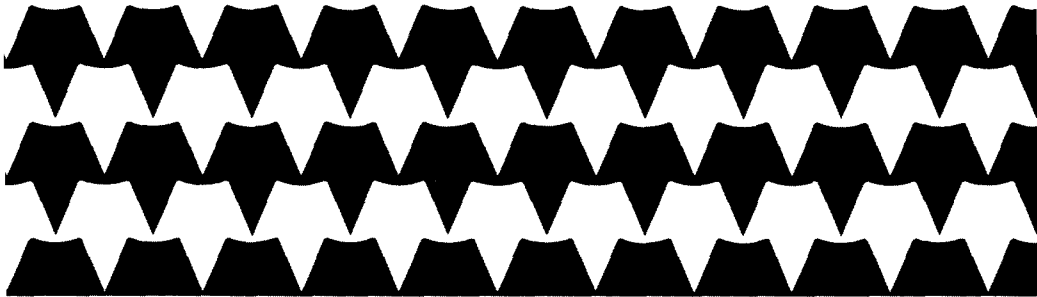


20 Meg Hard Disk Drive

Installation Instructions



Tandy 20 Meg Hard Disk Drive Installation Instructions
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20 MEG HARD DISK DRIVE INSTALLATION INSTRUCTIONS

Introduction

Adding an internal hard disk drive to the computer significantly increases the amount of disk storage available in the computer.

The internal hard disk drive must be installed by the service technicians at your Radio Shack Service Center. Doing so not only ensures expert installation, but also enables the technicians to quickly check to be sure all the equipment is functioning properly.

Note: If you are installing the first internal hard disk in the system a Hard Disk Controller board must be installed in the computer at this time. See the installation instructions in the Hard Disk Controller Kit.

Drive Installation

Caution should be exercised in low humidity environments to prevent damage to electronic parts by static electricity being discharged through them. Discharge any built-up static electricity by touching a grounded metal object before proceeding further.

Warning: Turn off all equipment. Turn the power off and disconnect the power cord from the back of the computer. If the computer is on, you could damage the central processing unit, as well as the hard disk drive.

Before proceeding with the installation of the hard disk drive, be sure the kit contains the disk drive and a copy of the media error map. If necessary, make a second copy of the media error map (to be slipped into the plastic envelope attached to the top of the computer drive support). Firmly attach the original copy to the drive if a copy is not already attached. Be sure the kit contains one 20-pin hard disk data cable, 4 grommets, and 4 machine screws for the installation of the first hard disk drive and 4 shoulder screws for the installation of a second hard disk drive.

Note: The media error map information should be copied into the Owner's Manual as this information is needed as input for the SETUP program.

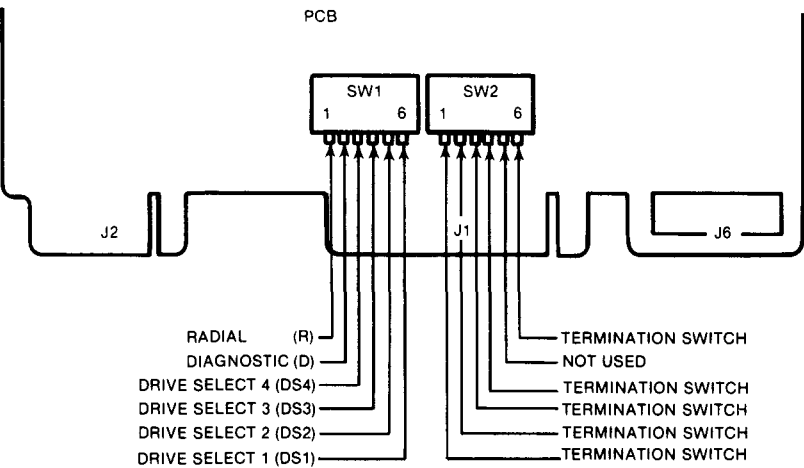
Remove the screws from the back panel of the main unit. Remove the cover by sliding it toward the front of the unit, parallel to the computer. The computer Owner's Manual contains illustrations on removing the cover.

