Radio Shack®

TRS-80 Model II
Disk Expansion System

26-4160 One-Drive Expansion System
26-4161 Two-Drive Expansion System
26-4162 Three-Drive Expansion System
26-4163 Disk Drive Kit (adds on to your 26-4160 or 26-4161)

SERVICE POLICY

Radio Shack's nationwide network of service facilities provides quick, convenient, and reliable repair services for all of its computer products, in most instances. Warranty service will be performed in accordance with Radio Shack's Limited Warranty. Non-warranty service will be provided at reasonable parts and labor costs.

Because of the sensitivity of computer equipment, and the problems which can result from improper servicing, the following limitations also apply to the services offered by Radio Shack:

1. If any of the warranty seals on any Radio Shack computer products are broken, Radio Shack reserves the right to refuse to service the equipment or to void any remaining warranty on the equipment.

2. If any Radio Shack computer equipment has been modified so that it is not within manufacturer's specifications, including, but not limited to, the installation of any non-Radio Shack parts, components, or replacement boards, then Radio Shack reserves the right to refuse to service the equipment, void any remaining warranty, remove and replace any non-Radio Shack part found in the equipment, and perform whatever modifications are necessary to return the equipment to original factory manufacturer's specifications.

3. The cost for the labor and parts required to return the Radio Shack computer equipment to original manufacturer's specifications will be charged to the customer in addition to the normal repair charge.
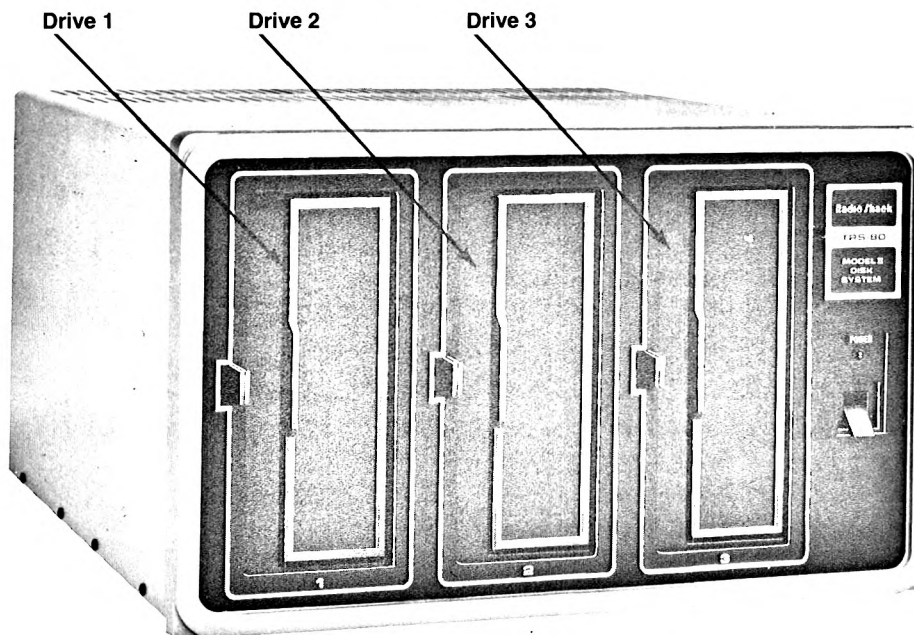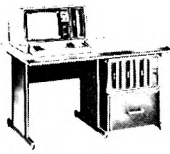
General Information

The Model II TRS-80 Disk Expansion System consists of a metal case containing a power supply with special built-in filters, cables, and one, two, or three disk drives. If you purchase a one-drive or two-drive Disk Expansion System, you can buy additional drives (Catalog Number 26-4163) for it later.

Each disk drive which is added to the Disk Expansion System increases on-line storage capacity by half a million bytes. Therefore, a Model II Computer with a fully equipped Disk Expansion System − four drives in total − will offer two million bytes of mass storage.

