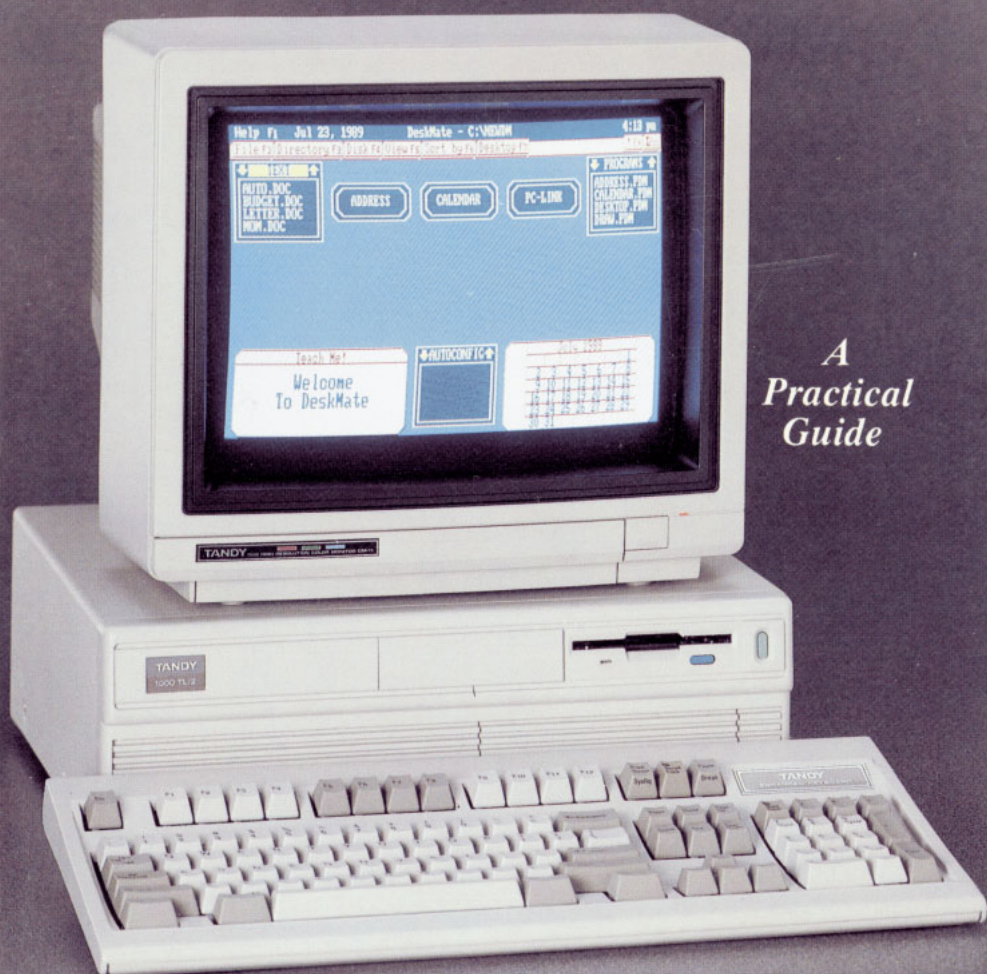


TANDY®

1000 TL/2

Installation & Operation



*A
Practical
Guide*

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6/86

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If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
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- Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

Warning

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

5/86

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Introduction

A computer is made up of physical parts known as *hardware*, such as the system unit, the monitor, and the keyboard. You can add other, optional hardware to your system such as a printer, a modem, and a mouse.

Your hardware uses *software*, programs that send instructions to the computer. Ordinarily, software is stored on diskettes. However, the software required to run the Tandy 1000 TL/2 is built into read-only-memory (ROM). In addition, a powerful collection of integrated application programs (DeskMate) are provided on disk, with the core built into ROM. The ROM retains its contents even when you turn off the computer. The Tandy 1000 TL/2 also features software compatibility with the IBM PC and the PC/XT so that the computer can run many of the most popular software programs.

This section explains the features of your computer. You do not need to learn all of this information to operate your computer, but it might be helpful to have a general idea of how the parts work together.

- **Dual-speed, 8/4 MHz CPU chip**

The *central processing unit* (CPU) is the brain of your computer. This is where the computer processes information. The CPU's dual-speed processing lets you operate your programs at either 8 or 4 MHz. Most programs run more efficiently at 8 MHz. However, some older programs are speed-sensitive and require the slower speed; your computer lets you run these programs at 4 MHz. Refer to the "Changing the Computer Defaults" section for information about changing the processor speed.

- **640K of RAM**

Random access memory (RAM) is your computer's temporary memory. This is where programs, instructions, and information are kept while you are working. Turning off your computer erases the RAM. Be sure that you always save your work on disk before you turn off your computer.

The 640 kilobytes (K) of RAM provided with your computer is enough to run most software programs. (One K of memory can store 1,024 bytes, or characters, of information.) If you wish to increase the amount of RAM in the computer, you can easily add memory chips or a memory adapter board.

- **MS-DOS in ROM**

Your computer uses the MS-DOS operating system. MS-DOS is the software that controls the basic functions of the computer. Ordinarily, you must load the operating system from a diskette or hard disk when you start a computer.

Your computer, however, has the fundamental portion of MS-DOS in ROM; simply turn on your computer and begin using it right away. Access to many of the commonly used MS-DOS functions is available without having to use the MS-DOS diskette.

- **MS-DOS and BASIC Diskette**

The MS-DOS diskette provided with this computer contains the complete MS-DOS version 3.3 operating system and version 3.2 of the GW-BASIC programming language.

- **DeskMate in ROM**

DeskMate is software that provides a collection of useful and fun application programs in a user-friendly environment. Because a large portion of DeskMate is in ROM, you can begin using DeskMate as soon as you turn on your computer.

Further, you can run programs designed for the Tandy 1000 TL/2, the IBM PC, the PC/XT, or compatible computers directly from the DeskMate desktop. Refer to the DeskMate documentation provided with the computer for more information about this powerful software.

The DeskMate diskettes contain all of the applications and accessories that are not included in ROM.

The DeskMate desktop normally appears when you start your computer. If you wish to bypass DeskMate and start in MS-DOS, refer to the "Changing the Computer Defaults" section.