Facing the front of the unit, locate the plastic air shield that covers the back of the drives. Flip this up to provide improved accessibility to the drive support for ease of installation.

Note: A 1.2 Meg floppy disk drive must always be in the top slot of the drive support.

Setting Up the MR522 Drive

Check the settings on the dip switches near the back edge of the PCB on the bottom of the hard disk drive (see Figure 1) to be sure they are set as shown.

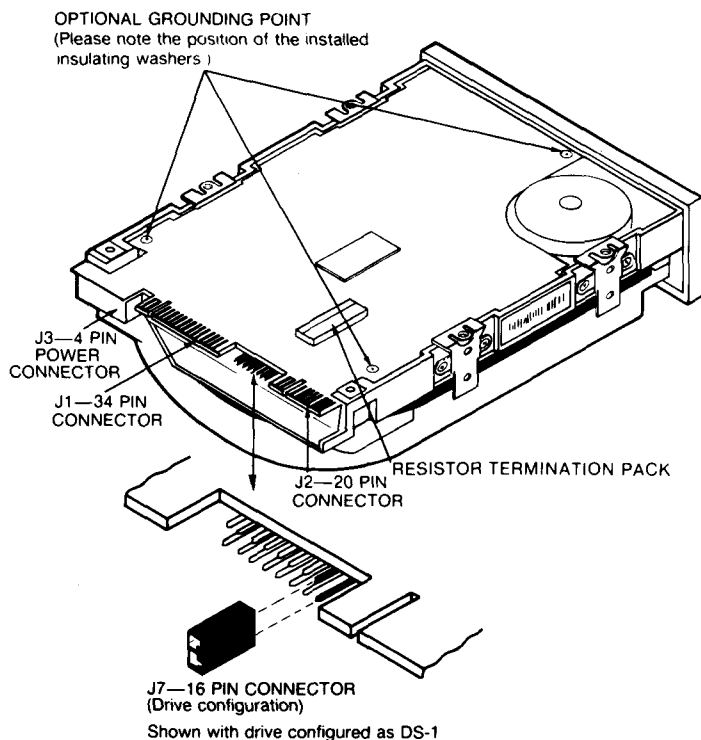


	SW1 (Switch Block 1)						SW2 (Switch Block 2)					
	1	2	3	4	5	6	1	2	3	4	5	6
First Internal HD	On	Off	Off	Off	Off	On	On	On	On	On	On	On
Second Internal HD	On	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	Off

**Figure 1. MR522 Hard Disk Drive
PCB Dip Switch Settings.**

Setting Up the ST225 Drive

Check the position of the jumper on the back edge of the PCB on the bottom of the hard disk drive (see Figure 2) to be sure the jumper is set to the desired position.



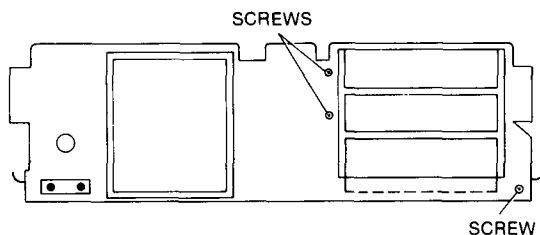
First	1	3	5	7	9	11	13	15	Terminal
Internal HD	2	4	6	8	10	12	14	16	Resistor
									Installed
Second	1	3	5	7	9	11	13	15	Terminal
Internal HD	2	4	6	8	10	12	14	16	Resistor
									Removed
	RADIAL	WRITE	LIFE		DS4	DS3	DS2	DS1	
		FAULT	TEST						
	RECOVERY								
	MODE								

Figure 2. ST225 Hard Disk Drive PCB Jumper Setting.

