

**TLZ04 Information Sheet
for VAXstation™ 3100 and MicroVAX™/VAXserver™ 3100
Systems**

EK-TLZ04-AD-001

October 1990

READ ME FIRST:

You should read this information sheet if you are configuring the following with a TLZ04 cassette tape drive:

- VAXstation 3100 Model 30, 38, 40, or 48
- MicroVAX/VAXserver 3100 Model 10 or 20

This information sheet tells you what you need to know before connecting your system to a TLZ04 drive. You should read this information sheet before reading the TLZ04 owner's manual (*TLZ04 Cassette Tape Drive Owner's Manual*, order number EK-TLZ04-OM).

You may need to have a Digital customer service representative upgrade your VAXstation 3100 or MicroVAX/VAXserver 3100 system before connecting the TLZ04 cassette tape drive to it. This information sheet explains how to determine whether your VAXstation or MicroVAX system must be upgraded.

This information sheet also describes the contents of the TLZ04-MA, -MB, -LA, and -LB option kits and how to test the TLZ04 drive with a VAXstation 3100 and MicroVAX/VAXserver 3100 system.

Determining Whether Your System Requires an Upgrade

Proper performance of the TLZ04 cassette tape drive requires that the read-only-memory chips (ROMs) in your VAXstation 3100 or MicroVAX/VAXserver 3100 be at a minimum revision level:

- VAXstation 3100 Models 30 and 40 require ROM revision 1.6.
- VAXstation 3100 Models 38 and 48 require ROM revision 1.5.
- MicroVAX/VAXserver 3100 Models 10 and 20 require ROM revision 1.6.

Use the following procedure to determine the revision level of the ROMs in your system:

1 Shut down your system:

- Shut down a VMS™ system by entering the following command at the DCL prompt

```
$ @SYSS$SYSTEM:SHUTDOWN 
```

- Shut down an ULTRIX™ system by entering the following command at the system prompt:

```
# shutdown -h now 
```

The system shutdown procedure may take from several seconds up to 30 minutes, depending on your system.

2 When the shutdown procedure has ended, press the halt button at the rear of the VAXstation 3100 or MicroVAX/VAXserver 3100 system, putting the system in console mode.

3 Perform a TEST 50 on the system by entering the following command at the console prompt:

```
>>> TEST 50 
```

Your system responds by displaying the CPU model number, ROM revision level, and additional information about your system configuration. For example, your system might display the following:

```
KA42--A V1.6
ID 08-00-2B-0D-E9-03

MONO      0000.0001
CLK       0000.0001
NVR       0000.0001
DZ        0000.0001
00000001 00000001 00000001 00004001 00000001 000012A0
MEM       0010.0001
01000000
MM        0000.0001
FP        0000.0001
IT        0000.0001
SCSI-A    2424.0001 V1.58
          FFFFFFF05 FFFFFFF05 00000001 FFFFFFF05 FFFFFFF05 00000001 FFFFFFF03 FFFFFFF05
SCSI-B    3232.0001 V1.58
          FFFFFFF05 00000001 FFFFFFF05 FFFFFFF05 05000001 01000001 FFFFFFF03 FFFFFFF05
SYS       0000.0001
NI        0100.0001
```

The top line of the screen output shows your system's CPU model number and ROM revision level. The ROM revision level in the example is 1.6.

Note *The previous example shows the terminal display for a VAXstation 3100 system. MicroVAX/VAXserver 3100 systems have a KA41-X CPU module.*

If the revision level of the ROMs in your system is the same as or higher than the level your system requires, you do not need to have Digital replace your system ROMs. You may discard the ROMs included in your TLZ04-MA, -MB, -LA, or -LB option kit.

If the revision level of the ROMs in your system is lower than the revision level your system requires, a Digital customer service representative must replace the ROMs. Contact your Digital customer service representative to schedule an appointment.

Note *Digital replaces the ROMs that come in your TLZ04-MA, TLZ04-MB, TLZ04-LA, or TLZ04-LB option kit at no extra charge.*

Warning *Only a Digital customer service representative should replace ROMs. You may void your system warranty by replacing the ROMs yourself.*

Verifying the TLZ04 Option Kits for VAXstation 3100 and MicroVAX/VAXserver 3100 Systems

Table 1 shows the TLZ04 option kits required by the various models of the VAXstation 3100 and MicroVAX/VAXserver 3100 systems. Check that you have received the appropriate option kit for your system.

Table 1 TLZ04 Option Kits for VAXstation 3100 and MicroVAX/VAXserver 3100 Systems

System	Option Kit Required
VAXstation 3100	
Model 30	TLZ04-MA
Model 38	TLZ04-MB
Model 40 (VAXserver)	TLZ04-MA
Model 48 (VAXserver)	TLZ04-MB
MicroVAX/VAXserver 3100	
Model 10 (MicroVAX)	TLZ04-LA
Model 10 (VAXserver)	TLZ04-LB
Model 20 (MicroVAX)	TLZ04-LA
Model 20 (VAXserver)	TLZ04-LB

TLZ04-MA, -MB, -LA, and -LB option kits contain the following:

- One TLZ04-DA (desktop version) cassette tape drive
- One 50-pin-to-50-pin SCSI signal cable (for drive-to-drive connections), option number BC19J-06
- One AC power cord
- One blank cassette tape, option number TLZ04-CA
- One head-cleaning cassette tape, option number TLZ04-HA
- One SCSI terminator, option number H8574-A
- One fuse kit containing four fuses (two 110-volt fuses, two 220-volt fuses) and two fuse holders (one holder for 110-volt fuses, one holder for 220-volt fuses)
- Two ROMs, option numbers as follows:

Option Kit	ROM 1	ROM 2
TLZ04-MA	23-086E8-00	23-087E8-00
TLZ04-MB	23-088E8-00	23-089E8-00
TLZ04-LA	23-090E8-00	23-091E8-00
TLZ04-LB	23-092E8-00	23-093E8-00

- *TLZ04 Cassette Tape Drive Owner's Manual*, order number EK-TLZ04-OM
- *TLZ04 Information Sheet for VAXstation 3100 and MicroVAX/VAXserver 3100 Systems*, order number EK-TLZ04-AD (this document)

TLZ04-MA and -MB option kits also contain:

- One 68-pin-to-50-pin SCSI signal cable (for system-to-drive connections), option number BC56H-03

Testing the TLZ04 Drive with Your System

You should perform several tests to ensure that the TLZ04 cassette tape drive operates properly when connected to your VAXstation 3100 or MicroVAX/VAXserver 3100 system. This section describes how to determine whether you must change the TLZ04 SCSI ID factory setting, how to perform a SCSI bus test, and how to determine whether your system recognizes the TLZ04 drive.

Setting the TLZ04 SCSI ID

Your VAXstation 3100 or MicroVAX/VAXserver 3100 system uses SCSI IDs to identify devices connected to your system. The TLZ04 SCSI ID is factory set to SCSI ID 5. Because each device must have a unique SCSI ID, you need to change this setting if one of the following conditions exists:

- Another device in your system is set to SCSI ID 5.
- You are installing multiple TLZ04 drives.
 - If no other device in your system is set to SCSI ID 5, you must change the SCSI IDs on all but one TLZ04 drive.
 - If another device in your system is already set to SCSI ID 5, you must change the SCSI IDs on all your TLZ04 drives.

Check the SCSI IDs of the devices in your system by entering the following at the console prompt:

```
>>> SHOW DEVICE Return
```

Your system responds by displaying information about all devices that are connected to the system and powered on, as shown in the following example:

VMS/VMB	ULTRIX	ADDR	DEVTYPE	NUMBYTES	RM/FX	WP	DEVNAM	REV
ESAO	SE0	08-00-2B-0D-E9-03						
DKA200	RZ2	A/2/0/00	DISK	52.4 MB	FX		RZ22	0615
DKA500	RZ5	A/5/0/00	DISK	1.47 MB	RM		RX23	0054
...Host ID....		A/6	INITR					
DKB100	RZ9	B/1/0/00	DISK	332 MB	FX		RZ55	0700
DKB400	RZ12	B/4/0/00	RODISK	204 MB	RM	WP	RRD40	280D
...Host ID....		B/6	INITR					

>>>

The column titled ADDR shows the SCSI ID and bus address of each device. The first character of each ADDR entry ("A" in the first entry in the preceding example) is the name of the SCSI ID bus. The second character ("2" in the first entry in the example) is the SCSI ID number.

The TLZ04 drive can reside only on the B bus. Check all B bus addresses. If an address entry starts with B/5, SCSI ID 5 is reserved for another device on your system.

If SCSI ID 5 is reserved for another device or if you are installing multiple TLZ04 drives, you must change the SCSI ID of one or more TLZ04 drives as described. Refer to the section Proper Setting of the SCSI ID Switch in Chapter 2 of the *TLZ04 Cassette Tape Drive Owner's Manual*.

Connecting the TLZ04 Drive to Your System

Once you have set all SCSI ID switches so that each device has a unique SCSI ID, you are ready to continue:

- 1 Connect the TLZ04 drive to your system as instructed in the *TLZ04 Cassette Tape Drive Owner's Manual*.

Warning *Be sure to power down your system and any boxes connected to your system before connecting or disconnecting any expansion cables.*

- 2 Power up your system and repeat the SHOW DEVICES command at the console prompt. This time, your screen should display an additional entry for the TLZ04 drive, indicated by "TLZ04" in the DEVNAM (device name) column. Note in the following example that the TLZ04 address is SCSI ID 5 on the B bus.

