

**MODEL I SUPPLEMENT  
TO THE HARD DISK START-UP MANUAL**

The Start-Up Manual shows how to start up the Hard Disk System on the Model III. You can use most of these instructions to start up your Model I. The few operations you should do differently are:

- Connecting Your Primary Hard Drive
- Start-Up and Power-Down Sequence
- Backing up your XTRA diskette
- Initializing your Hard Disk System
- Moving application programs to the hard disk

This Supplement shows how to do these operations on your Model I.

## GENERAL INFORMATION

Your Model I Hard Disk Operating System is contained on three diskettes. The major diskette is labeled HARD DISK OPERATING SYSTEM with SYSTEM DISKETTE at the top. It contains most of the programs and features you need for day-to-day use.

Not all of LDOS's features are contained on this disk. The extra features are on the second diskette, labeled XTRA with PROGRAMS DISKETTE at the top.

A third diskette is labeled INITIALIZATION. This diskette is used to format the hard disk and install the Hard Disk Operating System contained on the other diskette.

The Model I Hard Disk System supports all Radio Shack modifications, including the Model I Double Density Disk Kit, Radio Shack Catalog Number 26-1143.

## Free Space

On a newly formatted floppy diskette (single density), there is enough space for 48 user files with a total of 84K of user storage space.

### CONNECTING THE PRIMARY HARD DRIVE TO THE MODEL I

To connect the hard disk drives to the Model I you need a Model I Kit (catalog number 26-1132). Enclosed in this kit are:

- A Model I Adapter Cable
- Three Diskettes:
  - HARD DISK OPERATING SYSTEM
  - XTRA
  - INITIALIZATION
- This Supplement

**Important Note:** Your Expansion Interface must be buffered before the hard disk can be connected to your Model I. Instructions on how to determine whether your Expansion Interface is buffered are given next. If it is not, it must be modified by a Radio Shack Technician before the hard drive can be connected.

There are two types of Buffered Expansion Interfaces. The first type is recognized by its cables. The flat ribbon cable between the Expansion Interface and the Keyboard will have a black box on it. There will also be a 3-wire cable with a din plug type connector in the middle. See Figure 1.

