

TS-DOS™

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A Disk-Operating System for Use with the Tandy Portable Disk Drive

For your
Tandy 100 or 200
or
NEC PC-8201

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About This Book

HERE in Section 1 you will find the information you need to get TS-DOS working. How you proceed will depend on the kind of computer and disk drive you have and whether you have the Traveling Software Ultimate ROM II chip.

Here, too, you will find a discussion of the choice you must make on how to operate TS-DOS—whether from your computer or from disk.

Section 2, *The TS-DOS File Menus*, begins with a brief overview of the program. The remainder of the section introduces you to the two TS-DOS menus: one for RAM files and the other for disk files. The function keys available in each menu are listed and explained.

Section 3, *Using TS-DOS with TEXT and BASIC*, explains how to install and use the resident portion of TS-DOS. Whether working with TEXT files or programming in BASIC, you may find that this small portion of the program will meet your needs.

Appendix A includes information on error messages and steps to recover from them. Appendix B lists the sample BASIC program included on the TS-DOS disk as an illustration of how to program with TS-DOS.

Conventions

Use of the < Angle Brackets >. Angle brackets—< and >—are used in this book to indicate keys on your keyboard.

TS-DOS Software

Software for TS-DOS is contained on a 3¹/₂-inch disk as well as a cassette.

Many users will need only the disk; the others will have to begin with the cassette and end with the disk.

The TS-DOS Disk

These are the programs on the TS-DOS disk:

- DOSXXX.CO** The main operating program and file menu. For the Tandy 100, the file is named **DOS100.CO**; for the Tandy 200, **DOS200.CO**; for the NEC, **DOSNEC.CO**. Size: about 5,000 bytes.
- TS-DOS.CO** The program that loads DOSXXX.CO from disk into the high memory of the computer. Size: about 600 bytes.
- SAMPLE.BA** A sample BASIC program included to demonstrate the use of BASIC commands with TS-DOS. Size: about 3,900 bytes.

The TS-DOS Cassette

These are the programs and the order in which they appear on the TS-DOS cassette:

- LOADER.BA** The program that loads TS-DOS.CO into RAM from cassette. Size: about 80 bytes.
- TS-DOS.CO** The program that loads DOSXXX.CO into RAM from disk. (Identical to the TS-DOS.CO file on disk) Size: about 600 bytes.

When, for example, you read this sentence

Press < CTRL > < L > to list the contents of the file. . .

press the key on your keyboard labeled *CTRL* and the key labeled *L*.

Input/Output. To designate what you will see on your screen or what you are to enter on your keyboard, a distinct typestyle is used.


This typestyle delineates the input/output from the rest of the text like this:

Enter BASIC and type this:

CLEAR 256,58200

Press < ENTER > and leave BASIC.

< ENTER > Key. On the Tandy 100/200 the < ENTER > key is so labeled. But on the NEC PC-8201, it is marked with a bent arrow instead.

■ NEC users: Remember to press this key  whenever in this book you are instructed to press < ENTER >.

Starting TS-DOS

You can start TS-DOS only by meeting these three requirements:

- The TS-DOS loader program must reside in your computer—either in ROM (on the Ultimate ROM II chip) or in RAM as **TS-DOS.CO**.
- The operating program, **DOSXXX.CO**, must reside on the disk in your portable disk drive or in RAM.
- You must have at least 5,300 bytes of free memory in your computer.

Reminder: **DOSXXX.CO** is named **DOS100.CO** on the Tandy 100 disk; **DOS200.CO**, on the Tandy 200 disk; and **DOSNEC.CO**, on the NEC disk.

The following instructions tell you how to get the TS-DOS loader program into your computer and to operate TS-DOS from the disk included in the TS-DOS package. We strongly recommend that before using this program to any extent that you make a backup copy of the files on this disk and set the original disk aside for safekeeping. See page 1-10 for instructions on copying the disk.

Having followed these instructions to start TS-DOS, you may decide to use the operating program, **DOSXXX.CO**, from RAM instead of disk. Turn to page 1-9 for instructions.

- To begin, connect your disk drive to your computer and turn both *on*. Insert the TS-DOS disk into the disk drive. Check that the dip switches on the Tandy Portable Disk Drive are all *off*; after changing the dip switches, turn the disk drive *off* and *on* again. (The Brother FB100 disk drive has no dip switches.)

How you proceed from here depends on which of these categories you fall in:

- If you own the Ultimate ROM II, see *Starting with the Ultimate ROM II*, below.
- If you own a Tandy 100 or 200 *and* the Tandy Portable Disk Drive (but not the Ultimate ROM II), see *Using FLOPPY.CO*, below.
- If you are using the Brother FB100 disk drive with any computer or if you are using a NEC PC-8201 without the Ultimate ROM II, see *Loading from Cassette*, on the next page.

