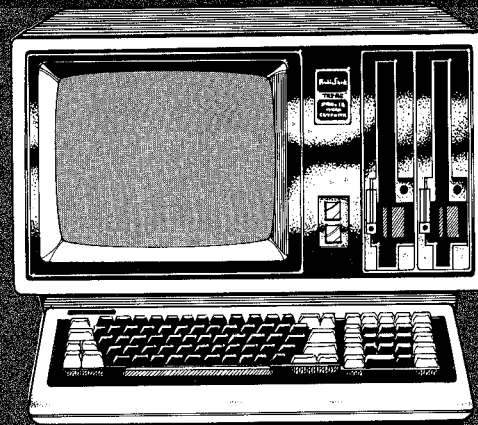


**Radio Shack®**

**TRS-80®  
Model 12  
Owner's Manual**



# Important!

## Model 12 Power-Up Sequence

Before powering up your TRS-80 System, be sure the Computer is connected to a three-prong, grounded outlet or grounded power strip (such as Radio Shack's Plug-In Power Strip, Catalog Number 61-2619). If you do not correctly connect and ground the Computer, you're exposing yourself to the danger of electrical shock as well as endangering your Computer and data.

**Special Note for Eight Meg Drive Owners:** If you have a multiple hard disk system, be sure Drive 4 is turned ON first or data may be lost or destroyed.

1. Be sure all floppy diskette drives are empty and all system components are turned OFF.
2. If you have a hard disk system, turn Drive 4 (the primary drive) ON.  
Eight Meg Drive Owners: Turn all secondary hard disk drives (Drives 5-7) ON.
3. Allow one minute warm-up for the disk drives.
4. Turn your Computer ON.
5. Turn all peripherals (including floppy disk expansion unit and printers) ON.

If your operating system is stored on floppy diskette and the Computer has not been modified for hard disk, the Computer will go to Drive 0 and load the operating system. You can then begin using your TRS-80 System as described in your Computer's owner's manual.

If your operating system is stored on hard disk, the Computer will go to Drive 4 and automatically load the operating system. You can then begin using your TRS-80 System as described in your Computer's owner's manual.

If your Computer has been modified for hard disk but you wish to power-up under floppy diskette control (Drive 0), press the key-combination of **REPEAT** **BREAK** or **REPEAT** **ESC** when the screen "whites-out." The Computer will then search Drive 0 for an operating system.

When turning the power OFF.....

**Special Note for Eight Meg Drive Owners:** With multiple hard disk systems, always be sure Drive 4 (the primary drive) is the last disk drive turned OFF. If Drive 4 is not the last drive turned off, data may be lost or destroyed.

1. Turn all peripherals (including floppy disk drives) OFF.  
Eight Meg Drive Owners: Turn all secondary hard disk drives OFF.
2. Turn the primary drive (Drive 4) OFF.
3. Turn the Computer OFF.

Thank you

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**Warning:** This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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## INTRODUCTION

## The Model 12

Your new TRS-80 Model 12 is a powerful business tool. The Model 12's basic features include:

- 80K bytes of memory: 64K bytes of random access memory and 16K bytes more RAM for use by the operating system
- Thinline drives that enable you to use double-sided diskettes
- Eight programmable function keys
- Compatibility with Radio Shack Model II software
- Green phosphor video display for easy reading
- Detached keyboard for your convenience
- Sound Capability (audible alarm and key-click),

Also, your Model 12 can be expanded -- as your needs grow -- to include hard disks, graphics, a 16-bit microprocessor, and more.

## About This Manual

This manual describes the TRS-80 Model 12. It shows how the Model 12 is installed and operated. It explains how to store information on disks and how to use a few essential operating system commands.

If you are unfamiliar with any terms used in this manual, refer to Appendix C, "Glossary," for their definitions.

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## Quick Reference Chart

## Power Up

1. Primary hard disk
2. Secondary hard disks
3. Display console
4. Peripherals

## Power Down

1. Peripherals
2. Secondary hard disks
3. Primary hard disk
4. Display console

## Commands

In the commands below, the underlined text indicates a value or values that you must supply.

**BACKUP** drive1 TO drive2 {options} -- Duplicates the diskette in drive1 onto the diskette in drive2.

**COPY** filespec1 TO filespec2 {option} -- Copies filespec1 and names the new file filespec2. To copy from one diskette to another using one drive, specify the diskette name and the drive number in filespec1 and filespec2.

**COPY** filespec TO drive {option} -- Copies filespec to the disk in drive, giving the new file the same name as filespec.

**DIR** drive {options} -- Displays the directory of user files in the specified drive.

**DRIVE** drive {options} -- Sets the specified drive for its most efficient use.

**FCOPY** source TO drive {options} -- Transfers the TRSDOS file(s) from the source to drive, a TRSDOS-II disk.

**FCOPY** filespec1 TO filespec2 {option} -- Transfers TRSDOS filespec1 to a TRSDOS-II disk, naming the new file filespec2.



**FORMAT** drive {options} -- Organizes the diskette in the specified drive (while erasing any information it contains).

**HELP** subject -- Displays information about the TRSDOS-II subject. If the subject is a TRSDOS-II command, the command syntax is displayed. If help is not available for the specified subject, or if you omit the subject, a list of commands and subjects for which help is available is displayed with a brief description of each.

**KILL** filespec -- Deletes a file and frees the space it occupied.

**MOVE** source TO destination {options} -- Copies one or more user files from the source to the destination.

**RESTORE** source TO destination -- Copies compressed data from the source diskette and restores it in TRSDOS-II format on the destination drive. See "SAVE."

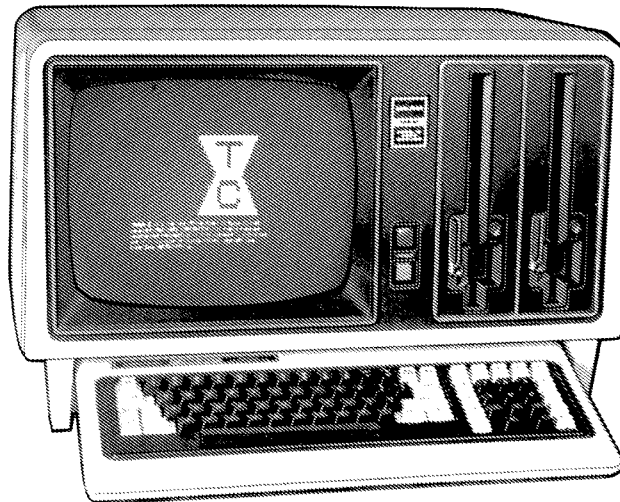
**SAVE** source TO destination -- Copies data from the source drive and stores it in compressed form on the destination diskette. The only way to access saved data is through RESTORE.