>>> SHOW DEVICE Return

VMS/VM3	ULTRIX	ADDR	DEVTYPE	NUMBYTES	RM/FX	WP	DEVNAM	REV
ESAO	SEO	08-00-2B-0D-E9-03						
DKA200	RZ2	A/2/0/00	DISK	52.4 MB	FX		RZ22	0615
DKA500	RZ5	A/5/0/00	DISK	1.47 MB	RM		RX23	C054
...HostID....		A/6	INITR					
DKB100	RZ9	B/1/0/00	DISK	332 MB	FX		RZ55	0700
DKB400	RZ12	B/4/0/00	RODISK	204 MB	RM	WP	RRD40	280D
MKB500	TZ13	B/5/0/00	TAPE	RM		TLZ04	11010
...HostID....		B/6	INITR					

>>>

- 3 Verify that the TLZ04 drive tape mechanism can properly load a cassette tape. Begin the tape loading operation by inserting a blank cassette tape (included with your TLZ04 option kit) into the TLZ04 drive. The tape indicator light glows solid yellow or green when a cassette tape has been successfully loaded in the TLZ04 drive. Use information in the *TLZ04 Cassette Tape Drive Owner's Manual* to determine the location of the TLZ04 tape indicator light and the significance of all tape indicator signals.

Testing the SCSI Bus

Once you have connected the TLZ04 drive to your system, observed a successful TLZ04 power-up self-test, and successfully loaded a cassette tape into the TLZ04 drive, you should test the SCSI bus. Test the SCSI bus by entering the following at the console prompt:

>>> TEST 0 Return

You will see a display such as the following:

```
KA42-B V1.5      01      CU

F 00B0 MONO      0000.0001      4 0005      0 00:04:25
C 0080 DZ        0300.0001      3           0 00:04:27
B 0010 MEM       0045.0001      2 0023      0 00:04:25
7 80A0 SCSI-A    6000.0001      5 0002      0 00:04:25
                2200.0001
                5100.0001
6 80A1 SCSI-B    6000.0001      4 0002      0 00:04:25
                1200.0001
                4100.0001
                5100.0001
1 00C0 NI        0000.0001      8           0 00:04:21
```

>>>

The previous example shows a successful TEST 0 display. A double question mark preceding any line of code in the TEST 0 display indicates an error. A sample of such a line follows:

?? 1 00C0 NI

0007.001C 8 0 00:04:21

Contact your Digital customer service representative if your display includes a double question mark. (Note that a single question mark indicates status, not error, information.)

Testing That Your System Recognizes the TLZ04 Drive

When TEST 0 has run successfully, boot your system and load your system software. If you are using a VMS system, enter the following command to make sure that VMS software recognizes the TLZ04 drive:

\$ SHOW DEVICE

This produces a listing of the devices connected to your system such as the following:

Device Name	Device Status	Error Count
ESA0:	Online	0
ESA1:	Online	0
ESA2:	Online	0
GAA0:	Online	0
IKA0:	Offline	0
IMA0:	Offline	0
INA0:	Offline	0
PEA0:	Online	0
PYA0:	Offline	0
PYA60:	Online	0
PYA61:	Online	0
PYA62:	Online	0
PYA63:	Online	0
MKB500:	Online	0
TTA0:	Online	0
TTA1:	Online	0
WSA0:	Offline	0

The TLZ04 drive device name is MKB500. This device name should now appear in the list of devices.

© Digital Equipment Corporation 1990. All rights reserved.

S1592

TLZ04 Cassette Tape Drive Owner's Manual

Order Number EK-TLZ04-OM-C02

Digital Equipment Corporation

Second Edition, October 1990

The information in this document is subject to change without notice and should not be construed as a commitment by Digital Equipment Corporation. Digital Equipment Corporation assumes no responsibility for any errors that may appear in this document.

The software described in this document is furnished under a license and may be used or copied only in accordance with the terms of such license.


No responsibility is assumed for the use or reliability of software on equipment that is not supplied by Digital Equipment Corporation or its affiliated companies.

Restricted Rights: Use, duplication, or disclosure by the U. S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013.

Copyright © Digital Equipment Corporation 1990

All Rights Reserved.
Printed in U.S.A.

The following are trademarks of Digital Equipment Corporation.

DEC	HSC	RA82	VAX 8530
DEC/CMS	HSC50	Rainbow	VAXcluster
DEC/MMS	IAS	RSTS	VAXsimPLUS
DECmate	KDA	RSX	VAXstation
DECnet	MASSBUS	RT	VMS
DECstation	MicroVAX	TLZ04	VT
DECsystem	MicroVAX II	ULTRIX	Work Processor
DECUS	PDP	UNIBUS	
DECwriter	P/OS	VAX	
DIBOL	Professional	VAX-11/780	

NOTICE: This equipment generates and uses radio frequency energy. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules which are designed to provide reasonable protection against radio and television interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, the user is encouraged to try to correct the interference.

This document was prepared and published by Educational Services Development and Publishing, Digital Equipment Corporation.

Contents

About This Manual	vii
1 TLZ04 Cassette Tape Drive Product Description	
1.1 Overview	1-1
1.1.1 System Support	1-1
1.2 Design Features	1-2
1.2.1 What is Digital Audio Tape (DAT)?	1-2
1.2.2 What is Digital Data Storage (DDS)?	1-2
1.3 Checking Your Shipment	1-3
1.3.1 Ordering Additional Cassettes	1-3
2 Installing the TLZ04 Cassette Tape Drive	
2.1 General	2-1
2.2 Procedure 1: Shut Down, Halt, and Power Off the System	2-1
2.3 Procedure 2: Familiarize Yourself with the TLZ04 Drive	2-2
2.4 Procedure 3: Setting the Voltage Select Switch and Replacing the Fuse	2-3
2.4.1 Drive Installation to a 120-Volt Power Source	2-3
2.4.2 Drive Installation to a 220- to 240-Volt Power Source	2-3
2.5 Procedure 4: Proper Setting of the SCSI ID Switch	2-5
2.5.1 Changing the SCSI ID Switch Setting	2-7
2.6 Procedure 5: Connecting a SCSI Signal Cable — Drive to System	2-8
2.7 Procedure 6: Connecting a 50-pin to 50-pin SCSI Signal Cable — Drive to Drive	2-10
2.8 Procedure 7: Connecting the Power Cable	2-12

3	Verifying TLZ04 Drive Installation	
3.1	General	3-1
3.1.1	Power-On Self-Test	3-1
4	Using the TLZ04 Cassette Tape Drive	
4.1	General	4-1
4.2	Power Button	4-2
4.3	Unload Button	4-2
4.4	Indicators	4-2
4.5	Using the Cassette Tape	4-3
4.5.1	Proper Handling of Cassette Tapes	4-3
4.5.2	Setting the Write-Protect Tab on the Cassette Tape	4-4
4.5.3	Inserting a Cassette Tape into the Drive	4-4
4.6	System Software	4-5
4.6.1	Related Software Documentation	4-5
5	Preventive Maintenance and Problem Solving	
5.1	Cleaning the Heads	5-1
5.2	Problem Solving	5-3
5.2.1	System-Based Diagnostics	5-4
5.3	Repair Services	5-4
5.3.1	On-Site Service	5-4
5.3.2	Basic Service	5-5
5.3.3	DECservice	5-5
5.3.4	Carry-In Service	5-5
5.3.5	DECmailer Service	5-5
5.3.6	Per Call Service	5-5
A	TLZ04 Cassette Tape Drive Specification	

B VMS and ULTRIX Commands

B.1	VMS Support	B-1
B.1.1	ALLOCATE	B-2
B.1.2	BACKUP	B-2
B.1.3	COPY	B-3
B.1.4	DISMOUNT	B-4
B.1.5	INITIALIZE	B-4
B.1.6	MOUNT	B-5
B.2	ULTRIX Support	B-6
B.2.1	Logical Device Name	B-6

Index

Figures

1-1	Checking Your Shipment	1-4
2-1	Location of TLZ04 Drive Buttons, Switches, and Connectors .	2-2
2-2	Voltage Select Switch	2-4
2-3	Tabletop Version of TLZ04 Drive Showing SCSI ID Switch ..	2-6
2-4	Connecting a SCSI Signal Cable — Drive to System	2-9
2-5	Connecting the 50-pin SCSI Signal Cable—Drive to Drive ..	2-11
2-6	Connecting a Power Cable to the TLZ04 Power Connector ..	2-13
3-1	Power-On Self-Test Indicators	3-2
4-1	TLZ04 Drives, Buttons, and Indicators	4-1
4-2	Setting the Write-Protect Tab on the Cassette Tape	4-4
4-3	Inserting a Cassette Tape into the Drive	4-5
5-1	Inserting the Head Cleaning Cassette	5-2

Tables

2-1	SCSI ID Switch Settings (0=Up, 1=Down)	2-7
4-1	TLZ04 Drive Indicators (Normal Conditions)	4-2
4-2	TLZ04 Drive Indicators (Abnormal Conditions)	4-3
5-1	Problem Solving	5-3
A-1	TLZ04 Cassette Tape Drive Specification	A-1

PAGE vi INTENTIONALLY LEFT BLANK

About This Manual

About This Manual

Chapter 1 provides a basic product description of the TLZ04 cassette tape drive.

Chapter 2 shows you how to install the TLZ04 cassette tape drive.

Chapter 3 shows you how to verify successful installation of the TLZ04 cassette tape drive.

Chapter 4 shows you how to use the TLZ04 cassette tape drive.

Chapter 5 shows you how to use the head cleaning cassette and how to solve drive problems.

Appendix A contains the TLZ04 cassette tape drive specification.

Appendix B contains VMS and ULTRIX operating system commands that you commonly use with tape drives.

1

TLZ04 Cassette Tape Drive Product Description

1.1 Overview

The TLZ04 cassette tape drive provides you with high capacity, off-line data storage. It can store up to 1.2 gigabytes of data on a TLZ04-CA (4 mm) cassette tape. The maximum time to backup (read or write) on a TLZ04 cassette tape in a continual (streaming) mode is system dependent. (The efficient use of streaming mode is determined by your operating system. Please refer to your system software documentation.)

