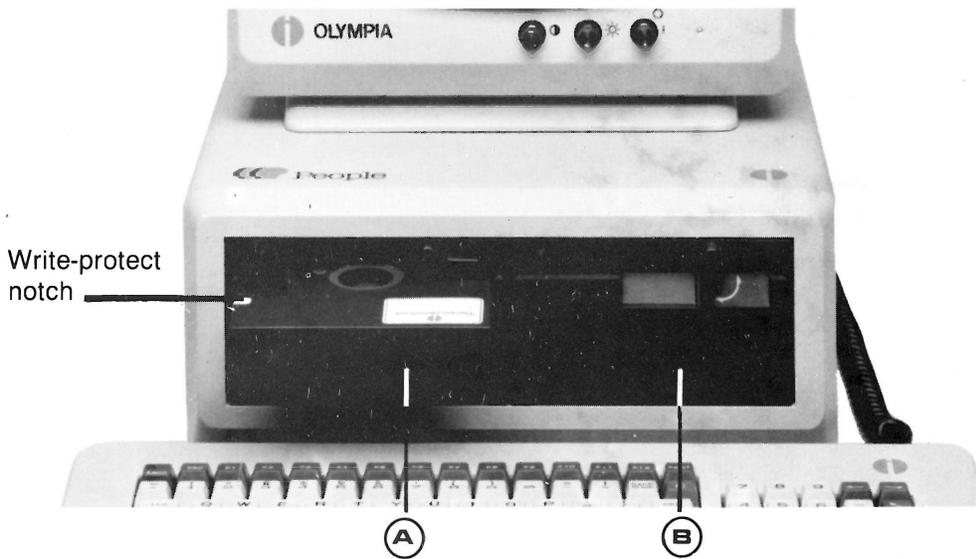
- Turn the locking mechanism of the drive 90° to the left to correctly engage the disk drive's read/write head.

- Now press [RETURN] for Drive A or type **B**: [RETURN] for Drive B to tell the system which drive contains the system diskette.

CP/M-86 Operating System

NOTE:
The lamp on the disk drive should not light up. If it does, depress the RESET key and try the above procedure again.

The CP/M-86 operating system is now correctly loaded. You should see this display on your screen.

Display Meaning:

Version refers to the series name of the operating system (in this case CP/M-86).

Generated means the day, month and year that the system was "up and running" on the **PEOPLE**.

An A>is the disk drive in use along with the CP/M prompt>. If you had chosen drive B, the display would read B>.

NOTE:
If your system diskette has tape over the write-protection notch, you may get the message Write Protected. If you do, continue pressing [RETURN] until you see an A>or a B> followed by the cursor. This is a built-in protection mechanism.


```
People
CP/M-86 Version (1.5)
System Generated 23.03.83

A >
```

OLYMPIA

MS-DOS Operating
System

NOTE:

The lamp on the disk drive should not light up. If it does, depress the RESET key and try the above procedure again.

The MS-DOS operating system is now correctly loaded. You should see this display on your screen.


```
People
OLYMPIA INTERNATIONAL
VERSION 1.21  21.10.83
MS-DOS version 2.00
Copyright 1981, 82, 83 Microsoft Corp.
Command v.202
Current date is Tue 1-01-1980
Enter new date: ____
```

OLYMPIA

Display Meaning:

Version refers to the series name of the operating system (in this case MS-DOS) with copyright information.

Command v.202 refers to the series number.

Current date refers to the date.

Enter new date: _____ This prompt is necessary to set up the MS-DOS operating system. MS-DOS uses a date and time value to keep track of the last updated and/or created files on the system.

The month is represented as a one or two-digit number from 1-12.

The date is represented as one or two-digit number from 1-31.

The year is represented as a two-digit number from 80-99 (the 19 is assumed) or a four-digit number from 1980-2099.

Any date is acceptable in answer to the new date prompt as long as it follows the above format. Separators between the numbers can be hyphens (-) or slashes (/). ie. 1-1-84 or 01/01/84

• Enter current date

If you enter an invalid date, the system will prompt you again. Enter the date again.

• Now press [RETURN] to activate the entry

The screen will prompt you:

Current time is 8.30:14:32
Enter new time: _____

The hour is represented as a one or two-digit number from 0-23.

The minutes are represented as one or two-digit number from 0-59.

MS-DOS uses military time; ie. 1:30 p.m. is written 13:30. Only use the colon (:) to separate hours and minutes.

• Enter current time

NOTE:
To correct a typing error press the Backspace key, Delete key or Control H. Control C cancels your current command entry.

• Press [RETURN] to activate the entry

You have now completed the steps for starting MS-DOS.

On your screen an A> will appear. This indicates that you are currently working on disk drive A. If you had chosen drive B, the display would read B>.

NOTE:
If your system diskette has tape over the write-protection notch you may get the message WRITE PROTECTED. If you do, continue pressing [RETURN] until you see an A> or a B> followed by the cursor. This is a built-in protection mechanism.

Guidelines for Handling Diskettes

Before you go any further, it's a good idea to learn about caring for the storage medium you are using—diskettes.

A diskette is a storage device which looks like a 45 rpm record. When you save information it is recorded onto the diskette by the disk drive. Later the information is read or "played back" from the diskette onto the screen.

Reading and writing onto a diskette is like making an audio tape. You can create, play it back or erase it, and start over. A diskette is a permanent storage or "memory" device. Anything you save on diskette remains there until you erase it.

The **PEOPLE** Personal Microcomputer works with 5¼" mini-diskettes. Many different diskettes of varying quality are offered on the market, therefore it is recommended that only those flawless diskettes tested by Olympia be used in the **PEOPLE** system.

See Appendix for Order Number.

Write-Protect Notch ⌐

Index Aperture ⌐
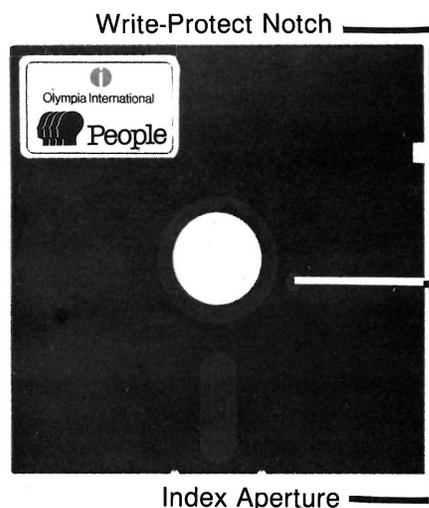
Each diskette can be guarded against accidental overwriting by taping over the write protection notch. Tape is provided with each diskette.

Because diskettes are so important, handle them according to these guidelines and they'll last longer:

Diskette Do's and Don'ts

- Always store diskettes in the accompanying carton or in a special diskette file. After removal from the disk drive, re-place immediately in the envelope.

- When using, grasp only the sheath, never the diskette itself. Do not touch the exposed sur-face in the oval slot.

- Do not bend the diskette.

- Do not expose the diskette to direct sunlight or heat.

- Do not expose to magnetic fields, e.g., magnetic locks, radios or televisions.

- Always label the diskette tape before attaching. Use a felt tip pen, **not** a ballpoint or a pencil. Do not tape several labels on top of each other.

- Handle diskettes, like all data carriers, with utmost care. Ap-proximately 15,000 units of in-formation (bits) are located on 1 cm². The smallest particle of dust or the smallest scratch can lead to malfunctions and con-siderable loss of data. There-fore, avoid eating, drinking, smoking, or erasing next to diskettes.

- Do not clean diskettes with alcohol or other solvents.

- Do not insert soiled diskettes into the disk drive. This could cause considerable damage.

Loading User Software

When the above display is on your screen you have various options. The two you will probably use most are formatting and copying a disk, and loading user software. Please continue reading below:

First time procedure:

Making a **copy** of your master diskette is recommended the very first time you use the machine. Store your clean version of the master and work only with the copy. In case of diskette problems, you will always have a good master diskette available. The procedure for copying and formatting new diskettes are explained in the next section.

Working with user software:

User software or application software refers to programs written to solve specific problems in a particular area, such as business, medical or legal.

They run under the operating system CP/M-86, which you have already loaded using the system diskette. The system diskette information must, therefore, always be loaded **before** you work with your particular software package. This can be done one of two ways.

Method 1:

- Load the system diskette as in the procedure described above.

- Remove the system diskette and insert the user (application) software into the same drive.

- Clear with the [RETURN] key and proceed according to instructions in the User Manual supplied with the software package.

Method 2:

- Load the system diskette in Drive A as previously outlined.

- Insert the user (application) diskette into Drive B.

- Type in   B:

- Clear with the [RETURN] key and proceed according to instructions in the User Manual supplied with the software package.

NOTE:
All further operation is then based on the appropriate manuals supplied with your user (application) software.

Switching the
System Off

Once you have completed your work and made back-up copies of your files (according to the instructions in the User Manual accompanying the software package), you can then switch off the **PEOPLE** Personal Microcomputer.

CAUTION!
Save your data first!

Switching the microcomputer off clears **all** program parts and data in working storage.

Working storage is a temporary storage area. As you type information it goes into the working storage area and stays there until you save it on the diskette.

If you turn the system off before you save the information, it will be erased. Before switching off the system, it is imperative that backup copies be created from all newly generated files.

Information held in working storage has not been stored on any storage medium, such as a diskette and is, therefore, not permanent until you carry out the save (or safeguard) function for that particular software.

Be sure to save your work periodically on the diskette according to the instructions in your application User Manual. It is also recommended to save data if you're interrupting your work for any length of time and as a protection against loss due to power failure.

Additional detailed information can be obtained from the specialized manuals of the application programs.

To switch off the PEOPLE:

- Remove the diskettes from the disk drives. If this is not done, the voltage peaks that occur when the system is switched off could destroy important data on the diskette.

- Next, turn off the peripheral devices (printer, modem, etc.).

- Then switch off the **PEOPLE** main unit.

- The attached display can be switched on and off together with the main unit. Once the display has been switched on and is adjusted according to the information under Switching the System On, it is not always necessary to operate it separately.

CP/M-86 & MS-DOS
Operating Systems

- Background Information
- Command Programs
- Storing on Diskettes
- Warm Boot
- Switching the Disk Drives
- Winchester Drive
- Special Functions of the Keyboard

5

Operating Systems

Introduction

Background Information on Operating Systems

The information contained in this section is both reference and operational in nature. We will give you background information on operating systems.

The information of specific operating systems has been divided into two parts, CP/M-86 and MS-DOS. The **PEOPLE** Personal Microcomputer offers both these operating systems.

Read this section of your User Guide to learn the following:

- Background information on operating systems
- CP/M-86 Operating System

  Command Programs
  — built-in
  — utility

  Changing diskettes and disk drives

  Special functions of the keyboard

- MS-DOS Operating System

  Command Programs
  — external
  — internal

  Changing disk drives

  Special functions of the keyboard

Refer to the operating system section that you are presently working on.

The operating system is loaded from the system diskette into working storage (see Section 4). It is a collection of programs that forms the nucleus of the total system. The operating system controls the overall operation of the computer. It performs such tasks as allocating places in memory to data and programs, and controlling the overall input/output of the system by coordinating hardware and software.

The operating system makes a dialogue between the user and the computer possible through its "routines". These basic routines continuously make all system functions available to the user, while simultaneously allowing the computer to execute your system commands. Such functions include accepting keyboard instructions, transferring information to the screen or to the printer, organizing working storage and the disk drives, as well as chronologically monitoring and registering all system tasks.

Without the operating system you could not even load and use your particular application program. Of course, the application program must always be compatible with the operating system you're using at the time; that is, a spreadsheet package written to run under MS/DOS will not run under CP/M-86 without modifications.

Various operating systems will be offered for the **PEOPLE** Personal Microcomputer. At present, these include CP/M-86 and MS/DOS. Additional operating systems are under preparation.

A brief discussion of CP/M-86 follows here with further information on the MS-DOS operating system. More detail on CP/M-86 and MS-DOS can be obtained from the User Manual for that particular operating system.

CP/M is the abbreviation for
"**C**ontrol **P**rogram for **M**icro-
computers". It is an industry
standard and one of the most
popular operating systems. The
majority of application programs
available on today's market have
been written for CP/M. CP/M-86
is packed with **PEOPLE** in the
form of an original system
diskette.

NOTE:
Before working with this diskette,
remember to follow the instruc-
tions under "Loading the system
diskette." It is **absolutely neces-
sary** to protect the system
diskette against accidental over-
writing by taping over the write-
protection notch with the stickers
Olympia has provided for you.
This procedure is, however, only
necessary in the case of **system
diskettes.**

Command programs fall into two
distinct categories: built-in and
utilities. They are loaded auto-
matically under CP/M-86 with the
system diskette. These programs
are used to perform "mainte-
nance" type procedures, such as
copying and formatting diskettes.
You do not generally use them
while working with applications
software.

This section describes three of
the command programs you will
need most often: directory, format
and copy. For purposes of this
manual we have put these com-
mand programs into a logical
sequence:

- Check the system directory
- Format a new diskette
- Make a copy of that diskette

This description assumes that the
blank diskettes available for use
have not yet been initialized
(formatted) to the format of the
OLYMPIA **PEOPLE** Personal
Microcomputer. This means that
you must first format the blank
diskette provided before data can
be stored or a copy procedure
started.

This is true for blank diskettes
that you are using for the first
time. (See page 5/5.)

NOTE:
When inputting the following
command sequences, type in all
characters and spaces **exactly** as
they appear in the examples.
Even when correct spelling would
require spaces, they must be
omitted here.

Built-In Command
DIR (Directory)

To check a complete listing of available programs and files, you can have the directory of the system diskette displayed on the screen. This involves using the input **DIR** (directory).

- Type in **DIR** directly following the CP/M prompt A>.
- Depress the [RETURN] key to release the function.

The directory of each diskette can be accessed in this manner. This makes it possible to check for specific files. After determining whether the service programs **FORMAT** and **COPYDISK** are located on the system diskette (as indicated on the screen), the next procedures—formatting and copying—can be carried out.

Calling individual files from DIR (directory)

If you want to check for a specific file or utility program and already know its name, type in **DIR** plus the name:

DIR xxxxx.xxx

NOTE:
You must include the three-letter file type identifier. For a complete description of file types refer to the CP/M-86 Operating System User Guide.

The computer itself then checks if the file is on the diskette and confirms its presence on the screen.

For example, to see if the service program **FORMAT** is on the system diskette, type in

DIR FORMAT.CMD

If the program is present, the program name is repeated under the input line on the screen.* The system then returns to the CP/M level and displays the > prompt symbol. The **FORMAT** utility program can then be called up.

Use these same steps for **COPYDISK** and other commands.

*Meaning of the Input:
DIR is the program command, **FORMAT** is the program or file name, and **CMD** is the file type, file code, or the file name for a particular file group. File name and file type must be input, separated by a period.

If the desired program or file is not on the diskette, **NO FILE** is displayed on the screen.

• Upon completion, the CP/M-86 system prompt > always appears on the screen.

Utility Program
FORMAT (FORMATTING)

Blank diskettes must first be formatted for use on your **PEOPLE** Personal Microcomputer. Until they are formatted, information can neither be recorded nor read. You can format blank diskettes by

- typing **FORMAT**
- depressing the [RETURN] key
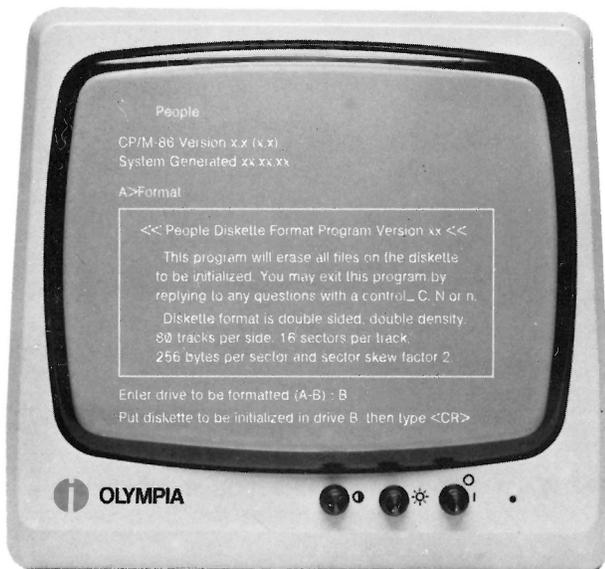
Data about the diskette structure appears on the screen as well as a note explaining that this procedure will erase all files located on the diskette to be formatted.

Operator Error

If you go into **FORMAT** by mistake, you can exit the program by

- depressing the **N** key or
- the keys **CTRL** and **C** simultaneously

    The CP/M prompt > appears on the screen to inform you of a correct exit from **FORMAT**

- The cursor blinks and the computer asks which disk drive should be formatted. Since the system diskette is in disk drive A, disk drive B is available for formatting the new diskette.

- Type in B

- Insert the diskette to be formatted in disk drive B.

NOTE:
The diskette must not be write-protected. In the case of a write-protected diskette, the message "bad diskette" appears on the screen.
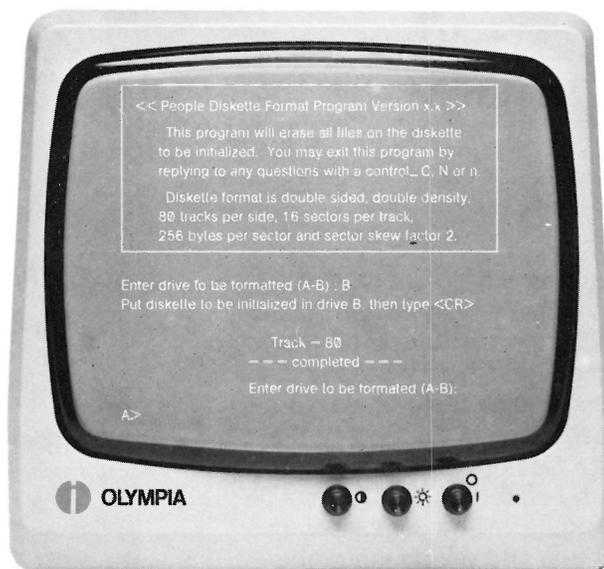
- Start the formatting run by depressing [RETURN]

The number of formatted tracks from 01 to 80 advances as each track is formatted. The entire run lasts approximately 1 minute. The formatting of the diskette is terminated with the message

Track = 80 Completed.

Following this, you can either format additional diskettes or exit the **FORMAT** program by

- depressing [RETURN] or **N** or
- **CRTL-C**
- CP/M-86 prompt > reappears on the screen

At this point you are ready to proceed to the **COPYDISK** procedure.

NOTE:
The criteria for diskette format indicated in the box on your display are explained in the Appendix, page A/9.

Utility Program
COPYDISK (Copying)

The utility program COPYDISK completely transfers all data located on a Source Disk, including empty tracks, to a second diskette (Destination Disk). It makes an exact copy of the Source Diskette. The files or program parts previously stored on the Destination Diskette will be completely overwritten and will no longer be available.

The COPYDISK command copies all system information, including service programs and the operating system, from the Source Diskette to the formatted Destination Diskette. You can use this procedure, for example, to create a duplicate system diskette and keep an unused copy of your Master, as recommended under "Loading the System Diskette."

NOTE:
The CP/M-86 operating system has another copy program which is stored in PIP (**P**eripheral **I**nterchange **P**rogram). PIP is used to copy, sort, or transfer files that should be added to data stored on a second diskette.

The CP/M-86 operating system and the utility programs located on five reserved tracks of the system diskette cannot be copied in this manner.