## Chapter 1: ABOUT YOUR COMPUTER

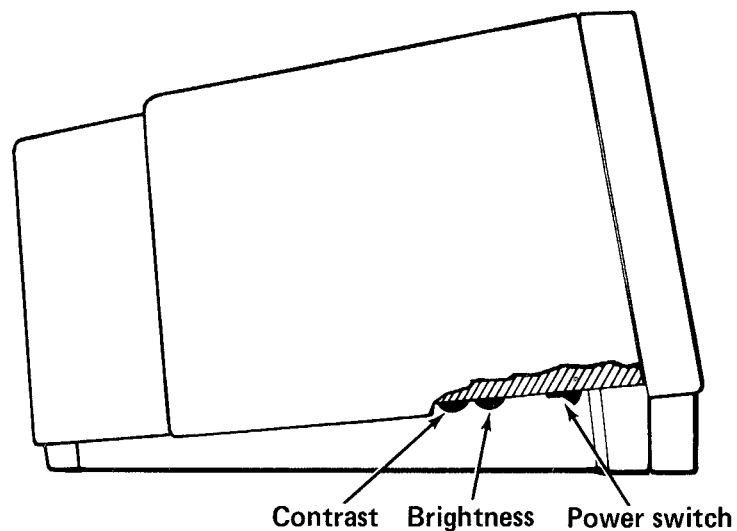
Carefully unpack your Model 12. Save the packing materials in case you need to move the Computer. Make sure you have the following items:

- Display console
- Keyboard
- Power cord
- TRSDOS-II Reference Manual
- BASIC Reference Manual
- TRSDOS-II System Diskette and BASIC Interpreter
- TRSDOS System Diskette and BASIC Interpreter

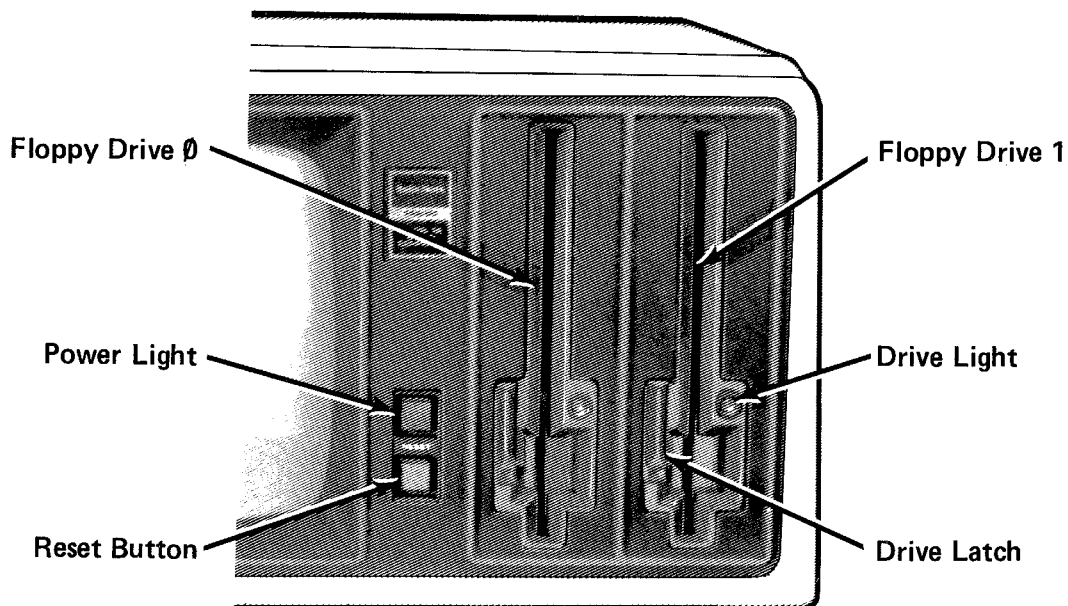
### About Your Equipment



Model 12 Computer



Power Switch, Brightness and Contrast Controls.



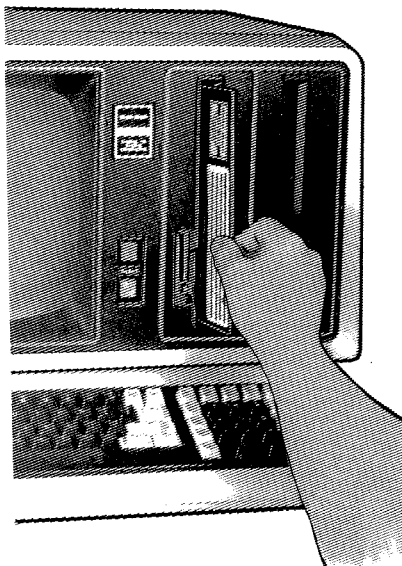
**Reset Button** -- Repeats the power-up sequence.

**Power Light** -- Lighted when the computer's power is on.

**Drive Light** -- Never remove a diskette when the drive light is on.

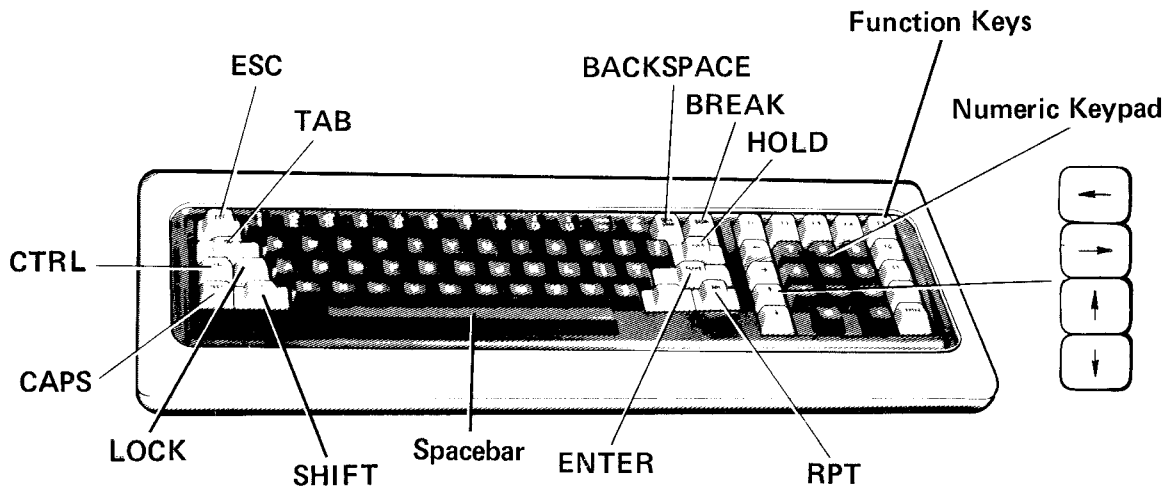
### Inserting a Diskette

1. Carefully insert a diskette into a drive as illustrated. Push the diskette into the slot until it locks into place.



2. Rotate the drive latch clockwise until it locks into a horizontal position.

**Important** Never turn your computer on or off while a diskette is in a drive. This can destroy data stored on the diskette.



Model 12 Keyboard.

**<CAPS>** -- When the <CAPS> light is on, <CAPS> sends only capital-letter codes for the alphabet keys. It does not affect other keys. Press <CAPS> once to turn the caps-only mode off or on.