1.1.1 System Support

As of this printing, Digital systems that support the TLZ04 drive include *many* VAXstation systems and DECstation systems. Your particular system must have a standard SCSI (small computer system interconnect) port. VAXstation systems can use either the VMS or ULTRIX operating system. DECstation systems use the ULTRIX operating system. The TLZ04 cassette tape drive is supported by VMS version 5.3-2 or later, and ULTRIX version 3.1.D or later.

1.2 Design Features

The TLZ04 cassette tape drive uses state of the art technology. The TLZ04 cassette tape drive's design incorporates both digital data storage (DDS) and digital audio tape (DAT) recording technologies.

1.2.1 What is Digital Audio Tape (DAT)?

Digital audio tape (DAT), such as TLZ04 cassettes, takes advantage of the TLZ04 tape drive's helical scan technology. This technology allows data to be stored diagonally on tape. (Older tape devices stored data lengthwise on tape.) As such, DAT allows more data to be stored on tape. Also, DAT recording minimizes "crosstalk", providing you with more data integrity.

1.2.2 What is Digital Data Storage (DDS)?

Digital data storage (DDS) uses a recording format that supports the use of digital audio tape for computer applications. The DDS/DAT format allows you to backup 1.2 gigabytes of data in approximately 2 hours with no operator intervention. In addition, this format has three levels of error correction, which ensures high data integrity.

1.3 Checking Your Shipment

In addition to this manual, make sure that your shipment (Figure 1-1) includes the following:

- One TLZ04-DA (desktop version) cassette tape drive
- One 50-pin to 50-pin SCSI signal cable (for drive to drive connections only), part number 17-01351-01
- Power cable
- One blank cassette tape, part number TLZ04-CA
- One head cleaning cassette, part number TLZ04-HA
- A SCSI terminator, part number 12-30552-01
- One fuse kit (contains two 110-volt fuses, two 220-volt fuses, and fuse holders)

If your shipment is incomplete, please contact your Digital sales representative.

1.3.1 Ordering Additional Cassettes

To order additional blank cassette tapes and head cleaning cassettes, contact either your Digital sales representative or DECdirect. Refer to the following part numbers.

- Five blank cassette tapes, part number TLZ04-CB
- One head cleaning cassette, part number TLZ04-HA

1-4 TLZ04 Cassette Tape Drive Product Description

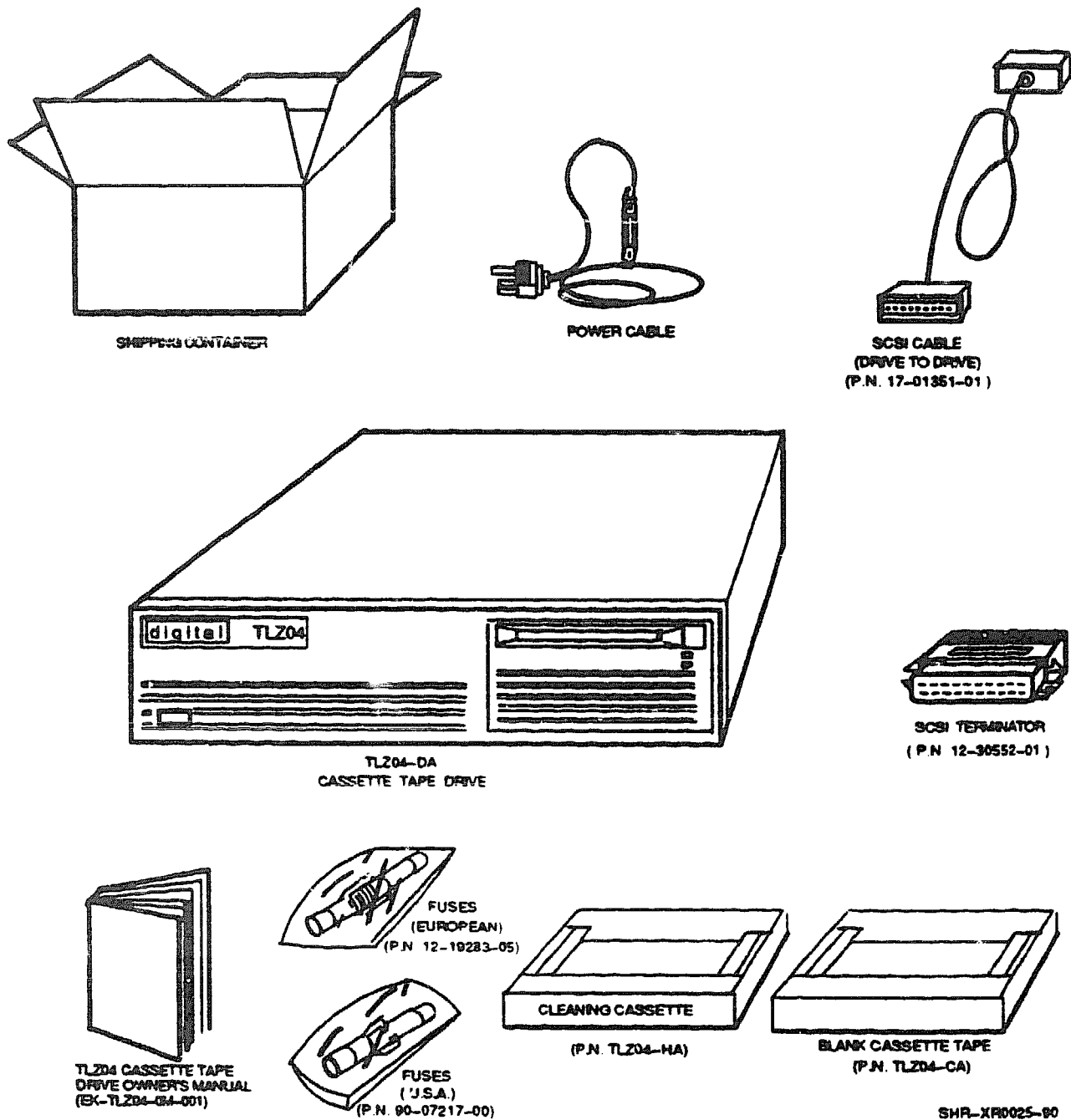


Figure 1-1 Checking Your Shipment

2

Installing the TLZ04 Cassette Tape Drive

2.1 General

This chapter shows you how to install the TLZ04 cassette tape drive on systems with an external SCSI connector. There are seven simple procedures to complete installation.

2.2 Procedure 1: Shut Down, Halt, and Power Off the System

If you are installing a TLZ04 drive on a running system, have your system manager perform the following steps:

1. Shut down the operating system.
2. Halt the system.
3. Set all system power switches off.

2.3 Procedure 2: Familiarize Yourself with the TLZ04 Drive

1. Refer to Figure 2-1 to familiarize yourself with the drive's buttons, switches, and connectors.
2. Locate, read, and remove the label covering the power connector and fuse (Figure 2-1).

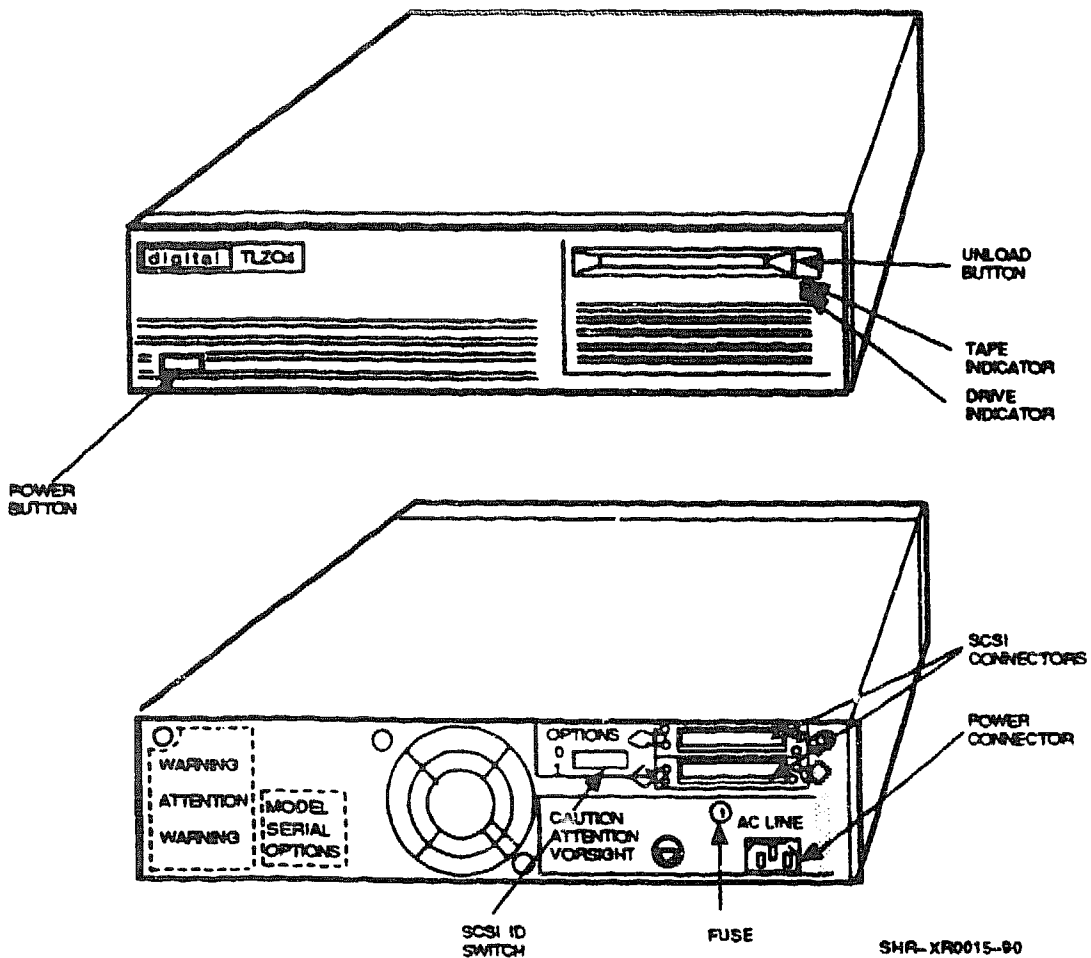


Figure 2-1 Location of TLZ04 Drive Buttons, Switches, and Connectors

2.4 Procedure 3: Setting the Voltage Select Switch and Replacing the Fuse

Set the voltage select switch (Figure 2-2) to match your site's source voltage — either 115 volts or 230 volts. The voltage rating of the drive's fuse must match the voltage source.

