
Educational Services



Tx857 Series
Magazine Tape Subsystem
Owner's Manual
EK-TF857-OM-002

Digital Equipment Corporation

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Preface

Purpose

This manual introduces the Tx857 series of magazine tape subsystems and describes operating procedures.

Manual Structure

Chapter 1, Overview, provides a basic product description of and specifications for the Tx857 series magazine tape subsystem.

Chapter 2, Operation, describes the power-on process, the keys and indicators on the operator control panel (OCP), the operating modes of the Mode Select key, and the magazine and cartridge removal and replacement processes.

Chapter 3, TF857 Local Programs, describes how to access local diagnostic programs on the TF857 subsystem using the SET HOST/DUP command.

Chapter 4, Error Conditions and Problem Resolutions, describes the necessary conditions to use OCP buttons, backup operation failures, error indications, and power problems.

Chapter 5, Head Cleaning, describes how to clean the read/write heads in the tape drive.

Appendix A, VMS Operating System Commands, describes VMS commands used with tape devices.

Appendix B, Service Offerings, describes maintenance plans offered by Digital Services.

Intended Audience

This manual is intended for the TF857 or TZ857 subsystem owner.

This manual is for use by system managers, computer operators, or anyone who uses magazine tape subsystems. Prior knowledge of and experience with the VMS operating system and commands and tape devices are required.

Conventions

The term *Tx857* refers to the TF857 and the TZ857 magazine tape subsystems.

The term *OCP pushbuttons* refers to the Eject, Load/Unload, and Slot Select buttons that are at the top of the operator control panel (OCP) on the Tx857 subsystem.

1

Overview

This chapter describes the Tx857 magazine tape subsystem and its functions.

1.1 General Description

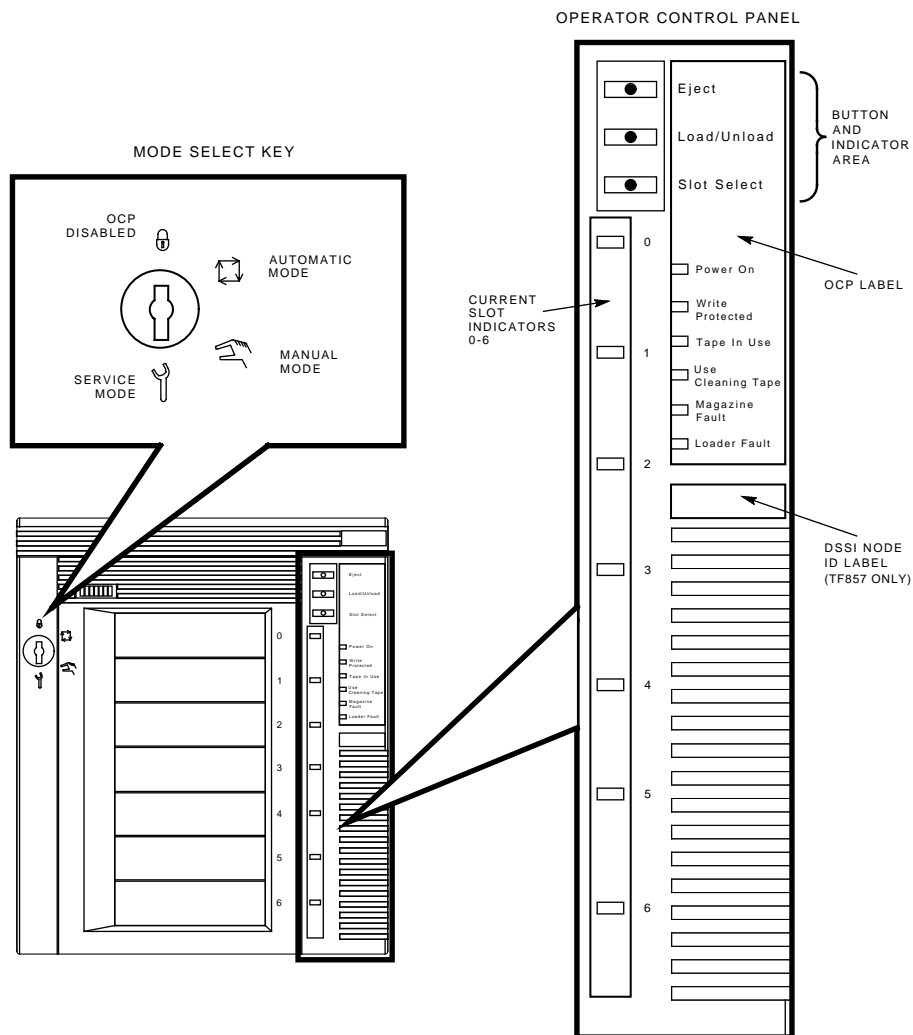
The Tx857 magazine tape subsystem (Figure 1-1) is an electromechanical device that can store approximately 18.2 gigabytes of data. Using CompacTape III cartridges, the Tx857 subsystem can store up to 2.6 gigabytes of data per cartridge.

The Tx857 magazine tape subsystem can load and unload tape cartridges into and from a tape drive, providing a degree of unattended backup, as well as perform single cartridge operations. The Tx857 subsystem performs automatic, sequential tape operations.

In addition, the Tx857 subsystem executes operating system commands, qualifiers, and parameters to store data from user disk areas to the tape drive.

1-2 Overview

Figure 1-1 Front View of the Tx857 Magazine Tape Subsystem



1.2 Configuration

The Tx857 magazine tape subsystem is configured on VAX systems, and can serve two systems as a dual-ported subsystem.

The Tx857 subsystem is available in two variations for use on systems with a DSSI bus or a SCSI bus:

Subsystem Variation	System Bus
TF857	DSSI
TZ857	SCSI

The DSSI bus and the SCSI bus are electrical connections that allow the system's central processing unit (CPU) and main memory to communicate with devices such as the TF857 and TZ857 subsystem.

The TF857 subsystem installs in both the SF200 and SF100 storage arrays:

- The SF200 can contain a maximum of two TF857 subsystems (Figure 1-2). The first TF857 subsystem installs in position 5; a second TF857 subsystem installs in position 6.
- The SF100 (Figure 1-3) contains one factory-installed TF857 subsystem in the upper compartment; the lower compartment is optional storage space that can contain an SF72 storage enclosure.

The TZ857 subsystem installs in the SZ100 (Figure 1-3). The SZ100 contains one factory-installed TZ857 subsystem in the upper compartment; the lower compartment is optional storage space that can contain a SCSI storage device.

The TF857 is supported by version 5.4.2 or later of the VMS operating system, the TZ857 by version 5.4.3 or later.

PERFORMANCE CONSIDERATION

The VMS backup performance rate of your Tx857 subsystem can depend on your system processor. For example:

- **Connecting directly to an embedded bus adapter on such systems as the VAX 4000, VAX 6000, or InfoServer 150 (TZ857 only) provides optimum performance.**
- **Connecting to a MicroVAX/VAXserver 3xxx (Q-bus) system can reduce the rate of performance but does not limit the high capacity of data storage that your Tx857 has.**

REQUIRED LOAD DEVICE

The TF857, when connected to a KFQSA adapter installed in a MicroVAX II or MicroVAX/VAXserver 3xxx system, does not support booting of VMS or MicroVAX Diagnostic Monitor (MDM) software. An additional load device is needed to boot this software.

CAUTION

The Tx857 magazine tape subsystem is not customer-installable. Do not install it yourself or the product warranty will be void.

1.3 Node ID Label

The operator control panel on the TF857 subsystem has a space for a DSSI node ID label (Figure 1-1), which identifies the device bus ID number. (This label is in the label kit.) The DSSI node ID is preset during manufacturing to zero (0). The Digital Services engineer verifies this setting during installation at the site.

TZ857 users may wish to use this space on the operator control panel to place a label noting the device's SCSI ID.

Figure 1-2 SF200 Storage Array

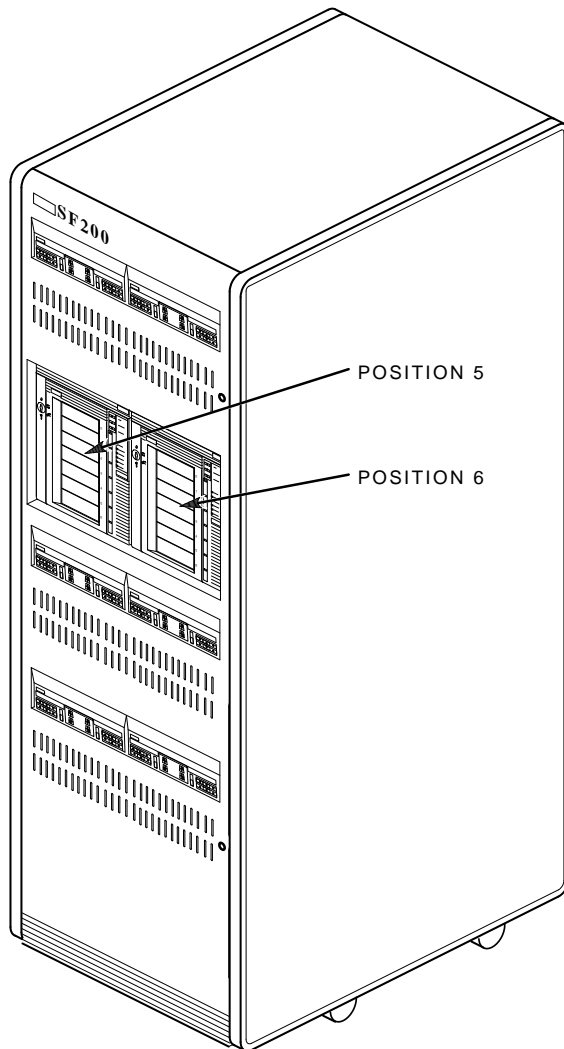
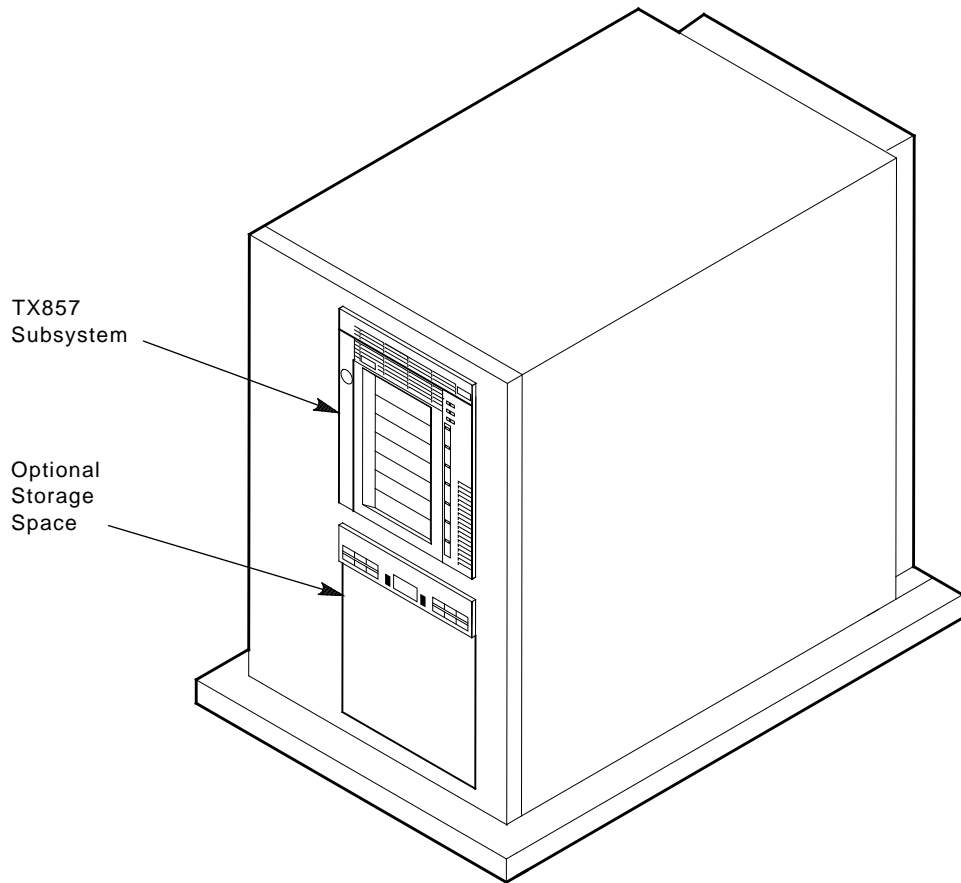