Starting with the Ultimate ROM II

Having installed and initialized the Ultimate ROM II, you already have the TS-DOS loading program in your computer. The only other program you need is **DOSXXX.CO**, located on the TS-DOS disk. (You have no need at all for the cassette.)

1. Start in the main system menu of your computer, place the bar cursor over **UR-2** and press **< ENTER >**.
2. In the Ultimate ROM II menu, place the bar cursor over **TS-DOS**, press **< ENTER >**, and you are ready to go.

Note: Having selected **TS-DOS**, you may now see this question **Change HIMEM? (Y/N)**. This message tells you that there is another machine-language program in your computer. Press **< Y >** to remove this program; otherwise, first save the program and repeat the above steps.

Using FLOPPY.CO

If you are using the Tandy Portable Disk Drive with the Tandy 100 or 200 but lack the Ultimate ROM II, use the

FLOPPY.CO program included with your disk drive and load TS-DOS.CO into RAM from the TS-DOS disk. (You have no need for the TS-DOS cassette.) See your disk drive manual if you need help with FLOPPY.CO.

Then follow these steps:

1. Enter BASIC and type either of these:
CLEAR 256,57400 [for the Tandy 100]
CLEAR 256,55600 [for the Tandy 200]
Press < ENTER > and then < f8 > to leave BASIC.
2. Place the TS-DOS disk in your disk drive.
3. In the main system menu of your computer, place the cursor over **TS-DOS.CO** and press < ENTER >.
4. In a short time, the TS-DOS RAM file menu appears, and you are ready to begin using TS-DOS.

Loading from Cassette

If using the Brother FB100 disk drive or a NEC PC-8201 without the Ultimate ROM II, you must load TS-DOS.CO from cassette. Once it is loaded, you will never have to use the cassette again—unless you delete TS-DOS.CO from RAM. (It is likely, therefore, that you will want to leave it in your computer.)

To start TS-DOS, follow these steps:

1. Put the TS-DOS cassette into your cassette player. Connect the cassette player and the computer and turn both *on*.
2. Rewind the cassette to the beginning and press the < PLAY > button on the cassette player.

3. From the main system menu of your computer enter BASIC and type

RUN "CAS:LOADER.BA

Press < ENTER >. After a short time, LOADER.BA will have loaded TS-DOS.CO into your computer.

4. Leave BASIC and return to the main system screen.
5. Place the TS-DOS disk in your disk drive.
6. In the main system menu of your computer, place the cursor over **TS-DOS.CO** and press < ENTER >.
7. In a short time, the TS-DOS RAM file menu appears, and you are ready to begin using TS-DOS.

DOSXXX.CO: In RAM or on Disk?

As the operating program for TS-DOS, DOSXXX.CO must be available for use whenever you use the file menus. (This is not necessary for use of the TEXT and BASIC commands explained in Section 3.)

There are three ways of making DOSXXX.CO available for use:

- Store it in RAM
- Copy it to each of the disks with which you will be using TS-DOS
- Copy it to a master disk for use each time you want to use TS-DOS

With DOSXXX.CO on the computer menu, you have these advantages:

- TS-DOS will load faster.
- You will not have to copy DOSXXX.CO onto each disk.
- You will be able to use the file-management features of TS-DOS even when the disk drive is not attached.

With DOSXXX.CO copied to disk, you have these advantages:

- You will save the 5,000 bytes of RAM that would otherwise be occupied by DOSXXX.CO.
- You will be able to reload DOSXXX.CO from disk whenever you accidentally or intentionally clear your computer's memory.

Note: Even if located on disk, DOSXXX.CO is temporarily loaded into the high memory section of RAM while you are operating TS-DOS. It is removed as soon as you quit TS-DOS. Before operating TS-DOS, then, remember to leave 5,300 bytes of free memory in your computer.

Note, too, that if you use the TS-DOS Name command to rename a file in the disk drive, you should have an additional 1,300 bytes of free memory in your computer.

Copying DOSXXX.CO to RAM

Regardless of where you want to keep DOSXXX.CO—whether resident in RAM or on your disks—you must first load it into your computer. You can then leave it in RAM or copy it to your disks and delete it from RAM.