*You can press **ESC** to exit from and **F12** to return to the DeskMate desktop.*

- **Speller in ROM**

Your computer also includes a spelling checker built into the ROM. Because it is built in, the spelling checker is extremely fast. You can

use the spelling checker for DeskMate applications as well as for any files that are saved in the American Standard Code for Information Interchange (ASCII) format.

- **Special EEPROM Circuitry**

A special *electronically erasable programmable read-only memory* (EEPROM) gives your computer the ability to remember the way you want it to run.

The EEPROM stores information such as what monitor you have; how much memory you have; and whether you want the computer to start in DeskMate, the built-in MS-DOS, or from a disk. The EEPROM is initially set for the most popular configuration; however, you can change this information at any time. Refer to the “Changing the Computer Defaults” section for more information.

- **Built-In Video Support**

Your computer has video support built into it; simply connect a color or monochrome monitor to the computer. You do not need to purchase a video adapter card. The color video, which is compatible with industry-standard Color Graphics Adapter (CGA) boards, supports text and graphics in as many as 16 colors and provides resolutions as high as 640 x 200 pixels. The monochrome video, which is compatible with industry-standard Monochrome Display Adapter (MDA) boards and the Hercules video adapter, supports resolutions as high as 720 x 348 pixels.

- **Music and Sound**

Your computer has a three-voice sound circuit with an analog-to-digital/digital-to-analog convertor, a built-in speaker, volume control, a microphone jack, and an earphone jack. The computer is capable of recording, storing, and playing sophisticated music and sound. Refer to the *Music and Sound* manual provided with your computer for more information about this feature.

- **RESET Button**

You can reset the computer by pressing only one button. You can also use the **CTRL-ALT-DEL** key combination to reset the computer.

- **3 1/2-inch Diskette Drive**

Your computer uses diskette drives to read programs and information from diskettes and to store programs and information on diskettes. The built-in diskette drive lets you store 720K of information on compact, 3 1/2-inch diskettes.

- **Built-In Hard Drive Support**

Your computer features *intelligent device electronics* (IDE) for hard disk drive support. The IDE support lets you add a compatible hard disk drive without adding a hard disk controller board. Hard disks hold much more data than a diskette, and they operate much faster. One 20-megabyte (M) hard disk can contain as much information as more than 27 of the 3 1/2-inch diskettes.

- **A Sculpted, 101-Key, Enhanced Keyboard**

The keyboard that comes with your computer is sleek and easy to use. It has enhanced features found on more expensive computers and has the industry-standard key arrangement.

- **Built-In Serial Port**

The computer includes a built-in serial port to which you can connect a serial mouse, modem, or serial printer. You can also use the built-in serial port to connect your computer to another computer. The serial port is preset at the factory to communications port 1 (Com1).

- **Built-In Parallel Printer Port**

The computer includes a built-in parallel port to which you can connect a parallel printer.

- **Built-In Joystick Ports**

You can add joysticks or a color mouse to your computer by simply plugging them into the built-in joystick ports.

- **Four Industry-standard 10-inch Expansion Slots**

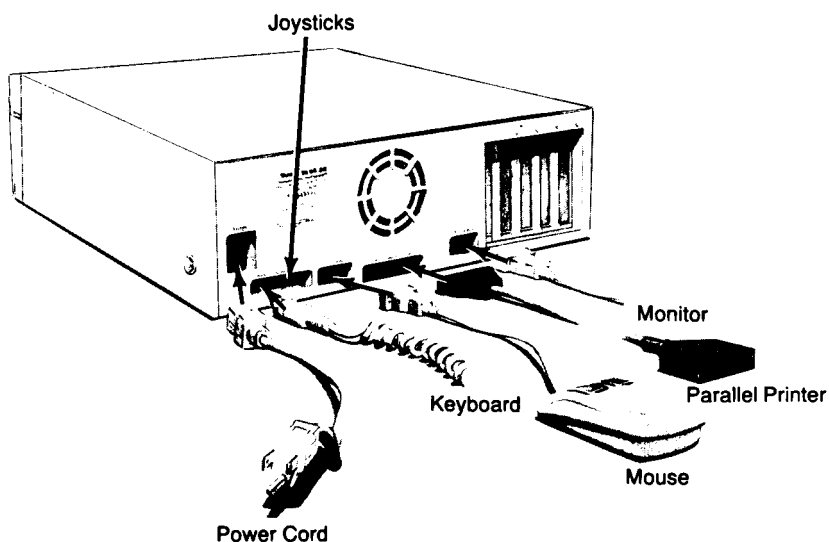
You can add as many as four optional 8-bit adapter boards to upgrade or customize your computer.

Setting Up Your Equipment

If you have not already set up your computer equipment, follow the instructions in the "Options for the Tandy 1000 TL/2" section to install any optional equipment that goes inside the computer. After you add any internal options, simply plug the keyboard, monitor, and any peripheral equipment (such as a printer or a mouse) into the computer. Refer to the manual provided with the peripheral for any special instructions. Then, plug the computer, monitor, and any peripherals you added into a grounded AC outlet or a power strip. Press the on/off button on the front of the computer to turn it on, turn on the monitor, and then turn on any peripheral equipment.

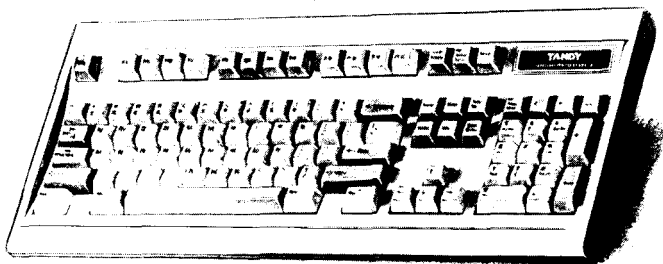
Tandy 1000 TL/2 Installation and Operation

The following illustration shows the connectors on the back of the computer.

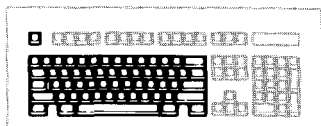


Using the Keyboard

Your computer's keyboard consists of five sections: the typewriter keys, the cursor keys, the function keys, the special-function keys, and the numeric keypad.

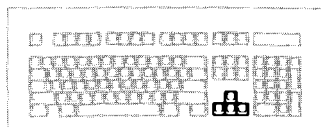


Typewriter Keys



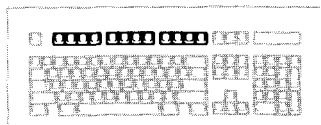
These keys work in much the same manner as the keys on a standard typewriter. When you hold down a key, the keystroke repeats automatically.