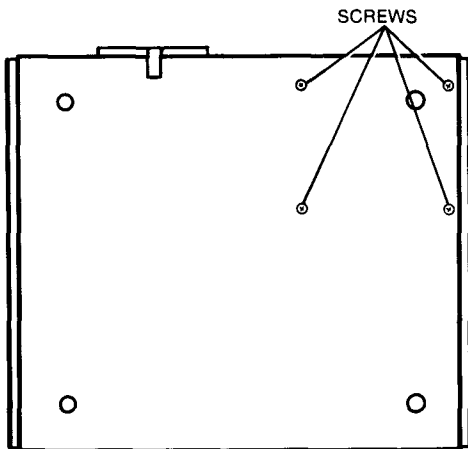
When installing a Seagate drive as the second hard disk drive the termination resistor should be removed from the drive prior to installation.

Installing the First Internal Hard Disk Drive

1. When installing the first internal hard disk drive carefully disconnect the load resistor cable from the power supply and remove the 2 screws from the load resistor mounting attached to the drive support. Remove the load resistor and cable assembly from the system.
2. Carefully install the 4 shock isolators (from the Hard Disk Controller Kit (Cat. No. 25-4060)) in the the 4 holes (2 on each side) of the hard disk drive.
3. Disconnect the cables from the floppy disk drive.
4. Remove the 3 screws from the front of and the four screws from the bottom of the computer that attach the drive support. Remove the drive support from the base of the computer. (See Figure 3).



Front View of Computer



Bottom View of Computer

Figure 3. Drive Support Removal and Installation.

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5. If you are installing an MR522 drive very carefully remove the tape from the drive's stepper motor being very careful not to physically move the stepper by hand.
 6. **Very carefully** insert the hard disk drive (with the PCB card on the bottom and the edge connectors toward the back) into the bottom space of the drive support. **Do not** let the drives slide against the support as this could damage some components of the drive. While carefully supporting the drive, align the mounting holes in each rear isolator with the small holes toward the back of the drive support. The front holes will align automatically.
 7. Insert the machine screws through each drive mounting hole of the support and into each mounting hole in the drive isolator. Tighten the screw slightly. (See Figure 4).
 8. When the 4 machine screws have been inserted, tighten them completely.
 9. Replace the drive support on the base of the computer and reinstall the 3 screws in the front of and the four screws in the bottom of the computer that attach the drive support.

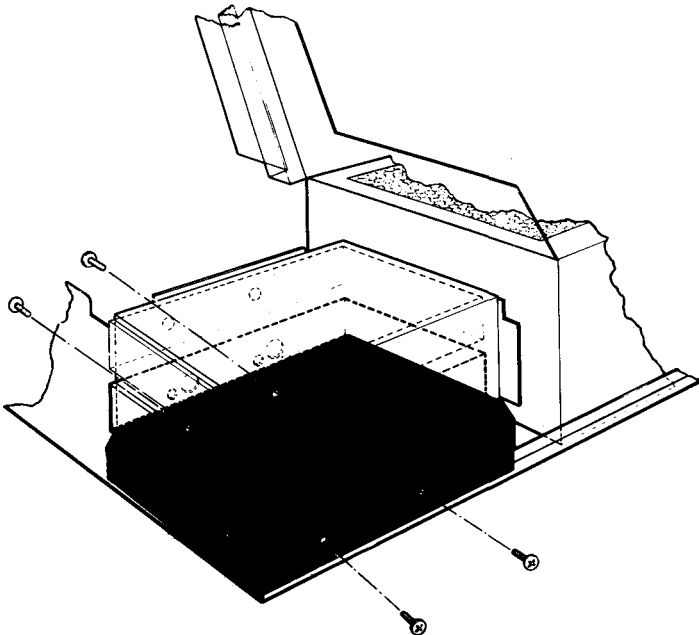


Figure 4. Mounting the First Hard Disk Drive.