To copy DOSXXX.CO into RAM, follow these instructions:

1. Make sure that you have the TS-DOS loader program in your computer—either on the Ultimate ROM II chip or as **TS-DOS.CO** in RAM. (See pages 1-4 through 1-7.)
2. Place the TS-DOS disk in your disk drive and make sure that both disk drive and computer are turned *on* and connected.
3. If you have the Ultimate ROM II, select **TS-DOS** in the Ultimate ROM II menu.

If you do not have the Ultimate ROM II, select **TS-DOS.CO** in the main system menu of your computer.

4. In the next screen—the TS-DOS RAM file menu—respond to the **Disk** prompt by pressing < f4 > to summon the disk file menu.

5. Move the cursor over **DOSXXX.CO**, and press < f1 >.
6. In response to the next prompt, **Load as:**, press < ENTER >. Once you return to your main system menu, you will see that **DOSXXX.CO** is now in RAM.

Copying DOSXXX.CO to Disk

To avoid keeping DOSXXX.CO in RAM, you can copy it to your *formatted* disks. See page 2-9 for instructions on formatting disks.

1. Begin copying DOSXXX.CO to disk by placing a formatted disk in your portable disk drive.
2. If you have the Ultimate ROM II, select **UR-2** in the main system screen of your computer. Then in the Ultimate ROM II menu, select **TS-DOS**, and you are in the TS-DOS RAM file menu.

If you do not have the Ultimate ROM II, begin in the main system menu and select **TS-DOS.CO**. You are now in the TS-DOS RAM file menu.

3. In the TS-DOS RAM file menu, place the cursor over **DOSXXX.CO** and press < f1 >.
4. In response to the prompt **Save as:**, press < ENTER >.
5. Repeat steps 3 and 4 for each disk.

Operating TS-DOS

How you begin operating TS-DOS depends on where you have placed the DOSXXX.CO file.

With DOSXXX.CO on Disk

If you are using the Ultimate ROM II, select **TS-DOS** in the Ultimate ROM II menu.

If you lack the Ultimate ROM II, select **TS-DOS.CO** in the main system menu.

With DOSXXX.CO in RAM

If you are using the Ultimate ROM II, you have a choice: Select **TS-DOS** in the Ultimate ROM II menu or **DOSXXX.CO** in the main system menu.

If you lack the Ultimate ROM II, select **DOSXXX.CO** in the main system menu.

Where to Look in Section 2

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To print a directory of RAM or disk files	page 2-11

Introduction

TS-DOS offers the flexibility of operating from menus or, by means of TEXT and BASIC commands, outside the menus.

In the file menu, you can perform a variety of file-management operations simply by selecting a file with the bar cursor and pressing a function key to perform the desired operation. Also in the file menu you can use < CTRL > in combination with other keys to review the contents of files and to print a directory of your disks and RAM.

When using the TEXT commands, you are limited to two TS-DOS functions: load and save. By pressing a function key on the Tandy 100/200, you can load a file from disk into the RAM file you are working on; on the NEC PC-8201, you can perform this operation in the main system menu of your computer. Similarly, by pressing another function key, you can save a RAM file to disk.

In BASIC, you can use all the file-management commands either interactively, to achieve an immediate response, or as part of a program you write to use the full capacities of your disk drive.

For information on the use of these TEXT and BASIC commands, see Section 3.

The TS-DOS File Menus

There are two TS-DOS menus—one for files in RAM, the other for files on disk.

Before you can use either menu, you must have TS-DOS in your computer—either on the Ultimate ROM II chip or

loaded as **TS-DOS.CO**. And you must have **DOSXXX.CO** either in RAM or on the disk in your disk drive. If you haven't done so already, see *Starting TS-DOS*, page 1-4.

To operate TS-DOS and call up the RAM file menu, refer to *Operating TS-DOS*, page 1-11.

The RAM File Menu

Each time you select TS-DOS, the RAM file menu is the first to appear on your screen:

```

=====
TS-DOS (M100 1.02) (c) 1986, TSI, Inc.
CONFIG.DO UR-2 . SAMPLE.BA DOS100.CO
-- -- -- --
-- -- -- --
-- -- -- --
-- -- -- --
-- -- -- --
RAM Free:13313 File:318
Save Kill Name Disk DOS-OFF SAll Menu
=====

```

RAM File Menu

The RAM file menu should have a familiar look, resembling as it does the main system menu of your computer. Most of this menu is occupied by a list of all the files in RAM.

The significant differences in this menu occur in the bottom two lines: the very bottom line, showing the prompts for the TS-DOS function key commands, and the line above it—the status line.

The Status Line

The status line shows this information:

- RAM** Tells you that TS-DOS is displaying a menu of RAM files
- Free:** Tells you the number of bytes free in RAM
- File:** Displays in reverse video the size (in bytes) of the file selected by the bar cursor

Note that as you press the arrow keys to move the bar cursor from one file name to another, the value for **File:** changes to reflect the size of the currently selected file.