Cursor Keys



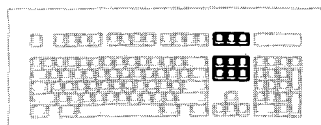
Many programs use these keys to move the cursor (or highlight) on the screen.

Function Keys



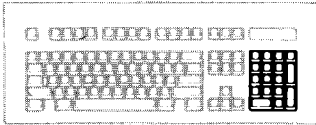
The 12 function keys at the top of the keyboard are program-specific. Their functions depend on the program you are running.

Special-Function Keys



The nine special-function keys are program-specific. Their functions depend on the program you are running.

Numeric Keypad



The numeric keypad on the right side of the keyboard is arranged the same as a calculator keypad. Number keys are normally the shifted characters on the numeric keypad. (You hold down **SHIFT** and press a number.) Press **NUM LOCK** to use the keypad for extensive number entry. When number lock is on, you can type numbers without pressing the **SHIFT** key.

Using Diskettes and the Diskette Drive

Diskettes store information, such as programs and the data you create, in *files*.

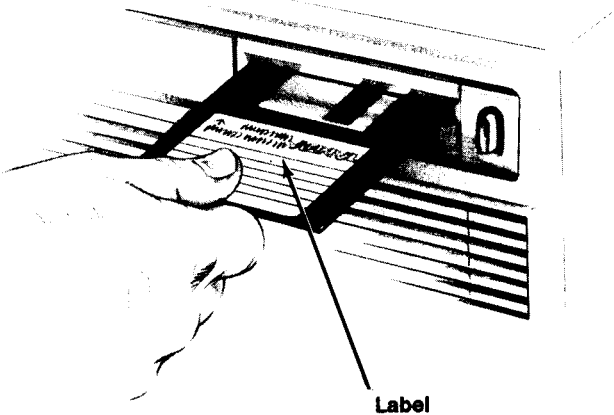
The diskette drive provided in your computer uses double-sided, 3 1/2-inch, 80-track diskettes (Radio Shack Cat. No. 26-417 and 26-418). These diskettes can store approximately 720K (more than 730,000 characters) of information.

To protect your diskettes and the information they contain, follow these guidelines:

- Keep diskettes away from magnetic fields (such as transformers, AC motors, magnets, speaker systems, televisions, and radios).
- Do not lay a diskette on top of or next to the computer.
- Keep diskettes out of direct sunlight and away from heat.
- Keep diskettes away from dust.
- Make several copies of your diskettes (*backups*) to use as working diskettes. Refer to “Making Copies” in this section.

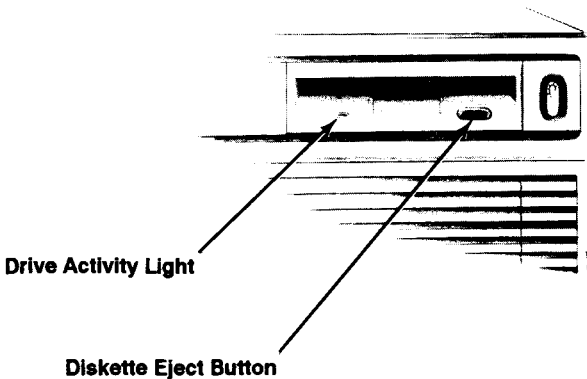
Inserting and Removing Diskettes

To insert a diskette into an empty drive, gently slide it, label side up, into the drive until the diskette clicks into place.



A drive's activity light is on whenever the diskette drive is active. Removing a diskette from a drive when the drive activity light is on can destroy data on the diskette.

Before removing a diskette from a drive, be sure the drive activity light is off. Then, push in the diskette eject button. The diskette slides partially out of the drive.



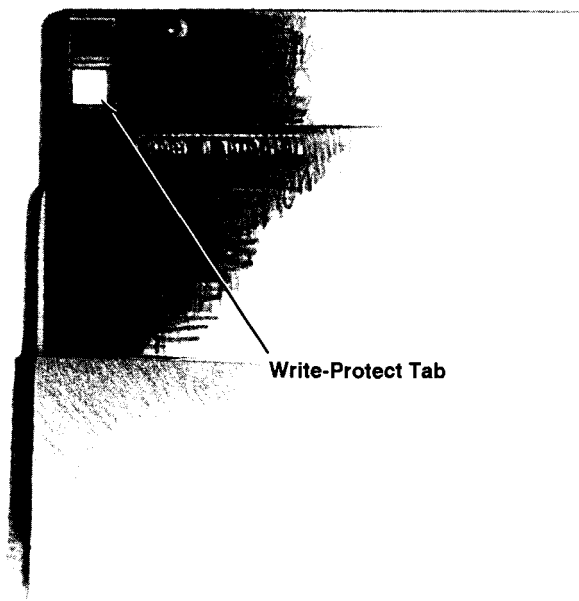
Write Protecting 3 1/2-Inch Diskettes

If you have important data on a diskette, you can ensure that your computer cannot erase or write over it by *write protecting* the diskette.

A 3 1/2-inch diskette has a small, square hole in the upper, right corner. This is the write-protect hole. From the back of the diskette, move the small tab (normally red or black) up so that the hole is open. This write protects the diskette.

When the tab is up, the computer can *read* information from the diskette, but cannot *write* information to the diskette. If you want to write to the diskette again, move the tab down so that the hole is completely covered.

Back View



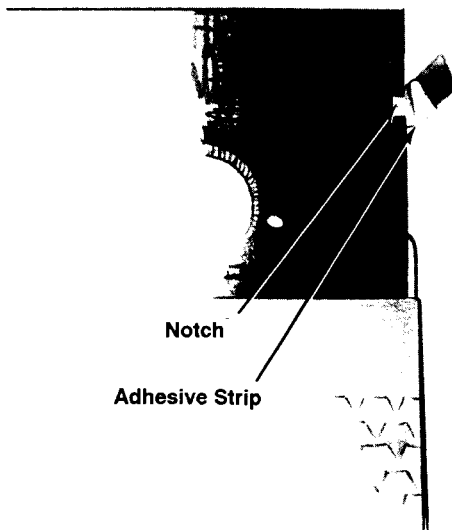
Write-Protect Tab

Write Protecting 5 1/4-Inch Diskettes

If you add a 5 1/4-inch diskette drive to your computer, you use a different method to write protect diskettes for that drive.