The PIP program is not described here due to its extensive performances. Operation and use can be found in the CP/M-86 Operating System User's Guide.

Copydisk Procedure

Call up the COPY run command by typing

- COPYDISK

- [RETURN]

The confirmation appears on the screen with the display

CP/M-86 Full Disk COPY Utility

with the version specification.

The computer also asks which disk drive contains the source diskette (A–D). The system diskette, in our case the source diskette, is in disk drive A. Therefore

- type in A

- [RETURN]

The second question is, which disk drive contains the Destination Disk (A–D).

- Type in B for disk drive B

- [RETURN]

The computer asks:

Copying Disk A: to B:
Is this what you wish to do (Y/N)?

This means that disk drive A will be copied to drive B. Answer with

- Y = Yes

  N = No

- Insert a formatted and **non-write-protected** blank diskette into disk drive B

- type in Y

- [RETURN]

The COPY utility is started and lasts approximately 4.5 minutes. The entire procedure with reading, writing, and verifying is shown on the display.
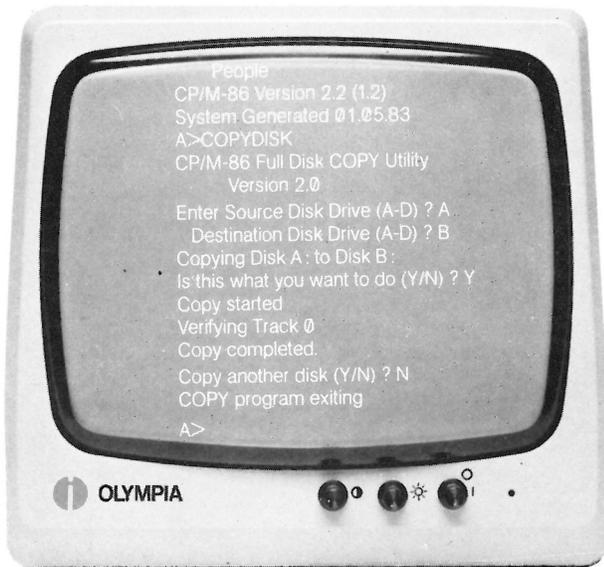
```
People
CP/M-86 Version 2.2 (1.2)
System Generated 01.05.83
A>COPYDISK
CP/M-86 Full Disk COPY Utility
         Version 2.0
Enter Source Disk Drive (A-D) ? A
    Destination Disk Drive (A-D) ? B
Copying Disk A : to Disk B :
Is this what you want to do (Y/N) ? Y
Copy started
Verifying Track 0
Copy completed.
Copy another disk (Y/N) ? N
COPY program exiting

A>
```

When the contents of the source diskette is completely transferred to the destination diskette and is verified, the message

Copy completed.

appears on the screen.

The next question on the display asks whether you wish to copy additional diskettes.

Copy another disk (Y/N)?

If you answer the question with N (no), the system returns to the CP/M-86 level.

Example of an Incorrect Input

The incorrect command

FOOORMAT.CMD

on the screen (correct: **FORMAT:CMD**) was not understood by the computer after being entered with [RETURN]. The system repeats the input as an error message with "?" and follows with the CP/M prompt. Simply reenter the command correctly at this point.

```
A>FOOORMAT.CMD
FOOORMAT.CMD ?
A>
```

Storing on Diskettes

Changing Diskettes

When working with the **PEOPLE** Personal Microcomputer it will from time to time be necessary to make a copy of the data you've processed on a diskette in one of the diskette drives. This could be either for external use, or for safekeeping.

To store the data on the diskette in the disk drive, use the instructions in the manual accompanying the application software.

You have two options:

(1) Remove the diskette from the disk drive which contains the application software and copy your data.

(2) Insert a blank, formatted diskette into the empty disk drive, and copy the data.

Then:

• Remove the diskette and resume your previous operation.

Diskettes can be changed as needed.

The following assumes that the CP/M-86 system diskette is in disk drive A and that diskettes have just been exchanged in disk drive B. The error message below will result if you now try to write on the diskette in disk drive B.

R/O means read/only. The diskette cannot yet be written on, **only read** from, even though the notch is not taped over.

A special routine contained in the CP/M-86 operating system protects this newly-inserted diskette from unintentionally writing the data stored in the working memory over the data already stored on the diskette.

Depressing [RETURN] returns the system to the CP/M-86 level. (See the next section on Warm Start or Warm Boot.)

Warm Boot
or Warm Start
(with a pre-loaded program)

When writing information on a diskette, the system orients its write procedure according to a diskette map which is read into the working storage. When you exchange diskettes the map of the previous diskette still remains in working storage. In order to replace this map with that of the new diskette, a warm boot or start must be initiated. This allows the write operation for the new diskette to take place.

The operating system must be prepared via a warm boot or start in order to write on the exchanged diskette following **each** diskette exchange.

Procedure

• Press the CTRL key and the C key simultaneously.

This restarts the CP/M-86 operating system. CP/M-86 then reads the directory into working storage and selects the diskette you just inserted into Drive B. Now the diskette in Drive B can be written on.

Switching the
Disk Drives

As you know, the main unit of the basic **PEOPLE** Personal Microcomputer has two 5¼" SLIM LINE Floppy Disk drives available to the user—disk drive A and disk drive B. Under CP/M you can switch the read/write process from one disk drive to another.

We will assume that the operating system was already loaded into working storage via disk drive A. On the display you will see the disk drive specification A with the CP/M prompt A>as the last entry.

To switch to disk drive B, type

• B:

• [RETURN]

You will see that the disk drive specification has changed to B> on the screen. If you enter A: [RETURN], the system changes once again to A>.

Special Functions of the Keyboard Under CP/M-86

Input of Control Characters With the CTRL Key

As you learned in the explanation of the keyboard, certain keys are reserved as function and control keys. Their meanings change according to the program being run on the **PEOPLE** Personal Microcomputer. Following is a brief explanation of the functions those keys perform when you are working with CP/M-86.

[RETURN] Key

After depressing the [RETURN] key, the prompt appears on the screen as a response. The [RETURN] key inputs commands to the computer as you've seen in the previous exercises. There are, however, some exceptions whereby an input is not terminated with the [RETURN] key; for example, when sending control characters (simultaneously depressing the CTRL key with another key).

Holding down the CONTROL (CTRL) key assigns a special function to the other key you press. You are already familiar with entering commands with the control key from the preceding example of a warm boot or start. The CTRL key must be held down while you enter a control character. Holding down both keys is represented in this description in abbreviated form as "CTRL-C", whereby the control character could be any key.

CTRL-E

The cursor jumps to the beginning of the next command line without executing the command. The previous command input remains intact and the input can continue. This command inputs longer command lines than is allowed by the screen display.

CTRL-H

Sets the cursor one position back and deletes the character input at this position. Same function as "Backspace".

CTRL-I

The cursor jumps to the next tab position (tab spacing is 8 positions). Therefore this has the same function as the TAB key.

CTRL-J

Same function as [RETURN] key with line feed.

CTRL-M

Same function as CTRL-J or [RETURN] key but on same line without line feed. Identical to an [EXPRESS] key on the typewriter.

CTRL-P

A parallel connection occurs between the display and the printer. All characters appearing on the screen are immediately sent to the printer after releasing the [RETURN] key. Reinputting **CTRL-P** will disconnect the parallel operation of the printer and the display.

CTRL-R

Sets a double dagger at the end of an instruction input and repeats that entire input on the following line.

CTRL-S

Stops the listing of information on the display until **CTRL-S** is reinput.

CTRL-U

Sets a double dagger in the cursor position and cancels out all previous input in this command line. The line display remains intact, however. The command input for this line is continued in the next line.

CTRL-X

Same function as C key (red correction key).

For completeness, all CTRL inputs running under CP/M-86 were listed, as well as those which have the same function as other control keys. The **Standard CP/M Control Characters** were created to make it possible for a user, who changes from another system to **PEOPLE**, to have the command inputs he or she is already used to.

CTRL-PRINT

If the **PRINT** key is depressed when the **CTRL** key is held down, a **FORM FEED** occurs following the print out. (The next page is advanced.)

ASCII Key Upper Left in Key Field

Depressing the ASCII key, located upper left in the first row of keys, switches off the LED indicator. This key acts as a toggle between the ASCII character set, and your country's standard (NATIONAL) character set. You would use this feature if you wanted to work with another character set, such as French or Spanish.

ESC

Used for various purposes by user programs.

F1 to F12

Programmable function keys.

PRINT

Depressing the PRINT key outputs the contents of the screen via the printer. If a printer is not connected or is not ready to receive, then the program continues after a short pause. If the PRINT key is depressed with a CTRL key, then a FORM FEED occurs following the print out. (The next page is advanced.)

BACKSPACE

Deletes the last inputted character.

C

Deletes the last inputted line.

TAB

The cursor jumps to the next tab position. (Tabulation spacing is 8 positions each.)

DEL

Delete key. The previous input is repeated in a mirror-image on the screen and deleted, character by character.

SHIFT LOCK

Depressing the SHIFT LOCK key causes subsequent characters to be entered in upper case. The LED indicator lights up.

Depressing one of the SHIFT keys releases the SHIFT LOCK key. The LED indicator lights up.

Depressing one of the SHIFT keys releases the SHIFT LOCK key. The LED indicator turns off.

Cursor Keys

The cursor keys are not implemented in all utility programs. If the corresponding control code is transferred on the screen, they can be implemented in the user program for control.

See your particular application manual for further details on using the CONTROL function.

PEOPLE With
Winchester Drive

The file **CPM.SYS** contains the operating system for **PEOPLE** with two drives. The file **CPM.WIN** contains the operating system for **PEOPLE** with one drive and the Winchester drive.

First, rename the **CPM.SYS** file for future use with the dual disk drives. We will name the new file **CPM.FLP** to indicate that this is the file that will be used to load the operating system when using the dual disk drive with floppy diskettes.

- Type: REN CPM.FLP=CPM.SYS
- [RETURN]

Because the **PEOPLE** recognizes CPM.SYS to load the system, the next step is to rename the CPM.WIN file to CPM.SYS.

- Type: REN CPM.SYS=CPM.WIN
- [RETURN]
- Press: RESET to reboot the system

Now the **PEOPLE** Personal Microcomputer is ready to load the operating system for the Winchester drive.

The Winchester drive takes residence in drive A and drive C. This is because CP/M is restricted to a maximum of 8.5 megabytes. Because the capacity of the Winchester is approximately 10 megabytes, drive A contains 8.5 megabytes and drive C holds 1.5 megabytes.

The disk drive for the floppy disk is recognized by the computer as drive B.

To boot up the Winchester:

- Type: B [RETURN]

NOTE:
If a B is not indicated when booting up the system, the message "Drive Not Ready" will appear.

Simply type a B and carrier return to reboot the system.


```
People
CP/M-86 Version 1.1 (2.3)
System Generated 02.01.84
OLYMPIA INTERNATIONAL
Serial Number 037ch-0000h

SUBMIT?

A>
```
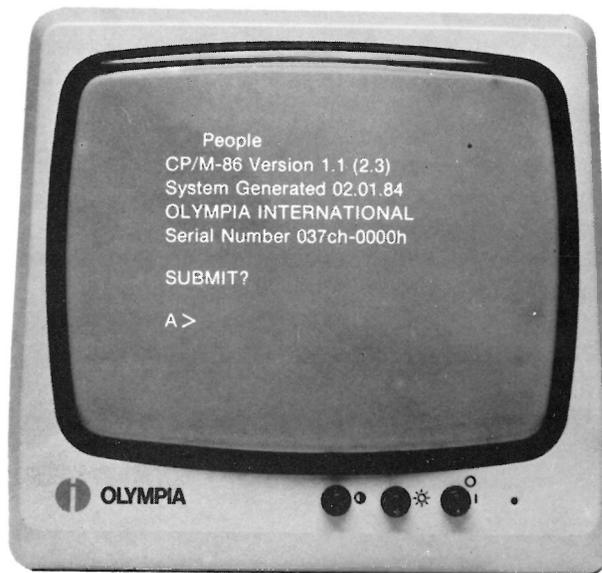
The A> which appears on your screen indicates that you are now working on the Winchester drive. The Winchester drive is installed in the right hand drive. After installation of the Winchester drive, the left hand drive becomes drive B.

Formatting the Winchester Drive

The Winchester must be formatted for use on your **PEOPLE** Personal Microcomputer.

To format the Winchester:

- Switch to drive B
- Type: WFORM
- Depress the [RETURN] key

NOTE:
If the Winchester to be formatted had been previously used, this procedure will erase all files located on the Winchester.

The following prompt:

Do you really want to format me? (Y)

will appear on your screen.

- Type: Y and [RETURN]

After you have depressed Y with a [RETURN] the computer will proceed to format the Winchester. This procedure takes approximately three minutes.

Loading Files onto the Winchester Drive

When working with the **PEOPLE** Personal Microcomputer with a system disk drive and a Winchester drive, it will sometimes be necessary to copy data from one drive to the other. This could be for either external use or for (BACK-UP) safekeeping.

To copy *all the files* from the floppy diskette onto the Winchester drive:

- Switch to drive B (page 5/27)
- Type: PIP A:=B:*.*
- [RETURN]

Your screen will display each file name as it copies onto the Winchester Drive.

Once all the files are copied onto the Winchester Drive, when you reboot the system the ASCII character set, **FUNCTION KEYS.DAT FILE** and **OLYMODE** file will automatically be loaded.

It is also possible to copy only *one file* at a time from the floppy diskette onto the Winchester drive. For example, to copy one file:

- Type: PIP A:=B:filename.xxx
- [RETURN]

Copying Files From Winchester to Floppy Diskette

It will occasionally be necessary to copy the files from the Winchester drive onto the floppy diskette for back-up purposes.

First, you must format a blank diskette.

NOTE:
At this point all your files should have been copied over to the Winchester drive with the **FORMAT** file on drive A.

To format a blank diskette:

- Switch to drive A (page 5/27)
- Type: FORMAT [RETURN]

The message:

Enter Drive to be formatted (A-B):

appears on your screen.

- Type B [RETURN]

The next message:

Put diskette to be initialized in drive b, then type CR

appears on your screen.

- Insert the blank diskette into drive B
- Press [RETURN]

When the system has completed the FORMAT program, the message:

    Track=80
=== completed ===
Enter drive to be formatted (A-B):

If you wish to format another diskette, insert the new diskette and follow the previous procedure. To continue with the following instructions, press CTRL C.

To copy *all files* from the Winchester drive onto the formatted floppy diskette in drive B:

- Type: PIP B:=A:*.*
- [RETURN]

The message:

        COPYING

will appear on your screen adding each file name that is being copied until all files have been written to the floppy diskette.

To copy *single files* from the Winchester onto the floppy diskette:

- Type: PIP B:=A:filename.xxx
- [RETURN]

NOTE:
The floppy diskette in drive B can hold up to 640 K. If the Winchester drive contains more than 640 K, it will be necessary to copy a group of files at a time onto the floppy diskette. (See page 5/30.)

Utility Program
LDCOPY.CMD
(Loader Copy)

The utility program **LDCOPY** is used to copy the cold start loader from a system disk. The **PEOPLE** Personal Microcomputer needs the floppy diskette to boot up the system. The **LDCOPY.CMD** utility program is used to load the program **LOADER.COM** on tracks 0 and 1. This **LDCOPY** is used to copy the cold start loader from the Winchester drive onto the system diskette.

The **LOADER** program is a simple version of CP/M-86 that contains sufficient file processing capability that allows the system to read CPM.SYS from the system diskette into memory. When **LOADER** completes its operation, the CPM.SYS program receives control and can now process operator input command.

To load the **LOADER** file:

- Type: LDCOPY LOADER
- [RETURN]

Your screen will now display:


```
B>LDCOPY LOADER
LDCOPY VERS 1.1
Destination Drive home (or Return to Reboot)
```

- Enter a B [RETURN]

The next prompt **Destination on B, Then Type Return,** appears on your screen.

- Press [RETURN]

The message **Function Complete** will appear on your screen. The cold start loader has now been completed and allows you to boot up the Winchester drive.

AUTOMATIC START FUNCTION

When resetting the **PEOPLE** Personal Microcomputer it is necessary to have the **AUTOSTRT.SUB** file on the Winchester drive to activate

- The ASCII character set
- FUNCTION KEYS.DAT
- OLYMPIA MODE (OLYMODE)

NOTE:
The user can determine the desired functions by typing in the

AUTOSTRT.SUB

with a text editor, (e.g., ED or WordStar). Refer to page 6/15 on the Automatic Start Function.

MS-DOS Operating System

Using the Command Programs

MS-DOS "**M**icrosoft **D**isk **O**perating **S**ystem" is an operating system designed for 8086/8088 based computers. Through MS-DOS an operator can keep track of files, run and link programs, and access peripheral devices (ie. printers and disk drives) that are attached to your computer.

The operating system MS–DOS from Microsoft, together with CP/M-86 stands to become the standard 16 bit operating system. Both operating systems are very similar as can be seen by the system commands and internal structure. The only difference is MS-DOS is faster than CP/M-86 due to enchanced disk handling features. It is easy to use because it tolerates a great many user errors and gives the user detailed error messages.

Command programs are loaded automatically under MS–DOS with the system diskette. There are two types of MS-DOS commands: Internal commands and External commands.

Internal commands are the simplest, most commonly used commands. You cannot see these commands when you do a directory listing on your MS-DOS disk, they are part of the command processor. When you type these commands, they execute immediately.

External commands reside on diskettes as program files. They must be read from disk before they can execute. If the diskette containing the command is not in the drive, MS-DOS will not be able to find and execute the command.

This section describes nine (9) of the command programs you will need most often. We have written a section for each of these command programs.

- Check the system directory
- Format a new diskette
- Make a copy of that diskette
- Delete a file/files
- Check disk for consistency and errors
- Update the system
- Recover a file(s) or diskette
- Print while processing other MS-DOS files
- Software conversion

The description that follows assumes that the blank diskettes available for use have not yet been initialized (formatted) to the format of the OLYMPIA **PEOPLE** Personal Microcomputer. This means that you must first format the blank diskette provided before data can be stored or a copy procedure started.

This is true for blank diskettes that you are using for the first time. (See page 5/15).

NOTE:
When inputting the following command sequences, type in all characters and spaces **exactly** as they appear in the examples. Even when correct spelling would require spaces, they must be omitted here.

Internal Program
DIR (Directory)

NOTE:
If you have not yet entered the current date and time, refer to Chapter 4, "Loading the System Diskette".

To check a complete listing of available programs and files, you can have the directory of the system diskette displayed on the screen. This involves using the input **DIR** (directory).

- Type in **DIR** directly following the MS-DOS prompt A > .
- Depress the [RETURN] key to activate the function.

EXE2BIN	EXE	1664	1-01-80	4:57a
SORT	EXE	1280	10-18-83	2:15p
FIND	EXE	5888	1-01-80	3:08a
FC	EXE	2560	1-01-80	3:23a
CHSOD	COM	2708	1-01-80	2:47a
CHSOE	COM	2708	1-01-80	2:54a
CONFIG	SYS	19	1-01-80	12:07a
CHSOF	COM	2708	1-01-80	3:02a
PCDEV	COM	2008	11-11-83	2:10p
CHSOI	COM	2708	1-01-80	3:08a
CHSOCH	COM	2708	1-01-80	3:15a
CHSOGB	COM	2708	1-01-80	3:22a
CHSONL	COM	2708	1-01-80	3:29a
CHSOD23	COM	2708	1-01-80	3:37a
CHSOASCI	COM	2708	1-01-80	12:11a

25 File(s)

OLYMPIA

Follow this procedure to access the directory of each diskette. To carry out the next procedures, formatting and copying, check to determine whether the service programs **FORMAT** and **DISKCOPY** are located on the system diskette (as indicated on the screen), the next procedures--formatting and copying--can be carried out.

