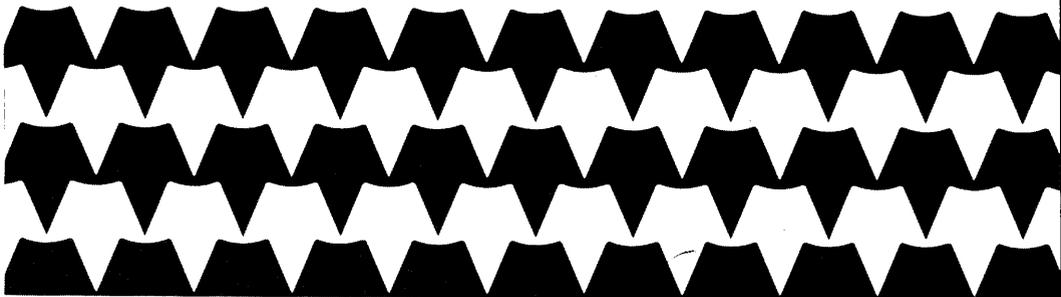


Tandy 1000 EX

3 $\frac{1}{2}$ " 720K

External Disk Drive

Installation Guide



The FCC Wants You to Know

This equipment generates and uses radio frequency energy. If not installed and used properly, that is in strict accordance with the manufacturer's instructions, it may cause interference to radio and television reception.

It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

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
- Move the computer away from the receiver
- 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.

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Tandy 1000 EX 3 1/2" 720K External Disk Drive Installation Guide:
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MS-DOS is a registered trademark of Microsoft Corporation.

Installation

Adding Tandy's 720K External Disk Drive to your computer as a secondary disk drive significantly increases the amount of disk storage. This 3½" floppy disk drive supports all standard MS-DOS® version 2.11.24 and ROM BIOS commands and uses the 3.5-inch, 80-track microfloppy diskettes.

- **720K bytes formatted storage, 1M byte unformatted**
- **Uses 3½", double-sided, double-density diskettes**
- **Connects to computer via a cable**
- **Front loading, horizontally-mounted**

The external disk drive connects directly to your computer by the cable from the drive's rear panel.

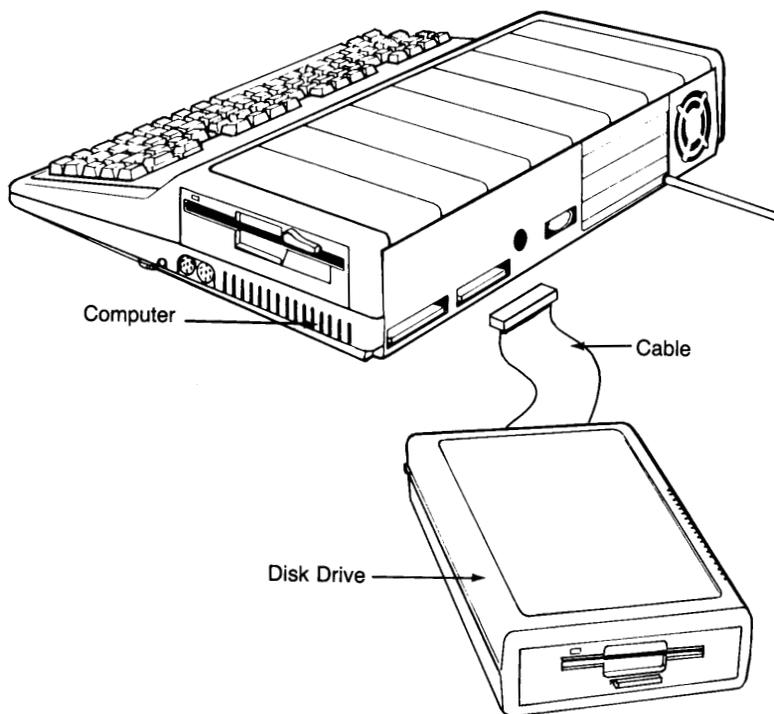
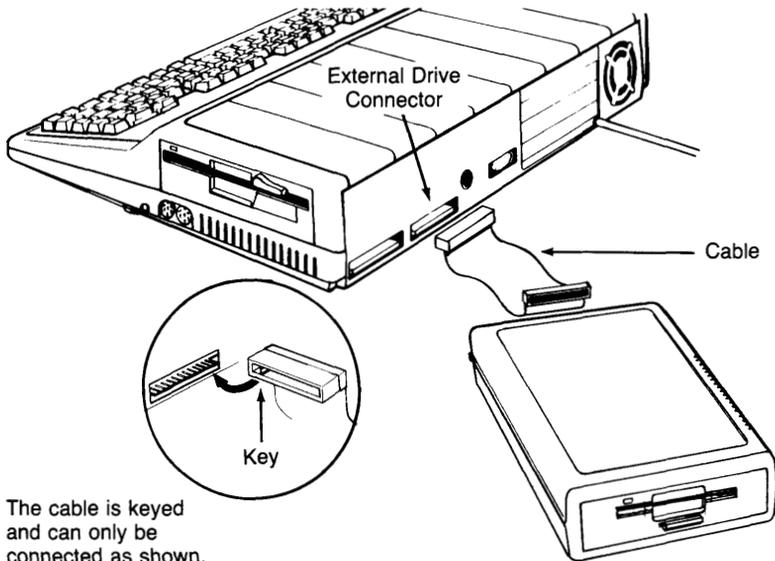


Figure 1. Disk Drive-to-Computer Connection

Connecting the Disk Drive

Caution should be exercised when using the disk drive in low humidity environments to prevent damage to electronic parts by static electricity being discharged through them. Before proceeding further, discharge any static electricity build-up by touching a grounded metal object.