If your site has a 120-volt power source, proceed to the steps that follow. If your site has a 220- to 240-volt power source, proceed to Section 2.4.2.

2.4.1 Drive Installation to a 120-Volt Power Source

For drive installation to a 120-volt power source, do the following:

1. Verify that the red voltage select switch (Figure 2-2) is set to 115 volts. You should see "115 V" to the left of the switch. If not, slide the switch to the right.
2. Verify that the installed fuse has a grey cap (Figure 2-2). If not, remove the fuse and replace it with a 3 A fuse and grey fuse holder supplied in the fuse kit. Turn the fuse cap one-quarter turn to secure the fuse in the drive.

NOTE

The 3 A fuse, used with 120-volt power sources, is the larger of the two types of fuses supplied in the fuse kit. The 3 A fuse should only be used with the grey fuse holder.

2.4.2 Drive Installation to a 220- to 240-Volt Power Source

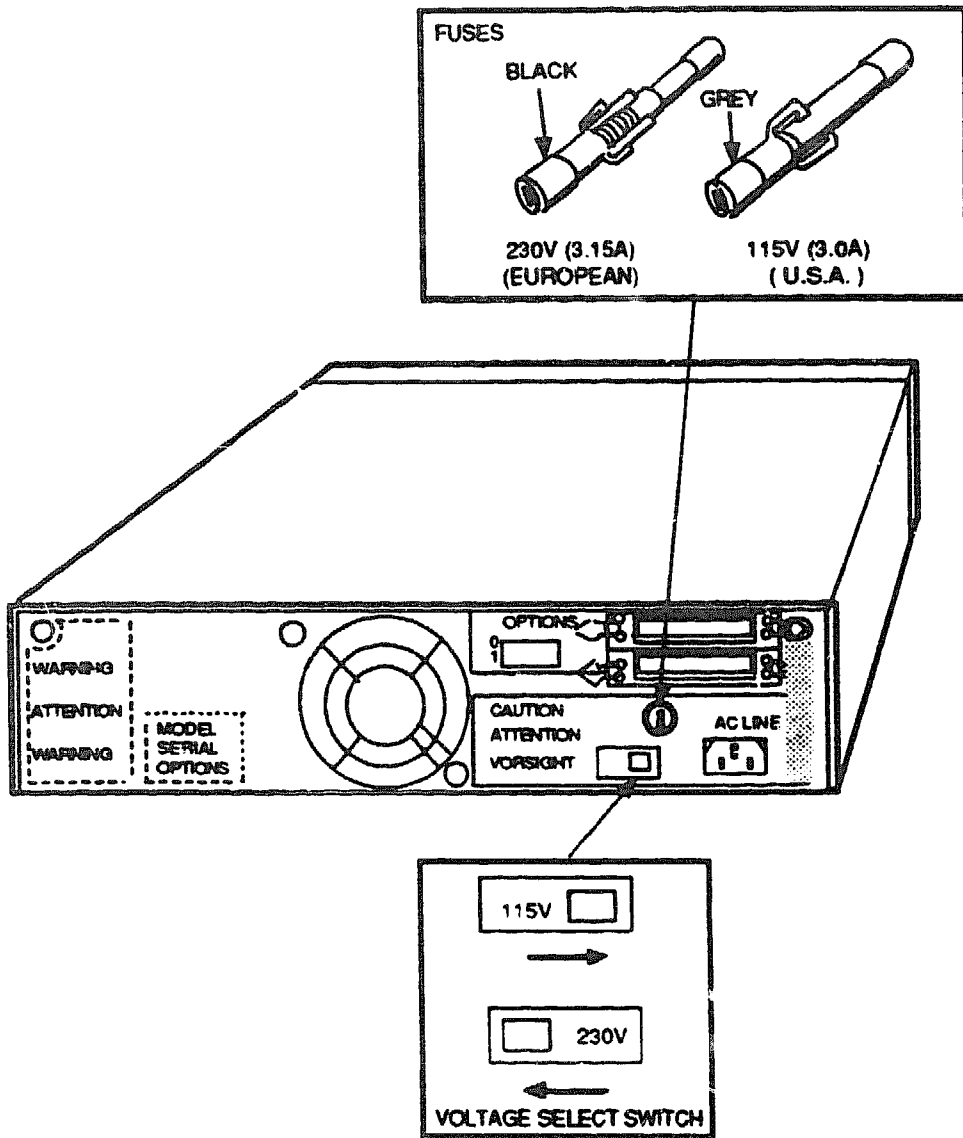
For drive installation to a 220- to 240-volt power source, do the following:

1. Slide the red voltage select switch to the left. You should see "230 V" to the right of the switch.
2. Turn the grey fuse cap (Figure 2-2) counterclockwise and remove both the 3 A fuse and grey fuse holder.
3. From the fuse kit, select a 3.15 A fuse and black fuse holder. Insert the fuse and holder assembly in the fuse socket. Turn the fuse cap one-quarter turn clockwise to secure the fuse in the drive.

NOTE

The 3.15 A fuse, used with 220- to 240-volt power sources, is the smaller of the two types of fuses supplied in the fuse kit. The 3.15 A fuse should only be used with the black fuse holder.

2-4 Installing the TLZ04 Cassette Tape Drive



SHR-XR0030-00

Figure 2-2 Voltage Select Switch

2.5 Procedure 4: Proper Setting of the SCSI ID Switch

Your system uses the SCSI ID switch (Figure 2-3) to identify, or address, the TLZ04 drive. The SCSI ID switch is factory set to SCSI ID 5. This is the default SCSI ID setting that your TLZ04 drive normally uses.

Table 2-1 shows you the SCSI IDs, 0-7.

2-6 Installing the TLZ04 Cassette Tape Drive

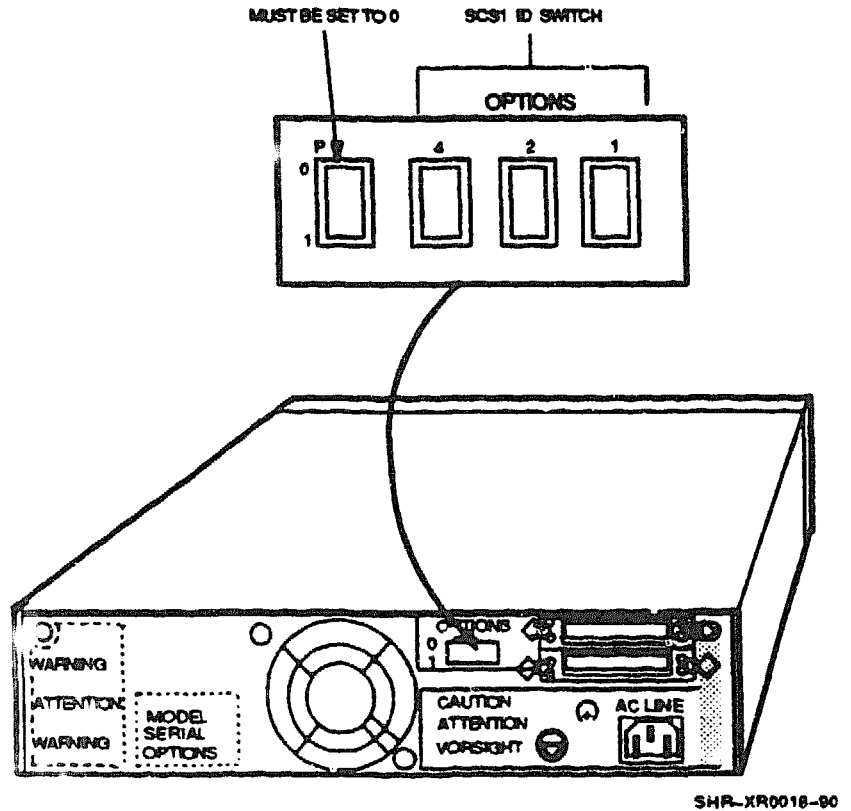


Figure 2-3 Tabletop Version of TLZ04 Drive Showing SCSI ID Switch

Table 2-1 SCSI ID Switch Settings (0=Up, 1=Down)

SCSI ID	SW 4	SW 2	SW 1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1 (factory setting)
6	1	1	0
7	1	1	1

2.5.1 Changing the SCSI ID Switch Setting

If either of the following conditions exist, you need to change the SCSI ID switch setting.

1. If you are installing the TLZ04 drive on a system that already has a SCSI device assigned to SCSI ID 5, use any available SCSI ID. (You may need to consult your system manager for available SCSI IDs.)
2. If you are installing multiple TLZ04 (or other SCSI) drives, the SCSI ID for each drive should be set with the drive's own, unique SCSI ID. No two drives in the series should have identical SCSI IDs.

If you need to change the SCSI ID switch, proceed as follows:

1. Select the desired SCSI ID from Table 2-1.
2. If the switch settings in the table refer to a 1, make sure the corresponding switch is down. Use a pen (not a pencil) to set the switch.
3. If the switch settings in the table refer to a 0, make sure the corresponding switch is up. Use a pen (not a pencil) to set the switch.