Function Key Commands

On the bottom line of the RAM file menu are listed the seven TS-DOS function key commands available here. On the Tandy 100/200 all seven commands appear at once. On the NEC PC-8201, five are listed at the outset; the other two appear when < **SHIFT** > is pressed.

Before using most of the function key commands, you must first move the bar cursor and select a file. Other options—like Disk, DOS-ON/OFF, and SAll—do not require you to select a file.

These are the function key commands in the RAM file menu:

f1 **Save:** Copies to disk the .DO, .BA, or .CO RAM file selected by the bar cursor. By pressing < **ENTER** > immediately after the **Save as:** prompt appears, you will assign to the file to be saved the name that appears on the RAM file menu. To save the file with a different name, type up to six characters—without .DO, .BA, or any other extension—and press < **ENTER** >. The file is saved once the **Save as:** prompt disappears.

To quit without completing the Save process, press < **CTRL** > < **C** > at the **Save as:** prompt.

Caution: Do not use the Save command with anything but .DO, .BA, or .CO files. To save any other files, including UR-2, use the SAll command.

If the name you assign to the file to be saved already exists on disk, this prompt will appear: **File exists. A)ppend R)replace Q)uit.** Press < **A** > to append the RAM file to the end of the disk file. (You cannot use the append feature with any files except .DO files.) Press < **R** > to replace the disk file with the RAM file. Press < **Q** > to quit the Save command without completing the operation.

Note: With the Append option, you can create a single disk file up to 64K in size. Though you could never load a file of this size directly into your computer, you could print it or view it on screen with the TS-DOS control commands. Or you could use it in combination with other disk software applications like T-Word on the Ultimate ROM II.

f2 **Kill:** Deletes the RAM file selected by the bar cursor. In response to the **Sure?** prompt, press < **Y** > to delete the file, any other key to leave it intact.

f3 **Name:** Renames the file selected by the bar cursor. In response to the **New Name:** prompt, type a six-character file name and press < **ENTER** >. (No need to type .DO, .BA, or any other extension.) If you do not want to rename the file, press < **ENTER** >.

f4 **Disk:** Replaces the RAM file menu with the disk file menu. Before pressing < **f4** >, be sure that your disk drive is connected to your computer and turned on. Otherwise, you will see this prompt: **Disk not in drive. Press any key.** Also make sure that the dip switches on your disk drive are set correctly. See Section 1 for the correct settings.



DOS-ON/OFF: Turns on and off the resident portion of TS-DOS. With this portion resident in RAM, you can operate TS-DOS with both TEXT and BASIC commands. See Section 3 for details.



Tandy



NEC

SAII: Saves to disk as a single file the entire contents of RAM. This file can be loaded back into RAM using the LAII function key command in the disk file menu. In response to the **System name:** prompt type up to nine characters—without .DO, .BA, or any other extension—and press < ENTER >.

If the file name you type already exists on the disk, you will see a prompt informing you of that fact. Press < R > to replace the disk file with the contents of RAM. Press < Q > to quit the operation without saving the contents of RAM.

To quit without completing the operation, press < CTRL > < C > at the **System name:** prompt.

Caution: Once the operation has begun, however, do not interrupt it. You may cold start your computer and lose its files.

Note: Unlike the Save command, this command does not allow you to append one file to another.



Tandy



NEC

Menu: Exits TS-DOS and returns to the main system menu of your computer or to the Ultimate ROM II menu, if available. If you are using TS-DOS with the Ultimate ROM II, the prompt for this command is **UR-2**.

The Disk File Menu

While in the RAM file menu, press < f4 > and the disk file menu appears:

TS-DOS (M100 1.02) (c) 1986, TSI, Inc.			
DOS100.CO	SAMPLE.BA	TS-DOS.CO	--
--	--	--	--
--	--	--	--
--	--	--	--
--	--	--	--
DISK Free: 89600		File: 4964	
Load	Kill	Name	Ram
Frmt	Page	LAII	Menu

Disk File Menu

As the RAM file menu does for RAM files, the disk file menu shows all the files on the disk now in your disk drive.

The Status Line

The second line from the bottom of the screen—the status line—shows this information:

- DISK** Tells you that TS-DOS is displaying a menu of disk files
- Free:** Tells you the number of bytes free in the disk
- File:** Displays in reverse video the size (in bytes) of the file selected by the bar cursor

Note that as you press the arrow keys to move the bar cursor from one file name to another, the value for **File:** changes to reflect the size of the currently selected file.