Calling individual files from DIR (directory)

You can also get information about a specific file on your disk by typing:

DIR xxxxx.xxx

In all cases files are listed with their size in bytes and with the time and date of their last modification. For a complete description of file types refer to the MS–DOS Operating System User Guide.

The computer itself then checks if the file is on the diskette and confirms its presence on the screen.

For example, to see if the service program **FORMAT** is on the system diskette, type in

DIR FORMAT.COM

- [RETURN]

NOTE:

You must include the three-letter file type indentifier. For a complete description of file types refer to the MS-DOS Operating System User Guide.

If the program is present on the disk the program name, file size in bytes, and the time and date of the last modification, is repeated under the input line on the screen.

The system then returns to the MS-DOS level and displays the prompt symbol. The external **FORMAT** program can then be called up.

Use these same steps for **DISKCOPY** and other commands.

Meaning of the Input:
DIR is the program command, **FORMAT** is the program or file name, and **COM** is the file type, file code, or the file name, for a particular group. File name and file type must be input, separated by a period.

If the desired program or file is not on the diskette, **BAD COMMAND OR FILE NAME** is displayed on the screen.


```
People
OLYMPIA INTERNATIONAL
Version 1.21  21.10.83
MS-DOS version 2.02
Copyright 1981, 82, 83 Microsoft Corp.
Command v2.02
Current date is Tue 1-01-80
Enter new date: 1/01/84
Current time is 0:000:11.65
Enter new time:   10:30
A > dir format.com
Volume in drive A is OLYnnnnn
Directory of A:
FORMAT.COM 11100    10-21-83      12:20p
      1 File(s)     475136 bytes free
A >
```



```
A >  dirxxxx.com
Bad command or file name
A >
```
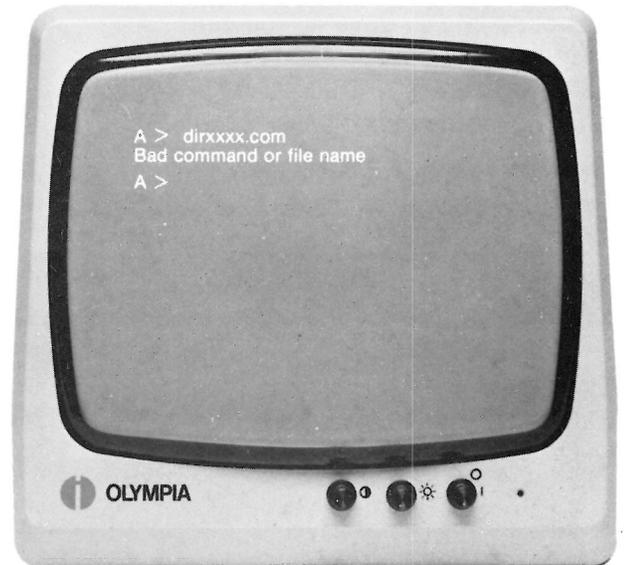
• Upon completion, the MS-DOS system prompt > always appears on the screen.

Blank diskettes must first be formatted for use on your **PEOPLE** Personal Microcomputer. If the diskette is not formatted, information can neither be recorded nor read.

With the MS-DOS diskette already in disk drive A, you can format your new diskette in drive B.

- type **FORMAT B:**
- depress the [RETURN] key

OLYMPIA PEOPLE FORMAT Version 1.2
Insert new diskette for drive B
and strike any key when ready

NOTE:
If the diskette to be formatted had been previously used, this procedure will erase all files located on the diskette.

Operator error

If you go into **FORMAT** by mistake, you can exit the program by

- depressing keys **CTRL** and **C** simultaneously

The MS-DOS prompt > appears on the screen to inform you of a correct exit from **FORMAT.** Once the formatting is in process the system will continue until it has completed formatting your diskette.

- The cursor blinks and the computer asks you to insert new diskette in disk drive B.
- Insert the diskette to be formatted in disk drive B.

NOTE:
The diskette must not be write-protected. In the case of a write-protected diskette, the message "FORMAT failure" appears on the screen.

- To start the formatting run depress [RETURN]

The number of formatted tracks from 01 to 79 advances as each track is formatted. The entire run lasts approximately one minute. The formatting of the diskette is terminated with the message.

Track = 79

645120 bytes total disk space
645120 bytes available on disk

The screen now prompts you to either format additional diskettes or exit the **FORMAT** program by

- depressing **N** or
- **CTRL C**
- MS-DOS prompt > reappears on the screen

At this point you are ready to proceed to the **DISKCOPY** procedure.

The external program **DISKCOPY** copies the data located on a Source Diskette, including empty tracks, to a second diskette (Destination Diskette). It makes an exact copy of the Source Diskette. If their are programs on the Destination Diskette they will be over-written and will no longer be available.

Diskcopy is the fastest way of copying a diskette because it copies the entire diskette in one operation. For example, this procedure can be used to create a duplicate system diskette and keep an unused copy of your Master, as recommended under "Loading the System Diskette".

Diskcopy Procedure

Drive A is the disk drive that contains the diskette that you want to copy. Drive B is the disk drive that contains the blank or "destination" diskette. The blank diskette must be formatted before running **DISKCOPY.** Refer to page 5/15 for Formatting.

After you have entered the current date and time, call up the **COPY** run command by typing

- DISKCOPY A: B:

- [RETURN]

```
People
OLYMPIA INTERNATIONAL
Version 1.21    21.10.83
MS-DOS version 2:00
Copyright 1981,82,83 Microsoft Corp.
Command v.202
Current date is Tue 1-01-1980
Enter new date: 1/1/84
Current time is:     0:00:20.45
Enter new time:      9:00
A > DISCOPY A: B:
```

OLYMPIA
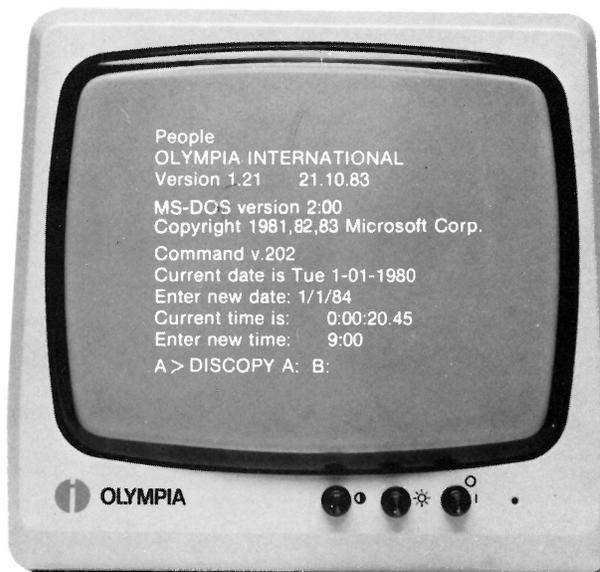
MS-DOS prompts:

Insert source diskette into drive A:
Insert formatted target diskette into drive B:
Press any key when ready

Check to see that the MS-DOS diskette is in drive A.

- Insert a blank formatted diskette in drive B.

NOTE:
If an unformatted diskette is inserted in drive B and the **COPY** procedure is attempted the screen will display:

Data error writing drive B
Abort, Retry, Ignore?

Insert a formatted diskette and type R for retry to continue the **COPY** procedure.

- Press any key to start **COPY** procedure.

The screen will display

Copying. . .

The copy command lasts approximately 2.5 minutes. When the contents of the source diskette is completely transferred to the destination diskette and is verified, the message

Copying. . . Copy complete

appears on the screen.

The next question on the display asks whether you wish to copy additional diskettes.

Copy another (Y/N)?

If you answer the question with N (no), the system returns to the MS-DOS level.

Example of an Incorrect Input

The incorrect command:

DISKCOOPY

on the screen (correct: **DISKCOPY**) was not understood by the computer after being entered with [RETURN]. The system replies with an error message

Bad command or file name

and follows with the MS-DOS prompt. Simply reenter the command correctly.


```
People
OLYMPIA INTERNATIONAL
Version 1.21      21.10.83

MS-DOS version 2.00
Copyright 1981,82,83 Microsoft Corp.

Command v.202
Current date is Tue 1-01-1980
Enter new date: 1/1/84
Current time is: 0:00:20.45
Enter new time:      9:00

A> DISKCOPY A:  B:

Insert source diskette into drive A:
Insert formatted target diskette into drive B:
Press any key when ready
Copying. . .Copy complete

Copy another (Y/N)?

A>
```



```
A > DISKCOOPY
Bad command or file name
A >
```

Storing on Diskettes

Error Messages

When working with the **PEOPLE** Personal Microcomputer it will from time to time be necessary to make a copy of the data you've processed on a diskette in one of the disk drives. This could be either for external use, or for safekeeping.

To store the data on the diskette in the disk drive, use the instructions in the manual accompanying the application software.

To copy files from one diskette to another:

• Insert a blank, formatted diskette into the empty disk drive

• Type: Copy filename.xxx B:

This procedure will copy a file from drive A to drive B. Diskettes can be changed as needed.

The following assumes that the MS-DOS system diskette is in disk drive A and you have given the instructions to copy a file from the diskette in drive A to the diskette in drive B. If the diskette in drive B had not been formatted properly the error message below would appear on your screen.

This message indicates drive B is not ready. MS-DOS waits for you to enter one of the following responses:

• **A** Abort - Terminate the program requesting the disk to be read.

• **I** Ignore - Ignore the bad sector and pretend the error did not occur.

• **R** Retry - Repeat the operation. This response can be used when the operator has corrected the error.

Insert a formatted diskette in drive B and press R to retry the copy procedure.

Internal Program
DEL (Delete)

The internal delete program erases a file and/or group of files from the diskette.

Delete Procedure

When the prompt symbol > appears on your screen type:

- DEL filename.xxx

- [RETURN]

The file has now been deleted from your diskette.


```
People
OLYMPIA INTERNATIONAL
VERSION 1.21    21.10.83

MS-DOS Version 2.00
Copyright 1981,82,83 Microsoft Corp.

Command v.202
Current date is Tue 1-01-1980
Enter new date: 1-1-84
Current time is    8.30:14:32
Enter new time:    12:00

A >  DEL Filename.xxx
A >
```

NOTE:
MS-DOS also allows you to delete the complete diskette by typing

- DEL *.*

- [RETURN]

The asterisks used above act as a wildcard and refers to all files on the diskette.

External Program
CHKDSK
(Check diskette)

The MS-DOS external command **CHKDSK** is used to check your diskettes for consistency and errors, much like a secretary proofreading a letter. **CHKDSK** analyzes the directories and the File Allocation Table on the disk that you specify. The File Allocation Table is an area in the system that keeps track of the location of your files on the diskette.

MS-DOS will display a status report and any errors that it has found. It is a good idea to run **CHKDSK** occasionally for each diskette to ensure the integrity of your files.

To check your MS-DOS diskette type

- CHKDSK

- [RETURN]

A status report appears on your screen.


```
A >  CHKDSK
Volume OLYnnnn created Jan 25, 1984        8:48a

645120 bytes total disk space
27648  bytes in 3 hidden files
154624 bytes in 28 user files
462848 bytes available on disk

131072 bytes total memory
100416 bytes free
A >
```

NOTE:
Refer to your MS-DOS Operating System User's Guide under MS-DOS commands for CHKDSK error messages.

External Program
SYS (System)

The system files, IO.SYS and MSDOS.SYS are hidden files that do not appear when the **DIR** command is executed. The external program **SYS** transfers the MS-DOS system files from the diskette in the default drive to the diskette in the drive specified.

The purpose of **SYS** is to update the system on a formatted diskette which contains no files. To transfer the system files from drive A to drive B, type:

- SYS B:
- [RETURN]


```
People
OLYMPIA INTERNATIONAL
VERSION 1.21    21.10.83
MS-DOS version 2.00
Copyright 1981,82,83 Microsoft Corp.
Command v.202
Current date is Tue 1-01-1980
Enter new date: 1-01-84
Current time is: 8:30:14:32
Enter new time:     12:00
A >  SYS B:
System transferred
```

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You must specify the drive you are transferring the **SYS** files to.

NOTE:
MS-DOS Transfers IO.SYS first and then proceeds to transfer MSDOS.SYS. If IO.SYS and MSDOS.SYS are on the destination diskette, they must take up the same amount of space on the diskette as the new system will need. **COMMAND.COM** (the command processor must be transfered by using the **COPY** command.

If **SYS** detects an error, one of the following messages will be displayed:

- No room for system on destination disk

  This message indicates that there is not enough room on the destination diskette for the IO.SYS and MSDOS.SYS files.

- Incompatible system size

  This message is telling the operator that the system files IO.SYS and MSDOS.SYS do not take up the same amount of space on the destination diskette as the new system will need.

For further information on the external program **SYS,** refer to the MS-DOS Operating System User's Guide.

External Program
RECOVER (Recovering a file)

The external program **RECOVER** allows the operator to recover a file or an entire diskette containing bad sectors. If a sector on a diskette is bad, you can recover either the file containing that sector (without the bad sector) or the entire diskette (if the bad sector was in the directory).

To recover a file, type:

- RECOVER filename
- [RETURN]

This will allow MS-DOS to read the file sector by sector and to skip over the bad sector(s). When MS-DOS finds the bad sector(s), that particular sector(s) are marked and MS-DOS will no longer write your data to that sector.

If the bad sector is in the directory, the entire diskette would have to be recovered.

To recover a bad sectored diskette from drive B, type:

- RECOVER B:
- [RETURN]

```
B >  Recover filename.xxx
Press any key to begin recovery of the
files(s) on drive B:
27 file(s) recovered
```

OLYMPIA
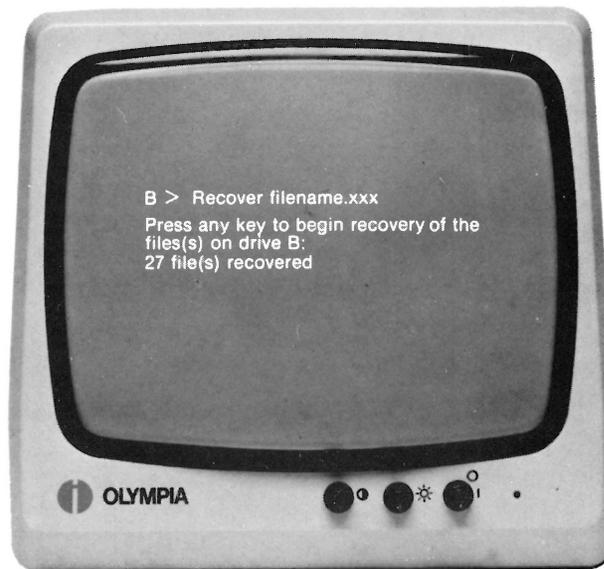
If you were recovering a diskette from drive A, and A: would have to be typed in place of B:.

NOTE:
If there is not enough room in the root directory, **RECOVER** will print a message and store information about the extra files in the File Allocation Table. You can run **RECOVER** again to regain these files when there is more room in the root directory.

The root directory is an empty directory on the diskette that MS-DOS creates when you use the **FORMAT** command to format a new diskette.

External Program
PRINT (Background printing)

The external program **PRINT** allows you to print a text file while you are processing other MS-DOS commands, sometimes referred to as "background printing."

To activate the print command, type:

• PRINT filename. xxx

• [RETURN]

The following message appears on your screen:

    Name of list device [PRN]:

This prompt appears when **PRINT** is run for the first time. Any current device may be specified and then that device becomes the **PRINT** output device. By pressing

• [RETURN]

the printer being used is automatically activated.

Your screen now displays:

The following are switches that can be used with the print command.

   /T - TERMINATE - This switch deletes all files in the **PRINT** queue waiting to be printed. A message **"PRINT queue is empty"** will appear on your screen.

   /C - CANCEL - This switch turns on cancel mode which suspends all files in the **PRINT** queue. A /P will turn off the cancel mode.

   /P - PRINT - This switch turns on print mode. This switch sends all files specified to the **PRINT** queue. To turn this mode off a /C would be required.

If no options are indicated with the **PRINT** command, the contents of the print queue displays on your screen without affecting the queue.

Refer to the MS-DOS Operating System User's Guide for additional information on the **PRINT** command.


```
A > PRINT filename.xxx
Name of list device [PRN]:
Resident part of PRINT installed
      A: filename. xxx is currently being printed
```
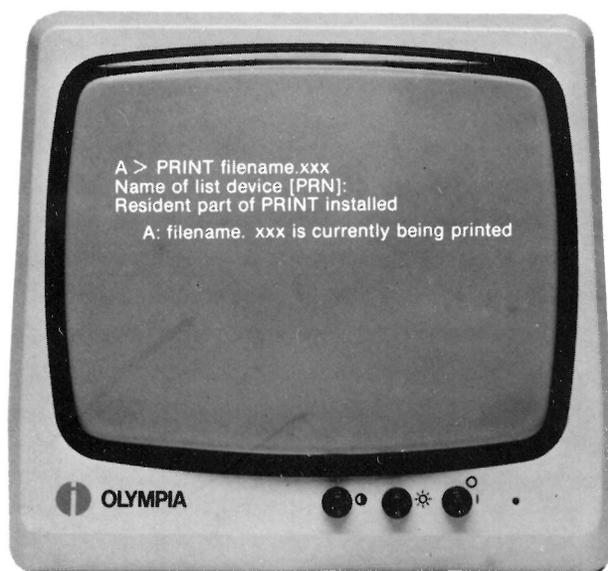
Software Conversion

The MS-DOS Operating System diskette contains two additional files, CONFIG. SYS and PCDEV.COM. These two files allow you to read an IBM PC diskette for programming purposes. It is an easy mechanism to transfer IBM PC software onto the MS-DOS operating system diskette.

The follwing disk formats on the IBM PC can be used:

Sectors Per Track	Bytes per Track	Diskette
8	512	Single Sided
8	512	Double Sided
9	512	Single Sided
9	512	Double Sided

The MS-DOS Operating system is loaded into drive A and the IBM PC diskette is inserted into drive B. To transfer the files on the IBM PC diskette, type;

• COPY C:*.* A:

• [RETURN]

NOTE:
"C" has been set up as the logical disk drive (device).

Each file will be copied and your screen will indicate the filename as it completes copying each file. When your system has completed the copy procedure the following is an example of filenames that will appear on your display:

```
A >   COPY C:*.* A:
C:CHESS. EXE
C:CATCH88.BAS
C:HANGMAN.BAS
C:SURVIVAL.BAS
C:METEOR.BAS
C:ELIZA.BAS
C:MODEM7.COM
C:MODEM7.DOC
C:SATURN.BAS
C:DBMENU.BAS
C:README2.004
C:CREATE.BAS
C:INSERT.BAS
C:LOOKUP.BAS
C:SCREEN.BAS
C:DUMP.BAS
C:BACKUP.BAS
C:XREF.DBF
     18 File(s) copied
```

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Switching the Disk Drives

As you know, the main unit of the basic **PEOPLE** Personal Microcomputer has two 5¼" SLIM LINE Floppy Disk drives available to the user--disk drive A and disk drive B. Under MS-DOS you can switch the read/write process from one disk drive to another.

We will assume that the operating system was already loaded into working storage via disk drive A. On the display you will see the disk drive specification A with the MS-DOS prompt A > as the last entry.

