AT&T

AT&T UNIX™ PC

Tape Backup
User's Guide
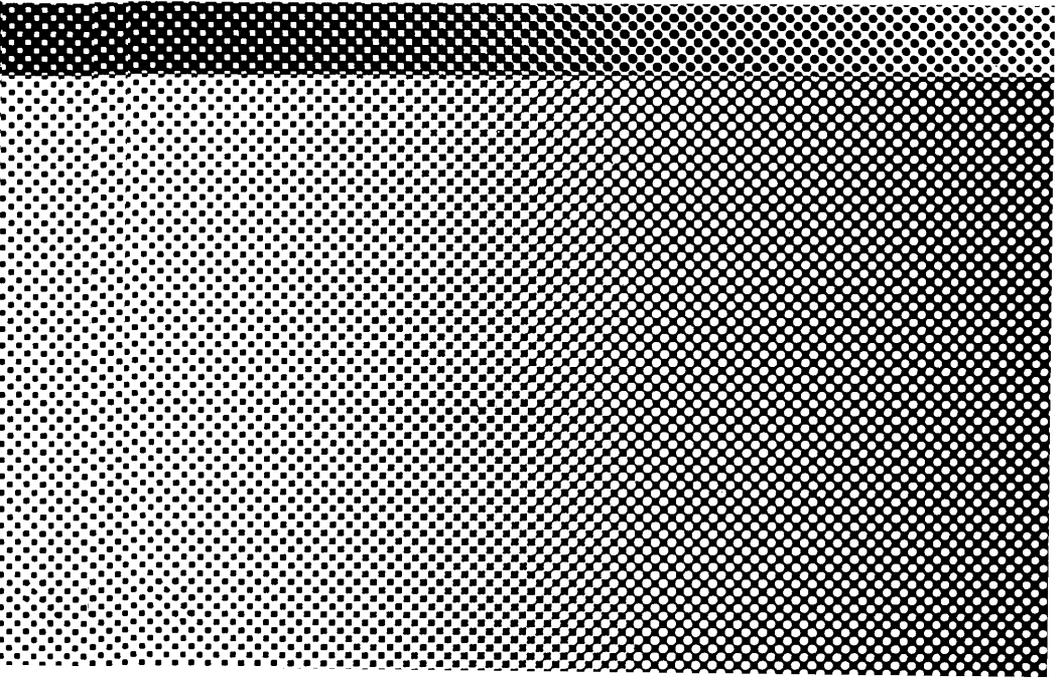
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User's Guide

NOTICE

The information in this document is subject to change without notice.
AT&T assumes no responsibility for any errors that may appear in
this document.

WARNING

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer, when installed in a residential environment. Operation with peripherals that are not certified to comply with Class B Subpart J of Part 15 of FCC Rules is likely to result in interference to radio and TV reception, if installed in a residential environment.

When this equipment is utilized in a commercial environment, the rules of FCC Part 15-J, Class A, apply. Connection and operation of this equipment with other equipment that is verified to comply with the Rules applicable to Class A (Commercial) use, is typically acceptable in the commercial-use environment. Refer to the instructions supplied with the FCC Class A systems intended for interconnection to this equipment for direction.

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. 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 such 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, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

     o   Reorient the receiving antenna.

     o   Relocate the computer with respect to the receiver.

o   Move the computer away from the
     receiver.

o   Plug the computer into a different
     outlet so that computer and receiver are
     on different branch circuits.

If necessary, the user should consult the dealer or an
experienced radio/televison technician for additional
suggestions.   The user may find the following booklet
prepared by the Federal Communications Commission
helpful:

"How to Identify and Resolve Radio-TV Interference
Problems"

This booklet is available from the U.S. Government
Printing Office, Washington, D.C. 20402.

Stock No. 004-000-00398-5.

Welcome to the AT&T UNIX™ PC Tape Backup User's Guide.
This guide describes how to install and use the UNIX PC
Tape Backup system. This guide is organized in the
following sections:

> o   **Introducing Tape Backup** describes the
>   features and capabilities of the UNIX PC Tape
>   Backup system.
>
> o   **Setting Up** describes how to install the tape
>   controller board, the tape drive, and the
>   tape backup software.
>
> o   **Using Tape Backup** gives detailed instructions
>   on using all of the Tape Backup features.

Other Useful Manuals

You should already be familiar with the basics of the
UNIX PC. If you're not, turn to the AT&T UNIX™ PC
Getting Started Guide before continuing with this
guide.

For more detailed information about using the UNIX PC,
see the AT&T UNIX™ PC Owner's Manual. For more
information about the equipment, refer to the AT&T
UNIX™ PC Service Manual.

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1 Introducing Tape Backup 1-1

The **UNIX** PC Tape Backup system makes it fast and easy to protect your data in case of operator error or equipment failure. Using the Tape Backup system, you can copy the information kept on your hard disk to a tape. This is called backing up. If you experience a problem and need to replace the files on your hard disk, you can copy information from the tape to the hard disk. This is called restoring.

With the Tape Backup system, you can:

> o   Format the tape for use with your **UNIX** PC
>
> o   Back up your information from hard disk to tape
>
> o   List the files stored on a tape
>
> o   Restore files from tape to your hard disk
>
> o   Transfer information to and from a 3B2 computer and a **UNIX** PC.

Requirements

To use the Tape Backup system, you must have version 3.0 or higher of the **UNIX** PC system software. You must also have 1 or more megabytes of internal memory (RAM).

Materials and Documentation

When you purchase the Tape Backup system, you receive this manual along with the following items:

    o Tape controller board

    o Tape drive with connector cable and power
       cord

    o TAPE BACKUP disk

    o TAPE BACKUP DIAGNOSTIC disk.

Conventions

This manual uses the following conventions:

Information you type or information displayed on the screen is shown in **boldfaced** type. For example:

          /u/userlogin/folder/filename

Items to select (highlight) from menus are shown enclosed in | |'s. For example:

          |Tape Operations|

Keys on the keyboard are shown enclosed in <>'s. For example:

          <Enter>

The mouse buttons are represented as follows:

          Left mouse button   <B1>
          Middle mouse button   <B2>
          Right mouse button   <B3>

This section tells you how to set up the three parts of the **UNIX** PC Tape Backup system. You install the system in this order:

     1 The tape controller board

     2 The tape drive

     3 The software.

Tools You Will Need

You will need a small Phillips-head screwdriver and a standard flat-head screwdriver.

Tape Controller Board

The tape controller board must be installed in your **UNIX** PC before you can perform a tape backup.

The **UNIX** PC has three slots that hold optional boards called expansion boards. The slots are located in the bottom section of the base unit. Each slot is covered by a metal plate located on the rear of the unit (see Figure 2-1).
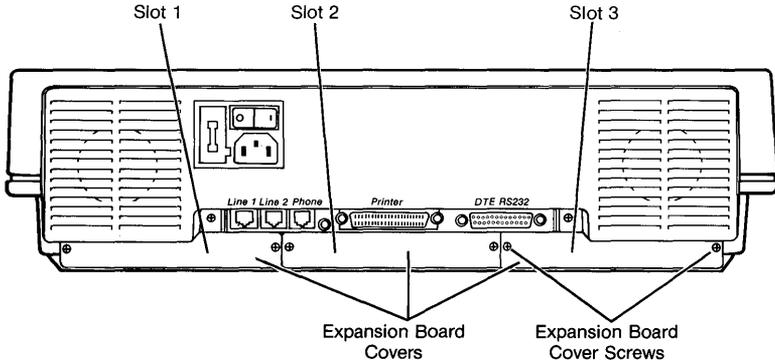
Figure 2-1   Rear View of the UNIX PC

Installing the Tape Controller Board

To install the tape controller board:

1   Shut down the **UNIX** PC using the Shutdown
    command from the Command menu and turn the
    system off before you begin the installation
    process.

    Leave the **UNIX** PC plugged in. Since the tape
    controller board is static sensitive, this
    keeps the equipment continually grounded.

2   Remove the two screws from the cover of one
    of the unused slots. The cover comes off
    easily.

Caution

Ground yourself by touching an
electronically grounded metal surface
before handling the tape controller
board. A static charge could damage the
equipment. Also avoid touching the
underside of the board (printed circuit
side). The base of the **UNIX** PC is
metal, so it is a good idea to keep one
hand on this metal surface while
installing the board.

Connector

Components

Board Cover
Plate

Handle
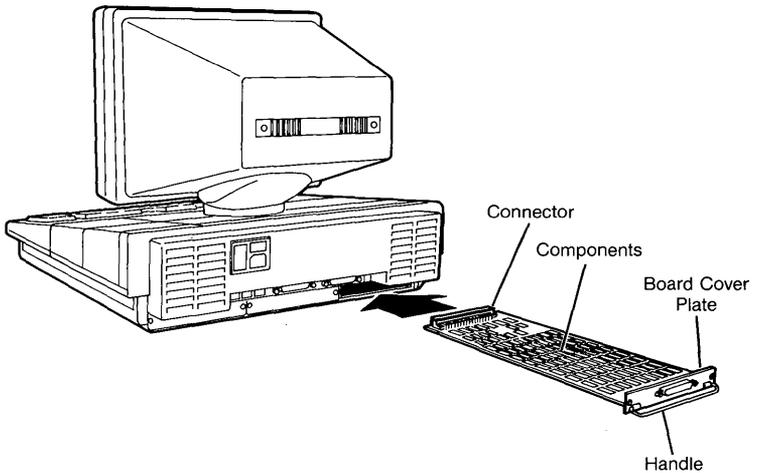
Figure 2-2   Inserting the Tape Controller Board

3   Grasp the board from the component side,
allowing your fingers to rest on the edges
only.

4   Insert the board with the connector entering
the slot first and the component side up.
Fit the edges of the board into the grooves
in the side tracks of the slot, and slide the
board into the base (see Figure 2-2).

It should slide in easily. If it binds,
reposition the board and try again. (If you
continue to have trouble, there may be a
defect in the board or the slot.)

5 Gently push the board into place by pressing
on the board's cover plate.

The screw holes in the board's cover plate
will line up with the holes on the **UNIX** PC
when the board is properly seated.