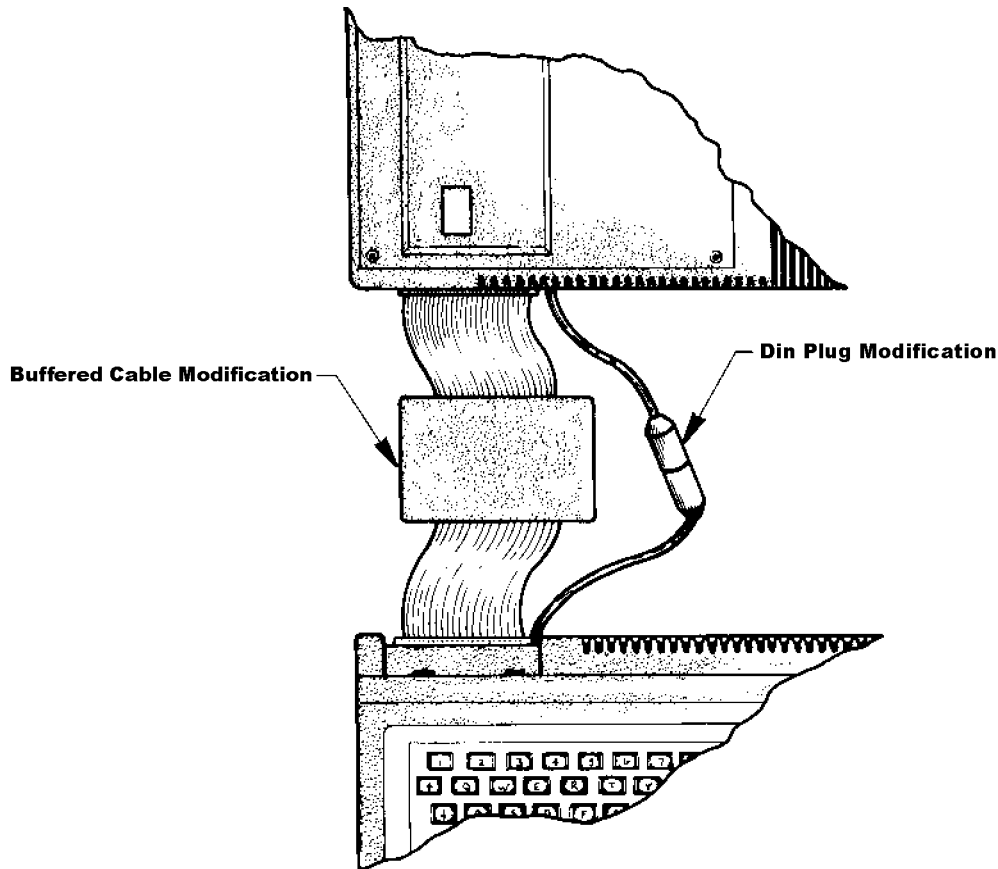


Figure 1. Expansion Interface/Keyboard with Buffered Modification

If your computer does not have these cables, then you must look inside the Expansion Interface through the bottom cover. **DO NOT OPEN THE EXPANSION INTERFACE**, this will void your warranty.

Look through the vents on the bottom cover for two rows of eight memory chip sockets. (The sockets may or may not contain memory chips.)

If the rows of sockets run long ways in the interface -- parallel to the keyboard -- then your computer is buffered and is ready to be connected to the hard disk. See the illustration below:

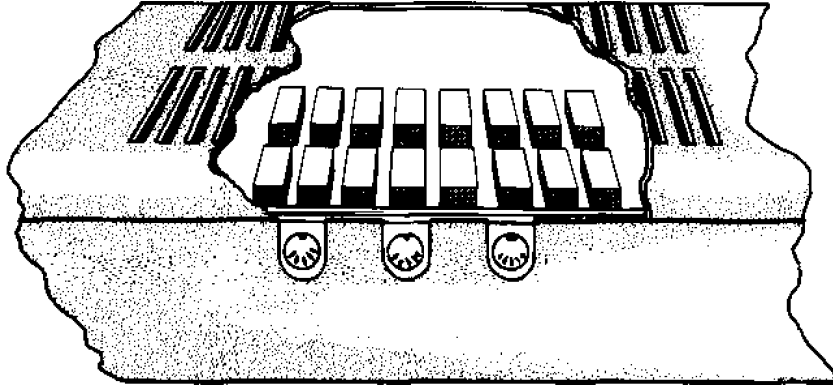


Figure 2. Suffered Expansion Interface as Viewed From the Bottom

If the rows of sockets run perpendicular to the keyboard, your computer is not buffered. You must take your computer to a Radio Shack Technician for modification before you can connect the hard disk. See the illustration below:

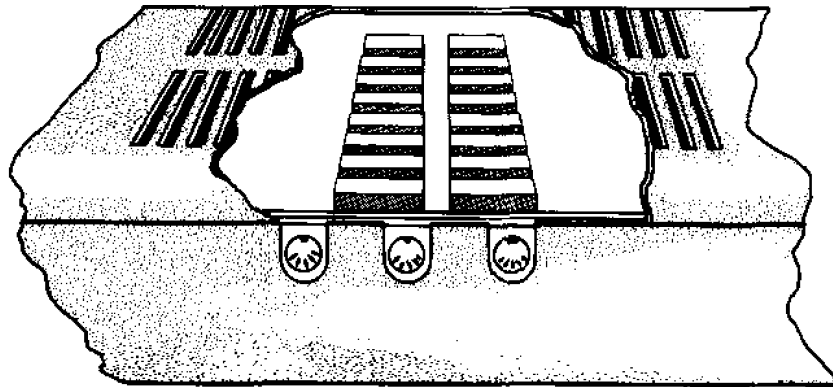


Figure 3. Non-buffered Expansion Interface Viewed From the Bottom

### Connecting Your Hard Disk

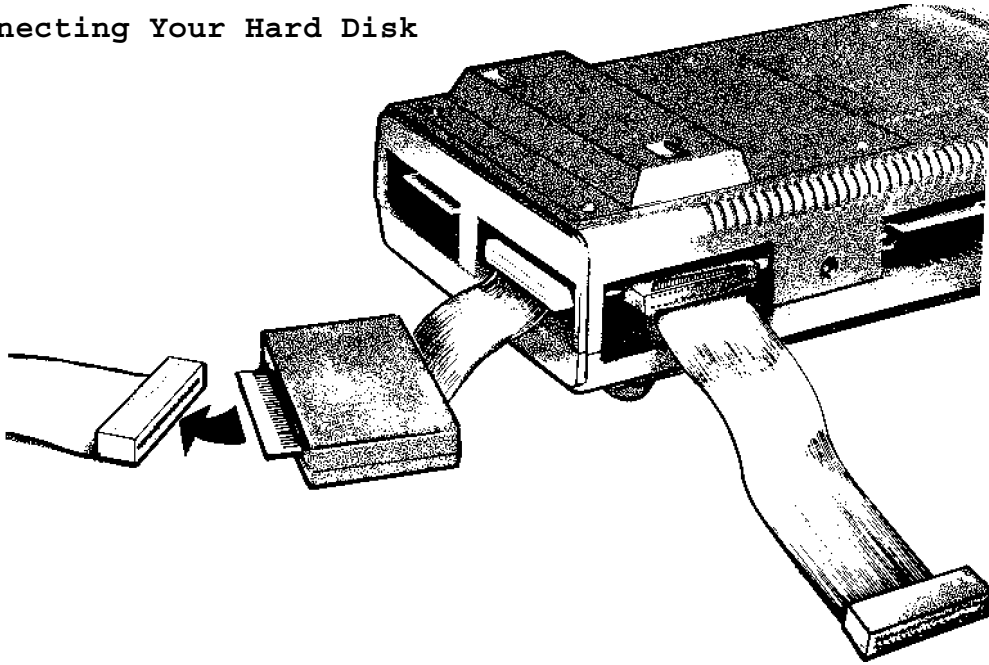


Figure 9. Connecting the Hard Disk to Your Model I

Locate the Model I Adapter Cable. One end has a connector (40-pin). The other end has a black box with a card edge exiting it.

Connect the 90-pin connector (the end with the cable) to the Bus Extension port (also called screen printer port) of your Expansion Interface. The cable should exit towards the bottom of the expansion interface.

Connect the card edge end to the card edge connector of the Hard Disk Expansion Cable (50-pin). The Hard Disk Expansion Cable should exit the bottom of the connector.

Connect the other end of the Hard Disk Expansion Cable to the **COMPUTER IN** connector of the primary hard drive. The cable should exit towards the bottom of the connector.

Your primary hard disk drive is now connected.

Use the Start-Up Manual for information on connecting any secondary drives you have.

**POWER-UP AND POWER-DOWN**

These are the steps to power-up and power-down the Model I Hard Disk System. Please use these steps, rather than the ones in your Start-Up Manual.

**SYSTEM POWER-UP**

1. Make sure all floppy diskette drives are empty.
2. Turn on all peripheral equipment (such as printer and floppy diskette drives)
3. Turn on the primary hard drive by turning the POWER KEY clockwise. This also turns on all existing secondary drives. Wait for the power lights on all the secondary drives to come on.
4. Turn the Expansion Interface ON.
5. Turn the CPU/Keyboard ON. Wait until all floppy disk drive motors stop, then carefully insert the HARD DISK OPERATING SYSTEM INITIALIZATION diskette or the START-UP diskette in Drive 0.

The START-UP diskette is a modified copy of your INITIALIZATION diskette created during initialization. Initialization procedures are described later in this supplement.