To switch the disk drive B, type:

- B:
- [RETURN]

You will see that the disk drive specification has changed to B > on the screen. If you enter A: [RETURN], the system changes once again to A > .

Special Functions of the Keyboard Under MS-DOS

Input of Control Characters With the CTRL Key

As you learned in the explanation of the keyboard, certain keys are reserved as function and control keys. Their meanings change according to the program being run on the **PEOPLE** Personal Microcomputer. Following is a brief explanation of the functions those keys perform when you are working with MS-DOS.

[RETURN] Key

After depressing the [RETURN] key, the prompt appears on the screen as a response. The [RETURN] key inputs commands to the computer as you've seen in the previous exercises. There are, however, some exceptions whereby an input is not terminated with the [RETURN] key: for example, when sending control characters (simultaneously depessing the CTRL key with another key).

Holding down the CONTROL (CTRL) key assigns a special function to the other key you press. the CTRL key must be held down while you enter a control character. Holding down both keys is represented in this description in abbreviated form as "CTRL-C", whereby the control character could be any key.

CTRL-C
Aborts current command.

CTRL-H
Removes last character from command line and deletes character from screen.

CTRL-J
Inserts physical end of line, but does not delete the command line.

CTRL-P
All data entered on screen from keyboard is simultaneously sent to terminal for output to line printer.

CTRL-N
Turns off (CTRL P) output data to line printer.

CTRL-S
Stops the listing of information on the display until **CTRL-S** is reinput.

CTRL-X
Cancels the current line and displays a back slash (\ ) on the screen. Moves the cursor to the next line.

Using the Winchester Drive Under MS-DOS

Formatting the Winchester Drive (Drive A)

The Winchester drive (Drive A) must also be formatted for use under the MS-DOS operating system on your **PEOPLE** Personal Microcomputer in much the same way as the formatting procedure under CP/M.

To format the Winchester:

- Switch to drive B (page 5/27)
- Type: WIFORM A:
- Depress the [RETURN] key

NOTE:
If the Winchester to be formatted had been previously used, this procedure will erase all files located on the Winchester.

The following prompt:

Do you really want to format Winchesterdrive (Y/N)

will appear on your screen.

- Type: Y and [RETURN]

After you have depressed Y with a [RETURN], the computer will proceed to format the Winchester. This procedure takes approximately three minutes.

Loading Files onto the Winchester Drive Under MS-DOS

When working with the **PEOPLE** Personal Microcomputer with a system disk drive and a Winchester drive, it will sometimes be necessary to copy data from one drive to the other. This could be for either external use or for (BACK-UP) safekeeping.

To copy *all files* from the floppy diskette onto the Winchester drive:

- Type: COPY B:*.* A:
- [RETURN]

Your screen will display each file name as it copies onto the Winchester drive.

It is possible to copy only *one file* at a time from the floppy diskette onto the Winchester drive. For example, to copy one file:

- Type: COPY B:filename.xxx A:
- [RETURN]

Copying files from Winchester to Floppy Diskette

It will occasionally be necessary to copy files from the Winchester drive onto a floppy diskette for back-up purposes.

First, you must format a blank diskette.

NOTE:
At this point all your files should have been copied over to the Winchester drive with the **FORMAT** file on drive A.

To format a blank diskette:

- Switch over to drive A (page 5/27)
- Type: FORMAT B: [RETURN]

The next message:

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

appears on your screen.

- Insert the blank diskette into drive B

- [RETURN]

When the system has completed the **FORMAT** program, the message:

Format another (Y/N)?

appears on your screen. If you wish to format another diskette, press Y, insert the new diskette and follow the previous procedure. To exit formatting, press N.

To copy *all files* from the Winchester drive onto the formatted floppy diskette in drive B:

- Type: COPY A:*.* B:

- [RETURN]

Your screen will display each file name as it copies onto the floppy diskette.

To copy *single files* from the Winchester onto the floppy:

- Type: COPY A:filename.xxx B:

- [RETURN]

NOTE:
The floppy diskette in drive B can hold up to 640K. If the Winchester drive contains more than 640K, it will be necessary to copy a group of files at a time onto the floppy diskette. See chart below.

File Name	Definition
.	- all files
*.BAK	- all.BAK files
MEETING.*	- all files named "meeting"
H*.*	- all files beginning with "H"
2.	- all files that have a "2" (before the period)

NOTE:
System files cannot be transferred to or from the Winchester drive under MS-DOS. This is only possible with the LDCOPY command under CP/M-86. (See page 5/14.)

ASCII Key Upper Left in Key Field

Depressing the ASCII key, located upper left in the first row of keys, switches off the LED indicator. This key acts as a toggle between the ASCII character set, and your country's standard (NATIONAL) character set. You would use this feature if you wanted to work with another character set, such as French or Spanish.

ESC

Used for various purposes by user programs.

F1 to F12

Programmable function keys.

PRINT

Depressing the PRINT key outputs the contents of the screen via the printer. If a printer is not connected or is not ready to receive, then the program continues after a short pause. if the PRINT key is depressed with a CTRL key, then a FORM FEED occurs following the print out. (The next page is advanced.)

BACKSPACE

Deletes the last inputted character.

C

Cancels the current line and displays a backslash (\ ) on the screen. Moves cursor to the next line.

TAB

The cursor jumps to the next tab position. (Tabulation spacing is 8 positions each.)

DEL

Delete key. The previous input is deleted, character by character.

SHIFT LOCK

Depressing the SHIFT LOCK key causes subsequent characters to be entered in upper case. The LED indicator lights up.

Depressing one of the SHIFT keys releases the SHIFT LOCK key. The LED indicator lights up.

Depressing one of the SHIFT keys releases the SHIFT LOCK key. The LED indicator turns off.

CURSOR KEYS

The cursor keys are not implemented in all external programs. If the corresponding control code is transferred on the screen, they can be implemented in the user program for control.

See your particular application manual for further details on using the CONTROL function.

Programming
with the
CP/M-86 Operating System

- Programming the Function Keys and Cursor Keys
- Keyboard Codes
- Function Call for Screen Control
- Automatic Start Function
- Loading and Exchanging Character Sets
- Initialization of the Serial Interface Program (RS 232)

6

Programming with the CP/M-86 Operating System

Programming the FUNCTION Keys and CURSOR Keys under the CP/M-86 Operating System

The **PEOPLE** Personal Microcomputer under the CP/M-86 Operating System allows you to program the function and cursor keys.

This means that the user can decide which character sequence is sent when pressing one of the function or cursor keys.

The function keys F1 to F12 and the cursor keys with and without the **CTRL** key are programmable. You can recall 34 different character sequences with a length of 2Ø characters each.

The **FUNCTION** program can be used to program the function and cursor keys for all types of software — WordStar, Supercalc, DBaseII, etc. For example, if you use your **PEOPLE** Personal Microcomputer for word processing, inventory control, general ledger and database management, the function keys can be redefined for each individual application and saved on the diskette.

This allows the user to have their own set of function keys for each application software package.

After booting up your **PEOPLE** Personal Microcomputer with the CP/M-86 Version 1.1 (2.3) Operating System software your screen will display:


```
PEOPLE
CP/M-86 Version 1.1 (2.3)
System Generated 02.01.84
OLYMPIA INTERNATIONAL
Serial Number 037Ch-0000h
A>CHØASCI
A>FUNCTION KEYS.DAT
-----------------------------------------
Function Key Programmer 4.1. 84 Version 2.Ø
Olympia Microcomputer People
-----------------------------------------
A>OLYMODE
People set to Olympia Mode
A>
```

The file CHSØASCI automatically sets the operating system to the ASCII Character Set.

The **FUNCTION KEYS .DAT** programs the function and cursor keys to operate specific CP/M-86 instructions.

The last message on your screen, **OLYMODE**, indicates that the software has been set for the Olympia screen mode. The Olympia mode is the mode that is necessary to run CP/M-86 software packages. For further information on modes. refer to page 6/16.

Operating the FUNCTION Program

KEYS.DAT

Since the system automatically activates the **KEYS.DAT** file, we can call up the function program and take a look at the character sequence programmed in the **KEYS.DAT** file.

To call up the **FUNCTION** program type:

- FUNCTION
- [RETURN]

Your screen will appear:


```
Olympia People Function Key Programmer
  Enter new definition (e.g. :A NEW F1).
  Enter RETURN for other screen.
  Enter CTRL-C to exit.
F1              Adir a:\0 D\00
F2              Bdir b:\0 D\00
F3              Cformat\0 D\00
F4              Dcopydisk\0 D\00
F5              Estat *.*\0 D\00
F6              Fhelp\0 D\00
F7              Gpip\0 D\00
F8              Holymode\0 D\00
F9              IZ19 mode\0 D\00
F10             JV24\0 D\00
F11             Kstat 1st:=1pt:\0 D\00
F12             Lfunction\00
Left Arrow      M\1B\5B\44\00
Right Arrow     N\1B\5B\43\00
Up Left Arrow   0\1B\5B\45\00
Up Arrow        P\1B\5B\41\00
Down Arrow      Q\1B\5B\42\00
New definition:
```

The message at the top of the screen gives instructions to the operator. The F1 through F12 keys have been preprogrammed as defined below:

FKEYS.DAT

F1	-	Directory Drive A
F2	-	Directory Drive B
F3	-	Format
F4	-	Copydisk
F5	-	Stat *.*
F6	-	Help
F7	-	PIP
F8	-	OLYMODE
F9	-	Z19MODE
F10	-	V24
F11	-	STAT Lst:=Lpt:
F12	-	Function

A new definition for the function keys can be entered at this time, however, instructions for programming the function keys follow on page 6/4.

By pressing [RETURN] your screen will display the code sequence for the FUNCTION keys using the **CTRL** key.

A **CTRL C** will exit the **FUNCTION** program.

- Press **CTRL C**

Since the screen indicated that the function key F1 will display the directory on drive A,

- press the F1 key

Your directory will now appear.

For example, to activate the **FORMAT** command the operator would press the F3 key. By pressing the F4 key the **COPYDISK** command would be executed.

The A > prompt will now appear on your screen.

On your diskette you will find two sample files that are used with the **FUNCTION** program: **FKEYS.DAT** and **WSKEYS.DAT.** Let's take a look at how each of these files has been set up.

FKEYS.DAT

To look at the **FKEYS.DAT** file we must first run the **FUNCTION** program setting up the **FKEYS.DAT** file. Since the F12 key has been programmed to activate the **FUNCTION** program,

- press the F12 key

- Type:

  FKEYS.DAT [RETURN]

After this file has been activated the function program will indicate the name of each Fkey, i.e. F1, F2, etc. To call up the **FKEYS.DAT** function program,

- Type: FUNCTION [RETURN]

On your screen will appear:

Each line of the program has been set up indicating the function key number and the direction of the arrow keys.

By pressing [RETURN] your screen will display the **CTRL** keys with the FUNCTION keys. A **CTRL C** will exit the **FUNCTION** program and the A> prompt will appear.

- Press **CTRL C**

to exit the program.

NOTE:
Before programming the **FKEYS.DAT** file, we highly recommend that a copy of the file be made using your WordStar diskette.

Using this procedure the user can have an **FKEYS.DAT** file for each software application. (For example, programming the function keys for DBase applications, the **FKEYS.DAT** file can be named **DBKEYS.DAT**). An example of programming the function and cursor keys using the **FKEYS.DAT** file follows on page 6/4.


```
Olympia People Function Key Programmer
Enter new definition (e.g.,  A NEW F1)
Enter RETURN for other screen
Enter CTRL-C to exit

F1                          AF1\00
F2                          BF2\00
F3                          CF3\00
F4                          DF4\00
F5                          EF5\00
F6                          FF6\00
F7                          GF7\00
F8                          HF8\00
F9                          IF9 \00
F10                         JF10\00
F11                         KF11\00
F12                         LF12\00
Left Arrow                  MLEFT ARROW\00
Right Arrow                 NRIGHT ARROW\00
Up Left Arrow               OUP LEFT ARROW\00
Up Arrow                    PUP ARROW\00
Down Arrow                  QDOWN ARROW\00

New definition:
```

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Programming the FUNCTION Keys

Using WordStar in drive B, make a copy of the **FKEYS.DAT** file located on the diskette in drive A. Name the new file **FKEYS1.DAT** and copy the file onto drive B to practice the following procedure. This procedure will be an example of how to program the F1 and F2 keys.

- Open the **FKEYS1.DAT** file

On your screen the first line :AF1 ØØ, is the program for the F1 key. When programming the function keys a code sequence must be followed.

The :A represents the F1 key -- :B is designated to the F2 key and so forth. Each sequence must begin with a colon (:) and the letter that represents the number of the F key.

Programming the F1 key

The procedure to call up the directory is to type DIR, carrier return.

To program the F1 key to call up the directory:

- Delete F1
- Type: DIR

A backslash (\ ) must be entered to separate each instruction.

- Type: \

The keyboard code to program a carrier return is ØD. Entering a ØD in the function program will complete the instruction to display the directory. Refer to page 6/9 for the keyboard codes.

- Type: ØD

To complete the command the ØØ must remain at the end of the line. All code sequences must end with a \ØØ.

The first line should now read: :ADIR\ØD\ØØ.

The next line: BF2\ØØ is the program for the F2 key. We will program the F2 key to automatically call up the WordStar software program.

Again the :B represents the F2 key. This must remain in the program line.

To activate WordStar the command is WS.

- Delete F2
- Type: WS and a backslash (\ )

to separate the instruction.

Once again a ØD must be entered to program a carrier return and the ØØ must remain to end the code sequence.

The second line should now read:

:BWS\ØD\ØØ

Save your file.

Exit word processing and stay in drive B.

To load the **FKEYS1.DAT** keyboard layout,

Type: A:FUNCTION FKEYS1.DAT [RETURN

- Press F1

The directory will appear on your screen.

- Press F2

WordStar will be activated.

You are now ready to look at the **WSKEYS.DAT** file. To continue, let's exit WordStar and switch to drive A.

WSKEYS.DAT

The next file on your diskette is a file called **WSKEYS.DAT**. This file was copied from the **FKEYS.DAT** file to program the function and cursor keys for WordStar applications.

The chart attached indicates the meaning of each code sequence that has been programmed for the **WSKEYS.DAT** file.

WSKEYS.DAT

Key	Code Sequence:	Meaning:
F1	CTRL-KB	Block start
F2	CTRL-KK	Block end
F3	CRTL-KV	Block move
F4	CTRL-KC	Block copy
F5	CTRL-KW	Block write
F6	CTRL-OC	Center
F7	CTRL-OG	Temporary indent
F8	CTRL-PS	Underline
F9	CTRL-KR	Read a file
F10	CTRL-KD	Save file
F11	CTRL-OL	Set left margin
F12	CTRL-OR	Set right margin
LEFT ARROW	CTRL-D	Cursor left char by char
RIGHT ARROW	CTRL-S	Cursor right char by char
UP LEFT ARROW	CTRL-QE	Cursor to top of screen
UP ARROW	CTRL-E	Cursor up line by line
DOWN ARROW	CTRL-X	Cursor down line by line
CTRL-F1	CTRL-KH	Hide markers
CTRL-F2	CTRL-KN	Column mode
CTRL-F3	CTRL-QF	Quick find
CTRL-F4	CTRL-QA	Find and replace
CTRL-F5	CTRL-OW	Word wrap
CTRL-F6	CTRL-JHO	Help level 0
CTRL-F7	CTRL-OJ	Justify ON/OFF
CTRL-F8	CTRL-OD	Display codes ON/OFF
CTRL-F9	CTRL-OH	Hyphen ON/OFF
CTRL-F10	CTRL-KQ	Abandon file (kill quickly)
CTRL-F11	CTRL-OI	Set tabs
CTRL-F12	CTRL-ON	Clear tabs
CTRL LEFT ARROW	CTRL-F	Cursor left one word
CTRL RIGHT ARROW	CTRL-A	Cursor right one word
CTRL UP LEFT ARROW	CTRL-QR	Quick return
CTRL UP ARROW	CTRL-R	Up one screen
CTRL DOWN ARROW	CTRL-C	Down one screen

To load the keyboard layout for WordStar:

- Type: FUNCTION   WSKEYS.DAT
         [RETURN]

Your screen will display:


```
A> FUNCTION WSKEYS.DAT
---------------------------------------------------
Function Key Programmer      4. 1. 84  Version 2.0
Olympia Microcomputer People
---------------------------------------------------
A>
```

To use the function and cursor keys with WordStar:

- Switch to drive B
- Load WordStar
- Open a document file

Refer to the **WSKEYS.DAT** chart to use your function and cursor keys in a document. An example follows indicating how specific function keys operate with the **WSKEYS.DAT** function program.

According to the **WSKEYS.DAT** chart the F11 key will allow you to change your left hand margin.

- Press the F11 key
- Enter the number 10
  [RETURN]

The **WSKEYS.DAT** chart indicates that the F12 key will activate the command to change the right-hand margin.

- Press the F12 key
- Enter the number 75
  [RETURN]

The F10 key has been programmed to center text with the function key. Let's center a line using the function key.

- Type:
  Olympia People Microcomputer
- Press the F6 key

The text has now been centered between the margins of 10 and 75.

The **CTRL** F10 key has been programmed to abandon a file. Let's exit this program.

- Press **CTRL** F10

To have an understanding of how the **WSKEYS.DAT** file has been programmed we will remain in the WordStar program.

6/6

Meaning of the WSKEYS.DAT file

The **WSKEYS.DAT** file indicates the code sequence for programming the function and cursor keys. Refer to the chart on page 6/5. The function and cursor keys were programmed using the STANDARD ASCII CHARACTERS TABLE. Use this table to program the function and cursor keys for your own specific applications. Let's look at the **WSKEYS.DAT** file for an understanding of how the STANDARD ASCII CHARACTER TABLE is used.
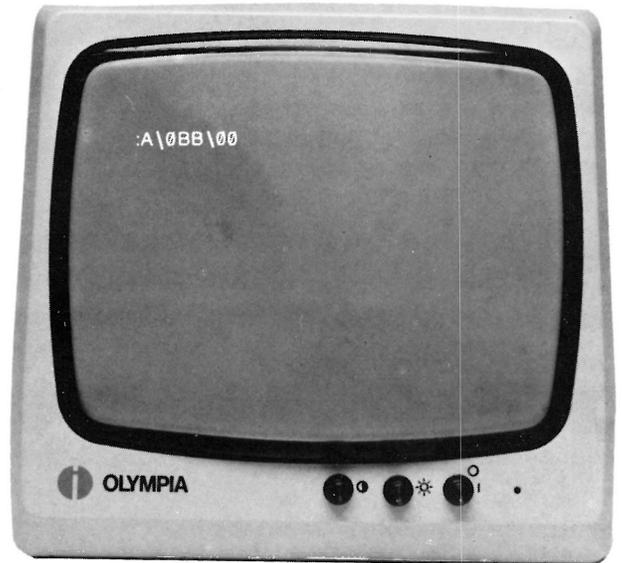
To call up the **WSKEYS.DAT** file:

- Open a non-document file
- Type: A:WSKEYS.DAT
  [RETURN]

Your screen will display:

The chart on page 6/5 indicates that function key F1 marks a block of text. When programming the function keys a code sequence must be followed. The first line on your screen reads:

NOTE:

The **FUNCTION** program allows you to input up to the length of 20 characters.

The :A represents the F1 key. The :B is designated to the F2 key and so forth.

The backslash (\ ) must be entered to separate each instruction when programming with the hexadecimal code.