6 Place the screws in the board cover plate and
tighten them.

7 Turn on the power.

Removing the Board

To remove the tape controller board:

1 Shut down the system and turn off the **UNIX**
PC.

2 Remove the screws from the board cover plate.

3 Grasp the handle of the tape controller board
and pull gently to unseat the board.

4 Slide the board out of the slot.

5 Replace the expansion board cover plate.

Installing the Tape Drive

To install the tape drive:

1 Make sure that the power to the tape drive is
turned OFF.

2 Plug one end of the tape drive power cord
into the tape drive.

3 Plug the other end of the power cord into a
properly grounded three-prong A.C. outlet.

4   Locate the tape drive interface cable.

5   Connect one end of the interface cable to the tape drive; connect the other end of the cable to the connector near the handle of the tape controller board.

6   Turn on the tape drive power.

Figure 2-3 shows a tape drive connected to the UNIX PC.
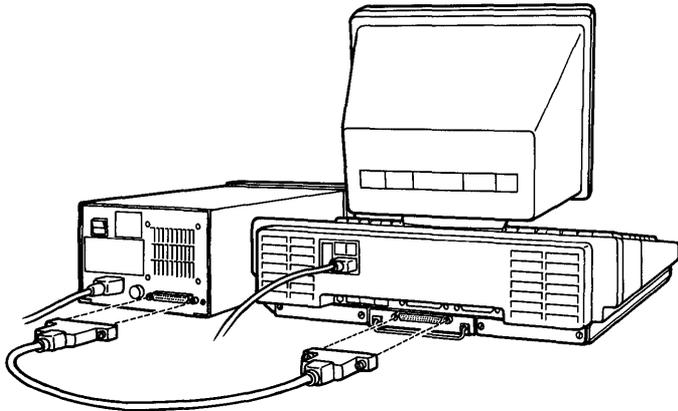
Figure 2-3   Connecting the Tape Drive

Installing the Tape Backup Software

Before you begin to install the Tape Backup software, locate the following floppy disk:

o   TAPE BACKUP (Disk 1 of 1)

To install the Tape Backup Software:

1   Make sure the power is ON to the UNIX PC.

2   Log out if necessary so you see the **Please login:** prompt.

3   Type   install

    This is the System Administrator login.

4   Press <Enter>.

    After a few seconds, you see the Office
    window.

5   Select |Administration|.

6   Press <Enter>.

    If you see a selection for Tape Operations on
    the Administration menu, the software is
    already installed, and you can skip the rest
    of this section.

7   Select |Software Setup|.

8   Press <Enter>.

    You see the Software window:

```
┌─────────────────────────────────────┐
│ ▣ Software                        ? │
├─────────────────────────────────────┤
│  Configure Loadable Device Drivers  │
│  ▇Install Software from Floppy      │
│  Install Software sent by Electronic Mail │
│  Remove Installed Software          │
│  Show Installed Software            │
│                                     │
│ ▣                                ▣ │
└─────────────────────────────────────┘
```
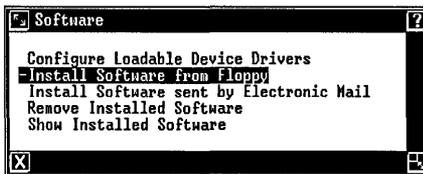
9   Select |Install Software from Floppy| and
    press <Enter>.

    You are asked to insert the first floppy
    disk.

10 Insert the TAPE BACKUP disk into the floppy
    drive and secure the latch.

11 Press <Enter>.

    The system checks the Size file and the
    installation begins.

12 Remove the floppy disk from the drive when you are told it is safe to do so.

You now select which users can operate the Tape Backup system:

```
┌─────────────────────────────────────┐
│ ▣ Select Installation             ? │
│                                      │
│          Select Installation         │
│   Restrict operations to Expert Users│
│                 [OK]                 │
│ ▣                                    │
└─────────────────────────────────────┘
```
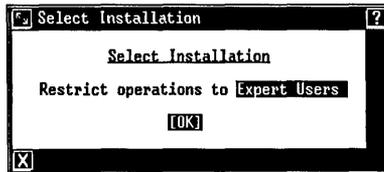
13 You can select:

o Expert. If you select Expert, only those users whose Office contains the UNIX system object will be able to perform tape operations. Users are identified as being expert or not expert when their login is created.

o Administrator. In this case, you must be logged in as install to use the tape backup system.

o All users.

Note

After the software installation is complete, you can change the user restrictions only by removing the software and installing it again.

14 Press <Slect> to change from one user type to the next.

15 Press <Enter> when the correct user type is displayed.

A message appears when the installation is
complete.

16 Press <Enter>.

The message window is removed from the
screen, and the Software window is shown.

17 Press <Exit> until all Administration windows
are closed.

18 Press <Exit> once again to log out.

The system asks you to confirm the logout.

19 Press <Enter>.

After a few moments, you see the following:

Welcome to the AT&T UNIX pc

Please login:

20 Log back in using a login that is authorized
to use the Tape Backup system.

This section is a step-by-step reference guide to the Tape Backup system. Use the Command Summary Chart that follows this Introduction, or the Index, to locate the information you need.

This section is divided into the following chapters:

o   Command Summary Chart provides a lookup table for the Tape Backup functions.

o   "Using Tapes and the Tape Drive" explains the brand of tape you should use, how to handle tapes, and how to insert them into the tape drive.

o   "Selecting Tape Operations" tells you how to select the Tape window and explains when to insert tapes and when you can remove them.

o   "Formatting and Testing Your Tapes" explains how to format new tapes and how to run a surface test on a tape.

o   "Backing Up" explains how to copy vital data from your hard disk to tape.

o   "Showing the Tape Contents" tells you how to list the names of the files and folders stored on a tape.

o   "Restoring Your Files" describes how to copy your information from a tape to your hard disk.

o   "Maintaining the Tape Drive" explains how to clean the tape drive and where to go if your tape drive needs service.

The following chart lists the functions of the Tape Backup found in this section.

The functions are arranged alphabetically by name, with a brief description of the feature and the page number where you can find related information.

If you are looking for information about a function but do not know its name, look in the **Description** column for a brief explanation of the task you want to perform.

Command Summary Chart

Action	Description	Page
Backup	Copies data from hard disk to tape	3-19
Backup by File	Lists files in your Filecabinet and lets you select which ones to copy to tape	3-20
Backup by Folder	Lists folders in your Filecabinet and lets you select which ones to copy to tape	3-20
Backup by Names	Copies specified files or folders to tape	3-20
Backup by User	Copies files belonging to selected users to tape	3-20
Complete Backup	Copies all data on hard disk to tape (except the Foundation Set)	3-19

Command Summary Chart (Continued)

Action	Description	Page
Format Tape	Prepares tape for use (use TAPE BACKUP DIAGNOSTIC disk)	3-13
Partial Backup	Copies just the files that have been added or changed since the last Complete Backup	3-20
Restore	Copies files from tape to the hard disk	3-39
Restore All	Copies every file on the tape to the hard disk	3-45
Restore Backup-set(s)	Copies all files from tape to hard disk that had been backed up in one operation	3-42
Restore by Name	Copies specified files or folders from tape to hard disk	3-47
Show and Restore Files	Lists files that are stored on tape and lets you select which ones to copy to the hard disk	3-47
Show and Restore Folders	Lists folders that are stored on tape and lets you select which ones to copy to the hard disk	3-47
Show Tape Contents	Lists files stored on a tape	3-35
Surface Test	Tests the tape to see if it is in good condition (use TAPE BACKUP DIAGNOSTIC disk)	3-13

This chapter tells you the brand of tape that you can use, how to handle the tapes, and how to insert a tape into the tape drive.

Data Tapes

The kind of data tape to use with the Tape Backup system is the 3M DC600A, the 3M DC600XTD, or a compatible tape.

Handling Data Tapes

Follow the manufacturer's instructions on caring for data tapes. The procedures below are recommended for handling and storing most tapes:

o Keep contaminants such as food, beverages, and dust away from data tapes.

o If a tape becomes soiled, do not use it. If you do, the contaminant can be spread to the tape drive and then passed on to clean tapes.

o Avoid high temperatures outside the normal office range. For example, the inside of your car can easily become too hot for a data tape.

o The tape should be approximately the same temperature as the tape drive. If the tape is exposed to very high or very low temperatures, keep it at the same temperature as the tape drive for at least eight hours before use.

o Keep magnets away from data tapes since they can erase your data. Your telephone receiver has a magnet in it. Telephones should never be placed on or close to tapes. Paper clips kept in magnetic holders can become magnetized and should not be used near tapes.

o   Return each tape to its protective box when
    you are finished using it.

Write-Protecting Your Tapes

If you want to prevent the information on a tape from
being erased accidentally, you can write-protect the
tape.

To write-protect a tape:

1   Look at the upper-left corner of the tape for
    a small black disk labeled "Safe."

    There is a pointed section of the disk that
    looks like an arrow.

2   Using a coin or a screwdriver, turn the disk
    until the arrow is pointed toward the word
    "Safe."
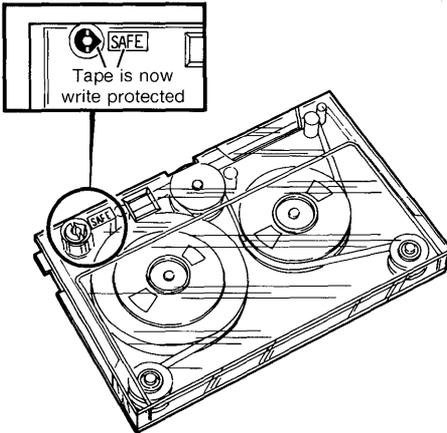
Figure 3-1   Write-Protected Tape

Now your tape is write protected. If you try to write
data to the tape, an error window is displayed.

If you want to reuse a tape that has been write
protected, you can easily remove the protection.