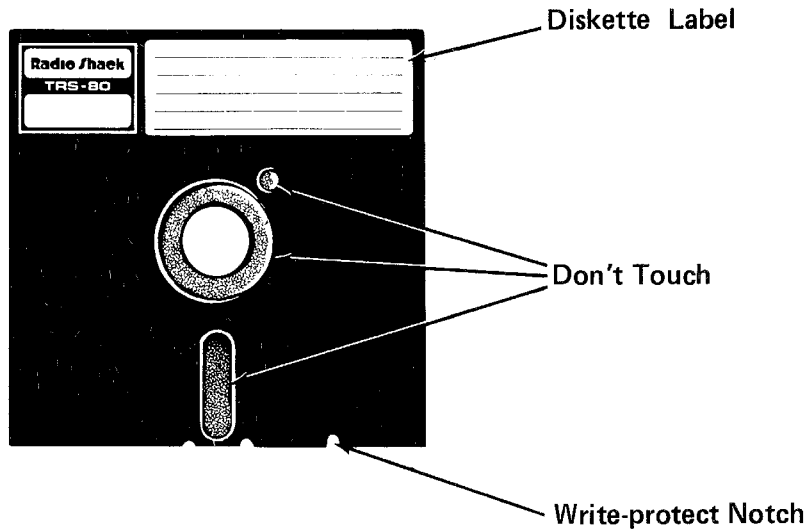
**<SHIFT>, <LOCK>** -- Lets you input capital letters and shift punctuation symbols. Hold down <SHIFT> while pressing the desired key or press <LOCK> once (the red light comes on). When the <LOCK> light is on, only shifted characters are output. To release <LOCK>, press <SHIFT>.

**Numeric Keypad** -- These keys are not affected by <SHIFT>, <LOCK>, or <CAPS>.

**<RPT>** -- Repeats a character continuously when held down at the same time as another key.

The uses of the following keys vary depending on the program or operating system in use. Typical uses are described below.

- <TAB> -- Moves the cursor forward one tab position. Positions usually are preset at intervals of eight spaces.
- <BACKSPACE> -- Moves the cursor back one character position, while canceling the last character typed.
- <BREAK> -- Interrupts the task in progress. Returns the Computer to the command level.
- <HOLD> -- Temporarily stops program execution. Press <HOLD> again to continue execution.
- <ENTER> -- Functions like the carriage return on a typewriter, but only the characters to the left of the cursor are used. The other characters are deleted.
- Spacebar -- Enters a space and moves the cursor forward one character position.
- <↑> <↓> <←> <→> -- Moves the cursor one character position or one line in the indicated direction.
- <CTRL> & <KEY>, <ESC>, and Function Keys -- The tasks performed by these keys are determined by the program or operating system in use.



Floppy Diskette. Diskettes are used for data and program storage. Keep them away from dirt, pressure, magnetic fields, and excessive heat and sunlight. Don't bend them.

**Label** -- After placing a label on a diskette, write on it with a felt-tip pen only.

**Write-Protect Notch** -- To change information on a diskette, you must write enable the diskette. Do this by covering the write-protect notch with one of the tabs provided. You cannot change a diskette's information if the write-protect notch is uncovered.

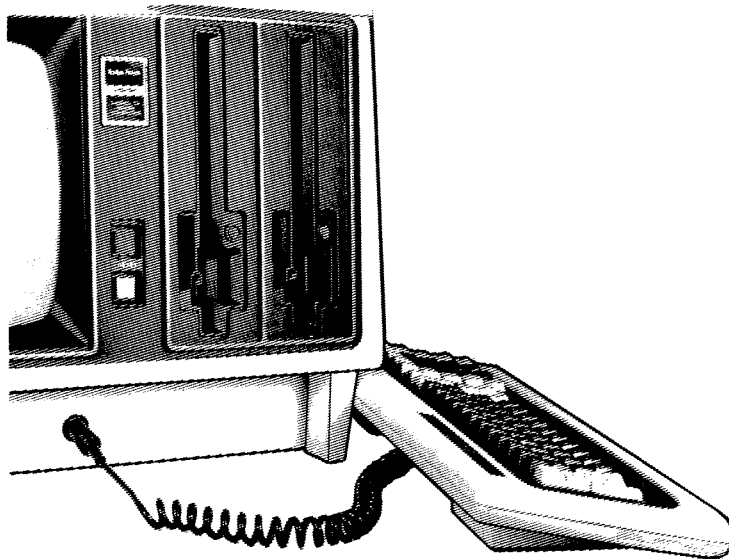
### Optional Equipment

Visit your Radio Shack Computer Center to learn about the other equipment you can use with the Model 12. If you have peripheral equipment, such as a hard disk or printer, follow the instructions in the manual supplied with the equipment.

## Installation

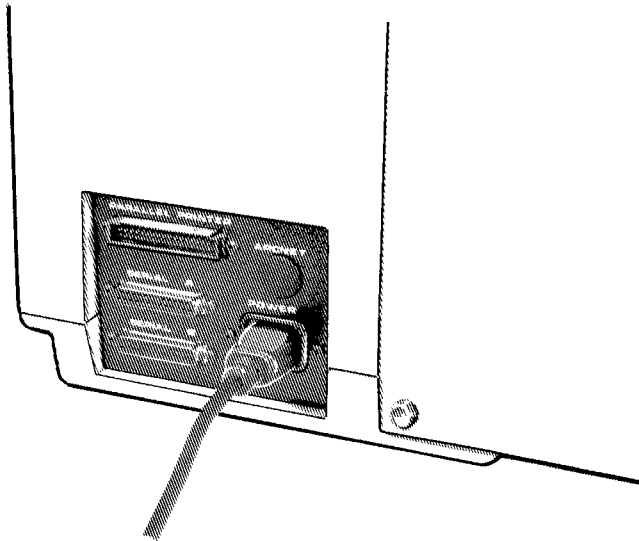
Improperly connecting or grounding the Computer exposes you to the danger of electrical shock. It also endangers your Computer and data. Follow these installation instructions carefully.

1. Place your Model 12 near a grounded, 120 VAC, 3-prong outlet that does not power heavy machinery, copiers, or office machines with defective switches.
2. Make sure all equipment is turned off.
3. Connect the keyboard's built-in cable to the display console.





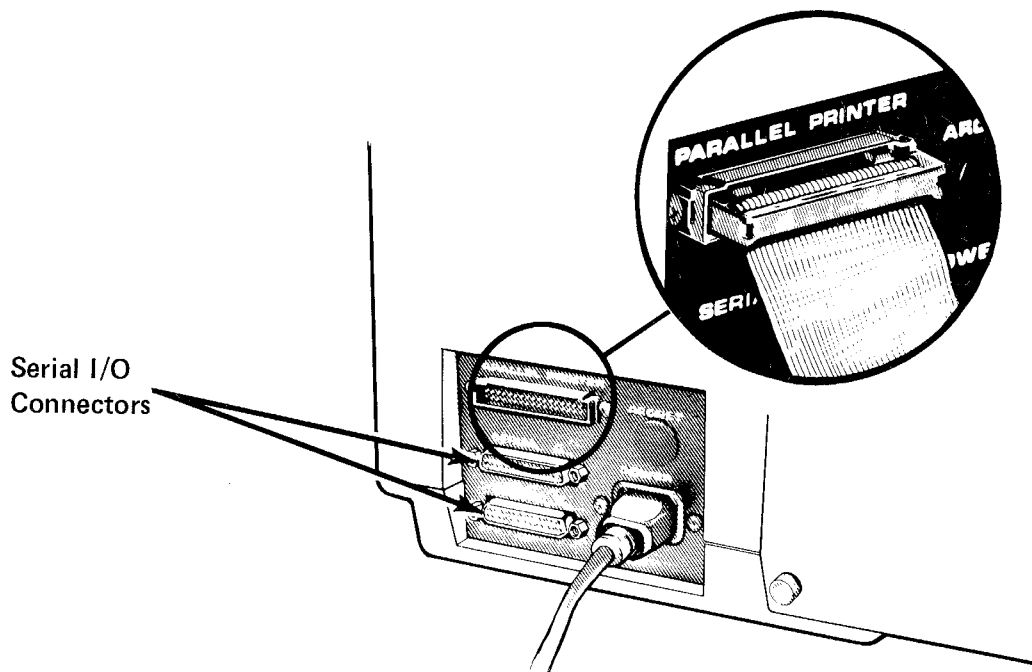
4. Connect the power cord to the display console.