Function Key Commands

On the bottom line of the disk file menu are listed the eight TS-DOS function key commands available here.

Three of the commands—Kill, Name, and Menu—work with disk files exactly as they do with RAM files in the RAM file menu.

Three of the other commands reverse the operations of their counterparts in the RAM file menu: Load restores files Saved in the RAM file menu; LAll restores a file saved using the SAll command in the RAM file menu; and Disk returns to the RAM file menu.

The remaining two commands—Frmt and Page—are unique to the management of disk files.

These are the function key commands in the disk file menu:

f1 Load: Copies to RAM the .DO, .BA, or .CO disk file selected by the bar cursor. By pressing < ENTER > immediately after the **Load as:** prompt appears, you will assign to the file to be loaded the name that appears on the disk file menu. To load the file with a different name, type up to six characters—without .DO, .BA, or any other extension—and press < ENTER >. The file is loaded once the **Loaded as:** prompt disappears.

If the file name you type already exists in RAM, you will be notified. Press < Y > to replace that RAM file with the disk file, < N > to leave the files as they are.

f2 Kill: Deletes the disk file selected by the bar cursor. In response to the **Sure?** prompt, press < Y > to delete the file, any other key to leave it intact.

f3 Name: Renames the file selected by the bar cursor. In response to the **New Name:** prompt, type a six-character file name and press < ENTER >. (No need to type .DO, .BA, or any other extension.) If you do not want to rename the file, press < ENTER >.

f4 RAM: Returns to the RAM file menu.

f5 Frmt: Formats a blank 3 1/2-inch disk for your portable disk drive. Press < Y > to begin formatting; press any other key to return to the disk menu without formatting.

Caution: If you are not sure whether a disk contains data, it is a good practice *before formatting* to use the **Page** command key to make this determination. Any data on a disk when you format it will be lost.




f6 Page: Displays the second page of disk files whenever a disk contains more than 20 files on the Tandy 100 or 21 on the NEC. This command will never be needed on the Tandy 200, since it can display at once all 40 of the files allowed on the disk drive.

The Page command also performs this important function: It “relogs” a new disk. Each time you change disks, press (f6) → f5 > to relog that disk before using any of the other commands.

f7 LAll: Loads to RAM the entire contents of RAM you have previously saved to disk as a single file using the SAll command. Before pressing the LAll function key,

select the file name you assigned when you saved it. In response to the **Sure ?** prompt, press < Y > to reload the contents of this file, any other key to abort the operation.

Caution: If you want to save any files currently in RAM, do so *before* using the LAll command. Restoring a file saved with the SAll command removes everything currently in RAM and replaces it with all the files the SAll command saved. Also, do not interrupt this operation once it has begun; you may cold start your computer if you do.



   **Menu:** Exits TS-DOS and returns to the main system menu of your computer or to the Ultimate ROM II menu, if available. If you are using TS-DOS with the Ultimate ROM II, the prompt for this command is UR-2.

Control Key Commands

While using the RAM and disk file menus, you can



- print the contents of a .DO file in RAM or on disk
- display on your computer screen the contents of a .DO file in RAM or on disk
- print a directory of all your files in RAM or on disk



All of these operations are performed by pressing < CTRL > and a letter key. (Hold down < CTRL > while pressing the letter key.)

  **Prints** the contents of the .DO file selected by the bar cursor in the RAM or disk file menu.

Once the printing has started, press any of these keys:

- < SPACE > to pause the printing and to resume it
- < ESC > to cancel printing (or press < SHIFT > < BREAK > on the Tandy 100/200, < SHIFT > < STOP > on the NEC)

  **Displays on the computer screen** the contents of the .DO file selected by the bar cursor in the RAM or disk file menu. Press < SPACE > or < ESC > to pause or cancel the operation, as with < CTRL > < P >. Once a file is displayed in its entirety, press any key to return to a TS-DOS menu.

  **Prints the directory of files** in RAM or on the disk in the disk drive.

Using a printer with compressed print mode, you can print directories small enough to attach to 3 1/2-inch disks.

Where to Look in Section 3

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The Resident Portion of TS-DOS

THE small resident portion of TS-DOS is integrated with the TEXT and BASIC programs built into your computer.

While in TEXT on the Tandy 100/200, you can copy files to and from disk. On the NEC you can perform the same operations with TEXT files from the main system menu.

If you program in BASIC, you can write new programs—or convert existing programs—to use all the capabilities of the portable disk drive.