Figure 1-3 SF100/SZ100 Storage Array



1.4 Operating Modes

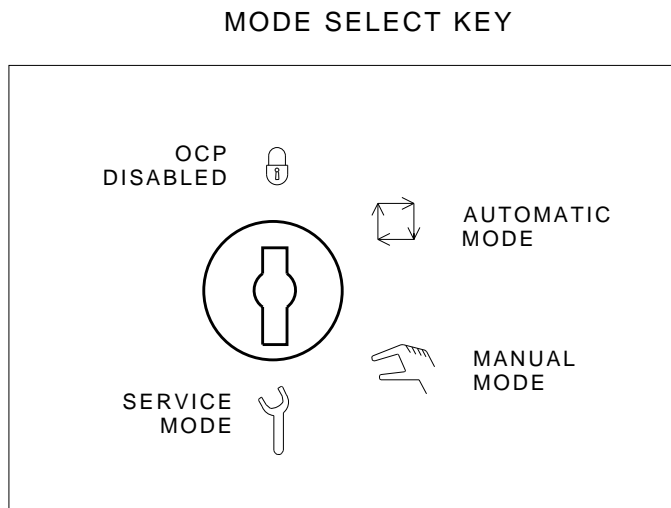
The Tx857 subsystem operates in the following modes:

- **OCP Disabled mode** — Locks the subsystem into the enclosure and locks the receiver. The pushbuttons on the operator control panel (OCP)—Eject, Load/Unload, Slot Select—are disabled. This mode automatically loads the next tape cartridge into the drive after you issue the DISMOUNT command.
- **Automatic mode** — Is the subsystem's default, or normal, mode. It locks the subsystem into the enclosure but leaves the receiver unlocked. This mode automatically loads the next tape cartridge into the drive after you issue the DISMOUNT command. The OCP pushbuttons remain enabled.
- **Manual mode** — Locks the subsystem into the enclosure but leaves the receiver unlocked. This mode allows for single cartridge operations only. The OCP pushbuttons remain enabled. Loading and unloading of cartridges is *not* automatic; operator intervention is required to select the next cartridge.
- **Service mode** — Unlocks the subsystem from the enclosure; the subsystem is no longer in Automatic mode. This mode is for you to use when accessing the drive for head cleaning and for Digital Services engineers to use when performing servicing procedures.

You can select these modes through the Mode Select key (Figure 1-4) on the front of the Tx857 subsystem.

See Chapter 2 for information on using the modes and the Mode Select key.

Figure 1-4 Tx857 Subsystem Mode Select Key Symbols



1.5 Hardware Components

The Tx857 magazine tape subsystem consists of the following major hardware components (Figure 1-5):

- Loader transfer assembly
- Magazine
- TK85 tape drive
- Controller module
- Rear chassis

1.5.1 Loader Transfer Assembly

The Tx857 subsystem has a loader transfer assembly that contains the electromechanical assemblies required to store and move cartridges for use by the TK85 tape drive.

You must insert cartridges into the magazine, then insert the magazine into the receiver. An internal elevator mechanism, in the loader transfer assembly, moves to each of the storage slots. The elevator loads and unloads cartridges into the drive, and returns the cartridges to their original storage slots in the magazine after they have been used.

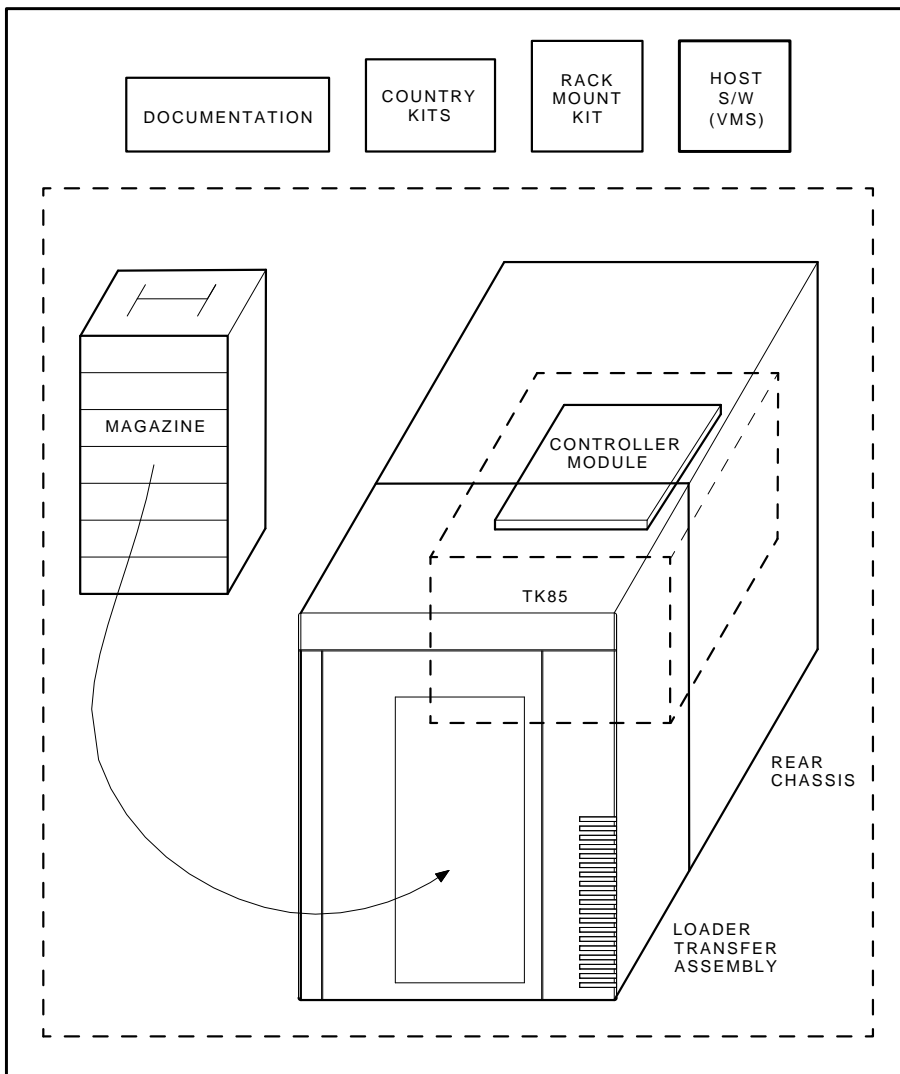
The loader transfer assembly can:

- Scan the magazine for cartridges
- Unload cartridges from the magazine
- Load cartridges into the drive
- Unload cartridges from the drive
- Restore cartridges to their original slots in the magazine

NOTE

Do not press the Load/Unload button on the Tx857 OCP to abort functions of the loader transfer assembly. Type Ctrl/Y or Ctrl/C instead.

Figure 1-5 Tx857 Magazine Tape Subsystem Block Diagram



1.5.2 Magazine

The magazine is a removable storage rack that can store up to seven CompacTape III cartridges. The magazine consists of seven slots in which the cartridges are loaded; these slots are numbered from 0 to 6 on the *front* of the magazine.

Use the OCP pushbuttons to open the receiver, insert or remove the magazine, load or unload cartridges, or select a slot.

For more information, see Section 2.3.

1.5.3 TK85 Tape Drive

The TK85 tape drive, in the rear chassis of the Tx857 subsystem, is a streaming tape drive that stores up to 2.6 gigabytes of data on each of its tape cartridges. The controller module connects the Tx857 subsystem to the host system, and initiates commands to the TK85 tape drive.

1.5.4 Controller Module

The controller module is the Tx857 subsystem's interface to the host system through the bus. For systems with a DSSI bus and a TF857, the module is a DSSI controller. For systems with a SCSI bus and the TZ857, the module is a SCSI controller. The host system initiates commands to the Tx857 subsystem and TK85 drive through the controller module.

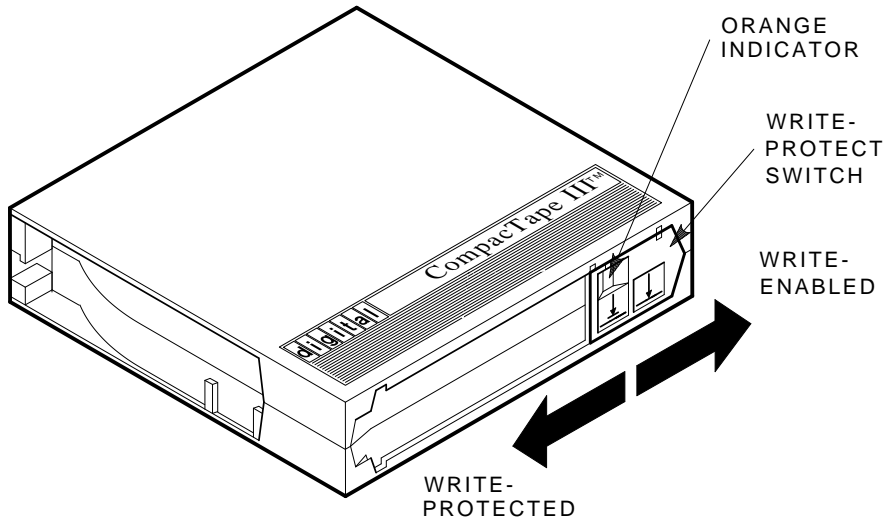
1.5.5 Rear Chassis

In addition to the TK85 tape drive and controller module, the rear chassis contains the power supply, fan, handle motor assembly, and interlock switch. The power supply provides power to the rear chassis components and to the loader transfer assembly. The fan cools the entire Tx857 subsystem. The handle motor assembly lifts and lowers the drive's handle when cartridges are ready for loading into, or unloading from, the drive. The interlock switch is a safety feature that interrupts voltage when you access the drive for head cleaning.

1.6 CompacTape III Cartridge

The CompacTape III cartridge (Figure 1-6) is a 4-1/8-inch square, dark gray, plastic cartridge containing 1200 feet of 1/2-inch magnetic, metal particle (MP) tape. The cartridge has a write-protect switch to prevent accidental erasure of data. When the switch is moved to the left and the small orange rectangle is visible, data cannot be written to the tape. A package of slide-in labels and a cartridge handling information sheet are provided with each CompacTape III cartridge.

Figure 1-6 CompacTape III Cartridge



The TK85 tape drive writes 48 tracks (24 pairs) on the tape. It reads and writes data in a two-track parallel, serpentine fashion, traveling the entire length of tape on two tracks (at approximately 100 inches per second). The drive then steps the head and reverses tape direction, and continues to read/write on the next two tracks.

Use Table 1-1 to determine cartridge compatibility.

Table 1-1 Read/Write Cartridge Compatibility with the TK85 Drive

CompacTape	CompacTape II	CompacTape III
Read	Read	Read/write

CAUTION

For read-only purposes, you can load older CompacTape cartridges into the TK85 tape drive. Any cartridges recorded by the TK50, TK70, or TZ30 tape drives can be read by the TK85 drive.