5. Plug the power cord directly into the outlet specified in Step 1.

### Installing Peripheral Equipment

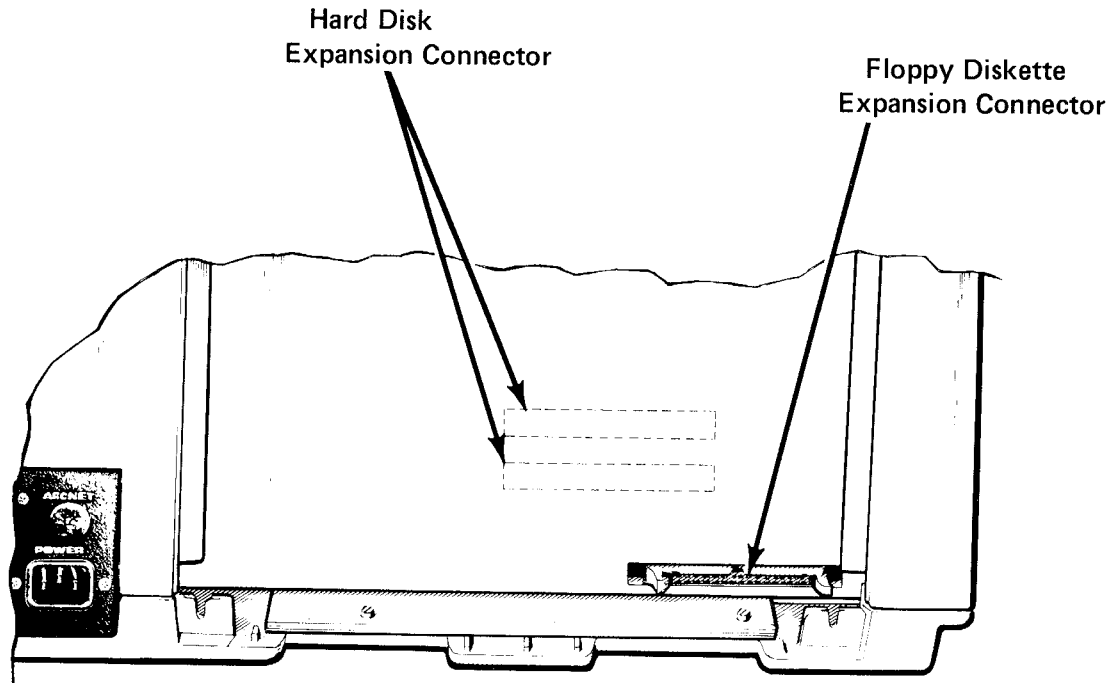
You can use other Radio Shack equipment (such as a printer or floppy diskette expansion unit) with your Model 12. To install such equipment, refer to the following illustrations and to the manual(s) supplied with the equipment.



Model 12 External Peripheral Equipment Connections.

**Parallel Printer Connector** -- to connect Radio Shack parallel printers to your Model 12. When connecting the printer cable, make sure the cable exits the bottom of the connector (shown above).

**Serial I/O Connectors** -- to install serial equipment such as serial line printers, modems, and data terminals. When connecting a DB-25 type cable, fit the cable connector to your Model 12's connector.

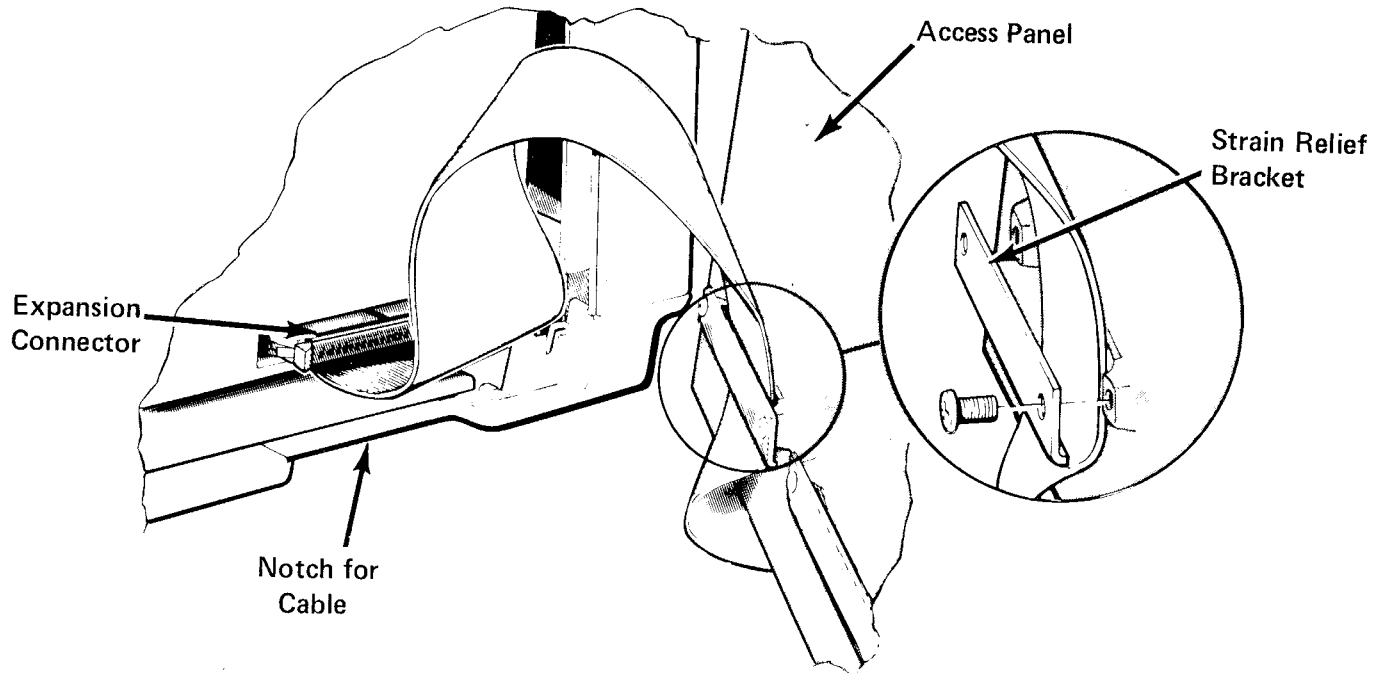


Model 12 Internal Peripheral Equipment Connections.  
(view with access panel removed)

**Floppy Diskette Expansion Connector** -- to add floppy diskette storage devices, such as the Thinline Disk Bay. Instructions for connecting cables are on the next page.