The next two characters in the code sequence are ØB. To save operator keystrokes, (i.e., typing **CTRL** K), the hexadecimal code can be used. Since the **FUNCTION** program allows you to input up to 20 characters, you can increase the amount of characters that can be entered by using the hexadecimal code. The WordStar code for the Block Menu is **CTRL** K. Looking at the Standard ASCII Character Table note that **CTRL** K is equal to ØB in hexadecimal code. By entering ØB in your program you are programming the F1 key to activate the Block Menu.

In WordStar after the **CTRL K** has been depressed, the Block Menu appears on your screen. To mark a block of text is the letter B. The B does not require a **CTRL** key, so it is entered as the letter B. This B in the code sequence is the final step in programming the F1 key to Mark a Block of Text.

The last part of the code sequence is a backslash (\) with two zeros (ØØ). All code sequences **must** end with a \ØØ.

Therefore, :A\ØBB\ØØ is the instruction for programming the F1 key to mark a Block of Text.

NOTE:
When programming the F1 key to display the directory from the instruction on page 6/4, the letters **DIR** were entered in the function program. The control keys are programmed in hexadecimal code. Refer to the Standard ASCII Character Table for the correct code sequence.

If you desire to alter the WordStar function keys that have been preprogrammed, refer to the WordStar Reference Manual for the necessary codes.

STANDARD ASCII CHARACTERS

The following table lists the standard ASCII characters:

ØØ	**CTRL**	@	NUL	
Ø1	**CTRL**	A	SOH	Start of Heading
Ø2	**CTRL**	B	STX	Start of Text
Ø3	**CTRL**	C	ETX	End of Text
Ø4	**CTRL**	D	EOT	End of Xmit
Ø5	**CTRL**	E	ENQ	Enquiry
Ø6	**CTRL**	F	ACK	Acknowledge
Ø7	**CTRL**	G	BEL	Audible Signal
Ø8	**CTRL**	H	BS	Back Space
Ø9	**CTRL**	I	HT	Horizontal Tab
ØA	**CTRL**	J	LF	Line Feed
ØB	**CTRL**	K	VT	Vertical Tab
ØC	**CTRL**	L	FF	Form Feed
ØD	**CTRL**	M	CR	Carriage Return
ØE	**CTRL**	N	SO	Shift Out
ØF	**CTRL**	O	SI	Shift In
1Ø	**CTRL**	P	DLE	Data Link Escape
11	**CTRL**	Q	DC1	
12	**CTRL**	R	DC2	Device Control
13	**CTRL**	S	DC3	
14	**CTRL**	T	DC4	
15	**CTRL**	U	NAK	Negative Acknowledge
16	**CTRL**	V	SYN	Synchronous File
17	**CTRL**	W	ETB	End of Xmit Block
18	**CTRL**	X	CAN	Cancel
19	**CTRL**	Y	EM	End of Medium
1A	**CTRL**	Z	SUB	Substitute
1B	**CTRL**	[	ESC	Escape
1C	**CTRL**		FS	File Separator
1D	**CTRL**	]	GS	Group Separator
1E	**CTRL**		RS	Record Separator
1F	**CTRL**	_	US	Unit Separator

Use the Standard ASCII Character Table when programming the **CTRL** keys. If not programming the **CTRL** key, use the appropriate letter.
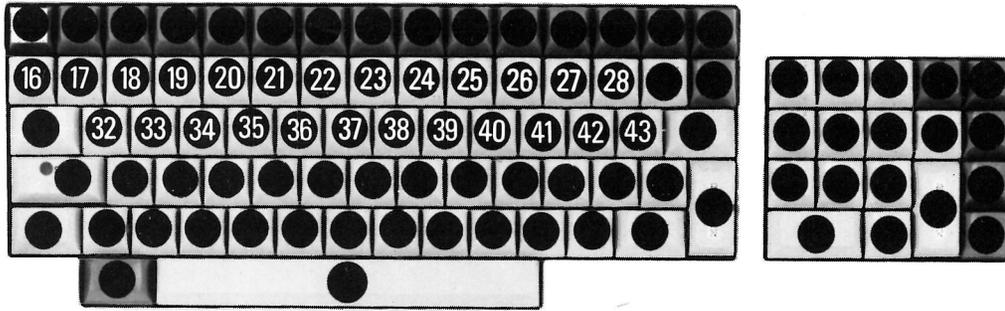
Keyboard Codes

**Keyboard Codes
Function Keys**
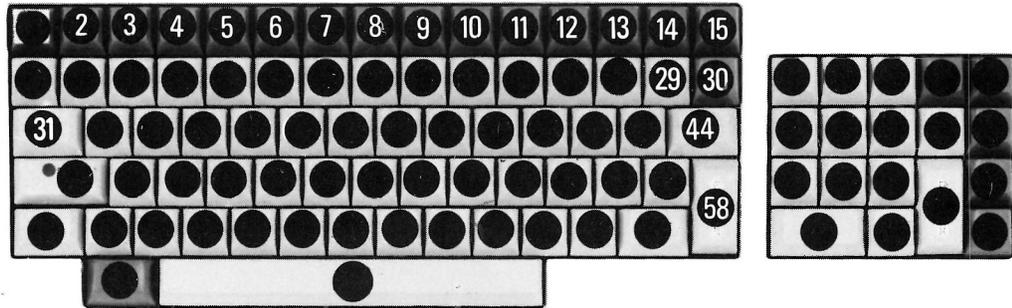
Position	Character or Function	Key Color	Code (hex) SHIFT depressed or released	
			CTRL released	CTRL depressed
2	ESC		1B	1B
3	F1		:Adir a:\ØD\ØØ	1B4FD0
4	F2		:Bdir b:\ØD\ØØ	1B4FD1
5	F3		:Cformat\ØD\ØØ	1B4FD2
6	F4		:Dcopydisk\ØD\ØØ	1B4FD3
7	F5		:Estat *.*\ØD\ØØ	1B4FD4
8	F6		:Fhelp\ØD\ØØ	1B4FD5
9	F7		:Gpip\ØD\ØØ	1B4FD6
10	F8		:Holymode\ØD\ØØ	1B4FD7
11	F9		:IZ19mode\ØD\ØØ	1B4FD8
12	F10		:JV24\ØD\ØØ	1B4FD9
13	F11		:Kstat Lst:=Lpt:\ØD\ØØ	1B4FDA
14	F12		:Lfunction\ØØ	1B4FDB
15	PRINT		Hardcopy	Hardcopy + FF
29	BACKSPACE		08	08
30	C	red	18	18
31	TAB		09	09
44	DEL		7F	7F
58	RETURN		0D	0D

Keyboard Codes
Alphanumeric Keyboard

Position	Character or Function	Code (hex)					
		Operating mode ASCII depressed			ASCII released		
		SHIFT released	SHIFT depressed	CTRL SHIFT depressed or released	SHIFT released	SHIFT depressed	CTRL SHIFT depressed or released
16	^ ~	5E	7E	1E	5E	7E	1E
17	1 !	31	21	21	31	21	21
18	2 ''	32	22	22	32	22	22
19	3 #	33	23	23	33	23	23
20	4 $	34	24	24	34	24	24
21	5 %	35	25	25	35	25	25
22	6 &	36	26	26	36	26	26
23	7 '	37	27	27	37	27	27
24	8 (	38	28	28	38	28	28
25	9)	39	29	29	39	29	29
26	0 (space)	30	20	20	30	20	20
27	– =	2D	3D	2D	2D	3D	2D
28	\ I	5C	7C	1C	5C	7C	1C
32	Q	51	71	11	71	51	11
33	W	57	77	17	77	57	17
34	E	45	65	05	65	45	05
35	R	52	72	12	72	52	12
36	T	54	74	14	74	54	14
37	Y	59	79	19	79	59	19
38	U	55	75	15	75	55	15
39	I	49	69	09	69	49	09
40	O	4F	6F	0F	6F	4F	0F
41	P	50	70	10	70	50	10
42	@	40	60	00	40	60	00
43	[{	5B	7B	1B	5B	7B	1B

Keyboard Codes
Alphanumeric Keyboard

Position	Character or Function	Code (hex)					
		Operating mode ASCII depressed			ASCII released		
		SHIFT released	SHIFT depressed	CTRL SHIFT depressed or released	SHIFT released	SHIFT depressed	CTRL SHIFT depressed or released
46	A	41	61	01	61	41	01
47	S	53	73	13	73	53	13
48	D	44	64	04	64	44	04
49	F	46	66	06	66	46	06
50	G	47	67	07	67	47	07
51	H	48	68	08	68	48	08
52	J	4A	6A	0A	6A	4A	0A
53	K	4B	6B	0B	6B	4B	0B
54	L	4C	6C	0C	6C	4C	0C
55	; +	3B	2B	2B	3B	2B	2B
56	: *	3A	2A	2A	3A	2A	2A
57	]}	5D	7D	1D	5D	7D	1D
60	__(del)	5F	7F	1F	5F	7F	1F
61	Z	5A	7A	1A	7A	5A	1A
62	X	58	78	18	78	58	18
63	C	43	63	03	63	43	03
64	V	56	76	16	76	56	16
65	B	42	62	02	62	42	02
66	N	4E	6E	0E	6E	4E	0E
67	M	4D	6D	0D	6D	4D	0D
68	,<	2C	3C	2C	2C	3C	2C
69	.>	2E	3E	2E	2E	3E	2E
70	/ ?	2F	3F	2F	2F	3F	2F
73	(space bar)	20	20	20	20	20	20

Keyboard Codes
Numeric Keyboard
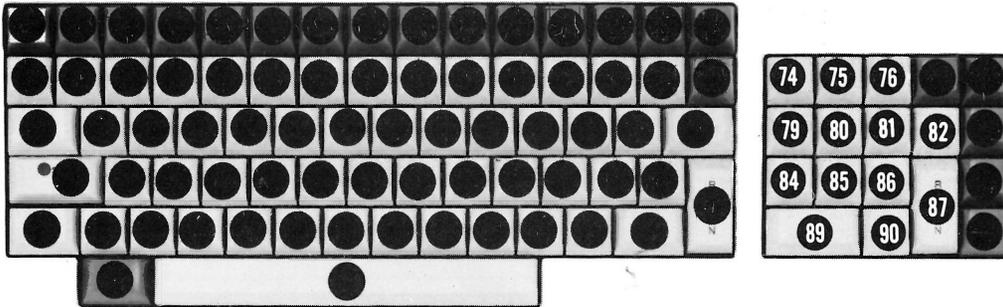
Position	Character or Function	Code (hex) SHIFT and CTRL depressed or released	
		normal	application*
74	7	37	1B4F77
75	8	38	1B4F78
76	9	39	1B4F79
79	4	34	1B4F74
80	5	35	1B4F75
81	6	36	1B4F76
82	—	2D	1B4F6D
84	1	31	1B4F71
85	2	32	1B4F72
86	3	33	1B4F73
87	RETURN	0D	0D
89	0	30	1B4F70
90		2E	1B4F6E

*application mode set by computer

Keyboard Codes
Cursor Control Keys, SHIFT and ASCII Keys
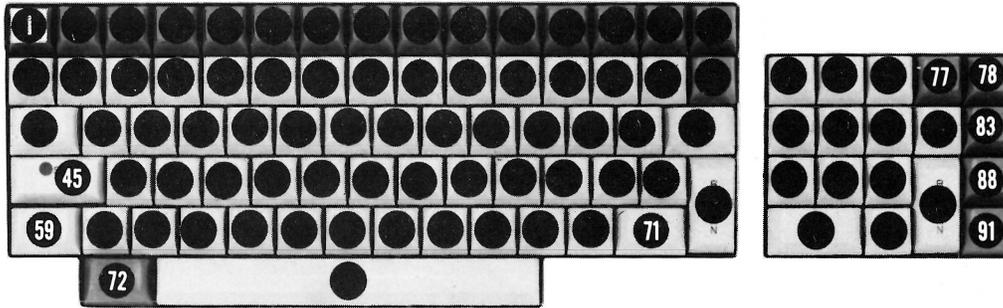
Position	Character or Function	Code (hex) SHIFT depressed or released			
		normal		application*	
		CTRL released	CTRL depressed	CTRL released	CTRL depressed
77	←	1B5B44	1B5BC4	1B4F44	1B4FC4
78	→	1B5B43	1B5BC3	1B4F43	1B4FC3
83	↘	1B5B45	1B5BC5	1B4F45	1B4FC5
88	↑	1B5B41	1B5BC1	1B4F41	1B4FC1
91	↓	1B5B42	1B5BC2	1B4F42	1B4FC2

*application mode set by computer

NOTE:
Keys 1, 45, 59, 71, and 72 (mode keys) are not explained.

Function Call for Screen Control

The user program can execute several computer functions for screen control by listing certain character sequences on the screen. (See command **CON:** in CP/M-86 Operating System.)

NOTE:
For a complete listing refer to the CP/M-86 System Guide.

Function: Set Cursor
Sequence: 27, 102, Column, Line (<ESC>, "f", column, line); Column and line have offset 32, i.e., output of 27, 102, 32, 32 (<ESC>, "f", " ", " ",) moves the cursor to the upper left-hand corner of the screen.

Function: Set CRT Attribute
Sequence: 27, 103, Attribute, (<ESC>, "g", Attribute)

The attribute results as follows:

2^7 ... 2^0

| 0 | | | | 0 | 0 | 0 |

Decimal Value

- 1: Underline — 8
- 0: Not underline — 0
- 1: Inverse representation — 16
- 0: Normal representation — 0
- Intensity:
  - 00: weak — 0
  - 01: : — 32
  - 10: : — 64
  - 11: high — 96
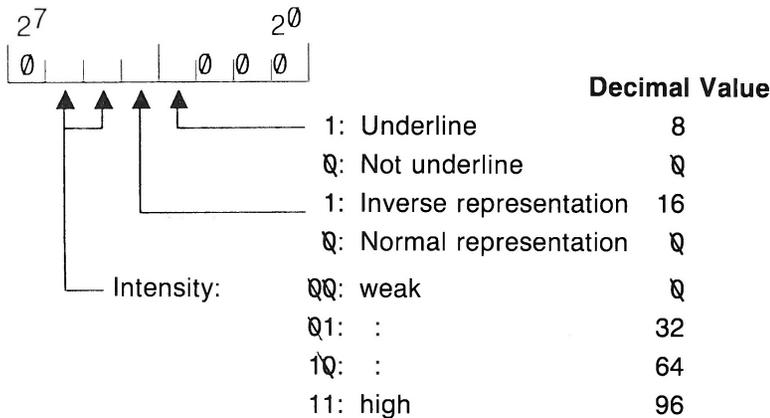
The desired decimal values must be added. ──

Examples: 27, 103, **112 Inverse representation**, high intensity
27, 103, **96 Normal representation**, high intensity

Function: Delete to End of Screen
Sequence: 27, 74 (<ESC>, "j"); deletes all characters after the cursor until the end of the screen.

Function: Delete to End of Line
Sequence: 27, 75 (<ESC>, "K"); deletes all characters after the cursor.

Function: Insert Line
Sequence: 27, 76 (<ESC>, "L"); inserts a blank line below the cursor.

Function: Delete Line
Sequence: 27, 77 (<ESC>, "M"); deletes the line at the cursor and moves the cursor to the left position.

Function: Clear Screen
Character: 12 (<FF>); clears the screen and moves the cursor to the upper left-hand corner.

Automatic Start Function
(CP/M-86 and CCP/M-86 Operating Systems)

An automatic start function* is included in the loader routine of **PEOPLE** which executes the following functions:

– loads the national character set

– loads the graphic system GSX-86 (if necessary)

– loads and executes user programs without command inputs.

The functions are executed in the sequence desired by the user during each cold start, i.e., after each

– switching on of the computer, and each

– operation of the reset button

Users who always execute the same programs from particular diskettes (e.g., text editing with Word Star), can call up the desired program with every CP/M-86 command.

Execution:

At each cold start, the operating system executes the command **SUBMIT AUTOSTRT**. In this manner, all commands in the text file **AUTOSTRT,SUB** will be processed sequentially. For example, these could be the following commands:

– NATIONAL (loads the national character set)

– GRAPHICS (loads the graphic system GSX-86)

– execution of a user program.

The user can determine the desired functions by typing in the file

AUTOSTRT, SUB

with a text editor (e.g., ED or Word Star).

*BIOS version 1.5

OLYMPIA MODE (OLYMODE)
ZENITH MODE (Z19MODE)

The **PEOPLE** Personal Microcomputer offers two modes to control the screen functions: **OLYMODE** and **Z19 MODE**.

OLYMODE

The command **OLYMODE** activates the **Olympia Mode** to set the screen up to run application software packages. The CP/M-86 software release, Version 1.1 (2.3), automatically boots up the **OLYMODE** command. This mode has to be used for all software programs which were preprogrammed by Olympia for the Olympia screen mode, such as WordStar, Supercalc, DBaseII, etc.

After booting up the CP/M-86-1.1 (2.3) version your screen will show:

```
PEOPLE
CP/M-86 Version 1.1 (2.3)
System Generated 02.01.84
OLYMPIA INTERNATIONAL
Serial Number 037Ch-0000h
A > CHS0ASCI
A >FUNCTION KEYS.DAT
------------------------------------------------
FUNCTION Key Programmer 4.  1.  84 Version 2.0
Olympia Microcomputer People
------------------------------------------------
A >Olymode
People set to Olympia Mode
```

An automatic start function for the Version 2.3 software is included in the **AUTOSTRT.SUB** routine of **PEOPLE** which executes the following function:

- loads the ASCII character set (CHS0ASCI)
- loads the FUNCTION program KEYS.DAT
- sets the **PEOPLE** to the **OLYMPIA MODE (OLYMODE)**

The ASCII character set is used for the American keyboard.

Specific application software is run under the **KEYS.DAT** function program, i.e. Supercalc, DBaseII. A definition of the **KEYS.DAT** file can be found on page 6/2. When running WordStar software the **WSKEYS.DAT** function program can be activated. Refer to page 6/1, Programming the FUNCTION keys.

The third function **OLYMODE** is the program the **PEOPLE** Personal Microcomputer has been using for all its software packages. When running application software if the screen has information in the wrong place, simply exit the program and load **OLYMODE**, then reload the application software and your screen will be corrected.

There are two instances where this will occur:

1. after activating the Serial Port through the V24 program

2. after loading the function command by typing FUNCTION [RETURN]

After running either of these programs simply type OLYMODE [RETURN] at the A> prompt.

Z19MODE

The second screen mode on the diskette is **Z19MODE**. This mode will be used in the future because it is a standard method of handling screen codes in software. This mode will allow you to have other software packages converted to the **PEOPLE** Personal Microcomputer more quickly. The Z19MODE is both the Zenith 19 and Heath 89 terminals that are available on most CP/M-86 software install programs such as WordStar.

To activate the OLYMODE again to run software under the CP/M-86 operating system:

- Type: OLYMODE
- Press [RETURN] key

Your screen will display:

With each software release Olympia will indicate the necessary mode to set the screen up to run your application software package. At the present time, WordStar, Supercalc and DBaseII run under the **Olympia Mode (OLYMODE)**. In the future, the **Z19MODE** will become the standard method of handling screen codes in software.

A>Olymode
People set to Olympia Mode

Loading and Exchanging Character Sets

(National for ASCII and vice versa)

In a cold start that part of the ASCII character set contained in the Boot PROM of the computer is loaded first. An ASCII character set is located in the file **CPM.SYS** on the system diskette. During a cold start, this is loaded by reading in the diskette as part of the BIOS autostart function and is simultaneously copied into the memory area of the CRT controller.

Following a cold start, the indicator in the ASCII key, located upper left in the key field, lights up.