To ensure the reliability of cartridges that contain recorded data and that may be archived for a long time, store the cartridges in a clean, controlled environment with the following conditions:

- Environmental temperature: 18.3°C to 26.1°C (65°F to 79°F)
- Relative humidity: 20% to 60%

The above environmental conditions are also recommended for the shelf storage of cartridges that do not contain recorded data.

1.7 Specifications

Table 1-2 lists the specifications for the Tx857 magazine tape subsystem, and Table 1-3 lists those for the TK85 tape drive.

Table 1-2 Tx857 Magazine Tape Subsystem Specifications

Characteristic	Specifications
Height	26.47 cm (10.42 in)
Width	22.20 cm (8.74 in)
Length	64.77 cm (25.5 in)
Weight	24.95 kg (55 lb)
Noise level	62 dB
Environmental temperature	
Operating	10°C to 40°C (50°F to 104°F)
Nonoperating	-40°C to 66°C (-40°F to 150.8°F)
Humidity	
Operating	20% to 80% noncondensing
Nonoperating	10% to 95%
Certification	
EMI	Meets applicable FCC, VDE, and FTZ standards for Class A devices
Safety	Meets UL, CSA, GS mark, VDE, and IEC standards
Maximum number of cartridges	7
Electrical rating	100 to 120 Vac/220 to 240 Vac, 2 amperes/1 ampere
AC power consumption	110 W, typical 113 W, maximum
Communications interface	TF857: DSSI bus TZ857: SCSI bus (single-ended or differential)
Cycle time	50 s, minimum

Table 1–3 TK85 Tape Drive Specifications

Characteristic	Specification(s)
Mode of operation	Streaming
Media	12.77 mm (1/2 in) unformatted magnetic tape
Track density	96 tracks/in (48 tracks)
Bit density	42,500 bits/in
Number of tracks	48
Maximum transfer rate (at tape)	800 kilobytes/s, formatted
Tape speed	100 in/s
Track format	Two-track parallel, serpentine recording
Cartridge capacity	Up to 2.6 gigabytes, formatted

1.8 Supplies and Related Documents

Use Table 1-4 to order additional cartridges or magazines. Contact your Digital sales representative, or call Digital's DECdirect ordering service at 1-800-DIGITAL.

Table 1-4 Supplies

Order Number	Description
TK85K-01	CompacTape III Cartridge. Seven cartridges ship with the Tx857 subsystem.
TK85-HC	CleaningTape III Cartridge. One cartridge ships with the Tx857 subsystem.
TK85-M	Magazine. Ships with the Tx857 subsystem.

Use the documents in Table 1-5 as supplements to this manual.

Table 1-5 Related Documents

Order Number	Title
AA-Z407B-TE	<i>VAX/VMS Backup Utility Reference Manual</i>
AI-Y506B-TE	<i>Guide to VAX/VMS Disk and Magnetic Tape Operations</i>
AA-Z424A-TE	<i>VAX/VMS Mount Utility Reference Manual</i>
EK-OTF85-OM	<i>Tx85 Series Cartridge Tape Subsystem Owner's Manual</i>
EK-OTK85-RC	<i>Tx85 Tape Drive Operator's Reference Card</i>

2

Operation

This chapter explains Tx857 subsystem operation:

- Power-on process
- Mode Select key modes
- Operator control panel (OCP) indicator functions
- Slot Select, Load/Unload, and Eject button functions
- Magazine cartridge insertion and removal

2.1 Power-On Process

When the Tx857 subsystem powers on, all of the indicators on the operator control panel (OCP) light, within 15 seconds. The power-on self-test, or POST, is initializing the subsystem. When POST completes successfully, all OCP indicators, including the Magazine Fault and Loader Fault indicators, turn off—except for Power On.

NOTE

If the Magazine Fault or Loader Fault indicator remains on, POST has detected an error. See Chapter 4 for error conditions.

The elevator scans the magazine to determine which slots contain cartridges. If the subsystem has a magazine with a cartridge in slot 0, and no cartridge is in the drive, these indicators should be on:

Power On
Eject
Load/Unload
Slot Select
Slot 0

2.2 Mode Select Key

The Mode Select key (Figure 2-1) can lock the loader transfer assembly into the enclosure, as well as lock the receiver closed. It has four modes: OCP Disabled, Automatic, Manual, and Service. The OCP Disabled, Automatic, and Manual modes are for operational use; the Service mode is for head cleaning and servicing procedures.

2.2.1 Operating Modes

The following modes for operational use:

- **OCP Disabled mode** — When the magazine is inserted into the receiver and the receiver is closed, the loader transfer assembly scans the magazine. The first cartridge in the magazine automatically loads into the drive. Operations stop if you are copying data to tape and either the storage capacity of the last tape cartridge is exceeded, or no tape cartridge is in the next sequential slot in the magazine.

To lock the Tx857 subsystem into the enclosure and lock the receiver, set the Mode Select key to **OCP Disabled** mode. The OCP pushbuttons are disabled.

- **Automatic mode** — This mode is the default, or normal, mode of the Tx857 subsystem. It automatically loads and unloads cartridges as necessary during backup procedures. Operations stop if you are copying data to tape and either the storage capacity of the last tape cartridge is exceeded, or no tape cartridge is in the next sequential slot in the magazine.

To lock the Tx857 subsystem into its normal operating position in the enclosure but leave the receiver unlocked, set the Mode Select key to **Automatic** mode. The receiver can be opened; all OCP pushbuttons are enabled.

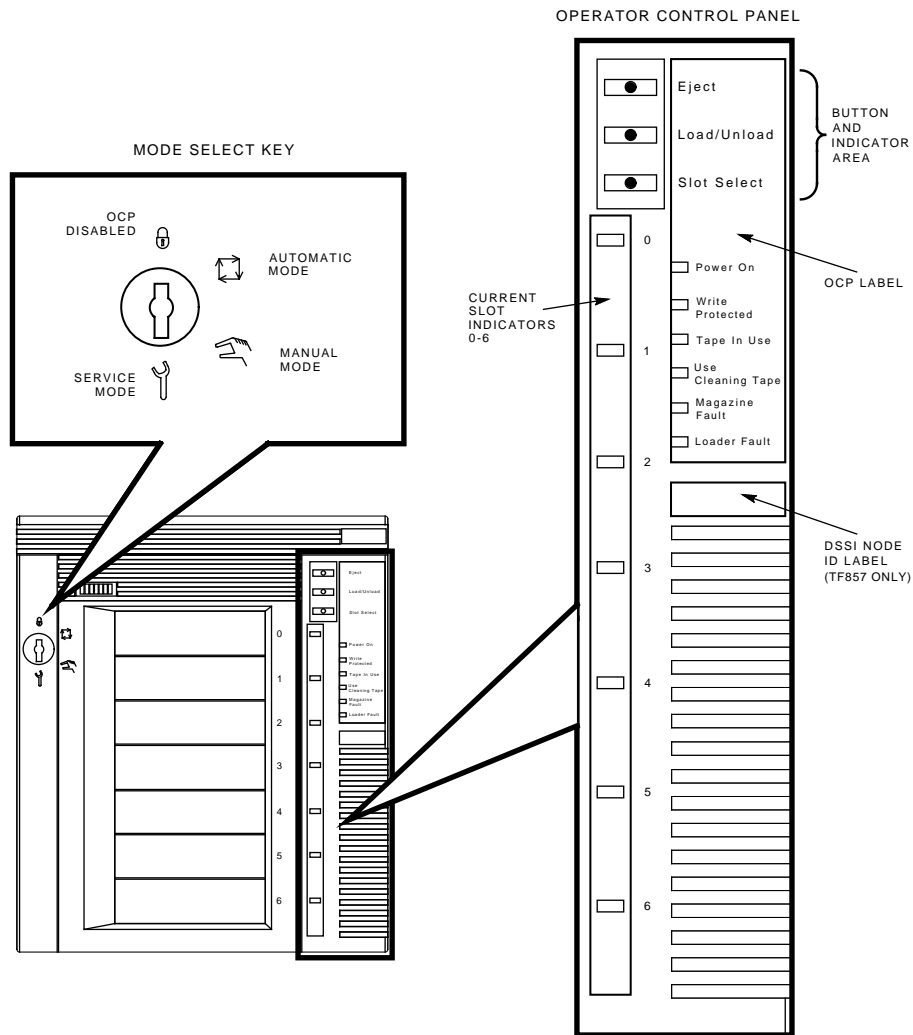
- **Manual mode** — Automatic loading and unloading of cartridges does not occur in this mode; rather, you must press the Load/Unload button to move each cartridge. This mode is most useful for, but not restricted to, copying specific files to or from tape.

To lock the Tx857 subsystem into the enclosure, set the Mode Select key to **Manual** mode. The receiver is unlocked and can be opened; all OCP pushbuttons are on.

NOTE

During Manual mode, the cartridge returns to the magazine, but the current Slot Select indicator does not advance forward to the next available cartridge.

Figure 2-1 Tx857 Operator Control Panel



2.2.2 Service Mode

Service mode is for performing head cleaning by manually loading the CleaningTape III and for performing servicing procedures. See Chapter 5 for information on head cleaning.

To unlock the Tx857 subsystem from its enclosure and remove it from its normal operating position, set the Mode Select key to **Service** mode. The receiver is unlocked and can be opened.

2.3 Operator Control Panel

The Tx857 operator control panel (OCP) has 3 OCP pushbuttons and 16 indicators that are used with the Mode Select key (Table 2-1). See Section 2.2 for information on the Mode Select key and its functions. See Section 2.4 for more details on button and indicator operations.

Table 2-1 Tx857 Operator Control Panel

Button/Indicator	Color	Function
Eject button	–	Opens the receiver, allowing access to the magazine for removal and insertion of cartridges. Also can be used to unload the tape from the drive to the magazine.
Eject indicator	Green	Indicates a magazine fault, and that you can press the Eject button to unload cartridges from the drive to the magazine and to open the receiver.
Load/Unload button	–	Loads the currently selected cartridge into the tape drive. Unloads the cartridge currently in the tape drive. Resets the subsystem if there is a loader fault.
Load/Unload indicator	Green	Indicates that you can press the Load /Unload button.
Slot Select button	–	Increments the current slot indicator to the next slot.
Slot Select indicator	Green	Indicates that you can press the Slot Select button. Pressing this button moves the current slot indicator to the next slot.

Table 2-1 (Continued) Tx857 Operator Control Panel

Button/Indicator	Color	Function
Power On indicator	Green	Indicates the Tx857 magazine tape subsystem is in a known good power state (ac and dc voltages are within tolerance).
Write Protected indicator	Orange	<p>When on, indicates that the cartridge currently in the drive is write-protected by one of these methods:</p> <ul style="list-style-type: none"> • Setting the write-protect switch to write-protect • Using software write-protect qualifiers • Using a CompacTape or CompacTape II cartridge previously written by another drive <p>When off, indicates that the current cartridge is write-enabled.</p>
Tape In Use indicator	Yellow	<p>Indicates tape drive activity as follows:</p> <ul style="list-style-type: none"> • Slow blinking indicates tape is rewinding. • Rapid blinking indicates tape is reading or writing. • When on steadily, indicates that a cartridge is in the drive and the tape is not moving. • When off, indicates that no cartridge is in the drive.
Use Cleaning Tape indicator	Orange	Indicates that the read/write head needs cleaning. See Chapter 5.
Magazine Fault indicator	Red	Indicates a magazine failure.
Loader Fault indicator	Red	Indicates a loader transfer assembly error or drive error.