To remove the write protection:

       1 Turn the disk until the arrow is pointed in
          the opposite direction from the word "Safe."

The Tape Drive

The power switch is located on the back panel of the
tape drive. Be sure to turn the power on before you
insert a tape cartridge.
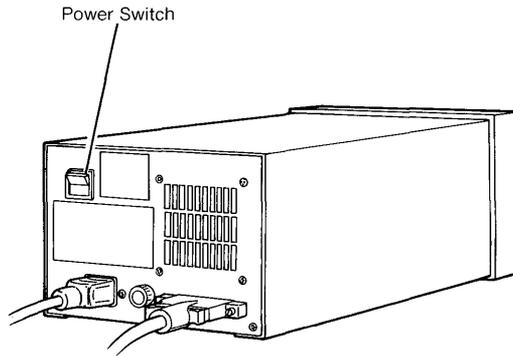
Figure 3-2 Tape Drive Power Switch

To insert a tape:

    1 Turn the power on for the tape drive.

    2 Find the lever on the front of the tape drive'. Turn this lever clockwise until it is horizontal and pointing to the right.

    3 Pull the cartridge tray out.

    4 Place the tape cartridge on the tray as shown in Figure 3-3.
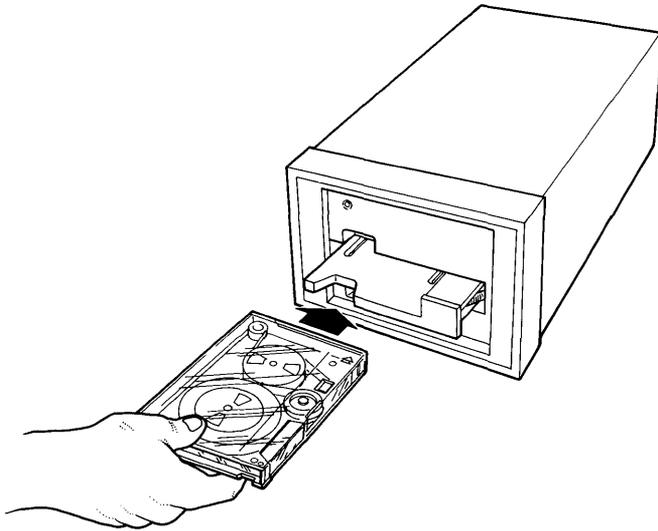
Figure 3-3 Inserting a Tape

5   Push the tray in.

6   Turn the tape lever counterclockwise until it
    points up.

You will hear a whirring sound as the tape is being
retensioned. Retensioning the tape takes roughly three
minutes. You cannot use the tape until this procedure
is complete.

You use Tape Operations to select three major
functions:

      o   Backing up your information

      o   Viewing the contents of tapes

      o   Restoring your information.

                Note

      Before you can use a tape, it must be
      formatted. Formatting tapes is done
      using the TAPE BACKUP DIAGNOSTIC disk;
      it is not selected from the Tape menu.
      Although the Tape menu has a selection
      for formatting tapes, it simply tells
      you how to shut down and insert the TAPE
      BACKUP DIAGNOSTIC disk.

Before the Tape window is displayed, you must insert a
formatted tape and the system must read the tape
information. Once you enter Tape Operations, the door
to the tape drive is locked. In order to remove the
tape cartridge, you must exit from Tape Operations and
return to the Administration window.

To select Tape Operations:

      1 Log in using a login with permission to
          perform tape operations.

      2 Point to |Administration| and press <Enter>
          or <B1>.

      3 Point to |Tape Operations| and press <Enter>.

          You are asked to insert a formatted tape.

      4 Insert a tape and press <Enter>.

You hear a whirring sound as the tape is
being retensioned.

```
┌──────────────────────────────────────────────┐
│ [▪]                                            │
│                                                │
│  Please wait for the tape to finish retensioning. │
│                                                │
│ [X]                                            │
└──────────────────────────────────────────────┘
```
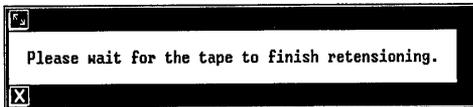
When the tape has been retensioned, the
system reads the tape and you see the Tape
menu:

```
┌─────────────────────┐
│ [▪] Tape         [?] │
│                      │
│ ┌Backup to Tape┐     │
│  Format Tape         │
│  Restore from Tape   │
│  Show Tape Contents  │
│                      │
│ [X]             [▫]  │
└─────────────────────┘
```
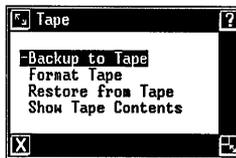
The tape door is now locked.

When you exit the Tape window, you are
permitted to remove the tape.

```
┌──────────────────────────────────┐
│ [▪] By the way ...            [?] │
│                                   │
│  It is safe to remove the tape    │
│  cartridge.                       │
│                                   │
│     Touch ENTER to continue       │
│  or HELP for more information     │
│                                   │
│ [X]                               │
└──────────────────────────────────┘
```
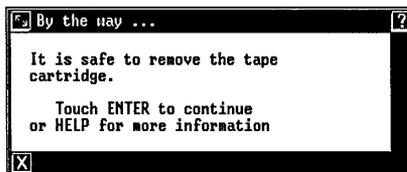
Before you can use a new tape, you must format it.
Formatting prepares the tape to accept information that
you want to store. Once a tape is formatted, it does
not have to be formatted again. Formatting takes
approximately 20 minutes.

The format process performs one additional function: it
performs a surface test to make sure the tape is in
good condition. After a tape has been used many times,
you can run a surface test without formatting again.

Formatting Tapes

To format tapes, you use the TAPE BACKUP DIAGNOSTIC
disk. (The Format Tape option from the Tape menu
simply gives you instructions on using the TAPE BACKUP
DIAGNOSTIC disk.)

Formatting erases all information contained on a tape.
Be careful not to format tapes containing information
you want to keep.

Note

> You might have other tape drives (for
> example HP or QIC devices) that use the
> same brand of tape. If so, you must
> bulk-erase tapes used on other drives
> before you format them on the **UNIX PC**
> Tape Backup system. (You can purchase
> bulk erasers at your local computer or
> electronics shop.)

Performing a Surface Test

If you have used a tape for many backups, you can test
it to see if it is still in good condition. It is wise
to test an old tape before you run a critical backup.
You perform a surface test using the TAPE BACKUP
DIAGNOSTIC disk.

Caution

The surface test <u>destroys</u> the data on
the tape. Do not run a surface test if
you want to keep the information on the
tape.

Running the Tape Backup Diagnostics

To use the Tape Backup diagnostics:

1   Ask all users to log out of the system.

2   Shut down the system using the Shutdown
    command in the Office Commands menu.

    You see the message:

    **Ready to power off or reset the machine.
    Press RETURN to reboot.**

3   Insert the TAPE BACKUP DIAGNOSTIC disk.

4   Press <Return>.

    Your system configuration is displayed on a
    screen similar to the following:

    **SYSTEM CONFIGURATION
    xx bytes On-board memory
    xx bytes Expansion memory
    Tape Controller board at slot x.
    Type any key to continue.**

5   Press any key.

A test message is displayed briefly:

Testing Floppy Tape Controller Circuitry.

Checking DMA data chip R/W....OK.
Checking DMA address operation....OK.
Checking WD2797 reg R/W....OK.

Seek to segment 0 of stream 1 is successful.

Floppy tape controller test is successful.

If you see an error message instead of this
message, contact your service representative
for help.

After the test is completed, you see the
diagnostic menu:

UNIX PC FLOPPY TAPE DIAGNOSTIC
----

1) **Format Tape**
2) **Tape Surface Test**
3) **Tape Functional Test**
4) **Reboot System**

Choice(1-4):

6 Select <1> to format a tape, or <2> to
perform a surface test.

Note

The tape functional test detects
possible operational problems. It
should be performed only by your service
representative when a problem is
suspected. This test destroys any data
on the tape. After the test, you must
format the test tape before you can use
it.

7   To format a tape, type 1 and press <Enter>.

You are asked to insert the tape:

FORMAT TAPE
Please insert tape and wait for the retension
pass to finish then hit any key to start
formatting.   (Tape must be unprotected.)

8   Press any key.

The system confirms that you want to proceed
with the format or surface test.

Continue with Tape Format (ALL DATA WILL BE
ERASED and it takes about 20 minutes)   Yes
or No?

9   Type **Yes** and press <Enter>.

The formatting or surface testing begins.
While formatting is being done, you will see
a message similar to the following:

Formatting Segment xxx in Stream X

Note

If you want to stop formatting before it
is complete, press the Break key. You
will have to start the formatting over
from the beginning before you can use
the tape.

When the process is finished, you see this
message:

This tape is defect free.
Hit RETURN to continue.

Note

You may see other messages if the tape
has some bad segments. You can still
use the tape, but it is better to
reformat it or discard it and use
another.

10 Press <Return>.

You see the diagnostic menu.

You can format another tape, run another
surface test, or reboot the system.

11 To reboot the system, remove the TAPE BACKUP
DIAGNOSTIC disk and select number **4** from the
diagnostic menu.

This chapter tells you how to perform the different
kinds of backups.

Different Methods of Backing Up

There are six ways to back up information to tape:

- o   Complete Backup copies all system software
  (except the Foundation set) and all data
  files from your hard disk to the tape.

- o   Partial Backup copies all files that have
  been modified since the last Complete Backup.

- o   Backup User copies all folders and files
  belonging to the user(s) you select.

- o   Backup Folders lists the folders in your
  Filecabinet and lets you select which ones to
  copy.

- o   Backup Files lists the files in your
  Filecabinet and lets you select which ones to
  copy.

- o   Backup by Names lets you copy specific
  folders and files to the tape.

Complete Backup

A Complete Backup copies all system software and data
files on your hard disk (except the Foundation set).
It copies all the files you have created as well as
some of the system files.

Complete Backups should be done after you install your
software and every time you update your system
software. Complete Backups should also be performed at
regular intervals to make a complete copy of your data
files. For example, you might schedule a Complete
Backup once each month.

Partial Backup

A Partial Backup copies all files that have been added
or modified since the last Complete Backup. These
backups are smaller than Complete Backups and should be
performed more frequently. For example, if you do a
Complete Backup once a month, you might perform a
Partial Backup once a week or once a day.

Backup User

With this selection, you can back up all files and
folders belonging to one user. This selection backs up
files and folders in the Filecabinet, Wastebasket, and
Clipboard.

Backup Folders or Files

These two selections list the folders or files stored
in your Filecabinet. You can choose the objects in the
list to be copied to tape.

Backup by Names

This is an advanced selection that lets you type in the
names of files and folders that you want to back up.
The selected files and folders can belong to any user.