To write protect a 5 1/4-inch diskette, fold a small adhesive strip over the notch cut in the side of the diskette, as shown.

If you want to write to the diskette again, remove the strip.



*Pressing **F11** at the system prompt (A> or C>) displays a menu from which you can restart the computer from either the top diskette drive (by pressing **F1**) or the bottom diskette drive (by pressing **F2**).*

Using Program Diskettes

Your computer is capable of running thousands of application programs, such as word processing and spreadsheet programs. These programs come on diskettes.

You can run application programs directly from the DeskMate desktop, or you can load them from MS-DOS. Refer to the DeskMate manual provided with the computer for instructions on running applications from the desktop.

If you want to run an application program from MS-DOS, press **ESC** at the DeskMate desktop. When you see the MS-DOS system prompt, A> or C>, follow the instructions provided with your application packages to load and run the programs.

Making Copies

It is a good idea to make *backup* copies of your application program diskettes. Use the backups as your working diskettes, and put your original diskettes away for safekeeping.

Some application programs you buy are *copy protected*. You cannot make copies of these diskettes. Check the application manual for information on protecting the data on copy-protected diskettes.

You can copy specific files, or entire diskettes using either DeskMate or MS-DOS commands. Refer to DeskMate's on-line help system for information about using DeskMate to make copies. (The DeskMate documentation provided with the computer includes instructions for using the on-line help.) Refer to the "Using MS-DOS" section for information about using the operating system to copy files and diskettes.

Using MS-DOS

MS-DOS is an operating system. An operating system is software that manages your computer's activities. Operating system software must be in place before you can run application programs.

*From the DeskMate desktop, you can exit to MS-DOS by pressing **ESC**.*

*If you want to use the built-in MS-DOS commands, type **c:** and press **ENTER** to change the current drive to the ROM.*

*To re-enter DeskMate from MS-DOS, press **F12**.*

How much you need to know about the MS-DOS operating system depends on how you plan to use your computer. If you plan to use advanced operating system features or create your own programs, you need to become quite familiar with the operating system. On the other hand, if you plan to primarily run DeskMate or packaged applications, you do not need to know as much about MS-DOS.

The remainder of this chapter presents information on several MS-DOS procedures you might find handy, including:

- Preparing a diskette to store information
- Copying the operating system, programs, and data files
- Duplicating a diskette

To learn more about MS-DOS and how to use its many powerful functions, refer to the *MS-DOS Quick Reference* manual provided with the computer. For more information about the BASIC language provided on the MS-DOS diskette, refer to the *GW-BASIC Quick Reference* manual provided with the computer. Tandy also publishes several other MS-DOS and BASIC books, which are available from Radio Shack.

Entering MS-DOS Instructions

The MS-DOS instructions you give to the computer are called *commands*. You type commands at a *system prompt*, which indicates what

drive you are using. You can type commands in either uppercase or lowercase letters.

Changing Drives

Drive A (the top drive) is considered the current operating drive unless you specify otherwise. A second diskette drive is Drive B. The MS-DOS built into your computer's ROM is usually considered drive C.

You can easily change the current drive by entering the letter of the drive along with a colon at the system prompt. For example, you can change the current drive to the ROM by typing `c:` and pressing **ENTER**. The system prompt changes from `A>` to `C>` and the ROM (Drive C) becomes the current drive.

If the computer includes a hard disk, the hard disk is Drive C. The ROM then becomes drive D. (Second and third partitions of a hard disk would be Drives E and F, respectively.)

Preparing Diskettes with Format

Before you can use a new blank diskette, you must prepare it to hold information. To do this, you normally use the **format** command. **Format** is available in ROM or on the MS-DOS diskette.

1. Exit any application program you are using, and either change the current drive to the ROM or insert the MS-DOS diskette into Drive A.
2. Type `format`, followed by a space. Type the letter of the drive that you will use for formatting, type a colon, and press **ENTER**.

For example, to format a blank diskette in Drive A, type `format a:` and then press **ENTER**.

3. Insert a blank diskette into the drive, and press **ENTER** again.

*When preparing a diskette for use as an operating system diskette, be sure to include the **/s** switch with the **format** command to copy the system files to the diskette.*

Caution: Formatting erases everything on a diskette; copy any important files to another diskette before formatting.

Duplicating Diskettes with Diskcopy

The **diskcopy** command formats a blank diskette and copies the entire contents of another diskette to the newly formatted diskette in one easy step. **Diskcopy** is available in ROM or on the MS-DOS diskette. Be sure to either change the current drive to the ROM or insert the MS-DOS diskette before using the **diskcopy** command.

*Use this command when the diskettes you are copying from and to are of the same type (3 1/2-inch or 5 1/4-inch). Use **xcopy** if the diskettes are of different types.*

Using Diskcopy with One Diskette Drive

At the system prompt, type:

```
diskcopy a: a:
```

Then, press **ENTER**.

Insert the diskette you wish to copy into Drive A. Then, press any key to begin. MS-DOS will tell you when to swap the *source* diskette (the diskette you wish to copy) and the *target* diskette (the diskette to which you are copying). When the copy is complete, the program asks you if you want to copy another. Press Y to copy another diskette or press N to quit.

Using Diskcopy with Two Diskette Drives

At the system prompt, type:

```
diskcopy a: b:
```

Then, press **ENTER**.

Insert the diskette you wish to copy (the source diskette) into Drive A and the blank diskette to which you are copying (the target diskette) into Drive B. Then, press any key to begin. When the copy is complete, the program asks you if you want to copy another. Press Y to copy another diskette or press N to quit.

Duplicating Information with Xcopy

You can use **xcopy** to duplicate information between like or unlike diskettes. For example, you can use this command to copy files between a 3 1/2-inch diskette drive and a 5 1/4-inch diskette drive. You can duplicate either an entire diskette or selected files with **xcopy**.

These instructions assume that you are copying from a diskette in Drive A to a diskette in Drive B or that you are performing a single-drive copy in Drive A. If you wish to copy from Drive B to Drive A, simply reverse all references to the drives in the following steps.