Table 2-1 (Continued) Tx857 Operator Control Panel

Button/Indicator	Color	Function
Current slot indicators 0-6	Green	Identifies the current slot (see Slot Select button). Each current slot indicator blinks when its corresponding cartridge moves to or from the drive. Also used with the Magazine Fault or Loader Fault indicator to show the type of fault (Sections 4.4.1 and Section 4.4.2).

2.4 Slot Select, Load/Unload, and Eject Button Functions

The Slot Select, Load/Unload and Eject buttons are OCP pushbuttons. They contain a green indicator, and they are operable only when their corresponding indicators are on.

NOTE

The Load/Unload button has three functions: *load*, *unload*, and *reset*. If there is a loader fault and the Loader Fault indicator is on, press the Load/Unload button to reset the Tx857 subsystem.

2.4.1 Selecting a Cartridge

Use the **Slot Select** button to select a cartridge; press this button to advance the slot indicator light to the next available slot. After a successful initialization, the Tx857 subsystem automatically selects slot 0 and the Slot Select button becomes active. The Load/Unload and Eject indicators remain on during the slot selection.

2.4.2 Loading the Cartridge

Press the **Load/Unload** button to load the cartridge into the drive. This action causes the Select Slot, Load/Unload, and Eject indicators to turn off, and the elevator to move to the selected slot, indicated by the light. The cartridge is then removed from the magazine and placed in the elevator. The elevator moves to the drive position and inserts the cartridge into the drive. The indicators remain off until the tape has loaded to the beginning of the tape (BOT). After the cartridge is loaded into the drive, the Eject and Load/Unload indicators turn on, and the corresponding buttons are enabled. The Slot Select indicator remains off.

2.4.3 Unloading the Cartridge

CAUTION

Do not press the Load/Unload button until backup or other tape operations are stopped at the terminal. Doing so can result in operation failure and drive unavailability.

When you press the Load/Unload button, the Select Slot, Load/Unload, and Eject indicators turn off, and the cartridge unloads from the drive into the magazine. However, automatic operation now stops and the Select Slot operation does not increment. The indicators turn on once the cartridge is returned to the magazine.

The Load/Unload indicator must be on before you press the button to load or unload a cartridge. If the Loader Fault indicator is on, showing a malfunction, press the Load/Unload button to reset the subsystem and try to clear the error.

2.4.4 Opening the Receiver

The **Eject** button opens the receiver for insertion or removal of the magazine. It is disabled when the Mode Select key is in the OCP Disabled position. The Eject button can also be used to *unload* a tape from the drive.

NOTE

When a cartridge is not in the drive, the Slot Select, Load/Unload, and Eject indicators are on before any operation begins. Pressing the Eject button causes all indicators to turn off. The elevator then returns to its home position and the receiver opens.

When a cartridge is in the drive, the Eject and Load/Unload indicators are on before the operation begins. When you press the Eject button, both indicators turn off, and the cartridge unloads from the drive and moves back into the magazine. The receiver then opens to allow access to the magazine.

In both situations, once the receiver is closed again, a magazine scan begins, and the indicators turn back on when the scan is complete.

2.5 Magazine

The front of the magazine has numbers, 0 through 6, that indicate the number of the slot.

NOTE

Insert and remove all cartridges at the *front* of the magazine.

2.5.1 Inserting a Cartridge into the Front of the Magazine

To simplify cartridge insertion, place the magazine on its back and facing you. Each slot is numbered—to ensure that you are inserting the cartridge correctly in the front of the magazine. Usually, cartridges are inserted into consecutive slots.

To insert a cartridge into the magazine:

1. Grasp the cartridge with the CompacTape III label facing up and the write-protect switch facing you (Figure 2-2).
2. Set the cartridge's write-protect switch to the desired position. If you want to write on the tape, slide the switch to the right (orange indicator is not visible). If you want to write-protect the tape, slide the switch to the left (orange indicator is visible).
3. Insert the cartridge (Figure 2-3) by pushing it into the slot until you hear a click. A small metal tab holds the cartridge in place.

Figure 2-2 Write-Protect Switch on a Cartridge

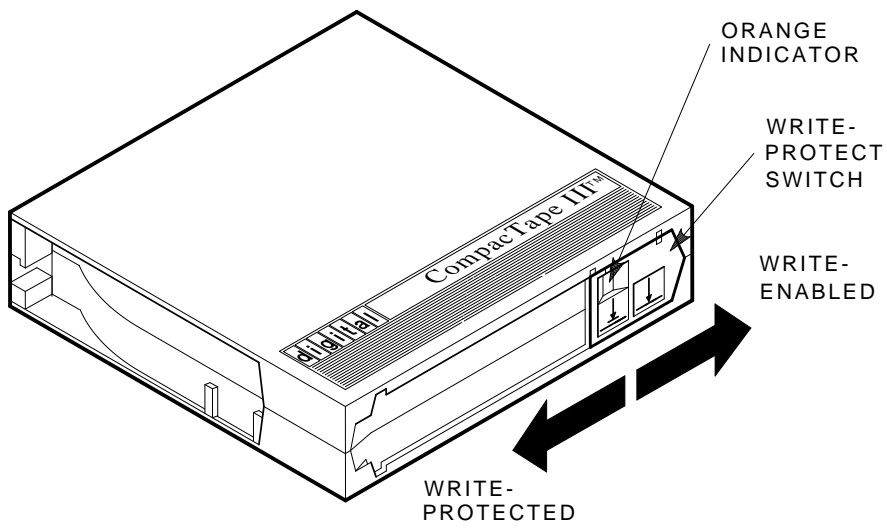
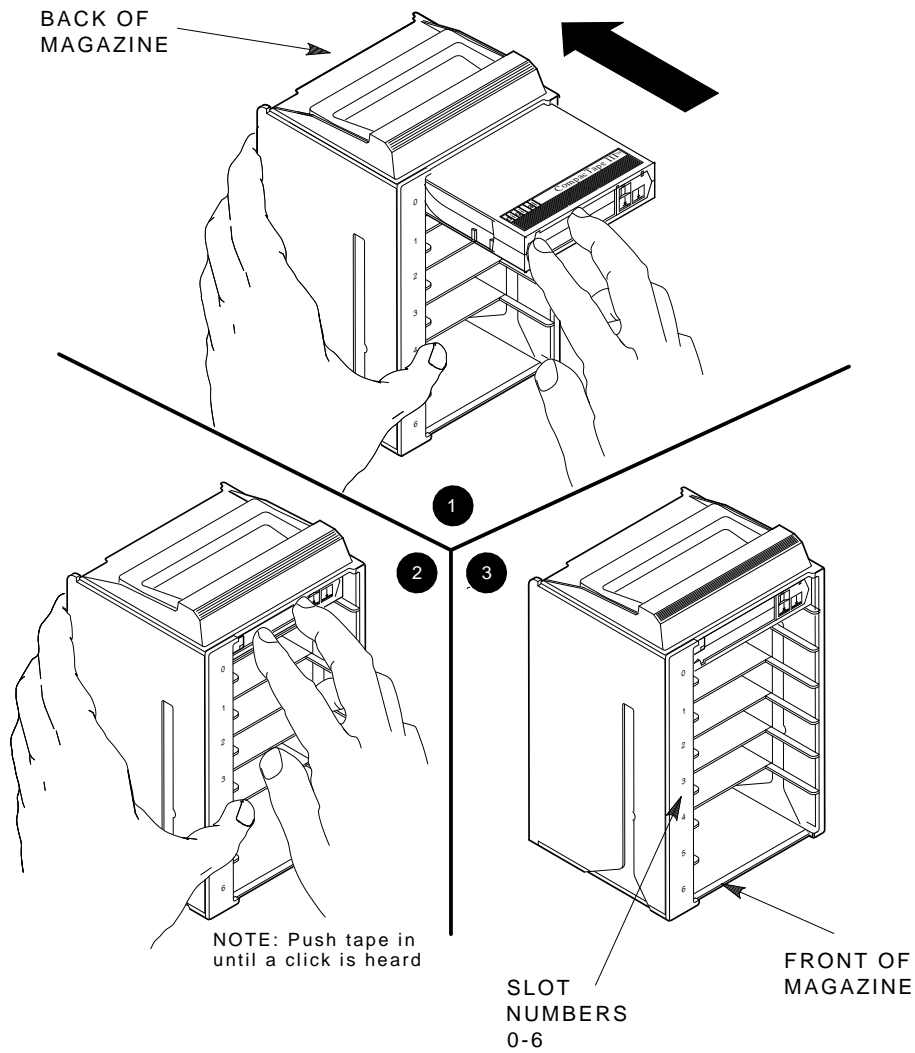


Figure 2-3 Inserting a Cartridge into the Magazine



2.5.2 Removing a Cartridge from the Magazine

To remove a cartridge from the magazine, press the cartridge (Figure 2-4) at the front of the magazine until you hear a click; then, release. The slot uses a spring-release action. When you press the cartridge in all the way, it pops out.

NOTE

Never apply labels to the top or bottom of tape cartridges. Doing so can cause cartridge jams in the Tx857 subsystem. Use the space on the front of the cartridge for labels. If a jam occurs, call your Digital Services representative.

2.5.3 Removing the Magazine from the Receiver

To remove the magazine from the receiver, first be sure that:

1. The Power On indicator is on (Figure 2-1).
2. The tape drive is unloaded.
3. The Eject indicator is on. (It must be on before you can press the Eject button.)

Then:

1. Press the Eject button (Figure 2-1) to open the receiver.
2. Grasp the receiver after it opens (Figure 2-5), and gently pull it forward to access the magazine.
3. Grasp the magazine's handle only to lift the magazine out of the receiver.

2.5.4 Installing the Magazine into the Receiver

To install the magazine into the receiver:

1. Slide the magazine down into the receiver (Figure 2-5) while holding the magazine by the handle. Since the magazine is slotted, you can restore it in the correct orientation only.
2. Push the receiver closed.
3. Observe that the receiver is fully closed in the Tx857 subsystem before proceeding.