6. Press RESET. In a few seconds, the screen shows a large LDOS logo. If the LDOS logo does not appear, repeat the above steps, making sure you inserted the diskette properly. If an error message appears, look it up in the Start-Up Manual.
7. At the bottom of the screen, LDOS asks you for the date. Type today's date in the mm/dd/yy form and press <ENTER>. For example, for June 17, 1982, type:

06/17/82 <ENTER>

8. LDOS then displays the name and date of the diskette above the logo. It also displays the expanded date below the logo.

9. The screen then shows this prompt:

LDOS Ready

Since you've not yet initialized your Hard Disk System, your computer is now operating as a Floppy Disk System, the only way it can operate until you initialize it.

If you have already initialized your Hard Disk System, you can remove the START-UP diskette (created during initialization). You only need it to start up or reset.

To operate the system for floppy disk only, hold down the <CLEAR> key and press the RESET button. (You must keep the <CLEAR> key down until LDOS Ready appears.)

#### SYSTEM POWER-DOWN

1. The LDOS Ready prompt should be the last line on your screen. If not, press <ENTER> or exit your program so that it appears.
2. Remove all floppy diskettes from their drives.
3. Turn off any peripheral equipment.
4. Turn off the primary hard disk drive by turning the
5. POWER KEY counterclockwise. This also turns off all existing secondary drives.
6. Turn off the Expansion Interface.
7. Turn off the CPU/Keyboard.



**MAKING A BACKUP OF XTRA**

The Start-Up Manual shows the steps for making a backup of a HARD DISK OPERATING SYSTEM and INITIALIZATION diskette before initializing your hard disk.

The steps for backing up the XTRA diskette are somewhat different:

If you have one drive, use the Single Drive Backup Instructions in the Start-Up Manual. If you have two or more drives follow these steps to backup your XTRA diskette.

1. With a HARD DISK OPERATING SYSTEM diskette in Drive insert a blank diskette in Drive 1. To format the diskette, type in the following at LDOS Ready:

```
FORMAT :1 (Q=N) <ENTER>
```

At LDOS Ready, type:

```
BACKUP :0 :1 (X) <ENTER>
```

2. The X option allows you to backup without an LDOS system diskette in Drive 0.

LDOS then asks you to:

```
Insert SOURCE disk
```

Remove the HARD DISK OPERATING SYSTEM diskette from Drive 0, and insert your XTRA diskette. Press <ENTER>. LDOS makes the diskette in Drive 1 into a duplicate of the XTRA diskette.

When finished, LDOS prompts:

```
INSERT SYSTEM Disk
```

Remove your XTRA diskette from Drive 0 and insert the HARD DISK OPERATING SYSTEM diskette. Press <ENTER> and LDOS Ready appears.

You now have a backup copy of the XTRA diskette. Put the original away and label the backup as XTRA. We recommend you make several more backups.

## INITIALIZING YOUR HARD DISK SYSTEM

To initialize your Hard Disk System, use the steps in your Start-Up Manual, with the three exceptions listed below.

### UPPER-CASE ONLY

If your Model I does not have a lower-case modification installed, you must set the initialization procedure for upper-case only. This must be done before the initialization. To set your Model I for upper-case permanently, start-up with your INITIALIZATION diskette in Drive 0 as instructed, and type:

```
DO UC <ENTER>
```

### INITIALIZATION COMMAND

Use the command DO INITHD1, rather than DO INITHD3. Its format is:

```
DO INITHD1 (NEW,PW=password,HARDn,FLOPPYn)
```

When entering this command, you give LDOS a master password for your hard drives, as well as the number of hard and floppy drives your system has.

Examples:

```
DO INITHD1 (NEW,PW=PASSWORD,HARD1,FLOPPY2) <ENTER>
```

tells LDOS to INITialize a system with one hard disk drive and two floppy drives. The master password is PASSWORD.

```
DO INITHD1 (NEW,PW=TANDY,HARD3,FLOPPY4) <ENTER>
```

tells LDOS to INITialize a system with three hard disk drives and four floppy drives. The master password is TANDY.