1. **Turn off power to all equipment.** Disconnect the power cord from the electrical outlet. If the computer is on, you could damage the central processing unit, as well as your external disk drive.
2. Connect the external disk drive's cable to the **EXTERNAL DRIVE** connector on the rear panel of the computer and to the disk drive.



The cable is keyed and can only be connected as shown.

Figure 2. Connecting the Disk Drive

Your new external disk drive is now ready for operation with your computer.

Inserting the Diskette

Storing your files on diskettes gives you unlimited data file storage space. The disk drive uses a 3½", soft-sectored, double-sided, double-density, 80-track microfloppy diskette (Radio Shack Cat. No. 26-417 or 26-418).

1. Follow the instructions in your computer operation manual for powering up the system.

Cover the **write-protect notch** (square hole in the upper right corner) on the **diskette** when you want to save or change information on the diskette. Otherwise, the disk drive cannot write (change information) on the diskette. Move the small **tab** (normally red or black) **down** to write-enable the diskette or move it **up** to write-protect.

2. Insert the diskette with the **label side** up into the disk drive **insertion window**.

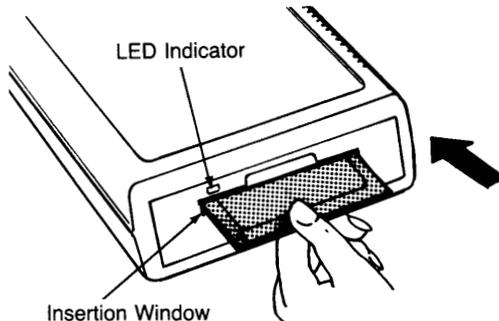


Figure 3. Inserting the Diskette

The **LED indicator** will light while the drive is in use. Push in the **eject button** below the insertion window to remove the diskette.

Before turning off power to the system, be sure to remove the diskette. Leaving it in the drive may result in loss of the contents of the diskette.

For instructions on using **data diskettes**, **making backups** and **formatting a diskette**, refer to the first part of *A Practical Guide to the Tandy 1000 EX*.

Accessing Information

Information can be accessed from your secondary disk drive and copied to the 5¼" internal drive of the computer.

To access the secondary drive, give the drive reference in the command or pathname. For example, you might type:

dir b: or

b:\program

A special function key is used to boot a diskette in the secondary drive which is designated as **Drive B**. Press F3 during bootup after you hear the beep to swap drives and change the secondary drive's reference to **Drive A**.

For details on using software with your disk drive, refer to the first part of *A Practical Guide to the Tandy 1000 EX*.

Care and Maintenance

Your disk drive is designed to be free from periodic maintenance when it is operated within normal operation duty.

- Five-year design component life
- MTBF (mean-time-between-failure) equals 10,000 hours or more with power on for typical usage

It is recommended that you clean the magnetic head with a cleaning disk to maintain reliability of the data.

If some of the parts in the disk drive are operated at a specially heavy-duty condition, or if it is operated over 5 years, it is recommended that you have the unit serviced by a qualified Radio Shack technician.

Do not apply excessive impact or drop the disk drive on the desk.

When Something Goes Wrong —

Soft (read, write, seek and interchange) errors are often mistaken for errors caused by problems or misadjustments of the disk drive. Be sure to check the following before returning the disk drive to a Radio Shack service facility for repair:

1. Proper operational or programming procedure is followed.
2. Diskette is not damaged.
3. Disk drive or diskette is not exposed to dust in the air, random electric interference or other external cause.

If you do not find a damaged part on visual inspection, check whether the error is repeated on the current diskette or whether the same error results with another diskette.

Specifications

Performance

Data capacity	1M byte, unformatted 720K bytes, formatted
Access time	
Average access time	94 msec.(including 15 msec. settling time)
Track-to-track	3 msec.
Motor start time	Less than 400 msec.
Disk speed	300 rpm
Average latency	100 msec.

Physical/environmental

Interface cable	30-pin, card edge (keyed)
Power requirement	
DC, +12V	
Voltage tolerance	Read/write operation: Less than $\pm 10\%$ Others: Less than $\pm 10\%$
Allowable rippled voltage	Less than 200mVp-p (including noise)
Operating current consumption	105mA, typical average (using a disk of typical running torque) Less than 180mA, max. avg. (using a disk of maximum run- ning torque) Peak: Less than 230mA (400 msec., maximum at spindle motor start)
Waiting current con- sumption (spindle motor off)	0.2mA, typical 0.5mA, maximum

DC, +5V

Voltage tolerance	$\pm 5\%$
Allowable ripple voltage	Less than 100mVp-p (including noise)
Operating current consumption	170mA, typical average Less than 200mA, max. avg. Peak: Less than 240mA
Waiting current consumption	4mA, typical Less than 6.8mA, maximum

Power consumption

2.11W, typical operating
22mW, typical waiting

Operating temperature

55°F to 85°F (12.8°C to 29.4°C)

Humidity

Operating environment 90% relative humidity (non-condensing)
Storage 90% (non-condensing)

Dimensions

2.55"H x 6.54"W x 11.2"D
(64.8mm) x (166mm) x (285mm)

Weight

3.7 lbs. (1.68 kg.)

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**Addendum to
Floppy Disk Drives
25-1060 and 25-1061**

Your new 3½" or 5¼" disk drive cable assembly might have a single ground wire (with a connector) on one end only. If so, plug the connectors on this end of the cable assembly into the disk drive. Plug the metal covered connector on the other end of the cable assembly into your computer.

If your computer has a single ground wire (with connector) extending from the back, simply ignore it.

Your new drive will perform properly with the enclosed drive cable.

875-9414

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