The system diskette loads and executes the respective national character set during **AUTOSTART** via the program National (file name: **National.CMD**). If the character set is not on the diskette, then the ASCII character set remains intact.

If the **national character set** is loaded and the ASCII key depressed, then the LED indicator turns off and the national character set is replaced by the **ASCII character set.**

NOTE:
If the national character set for your country happens to be ASCII (USA is ASCII), then nothing happens when you depress the ASCII key.

The ASCII character set is then sent to the CRT controller and is activated there. The national character set is loaded back into the BIOS memory area for possible later use.

If the user loads his own character set using special BIOS routines or a load program, then the user can switch back and forth between his character set and the ASCII or NATIONAL character set just loaded, by depressing the ASCII key.

Initialization of the
Serial Interface
Program V 24 (RS232)

CP/M-86 controls all the peripheral devices attached to your computer. These can include storage devices such as disk drives, input devices such as keyboards or modems, and output devices such as printers, modems and screens.

To keep track of input and output devices, CP/M-86 uses logical devices. CP/M-86 associates physical devices with the logical device name. For example, the default console input device is the keyboard and the default console output device is the screen.

The **PEOPLE** Personal Microcomputer with the CP/M-86 Operating System defaults all print instructions through the parallel interface.

The **V24 (RS232)** utility program is designed to initialize the serial interface for both input and output.

After you have booted up the system:

- Type: V24
- Press the [RETURN] key

Your screen will display:

Program V24 Version 2.1 for CP/M-86
Initialization of the
Serial Interface of the
OLYMPIA Microcomputer People
(c) 1983 OLYMPIA INTERNATIONAL

This utility may be used to set the parameters of the serial interface of your People microcomputer.
Execute program?   (Y/N)
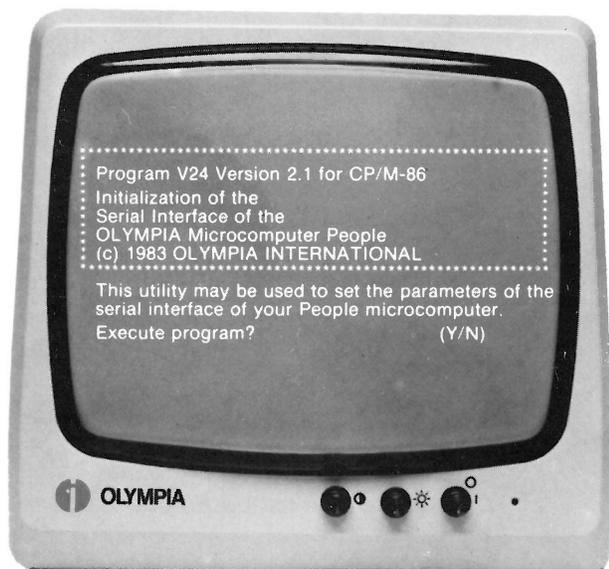
- Press Y to execute program

The parameters can now be set for the serial interface. The device you are outputting to or receiving information from must be preset with the same specifications.

The screen will then prompt:

Mode: RTS/CTS or XON/OFF? (R/X)

RTS/ CTS or **XON/XOFF** are handshake protocols which control the overflow of data. **RTS/CTS**, Ready to send/Clear to send protocol is controlled through the hardware. The **XON/XOFF** protocol is controlled through the software. The **PEOPLE** Personal Microcomputer and the output device must have the same specifications.

- Press an X to execute the X/ON/XOFF

The next question

Baud rate?   (150-9600)

will appear on the screen.

The baud rate is the speed in which data is sent from the terminal to the output device.

- Type: 9600 [RETURN]

The system is now asking

Character length?   (5-8)

The character length refers to the data bits being sent.

- Type: 8 [RETURN]

The next prompt

Number of stop bits?   (1/1.5/2)

A stop bit can vary from 1, 1½ to 2.

- Type: 2 [RETURN]

Next on your screen

Parity bit? **(Y/N)**

will appear. The parity bit verifies the accuracy of the data sent.

- Type: Y

NOTE:

If no parity is indicated the following question will not appear on your screen.

Since we have answered Y to the parity bit, the system now prompts,

Even or odd parity bit? **(E/O)**

The **PEOPLE** Personal Microcomputer and output device has been set up for even parity.
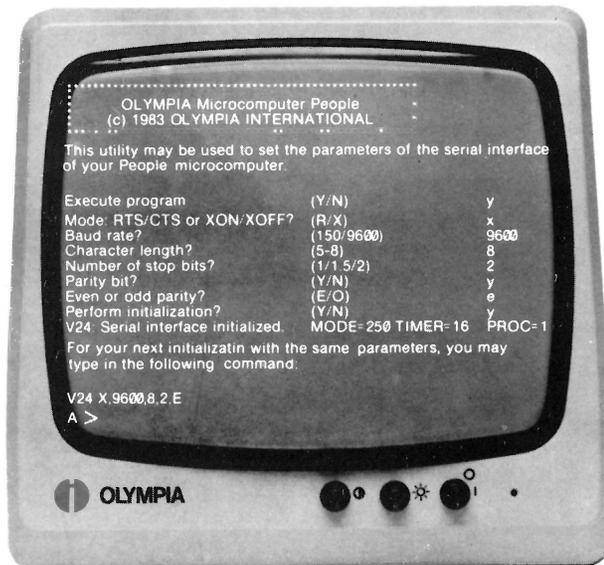
- Type: E

The last prompt

Perform initialization? **(Y/N)**

will now appear on your screen.

- Type: Y

The initialization for the Serial Interface has now been completed and is indicated on your screen.

Your screen will display:

The last message on your screen indicates that an abbreviated form can be used immediately following a cold start.

Using the same sequence, enter the information into one line. The selected parameters are specified after the operating system command V24. Each parameter is separated by a comma. The input is entered after the A > prompt appears and can be in any sequence.

- Type: V24 X,9600,8,2,E

Your screen will display:

Parameters which are omitted are set to the default. The default settings are:

Transmission mode	R
Baud rate	2400
Character length	8
Number of stop bits	1
Parity bit	Even

If there is an error in the command the message **V24: Error in command:** and the incorrect parameter is displayed followed with the message **V24: Program terminated**.

Enter the V24 program again with the correct parameters.

The **PEOPLE** Personal
Microcomputer has been set up
to send data to a parallel
printer. If you want to hook up a
serial printer, you need to
change the setting from parallel
to serial. This setting is changed
with the **STAT DEV:** command.
At the A> prompt

• Type: STAT DEV: [RETURN]

Your screen will display:

```
A>STAT DEV:
CON: is CRT
AXI:  is PTR
AXO: is PTP
LST:  is TTY
```

OLYMPIA

On the bottom line the **LST**
refers to the list device of the
printer.

LST sends data to a parallel
port. **LPT** is the command to
send data to a serial port. To
change **LST** to **LPT** at the A>
prompt

• Type: STAT LST:=LPT:

• [RETURN]

Your serial output device is now
ready to receive data.

NOTE:
If the command is entered
incorrectly the message **Invalid
Assignment** will appear on your
screen. Re-enter the **STAT**
command correctly. For further
information see the CP/M-86
Users Guide.

Test Programs

- Short Function Test
- Calling the Functions
- Test Program Under CP/M-86
- Additional Input Simplifications
- Additional Tests

7

Test Programs

Short Function Test

Test Program in Bootstrap ROM

Test routines, which can be run independently of the diskette drives and the operating system, are stored in the Bootstrap ROM of the **PEOPLE** computer. These tests may be called up after the system is switched on, and when the display shows: **BOOT DRIVE NAME?**. For the test, a "T" is keyed in instead of the disk drive A or B and is released with [RETURN].
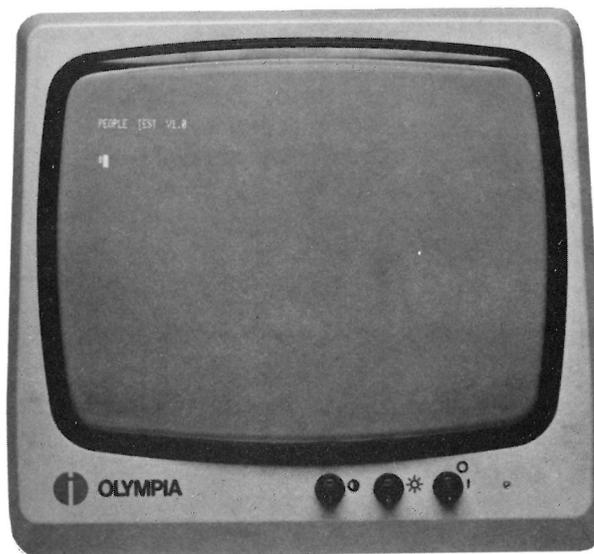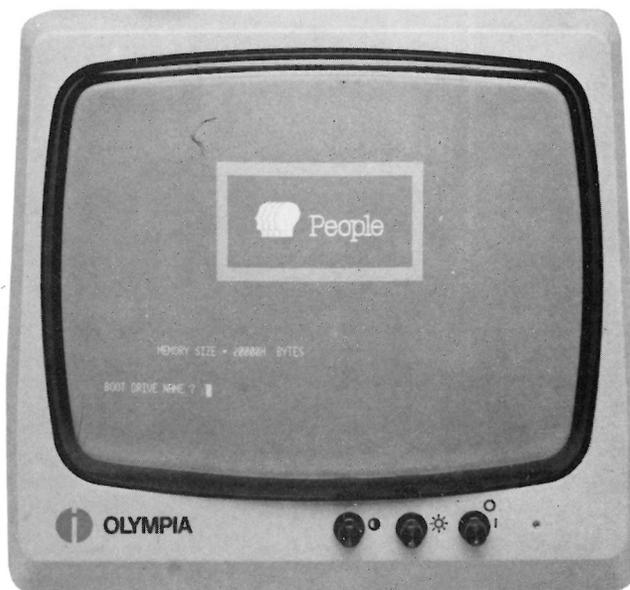
PEOPLE TEST V1.0 immediately appears on the screen followed by the prompt character $. The cursor blinks and the desired test function can be called up.

Calling the Test Function

CRT Test

The following test functions are available in the Bootstrap ROM. An additional test, for the keyboard, is supplied with the CP/M-86 operating system. Continuing tests, such as for interfaces, are available to technical customers.

Input C with [RETURN]:

Functions in Bootstrap

CRT Test

Floppy Disk Test

Interrupt Test

Memory Test

The test is run and the total character set appears on the screen from Code 20H to 2FH in various levels of intensity. The picture is available for total visual checking. The prompt character $ is positioned below the test picture for inputting the next test.

Disk Drive Test
(Floppy Disk Test)

Memory Tests

Input FA [RETURN] tests disk drive A.

Input FB [RETURN] tests disk drive B.

The input occurs after the prompt character $. A sector is read twice in each track and the data items are compared with each other. The test lasts approximately 2 minutes. Please insert a diskette first!

Input	to Test Memory Locations	for Memory Capacity
M0 [RETURN]	Memory 00000-1FFFF	128KB RAM
M1 [RETURN]	Memory 00000-3FFFF	256KB RAM
M2 [RETURN]	Memory 00000-5FFFF	384KB RAM
M3 [RETURN]	Memory 00000-7FFFF	512KB RAM

This tests all memory cells.

If, by accident, an unavailable memory block is keyed in, then the test must be interrupted with the reset button on the back of the unit.

Interrupt Test

Input IF [RETURN] causes a Floppy Disk Interrupt Test.

Input IT [RETURN] causes a Time Interrupt Test.

The input occurs after test prompt character $.

Test Program Under CP/M-86

General Information

A test program for the OLYMPIA **PEOPLE** Personal Microcomputer is contained in the basic CP/M-86 operating system*. It offers three individual programs which can be called up when necessary.

The test run is input by selecting a function from the menu or via the abbreviated operating form of directly inputting the function number and program number.

It is possible to repeat program functions, which have been called up, indefinitely. With the exception of the keyboard test, the test programs contain several individual functions.

Program Name	Function
TEST0	Memory Test (RAM)
TEST1	Keyboard Test (Keyboard)
TEST2	CRT Test (Video Display)

NOTE:
When inputting the command sequences subsequently listed, it is absolutely necessary that all characters and spaces be keyed in as they are presented in the examples. Even if correct spelling requires spaces, these must be left out.

*The basic operating system is packed with every OLYMPIA **PEOPLE** Computer. If it is not possible to load the test programs from the diskette, it is possible to call up a short test from the Bootstrap ROM. In addition, see Short Function Test.

Program Start

The following describes how a test program can be selected from the three test programs contained in the CP/M-86 operating system.

Prerequisite: The device is switched on, the operating system, however, is not loaded. (See User Guide Section 1 for individual details concerning start-up.) The following is displayed on the screen:

If the basic CP/M-86 operating system is loaded correctly, the following appears on the screen:
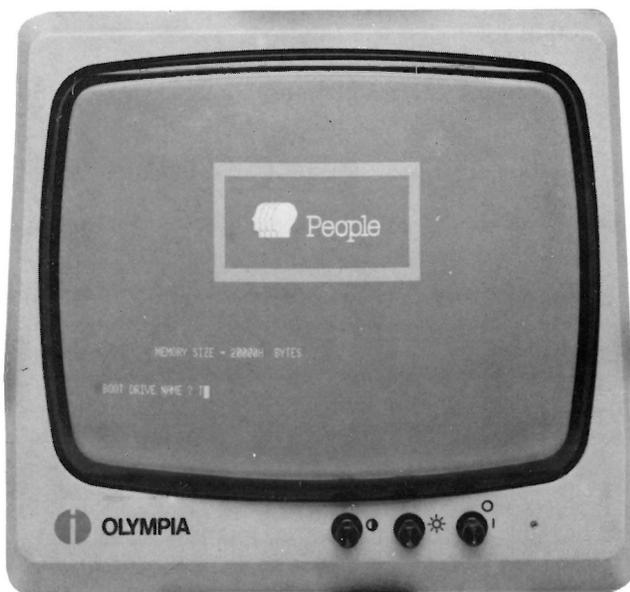
The **PEOPLE** asks which of the disk drives is to read the system diskette.

The system diskette must be inserted into the desired disk drive and the disk drive must be locked into place. If the diskette is in disk drive A, it is sufficient to depress the RETURN key. Otherwise please key in the name of the disk drive and depress the RETURN key.

This display contains information about the operating system. (See User Guide Section 1.) Moreover, the name of the disk drive in use is output; in this case, disk drive A with the CP/M ready symbol >. If disk drive B had been called up, the display would be B>.

Now the desired test program can be input with [RETURN].

Test Program 0
(TEST0 Memory Test)

The cursor blinks following the CP/M prompt A> or B>. Here the desired test program can be keyed in by typing **TEST0** and initiated with [RETURN]:

The program is called and the following Menu appears.

The following is displayed on the screen:

```
People
CP/M-86 Version (1.5)
System Generated 23.03.83
A>TEST0
```

```
A>TEST0
MEMORY TEST VERSION x.x
FUNCTION#    FUNCTION
        0    RAM TEST
        1    REFRESH TEST
        2    ADDRESS TEST
TYPE IN FUNKTION#(S) :
```
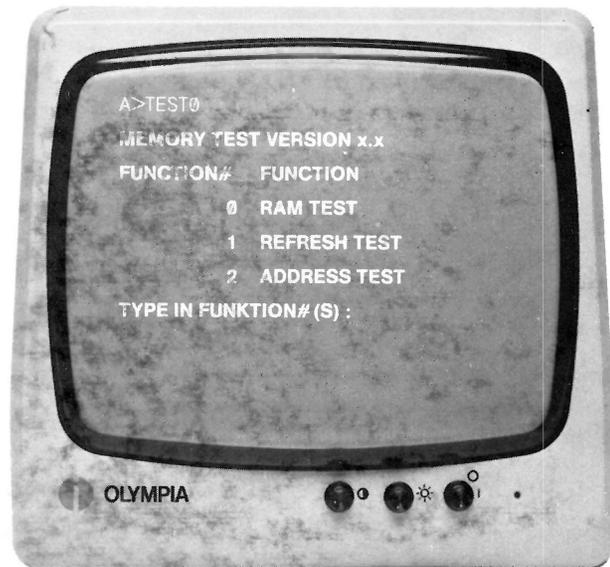
The individual test functions from 0 to 2 can now be selected from the Menu of test program 0.

TYPE IN FUNCTION#(S): -

Meaning:

0 RAM Test
Read/write test of RAM memory

1 REFRESH Test
Refresh test of data

2 ADDRESS Test
Address test of RAM memory

As an example, call up the functions 0 and 2, without function 1. Type in a zero, a comma (Alpha keyboard) and a 2. (**0,2**) without the space bar. To release, depress the [RETURN] key.

Upon completion, the following message appears on the screen.

TYPE IN FUNCTION#(S) : **0,2**

TYPE IN FUNCTION#(S) : 0.2

RAM TEST-----PASSED

ADDRESS TEST--PASSED

FUNCTION#   FUNCTION
    0   RAM TEST
    1   REFRESH TEST
    2   ADDRESS TEST

TYPE IN FUNCTION#(S) :
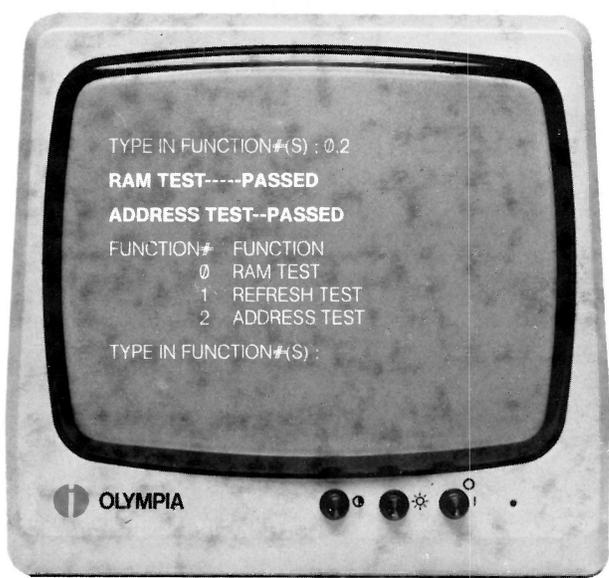
The display goes dark while the test is running. **CAUTION, DO NOT INTERFERE!** The test lasts approximately 2 minutes. During this time, no indicator occurs because all memories are tested. Upon completion, the following message appears on the screen.

The message **PASSED** confirms the positive test run. If there is an error in the tested area, the word **FAILED** instead of **PASSED** is output with an error description. If the error occurs continuously during repeated test runs, consult your Olympia service department for clarification. After the test-result message is displayed, the menu of the previously called program appears on the display.

Below each menu display, the
request for the desired function
follows.
(''**TYPE IN FUNCTION#(S) :** '')
By typing in the desired function,
the test can be called up again
and released with [RETURN].
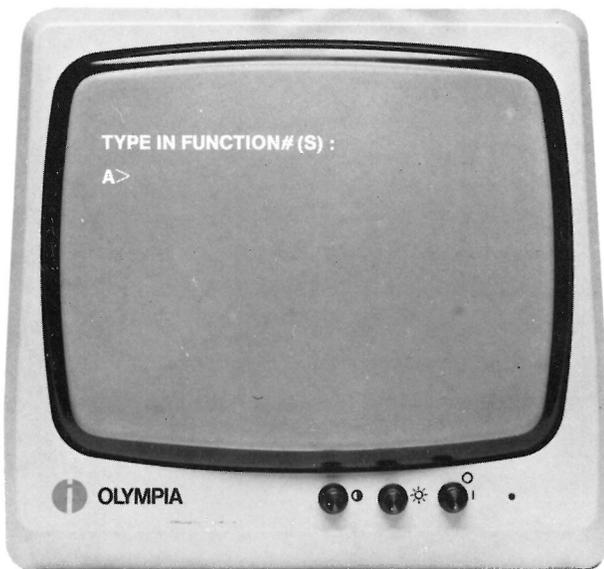
If no additional tests are desired,
you can exit from the test pro-
gram without inputting a function
merely by means of the
[RETURN] key.