**Hard Disk Expansion Connector** -- to add hard disk storage devices. Only computers that are modified for hard disk have this connector. It is located in one of the slots shown in the illustration above. Instructions for connecting the cables are on the next page.

**Note:** The floppy diskette and hard disk expansion connectors are behind the Input/Output Access Panel on the back of the Model 12. You can open the access panel by removing the "thumbscrews" at the bottom of the panel.



### Internal Cable Connections

1. Remove the access panel by loosening the thumbscrews at the bottom of the panel.
2. Attach the cable that is included with your expansion unit to the appropriate connector (floppy or hard). Position the connector so the cable exits the bottom.
3. Remove from the access panel the "strain relief bracket" nearest to the connector.
4. Run the cable downward through the strain relief, leaving about 8 inches of cable between the strain relief and the expansion connector.
5. Replace the strain relief bracket and run the cable through the notch in the computer base.
6. Replace the access panel and tighten the thumbscrews.

### Power Up/Power Down

Always turn your Model 12 on and off exactly as described in this section. Any change in the sequences might damage the computer and data.

If your computer is modified for hard disk, you can use it in two ways: under hard disk control or under floppy diskette control. Because hard disk operation is more efficient, you'll probably operate under hard disk control most of the time. If you have initialized your hard disks and wish to power up under hard disk control, refer to your Hard Disk Owner's Manual.

Until you have initialized your hard disk(s) as instructed in your Hard Disk Owner's Manual, you must operate under floppy diskette control.

#### Powering Up the Model 12

1. Make sure all diskette drives are empty and all equipment is off.

If you want to operate under hard disk control, and your computer is modified for hard disk, turn on the primary hard disk unit (Drive 4) **first**. Then turn on the secondary hard disk unit(s).

2. Turn on the Computer (display console power switch).
3. Turn on any peripheral equipment.

If you want to operate under floppy diskette control and your computer is modified for hard disk, press <RPT><BREAK> during the "white-out" of the video display. The message "INSERT DISKETTE" is displayed to indicate that you are operating under floppy diskette control.

If INSERT DISKETTE doesn't appear or the hard disk operating system doesn't load:

- . Press the reset button
- . If your computer is modified for hard disk, press the reset button and then press <RPT><BREAK> again
- . Adjust the brightness and contrast controls
- . Turn off the Computer and check all connections
- . See Appendix D, "Problems and Error Messages"

#### Powering Down a Floppy Disk Model 12

1. Make sure all the floppy drives are empty.
2. Turn off all peripheral equipment except hard disk drives.

Hard Disk Users: Turn off all secondary hard disk units. Then turn off the primary hard disk unit.

3. Turn off the Computer.

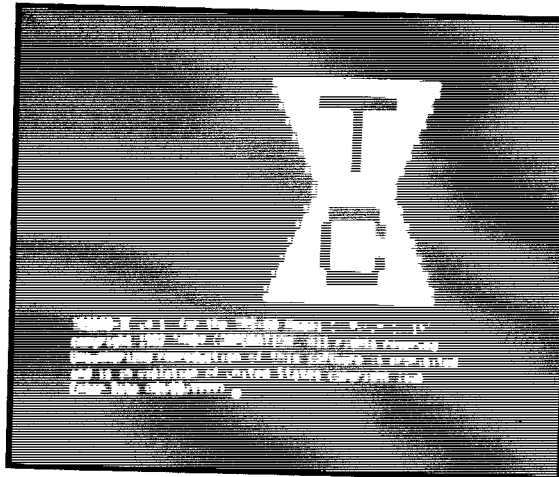
### Loading TRSDOS-II From Floppy Diskette

To load TRSDOS-II from floppy diskette, follow these steps:

1. Power up your computer as previously described.

Note: If your system is modified for hard disk, press <RPT><BREAK> until the message "INSERT DISKETTE" appears. If the message does not appear, press RESET and try again.

2. Insert a TRSDOS-II system diskette into Drive 0.
3. Your screen should show a startup message similar to the following:



4. If, instead of a startup message:
  - The INSERT DISKETTE message remains or no message is displayed, the diskette is probably in backwards. Remove the diskette and correctly insert into Drive 0 a diskette containing an operating system. Press the reset button.
  - NOT A SYSTEM DISKETTE  
RE-BOOT is displayed, remove the diskette. Correctly insert an operating system diskette into Drive 0. Press the reset button.
  - ERROR is displayed, power down your system and try again. If the message occurs again, see Appendix D, "Problems and Error Messages."

## Chapter 2: BACKUP COPIES

Sometimes information stored on disk is lost. This problem can result from:

- . Worn-out or mishandled disks
- . Mishandled equipment
- . The power going out while you're using the Computer

That is why it is important to make "backup" copies of all the information you store on disk.

Of the many ways to copy information from a disk, the SAVE and BACKUP commands are used most often.

SAVE usually is used to copy all the information on a hard disk to floppy diskettes. Appendix A, the TRSDOS-II Reference Manual, and your Hard Disk Owner's Manual have information on SAVE.

BACKUP usually is used to copy all the information on one floppy diskette to another. This chapter tells you how to make backups of your TRSDOS-II System Diskette and TRSDOS System Diskette. Appendix A, "Making Backup Copies of Files and Disks" includes instructions on backing up other diskettes, as well.

Use BACKUP now to copy your TRSDOS-II System Diskette and TRSDOS System Diskette.

Note: You must have at least two floppy diskette drives to make a backup of your TRSDOS-II Systems diskette.



### TRSDOS-II System Diskette BACKUP

The TRSDOS-II BACKUP command copies information from one diskette to another. Unlike TRSDOS BACKUP in which you must first format the diskette, TRSDOS-II BACKUP automatically formats the diskette to which the information is being copied ("destination diskette").

To use the TRSDOS-II BACKUP command, you need two floppy diskette drives. To make a backup of your TRSDOS-II System Diskette, use the following steps:

1. Prepare a destination diskette by covering the write-protect notch of a blank diskette with a write-enable tab.
2. Power up or reset the Computer. If you have a hard disk, press <RPT> <BREAK> to operate under floppy diskette control.
3. Insert the TRSDOS-II System Diskette (source diskette) into Drive 0.
4. When prompted, enter the date in mm/dd/yyyy format (for example: 03/19/1982 for March 19, 1982). Press <ENTER> when prompted for the time. TRSDOS-II Ready is displayed.
5. Insert the destination diskette into Drive 1.
6. Type:   BACKUP 0 TO 1 <ENTER>
7. If you are using an old diskette instead of a blank diskette, the following message might appear:

DESTINATION Disk Contains Data. Copy Over It (Y/N)?

If you do not need the data on the diskette, type Y <ENTER>. If you might need the data, type N <ENTER>.

BACKUP displays the following message when the backup is complete:

```
Backup Successfully Completed
Drive 1 Disk ID is: TRSDOS
TRSDOS-II Ready
```

If your screen displays a message that the backup aborted, repeat Steps 5 through 7 using a different destination diskette.