Drive 1   Drive 2   Drive 3

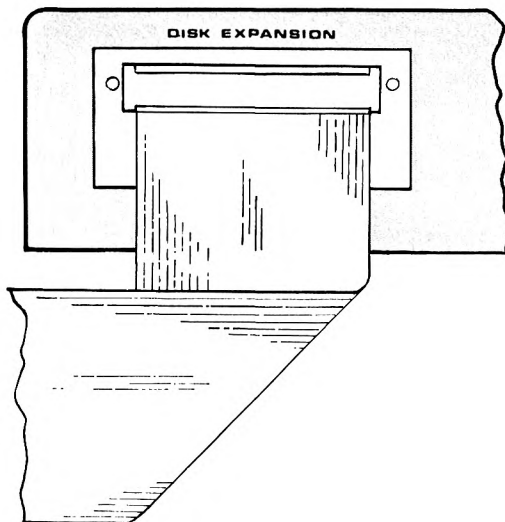*Disk Expansion System with three drives.*

Setting Up

Once you've removed the Disk Expansion System from its packing carton, place it near the Computer in any convenient arrangement. If you own a 26-4301 Model II System Desk, place the Disk Expansion System in the drive bay for maximum compactness and convenience.

Each drive in the Expansion System has its own built-in cooling fan. For proper operation, be sure to provide at least one inch clearance along the top and rear of the unit to ensure adequate circulation of air.

The Computer and Disk Expansion System should both be off. Now plug the Disk Expansion System's power cord into a 120 VAC power source. **Do not attempt to defeat the safety-ground.** If a 3-prong outlet is not available, use a 3-to-2 adapter and ground the adapter.

You are now ready to attach the Disk Expansion System to your Model II TRS-80. Notice the **DISK EXPANSION** connector on the rear of the Model II Display Console. If a terminator plug is connected, remove it. Also notice the ribbon cable that exits from the back of the Disk Expansion System. Plug the 50-pin connector on the end of the ribbon cable into the **DISK EXPANSION** connector. The cable must exit **from the bottom of the connector,** as illustrated.

Note: If you want to operate the Computer **without** the Disk Expansion System, you must re-install the terminator plug on the Computer.

Proper orientation of connector on back panel of Display Console.

Powering Up

1. You must leave the Disk Expansion System on at all times the Computer is in operation, even if the extra drives are not in use.
2. **With all drives empty**, turn on the Computer (Display Console). The message "INSERT DISKETTE" should appear on the display within 10 seconds. If the message doesn't appear, RESET the Computer. If it still doesn't appear, check the Brightness adjustment (the knob is in the recessed area at the base of the Display Console). If the message still doesn't appear, turn the Computer off and check all connections. Wait at least 15 seconds before starting over with the power-up sequence.
3. When "INSERT DISKETTE" is displayed, turn on the Disk Expansion System and all other peripherals. The red LED above the Expansion System power switch will light up, indicating power is on.
4. Insert a TRSDOS diskette into drive Ø and close the drive door. The Computer will start the operating system.
5. Before turning the Computer System off, remove all diskettes from all drives. Turn off the entire System. Wait at least 15 seconds before turning the System on again. Always start power-on at step 1 above.

Never remove a diskette while the system is writing to a disk or while it contains open files. Otherwise you could lose the contents of the entire diskette.

Since the disk expansion system drives do not have in-use indicators, you should write your programs so they signal the operator via the display that a drive is in use — especially if the operator will be required to swap diskettes during program execution.
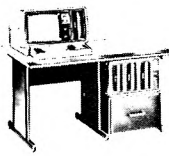
Diskettes

The Disk Expansion System uses Radio Shack 8" single-sided diskettes (Catalog Number 26-4905). Radio Shack subjects its diskettes to extensive and thorough quality-control procedures before they are released for sale. Some other manufacturers may not follow this practice; therefore, Radio Shack cannot guarantee proper diskette operation when non-Radio Shack diskettes are used in the Computer or Disk Expansion System.