1. Prepare a blank diskette using the **format** command.
2. Insert the MS-DOS diskette into Drive A.
3. At the system prompt, A>, type `xcopy a: b: /s /e /w` to copy an entire diskette or type `xcopy a:sourcepath b:targetpath /w` to copy a single file. Then, press **ENTER**.

The `/s` tells **xcopy** to copy all files and subdirectories, `/e` tells **xcopy** to include any empty directories, and `/w` tells **xcopy** to wait until you press a key before beginning the copy. *Sourcepath* refers to the complete pathname, including any directories, of the file you are copying. *Targetpath* refers to the complete pathname, including any directories, of the file to which you are copying.

For example, `xcopy a:\mydir\myfile.bat b:` copies a file named `myfile.bat` from a directory named `mydir` on the source diskette in Drive A to the current directory of the target diskette in Drive B.

4. **Xcopy** prompts you to insert the diskette from which you wish to copy. Remove the MS-DOS diskette from Drive A, and insert the source diskette. Insert a formatted target diskette into Drive B. Then, press any key to begin. When the copy is complete, the program tells you how many files have been copied.

Note: When you use **xcopy** on a single-drive system, **xcopy** will prompt you for the Drive B diskette whenever you need to insert the target diskette. Follow the prompts, using the source as the Drive A diskette, and the target as the Drive B diskette.

Options for the Tandy 1000 TL/2

You can expand your computer's capabilities in many ways. This section describes some of the more popular accessories and upgrades available for the Tandy 1000 TL/2 computer.

External Options

External options refer to peripherals that can be connected to the computer without opening the computer's case. In most instances, adding external options is as easy as connecting a few cables. The most popular external options that are available for your computer include:

- **A Printer**

You can print the data you create, from pictures to budgets. Because your computer has a printer port, you do not need to buy an adapter card to connect a printer. The printer (parallel) port is located on the computer's back panel. Tandy has a full line of printers, from fast and economical dot matrix printers to typeset-quality laser printers.

- **A Serial Mouse**

A mouse is a device that you use to control the actions of some computer programs. If you do a large amount of drawing or word processing, a mouse (with a program that recognizes it) can really help. Simply connect the mouse to the built-in serial port.

- **A Modem**

Adding a modem to your computer system lets you communicate with other computers over the phone lines. This means you can share information with other computer users. With the appropriate software, you can use your computer as a terminal to a larger computer system.

It also means that you can connect to *on-line* services (such as PC-Link) that offer computer shopping, news services, electronic mail, encyclopedia references, stock prices, games, and so on.

- **Joysticks**

Many games and educational programs use one or two joysticks to control the software. Two joystick connectors are provided on your computer's back panel; to add a joystick, simply plug it into one of the connectors.

- **A Microphone**

You can record sound on your computer if you plug an optional microphone into the microphone connector on the computer's back panel. You can also record through your stereo or other line audio equipment. No special settings are required when you connect a microphone; however, you must reposition the Microphone/Line Audio jumper when you connect a line audio device. Refer to the main logic board illustration and "Adding Internal Options" later in this section for the location of and the correct setting for the Microphone/Line Audio jumper.

Internal Options

Internal options refer to upgrades that are installed inside the computer. Some of the most popular internal options that are available for your computer are described in the following list. "Adding Internal Options," which follows the list, includes installation instructions and illustrations for these internal options.

- **Diskette Drives**

Some computer programs are much easier to use with more than one drive. Also, copying the contents of diskettes is much quicker and easier with two drives. You can add either a 5 1/4-inch or a 3 1/2-inch internal drive to your computer.

- **Intelligent Hard Disk Drive**

Intelligent hard disk drives include logic circuitry compatible with the computer's built-in IDE; simply plug the hard drive's cable into the on-board IDE connector. No separate controller board is needed. Two intelligent hard disk drives are available for your computer; one of the hard drives stores 20M and one stores 40M of information. Refer to "Installing a Drive in the 3 1/2-Inch Drive Slot" section. Note that removal of the front panel is not necessary when installing an intelligent hard disk drive.

- **A Hard Disk Card**

If you prefer, you can install a hard disk card into one of your computer's adapter board expansion slots. Two hard disk cards are available for your computer; one of the hard disk cards stores 20 megabytes and one stores 40 megabytes of information.

<i>You cannot operate both an intelligent hard disk drive and a hard disk card in your computer.</i>
--

- **Modem Board**

A modem allows your computer to communicate with other computers through the phone lines. Using an internal modem board leaves the serial port free for other devices. You install a modem board in one of the computers adapter board expansion slots.

- **Expanded Memory**

Some programs are designed to use expanded memory in order to run faster and more efficiently. You can also use expanded memory as a *virtual* or RAM drive. That is, you can set aside a portion of memory to act like a disk drive, only much faster.

You can plug memory chips into the computer's main logic board to increase the on-board memory to 768K. You can also install a memory board in an adapter board expansion slot to increase the amount of memory in the computer.

- **Math Coprocessor**

Some programs that do a great deal of calculating benefit greatly from a math coprocessor. The coprocessor can perform highly accurate mathematical calculations while your computer is performing another set of instructions. Simply plug the coprocessor chip into the socket provided for it on the computer's main logic board.

- **TandyLink**

The TandyLink adapter board lets you connect your computer to a workgroup so that you can share information among the members of the group without ever leaving your desk. You can install the TandyLink board in one of the computer's adapter board expansion slots.

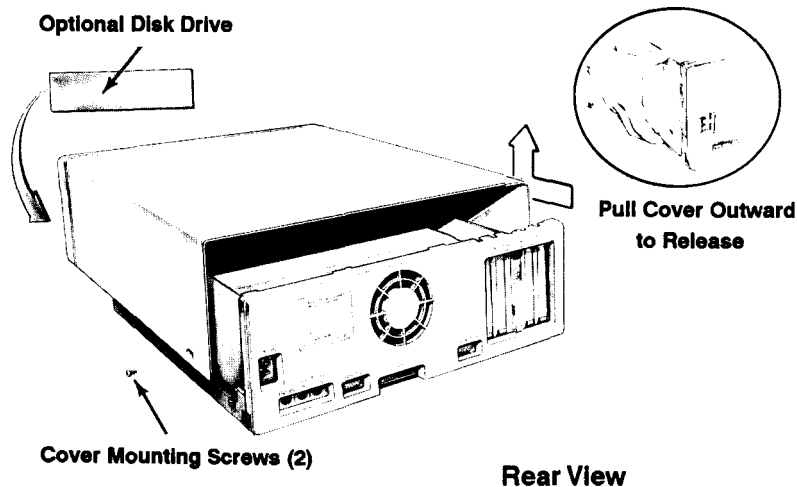
- **Enhanced Video**

With an enhanced graphics video adapter board and a compatible monitor, your computer can generate high-resolution graphics. If the programs you run require higher resolution or enhanced graphics, you can install either an Enhanced Graphics Adapter (EGA) or a Video Graphics Array (VGA) board in one of your computer's adapter board expansion slots.