Backup-Sets

A backup-set is a group of files that were backed up in
one operation. For example, if you performed a Partial
Backup and a User Backup in the same afternoon, you
would have two backup-sets. These two backup-sets
could reside on two different tapes, or they could
reside on the same tape. If space permits, a maximum
of nine backup-sets can reside on one tape.

Keeping a Full Copy of Your Data

If you experience a system failure, you might need to restore all of your files to the hard disk. To keep a copy of all of your data and software, be sure you have:

o   The Boot Set disks

o   The disks containing the Foundation set

o   The Tape Backup disk

o   The most recent Complete Backup

o   The most recent Partial Backup (performed after the last Complete Backup)

o   User backups or backups of specific files and folders performed after the most recent Partial Backup

o   All of your application software.

Exchanging Information with 3B2 Computers

An easy way to move information from your **UNIX** PC to a 3B2 computer is to back up files on the **UNIX** PC and restore them on a 3B2 system. You can also back up information on a 3B2 computer and restore it on a **UNIX** PC. All types of files can be transferred between the **UNIX** PC and a 3B2 computer. However, only ASCII formatted files are directly usable.

To transfer information to a 3B2 computer, you simply back up the information on the **UNIX** PC using 3B2 format. Backing up in 3B2 format is similar to the **UNIX** PC backup, but there are two functions that the 3B2 backup cannot perform:

o   In 3B2 format, each backup operation requires its own tape. You cannot place two or more backup-sets on the same tape.

o   3B2 format cannot be used when performing a Complete Backup or a Partial Backup.

Once a tape has been used for a 3B2 backup, you cannot use it for a **UNIX** PC backup without erasing the contents of the tape. Similarly, a **UNIX** PC tape is erased before a 3B2 backup is performed.

See your 3B2 documentation for instructions on restoring files from tape onto the 3B2 computer.

Backing Up

The instructions for backing up are divided into three parts:

    o Starting the Backup

    o Choosing What to Back Up

    o Finishing the Backup.

Starting the Backup

To start the backup:

1 Tell all other users that you are about to start a backup, and ask them not to change any files you intend to back up.

2 Insert a tape and select |Tape Operations| as described in the chapter called "Selecting Tape Operations."

3 If you want to see what is already on the tape and how full it is, use the **Show Tape Contents** selection explained later in this section. Remember, one tape can hold a maximum of nine backup-sets.

Note

Don't try to put a Complete Backup at the end of a nearly full tape. Use a newly formatted tape, or use a tape that contains information that can be deleted.

---

4   Select |Backup to Tape| from the Tape menu.

5   Press <Enter>.

You see the following menu:

```
┌──────────────────────────────────────┐
│▣ Select Backup Format            [?] │
│                                       │
│        Select Backup Format           │
│                                       │
│─UNIX PC - Multiple Backup-sets        │
│  3B2     - Single Backup-set          │
│                                       │
│▣                                   ▣  │
└──────────────────────────────────────┘
```
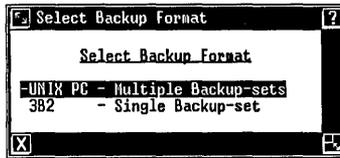
6   Select |UNIX PC - Multiple Backup-sets| if
you intend to restore the information back to
the **UNIX** PC in case of problems, or

Select |3B2 - Single Backup-set| if you
intend to restore the information onto a 3B2
computer.

Note

If your tape is full, and you select
UNIX **PC** - **Multiple Backup-sets,** you see
an error message.   To complete the
backup, use a tape that is not full.

If you later restore a Complete or
Partial Backup, or select system files
to restore, you must shut down and
reboot the system when the restore is
complete.

7   Press <Enter>.

You see the Backup to Tape menu:

```
┌─────────────────────────────────────────────────┐
│ ▣ Backup to Tape                              ?  │
│                                                  │
│   Partial Backup includes files changed since Oct 31 │
│                                                  │
│   Complete Backup - last done on Oct 31.         │
│   Partial Backup - last done on Nov 1.           │
│   Backup User                                    │
│   Backup Folders                                 │
│   Backup Files                                   │
│   Backup by Names                                │
│                                                  │
│  ▣                                            ▣  │
└─────────────────────────────────────────────────┘
```
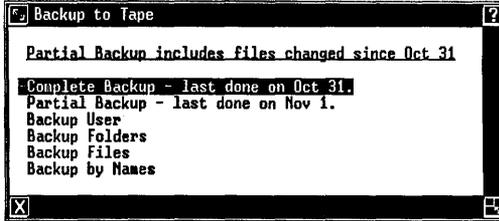
Notice that the system tells you the date the
last Complete Backup was performed. Partial
Backups include all files added or changed
since that date.

Note

If you are performing a backup in 3B2
format, you see a slightly different
menu. The options for Complete Backup
and Partial Backup are not available in
3B2 format.

8   Select the type of backup you want to
    perform:

    o   Complete Backup

    o   Partial Backup

    o   Backup User

    o   Backup Folders

    o   Backup Files

    o   Backup by Names.

9   Press <Enter>.

Choosing What to Back Up

If you are performing a Complete Backup or a Partial
Backup, the system selects the files to be backed up.
If you chose a Complete or Partial backup, turn to
"Finishing the Backup" in this chapter.

If you are backing up by user, by folder, by file, or
by name, a window appears for you to select the objects
you want.

Backup User

Backup User lets you back up all files and folders
belonging to one or more users. You choose the user
files to back up from a Backup User menu similar to the
following:

```
┌──────────────────────────────────────────────────────┐
│ █ Backup to Tape                                       │
├──────────────────────────────────────────────────────┤
│  Partial Backup includes files changed since Oct 31    │
│                                                        │
│  Complete Backup - last d┌──────────────────┐          │
│  Partial Backup - last do│ █ Backup User  ? │          │
│  █Backup User            ├──────────────────┤          │
│  Backup Folders          │     Users        │          │
│  Backup Files            │                  │          │
│  Backup by Names         │  █tutor          │          │
│                          │   install        │          │
│                          │   betty          │          │
│                          ├──────────────────┤          │
│                          │ X             ▣  │          │
│                          └──────────────────┘          │
└──────────────────────────────────────────────────────┘
```
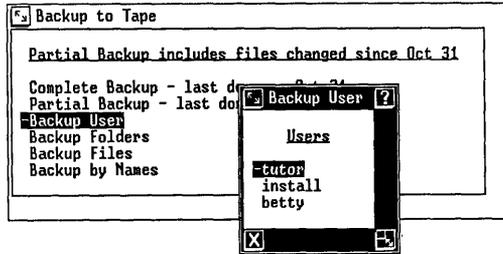
1 Select the first user login whose files you
   want to back up.

2 Press <Mark> or <B3>.

3 Continue pointing to and marking user logins.

4 Press <Enter>.

To continue, turn to "Finishing the Backup" in this
chapter.

Backup Folders and Files

These selections list the folders or files currently
stored in your Filecabinet. You choose the files or
folders to back up from a window similar to:

```
┌─────────────────────┐┌───────────────────────────┐
│ ⌐▪ Backup to Tape   ││ ⌐▪ Filecabinet Files    [?]│
│                     ││                            │
│  Partial Backup includes ││  Filecabinet contents │
│                     ││                            │
│  Complete Backup - last d││ ▌Memos/Betty▐         │
│  Partial Backup - last do││ Memos/Headqtrs         │
│  Backup User        ││ Memos/SalesResults         │
│  Backup Folders     ││ Orders/August              │
│ ▌Backup Files▐      ││ Orders/July                │
│  Backup by Names    ││ Orders/June                │
│                     ││ Orders/October             │
│                     ││ Orders/September           │
│                     ││ Sales/database             │
└─────────────────────┘│ Sales/Reports/June         │
                       │ Sales/Reports/July         │
                       │ Sales/Reports/August       │
                       │ Sales/Reports/September    │
                       │ Sales/Reports/October      │
                       │                            │
                       │ [X]                     [↵]│
                       └────────────────────────────┘
```
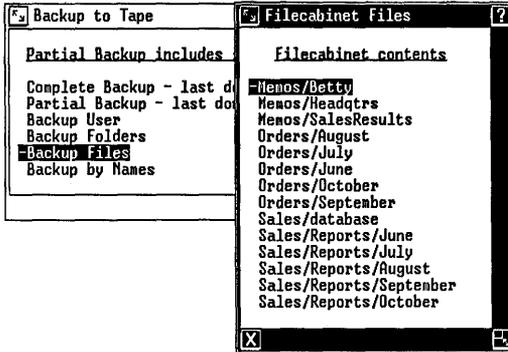
1 Select the first file or folder appearing on
   the list that you want to back up.

2 Press <Mark> or <B3>.

3 Continue selecting and marking files or
   folders that you want to back up.

4 Press <Enter>.

To continue, turn to "Finishing the Backup" in this
chapter.

Note

The full file or folder pathname must be
68 characters or fewer to be displayed
correctly. Files or folders with
pathnames longer than 68 characters
cannot be selected and backed up. Use
the **Backup by Name** option with wild
cards to select and back up these files
or folders.

Backup by Names

Backup by Names is for experienced users who know
exactly what they want to back up. This option lets
you type the names of the files and folders you want to
back up. These files or folders can belong to the
system or to any user. Since you do not select the
names from a list, you must understand how to use
pathnames.

What is a Pathname?

A pathname is a way of specifying the location of an
object contained in a folder. A pathname tells the
system where to find the files and folders. The
different parts of a pathname are separated by slashes
(/).

Note

Be sure to use the forward slash (/)
found near the Shift key, not the back
slash (\) found near the Back Space key.

Pathnames for Your Own Filecabinet

To find a folder in your own Filecabinet, the pathname
consists of the folder name as in the example below:

samplefolder

To find a file in a folder in your Filecabinet, type
the folder name, then a slash, then the file name:

foldername/filename

Pathnames Outside of Your Filecabinet

To find folders or files in other users' offices you
must start the pathname with /u.

The second part of the pathname is the user login:
/userlogin.

The third part of the pathname tells where it is found in the user's Office. Examples are: /Filecabinet, /Wastebasket, and /Clipboard.

The fourth part of the pathname gives the name of the file or folder that you want. An example is /filename.