Additional Drives

If you should decide to purchase an additional drive or drives for your Disk Expansion System, bring the unit to your local Radio Shack for upgrading.

Caution: The Disk Expansion System is designed for use **only** with Model II add-on drives (26-4163). Do not install any other disk drive unit.

In Case of Trouble . . .

If you're having problems with your Disk Expansion System, consult the table below. If nothing helps, the unit will need to be serviced. Bring it to your local Radio Shack for repairs and service.

PROBLEM	POSSIBLE CAUSE
Power won't come on.	Not plugged in properly. Fuse needs to be replaced.
Computer won't operate when Expansion System is connected.	Connector not properly attached to Computer. Expansion System power off.
Frequent disk I/O errors.	Bad diskette, try another one.
Error Message during Power-on/Reset sequence.	Disk Expansion System power off. Be sure unit is plugged in and power is on. Check all connections. Refer to **Model II Operation Manual**

Specifications

Power Requirements	105 - 130 VAC, 60 Hz 240 VAC, 50 Hz (Australian) 220 VAC, 50 Hz (European) Grounded Outlet
Typical Power Consumption	26-4160: 139 Watts 26-4161: 215 Watts 26-4162: 302 Watts
Total Storage Capacity (see **TRSDOS Reference Manual** for user storage capacity)	509,184 bytes per diskette†
Diskette Organization **Tracks per diskette** **Sectors per track**† **Bytes per sector**†	 77 (0-76) 26 (0-25) 256 (except track 0 = 128)
Data Transfer Rate	500,000 bits per second (except track 0 = 250,000 bps)
Required Media	Radio Shack 8" Floppy Diskettes, Catalog Number 26-4905 (one diskette) Catalog Number 26-4906 (pkg of 10)
Preventive Maintenance Interval	8000 Power-On Hours (typical usage) 5000 Power-On Hours (heavy usage) (check with Radio Shack Service Center).
Diskette Life*	3.5 million passes per track
Operating Temperature Range	$55^O - 85^O$ F $13^O - 29^O$ C

†These are determined by the operating system software. Refer to the **TRSDOS Reference Manual,** Technical Information section for details.

*In practice, diskette life is usually limited by improper handling. For maximum life follow handling recommendations in the **Model II Operation Manual.**

LIMITED WARRANTY

For a period of 90 days from the date of delivery, Radio Shack warrants to the original purchaser that the computer hardware unit shall be free from manufacturing defects. This warranty is only applicable to the original purchaser who purchased the unit from Radio Shack company-owned retail outlets or duly authorized Radio Shack franchisees and dealers. This warranty is voided if the unit is sold or transferred by purchaser to a third party. This warranty shall be void if this unit's case or cabinet is opened, if the unit has been subjected to improper or abnormal use, or if the unit is altered or modified. If a defect occurs during the warranty period, the unit must be returned to a Radio Shack store, franchisee, or dealer for repair, along with the sales ticket or lease agreement. Purchaser's sole and exclusive remedy in the event of defect is limited to the correction of the defect by adjustment, repair, replacement, or complete refund at Radio Shack's election and sole expense. Radio Shack shall have no obligation to replace or repair expendable items.

Any statements made by Radio Shack and its employees, including but not limited to, statements regarding capacity, suitability for use, or performance of the unit shall *not* be deemed a warranty or representation by Radio Shack for any purpose, nor give rise to any liability or obligation of Radio Shack.

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U.S.A.: FORT WORTH, TEXAS 76102
CANADA: BARRIE, ONTARIO L4M 4W5

TANDY CORPORATION

AUSTRALIA	BELGIUM	U. K.
280-316 VICTORIA ROAD RYDALMERE, N.S.W. 2116	PARC INDUSTRIEL DE NANINNE 5140 NANINNE	BILSTON ROAD WEDNESBURY WEST MIDLANDS WS10 7JN

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