**Note:** Initialization takes quite a while. When complete, LDOS will reset the system and the LDOS logo will appear.

Initializing Your Hard Drive (continued)

#### BACKUP COMMAND

Use the command DO INITHD1, rather than DO INITHD3 to backup LDOS to your hard disk.

Type:

```
DO INITHD1 (MASTER) <ENTER>
```

LDOS prompts you to insert your HARD DISK OPERATING SYSTEM diskette (LDOS) first, and then the XTRA diskette.

#### Technical Information -- Configuring Your Own System

Instructions for configuring your own system are the same as those found in Appendix F of the Start-Up Manual.

However, the filenames are different. Use the following filenames:

```
SYSTEM (DRIVE=n,DISABLE,DRIVER="TRSHD1")
```

to assign the logical drive numbers and:

```
TRSF0RM1
```

to format the hard disk.

## MOVING APPLICATION PROGRAMS TO THE MODEL I HARD DISK

These are generalized steps for moving your application programs to your Model I hard disk. If you wish to convert Radio Shack Software for use on hard disk, some changes may be required. Please refer to the addendum "Converting Radio Shack Software For Use On Hard Disk".

Use these steps, rather than the ones in your Start-Up Manual.

1. Make a backup of your application program diskette. (Use the instructions in your application manual.)  
Write-protect the backup diskette.
2. Start-up or reset the Hard Disk System (with the START-UP diskette in floppy Drive 0). The computer then assigns your drives logical numbers.

When the LDOS Ready prompt appears, you can remove the START-UP diskette.

3. Place the write-protected backup of your application diskette in what is now logical Drive 4 (the same as floppy Drive 0).
4. Enter the BACKUP command:                      BACKUP :4 :d (VIS)

d is the drive number the diskette is normally in when using a Floppy Disk System.

For example, if the diskette is labeled PROGRAM or DRIVE 0, type:

```
BACKUP :4 :0 (VIS) <ENTER>
```

If the diskette is labeled DATA or DRIVE 1, type:

```
BACKUP :4 :1 (VIS) <ENTER>
```

If the diskette is labeled DRIVE 2, type:

```
BACKUP :4 :2 (VIS) <ENTER>
```

The VIS option tells LDOS to copy only visible files.  
(Your application files are all visible.)

When finished, LDOS Ready appears. Your hard disk drive now contains the application program. Remove your application diskette and store it in a safe place.

Repeat these steps for all your application program diskettes and data files.

**NOTE:**

If you are transferring a program written in the COBOL language, you need to also transfer the RUNCOBOL program to the hard disk. Insert the PROGRAM or DRIVE 0 application diskette in Drive 4. Type:

```
BACKUP RUNCOBOL/CMD:4 :0 (INV) <ENTER>
```

**MOVING APPLICATION PROGRAMS TO LDOS FLOPPY DISKETTES**

These are the steps for moving your application programs to LDOS floppy diskettes. Please use these steps, rather than the ones in your Start-Up Manual.

1. Make a backup of your application program diskette, using the instructions in your application manual. write-protect the backup diskette.
2. Start-up the Hard Disk System (with the START-UP diskette in physical Drive 0). The computer then assigns your drives logical numbers.
3. Place the write-protected backup copy of your applications diskette in Drive 4 (floppy system Drive 0).
4. Place an LDOS-formatted floppy diskette in logical Drive 5.
5. You can now transfer the application programs. Type:

```
BACKUP :4 :5 (VIS) <ENTER>
```

LDOS then moves all your TRSDOS application programs to your LDOS-formatted diskette. When the conversion is complete, LDOS Ready appears.

**NOTE:**

If you are transferring a program written in the COBOL language, you need to also transfer the RUNCOBOL program to the hard disk. Place the PROGRAM or DRIVE 0 application diskette in Drive 4. Place your LDOS copy of this diskette in Drive 5. Type:

```
BACKUP RUNCOBOL/CMD:4 :0 (INV) <ENTER>
```