A complete example of a pathname is shown below:

/u/user/Filecabinet/filename

Optionally, the pathname can identify folders or subfolders like the examples below:

/u/user/Filecabinet/foldr/subfolder/file

/u/george/Clipboard/meetings/August27

/u/pam/Filecabinet/memos/toATT/tapes

Wild Cards in UNIX Pathnames

If you are unsure of the exact pathname, or if you want to back up several files with similar paths, you can use wild cards in the **UNIX** pathnames. There are two types of wild cards:

o   The question mark (?) represents any single character. For example, the following pathname:

/u/userlogin/s?mple

backs up both of the following:

/u/userlogin/sample
/u/userlogin/simple

o   The asterisk (*) matches no character, one character, or several characters. For example, the following pathname:
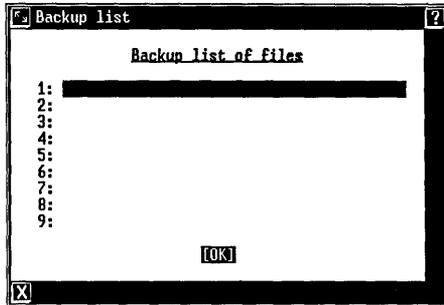
/u/userlogin/*help

backs up all of the following:

/u/userlogin/help
/u/userlogin/ohelp
/u/userlogin/backuphelp

Wild cards can appear anywhere in the userlogin, folder names, and file names.

Using the Backup by Names Selection

You will type the pathnames into the following form:

```
┌─────────────────────────────────────────┐
│ ▪ Backup list                        [?] │
│                                          │
│          Backup list of files            │
│      1: ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇      │
│      2:                                  │
│      3:                                  │
│      4:                                  │
│      5:                                  │
│      6:                                  │
│      7:                                  │
│      8:                                  │
│      9:                                  │
│               [OK]                       │
│ [X]                                      │
└─────────────────────────────────────────┘
```

1   Type the **UNIX** pathname of the first file or folder you want to back up. The pathname can be up to 40 characters.

Note

If the pathname you need to type is longer than 40 characters, use wild cards to shorten the path. A perfectly acceptable path is:
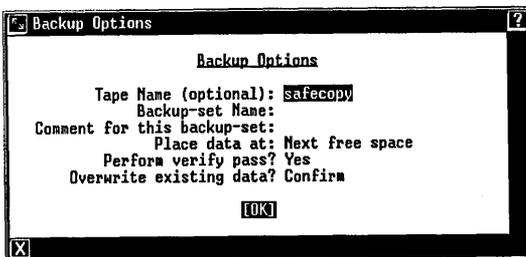/u/pam/Filec*/fold*/subf*/filen*.

If you are backing up in 3B2 format, be sure to provide the full pathname, not the pathname from your Filecabinet.

---

2 Press <Return> to move the cursor to the next line.

3 Continue typing pathnames and pressing <Return>. You can type a maximum of nine pathnames.

4 Press <Enter> when you have entered the names of all folders and files you want to back up.

Finishing the Backup

When you have chosen what you want to back up, you see the Backup Options form:

```
┌───────────────────────────────────────────────────┐
│ ▣ Backup Options                              [?] │
│ ┌─────────────────────────────────────────────┐   │
│ │              Backup Options                 │   │
│ │                                             │   │
│ │    Tape Name (optional): safecopy          │   │
│ │        Backup-set Name:                    │   │
│ │ Comment for this backup-set:               │   │
│ │         Place data at: Next free space     │   │
│ │    Perform verify pass? Yes                │   │
│ │  Overwrite existing data? Confirm          │   │
│ │              [OK]                           │   │
│ │                                             │   │
│ │ ▣                                           │   │
│ └─────────────────────────────────────────────┘   │
└───────────────────────────────────────────────────┘
```

Note

In 3B2 format, you do not have some of the options shown above.

1 If you want to change the name of your tape, type a new Tape Name. The Tape Name can be up to eight characters.

When a tape is formatted, it is automatically assiged the name ctctape. If you do not change the Tape Name, the tape keeps the name assigned when it was formatted.

2 Press <Return> to move your cursor to the next question.

---

3 Type a name for this backup-set.

The backup name can state the name of the system or user being backed up, the scheduled interval, or some other piece of information.
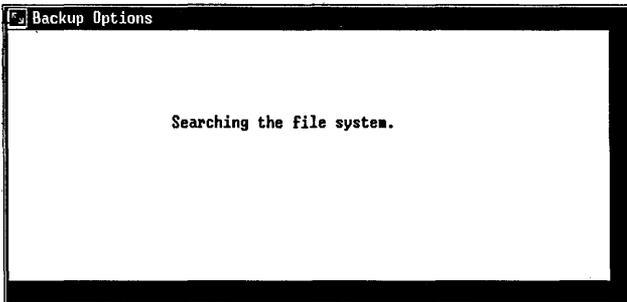
Note

This is a required step. If you do not type in a backup-set name, an error message appears, and you are returned to the Backup Options form.

4 Press <Return>.

5 Type in a comment for this backup-set. Since the comment holds 24 characters, you can briefly describe what you are backing up. (This is an optional step.)

6 Press <Return>.

7 Select where the information should be placed on the tape by pressing <Slect> or <B3>. You have two choices:

o Place the data at |Next free space| if you want to put more than one backup-set on a tape. This keeps the information that already exists on the tape.

o Place the data at |Start of tape| if you want to erase any information on the tape before starting the backup. This puts only one backup-set on the tape.

8 Press <Return>.

9 Select whether you want to perform a verify pass on the tape during the backup by pressing <Slect> or <B3>.

o When you select |Yes|, the system checks the information being backed up and informs you of any errors. It is recommended that you verify the tape for all critical backups.
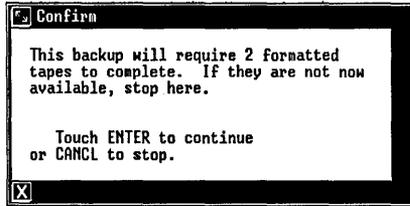
o   When you select |No|, the system does not
    look for errors.

10   Press <Return>.

11   If the information will be placed at the
     start of the tape, you must select whether
     you want to overwrite existing information on
     the tape.

     o   If you select |Confirm|, the system tells
         you if the tape has been used before and
         asks if you want to go ahead and erase
         existing information.

     o   If you select |Yes|, the system erases any
         existing information without asking first.

     o   If you select |No|, the system does not
         erase existing information and does not
         proceed with the backup if the tape has
         been used before.

12   Press <Enter>.

     The system looks for the files and folders it
     must back up:

```
┌──────────────────────────────────────────────────┐
│ Backup Options                                     │
│                                                    │
│                                                    │
│              Searching the file system.            │
│                                                    │
│                                                    │
│                                                    │
│                                                    │
└──────────────────────────────────────────────────┘
```

The system then estimates how many formatted
tapes are necessary to complete the backup.
If more than one tape is required, a message
appears.

```
┌──────────────────────────────────────┐
│ ▣ Confirm                            │
│ ┌──────────────────────────────────┐ │
│ │ This backup will require 2 formatted│
│ │ tapes to complete.  If they are not now│
│ │ available, stop here.            │ │
│ │                                  │ │
│ │   Touch ENTER to continue        │ │
│ │ or CANCL to stop.                │ │
│ └──────────────────────────────────┘ │
│ ⊠                                    │
└──────────────────────────────────────┘
```

Note

If your backup continues onto a second
tape, you cannot add any more backup-
sets to the second tape.

13 Press <Enter> to proceed with the backup, or

Press <Cancl> to leave the backup selection.

If you pressed Enter to proceed, the backup
starts. You may be prompted to insert the
next tape if more than one is required.

The system tells you when the backup is
finished.

14 Press <Enter> to return to the Tape menu.

To remove the tape from the unit, you must exit from
the Tape menu.

This chapter tells you how to view the names of the files that are stored on your tapes.

Overview

Showing the contents of a tape has two basic steps:

     o   Choosing the backup-set

     o   Viewing the list of file names.

Choosing the Backup-Set

A backup-set is a group of files that were backed up in one operation. A backup-set is either a Complete Backup, a Partial Backup, a Backup by User, a Backup by File, a Backup by Folder, or a Backup by Names.

When you back up information, you must choose where the data will be placed on the tape: at the next empty space, or at the beginning of the tape. If you place the information at the next empty space, you can have several backup-sets on the same tape.

You can list the names of files stored in all the backup-sets on the tape, or you can select just the backup-sets you want to see.

Viewing the List of File Names

The file names are listed by their **UNIX** pathnames. The pathnames look like this:

      /u/userlogin/folder/subfolder/filename

For more complete information on pathnames, see "Backing Up" in this section.

Showing the Tape Contents

1   Insert a tape and select |Tape Operations| as
    described in the chapter called "Selecting
    Tape Operations."

2   Select |Show Tape Contents|.

3   Press <Enter>.

    If the tape is in **UNIX** PC format, a list of
    all backup-sets on the tape appears.

    If the tape is in 3B2 format, skip to step 6
    of this chapter.

```
┌─────────────────────────────────────────────────────────┐
│ ⌐ Tape Safecopy                                       ? │
│                                                          │
│   Name   Type of Backup    Date & Time   Comment         │
│                                                          │
│  -All         63% of tape used                           │
│  Complete Complete  28%  10/31/85 19:21  Oct. month end backup │
│  Partial  Partial   19%  11/01/85 17:13  Friday partial backup │
│  Betty    User      16%  11/01/85 17:25  Bettys files    │
│  UNUSED                                                  │
│  UNUSED                                                  │
│  UNUSED                                                  │
│  UNUSED                                                  │
│  UNUSED                                                  │
│  UNUSED                                                  │
│ ⌧                                                     ⌐ │
└─────────────────────────────────────────────────────────┘
```

    The line below the headings shows the word
    All and indicates what percent of the tape
    has been used. Subsequent lines give
    information about each backup-set on the
    tape. The screen shows:

    o   The Name assigned to each backup-set

    o   The Types of Backup are: Complete,
        Partial, Users, Folders, Files, or Names

    o   The percent of the tape used for each
        backup-set

o   The Date & Time that each backup was
    started

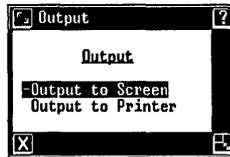o   The Comment about each backup-set.