Adding Internal Options

Your computer is designed for easy installation of internal options. If you want to install the options yourself, refer to the general installation instructions provided in this manual as well as any specific installation and configuration instructions provided with the options. If you do not feel comfortable installing internal options yourself, personnel at your nearest Radio Shack Service Center can install the options for you.

Before you begin installing any internal options, turn off the power to your computer (and any attached peripherals) and unplug the unit from the electrical outlet. Then, remove the cover, as shown in the following illustration.



The remainder of this section tells you how to add internal options to your computer. Skip any parts that are not relevant to the options you are adding. Refer to the instructions and illustrations on the following pages, and add internal options to your computer in this order.

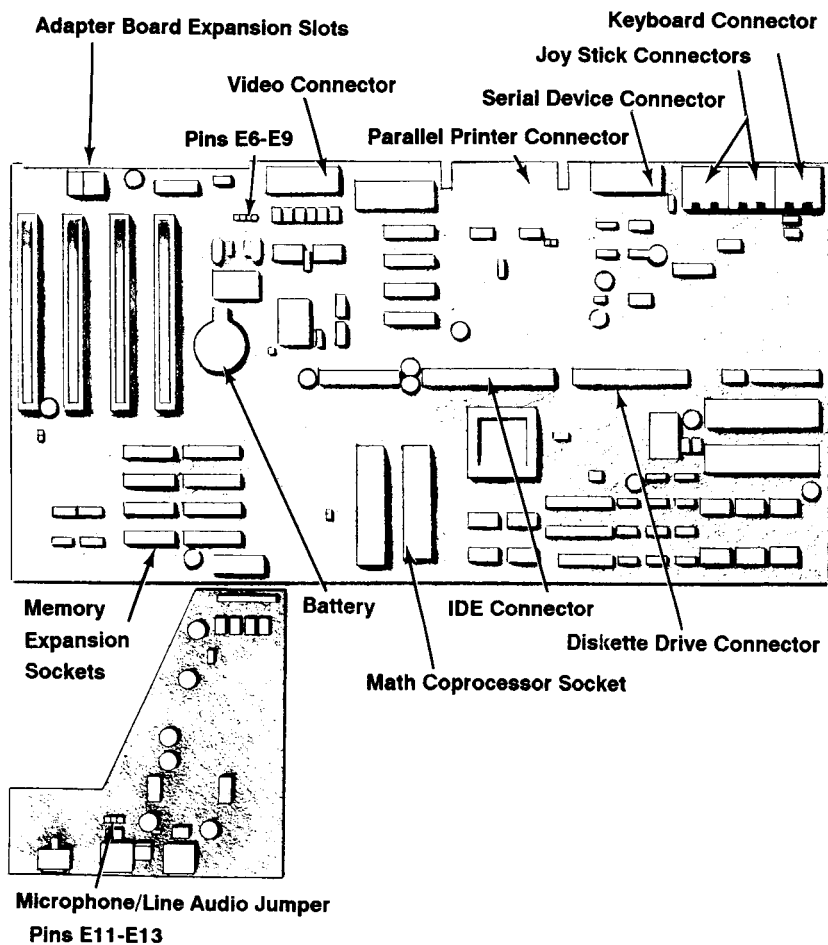
1. Plug in any microchips that you are adding to the main logic board—on-board memory, or a math coprocessor. Refer to “Installing Main Logic Board Options” in this section.
2. If you plug a stereo or other line audio device into the computer’s microphone connector (MIC), reposition the Microphone/Line Audio Jumper. When the computer is shipped, the plastic jumper is positioned for a microphone (pins E12 and E13 are connected on the satellite board); move the jumper to connect pins E11 and E12 for a line audio device. Refer to “Installing Main Logic Board Options” in this section.
3. Install a secondary diskette drive if you are adding one. Refer to “Installing a Secondary Diskette Drive” in this section.
4. Install any adapter boards that you are adding, such as a modem board, memory board, TandyLink board, or video board. Refer to “Installing Adapter Boards” in this section.
5. Install a hard disk card if you are adding one.

After you install all of your internal options, refer to the illustration on the previous page to replace the computer’s cover. Replace and tighten the cover mounting screws before turning on your computer and peripherals.

Installing Main Logic Board Options

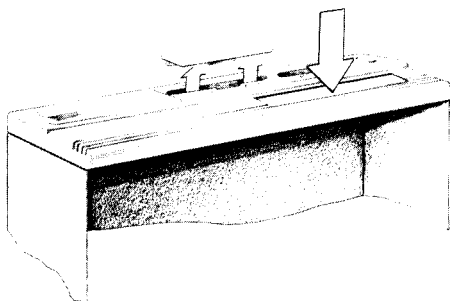
The illustration on the next page shows the computer’s main logic board and its satellite board. Refer to the illustration when installing any microchips or changing any jumper settings on the main logic board.

Main Logic Board



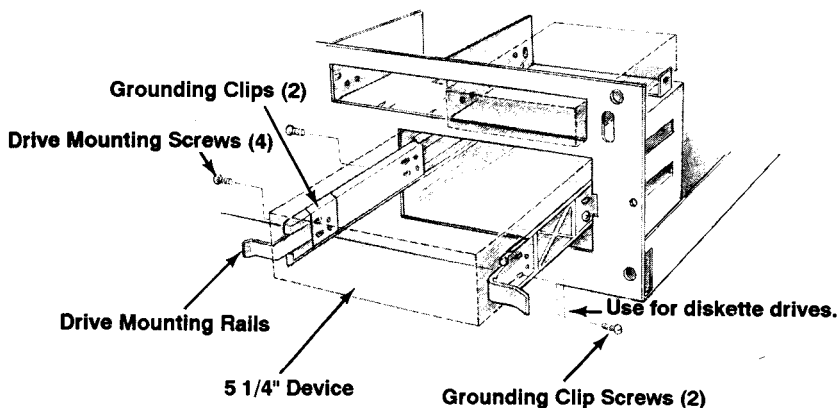
Installing Another Drive

Before you add another internal drive to your computer, you must remove the plastic panel that covers the selected drive slot as shown in the following illustration. Press the tabs of the 3 1/2-inch panel up through the tab slots to remove the panel. Push down on the 5 1/4-inch panel to break it away.