### TRSDOS System Diskette BACKUP

The TRSDOS BACKUP command copies information from one diskette to another. The diskette to which the information is copied ("destination" diskette) must be "formatted." To format a blank diskette and then back up your TRSDOS System diskette, follow these steps:

Note: When making a TRSDOS backup on your Model 12, be sure you have a TRSDOS 2.0b system diskette in Drive 0. The TRSDOS System Diskette contains TRSDOS 2.0b.

To begin making a backup, power up your computer as follows:

1. Prepare a destination diskette by covering the write-protect notch of a blank diskette with a write-enable tab.
2. Power up or reset the Computer. If you have a hard disk, press <RPT> <BREAK> to operate under floppy diskette control.
3. When prompted, insert the TRSDOS System Diskette ("source" diskette) into Drive 0.
4. Enter the date in mm/dd/yyyy format (for example: 03/19/1982 for March 19, 1982). Press <ENTER> when prompted for the time. TRSDOS READY appears.

You are now ready to make a backup of your TRSDOS System Diskette (or any TRSDOS diskette). The instructions given next are divided into two sections. The first is for multi-drive users and the second is for single-drive users.

#### Multi-Drive Users:

5. Insert the destination diskette into Drive 1. Then, at TRSDOS READY, type:

FORMAT 1 <ENTER>

6. The following prompt is displayed on the screen:  

```
Mount Diskette for Formatting on Drive 1.  
Continue? (Y/Q)
```

Since you already have mounted your diskette on Drive 1, type Y <ENTER> to continue.
7. If you are formatting over a used diskette, the following prompt might appear:  

```
Diskette CONTAINS DATA; Format OVER it? (Y/Q)
```

If you do not need the data on the diskette, type Y <ENTER>. If you might need the data, type Q <ENTER>.
8. TRSDOS READY is displayed when the formatting is complete. Type:  

```
BACKUP Ø TO 1 <ENTER>
```

To answer the following questions, type Y <ENTER>:  

```
Source Diskette Ready? (Y/Q)  
Destination Diskette Ready? (Y/Q)
```
9. When the question:  

```
Change diskette information?..
```

appears, type N <ENTER>.
10. TRSDOS READY is displayed when the backup is complete. If your screen displays a message that the backup aborted, try again, using a different destination diskette.

**Single-Drive Users:**

5. At TRSDOS READY, type: `FORMAT Ø <ENTER>`

When the message:

Mount Diskette for Formatting on Drive Ø  
Continue? (Y/Q)

appears, insert the destination diskette into Drive Ø.  
Type Y <ENTER> to continue.

6. The following message is displayed when the formatting is complete:

Insert SYSTEM diskette Press ANY key to continue  
Remove the formatted destination diskette and place the  
TRSDOS System Diskette in Drive Ø.

7. At TRSDOS READY, type: `BACKUP Ø TO Ø <ENTER>`

8. Answer Y <ENTER> to the following question:

Source Diskette Ready? (Y/Q)

9. When the question:

Change diskette information?..

is displayed, type N <ENTER>.

10. When the message:

Insert DESTINATION diskette Press ANY key to  
continue

appears, remove the TRSDOS System Diskette and insert  
the destination diskette into Drive Ø. Press <ENTER>  
and the backup continues.

You will be alternately prompted to insert the source  
diskette (TRSDOS System Diskette) and the destination  
diskette.

## 11. When the message

Insert SYSTEM diskette Press ANY key to continue appears, the backup is complete. Remove the destination diskette and insert the TRSDOS System Diskette into Drive Ø. Press <ENTER> and TRSDOS READY is displayed.

### Tips on Safeguarding Data

To ensure the safety of your data and programs:

- Store all original operating system and application program diskettes in a safe place
- Run the Computer with copies of your original TRSDOS-II System Diskette, TRSDOS System Diskette, and application program diskettes
- Every time you create or update a file, copy it to another diskette or make a backup of the diskette.
- Take proper care of your Computer and disks as instructed in Chapter 6, "Maintenance"

Accidents happen, so think about how much time, effort, and money could be lost if you decide not to make backup copies.

### Chapter 3: SAMPLE SESSION

This chapter is an introduction to operating systems, application programs, computer memory, and disk storage. If you are familiar with these topics, you might want to skim or skip this chapter. If you are not familiar with them, learn as you try the examples in this chapter. Practice the entire session, doing the samples in order. The session takes about half an hour.

#### Operating Systems and Application Programs

An **operating system** is a program that enables you to operate a computer. It lets you manipulate and store data, control peripherals, and use application programs.

The Model 12's operating system is TRSDOS-II. Your Computer may also use the TRSDOS system (Version 2.0b).

TRSDOS-II is a greatly enhanced version of TRSDOS. It is especially designed for our newer computers and is the same software used with the hard disk. It contains many new features, commands and utilities. It also allows you to use the key-click and audible alarm features of your Model 12.

TRSDOS is the operating system originally designed for the TRS-80 Model II. It comes on the diskette labeled "TRSDOS System Diskette". A file called THINLINE is included on this diskette, which allows you to patch your TRSDOS application diskettes to run on your Model 12 thinline drives.

When running application programs, keep an operating system disk in your primary drive (Drive 0 for floppy diskette operation or Drive 4 for hard disk operation). However, be sure to remove all floppy diskettes from their drives before turning on or off your computer.

To start up with TRSDOS-II, use the following steps:

1. Power up your Model 12. If you have a hard disk system, press <RPT> <BREAK> until INSERT DISKETTE appears.
2. Insert a backup of the TRSDOS-II System Diskette into Drive 0. If you have only one floppy diskette drive, use the original TRSDOS-II System Diskette.
3. Enter today's date in the format displayed on your screen. For example, for August 23, 1983, type:  
  
08/23/1983 <ENTER>
4. To skip the ENTER TIME prompt now on your screen, press <ENTER>. This starts the time at 00.00.00. Or, enter the time in the displayed, 24-hour format (seconds are optional). For example, for 2:30 p.m., type:

14.30 <ENTER>

Your screen shows:

TRSDOS-II Ready

.....

This message indicates that TRSDOS-II is ready to accept a command.

Notice that TRSDOS-II powers up with key-click turned on. That is, each time you press a key, the computer generates a click. To turn the key-click off, type CLICK OFF and press <ENTER>.

**Application programs** help you perform tasks such as bookkeeping, word processing, and program development. The BASIC Interpreter is an application program that lets you write your own programs in BASIC. The BASIC Interpreter program is on your TRSDOS-II diskette.



5. To load the BASIC interpreter, type: BASIC <ENTER>

BASIC displays its startup message and:

```
Ready
>
```

Ready > indicates that BASIC, not TRSDOS-II, is ready to accept a command or program statement.

You cannot use TRSDOS-II and an application program, such as BASIC, at the same time. For example, if you type a TRSDOS-II command while BASIC is controlling the Computer, an error message is displayed. The application program does not understand the command, and TRSDOS-II did not receive the command.

6. Type the TRSDOS-II DIR command: DIR <ENTER>

Your screen shows:

```
?SN Error
Ready
>
```

?SN ERROR indicates that BASIC doesn't understand the TRSDOS-II command. (You can execute a TRSDOS-II command from BASIC via the SYSTEM command described in the BASIC Reference Manual.)