Note

A tape can hold a maximum of nine backup-
sets. Any unused places on the tape are
shown on the screen as **UNUSED**. If the
tape is full, you see the word **FULL**.

4 Select the word **All** to list the file names
    in all backup-sets stored on the tape, or

    Mark each backup-set you want to view by
    pointing to a backup-set, pressing <Mark> or
    <B3>, pointing to the next backup-set,
    marking, and so on.

5 Press <Enter>.

    A new window appears and you are asked how
    you want to view the file names: on the
    screen, on a printout, or both.

```
┌─────────────────────────┐
│▐▪▌ Output            ▐?▌│
│                         │
│         Output          │
│ ┌─────────────────────┐ │
│ │▪Output to Screen    │ │
│ │ Output to Printer   │ │
│ └─────────────────────┘ │
│ ▐X▌                  ▐⊞▌│
└─────────────────────────┘
```

6 Select |Output to screen| to view the tape
    contents on the screen, or

    Select |Output to printer| to print the names
    of the files and folders on the tape.

Note

You can print the names and view them on
the screen simultaneously if you Mark
both selections.

7   Press <Enter>.

You see a window showing the pathnames of all
files stored in the backup-sets you selected:

```
┌─────────────────────────────────────────────┐
│▓ Tape contents                            ?  │
│                                              │
│              Tape contents                   │
│ ─/u/betty                                    │
│  /u/betty/.profile                           │
│  /u/betty/.phdir                             │
│  /u/betty/Environment                        │
│  /u/betty/Filecabinet                        │
│  /u/betty/Filecabinet/Profiles               │
│  /u/betty/Filecabinet/Profiles/1200bps:Am    │
│  /u/betty/Filecabinet/Profiles/300bps:Am     │
│  /u/betty/Filecabinet/Profiles/9600bps:A2    │
│  /u/betty/Filecabinet/Orders                 │
│  /u/betty/Filecabinet/Orders/August          │
│  /u/betty/Filecabinet/Orders/July            │
│  /u/betty/Filecabinet/Orders/June         ⬆  │
│  /u/betty/Filecabinet/Orders/October         │
│  /u/betty/Filecabinet/Orders/September    ⬇  │
│ �X                                         ▣  │
└─────────────────────────────────────────────┘
```

If there are many files, the window shows the
beginning of the list of files. To view the
rest of the files, use the arrow keys or use
the mouse with the arrow icons in the window
border.

8   Press <Enter> to return to the Tape menu when
you have finished viewing the list, or

Press <Cancl> to return to the list of backup-
sets.

If you lose files due to operator error or system
failure, you need to restore these files to the hard
disk.   This chapter explains the different methods of
restoring, helps you determine what you need to
restore, and gives procedures to follow for each type
of restore.

Backup-Sets

The Restore function always starts by listing all
backup-sets stored on the tape.   A backup-set is a
group of files that were backed up in one operation.   A
backup-set is either a Complete, Partial, User, Folder,
or File Backup, or a Backup by Name.   The first step in
restoring files is to determine which backup-sets you
need.

Different Methods of Restoring

To help you restore just the files you need, there are
four ways to restore:

        o   Restore Backup-Sets

        o   Restore by Names

        o   Show and Restore Folders

        o   Show and Restore Files.

Restore Backup-Sets

The Restore Backup-sets selection copies all files in
selected backup-sets to the **UNIX** PC hard disk.   It
restores all the files from a Complete backup-set, all
files from a Partial backup-set, or all files backed up
by user, folder, file, or name.

Restore by Names

This is an advanced selection that lets you type in the
pathnames of the files you want to restore.

Show and Restore Folders

This option lists all folder names that were backed up
in selected backup-sets. You can select folders from
this list that you want to restore.

Show and Restore Files

This option lists file names in selected backup-sets
and lets you select files from the list that you want
to restore.

Exchanging Information with 3B2 Computers

You can use the Tape Backup system to transfer
information from 3B2 computers to UNIX PC's. You
simply back up data on a 3B2 computer and restore it to
a UNIX PC. All types of files can be transferred
between the UNIX PC and a 3B2 computer. However, only
ASCII formatted files are directly usable. See your
3B2 documentation for information on backing up data on
a 3B2 computer.

Since each backup operation in 3B2 format requires its
own tape, you can skip the steps describing how to
select backup-sets.

Deciding What to Restore

Before you restore files, determine exactly what you
lost. The table below will help you select the restore
method to use, and refers you to the appropriate
section of this chapter.

Condition	Solution
A specific file or group of files, or a specific folder is missing.	Restore just the missing files or folders. See "Restoring Files and Folders."
A user is not sure which files are missing.	Restore the appropriate backup-set for the user. See "Restoring Backup-Sets."
Files present when the system was last backed up are missing or damaged.	Restore the most recent partial backup-set. See "Restoring Backup-Sets."
You want to restore files from a 3B2 computer onto your UNIX PC.	Follow the procedures for "Restoring Backup-Sets."
The system will not start up.	Follow the procedure for "Restoring a Complete System."

Restoring Backup-Sets

Use this method of restoring when you want to restore
all files in a backup-set. For example, you may want
to restore all of the files belonging to a particular
user, or you may not be certain which files you need to
restore from a particular backup-set. This is also the
method you use to restore 3B2 files onto your UNIX PC.

Note that if you restore a partial backup, or other
backup-set that contains system files, you will need to
shut down and restart the system when the restore is
complete.

To restore backup-sets:

1 Tell all other users that you are starting
the restore, and ask them not to change any
files you intend to restore.

2 Insert a tape and select Tape Operations as
described in the "Selecting Tape Operations"
chapter.

3 Select |Restore from Tape| on the Tape menu.

4 Press <Enter>.

You see the Restore menu:

```
┌─────────────────────────────┐
│ ▣ Restore from Tape      ?  │
│                             │
│          Restore            │
│ ┌─────────────────────────┐ │
│ │▪RESTORE Backup-set(s)   │ │
│ │ RESTORE by Names        │ │
│ │ SHOW and RESTORE Folders│ │
│ │ SHOW and RESTORE Files  │ │
│ └─────────────────────────┘ │
│ ▣                        ▣  │
└─────────────────────────────┘
```
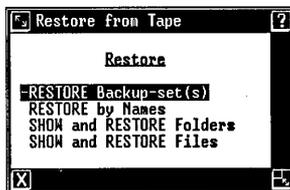
5 Select |RESTORE Backup-set(s)|.

6 Press <Enter>.

You see the following message:
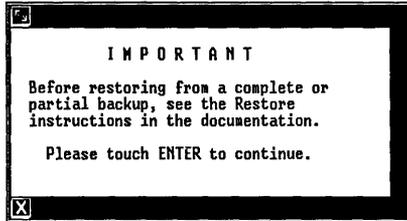
```
 ┌─────────────────────────────────────┐
 │■                                     │
 ├─────────────────────────────────────┤
 │          I M P O R T A N T           │
 │                                      │
 │  Before restoring from a complete or │
 │  partial backup, see the Restore     │
 │  instructions in the documentation.  │
 │                                      │
 │    Please touch ENTER to continue.   │
 │                                      │
 │ ⊠                                    │
 └─────────────────────────────────────┘
```

This message is presented to remind you that there are additional steps to follow when restoring from a Complete backup-set or a Partial backup-set. These steps are explained later in this procedure.

7 Press <Enter>.

You see the Restore Options form:

```
 ┌──────────────────────────────────────────┐
 │■ Restore Options                       [?]│
 ├──────────────────────────────────────────┤
 │              Restore Options             │
 │                                          │
 │  Retain newest version of file? Yes      │
 │                                          │
 │  Restore files to a different folder? No │
 │  Folder Name:                            │
 │                  [OK]                    │
 │ ⊠                                        │
 └──────────────────────────────────────────┘
```
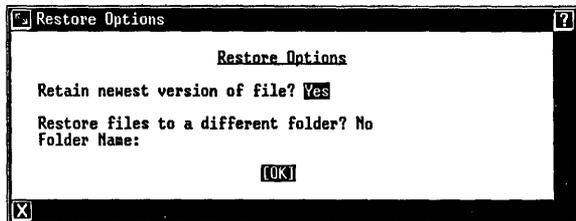
8   Press <B3> or <Slect> if necessary to
    indicate Select whether you want to retain
    the newest version of each file on your hard
    disk:

    o   Select |Yes| to prevent an old file on
        the tape from replacing the current file
        on your hard disk. Use this selection
        when you want to keep information that
        you have added to files since you made
        the backup.

    o   Select |No| if you want to replace
        current files with older files on the
        tape. Use this selection when the newer
        versions of files on your disk are
        incorrect, and you want to restore the
        correct versions from the backup-set.

9   Press <Return> to move the cursor to the
    next question.

10 Press <B3> or <Slect> if necessary to choose
    whether you want to restore files from the
    tape to a different folder on your hard
    disk:

    Select |No| if you want files restored to
    their original folders.

11 Press <Return>.

12 If you are restoring files to a different
    folder in the Filecabinet, type the folder
    name.

    If the folder already exists, the files are
    added. If the folder does not exist, it is
    created. However, if a file by that name
    exists, a folder by the same name cannot be
    added and an error message is displayed.

13 If you are restoring from a tape in 3B2
    format, skip to step 15.

    If you are restoring from a tape in UNIX PC
    format, press <Enter>.

A window appears that lists all of the
backup-sets stored on the tape, as in this
example:

```
┌──────────────────────────────────────────────────────────────────┐
│ ▣ Tape Safecopy                                                 ▣ │
│                                                                    │
│   Name    Type of Backup    Date & Time    Comment                │
│                                                                    │
│  -All          63% of tape used                                   │
│   Complete  Complete  28%  10/31/85 19:21  Oct. month end backup   │
│   Partial   Partial   19%  11/01/85 17:13  Friday partial backup   │
│   Betty     User      16%  11/01/85 17:25  Bettys files            │
│   UNUSED                                                           │
│   UNUSED                                                           │
│   UNUSED                                                           │
│   UNUSED                                                           │
│   UNUSED                                                           │
│   UNUSED                                                           │
│ ┌─┐                                                            ┌─┐ │
│ │X│                                                            │ │ │
└──────────────────────────────────────────────────────────────────┘
```

This is the same information that appears
when you show tape contents, and includes
information about each backup-set on the
tape.