Installing a Drive in the 5 1/4-Inch Slot

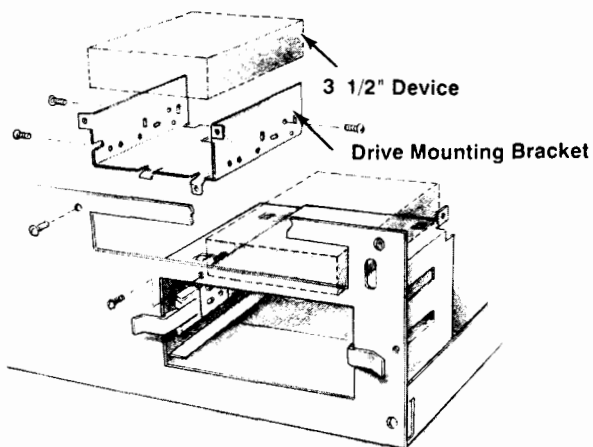
Push the latches of the drive mounting rails in slightly and slide the rails out of the drive slot. Remove and discard the grounding clip screws. Then, attach a rail to each side of the 5 1/4-inch drive. If the drive has two sets of holes, attach the rails to the lower set. Use the lower, left hole (labeled A-B) at the front and at the back of the drive mounting rails, as shown in the following illustration.



Attach the rails to the lower set of holes on a 5 1/4" device.

Installing a Drive in the 3 1/2-Inch Drive Slot

Refer to the following illustration to install a second 3 1/2-inch diskette drive or a 3 1/2-inch hard disk drive.

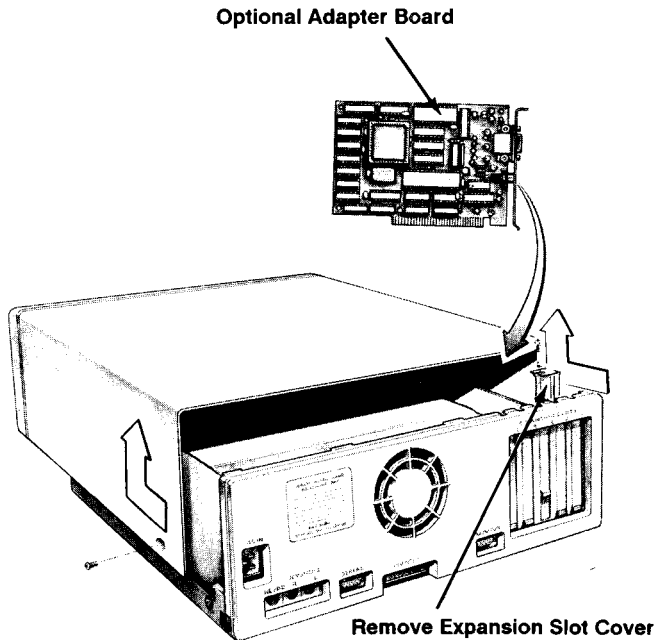
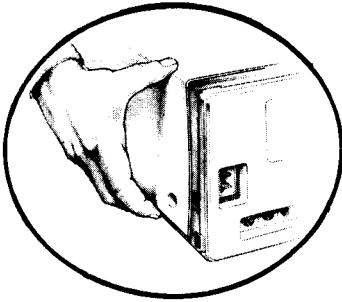


Front View

Be sure to run **setuptl2** after you install a second diskette drive. Refer to the "Changing the Computer Defaults" section for instructions.

Installing Adapter Boards

Choose the expansion slot into which you wish to install the adapter board, then remove the screw that secures the metal slot cover to the computer's back panel. Remove the slot cover, and press the adapter board into the expansion slot connector as shown in the following illustration. Secure the adapter board's bracket to the computer with the screw you removed previously.



Other Options

Several other options are available for your computer. Refer to the documentation provided with the option to add any of these options:

- A FAX board to enable your computer to transmit and receive images
- A CD-ROM drive to let your computer access the enormous storage capabilities of read-only disks
- A digital scanner to enable you to capture previously produced text or graphics
- A MIDI interface adapter for connecting musical synthesizers to your computer
- A tape cartridge drive to use for archiving important information
- An answering machine board to turn your computer into a personal voice mail system
- A drawing tablet for creating graphics

Changing the Computer Defaults

Your computer maintains certain settings that determine the way it works. Some of the settings effect:

- Whether your computer checks the status of its memory every time you turn it on or restart it
- Whether the computer prompts you for the date and time each time you turn it on or restart it
- Which drive you want to use as Drive A and which drive you want to use as Drive B (if you have more than one diskette drive)
- Whether the computer starts from the programs built into ROM or from a disk
- The speed at which the computer runs

The computer stores these settings in a special memory chip called an EEPROM. The EEPROM retains its contents, even when your computer is turned off.

The computer's original EEPROM settings are called *default* settings. If you decide to change these defaults, the computer stores the changes you make and remembers these new settings until you change them again.

The following pages describe each setting. If you are satisfied with all of the default settings, no change is needed. Otherwise, follow the instructions given to display the EEPROM default values and change the settings as necessary.

Using the Setup Program

The Setup program provides a means for changing the EEPROM settings of your computer. You should use this program if you wish to change any of the EEPROM settings. The Setup program also identifies the system's hardware configuration; run this program after you add a diskette drive so that the computer will recognize the new drive.

To view the Setup screen, first exit DeskMate by pressing **ESC** at the DeskMate desktop. Insert the MS-DOS/GW-BASIC diskette into Drive A. Type `setup12` and then press **ENTER**.

In a moment, the Setup screen appears. Use the up and down arrow keys (**↑** and **↓**) to move to the line you want to change. Use the left and right arrow keys (**←** and **→**) to highlight a choice and make the change. When you have completed all selections, press **F1** to store them. If you decide you want to return to the default settings, press **F10**.

The following information explains each setting.