NOTE

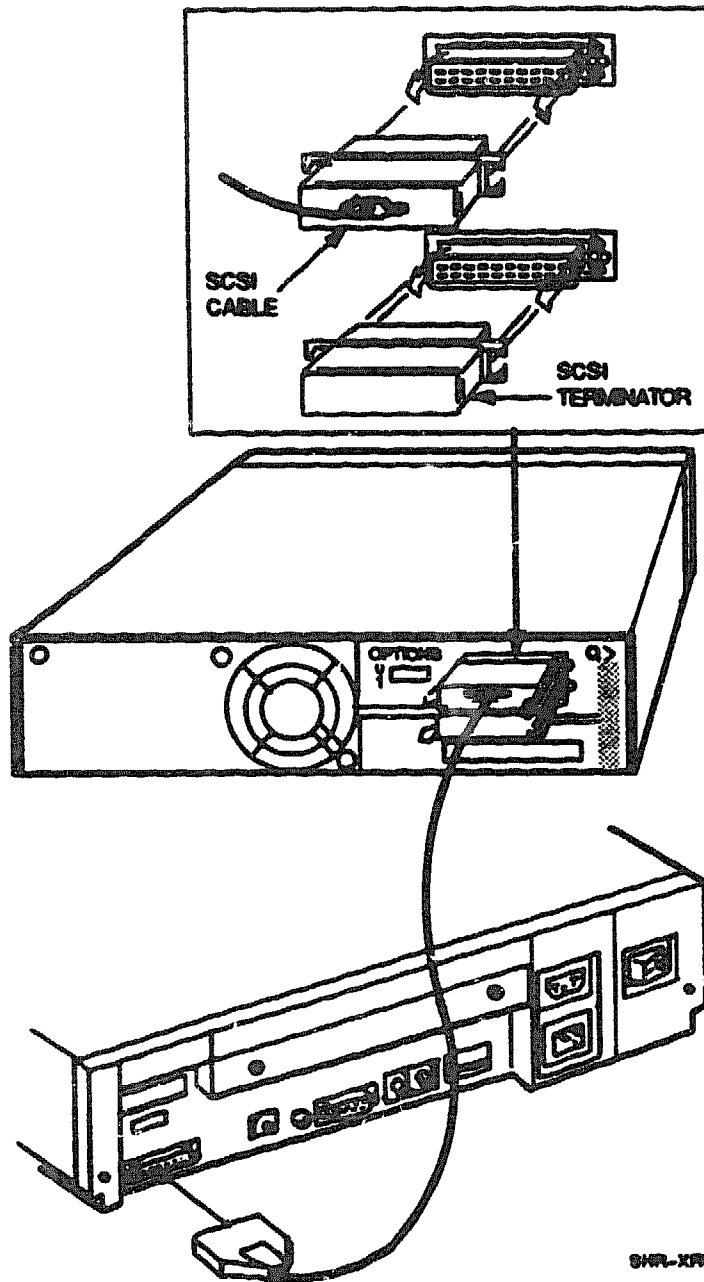
The drive must be power cycled to make the new ID effective. Changing the switch setting with drive power on will not change the ID until the next power up.

2.6 Procedure 5: Connecting a SCSI Signal Cable — Drive to System

If you are connecting a TLZ04 drive directly to your system, you should use a SCSI signal cable supplied as part of your system installation kit. If you do not have this cable, contact your Digital sales representative. You should use a cable supplied by Digital Equipment Corporation. Failure to do so can result in degraded performance of your TLZ04 drive.

To connect a SCSI cable — drive to system — perform the following:

1. Refer to Figure 2-4.
2. Connect one end of the cable to the system SCSI connector.
3. Connect the other end of the SCSI signal cable to the top SCSI connector on the rear of the TLZ04 drive.
4. Snap the wire cable clamps into place to secure the SCSI cable.
5. Connect the SCSI terminator to the bottom SCSI connector on the rear of the TLZ04 drive.
6. Snap the wire cable clamps into place to secure the terminator.



SHR-XR0022-00

Figure 2-4 Connecting a SCSI Signal Cable — Drive to System

2.7 Procedure 6: Connecting a 50-pin to 50-pin SCSI Signal Cable — Drive to Drive

If you have one SCSI device already connected to your system, you can connect the TLZ04 drive to that device. For drive to drive connections, use the 50-pin to 50-pin SCSI signal cable (part number 17-01351-01) supplied with the TLZ04 drive.

1. Refer to Figure 2-5.
2. If present, remove the SCSI terminator from the existing SCSI drive.
3. Connect one end of the SCSI signal cable (part number 17-01351-01) to the existing SCSI drive, observing the correct orientation of the cable connector.
4. Snap the wire cable clamps onto the cable to secure it.
5. Connect the other end of the SCSI signal cable to the top SCSI connector on the TLZ04 drive, observing the correct orientation of the cable connector.
6. Snap the wire cable clamps onto the cable to secure it.
7. Connect the SCSI terminator to the bottom SCSI connector on the TLZ04 drive, observing the correct orientation of the cable connector.

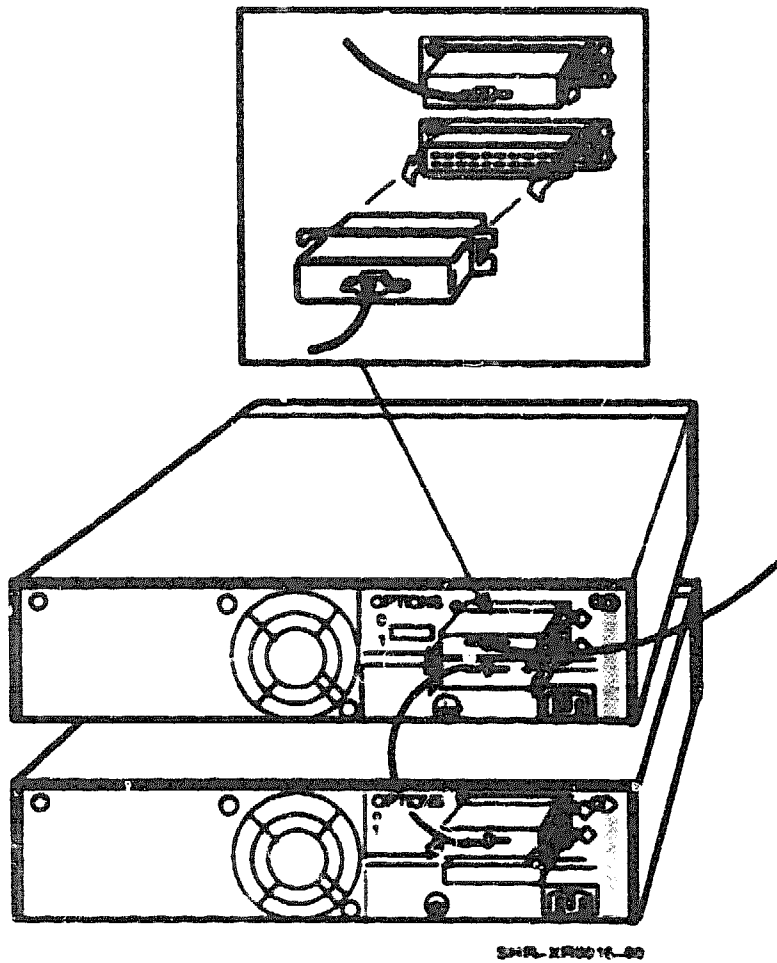


Figure 2-5 Connecting the 50-pin SCSI Signal Cable—Drive to Drive

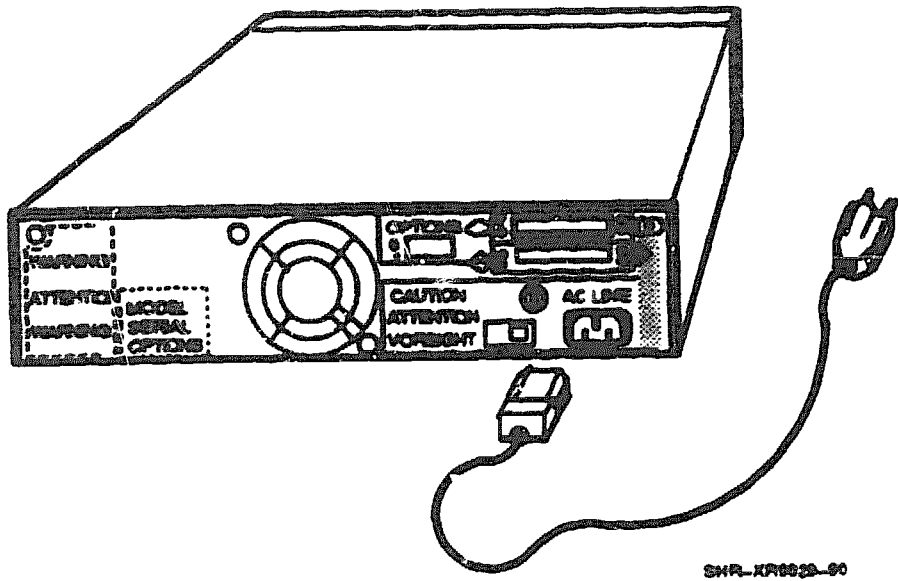
2.8 Procedure 7: Connecting the Power Cable

To connect the power cable, proceed as follows:

1. Be sure that the TLZ04 drive power button (Figure 4-1) is off (out).
2. Verify that the voltage select switch is set to the proper voltage (Section 2.4).
3. Connect the power cable to the TLZ04 drive's power connector (Figure 2-6).
4. Connect the other end of the power cable to a nearby ac outlet.

NOTE

For Digital service personnel — the power cable is the drive's disconnect device from the main ac power source.



SHR-KR0023-00

Figure 2-6 Connecting a Power Cable to the TLZ04 Power Connector

Verifying TLZ04 Drive Installation

3.1 General

To verify successful installation of the TLZ04 drive, execute power-on self-test.