Figure 2-4 Removing a Cartridge from the Front of the Magazine

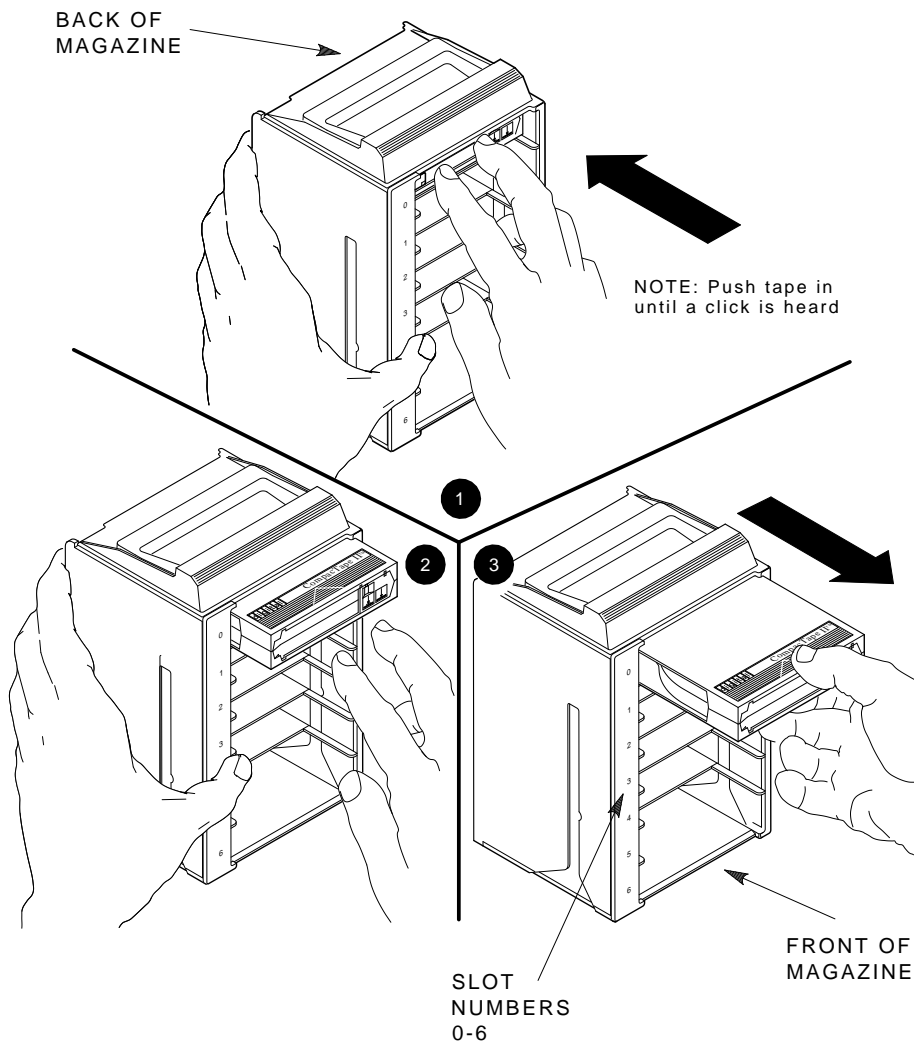
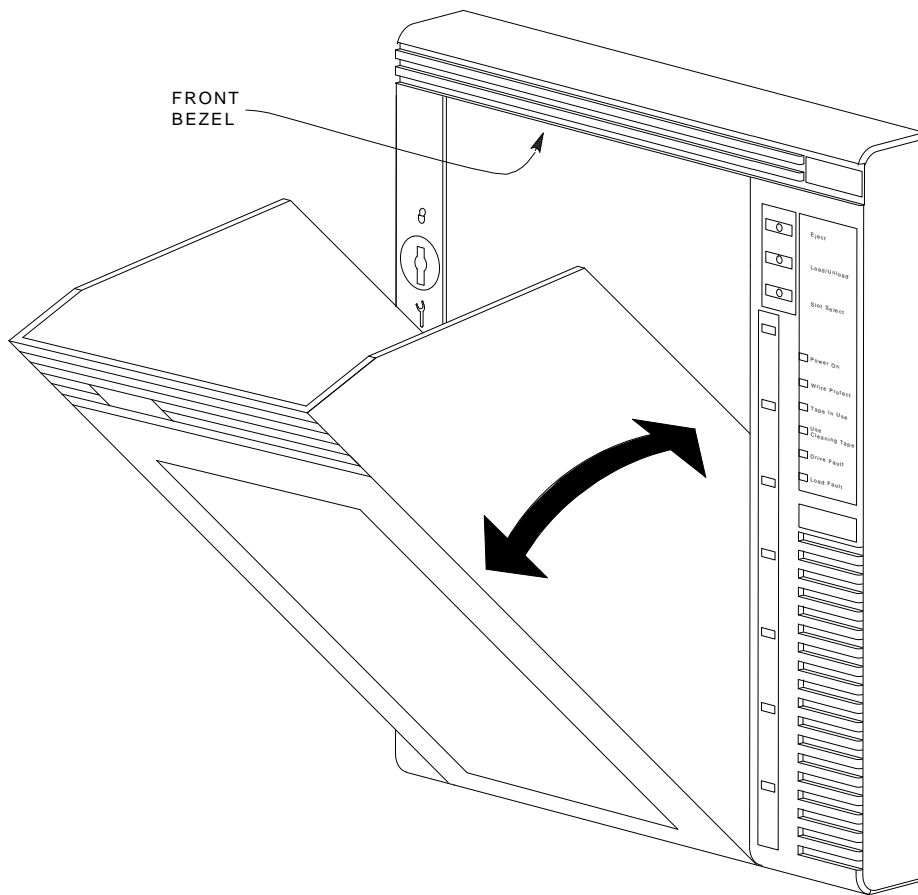


Figure 2-5 Receiver Opened



SHR-X0046-90

3

TF857 Local Programs

This chapter is for TF857 users only. It describes some of the local diagnostic programs and utilities that you can access with the TF857 magazine tape subsystem to test and verify that the subsystem is functioning correctly.

The programs and utilities, also called *task names*, described in this chapter are:

- **DIRECT** — Provides a directory of available local programs.
- **HISTRY** — Displays information about the TF857 subsystem.
- **PARAMS** — Allows you to observe and change subsystem parameters.
- **DRVEXR** — Exercises the tape drive and displays statistics after successful completion.
- **DRVTST** — Verifies the correct functioning of drive hardware.
- **LDRTST** — Exercises the internals of the loader transfer assembly.

NOTE

To abort a local program or utility, type `Ctrl/Y` or `Ctrl/C`. Do *not* stop diagnostics by pressing the Load/Unload button on the TF857 operator control panel. Doing so can cause system failure.

3.1 Accessing Local Programs

Access local programs with the VMS command:

```
$ SET HOST/DUP
```

You need certain VMS privileges to use the **SET HOST/DUP** command. (See your system manager.) This command allows you to access the local programs that reside in read-only memory (ROM) on the TF857 subsystem.

When you execute **SET HOST/DUP**, communications between the host system and the TF857 subsystem are through diagnostic utilities protocol (DUP). Drive operations under DUP are controlled through the local programs. When you exit the program, control returns to the operating system.

The following example shows the sequence of commands to access local programs. These commands are for the VMS operating system, version 5.4.2 or later:

```
$ SHOW CLUSTER
  (Shows the node name of the tape device.)

$ SET DEVICE/noavailable device-name
  (Makes the device unavailable to users.)

$ SET HOST/DUP/SERVER=MSCP$DUP/TASK=PARAMS nodename
  (Allows you to access programs.)
```

TASK in the above example refers to one of the six programs listed at the beginning of this chapter. **PARAMS** is the program or task name. You can use any of the program names, depending on what task you want to accomplish.

Add the qualifier **/LOG** if you want a record, or log, of the results of the test run.

CAUTION

The node name is derived from the subsystem's serial number. If you change the node name, the host system does not recognize this name until you reboot the host system.

3.1.1 Error Message after Executing SET HOST/DUP Command

If you receive an error message, such as in the following example, when using the SET HOST/DUP command, you may need to load the FYDRIVER program.

```
Unit Offline
  Data Pattern:                0
  Record Byte Count:          24732
  Program Object Count:       13988
  Tape Object Count:          13987

End Message
000A036E 00040000 A1000023 00000000 00000000 00000000 00000000
00000000 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00000000

Statistical Report

Test Name: FTST03, Pass 16
Random Seed:          1242755630
Byte Count:           0
Pattern Number:       9
Data Errors:         Read   Write
  Retries:           4     0
  ECC:                0     0
  Hard:              0     0
Data Compare Errors: 0
Mispositions:         0
Kbytes Written:       10380731  Read: 10182195

0023 - Unit read/write test failed.
```

Load the FYDRIVER program as follows:

```
$ MCR SYSGEN
  (Accesses SYSGEN.)

$ SYSGEN> LOAD FYDRIVER
  (Loads FYDRIVER, a prerequisite to using diagnostics.)

$ SYSGEN> CON FYA0/NOADAP
  (Configures FYDRIVER.)

$ SYSGEN> EXIT
```

3.2 DIRECT Utility

The **DIRECT** utility provides a directory of the diagnostic and utility programs that are resident in the TF857 subsystem.

An example of a DIRECT display follows:

```
DIRECT V1.0 D
HISTRY V1.0 D
PARAMS V1.0 D
DRVEXR V1.0 SD
DRVST V1.0 SD
LDRTST V1.0 SD
Completed
```

3.3 HISTRY Program

The **HISTRY** program displays information about the history of the TF857 subsystem.

An example of the HISTRY display follows:

```
TF85
DSSI: T8992Q /2 (DIPs)
Controller:
  S#: EN03000159
  HW: 000/PCB-rev:A000
  Bt: 120/42DA8D6A (23-JAN-1991 15:00:47)
  Cd: 129/AF19579E ( 7-FEB-1991 15:24:43)
  EE: 085 TD: 002
Drive:
  S#: EN02900321
  HW: 004/A0$0
  Cd: 030/4AEC
  EE: 015/42CA
Loader (S/H/M): 023/000/000
Power on Hours: 1
Power Cycles: 3
Completed
```

3.4 PARAMS Program

The **PARAMS** program displays or changes internal parameters for the TF857 magazine tape subsystem (Table 3-1). Parameters are preset during manufacturing; however, your system manager may need to change them with the PARAMS program to configure your system.

Table 3-1 TF857 Subsystem Parameters

Parameter	Definition
UNITNUM	TMSCP unit number.
SYSTEMID	Controller module's 48-bit system ID.
NODENAME	Node name for the TF857 subsystem.
FORCENAME	1 — Default node name in use. (Derived from the subsystem serial number.) 0 — Uses value set in NODENAME.
FORCEUNI	Determines whether the TMSCP unit number or DSSI node ID is used. 1 — Uses the DSSI node ID. 0 — Uses the TMSCP unit number.

3.4.1 Displaying, Setting, and Saving Parameters

Use the **SET HOST/DUP** command to invoke the PARAMS program. The terminal displays the following prompt:

```
PARAMS>
```

Once you invoke the PARAMS program, all interaction is through commands and responses (Table 3-2).

Table 3-2 TF857 PARAMS Commands

Command	Definition
HELP	Shows all PARAMS commands and their syntax.
SHOW	Displays subsystem parameters.
SET	Sets a parameter to a value.
STATUS	Displays the status of subsystem operations.
WRITE	Records the device parameters changed with the SET command.
EXIT	Terminates the PARAMS local program.

3.4.2 HELP Command

Use the **HELP** command to display a list of available PARAMS commands:

```
PARAMS> HELP
```

The PARAMS program responds:

```
EXIT
HELP
SET {parameter | .} value
SHOW {parameter | . | /class}
    /ALL /DIF /DSSI /DUP
    /SYSTEM /TDS /TMSCP
STATUS DATALINK {Reset}
STATUS PATH node_number {Reset}
STATUS LOGS
WRITE
```

3.4.3 SHOW Command

Use the **SHOW** command to display TF857 subsystem parameters. The command syntax for displaying specific parameters is:

```
PARAMS> SHOW parameter
```

See Table 3-1 for the parameters you can display.

You can add qualifiers to the SHOW command to display classes of parameter information:

- SHOW /ALL
- SHOW /DIF
- SHOW /DSSI
- SHOW /DUP
- SHOW /SYSTEM
- SHOW /TDS
- SHOW /TMSCP

NOTE

Be sure to leave a space between the SHOW command and the /qualifier.

For example, to display the settings of all the TF857 subsystem parameters, use **SHOW /ALL**.

To display system parameters, type:

```
PARAMS> SHOW /SYSTEM
```

The system displays:

Parameter	Current	Default	Minimum	Maximum	Radix
FORCEEREBUILD	0	0	0	1	Decimal
CNTHWREV	0	0	0	255	Decimal
HWREVSTRING	"PCB-rev:????"	"PCB-rev:????"			Ascii
RGTTAG	"??????"	"??????"			Ascii
UNITID	454E0044ABD7				Quad

3.4.4 SET Command

Use the **SET** command to set, or change, internal TF857 subsystem parameters. The syntax for the SET command is:

```
PARAMS> SET parameter value
```

In the previous example, **parameter** is the name of the parameter to be set, and **value** is the value you want to assign to the parameter. If abbreviated, the first matching parameter is used without regard to uniqueness.

See Table 3-1 for a summary of TF857 subsystem parameters available when using the SET command.