The CP/M prompt with disk drive
specification A> or B >appears on
the display for confirmation.

Abbreviated Call of the Test Programs

The following describes the operating sequences of the test programs and the selection of test functions. For those who wish to input the program number as well as the function number without the Menu call, OLYMPIA **PEOPLE** offers an easy-to-use operating simplification.

Operating Sequence:

The name of the desired test program, in this case **TEST0**, is entered directly after the disk drive specification and the CP/M prompt A>. After depressing the space bar, enter the code numbers of the desired functions as illustrated below, and release with [RETURN]. Calling up the menu is not required.

The display becomes dark, and the test runs for approximately 2 minutes. Nothing is displayed during this time because all memory areas are being tested.

The following appears on the screen at the end of the test:
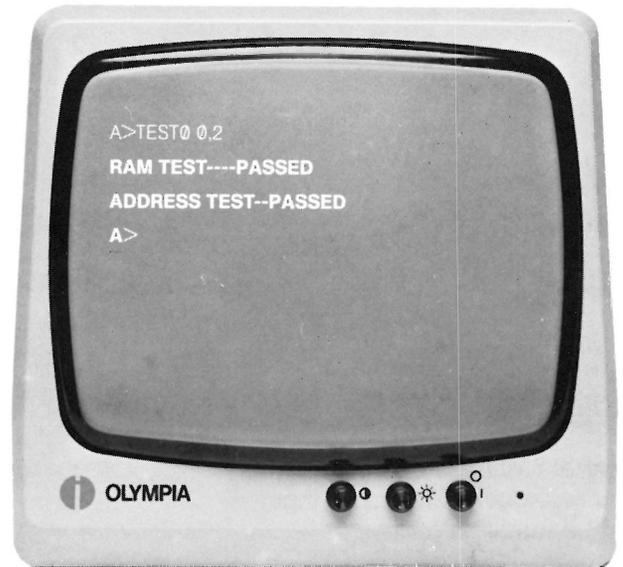
NOTE:
No program menu will be displayed when this abbreviated entry method is used. After the test run, the computer returns immediately to the CP/M level, as is indicated by the A>. Each test run can be called up in abbreviated form if the TEST number and the function number is known.

Additional Input Simplifications

A>TEST0 0,1,2

Several functions can be entered simultaneously. The same input can be made as follows:

A>TEST0 0-2

A>TEST0 1 R

A>TEST0 (0-2) R

If an R (for **REPEAT**) is input after the function selection, the test repeats itself continuously. If several functions are to be repeated in sequence during the test, then these function numbers should be set within the parentheses. The **R** is placed outside the parentheses.
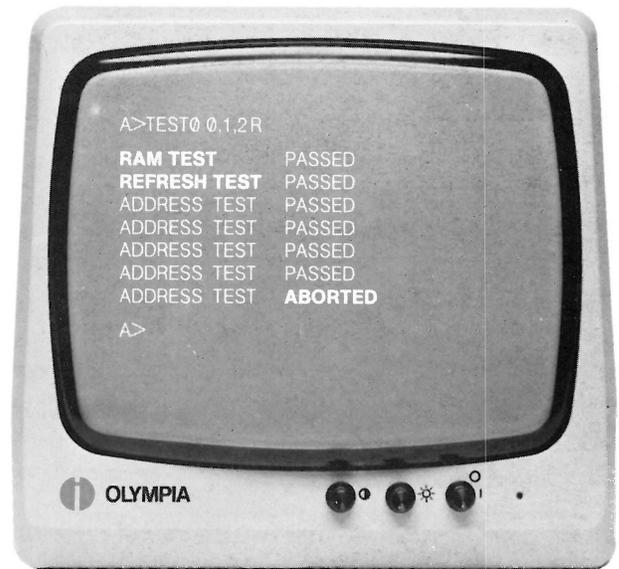
A>TEST0 0-2R

This input causes only the last function, in this case function 2, to be continuously repeated using REPEAT. The functions 0 and 1 are tested only once.

A>TEST0 0,1,2R

The input can also occur as above. Function 2 is then continuously repeated.

The test repetition initiated by inputting **R** can only be interrupted by depressing the ESC key. Following this, messages appear on the screen concerning the result of the executed tests:
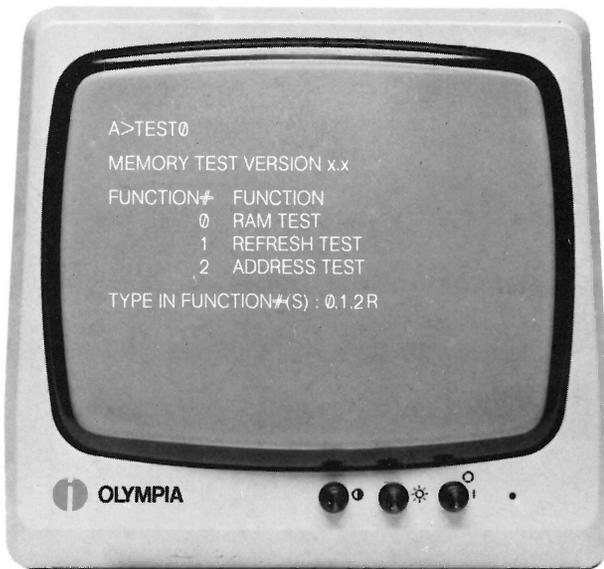

A>TEST0 0,1,2R
RAM TEST   PASSED
REFRESH TEST   PASSED
ADDRESS TEST   PASSED
ADDRESS TEST   PASSED
ADDRESS TEST   PASSED
ADDRESS TEST   PASSED
ADDRESS TEST   **ABORTED**

A>

In the above example, the RAM TEST and the REFRESH TEST were executed only once. However, the function ADDRESS TEST was repeated continuously due to the inputted **R**. The last test interrupted by ESC is not completed here and is therefore identified as having been **ABORTED**.

The described function
instructions can also be entered
following the test program menu
call and the "**TYPE IN
FUNCTION#(S) :,**" statement.

Every running test program can
be interrupted by depressing the
ESC key.

A>TEST0

MEMORY TEST VERSION x.x

FUNCTION#   FUNCTION
     0   RAM TEST
     1   REFRESH TEST
     2   ADDRESS TEST

TYPE IN FUNCTION#(S) : 0,1,2 R

A>TEST0 0,1,2
RAM   **ABORTED**
REFRESH **ABORTED**
ADDRESS **ABORTED**

A>
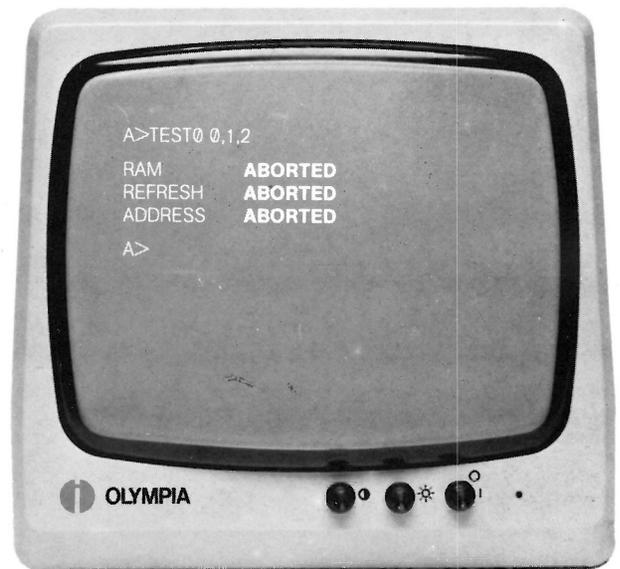
The sequence is exactly the
same as described under "Abbre-
viated Call of the Test Programs"
(See o). The REPEAT function
can also be initiated with **R** and
interrupted with ESC.

The interrupted tests are
identified by the **ABORTED**
statement. In the above case, the
three called test functions were
aborted, i.e., the ESC key was
depressed three times in
succession.

Test Program 1
(TEST1 Keyboard Test)

Using test program 1, the keyboard can be tested at three levels. The screen display guides you throughout. The test program is called by keying in **TEST1** and the [RETURN] key.
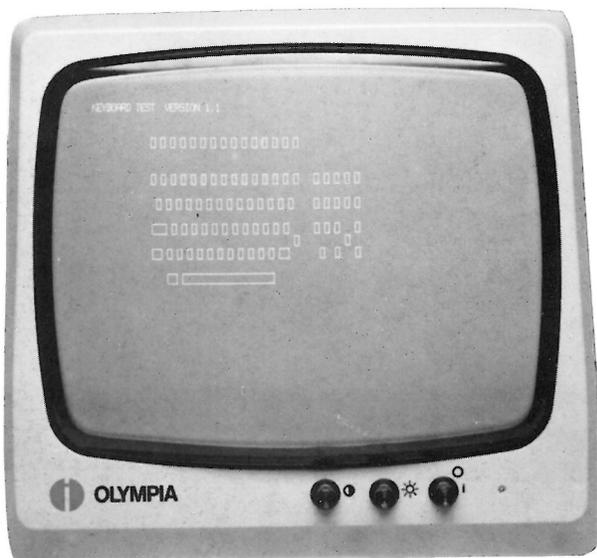
The keyboard layout illustrated above appears on the screen. The cursor blinks at the location of key 1 (ASCII key) in the layout. The test begins when this key is depressed. The key must be struck **twice**. If operated correctly and if the key code is correctly detected, the cursor jumps to the next key indicator (ESC key). Each key indicated on the screen by the cursor must now be depressed one time during the rest of the test run (with the exception of SHIFT keys).

CAUTION:
A response to the blinking key must be made within 10 seconds. Otherwise a bell sounds and the system detects this internally as an incorrect key code; the key indicator on the screen is marked and the error is listed.

NOTE:
No inputs can be made while the bell is ringing.

If, by mistake, a key other than the key identified by the cursor is depressed, the system receives a different code than expected and registers this as an error. **After each such error, it is advisable to restart the test from the beginning.**

If the instructions have been correctly followed, each key will have been checked in this first cycle, following the indicator on the screen. After this first run, the procedure must now be repeated using the SHIFT key. The command "**KEEP DEPRESSING THE SHIFT KEY**" also appears on the screen as a reminder.

The second run begins by depressing the ASCII key twice. The SHIFT key must remain locked during the total run.

Following the second run, a third run must still be performed with the CRTL key depressed. The following statement appears on the display here as well: **KEEP DEPRESSING THE CTRL KEY**. The run is restarted by depressing the ASCII key twice.
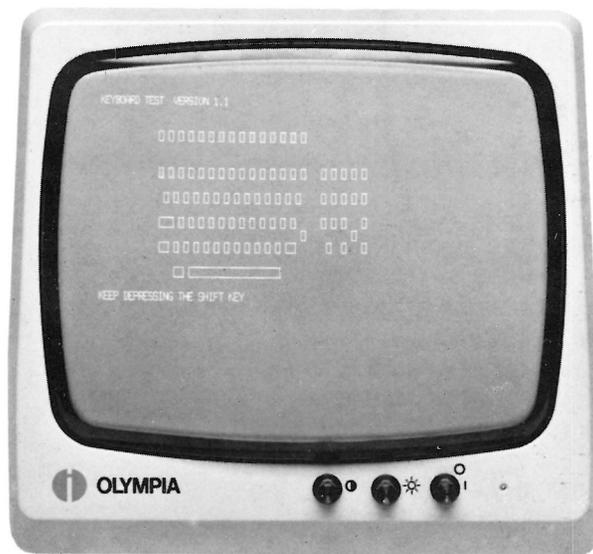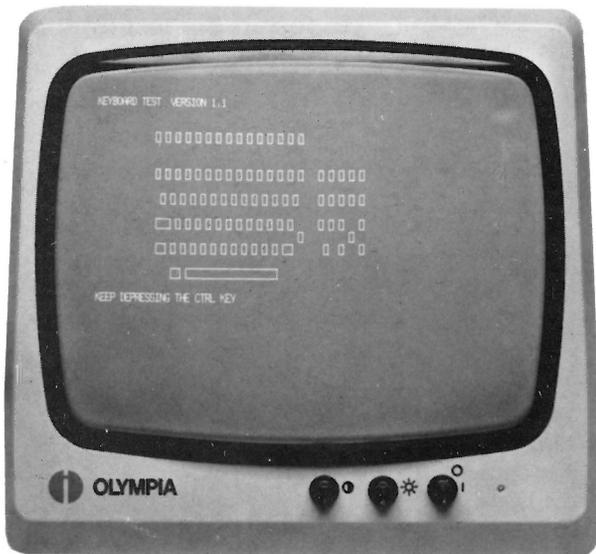
If the test is completed without an error message, the following display appears:

If, as illustrated below, error messages appear on the screen and are verified to be due to incorrect key codes, then a hardware malfunction exists. Consult the Olympia Service Department to clarify the cause of the error.

If error messages occur, a check should be made to determine if the error was due to an operator error or if the system has indeed detected incorrect key codes. In the case of an error, the test may have to be repeated several times for verification.
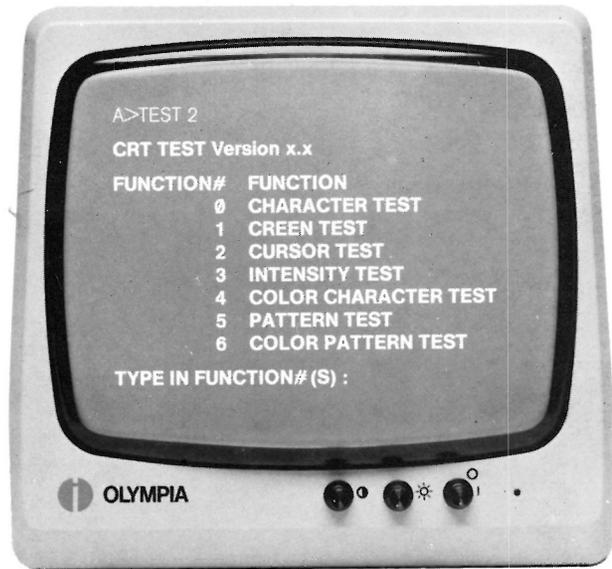
Test Program 2
(TEST2 CRT Test)

Program 2 tests the quality of the CRT display. It contains seven test functions. The test picture that appears on the display helps to visually check the image quality of the display.

Several functions are designated especially for testing color quality, others for monochrome image reproduction.

If the incorrect function is selected, for example a color test on a monochrome screen, **PEOPLE** refuses to accept this function. For incorrect entries of test callups which include R (REPEAT), the function is accepted, but an abort using the ESC key is no longer possible. The program must be terminated by pressing the reset button and restarted.

To call up the test program, key in the program name **TEST2** and release with [RETURN]. The following Menu then appears on the screen:

The following describes the callup of all functions from 0 to 6.

Character Test

According to the Menu, the
function 0 for the character test
can be selected from Program 2.

Following the command "**TYPE
IN FUNCTION#(S) :**", the 0 with
[RETURN] must be input.

ABBREVIATED: A > TEST2 0 [RETURN]

As the above pattern shows, all
representable characters are pre-
sented on the screen. The
display allows 20 seconds for a
visual check. Then the test is
ended and the message
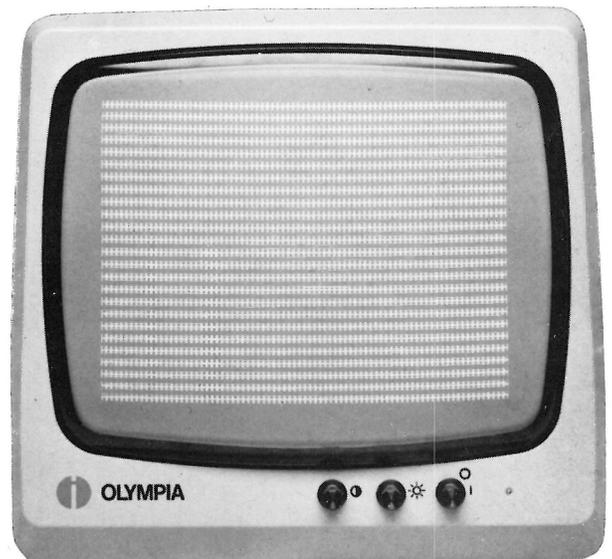"**CHARACTER TEST---END**"
occurs.

NOTE:
If the display is to last longer
than 20 seconds on the screen,
then REPEAT is to be used.
(See page 7/10).

Screen Test

According to the Menu, function
1 for the screen test can be
selected from Program 2.

Following the command "**TYPE
IN FUNCTION#(S) :**", the 1 with
[RETURN] must be input.

ABBREVIATED: A > TEST2 1 [RETURN]

For a visual test, an upper case
H is output over the entire
screen. The output lasts approxi-
mately 20 seconds. The test is
then terminated and the message
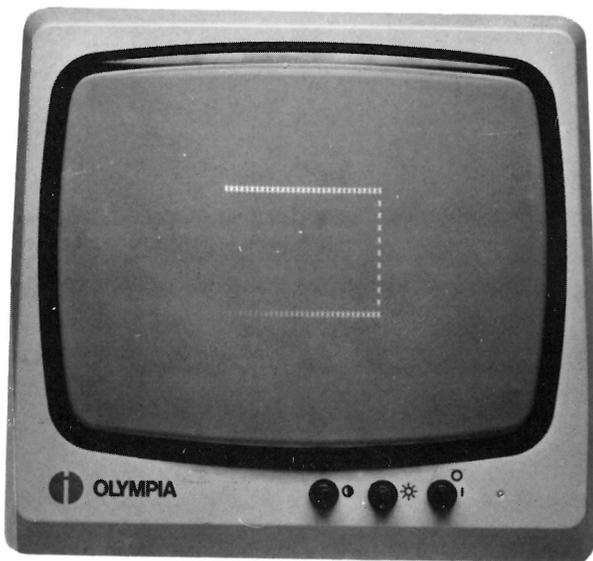"**SCREEN TEST---END.**" appears.
NOTE:
If the display is to last longer
than 20 seconds on the screen,
then REPEAT should be used
(See page 7/10).

Cursor Test

According to the Menu, function 2 for the Cursor Test can be selected from Program 2.

Following the command "TYPE IN FUNCTION#(S) :", the 2 with [RETURN] must be input.

ABBREVIATED: A > TEST2 2 [RETURN]
See Abbreviated Call of Test Programs.

The cursor test function terminates automatically. The read/write test of the cursor can be followed on the screen. In the case of a read/write error, a $ is written in the cursor position; in the case of a normal test run, an * is output. Depending on the result, **CURSOR TEST PASSED** or **FAILED** is reported at the end of the test.

NOTE:
If the test is to be continuously repeated, use REPEAT.

Intensity Test
(only for monochromatic CRTs)

According to the Menu, function 3 for the **monochromatic** Intensity Test can be selected from Program 2.

Following the command "TYPE IN FUNCTION#(S) :", the 3 with [RETURN] must be input.

ABBREVIATED: A > TEST2 3 [RETURN]
See Abbreviated Call of Test Programs.

A character pattern of different brightness intensity appears on the screen. The output lasts 20 seconds.

Following this, the message **"INTENSITY TEST---END."** appears.