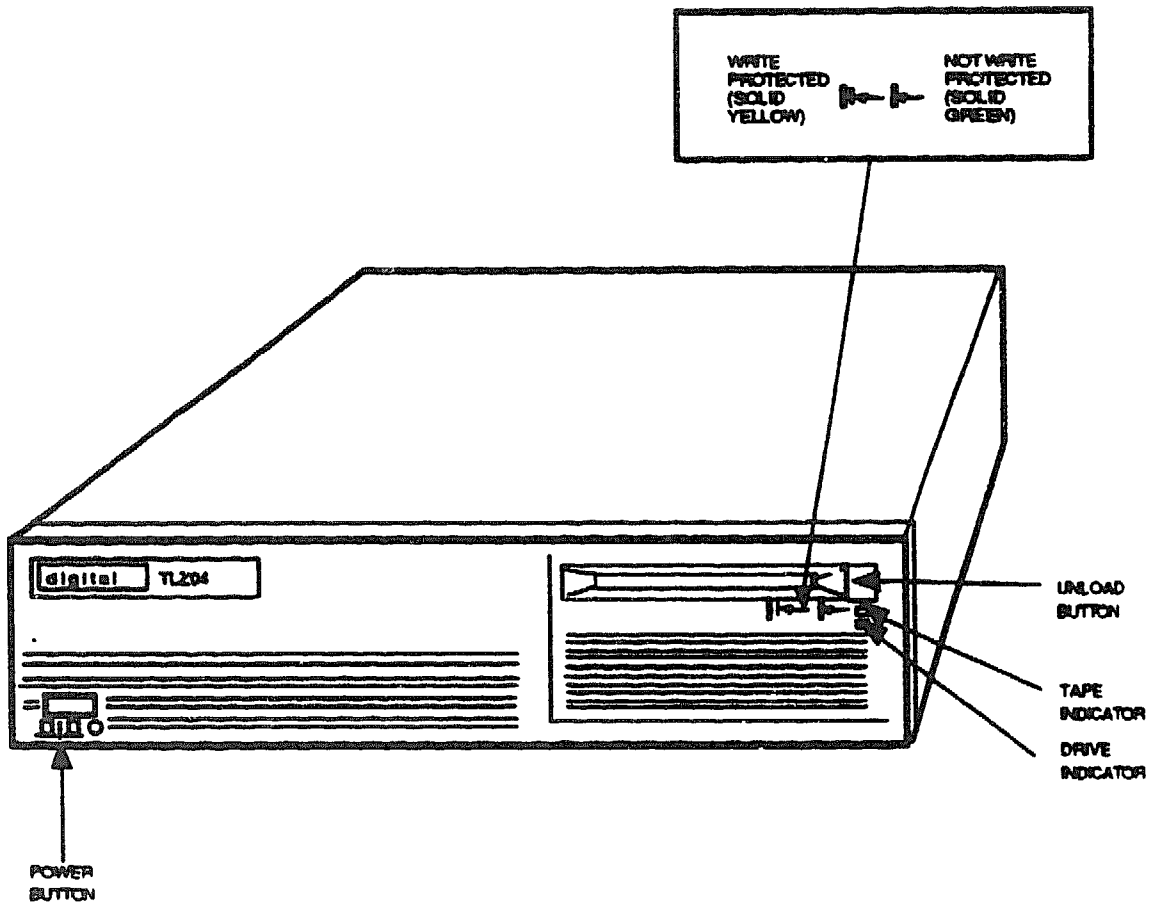
3.1.1 Power-On Self-Test

To execute power-on self-test of the TLZ04 drive, do the following:

1. Press the power button (Figure 3-1).
2. Observe that the tape indicator and drive indicator flash for approximately 30 seconds.
3. Afterwards, observe that the drive indicator remains on (green). Power-on self-test executed successfully.
4. If the tape indicator flashes yellow and the drive indicator remains yellow, power-on self-test failed. Attempt to clear the failure by re-executing power-on self-test (power off and power on the drive). If the failure repeats itself, call Digital Customer Services.

After successful execution of power-on self-test, have your system manager restart the system and assign a device name to your TLZ04 drive. Optionally, you can run a full system or SCSI bus test. See your system owner's manual for specific instructions.

3-2 Verifying TL204 Drive Installation



SHR-XHD013-00

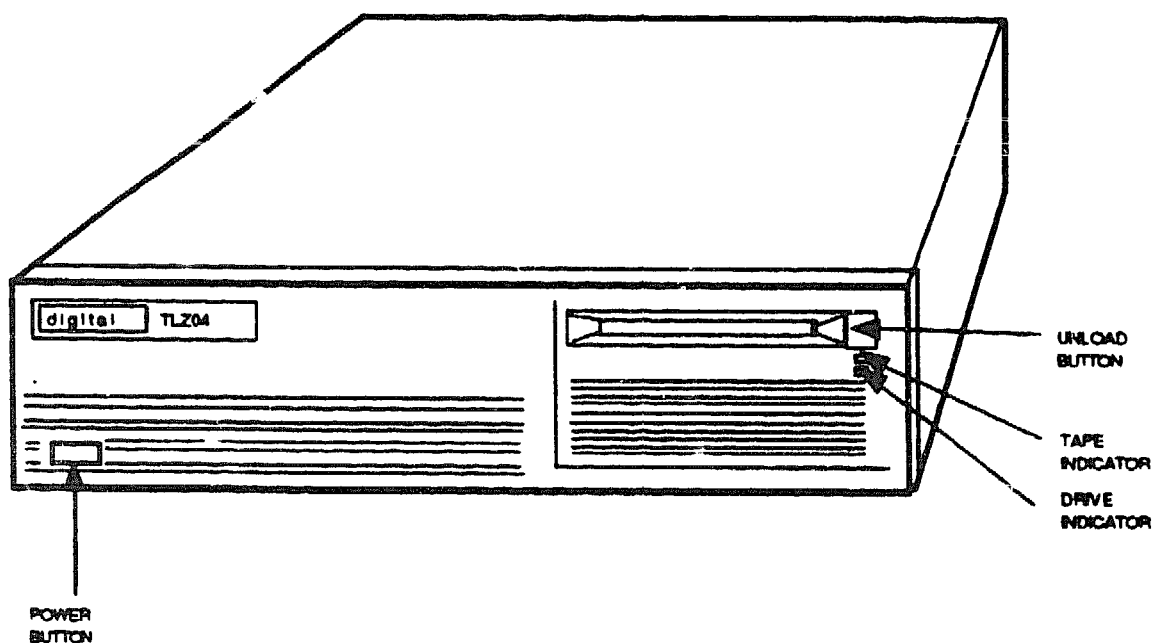
Figure 3-1 Power-On Self-Test Indicators

4

Using the TLZ04 Cassette Tape Drive

4.1 General

This chapter shows you how to use the TLZ04 drives, buttons, and indicators (Figure 4-1). It also shows you how to use cassette tapes.



SHR-XR0013-90

Figure 4-1 TLZ04 Drives, Buttons, and Indicators

4.2 Power Button

Press the power button to turn on, or turn off, the TLZ04 drive. If you are not using the TLZ04 drive for prolonged periods of time, check with your system manager for the correct procedure to shut down your system, or power off the drive.

4.3 Unload Button

Press the unload button to eject the cassette tape.

CAUTION

Pressing the unload button during normal tape operations may halt the tape operation in progress.

4.4 Indicators

Table 4-1 describes the TLZ04 drive indicators as they apply to normal operating conditions. Table 4-2 describes the TLZ04 drive indicators as they apply to abnormal operating conditions.

Table 4-1 TLZ04 Drive Indicators (Normal Conditions)

Indicator	Color(s)	Meaning
Tape		Indicates status of cassette tape as follows.
	Solid green	Tape loaded.
	Solid yellow	Tape loaded, <i>write protected</i> .
Drive		Indicates status of TLZ04 drive as follows.
	Solid green	Drive ready/power on.
	Flashing green	Drive active.
Flashing yellow	Power-on self-test in progress.	

Table 4-2 TLZ04 Drive Indicators (Abnormal Conditions)

Indicator	Color(s)	Meaning
Tape	Slow blinking green or yellow	Excessive tape errors. Use the head cleaning cassette. If failure repeats itself, use another cassette tape.
Tape and Drive	Solid yellow	High humidity. Adjust climate.
Tape	Blinking yellow 1-3 times	Power-on self-test failed.
Drive	Solid yellow	Power-on self-test failed.

4.5 Using the Cassette Tape

Digital Equipment Corporation recommends that you use TLZ04 cassette tapes. The following sections describe cassette tape.

- Handling and storing tape (Section 4.5.1)
- Write-protecting tape (Section 4.5.2)
- Inserting and removing tape to and from the TLZ04 drive (Section 4.5.3)

4.5.1 Proper Handling of Cassette Tapes

To ensure optimal performance from your cassette tapes, observe the following guidelines when handling them.

- Avoid placing the cassette tapes near sources of electromagnetic interference, such as terminals, and video or X-ray equipment. Emissions from such equipment can erase data on the tape.
- Keep cassette tapes out of direct sunlight and away from heaters and other sources of heat.
- Store cassette tapes (and cleaning cassette) where the room temperatures are between 5 and 32°C (40 and 90°F).
- Store cassette tapes in a dust-free environment where the relative humidity is 20 to 60% RH.