The resident portion does not give you access to the TS-DOS file menus, but at only 2.7K, it does save memory space. After installing this resident portion in high memory, you can use it with TEXT files and in BASIC without having the TS-DOS loader program in your computer or the DOSXXX.CO program either resident in RAM or accessible on disk.

Installing the Resident Portion



To install the resident portion of TS-DOS, simply press < f5 > in the RAM file menu of TS-DOS. The function key prompt will change from **DOS-OFF** to **DOS-ON**, indicating that the resident portion is now installed.

Because this portion of TS-DOS is resident in high memory, you will not see it listed as a file in the main system menu of your computer.

Owners of the Ultimate ROM II should not try to use the

ROM View-80 program with the resident portion of TS-DOS. To install one in high memory, you must first remove the other.

Removing the Resident Portion

The resident portion will remain active until you return to the TS-DOS RAM file menu and turn it off by pressing < f5 >.

If the TS-DOS RAM file menu is *not* available, you must enter BASIC to remove the resident portion. The routines described below may be used in BASIC programs you write yourself.

On the Tandy 100/200. To remove the resident portion while in BASIC, type the following and press < ENTER >:

```
IF PEEK(MAXRAM)=73 THEN CALL MAXRAM*7
```

On the NEC PC-8201. To remove the resident portion while in BASIC, type the following and press < ENTER >:

```
MRI=PEEK(63948)+PEEK(63949)-256:
IF PEEK(MRI)=73 THEN EXEC MRI*7
```


TS-DOS TEXT Commands

With the resident portion of TS-DOS installed, you can both load and save TEXT files to and from disk.

On the Tandy 100/200, these operations are performed while editing a file in TEXT. On the NEC, they are performed in the main system menu.

Remember that the resident portion of TS-DOS must be installed before you can use it. If it isn't installed, this message will appear: **Aborted**.

Saving Files

 Saves a TEXT file to disk. On the Tandy 100/200, press < f3 > while in a TEXT file. On the NEC, select a TEXT file in the main system menu and press < f2 >.

On the Tandy 100/200. When you press < f3 >, this prompt appears: **Save to:**. Type **Ø:** and then up to six characters for the name under which you want the file to be saved on disk—no **.DO** extension required. Press < ENTER >.

If you press < ENTER > without typing a file name, you will abort the process.

Caution: If you type a file name that already exists on disk, the TEXT file in RAM will overwrite the disk file with that name.

On the NEC PC-8201. When you press < f2 >, this prompt appears: **SAVE filnam.DO as __**. Type **Ø:** and then up to six characters for the name under which you want the file to be saved on disk. End the file name with **.DO**. Press < ENTER >.

If you type **⓪**: and press **< ENTER >**, the file selected by the bar cursor will be saved with its current file name.

Caution: If you designate a file name that already exists on disk, the TEXT file in RAM will overwrite the disk file with that name.

In response to the query **Ready?__**, press **< Y >** or **< ENTER >** to begin the save process.

Loading Files



Loads a file from disk and places it at the end of a TEXT file. On the Tandy 100/200, press **< f2 >** while in a TEXT file. On the NEC, press **< f1 >** in the main system menu.

On the Tandy 100/200. When you press **< f2 >**, this prompt appears: **Load from:**. Type **⓪**: and then the file name you wish to load from disk—no **.DO** extension required. Press **< ENTER >**.

If you press **< ENTER >** without typing a file name, you will abort the process.

On the NEC PC-8201. When you press **< f1 >**, this prompt appears: **Load from__**. Type **⓪**: and then up to six characters for the name of the file to be loaded. End the file name with **.DO**. Press **< ENTER >**.

In response to the query **Save as __**, type up to six characters and a **.DO** extension for the name you want in RAM. (Omit the **⓪**: prefix.)

In response to the query **Ready?__**, press **< Y >** or **< ENTER >** to begin the loading process.

If the file name you type in response to the **Save as__** prompt already exists in RAM, you will see this message: **Sure?__**. Press **< Y >** to begin loading over the file in RAM; press any other key to cancel the load command and preserve the contents of the RAM file.

TS-DOS BASIC Commands

Through the resident portion of TS-DOS you can access your portable disk drive with standard BASIC commands. Whenever you use an input or output command, remember to precede the file name with the **Q:** prefix to designate a disk file instead of the RAM file default.

■ **Note:** Only one disk file can be open at a time. Close a disk file *before* opening another.

In practice, this means that you must separate your disk file read and write commands. Once you have opened a disk file, you cannot use any disk commands other than CLOSE or variations of INPUT and PRINT.