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10. Attach one end of the 20-pin hard disk data cable to the connector J4 on the Hard Disk Controller board. Attach the other end to the card edge on the hard disk drive.
 11. When you are installing the first internal hard disk in the system find the 34-pin hard disk drive ribbon control cable (in the Hard Disk Controller Kit Cat. No. 25-4060) and attach one end to the connector (J5) on the Hard Disk Controller board (if this has not already been done). Connect the other end to the card edge on the hard disk drive.

Installing the Second Internal Hard Disk Drive

1. When installing the second internal hard disk drive locate the 4 empty holes (2 on each side) of the drive support middle slot (directly below the floppy drive) and carefully insert a grommet into each hole.
2. If you are installing an MR522 drive very carefully remove the tape from the drive's stepper motor being very careful not to physically move the stepper by hand.
3. **Very carefully** slide the hard disk drive (with the PCB card on the bottom and the edge connectors toward the back) into the slot. **Do not** let the drives slide against each other as this could damage some components of the drive. While carefully supporting the drive, align its rear mounting holes with the small holes toward the back of the drive support. The front holes will align automatically.
4. Insert a shoulder screw through each drive mounting hole of the support and into each mounting hole in the drive. Tighten the screw slightly.
5. When the 4 shoulder screws have been inserted, tighten them completely.
6. Attach one end of the 20-pin hard disk data cable to the connector J3 on the Hard Disk Controller board. Attach the other end to the card edge on the second hard disk drive.
7. When you are installing the second internal hard disk in the system the 34-pin hard disk drive ribbon control cable is already installed, just connect the empty connector on the 34-pin hard disk drive ribbon control cable to the card edge of the second disk drive. Do not twist the cable. The cable is keyed so you can connect it only one way. See Figure 5.

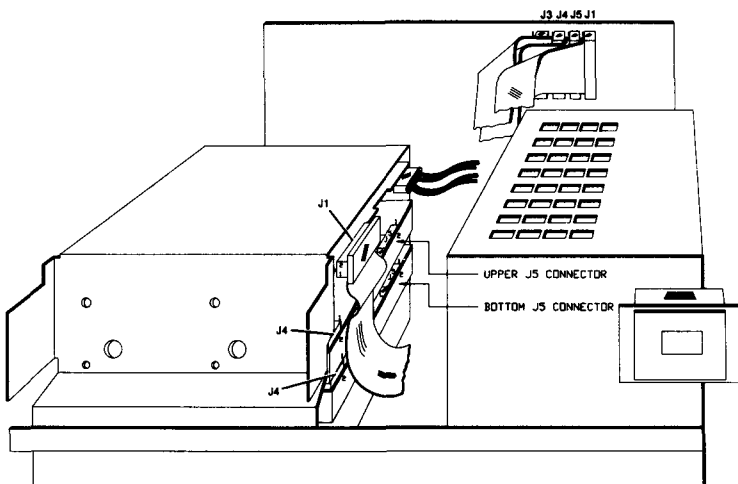


Figure 5. Cable Connections.

Attach the 4-pin hard disk power connector to the connector on the drive PCB next to the 34-pin hard disk drive ribbon control cable connector. The power connector is keyed so you can connect it only one way.

Attach the 4-pin hard disk drive LED power cable to connector J6 on the Hard Disk Controller Board. The connector wires should be toward the clamp.

Note: Be sure the 34-pin floppy disk drive ribbon cable is attached to connector J1 on the Hard Disk Controller board.

Flip the plastic air shield to its original position.

Before replacing the main unit's cover, check all connections and to be sure all screws are tightened.

Slide the fan filter out of the retainers.

Replace the main unit's cover and its screws.

Slide the fan filter into the the computer from the bottom.

Note: SETUP must be run before you can use your new disk drive. See your Computer Installation and Operation Manual for instructions on how to use SETUP.

You can then use the new internal hard disk drive in your computer. See your operating system manual or your application manual for instructions on using data diskettes.

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