Note

A tape can hold a maximum of nine backup-
sets. Any unused portions of the tape
are shown on the screen as **UNUSED**.   If
the tape is full, you see the word **FULL**.

14 Select the word All to restore all the
    backup-sets on the tape, or

    Mark each backup-set you want to restore by
    selecting a backup-set, pressing <Mark> or
    <B3>, selecting the next backup-set,
    marking, and so on.

15 Press <Enter>.

    When you have finished your selections, the
    restore begins.

If the backup-set was stored on more than one tape, you are told when to remove one tape and insert the next.

The system tells you when the restore is complete:

```
■■
   Restore is now complete.

     Touch ENTER to continue.

⊠
```
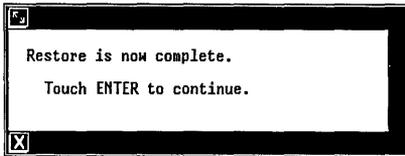
16 Press <Enter> to return to the Tape menu.

17 Press <Exit> until you have returned to the Office.

18 Remove the tape from the unit.

19 If you have chosen not to return the newest version of your files from a Complete or Partial Backup, log out of the office and reboot the system.

You have completed the Restore procedure.

Restoring Files and Folders

Use this type of restore when you know exactly which files or folders are missing. First locate the tape that contains the copy of the files or folders you want. See "Showing the Tape Contents" in this section if you need to determine which tape contains the files or folders.

Your tape backup system provides three different options for displaying and selecting the files and folders to restore.

Follow these steps to restore files or folders:

    1 Tell all other users that you are starting the restore, and ask them not to change any files you intend to restore.

    2 Insert a tape and select Tape Operations as described in the "Selecting Tape Operations" chapter.

    3 Select to |Restore from Tape| from the Tape menu.

    4 Press <Enter>.

       You see the Restore menu:

```
┌─────────────────────────────┐
│ ▓ Restore from Tape      ?  │
│                             │
│            Restore          │
│                             │
│ �switistore Backup-set(s)   │
│  RESTORE by Names           │
│  SHOW and RESTORE Folders   │
│  SHOW and RESTORE Files     │
│                             │
│  X                       ▓  │
└─────────────────────────────┘
```
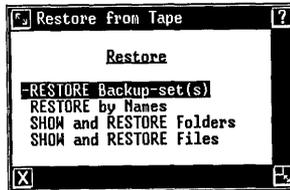
    5 Select the type of restore you want.

       If you want to restore files by selecting from a list of files in a backup-set, select |SHOW and RESTORE Files|.

       If you want to restore folders by selecting from a list of folders in a backup-set, select |SHOW and RESTORE Folders|.

       If you know the pathnames of the files and folders you want to restore, select |RESTORE by Names|.

6 Press <Enter>.

You see the following message:

```
┌────────────────────────────────────────┐
│ ▉                                        │
│                                          │
│            I M P O R T A N T             │
│                                          │
│    Before restoring from a complete or   │
│    partial backup, see the Restore       │
│    instructions in the documentation.    │
│                                          │
│      Please touch ENTER to continue.     │
│                                          │
│ ⊠                                        │
└────────────────────────────────────────┘
```

This message is presented to remind you that there are additional steps to follow when restoring from a Complete backup-set or a Partial backup-set. These steps are explained later in this procedure.

7 Press <Enter>.

You see the Restore Options form:

```
┌────────────────────────────────────────┬──┐
│ ▉ Restore Options                       │? │
│                                          │  │
│                   Restore Options        │  │
│    Retain newest version of file? Yes    │  │
│    Restore files to a different folder? No│ │
│    Folder Name:                          │  │
│                     [OK]                  │  │
│ ⊠                                        │  │
└────────────────────────────────────────┴──┘
```

8 Press <B3> or <Slect> if necessary to choose whether you want to retain the newest version of each file on your hard disk:

o   Select |Yes| to prevent an old file on
    the tape from replacing the current file
    on your hard disk. Use this selection
    when you want to keep information that
    you have added to files since you made
    the backup.

o   Select |No| if you want to replace
    current files with older files on the
    tape. Use this selection when the newer
    versions of files on your disk are
    incorrect, and you want to restore the
    correct versions from the backup-set.

9   Press <Return> to move the cursor to the
    next question.

10 Press <B3> or <Slect> if necessary to choose
    whether you want to restore files from the
    tape to a different folder on your hard
    disk:

    Select |No| if you want files restored to
    their original folders.

11 Press <Return>.

12 If you are restoring files to a different
    folder in the Filecabinet, type the folder
    name.

    If the folder already exists, the files are
    added. If the folder does not exist, it is
    created. However, if a file by that name
    exists, a folder by the same name cannot be
    added and an error message is displayed.

13   Press <Enter>.

A window appears that lists all of the
backup-sets stored on the tape, as in this
example:

```
┌───────────────────────────────────────────────────────────────┐
│ ▣ Tape Safecopy                                              ? │
│                                                                │
│  Name    Type of Backup    Date & Time    Comment              │
│                                                                │
│ ▐All        63% of tape used▌                                  │
│  Complete  Complete  28%  10/31/85 19:21  Oct. month end backup│
│  Partial   Partial   19%  11/01/85 17:13  Friday partial backup│
│  Betty     User      16%  11/01/85 17:25  Bettys files         │
│  UNUSED                                                         │
│  UNUSED                                                         │
│  UNUSED                                                         │
│  UNUSED                                                         │
│  UNUSED                                                         │
│  UNUSED                                                         │
│                                                                │
│ ▣                                                            ▣ │
└───────────────────────────────────────────────────────────────┘
```

This is the same information that appears
when you show tape contents, and includes
information about each backup-set on the
tape.

Note

A tape can hold a maximum of nine backup-
sets. Any unused portions of the tape
are shown on the screen as **UNUSED**. If
the tape is full, you see the word **FULL**.

14   Select the word **All** to restore files from all
the backup-sets on the tape, or

Mark each backup-set from which you want to
restore files by selecting a backup-set,
pressing <Mark> or <B3>, selecting the next
backup-set, marking, and so on.

15   Press <Enter>.

The window you see now depends on the type of
restore you chose:

o   If you chose to show and restore files or
    folders, a window appears for you to
    select the objects you want, as in the
    following example:

```
┌──────────────────────────────────────────┐
│ ▣ Tape Folders                         ▣ │
├──────────────────────────────────────────┤
│                                          │
│             Tape contents                │
│                                          │
│  ~/u/betty                               │
│   /u/betty/Filecabinet                   │
│   /u/betty/Filecabinet/Profiles          │
│   /u/betty/Filecabinet/Notes             │
│   /u/betty/Filecabinet/Orders            │
│   /u/betty/Filecabinet/Sales             │
│   /u/betty/Filecabinet/Sales/Reports     │
│   /u/betty/Filecabinet/Memos             │
│   /u/betty/Filecabinet/Misc              │
│   /u/betty/Wastebasket                   │
│   /u/betty/Clipboard                     │
│                                          │
├──────────────────────────────────────────┤
│ ▣                                     ▣ │
└──────────────────────────────────────────┘
```
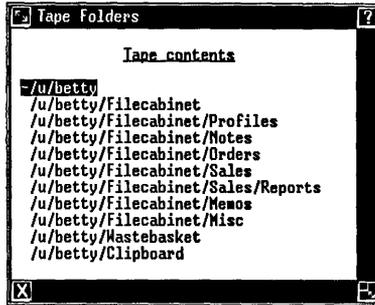
Point to each file or folder you want to
restore and press <Mark> or <B3>.   If
there are many files or folders, you can
display the names by using the arrow keys
or the mouse with the scrolling icons in
the window border.

Note

The full file or folder pathname must be
68 characters or fewer to be displayed
correctly. Files or folders with
pathnames longer than 68 characters
cannot be selected and restored. Use
the Restore by Names option with wild
cards to select and restore these files
or folders.

o   If you chose to restore files by name, a
    form appears for you to enter the names:

```
┌────────────────────────────────────────┐
│▛▀▌Restore list                      ▐?▌│
│                                        │
│            Restore list of files       │
│      1:▐████████████████████████████▌  │
│      2:                                │
│      3:                                │
│      4:                                │
│      5:                                │
│      6:                                │
│      7:                                │
│      8:                                │
│      9:                                │
│                                        │
│                 [OK]                   │
│                                        │
│▐X▌                                     │
└────────────────────────────────────────┘
```
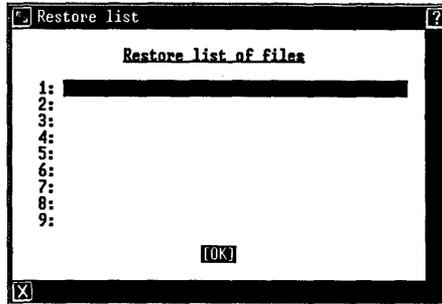
Type the UNIX pathname of the first file
you want to restore. Press <Return> and
enter the next pathname in the second
field. Type the pathnames exactly as
described in "Backing Up" in this section.
Continue until you have typed up to nine
pathnames.

Note

If the pathname you need to type is
longer than 40 characters, use wild
cards to shorten the name. A perfectly
acceptable pathname is:
/u/pam/Filec*/fold*/subf*/filen*.

16 When you have finished marking or typing your
    selections, press <Enter>. The restore
    begins.

    If the backup-set was stored on more than one
    tape, you are told when to remove one tape
    and insert the next.

The system tells you when the restore is complete:

```
┌────────────────────────────────────────┐
│ ▓▄                                      █
│                                         █
│  Restore is now complete.               █
│                                         █
│     Touch ENTER to continue.            █
│                                         █
│                                         █
│ ▒X▒                                     █
└████████████████████████████████████████┘
```
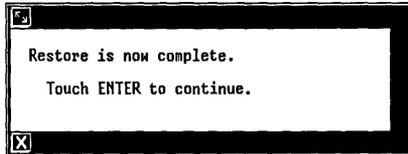
17 Press <Enter> to return to the Tape menu.

18 Press <Exit> until you have returned to the Office.

19 Remove the tape from the unit.

20 If you have chosen not to retain the newest version of system files from a Complete or Partial Backup, log out of the office and reboot the system.

You have completed the Restore procedure.