VIDEO DISPLAY. Select **MONOCHROME** if your monitor is capable of only two colors (black and white, black and green, black and amber). If your monitor is capable of displaying colors, leave the setting at **COLOR** (the default). You can also toggle your computer between color and monochrome monitor from the keyboard; if the screen is blank when you start your computer, press **CTRL-ALT-SHIFT-V** to change to the appropriate video display for your monitor.

AUTOMATIC PROMPT FOR DATE AND TIME. Select **YES** if you want the date and time prompts to appear when you start your computer with the MS-DOS operating system. **NO** is the default setting.

MEMORY DIAGNOSTICS ON START-UP. Select **YES** if you want your computer to take time to test the integrity of its memory chips each time it starts. **NO** is the default setting.

PRIMARY START-UP DEVICE. Select **DISK** if you want your computer to start up with a diskette or hard disk. Otherwise, leave the setting at **ROM** to start up with one of the programs that is built into the ROM.

INITIAL START-UP PROGRAM. Select **MS-DOS** if you want to start up with the MS-DOS built into the ROM. Otherwise leave the setting at **DESKMATE** to start up with the DeskMate program that is built into the ROM.

COMPUTER SPEED. Select SLOW if your initial program was written for older computers and will not work properly with your computer's faster speed. FAST is the default setting.

NUMBER OF DISK BUFFERS (2-17). Set this value to the maximum number of disk buffers required by the programs you run. Refer to the documentation provided with your programs for any disk buffer requirements. The default is 10 disk buffers. Press → to increase the number or ← to decrease the number.

MAXIMUM # OF OPEN FILES (8-23). Set this value to the maximum number of files that your programs require to be open at one time. Refer to the documentation provided with your programs for the number of files needed. The default is 10 open files. Press → to increase the number or ← to decrease the number.

CHECK FOR CONFIG.SYS ON DRIVE. Some software programs require that you include certain configuration settings in a config.sys file. Each time you turn on or reset the computer, it reads the config.sys file settings. The documentation provided with your programs should tell you if you need a config.sys file as well as which drive it should be on.

Press → to access a config.sys file on Drive A when you start your computer. Press → again to access a config.sys file on Drive C when you start your computer. Otherwise, leave the setting at N0 if you do not wish to access a config.sys file when you start the computer.

CHECK FOR AUTOEXEC.BAT ON DRIVE. Some software programs require that you include certain commands in an autoexec.bat file. Each time you turn on or reset the computer, it reads the autoexec.bat configuration file and executes the commands in it. The documentation provided with your programs should tell you if you need an autoexec.bat file as well as which drive it should be on.

Press → to execute an autoexec.bat file on Drive A when you start your computer. Press → again to execute an autoexec.bat file on Drive C when you start your computer. Otherwise, leave the setting at N0 if you do not wish to execute an autoexec.bat file when you start the computer.

DISKETTE DRIVE A DESIGNATION. Press → to designate the BOTTOM diskette drive as Drive A. Leave the setting at TOP (the default) to designate the top drive as Drive A.

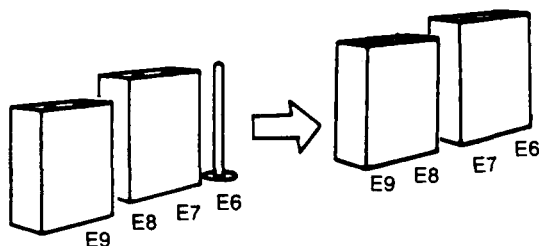
Troubleshooting

Video Problems

If you do not get an image on your monitor, be sure that the monitor is turned on and the cables are properly connected.

If you do not get an image on a monochrome monitor, restart the computer using the **CTRL-ALT-SHIFT-V** key sequence. (Press **V** while holding down the other keys.)

If you attempt to run game software designed for an IBM PC Jr. or a Tandy 1000, and the program appears to stall, you might need to move the Interrupt Jumper from E7-E8 to E6-E7 and jumper pins E8-E9 for the video interrupt. Refer to the main logic board illustration in "Options for the Tandy 1000 TL/2" for the location of this jumper. If the screen *rolls*, another device (such as a hard disk card) might be trying to use the same interrupt (5). Change the interrupt setting of the conflicting device.



Also refer to the documentation provided with your monitor to ensure that the brightness and contrast controls are properly adjusted.

Printer Problems

If your printer does not operate or operates incorrectly, be sure that the cables are properly connected. If you still have trouble, be sure that:

- The printer power light is on and the printer is getting electrical power.

- The printer is ready and not off line.
- The paper is loaded properly.
- The printer ribbon is inserted properly.
- All of the printer switches are set properly. Refer to the printer operating manual.
- The application program you are using is properly set up for use with your printer. Refer to the application program manual and the printer's operating manual.

Caring For Your Equipment

Generally, computers and accessories are quite durable and do not need special care. Everyday use and minor bumps will not harm the equipment. Following are some suggestions to help you keep your computer and equipment clean and running well.

- Protect the equipment from hard bumps.
- Protect the equipment from liquid spills.
- Use a diskette head cleaning kit to clean your diskette drives regularly.
- Install a surge protector between your equipment and its power supply.
- Occasionally wipe the surface of the equipment with a slightly damp cloth to clean it.
- Put dust covers over the equipment when not in use. This helps to prolong the life of the equipment, especially if the equipment is located in a dusty area.
- Use special anti-static cloths to clean the monitor screen.

Tandy 1000 TL/2 Specifications

Processor: 80286, 8 MHz or 4 MHz

Size:

Length: 354 mm (13.9 in.)
Width: 394 mm (15 1/2 in.)
Height: 140 mm (5 1/4 in.)
Weight: 7.82 kg (17 1/4 lb)

Power Requirements: 120 VAC, 60 Hz

Heat Output: 363 Btu/hr

Environment:

Air Temperature: Operating 14°C — 30°C
(55°F — 85°F)

Storage -40°C — 65°C
(-40°F — 149°F)

Humidity: Operating 20% to 80%
(non-condensing)

Storage 10% to 80%
(non-condensing)

Internal Disk Drive:

Unformatted Capacity 1M

Formatted Capacity 720K

Number of Heads 2

Number of Cylinders 80

Average Access Time 93 ms (incl. settling time)

Track to Track 4 ms

Motor Starting Time 500 ms

Rotation Speed 300 RPM

Media Standard 3 1/2-inch, double-sided, 80 track

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