The following is a list of some of the BASIC commands you can use with your portable disk drive. Included with many of the commands are references to lines in the sample BASIC program in Appendix B in which the commands are used. (This program is stored on the TS-DOS disk as **SAMPLE.BA**.)

Command	Operation and Example
CLOSE	Closes a file <i>Example:</i> CLOSE #1 (See lines 240, 3830, 4070, 4600)
EOF	Determines if the end of a sequential file is reached <i>Example:</i> IF EOF(1) THEN GOTO 4600 (See lines 4050, 4580)
INPUT\$	Returns a specified number of characters from a file <i>Example:</i> AS=INPUT\$(5, #1)

Command	Operation and Example
INPUT#	Reads data from a file <i>Example:</i> INPUT#1, AS, BS, CS (See lines 4020, 4530)
KILL	Kills a file in RAM or on disk <i>Example:</i> KILL "Q:file.BA" (See line 3030)
LFILES	Lists files on a disk and shows amount of free space <i>Example:</i> LFILES (See line 1520)
LINE INPUT#	Reads a string of characters terminated by a carriage return <i>Example:</i> LINE INPUT#1, AS
LOAD	Loads a BASIC program from the disk into memory <i>Example:</i> LOAD "Q:file.BA"
LOADM (Tandy) BLOAD (NEC)	Loads a machine-program into memory <i>Example:</i> LOADM "Q:file" or BLOAD "Q:file"
MERGE	Merges two BASIC programs <i>Example:</i> MERGE "Q:file"
NAME	Renames a file <i>Example:</i> NAME "Q:old" AS "Q:new" (See line 2580)
OPEN	Opens a file for input or output; OUTPUT, INPUT, APPEND modes are available for use <i>Example:</i> OPEN "Q:file" FOR OUTPUT AS 1 (See lines 3810, 4010, 4520)

Command	Operation and Example
PRINT#	Prints data to a open file <i>Example: PRINT#1, A\$, b\$</i> (See line 3820)
PRINT# USING	Prints formatted data to a open file <i>Example: PRINT#1 USING "##.###";A</i>
RUN	Loads a BASIC program and begins execution <i>Example: RUN "0:file"</i>
RUNM (Tandy)	Loads and runs a machine-language program <i>Example: RUNM "0:file"</i>
SAVE	Saves a BASIC program to disk (Include a .DO extension, to store the program in an ASCII format; omit any extension or type .BA to store in binary format.) <i>Example: SAVE "0:file.BA"</i>
SAVEM (Tandy) BSAVE (NEC)	Saves a machine-language program to disk. Specify start location, end location (length on the NEC), and execution address (optional on the NEC). <i>Examples:</i> <i>SAVEM "0:file", 60000, 60900, 62000</i> <i>BSAVE "0:file", 60000, 901, 60000</i>

The Sample BASIC Program

SAMPLE.BA is included on your TS-DOS disk mainly to illustrate the use of BASIC commands to access disk and RAM files though you may well find use for this small (4K) program—either as it exists or as you modify it to your needs.

With SAMPLE.BA you can add records to a name and address file on disk or in RAM, and then print or list on screen the contents of such a file.

The program also shows RAM and disk directories and lets you kill and rename files in RAM or on disk.

Starting SAMPLE.BA

To load SAMPLE.BA, place the TS-DOS disk in your disk drive. Go to the TS-DOS disk file menu, place the cursor over **SAMPLE.BA**, and press < f1 > to load. Press < ENTER > in response to the **Load as:** prompt.

Before running SAMPLE.BA, you must install the resident portion of TS-DOS. In the TS-DOS disk file menu, press < f4 > to return to the RAM file menu; then press < f5 > to install the resident portion. Exit TS-DOS and return to the main system menu.

Using SAMPLE.BA

In the main system menu, place the bar cursor over **SAMPLE.BA** and press < ENTER >. This screen then appears:

```

=====
Main Menu
====  ====
(D)irectory          (A)dd record
(S)elect a file      (L)ist report
(R)ename a file      (P)rint report
(K)ill a file        (Q)uit

File: Not Selected
=====

```

The eight options are listed in two columns. The first letter of each option is enclosed in parentheses. To select an option, press the letter in parentheses—as an upper- or lowercase letter.

Example: Press < D >—or < d >—to select (D)irectory. This prompt then appears: (R)am or (D)isk. Press < R > for the directory of RAM files, < D > for the directory of disk files. Press any key to return to the main menu.

Note this message at the bottom of the main menu: **File: Not Selected.** You must select a file *before* renaming or killing files, adding records, or listing or printing reports.