CAUTION

If you type EXIT at the PARAMS> prompt without saving your modifications, the system displays the message:

```
Parameter modified but not written. Still Exit?
```

If you answer YES, the system returns to the VMS prompt (\$). Your modifications are not saved.

If you answer NO, the system returns to the PARAMS> prompt. To save your modifications, enter WRITE at the prompt, and then EXIT. See Section 3.4.6 for more information on the WRITE command.

3.4.5 STATUS Command

The **STATUS** command provides status about the operation of the subsystem.

3.4.6 WRITE Command

Use the **WRITE** command to save, in nonvolatile memory, the changes you made using PARAMS and its SET command. The WRITE command is similar to the VMS SYSGEN WRITE command. Syntax is as follows (no parameters are available):

```
PARAMS> WRITE
```

The program responds:

```
PARAMS> SET NODENAME TAPE1
PARAMS> SET UNITNUM 18
PARAMS> WRITE
```

```
Changes require controller initialization, ok? [Y/(N)] Y
```

This sets the TF857 subsystem's node name to TAPE1, and the TMSCP unit number to 18. Executing WRITE, and answering Y(es) to the question saves the node name and unit number in EEPROM.

NOTE

When you answer Y(es) to the controller initialization prompt, your changes take effect immediately and program control returns to the VMS command prompt (\$).

3.4.7 EXIT Command

The **EXIT** command ends the PARAMS program. The word `Completed` appears on the screen.

NOTE

To exit from questions in the local program, type EXIT. Do *not* stop local programs by pressing the Load/Unload button on the TF857 OCP. Doing so can cause the current operation to fail.

3.5 DRVEXR Program

The **DRVEXR** program exercises the tape drive. It is an intensive data transfer test and indicates the overall integrity of the drive. An example of a **DRVEXR** display follows:

```
Write/read anywhere on medium? [1=Yes/(0=No)] 1
User Data will be corrupted. Proceed? [1=Yes/(0=No)] 1
Test Time in Minutes [(10) - 100] 10
Minutes to Complete: 10
```

Statistical Report

```
Test Name: DRVEXR, Pass 1
Random Seed:          1111227776
Byte Count:           0
Pattern Number:       0
Data Errors:          Read      Write
  Retries:             0         0
  ECC:                 0
  Hard:                0         0
Data Compare Errors:  0
Mispositions:         0
Kbytes Written:       228461  Read:  0

Test Passed
```

NOTE

The DRVEXR program prompts you for an execution time; the DRVTST program displays a specific execution time.

3.6 DRVTST Utility

The **DRVTST** utility is a pass/fail test that invokes a comprehensive test of the drive hardware. A **Test Complete** message or a fatal error message appears when the test is complete. An example of a **DRVTST** display follows:

```
Write/read anywhere on medium? [1=Yes/(0=No)] 1
User Data will be corrupted. Proceed? [1=Yes/(0=No)] 1
Minutes to Complete: 25

Test Passed
```


3.7 LDRTST Program

The **LDRTST** program sends commands to the loader electronics module, which exercises the mechanics of the loader transfer assembly. In addition, this test checks the status of each cartridge in the magazine. An example of a LDRTST display follows:

```

Passes [(0) - 65535]: 1
Loader Exerciser
Loopback Test: Passed
Illegal Command Test: Passed
Internal Self Test
ROM Test: Passed
RAM Test: Passed
EEPROM Test: Passed
CTC Test: Passed
UART Test: Passed
Movement Test
Picker Arm Test: Passed
Cartridge Motor Test: Passed
Handle Motor Test: Passed
Elevator Test: Passed
Unit Available

  Cartridge loads: 1
Unit Available

  Cartridge loads: 2
Unit Available

  Cartridge loads: 3
Unit Available

  Cartridge loads: 4
Unit Available

  Cartridge loads: 5
Unit Available

  Cartridge loads: 6
Unit Available

Statistical Report

Test Name: LDRTST, Pass 1
Random Seed:                0
Byte Count:                  0
Pattern Number:              0
Data Errors:
  Read      Write
  Retries:  0      0
  ECC:       0
  Hard:     0      0
Data Compare Errors:        0
Mispositions:                0
Kbytes Written:              0 Read: 0

Test Passed

```


4

Error Conditions and Problem Resolutions

This chapter describes the conditions that must be present to ensure that the OCP pushbuttons (**Slot Select**, **Load/Unload**, and **Eject**) operate effectively.

This chapter includes instructions on resolving BACKUP operation failures, descriptions of magazine and loader faults and how to clear them, and what to check in the event of a power problem.

4.1 Conditions Necessary for Button Operation

Be sure to review information in the previous chapters to ensure that you are correctly operating the Tx857 magazine tape subsystem.

Before pressing the Slot Select, Load/Unload, or Eject button on the Tx857 OCP, check for the conditions listed in Table 4-1 and be sure that the:

- Power On indicator is on
- Receiver is closed
- Mode Select key is *not* set to OCP Disabled

Pressing these buttons has no effect if their indicators are off.

NOTE

Do not press the Load/Unload button to abort any function of the Tx857 subsystem. Type Ctrl/Y or Ctrl/C instead.

See Section 2.4 for more information on the functions of the Tx857 OCP buttons.

Table 4-1 Tx857 OCP Button Conditions

If you want to. . .	First make sure that the. . .	Then you can press this button. . .
Select another slot in the magazine	Magazine contains at least two cartridges Slot Select indicator is on	Slot Select
Load the selected cartridge into the tape drive	Magazine contains at least one cartridge Load/Unload indicator is on	Load/Unload
Return the selected cartridge to its original slot in the magazine	Load/Unload indicator is on	Load/Unload
Clear a magazine or loader fault	Load/Unload indicator is on Magazine Fault or Loader Fault indicator is on	Load/Unload
Open the receiver, or unload the cartridge from the drive and open the receiver	Eject indicator is on	Eject

4.2 Backup Operation Failure

Some manual operations, if not performed correctly, may cause backup operations to fail during BACKUP:

- Loading CompacTape or CompacTape II cartridges when executing write operations
- Loading write-protected CompacTape III cartridges when executing write operations
- Selecting the incorrect cartridge slot from which to initialize operations

4.3 Avoiding Basic Problems

Follow these guidelines when operating the Tx857 subsystem to avoid basic problems:

- Use CompacTape III cartridges or, for read-only operations, CompacTape or CompacTape II cartridges.
- Check the tape leader in the cartridge by lifting the cartridge latch that opens the door to expose the leader. Be sure the leader is in the same position as the one shown in Figure 4-1.

CAUTION

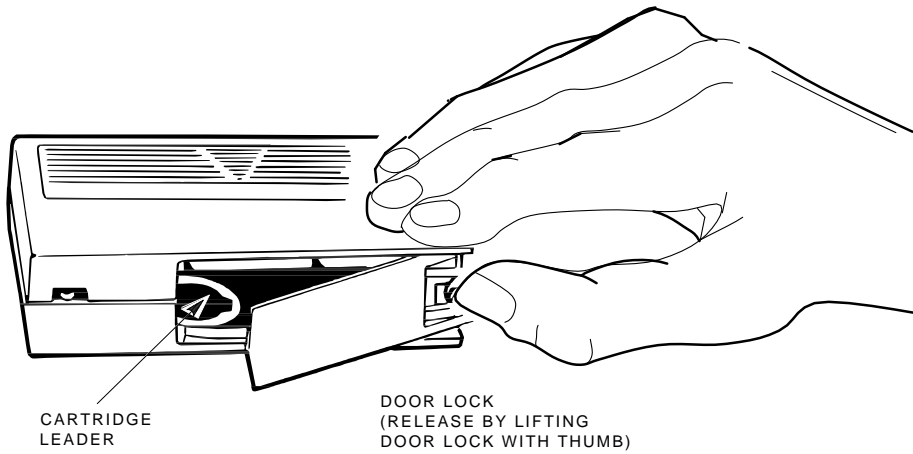
Do not touch the exposed magnetic tape. If the tape leader is not in the correct position, use a new cartridge.

- Be sure that the receiver is fully closed and the current slot indicator is on for the starting cartridge.
- Be sure that *no* slots in the magazine are empty between the starting cartridge and the expected completion cartridge.

NOTE

The Tx857 subsystem unloads and loads the next cartridge when the subsystem receives a DISMOUNT command from the system.

Figure 4-1 Opening the Cartridge Door to Check the Tape Leader



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SHR_X1027_89_CPG

4.4 Error Conditions

Error indications fall into two main categories:

- **Magazine Fault** — In most cases, this fault is an operator-correctable condition, and is indicated by the Magazine Fault indicator being on. If you cannot resolve the fault, call your Digital Services representative.
- **Loader Fault** — This is a condition that most likely requires service from a Digital Services representative. It is indicated by the Loader Fault indicator being on.

4.4.1 Magazine Fault Description

A magazine fault indicates an inconsistency between what the loader transfer assembly has done with a cartridge and the actual state detected by the subsystem.

Inconsistent magazine status occurs when:

- The magazine is full and an extra cartridge is in the drive
- The magazine is full and an extra cartridge is in the elevator
- The loader has loaded a cartridge into the drive, but the cartridge has been manually removed
- The flag is set in the magazine, but no cartridge is present
- An unrecognized cartridge is in the magazine

When these conditions are present, the Magazine Fault indicator is on, indicating a situation that can be corrected by the operator. The Eject indicator is also on to inform you that this is the only function available at this time.

Slot indicators are as follows:

- Slots 6 and 0 light, indicating a cartridge in the drive was not loaded by the loader transfer assembly.
- Slots 5 and 0 light, indicating you need to replace any missing cartridges in the magazine.

NOTE

The Slot 0 indicator is on in all error conditions to indicate that an error occurred. It is not a Slot Select indicator.

4.4.1.1 Clearing a Magazine Fault

To clear a magazine fault, first try pressing the Load/Unload button. If the fault does not clear, press the Eject button to open the receiver and remove the magazine to locate the cartridge error. After you have cleared the error, try loading and unloading cartridges to verify operation.

4.4.2 Loader Fault Description

A loader fault indicates that the Tx857 subsystem has detected a fatal error in either the loader transfer assembly or the tape drive. In the case of some loader transfer assembly errors, the subsystem retries the error three times before indicating failure. All loader faults generate an error log as well as light the Loader Fault indicator and an associated subcode.

The Loader Fault indicator indicates errors in the loader transfer assembly, controller module, and drive. The suspected location of a fault is indicated by the following slot indicators:

- Slots 4 and 0 light, indicating a controller module fault.
- Slots 5 and 0 light, indicating a loader transfer assembly fault.
- Slots 6 and 0 light, indicating a drive fault.

NOTE

Error indicators do not blink. During hardware failures, the controller module determines action.

4.4.2.1 Clearing a Loader Fault

When a loader fault occurs, the Load/Unload and Eject indicators are on. When you press the Load/Unload button, the Tx857 subsystem attempts to clear the error. When you press the Eject button, the receiver opens to let you access the magazine.

4.5 Power Problems

If the Power On indicator is not on, or your system does not recognize the Tx857 subsystem:

- Verify that the subsystem is pushed completely into the enclosure. (Power to the loader transfer assembly is disabled when it slides forward.)
- Verify with your system manager that the subsystem configuration is correct.
- Call your Digital Services representative.