7. Try writing a BASIC program by typing the following:

```
10 CLS <ENTER>
20 PRINT "HELLO" <ENTER>
```

If you type a line incorrectly, press <ENTER> and type it correctly.

8. Test the program by typing BASIC's RUN command:

```
RUN <ENTER>
```

Your screen should show:

```
HELLO
Ready
>
```

## Storing Information

Computers store information in two ways:

- . Temporarily, in memory (while the computer is on)
- . Permanently, in a storage device

The "Hello" program you typed is stored in memory. You can run it whenever you wish until you exit the BASIC program (TRSDOS-II resumes control). If you want to keep the program to run later, you must store it permanently before exiting BASIC. Your Computer uses floppy diskettes and hard disks as storage devices.

1. To save the "Hello" program for future use, type:

```
SAVE "SAMPLE" <ENTER>
```

2. To return to TRSDOS-II Ready, type:

```
SYSTEM <ENTER>
```

Now you can run the "Hello" program whenever you wish. To do so, use the diskette you are using now. Load the BASIC interpreter by typing BASIC <ENTER>. To load the SAMPLE program, type:

```
LOAD "SAMPLE" <ENTER>
```

Run the program by typing RUN <ENTER>.

## Disk Format and Disk Files

You can store programs and then easily retrieve and run them because of the efficient way TRSDOS-II organizes information on disks. The two parts of this organization are:

- . Disk Format
- . Disk Files

Formatting prepares disks for information storage. It divides disks into the parts of TRSDOS-II's "filing" system: cylinders, tracks, sectors, and bytes. It also creates a directory on each disk.

3. To see the directory that is on your TRSDOS-II diskette, return to TRSDOS-II Ready by typing SYSTEM <ENTER>. Then type:

```
DIR <ENTER>
```

TRSDOS-II lists all the user files stored on the diskette.

You can store information on formatted disks only. Any disk that contains an application program or operating system -- such as your TRSDOS-II diskette -- already is formatted. The blank diskettes you buy in a Radio Shack Computer Center are not formatted, so you cannot yet store information on them. You'll learn how to format them in Chapter 4, "Floppy Diskette System Preparation."

Disk files are similar to the files in a file cabinet. They can contain whatever you put in them -- programs, data, information -- and each file has a different name.

Disk files usually are created through an application program. Using BASIC, you created a disk file called SAMPLE. Other disk files are created in similar ways.

### Removing and Swapping Diskettes

You have used one operating system, one application program, and one diskette. When you use the Computer daily, you will use more than one diskette and maybe more than one operating system or application program. To help prevent errors and accidental loss of information, follow these steps:

- . When you are finished using a diskette, exit the application program by returning to TRSDOS-II Ready. Make sure the drive light is off. Then remove the diskette.
- . When swapping diskettes in a drive, type I <ENTER> after inserting the new diskette. If you swap the diskettes in Drive 0, they must contain the same operating system. If they do not, press the reset button after the swap to start up the new operating system.
- . When you're finished using the Computer, remove all diskettes and turn off the Computer system.

## Chapter 4: FLOPPY DISKETTE SYSTEM PREPARATION

This chapter explains how to start your floppy diskette system. It explains how to use TRSDOS and TRSDOS-II application programs and how to make data diskettes. If you have a hard disk unit, go to Chapter 5, "Hard Disk System Preparation."

### Using TRSDOS-II Application Programs

TRSDOS-II application programs use TRSDOS-II as their operating system. If one or more of the following statements is true of your application program, it is a TRSDOS-II application program:

- . TRSDOS-II is written on the label of a program diskette
- . TRSDOS-II Ready appears after you insert a program diskette into Drive 0 and enter the date and time
- . The application program manual states that TRSDOS-II is on one of the application program diskettes

To use TRSDOS-II application programs, follow the directions in your application program manuals. If you want to use data diskettes with your TRSDOS-II application program, see "Formatting Diskettes" in this chapter.

### Using TRSDOS Application Programs

Many Radio Shack application programs use TRSDOS 2.0a instead of TRSDOS-II. You can use TRSDOS 2.0a programs on your Model 12. To do so, you must do one of the following:

- . Use a TRSDOS System Diskette (Version 2.0b) in Drive 0
- . "Patch" your programs (THINLINE) with the TRSDOS System Diskette
- . Convert your programs to the TRSDOS-II format

### Using the TRSDOS 2.0b System Diskette in Drive 0

The simplest way for Model 12 owners to use TRSDOS 2.0a programs is to keep a TRSDOS 2.0b System Diskette in Drive 0. To use this method, however, you must have enough drives for your application program diskettes.

Power up the Computer and place the TRSDOS System Diskette in Drive 0. Place the TRSDOS 2.0a application program diskettes in the other drives. Then run the program as instructed in your application program manual.

### Patching Programs with TRSDOS 2.0b

Another easy way to use a TRSDOS 2.0a program is to copy some information from your TRSDOS 2.0b System Diskette onto the TRSDOS 2.0a application diskette. This information allows the TRSDOS 2.0a program to run on the Model 12's Thinline drives. To patch your application program in this way, follow the steps below:

1. Power up the Computer.
2. Insert the TRSDOS 2.0b System Diskette into Drive 0.
- 3a. Multi-Drive Users:

Insert the TRSDOS 2.0a application diskette into Drive 1. Then enter the date and time.

When TRSDOS READY is displayed, type:

```
COPY THINLINE:0 :1 <ENTER>
```

This copies the THINLINE patch file to your TRSDOS 2.0a application diskette. When TRSDOS READY appears, remove the TRSDOS System Diskette from Drive 0. Without pressing <I>, <BREAK>, or the reset button, move your TRSDOS 2.0a application diskette from Drive 1 to Drive 0. Type:

```
DO THINLINE <ENTER>
```

When the message:

```
PAUSE Patch System for Thinline drives; Mount
Diskette in Drive 0
Press ANY key to continue
```

appears, press <ENTER>. TRSDOS READY is displayed when all the patches are complete. Press the reset button to load the patched operating system into memory. You can now use the patched diskette as instructed in your application program manual.

3b. Single-Drive Users:

Enter the date and time. At TRSDOS READY, type:

```
COPY THINLINE:0 :0 <ENTER>
```

The following prompts appear:

```
Mount SOURCE disk
Press ANY key to continue
```

Since your source diskette is already mounted, press <ENTER>. The screen then shows:

```
Mount DESTINATION disk
Press ANY key to continue
```

Remove the TRSDOS System Diskette from Drive 0. Insert the TRSDOS 2.0a application diskette. Press <ENTER>. When TRSDOS READY appears, make sure the TRSDOS 2.0a application diskette is in Drive 0 and type:

```
DO THINLINE <ENTER>
```

The following prompt appears:

```
PAUSE Patch System for Thinline drives; Mount
Diskette in Drive 0
Press ANY key to continue
```

When all the patches are complete, TRSDOS READY is displayed. Press RESET to load the patched operating system into memory. You can now use the patched diskette as instructed in your application program manual.