NOTE:
If the display is to last longer than 20 seconds on the screen, use REPEAT.

Color Character
Test
(only for polychromatic CRTs)

According to the Menu, function
4 for the **polychromatic** Intensity
Test can be selected from
Program 2.

Following the command "TYPE
IN FUNCTION#(S) :", the 4 with
[RETURN] must be input.

ABBREVIATED: A> TEST2 4 [RETURN]
See Abbreviated Call of Test Programs.

A character pattern with different
colors appears on the screen.
The output lasts 20 seconds. The
message "**COLOR TEST---END**"
then appears.

NOTE:
If the display is to last longer
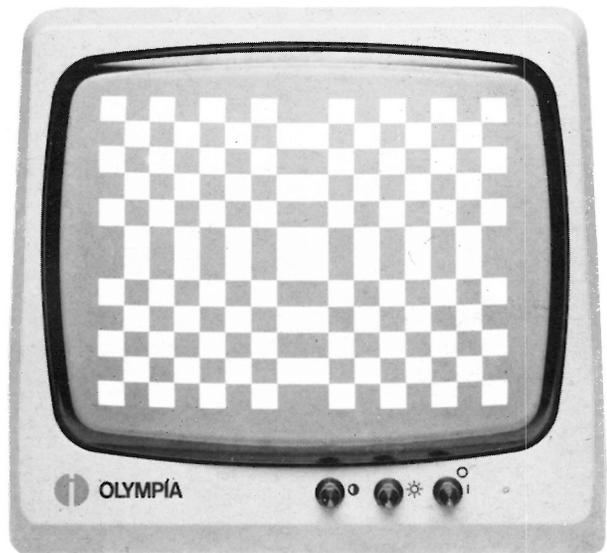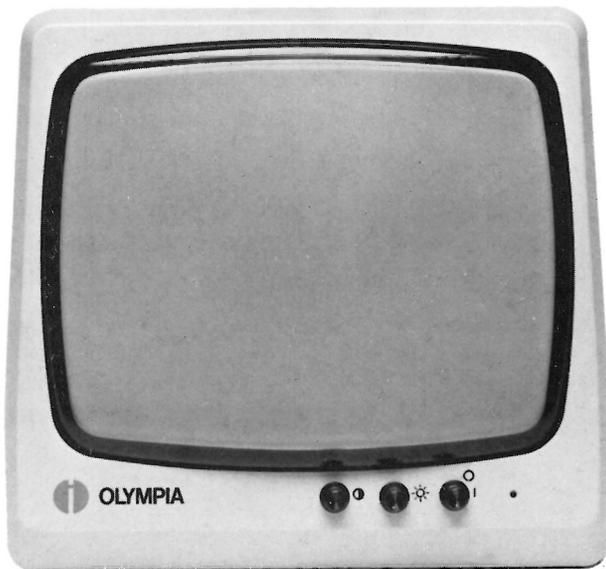than 20 seconds on the screen,
then use REPEAT.

Pattern Test
(only for monochromatic CRTs)

According to the Menu, function
5 for the **monochromatic** Pattern
Test can be selected from
Program 2.

Following the command "TYPE
IN FUNCTION#(S) :", the 5 with
[RETURN] must be input.

ABBREVIATED: A > TEST2 5 [RETURN]
See Abbreviated Calls of Test Programs.

Two different patters are
displayed over the entire screen,
one after the other. The output
lasts 20 seconds. Then the
message "**PATTERN TEST---
END**" appears.

NOTE:
If the display is to last longer
than 20 seconds on the screen,
then use REPEAT.

Color Pattern Test
(only for polychromatic CRTs)

According to the Menu, function
6 for the **polychromatic** Pattern
Test can be selected from
Program 2.

Following the command "TYPE
IN FUNCTION#(S) :", the 6 with
[RETURN] must be input.

ABBREVIATED: A > TEST2 6 [RETURN]
See Abbreviated Calls of Test Programs.

A color pattern appears on the
screen. The output lasts 20
seconds. Then the message
**"COLOR PATTERN
TEST---END"** appears.

NOTE:
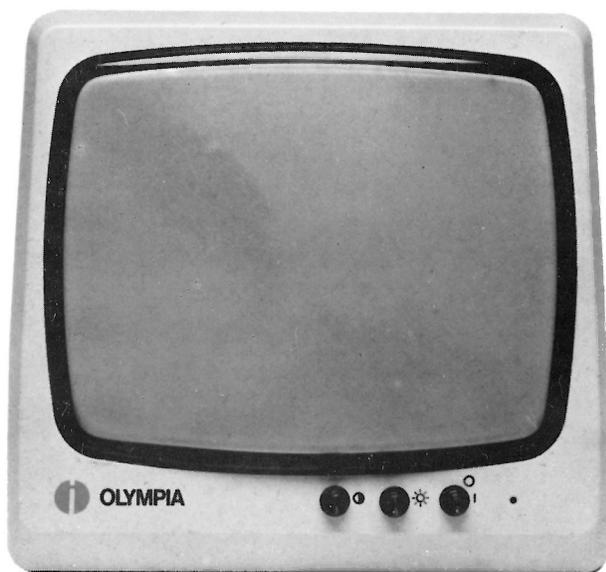If the display is to last longer
than 20 seconds on the screen,
then use REPEAT.

Appendix

- Hardware Description
- Lists
- Tables

Appendix

Keyboard

The keyboard contains 91 keys and is connected to the main unit by a coil cable.

A typewriter keyboard with 48 alphanumeric keys. The 48 key assignments are controlled by program diskettes, and can be adapted to your national language.

Upper and lower case letters

Special characters

15 special keys, of which 12 are freely programmable

Decimal keyboard as separate key field with 10 numeric keys

5 Cursor keys.

Weight   2 kg/4.4 lbs

Dimensions: Height   47 mm/1.85 inches
                 Depth: 208 mm/8.19 inches
                 Width: 478 mm/18.82 inches

Main Unit

All of the electronics in the basic system are contained on two printed circuit boards. It uses the INTEL 8086 Microprocessor.

– 16 Bit processor

– 20 Address lines

– 16 Data lines

– 5 MHz clock pulse frequency

The 8086 Microprocessor receives the processing information through various highly integrated and freely programmable modules such as:

– Communications interface

– Interval timer

– Peripheral interface

– DMA controller

– Interrupt controller

Weight:	23 kg/50.6 lbs	
Dimensions:	Height:	168 mm/6.61 inches
	Depth:	487 mm/19.17 inches
	Width:	347 mm/13.66 inches

Disk Drives:

In the basic version, the external storage of the **PEOPLE** system consists of two 5¼″ SLIM LINE floppy disk drives. Each disk drive has a total formatted capacity of 640 KB. Control occurs by means of the Floppy Disk Controller μPD 765A featuring DMA operation. A maximum of two disk drives can be used simultaneously.

Interfaces:

Module 8251A IF for RS232C/CCITT-V24 serial interfacing:

– adjustable 150-9600BPS

– synchronous and asynchronous operation

– freely programmable

Module 8255A-5 IF for the Centronics Parallel Interface

– two 8-bit wide channels

– freely programmable

Module HD46505SP IF for CRT connection

– outputs TTL level

– video signal 1Vp-p level

– attributes: inverse, 4 levels of intensity, underlining

– 25 lines x 80 characters

– character representation 7 x 15 pixels in an 8 x 19 field

– graphic representation 475 x 640 pixels

– character generator of 128 characters

Power Supply Unit:

100V–120V 50–60 Hz, 2A max
220V–240V 50–50 Hz, 1A max
Line input safeguarding 6.3A

Environmental Conditions:

Operating temperature
+5°C to +40°C/
+41°F to +104°F

Humidity from 20% to 80%

Storage temperature from
–22°C to +47°C/
–4°F to +113°F

Fuse protection against electrostatic charge 5 kV.

Working Storage:

Basic version 128KB RAM can be upgraded to 256KB, 384KB or 512KB RAM

CRT Memory:
(2K Byte static RAM) for characters (128K Byte is standard); for graphics (2 x 128K Bytes are standard); for graphics color mode only as an option.

The CRT buffer has a capacity of 8KB. The CRT has a capacity of 128KB. Character mode with map mode. Combination of coded fast transmissions for a test representation and point representation.

Options:

Four sockets are mounted within the main unit to accept optional printed circuit boards.

5¼″ Winchester disk drive controller

SASI-compatible IF-board

GPIB IF-board

RS-232C IF-board (2 channel)

Display
(monochrome)

The CRT is to be placed with its base free to move in all directions, so that the user can adjust it to the most favorable position. The CRT is connected to the main unit via a plug-in type of connecting cable. The unit has its own ON/OFF switch, plus brightness and contrast controls.

Specifications:

Picture tube C1270P31
12″ diagonal and 90° deflection
Phosphorus green (P39)
Polarity, negative synch.
level, 1.0 V (p-p)
Active display area 231 cm
  x 175 cm (width x height)
Scan frequency:
  horizontal 23.58 KHz
  vertical   50 Hz
Videoband width 20 MHz
  (± 3 dB)

Weight:

6 kg/13.2 lbs

Dimensions:

Height: 296 mm/11.65 inches
Depth: 330 mm/12.99 inches
Width: 360 mm/14.47 inches

System Block Diagram

Block diagram components:

- CPU
- RAM 128KB
- OPTION RAM 384KB
- PRINTER Interface
- TIMER
- RS232C Interface
- OPTION SLOT (4)
- Winchester DISK Interface
- 5" DISK
- GPIB Interface → GPIB DEVICE
- RS232C Interface → RS232C (1), RS232C (2)
- KEY-BOARD Interface
- CRTC
- VRAM (Mono) 132KB
- VRAM (Color) 2 x 128KB
- FLOPPY Interface
- COLOR
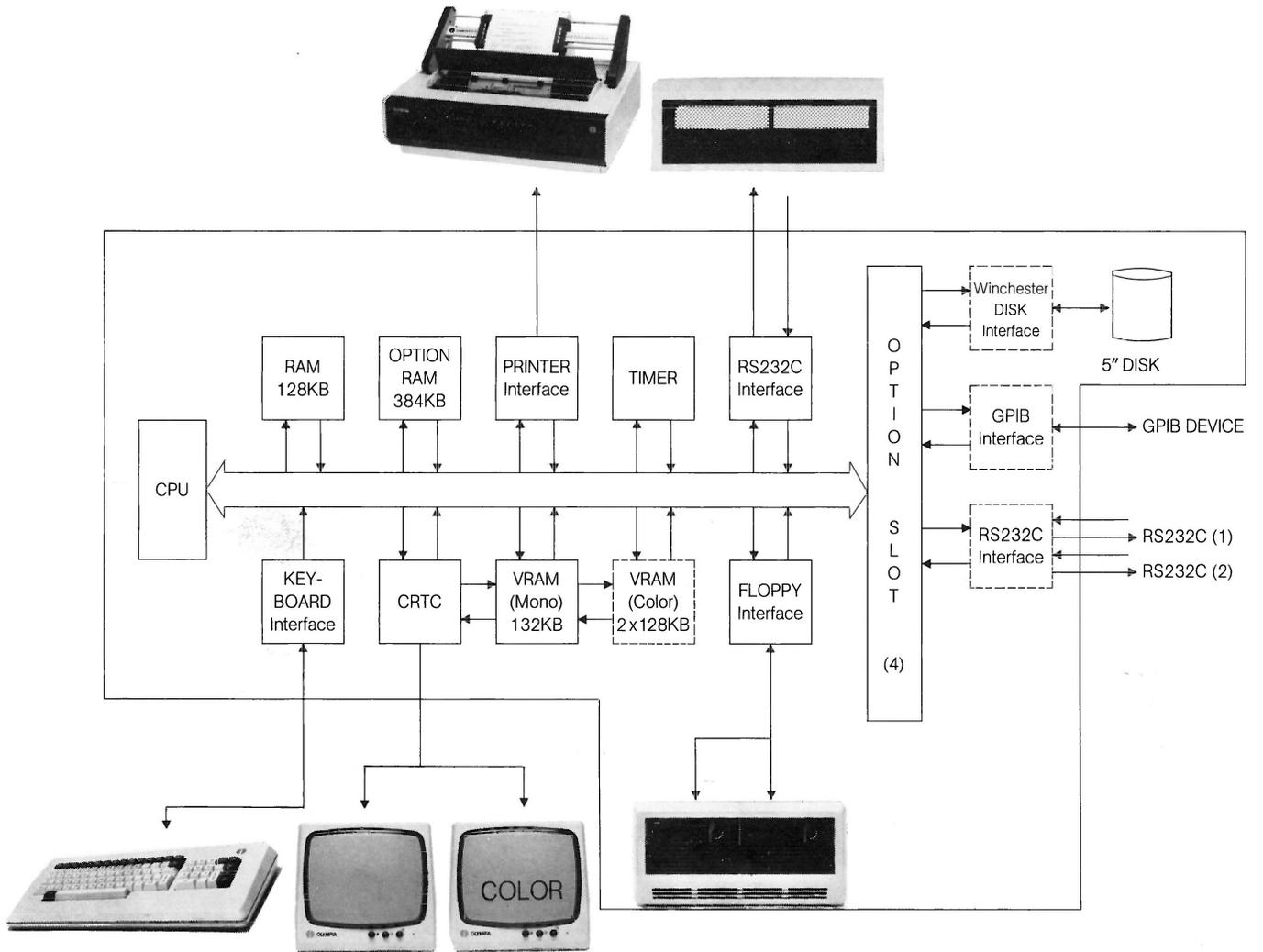
Installation and Environmental Conditions

Numerous measures ensure the reliability of the devices in the **PEOPLE** system. In particular, protection against environmental influences of all types were taken into account, such as line disturbances and static electricity discharges. The installation and environmental conditions described here should ensure that once a device is started up, external disturbances are excluded as much as possible. degree of certainty.

Power Supply

The power of the devices is supplied via a commercial plug with earthing contact to the public electric power system.

The structure of the devices meets the international safety and radio protection law conditions.

Unfortunately, not all electrical devices on the market fulfill these conditions. In order to avoid line disturbances that occur at the installation site, only those devices may be connected to the circuit with **PEOPLE** that correspond to the stipulation of the law regulating the operation of radio systems.

Line Voltage Relationships

To maintain the reliability of the device, the supply network may not exceed the permissible tolerances in relation to the voltage fluctuations and frequency drifts:

Nominal voltage: 110V-220/240V switch selectable

Tolerance: + 10%/ – 15%

Rated frequency: 50–60 Hz

Tolerance: ± 1%.

The devices are not sensitive to fast voltage interferences up to

Peak voltage – 2000 V max.

Peak width – 300 ns pulse width min.

Rise time – 5 ns rise time min.

If disturbances occur with energy-bearing voltage interference, such as those which are caused when other power consumers are connected parallel, a voltage regulator or a power line filter must be provided by the user.

Location

The device must be installed so as to be protected against vibrations, moisture, and dust as well as direct heat exposure from the sun and/or heaters.

The following conditions must be met:

Tilt permissible to 2°

Vibration during operation: permissible under 0.2 G 10 to 100 Hz

Vibration during transport: permissible under 2 G 10 to 100 Hz

Environmental temperature

During operation between + 5°C and + 40°C/ + 40°F and + 100°F

For storage between – 22°C and + 47°C/ – 4ºF and + 113°F

Humidity between 20% and 80% non-condensing

The air vents of the device must be kept clear and must not be blocked by working materials or pieces of furniture, etc.

Power and data cables that are laid outside of the unit must be safeguarded against damage and personal injury (tripping). The location must be free of vibration, i.e., it may not be in the near vicinity of the operation of heavy machinery.

Electrostatic Charges

Separation of charge causes electrostatic charges.

The principal factors that determine the height of electrostatic charges are the relative humidity, the floor covering material, the type of fiber used in the carpet, and the floor material. If sitting, the material of the cushion and the clothing of the operators influence the charge.

The devices are protected within the normal framework against disturbances caused by the discharging of electrostatic charges.

Standard Abbreviations for ASCII Characters

0 to 31 (00 through F1 in hexadecimal code)

ACK	Acknowledgement
BELL	Bell
BS	Backspace
CAN	Cancel
CR	Carriage return
DC1	Device control 1
DC2	Device control 2
DC3	Device control 3
DC4	Device control 4
DLE	Data link escape
EM	End of medium
ENQ	Enquiry
EOT	End of transmission
ESC	Escape
ETB	End of transmission block
ETX	End of text
FF	Form feed
FS	File separator
GS	Group separator
HT	Horizontal tabulation
LF	Line feed
NAK	Negative acknowledgement
NUL	Null
RS	Record separator
SI	Shift in
SO	Shift out
SOH	Start of heading
SP	Space
STX	Start of text
SUB	Substitution character
SYN	Synchronizing idle signal
US	Unit separator
VT	Vertical tabulation

Allotment of the
Address Space

Bank

Ø	Working Storage Basic Version 128 KByte RAM
1	
2	
3	
4	Working Storage Expansions
5	
6	
7	
8	Graphics Memory (Color Blue) (Optional)
9	
A	Graphics Memory (Color Green) (Optional)
B	
C	Graphic Memory (Monochromatic/ Color Red)
D	
E	E0000: Character Mode Refresh RAM E4000: Character Mode Generator RAM
F	Boot ROM

Format and Memory Capacities of the Diskette Formatted under CP/M-86

Diskette Format

Double Side   (DS)
Double Density (DD)
80 Tracks per Side
16 Sectors per Track
256 Bytes per Sector

Memory Capacity

2x80 Tracks = 160 Tracks per Diskette

1 Track   = 16 Sectors

1 Sector   = 256 Bytes

The storage capacity of 640 KBytes per diskette is a result of the following calculation:

160 x 16 x 256 = 655360/1024
                       = 640 KByte
                          formatted

From this, 5 system tracks are reserved for the operating system.

5 x 16 x 256   = 20480
                       = 20 KByte.

620 KBytes are available to the user.

Operating Systems

	Key #	Availability
CP/M-86		Included
GSX-86		Included
MS/DOS		Included*
CCP/M-86	83005	10/83

*Will be sent free of charge to all CP/M-86 registrants

Programming Languages

	Key #	Availability
CBASIC — INTERPRETER		Included
CBASIC — COMPILER	83300	3rd Quarter '83
COBOL LEVEL II — COMPILER	83350	3rd Quarter '83
COBOL LEVEL II — FORMS 2	83352	3rd Quarter '83
COBOL LEVEL II — ANIMATOR	83354	3rd Quarter '83
CIS COBOL — COMPILER	83400	3rd Quarter '83
CIS COBOL — FORMS 2	83402	3rd Quarter '83
CIS COBOL — ANIMATOR	83404	3rd Quarter '83
PASCAL MT + SPP — COMPILER	83450	4th Quarter '83
ASTM 86 + RELOC ASSEMB.	83500	4th Quarter '83

Manuals

	Key #
CP/M-86 System Guide	83001
Includes: Programmer's Guide	
User Guide	
System Guide	
GSX-86 Programmer's Guide	83002
CBASIC Language Reference Guide	83302
COBOL LEVEL II — Getting Started	83356
COBOL LEVEL II — Operator's Guide	83358
COBOL LEVEL II — Language Reference Guide	83360
CIS COBOL — Getting Started	83406
CIS COBOL — Language Reference Guide	83408
CIS COBOL — Operator's Guide	83410
CIS COBOL — Pocket Guide	83412
PASCAL MT + SPP — Manual	83452
PASCAL SPP — User Guide	83454

Accessories

	Key #	Product #
Mini-Floppy Diskettes 655KB (10 per box)	82235	550-01