5

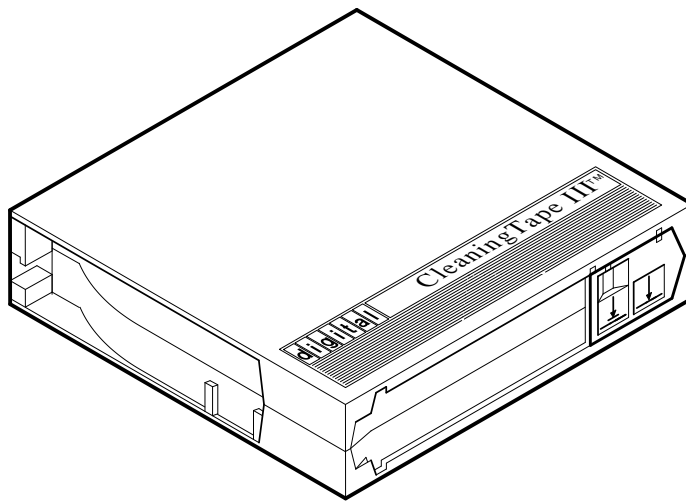
Head Cleaning

The Tx857 magazine tape subsystem uses the CleaningTape III cartridge (Figure 5-1) for cleaning the read/write head in the tape drive.

The CleaningTape III cartridge is a yellow plastic cartridge containing 1200 feet of 1/2-inch, magnetic particle (MP) cleaning tape. You can use the CleaningTape III cartridge approximately 20 times before it expires.

5-2 Head Cleaning

Figure 5-1 CleaningTape III Cartridge



SHR_X1020E_89

You can use two procedures to clean the read/write head:

1. Access the tape drive and load the CleaningTape III cartridge directly into the drive (Section 5.1).
2. Insert the CleaningTape III cartridge into the magazine, where it then loads into the drive (Section 5.2).

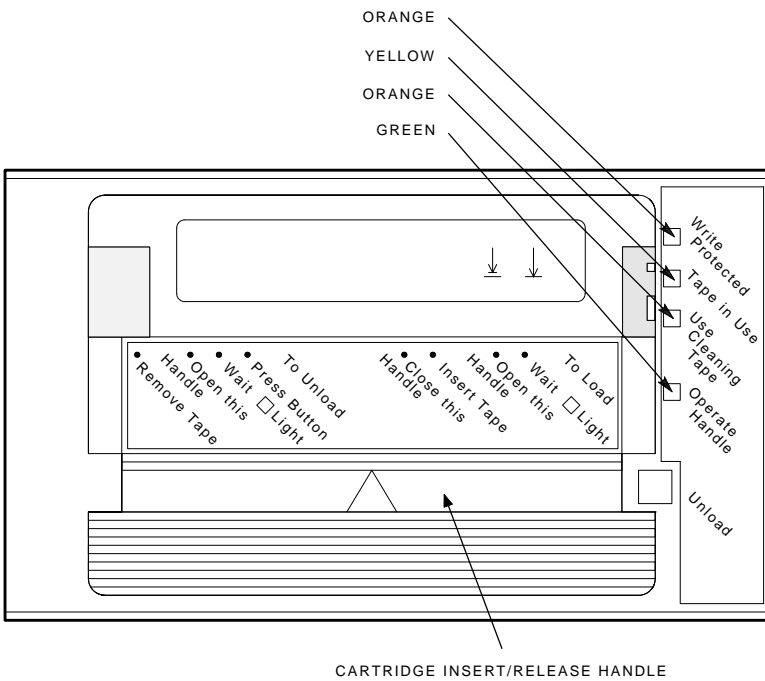
NOTES

Perform the head cleaning procedure only when the orange Use Cleaning Tape (Figures 5-2 and 5-3) indicator is on.

If the Loader Fault indicator is on, clear the fault before proceeding with head cleaning.

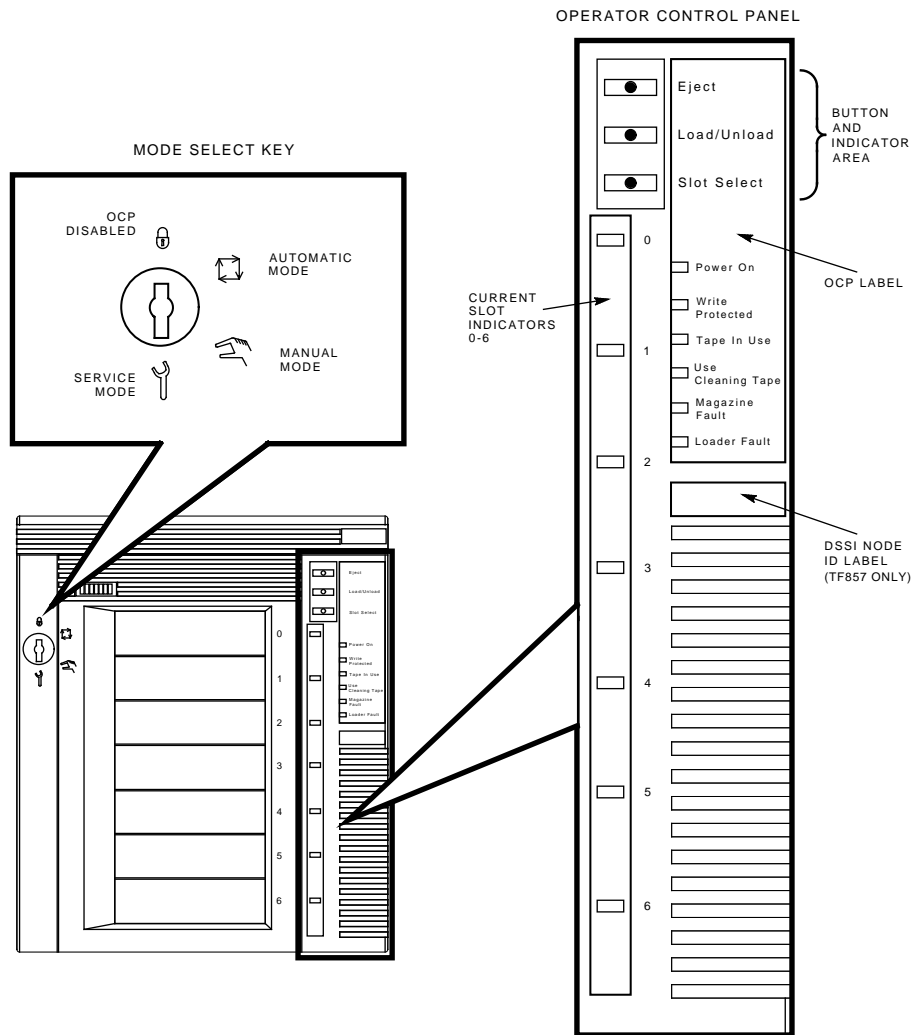
5-4 Head Cleaning

Figure 5-2 Drive Front Panel



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Figure 5-3 Tx857 Operator Control Panel



5.1 Accessing the Tape Drive

Unless otherwise instructed by a Digital Services representative, open the Tx857 subsystem to access the tape drive *for head cleaning only*.

To access the tape drive:

1. Be sure that all Tx857 subsystem operations are stopped.
2. Ensure that the Eject indicator is on (Figure 5-3).
3. Set the Mode Select key to Service mode (Figure 5-3).
4. Press the Eject button and remove the magazine, if present.
5. Pull the Tx857 subsystem out of the storage array and toward you by placing your hand under the top of the Tx857 subsystem's front bezel (Figure 5-4).

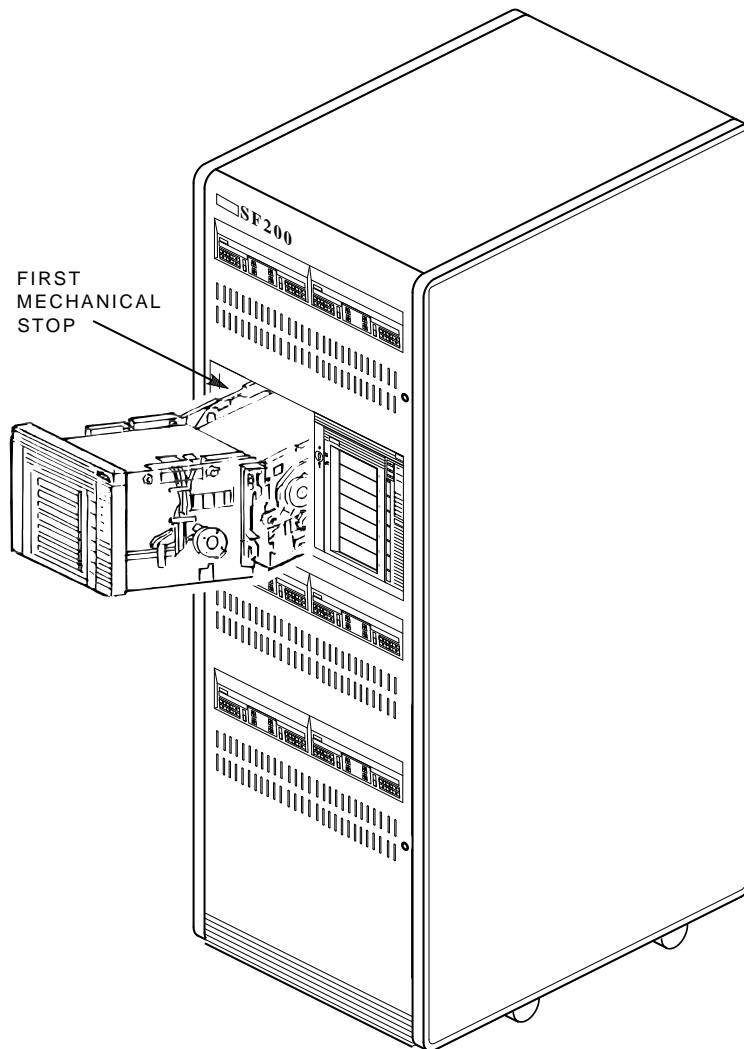
WARNING

If, after pulling the subsystem forward, the Power On indicator does not turn off, do not attempt the head cleaning procedure.

6. Lift the loader open latch (Figure 5-5) (to the right of the unit).
7. Move the loader transfer assembly to the left, taking care not to hit the storage array.

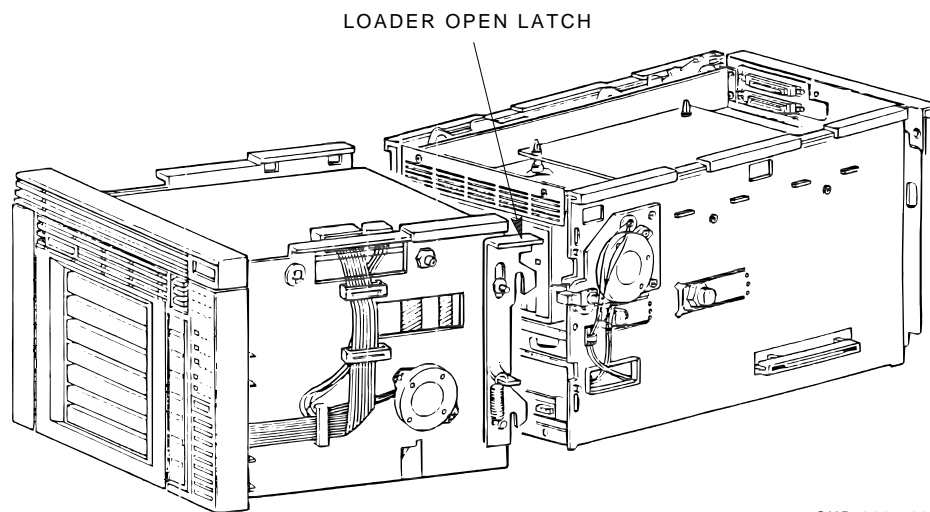
You now have access to the drive's cartridge entrance (Figure 5-2).