### Converting TRSDOS 2.0a Programs to TRSDOS-II

If you prefer, you can convert your TRSDOS 2.0a program to a TRSDOS-II program. A TRSDOS-II program can use double-sided diskettes and hard disk. It can store more data per diskette and retrieve and store information faster than a TRSDOS 2.0a program.

To convert your TRSDOS 2.0a program to a TRSDOS-II program, refer to the insert supplied with the TRSDOS-II Reference Manual.



### Formatting Diskettes

Your Computer stores information on formatted disks. Operating system and application program diskettes are formatted, but they may not have enough space left for other information.

If you have a multi-drive Computer, you may wish to store information on "data diskettes." A data diskette is formatted but does not contain an operating system. It has more storage space than an operating system or application program diskette.

**Caution:** While a disk is being formatted, any previous information on the disk is **erased**.

To make a data diskette, follow these steps.

1. Power up the Computer.
2. Place a write-enable tab over the write-protect notch of the diskette to be formatted (destination diskette).
- 3a. To make a data diskette to use with a TRSDOS-II application program, insert a TRSDOS-II system diskette into Drive 0.
- 3b. To make a data diskette to use with a TRSDOS application program, insert a TRSDOS system diskette into Drive 0.
4. Enter the date and time.
5. When TRSDOS-II Ready or TRSDOS READY appears, insert the destination diskette into Drive 1. Type:

```
FORMAT 1 <ENTER>
```

6. If you are formatting over a used diskette, a prompt appears asking if you want to format over it.

If you do not need the data on the diskette, type Y <ENTER>. If you might need the data, type Q <ENTER>.

TRSDOS-II Ready or TRSDOS READY is displayed when the diskette is formatted.

To use TRSDOS-II data diskettes, place a TRSDOS-II system diskette in Drive 0. Insert the data diskettes in the other floppy drives. Then use your application program as instructed in the application program manual.

To use TRSDOS or TRSDOS 2.0a data diskettes, place a patched TRSDOS (2.0b) system diskette in Drive 0. Insert the data diskettes in the other floppy drives. Then use the application program as instructed in the application program manual.

## Chapter 5: HARD DISK SYSTEM PREPARATION

Your Hard Disk Owner's Manual explains in detail how to get your hard disk system started. The following steps summarize the information contained in that manual.

1. **Prepare your primary hard disk (Drive 4).** Do this by transferring TRSDOS-II and BASIC Interpreter from the diskette supplied with your hard disk to Drive 4. Do this even if a service technician did it for you.

If you have stored information on a hard disk, use the SAVE or MOVE command (see Appendix A, "Making Backup Copies of Files and Disks") to make copies of the files before transferring TRSDOS-II and BASIC.

2. **Prepare your secondary hard disks (Drives 5-7).** If you have more than one hard disk unit, prepare Drives 5-7 as instructed in your Hard Disk Owner's Manual.

3. **Prepare your TRSDOS 2.0a application programs.** Many Radio Shack application programs use TRSDOS 2.0a instead of TRSDOS-II. You can use TRSDOS 2.0a programs in two ways:

- Operate under floppy diskette control (see "Using TRSDOS Application Programs" in Chapter 4).
- Use the FCOPY command to convert them to TRSDOS-II format and copy them to your hard disk. Instructions are in the insert supplied with the TRSDOS-II Reference Manual.

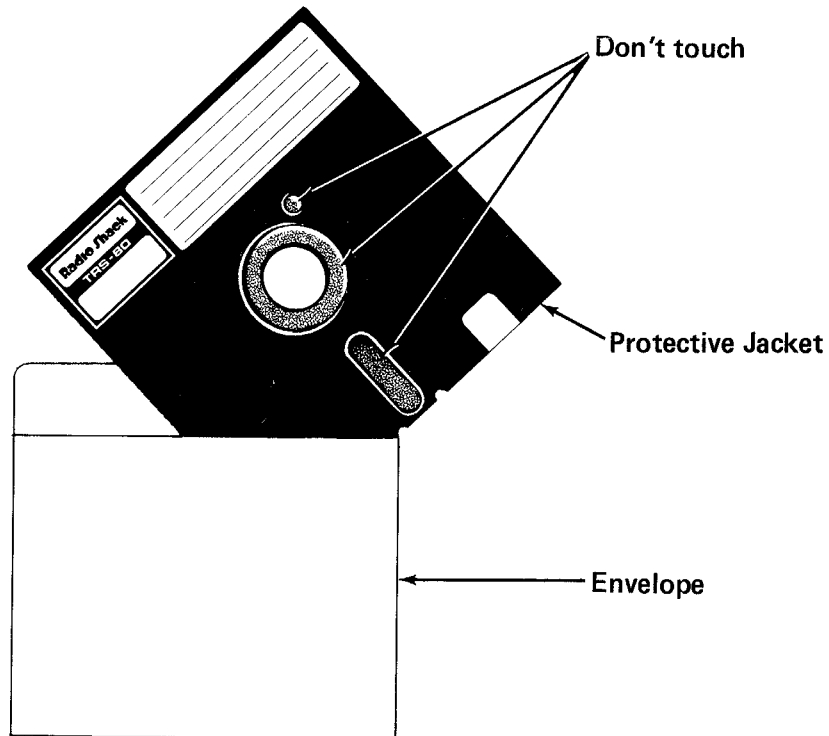
4. **Copy TRSDOS-II programs onto a hard disk.** TRSDOS-II application programs use TRSDOS-II as their operating system. If you have a TRSDOS-II program, you can use it in two ways:

- Operate under floppy diskette control (see "Using TRSDOS-II Application Programs" in Chapter 4).
- Use the MOVE command to copy the program from floppy diskette to hard disk.

5. Create a backup library. Through operator error, power failure, or other accidents, you can lose information stored on hard disk. To prevent the loss of a day's, week's, or even month's work, keep up-to-date copies of all the files that are on your hard disk. Instructions are in Appendix A of this manual (see "Making SAVE/RESTORE Compressed Copies") and in your Hard Disk Owner's Manual.

## Chapter 6: MAINTENANCE

## Taking Care of your Diskettes



Diskettes are sensitive. A small dent, scratch or a speck of dust can destroy a diskette's contents. Treat your diskettes with care.

- Never turn the computer on or off while a diskette is in a drive.
- Store diskettes in their envelopes, making sure there is no pressure to their sides.
- Keep diskettes away from magnetic fields (such as transformers, AC motors, magnets, TVs, and a computer's display console).

- . Don't bend diskettes.
- . Never touch a diskette's exposed, shiny surfaces. Do not try to wipe or clean diskette surfaces; they scratch easily.
- . Keep diskettes out of direct sunlight and away from heat.
- . Keep diskettes away from cigarette ashes, dust, and other particles. In dusty areas, provide filtered air to the computer room.
- . Don't write on the diskette jacket with a hard point device such as a ball point pen or lead pencil. Use a felt-tip pen only.

### Drive Maintenance

Your Model 12's floppy diskette drives need periodic care. Most of this is cleaning which prevents damage to diskettes. Have a Radio Shack service technician check your floppy diskette drives every six months or less. Ask a sales representative at a Radio Shack Computer Center about diskette drive head cleaning kits.

Hard disk drives need special care, too. For details, refer to your Hard Disk Owner's Manual.