To select a file, press < S >. This prompt then appears:

```
File name: [ . . . . . ]
```

Type the file name in upper- or lowercase and press < ENTER >. (Whether you include the .DO file is up to you.) The name you type should be that of an *existing* file unless you intend to open a new file and immediately begin to enter name and address records with the (A)dd record option.

The next prompt gives you the chance to designate the location of the file: (R)am or (D)isk. Press the appropriate key and you are returned to the main menu.

With the (A)dd record option, you can add records to a

name and address file. Having pressed < A >, type the person's first name and press < ENTER >. Type the last name, press < ENTER >, and continue through street address, city, state, and ZIP code.

Once a record is complete, you have the chance to review its contents and tell the program whether the information you have entered is correct. Press < Y > to let it stand and to move to the next record. If you press < N >, you have the chance to re-enter the entire record.

To stop entering records, press < 0 > and < ENTER > in the first name field.

Press < L > to list on your screen the contents of your name and address file; press < P > to print the file. Note that these two options can be used only with files you have created using the (A)dd record option of this program.

With the (R)ename option, you will be asked to enter a new file name. Then you must designate whether the file is in RAM or on disk. Pressing < R > for a file now on disk, for example, will produce an error message and abort the program.

Press < K > to kill the selected file. Then press < Y > to complete the process, < N > to leave the file intact.

Press < Q > to leave the program and return to the main system menu.

A Program Guide

Outlined on the next page are the major routines of the SAMPLE.BA program, listed in its entirety in Appendix B. The numbers refer to the lines in which the routines appear.

Main program	15-220
(D)irectory option	1500-1540
(S)elect a file option	2000-2060
(R)ename a file option	2500-2580
(K)ill a file option	3000-3040
(A)dd record option	3500-3830
(L)ist record option	4000-4070
(P)rint report option	4500-4600
(R)am or (D)isk prompt	8000-8060
Optional entry of .DO extension	8050-8060
Select a file first prompt	8500-8520
Centering text on screen	9000-9020
Get character routine	9500-9520
Get string input routine	10000-20530

Appendix A: Error Messages

While Using the TS-DOS File Menus or the TEXT commands

Aborted	You tried to use the TS-DOS TEXT commands without installing the resident portion through the RAM file menu.
Communication Error	The dip switches on the Tandy Portable Disk Drive may not all be turned <i>off</i> . The disk may be damaged or the disk drive may not be functioning properly.
Directory Full	Whether in RAM or on disk, you have used up all of the file slots and cannot enter a new file without deleting an existing file.
Disk Full	The disk has no more memory space, or, using the append option, you tried to create a file larger than 64K.
Disk not in Drive	There is no disk in the disk drive.
Drive not Ready	Your disk drive is not turned <i>on</i> , or it is not connected to your computer.
Drive Trouble	Your disk drive has an internal operating problem.

- File Empty** The file you are trying to copy or rename is empty. It must have at least one character.
- File Exists** When renaming a file, you have designated as the new name a name that already exists in RAM or on disk.
- Printer not Ready** The printer is not turned *on* or it is not connected to the computer.
- RAM Full** Your computer has no more memory space.
- Write Protect** If copying to a disk or renaming a file on disk, make sure that the write-protect tab covers the hole.

While Programming in BASIC

Note: The errors listed below have special meaning with TS-DOS. For a complete list of error messages, consult your BASIC manual.

- #5 FC** **Function call error:** The resident portion of TS-DOS may not be turned on. Check the RAM file menu and press < f5 > if the prompt for that key reads **DOS-OFF**. This message may also appear when you try to load a machine-language program into high memory or rename a file as one that already exists.
- #7 OM** **Out of memory error:** There is not enough free memory in your computer for the file you want to load from disk. Or, if you are renaming a file, you have

not left the 1,300 bytes free necessary to perform this operation.

- #18 IO (Tandy)**
#24 IO (NEC) **Input/output error:** There may be a variety of causes. Check your disk drive and see that it is turned *on* and connected to your computer. On the Tandy Portable Disk Drive, make sure that the dip switches are all turned *off*. Make sure that there is a *formatted* disk in the drive and its write-protect tab is *off*.
- #26 UE** **Undefined error:** The file you are trying to copy is empty. TS-DOS cannot copy files unless they contain at least one character.
- #52 FF** **File not found:** The file you have designated does not exist on the disk.
- #54 EF** **Input past end of file:** With your INPUT commands, you are trying to read something not included in the file.
- #55 NM** **Bad file name:** The file name you have specified may not meet the requirements of your computer. Or in renaming a file, you have not included an extension.
- #57 FL** **Disk limit error:** There is no more free memory on the disk, or you have used up all the file slots.

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