Figure 5-4 Sliding the Tx857 Subsystem Toward You



5-8 Head Cleaning

Figure 5-5 Loader Open Latch



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SHR-X0140-90-CPG

5.1.1 Loading the CleaningTape III Cartridge into the Drive

Be sure to use a CleaningTape III cartridge. Instructions for loading the CleaningTape III cartridge follow:

1. Pull the handle to the open position when the green indicator steadily lights (Figure 5-6).
2. Load the cartridge.
3. Push the handle closed. The green indicator turns off and the yellow Tape In Use indicator begins to flash, indicating the tape is loading.

When the cleaning process is finished, a beep sounds, indicating that you can unload the CleaningTape III cartridge.

NOTE

If the Use Cleaning Tape indicator remains on, the cleaning cycle was not successful due to an expired cartridge. Replace the cleaning cartridge, and repeat the cleaning process.

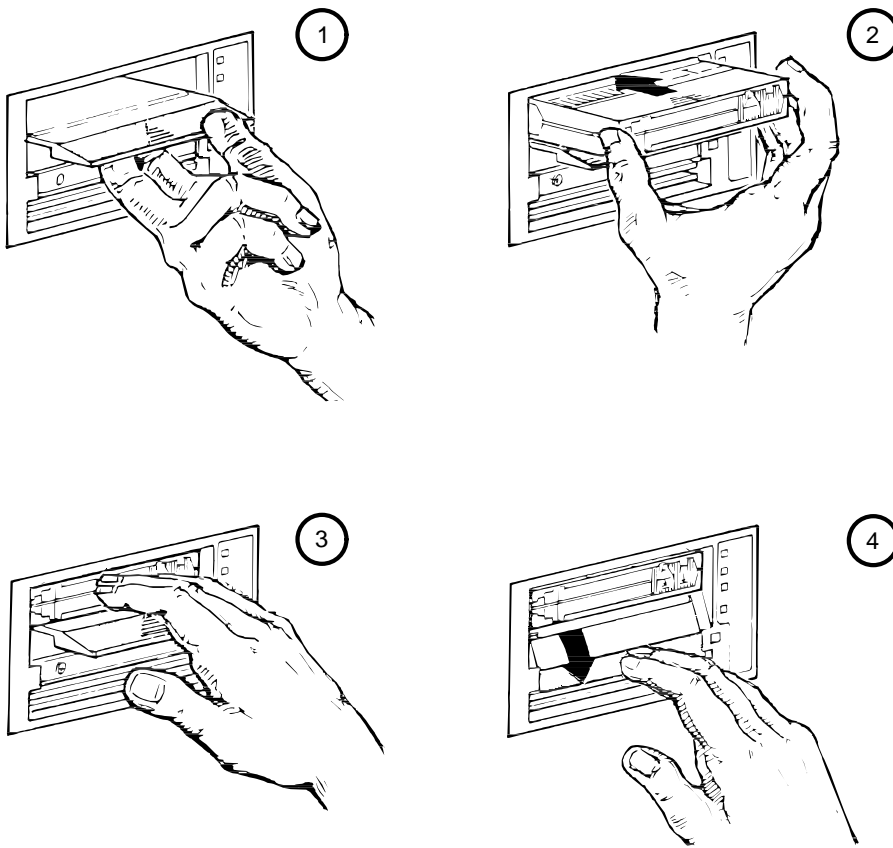
5.1.2 Securing the Tx857 Magazine Tape Subsystem

After cleaning the head, secure the Tx857 subsystem as follows:

1. Close the loader transfer assembly.
2. Press the Tx857 loader open latch to secure the Tx857 subsystem (Figure 5-5).
3. Push the Tx857 subsystem back into the storage array.
4. Be sure that the Power On indicator is on.
5. Set the Mode Select key to a position other than Service mode.

5-10 Head Cleaning

Figure 5-6 Loading the Cartridge



5.2 Inserting the CleaningTape III Cartridge into the Magazine

CAUTION

If you choose to use this cleaning procedure, you must return the CompacTape III cartridges to their *original* slots, and remove the cleaning cartridge from the magazine after the cleaning procedure is done.

To clean the read/write head by inserting the CleaningTape III into the magazine rather than the drive, use the following steps (Figure 5-3):

1. Press the Load/Unload button to remove any cartridges that may be in the drive, and to return them to the magazine.
2. Press the Eject button to open the receiver and remove the magazine.
3. Insert the CleaningTape III cartridge into the first slot of the magazine.
4. Insert the magazine into the receiver; close the receiver.
5. Press the Load/Unload button to load the cleaning cartridge into the drive.

Once the cleaning cartridge is loaded, the drive begins the head cleaning procedure. When the cleaning procedure is complete, the cleaning cartridge automatically returns to the magazine.

6. Press the Eject button to remove the magazine.
7. Remove the cleaning cartridge from the magazine and replace the CompacTape III cartridge in the magazine.

A

VMS Operating System Commands

The Tx857 magazine tape subsystem uses most of the standard magnetic tape commands that can be invoked under VMS operating system version 5.4 or later.

This appendix is a reference only; it does not include all the details that may be involved in using VMS commands.

For more information about VMS commands and command files, see the *VAX/VMS Guide to Using Command Procedures* (AA-H782B-TE), *VAX/VMS Command Language User's Guide* (AA-DO23C-TE), or the *VMS System Manager's Manual* (AA-LA00B-TE).

A.1 Tape Device Specific Commands

Use the following commands to operate the Tx857 magazine tape subsystem:

- ALLOCATE
- BACKUP
 - MOUNT/FOREIGN
 - BACKUP
 - DISMOUNT
- COPY
 - MOUNT
 - COPY
 - DISMOUNT
 - INITIALIZE

A.1.1 ALLOCATE Command

The **ALLOCATE** command provides exclusive access to a device and optionally establishes a logical name for that device. Once you have allocated a device, other users cannot access that device until you explicitly DEALLOCATE it, or until you log out. Use the following format to allocate the Tx857 subsystem:

```
$ ALLOCATE device name: [logical name]
```

For example, to allocate the Tx857 subsystem for your use and assign it to the logical name *TAPE1*, do the following:

```
$ ALLOCATE MIA0:TAPE1
```

The Tx857 subsystem's physical device name is assigned by your system manager after it is installed.

A.1.2 DEALLOCATE Command

The **DEALLOCATE** command cancels the exclusive access you assign to a device with the ALLOCATE command.

```
$ DEALLOCATE device name: [logical name]
```

A.1.3 BACKUP Command

The **BACKUP** command provides protection against file volume corruption by creating functionally equivalent backup copies.

Use the following format to back up a file:

```
$ BACKUP/NOCRC/BLOCK=65534/label=[volume label] filename.ext [device-name or logical name]:filename.bck
```

In addition to backing up single files, you can back up lists of files and entire volumes.

NOTE

By selecting the **/NOCRC** qualifier and a large block size with the **/BLOCK** qualifier (65534 is the largest possible block size), you achieve better performance from the Tx857 subsystem. The previous command line excludes the use of the host-available CRC error detection/correction capability, and depends on the embedded error checking and correction capabilities of the Tx857 subsystem. Tx857 error correction capabilities relate specifically to the Tx857 subsystem—not to the entire system.

Use of the **/NOCRC** qualifier requires a systems management decision relative to data integrity rather than performance. In most cases, Tx857 internal error detection and correction capabilities are sufficient to ensure data integrity and recovery. The host-level CRC provides another level of error detection and correction, which may be important under some conditions.

Refer to your system manuals before deciding on qualifiers for use with the **BACKUP** command. For detailed information about **BACKUP** and other VMS tape commands, see the *VAX/VMS Backup Utility Reference Manual* (AA-Z407B-TE).

CAUTION

The **BACKUP** command is the only command capable of writing and reading to multiple tape cartridges. Therefore, it is the only command that allows writing or reading of a file save set to extend to new media when the physical end of tape is encountered. Other commands cannot read or write to more than one tape cartridge without operator intervention.

A.1.4 MOUNT Command

The **MOUNT** commands lets you make a magnetic tape volume available for processing. Note that it loads the tape with the protection set according to the write-protect switch on the cartridge.

Use the following format to mount a tape with the Tx857 subsystem:

```
$ MOUNT/FOREIGN [device name] [volume label] [logical name]
```

As an example, to make TAPE1 available for processing, type the following:

```
$ MOUNT/FOREIGN MIA0
```

The console displays a message:

```
TAPE1 MOUNTED ON MIA0:
```

Note that you must use the /FOREIGN qualifier when you are performing **BACKUP** commands. Do not use it when you are performing **COPY** commands.

NOTE

For improved performance, you can also use the following command:

```
$ MOUNT /CACHE=TAPE_DATA
```

For more information, see the *VAX/VMS Mount Utility Reference Manual* (AA-Z424A-TE).

A.1.5 COPY Command

Use the **COPY** command, with the Tx857 subsystem, to copy files from cassette tape.

In the following example, the **MOUNT** command requests that the volume labeled *GMB001* be mounted on the tape drive at *MIA0* and assigns the logical name *TAPE1*.

The **COPY** command uses the logical name *TAPE1* for the input file specification. All files on *MIA0* are copied to the current default disk and directory. The files keep their original file names and file types.

```
$ MOUNT MIA0: GMB001 TAPE1:
$ COPY TAPE1:.* *.*.*
```

NOTE

Using the COPY command to move multiple files may not achieve optimum performance. Check with your system manager for more information.

A.1.6 DISMOUNT Command

The **DISMOUNT** command cancels the **MOUNT** command, makes the unit unavailable for processing, and rewinds the tape.

To eject a tape cassette from the tape drive, you must rewind and unload the tape. Use the following format:

```
$ DISMOUNT logical name or device name:
```

To rewind to the beginning of the tape (BOT) without unloading it, use the following format:

```
$ DISMOUNT /NOUNLOAD logical name or device name:
```

A.1.7 INITIALIZE Command

CAUTION

Be sure that you are using a scratch tape before initializing; otherwise, any existing data on the tape will be destroyed.

Use the **INITIALIZE** command to specify the device name, and write a volume name to the magnetic tape volume loaded into the TF85 tape drive. Note that the tape must be write-enabled for the initializing operation.

Use the following format:

```
$ INITIALIZE device name: [volume label]
```

As an example, to initialize the device *TAPE1* and assign the volume name *GMB001*, type the following:

```
$ INITIALIZE TAPE1: GMB001
```

For detailed information regarding volume names and magnetic tape operations, see the *Guide to VAX/VMS Disk and Magnetic Tape Operations* (AA-M539A-TE).

B

Service Offerings

Digital Equipment Corporation offers a range of flexible service plans.

B.1 On-Site Service

On-site service offers the convenience of service at your site and insurance against unplanned repair bills. For a monthly fee, you receive personal service from our service specialists. Within a few hours, the specialist is dispatched to your site with equipment and parts to give you fast and dependable maintenance.

B.2 BASIC Service

BASIC service offers full coverage from 8 a.m. to 5 p.m., Monday through Friday. Options are available to extend your coverage to 12-, 16-, or 24-hour periods, and to include Saturdays, Sundays, and holidays. Under the BASIC service plan, all parts, materials, and labor are covered in full.

B.3 DECservice Plan

The DECservice plan offers a premium, on-site service for producing committed response to remedial service requests made during contracted hours of coverage. Remedial maintenance will be performed continuously until the problem is resolved, which makes this service ideal for customers requiring maximum service performance. Under the DECservice plan all parts, materials, and labor are covered in full.

B.4 Carry-In Service

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B.5 DECmailer Service

DECmailer service offers expert repair at a per use charge. This service is designed for users who have the technical resources to troubleshoot, identify, and isolate the module causing the problem. Mail the faulty module to our Customer Returns Center where the module is repaired and mailed back to you within 5 days.

B.6 Per Call Service

Per call service offers a maintenance program on a noncontractual, time-and-materials-cost basis. It is appropriate for customers who have to perform first-line maintenance, but may occasionally need in-depth support from Digital Services.

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