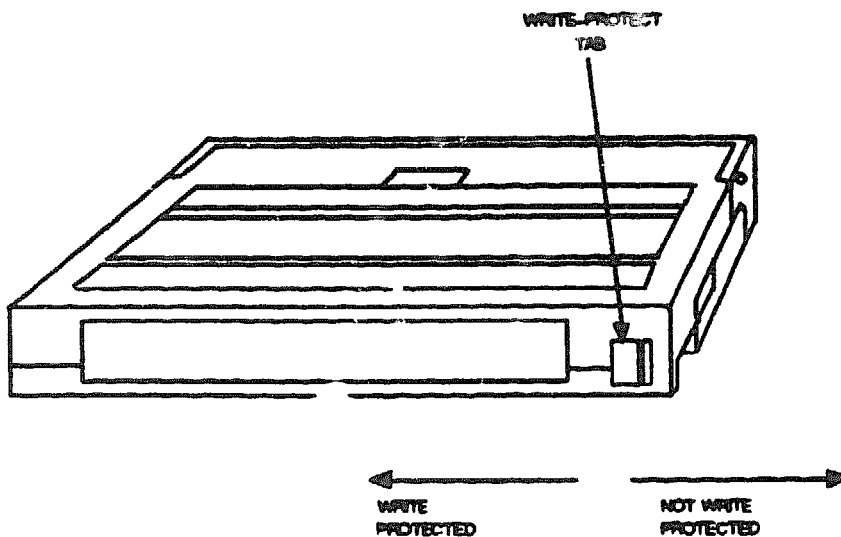
4-4 Using the TLZ04 Cassette Tape Drive

4.5.2 Setting the Write-Protect Tab on the Cassette Tape

If you are using the tape to read or copy from it, set the write-protect tab to write protect. This disables writing to tape, and ensures data integrity. Use a pen (not pencil) to set the write-protect tab (Figure 4-2) to the desired position.

Observe the following guidelines when setting the write-protect tab.

- If you are reading data (copying from tape), set the write-protect tab to write protected.
- If you are writing data, set the write-protect tab to not write protected.
- Write-protect tab position displays in front panel tape indicator.



SHR-XR0024-00

Figure 4-2 Setting the Write-Protect Tab on the Cassette Tape

4.5.3 Inserting a Cassette Tape into the Drive

Insert the TLZ04 cassette tape into the drive with the cassette's write-protect tab on the right, facing you (Figure 4-3).

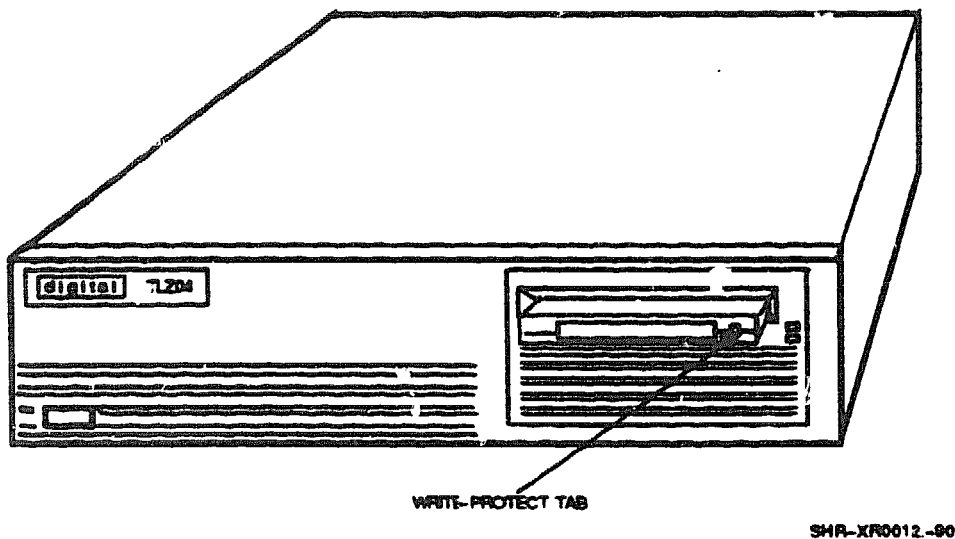


Figure 4-3 Inserting a Cassette Tape Into the Drive

4.6 System Software

System software allows you to execute commands to read and write data to the cassette tape. Depending on your system, you may be using either the VMS operating system or the ULTRIX operating system. Your operating system documentation describes specific commands that allow you to do the following:

- Backup data from disk drives to a tape drive
- Copy data from disk to tape, or tape to disk

4.6.1 Related Software Documentation

Appendix B provides you with examples of VMS and ULTRIX operating system commands. If you are unfamiliar with these operating systems, consult your system manager, or refer to the documentation described below.

Refer to the following VMS documentation:

- *VAX/VMS Backup Utility Reference Manual (AA-Z407B-TE)*
- *Guide to VAX/VMS Disk and Magnetic Tape Operations (AA-M539A-TE)*

4-6 Using the TLZ04 Cassette Tape Drive

Refer to the following ULTRIX documentation:

- ***ULTRIX-32 Reference Pages, Section 8 (AA-LY20A-TE)***

5

Preventive Maintenance and Problem Solving

This chapter describes preventive maintenance and problem solving for the TLZ04 cassette tape drive. Preventive maintenance involves periodic head cleaning. Problem solving is described in Table 5-1.

Statistics show that over ninety percent of drive related problems are associated with the media. Therefore, Digital Equipment Corporation strongly recommends that you follow the instructions for handling cassette tapes and cleaning the heads of the drive.

5.1 Cleaning the Heads

This section shows you how to perform TLZ04 head cleaning. The heads are the components, in a drive, that physically read and write data to and from the media (in this case, a cassette tape).

Digital Equipment Corporation recommends that you perform the head cleaning procedure about every 2 weeks, or after every 25 hours of drive usage.

Under normal conditions, it should not be necessary to exceed this cleaning schedule. If a particular cassette causes problems, try changing to another cassette.

CAUTION

Never attempt to clean the heads in a manner other than described herein. Doing so will void the product warranty.

To clean the heads, use the head cleaning cassette as follows:

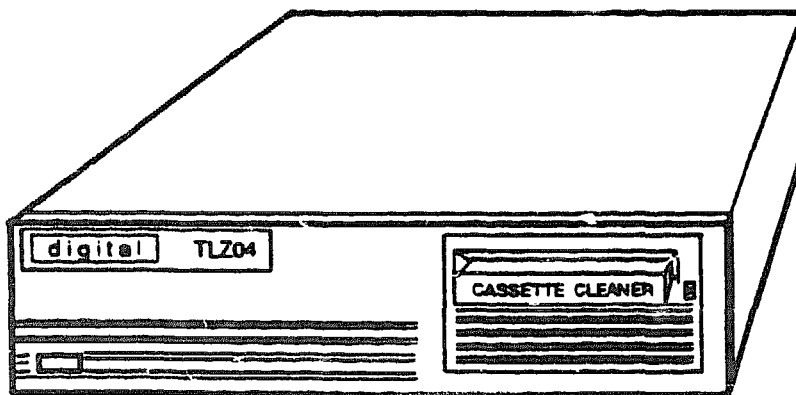
1. Press the power on switch to apply power to the drive.
2. Observe that the ready indicator is lit.
3. Insert the head cleaning cassette (part number TLZ04-HA) into the drive (Figure 5-1).

5-2 Preventive Maintenance and Problem Solving

4. With the head cleaning cassette inserted, the drive automatically executes head cleaning. The drive ejects the head cleaning cassette after approximately 30 seconds.
5. In the space provided on the card enclosed with the head cleaning cassette, place a check mark every time you use the head cleaning cassette.

Under normal conditions, the head cleaning cassette is good for approximately 25 cleanings. Additional cassettes are available from your Digital sales representative or DECdirect.

If the head cleaning cassette has been used for more times than it was designed to be used, the drive will eject the cartridge in approximately 8-10 seconds. No cleaning action will occur.



SHR-XR0004-90

Figure 5-1 Inserting the Head Cleaning Cassette

5.2 Problem Solving

Table 5-1 describes possible drive problems and their solutions.

Table 5-1 Problem Solving

Symptom	Probable Cause	Possible Solution
Unable to backup or copy data to cassette tape.	Cassette write protected.	1. Set write-protect tab on cassettes to not write protected.
	No tape in drive.	2. Insert tape.
Tape indicator flashes green or yellow. (Excessive tape errors.)	Dirty heads or worn tape.	Perform head cleaning procedure, see Section 5.1. If error repeats, try another tape.
	Possible bad fuse.	1. Check and replace fuse if necessary, see Section 2.4.
After applying power, nothing happens. All indicators off.	Drive not plugged in.	2. Check ac power.
	SCSI ID switches set to incorrect address.	1. Check SCSI ID switch, see Section 2.5.
Unit not available to system.	Defective SCSI cable.	2. Make sure power cable is plugged in. 3. Be sure SCSI cable connections are secure.

5-4 Preventive Maintenance and Problem Solving

Table 5-1 (Cont.) Problem Solving

Symptom	Probable Cause	Possible Solution
Tape indicator and drive indicator both yellow at the same time.	High humidity.	Adjust climate of room.
Tape indicator blinks 1-3 times/drive indicator solid yellow.	Power-on self-test failure.	<ol style="list-style-type: none">1. Attempt to clear error by disconnecting cable to system, then re-execute power-on self-test.2. If failure continues, call Digital Customer Services.

5.2.1 System-Based Diagnostics

Your system has system-based diagnostics that can be used to test the TLZ04 drive.

System-based diagnostics are usually referred to in your system owner's manual as *console-based diagnostics*, *self-tests* or *system exercisers*. Refer to your system documentation for information about these diagnostics.

Prior to calling Customer Services, you can execute system diagnostics to test the TLZ04 drive.

NOTE

Some system-based diagnostics are subject to software licensing. Consult your Digital sales representative.

5.3 Repair Services

Digital Equipment Corporation Customer Services offers a range of flexible service plans.

5.3.1 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.

5.3.2 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.

5.3.3 DECservice

DECservice 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 DECservice all parts, materials, and labor are covered in full.

5.3.4 Carry-In Service

Carry-in service offers fast, personalized response, and the ability to plan your maintenance costs for a smaller monthly fee than On-Site Service. When you bring your unit to one of 160 Digital SERVICenters worldwide, factory-trained personnel repair your unit within 2 days. This service is available on selected terminals and systems. Contact your local your unit. Digital SERVICenters are open during normal business hours, Monday through Friday.

5.3.5 DECmailer Service

DECmailer 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.

5.3.6 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 Customer Services.

A

TLZ04 Cassette Tape Drive Specification

The following table describes the TLZ04 cassette tape drive specifications.

Table A-1 TLZ04 Cassette Tape Drive Specification

Characteristic	Specification(s)
Mode of operation	Streaming, and start/stop
Drive interface	Small computer system interconnect (SCSI)
Dimensions	30 mm × 35 mm × 11.5 mm (12 in × 14 in × 4.5 in)
Weight	7.7 kg (17 lbs)
Media	TLZ04-CA cassette tape
Bit density	114 Mbits per square inch
Transfer rate (sustained)	183 Kbyte/s
Recording format	digital data storage (DDS)
Cassette capacity	1.2 gigabytes

A-2 TLZ04 Cassette Tape Drive Specification

Table A-1 (Cont.) TLZ04 Cassette Tape Drive Specification

Characteristic	Specification(s)
Power requirements	100 to 120 V, 1.6 A 200 to 240 V, 1.0 A
Power consumption	230 W
Drive	40 W, maximum
Operating temperature	10°C (50°F) to 40°C (104°F)
Nonoperating temperature	-40°C (-40°F) to 70°C (158°F)
Operating humidity	20% to 80% RH maximum, non-condensing
Nonoperating humidity	5% to 95% RH maximum, non-condensing
Operating altitude	0 km to 4.6 km (0 to 15,000 ft)
Nonoperating altitude	0 km to 15.2 km (0 to 50,000 ft)
Passes per cassette tape	300

B

VMS and ULTRIX Commands

B.1 VMS Support

The TLZ04 cassette tape drive uses *most* of the standard magnetic tape commands that you can invoke under VMS operating system version 5.3-2 or later.

NOTE

The material in this appendix is for your reference. Because operating system commands are a complex tool, this appendix is not intended to teach you all the details involved in using such commands.

For detailed information about VMS commands, refer to the *VAX/VMS Command Language User's Guide* (AA-D023C-TE), or the *VMS System Manager's Guide*.

Under the VMS operating system, you can operate the TLZ04 drive using the following commands:

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

B.1.1 ALLOCATE

ALLOCATE 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 TLZ04 drive.

ALLOCATE device name: [logical name]

Example: To allocate the TLZ04 drive for your use and assign it the logical name TAPE1, type the following.

```
$ ALLOCATE MUA0: TAPE1:
```

The TLZ04 drive's physical device name is assigned by your system manager after it is installed.

NOTE

Depending on your system, in the above example and the examples that follow, the physical device name may have a different format, such as *MKA500*:

- MK = A SCSI tape device.
- A = A controller.
- 500 = The SCSI ID ($\times 100$).

B.1.2 BACKUP

BACKUP provides a means of protection against file volume corruption by creating functionally equivalent backup copies.

To back up a file, use this command format example:

```
BACKUP/NOCRC/BLOCK=16384/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. The drive indicator on the TLZ04 flashes (green) as the data is being written to the tape.

By selecting the /NOCRC/BLOCK=16384 qualifiers, you may achieve better performance from the TLZ04 drive. The command line above excludes the use of the host-available CRC error detection/correction capability, and depends on the embedded error checking and correction capabilities of the TLZ04 drive. Keep in mind that TLZ04 error correction

capabilities relate specifically to the TLZ04 drive — not to the entire system.

Use of the /NOCRC qualifier requires a systems management decision relative to data integrity vs. performance. In most instances, TLZ04 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-ZA07B-TE).

CAUTION

In the VMS operating system, BACKUP 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 logical end of tape is encountered. Other DCL commands cannot read or write to more than one tape cartridge without operator intervention.

B.1.3 COPY

You can also COPY files from the TLZ04 cassette tapes.

Example:

```
SMOUNT MUA0: GMB001 TAPE1:
SCOPY TAPE1:*. * *. *
```

In this example, the MOUNT command requests that the volume labeled GMB001 be mounted on the tape drive at MUA0 and assigns the logical name TAPE1.

The COPY command uses the logical name TAPE1 for the input file specification. All files on MUA0 are copied to the current default disk and directory. The files retain their original file names and file types.

NOTE

Use of the copy command for moving multiple files may not achieve optimum performance. Check with your system manager.

B.1.4 DISMOUNT

DISMOUNT cancels the previous **MOUNT** command (makes the unit unavailable for processing) and rewinds the tape. To rewind and unload the tape (to ready it for ejection from the tape drive), use the following command format:

DISMOUNT logical name or device name:

When the **DISMOUNT** command is invoked, the tape rewinds. As the tape is rewinding, the drive indicator on the TLZ04 drive flashes (green) to indicate drive activity.

To rewind to **BOT** without unloading the tape, use this format:

DISMOUNT/NOUNLOAD logical name or device name:

B.1.5 INITIALIZE

CAUTION

Make sure that you are using a scratch tape before initializing. Any data on the tape will be destroyed.

INITIALIZE specifies the device name (**MUxx**, or **TAPE1**), and writes a volume name to the magnetic tape volume loaded into the TLZ04 tape drive. The tape must be write-enabled for the **INITIALIZE** operation. The command has the following format:

INITIALIZE device name: [volume label]

Example: To initialize the device called **TAPE1** and assign the volume name **GMB001**, type the following.

```
$INITIALIZE TAPE1: GMB001
```

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

B.1.6 MOUNT

MOUNT lets you make a magnetic tape volume available for processing. With the TL204 drive, **MOUNT** takes the following format.

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

Example: To make **TAPE1** available for processing, type the following.

```
$ MOUNT/FOREIGN MUA0 [GMB001] TAPE1
```

The console displays a message:

```
TAPE1 MOUNTED ON MUA0:
```

The **MOUNT** command loads the tape with the protection set according to the write-protect tab on the cartridge.

The **/FOREIGN** qualifier *must* be used when you perform **BACKUP** commands. It *must not* be used when you perform **COPY** commands.

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

B.2 ULTRIX Support

Most of the standard ULTRIX tape utilities can be used with the TLZ04 drive. ULTRIX version 3.1.D or later supports the TLZ04 drive.

Under the ULTRIX operating system you can operate the TLZ04 drive using the following commands:

- **dump**
- **restore**
- **tar**
- **dd**
- **ltf**
- **tapex**
- **mt**

CAUTION

Unlike VMS commands, you must type ULTRIX commands using lowercase characters.

For detailed information on ULTRIX commands used with the TLZ04 drive, refer to the *ULTRIX-32 Reference Pages*, Section 8 (AA-LY20A-TE).

B.2.1 Logical Device Name

On ULTRIX based systems the drive's logical device name is devised at system boot time during the autoconfiguration phase. The logical device name `/dev/rmt#?` is generated as follows:

`/dev/rmt` = tape device. Specifically, the name `rmt` implies that the "rewind device" is being specified. When the "rewind device" is specified, the tape will be rewound when the utility completes. Alternatively, the name `nrmt` implies that the "no-rewind" device is being used. When a tape utility completes operation on the no-rewind device, the unit will not be rewound. The no-rewind device is typically specified when more than one operation is to be done onto the same tape. For example, it is possible to backup more than one small disk partition onto a single tape by running the `dump` command using the no-rewind device.

`#` = the logical unit number of the tape. There are a number of ways to determine the logical unit number of a tape. One way is to examine the configuration messages which are printed as the system boots. Another way is to use the ULTRIX "file" command to display the attributes of

system tapes. For example, the following command will show available units:

file /dev/rmt*h

? = this could either be the letter "h" to specify the "high density" device or "l" to specify the low density device. Since this drive is only capable of writing at one density, this parameter could be specified as either "h" or "l".

Examples:

/dev/rmt0h = Specifies the "rewind device" which is tape logical unit number 0 and uses the "high density" format.

/dev/nrmt2l = Specifies the "no-rewind device" at tape logical unit number 2 and uses the "low density" format.

Index

A

ALLOCATE, B-2

B

BACKUP, B-2

BOT (beginning of tape), B-4

C

Cassette tape

handling of, 4-3

setting the write-protect tab, 4-3

Checking your shipment, 1-3

COPY, B-3

D

Diagnostics

console-based or self-tests, 5-4

Digital audio tape (DAT), 1-2

Digital data storage (DDS), 1-2

Digital repair services, 5-4

DISMOUNT, B-4

Drive activity indicator, B-4

Drive indicator, 4-2

Drive installation to a 120-volt
power source, 2-3

Drive installation to a 220- to 240-
volt power source, 2-3

F

Fuse

replacing, 2-3

H

Head cleaning, 5-1

Head cleaning cassette, 5-1

I

INITIALIZE, B-4

Inserting a cassette tape into the
drive, 4-4

Installing the TLZ04 cassette tape
drive, 2-1

M

MOUNT, B-5

O

Ordering additional cassettes, 1-3

P

Power button, 4-1

Power cable, 2-12

Power-on self-test, 3-1

Preventive maintenance, 5-1

Problem solving, 5-3

2 Index

Product description, 1-1

S

SCSI ID switch.

changing the setting, 2-7

SCSI signal cable

drive to drive, 2-10

drive to system, 2-8

Software documentation, 4-5

System software, 4-5

System support, 1-1

T

Tape indicator, 4-2

TLZ04 cassette tape drive

indicators, 4-2

installation verification, 3-1

location of buttons, switches
connectors, 2-2

power button, 4-1

SCSI ID switch, 2-5

specification, A-1

unload button, 4-2

using, 4-1

voltage select switch, 2-3

U

ULTRIX

commands, B-6

logical device name, B-6

support, B-6

Unload button, 4-2

V

VMS

commands, B-1

logical device name, B-3

physical device name, B-2

VMS support, B-1

Voltage select switch

setting of, 2-3

W

Write-protect tab, 4-3, B-5