Restoring a Complete System

If your system does not start up (boot) or if it does boot but you suspect disk problems, you must restore the Foundation Set as well as your data files. **Note:** If you can boot up, save any files you have modified since your last backup. Then follow these steps to restore your system:

1 Initialize your hard disk as described in the AT&T UNIX ™ PC System Software Installation Guide.

2 Install the Boot Set disks as described in the AT&T UNIX PC System Software Installation Guide.

3 Install the Foundation Set as described in the AT&T UNIX PC System Software Installation Guide.

4 Install the Tape Backup software as described in this manual.

5 Locate the tape or tapes containing the following backup-sets:

o The most recent complete backup of the system.

o The most recent partial backup of the system that was done after the most recent complete backup.

o Any user backup, folder backup, file backup, or name backup performed after the most recent partial backup.

6 Log in as **install**.

7 Select |Administration| and press <Enter>.

8 Insert the tape containing the most recent complete backup and select Tape Operations as described in the "Selecting Tape Operations" chapter.

9 Select |Restore from Tape| from the Tape menu.

10 Press <Enter>.

You see the Restore menu:

```
┌─────────────────────────────┐
│ ▣ Restore from Tape      [?] │
│                             │
│         Restore             │
│ ┌─────────────────────────┐ │
│ │-RESTORE Backup-set(s)   │ │
│ │ RESTORE by Names        │ │
│ │ SHOW and RESTORE Folders│ │
│ │ SHOW and RESTORE Files  │ │
│ │                         │ │
│ │ ▣                    ▣  │ │
│ └─────────────────────────┘ │
└─────────────────────────────┘
```
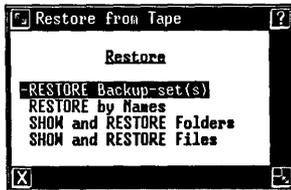
11 Select |RESTORE Backup-set(s)|.

12 Press <Enter>.

You see the following message:
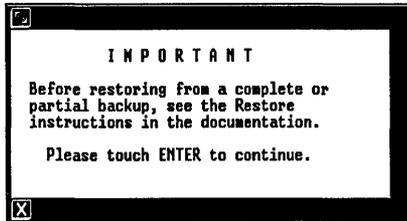
```
┌───────────────────────────────────┐
│ ▣                                 │
│          I M P O R T A N T        │
│                                   │
│   Before restoring from a complete or  │
│   partial backup, see the Restore      │
│   instructions in the documentation.   │
│                                   │
│     Please touch ENTER to continue.    │
│                                   │
│ ▣                                 │
└───────────────────────────────────┘
```

This message is presented to remind you that there are additional steps to follow when restoring from a Complete backup-set or a Partial backup-set. These steps are explained later in this procedure.

13 Press <Enter> to display the Restore Options form.

14 Press <Slect> or <B3> to select |No| in response to the question, **Retain newest version of file?**. Your form should look like this:

```
┌───────────────────────────────────┐
│ ▣ Restore Options              [?]│
│                                   │
│              Restore Options       │
│                                   │
│   Retain newest version of file? No▮  │
│                                   │
│   Restore files to a different folder? No  │
│   Folder Name:                    │
│                  [OK]             │
│ ▣                                 │
└───────────────────────────────────┘
```
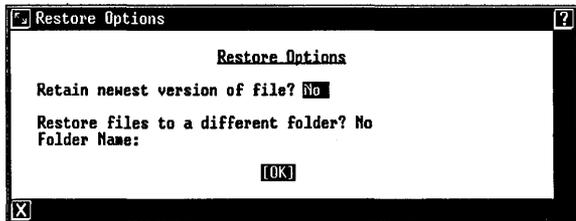
15 Press <Enter>.

You see a window listing the backup-sets on
the tape. Point to the most recent complete
backup, as in this example:

```
┌──────────────────────────────────────────────────────────┐
│ ▛▌ Tape Safecopy                                      [?] │
│                                                          │
│  Name   Type of Backup    Date & Time    Comment         │
│                                                          │
│  All          63% of tape used                           │
│ ▓Complete Complete  28%  10/31/85 19:21  Oct. month end backup▓│
│  Partial   Partial  19%  11/01/85 17:13  Friday partial backup│
│  Betty     User     16%  11/01/85 17:25  Bettys files    │
│  UNUSED                                                   │
│  UNUSED                                                   │
│  UNUSED                                                   │
│  UNUSED                                                   │
│  UNUSED                                                   │
│  UNUSED                                                   │
│                                                          │
│ [X]                                                   [▛▌]│
└──────────────────────────────────────────────────────────┘
```

Note

If all backup-sets located in Step 5 are
contained on one tape, mark the most
recent one using <Mark> or <B3>.

16 Press <Enter>. The restore begins.

If the backup-set was stored on more than one
tape, you are told when to remove one tape
and insert the next.

The system tells you when the restore is
complete:

```
┌──────────────────────────────┐
│ ▛▌                           │
│                              │
│  Restore is now complete.    │
│    Touch ENTER to continue.  │
│                              │
│ [X]                          │
└──────────────────────────────┘
```
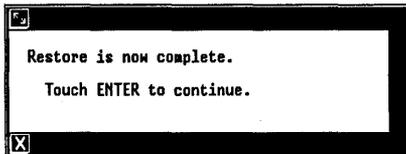
17 Press <Enter> to return to the Tape menu.

The restore of the complete backup is finished.

18 Exit from the Tape menu and remove the tape from the unit.

19 Follow the same procedure (steps 8 through 18) to restore each of these backup-sets (if not restored in Step 15) in this order:

o The most recent partial backup of the system that was done after the most recent complete backup.

o Each user, folder, file, or name backup performed after the most recent partial backup, in the chronological order in which they were made, from the oldest to the newest.

Be sure to answer |No| each time to the question, **Retain newest version of file?** and be sure to restore the backup-sets in the right order.

20 When you have restored the last backup-set, close all open windows and log out of the Office of Install.

21 When the **Please login:** prompt appears, press the reset button on the back of the **UNIX PC:**

Reset Button
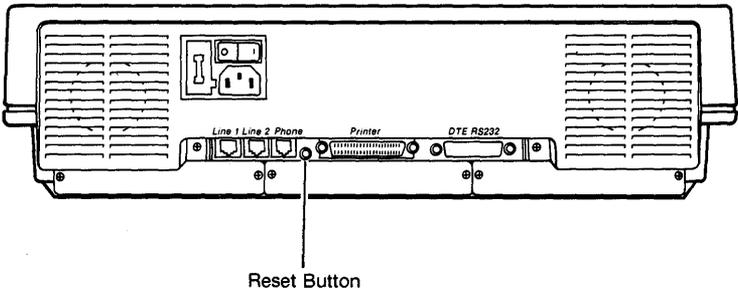
The system will now reboot.

You may receive the following message as the system reboots:

```
┌──────────────────────────────────────┐
│ ▪                                    │
│  ┌─────────────────────────────────┐ │
│  │                                 │ │
│  │ Some stored files were damaged. │ │
│  │                                 │ │
│  │ The damage will be repaired, and the │
│  │ stored files will be checked again. │
│  │                                 │ │
│  │        Please stand by ...      │ │
│  │                                 │ │
│ ⊠                                    │
└──────────────────────────────────────┘
```
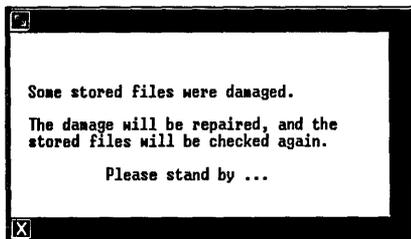
This message appears because some system files were
restored and are now out of date. You can ignore the
message. The system reboots a second time after the
system files are repaired.

The **Please login:** prompt appears, and you can log in as
you normally would.

The system restore is complete.

This section describes how to take care of the tape drive.

Routine Cleaning

Two points inside the tape drive must be cleaned periodically. This is a simple operation that you can do yourself.

The tape drive must be cleaned at least every 30 days. However, if the tape drive is used extensively, you should clean it each time you have finished using it for approximately 25 hours.

The parts of the tape drive that must be cleaned are the:

o   Tape read/write head

o   Capstan roller.

Figure 3-5 shows the locations of these points.
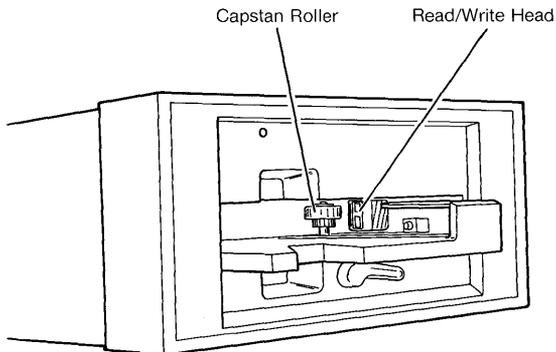
Figure 3-5   Locating Points Inside Tape Drive

To clean the tape read/write head and capstan roller:

> 1   Moisten a lintless swab with Freon™
>   Degreaser Type TF (Trichlorotrifluoroethane).
>
>   These items can be obtained at many
>   electronics stores.
>
> 2   Insert the swab through the opening that
>   receives the tape cartridges. (Do not
>   disassemble the tape drive.)
>
> 3   Clean the read/write head and capstan roller
>   with the swab.

When Repairs are Required

If repairs are required, contact your authorized AT&T
computer dealer; or if purchased directly from AT&T
Information Systems, contact your AT&T account
executive for further information.

A Technical Specifications

Physical dimensions:

- o 9 inches wide by 15 inches deep by 5 inches high

- o 15 pounds

Environmental requirements:

- o operating temperature range is 41 F to 113 F (5 C to 45 C)

- o relative humidity range is 20 to 80 percent (noncondensation)

Error rate:

- o soft error rate does not exceed 1 in 10^9

- o hard error rate does not exceed 1 in 10^{11}

Tape capacity after formatting:

- o 23 megabytes using 600 foot tape

Transfer rate:

- o 62.5K bytes at 78 inches per second

Interface:

- o SA450 floppy disk interface

Recording format:

- o MFM

Ramp time:

- o 350 milliseconds maximum

Reposition time:

- o 1.7 seconds maximum

Application	Software designed to perform a particular kind of work. For example, you use the Tape Backup application to back up data you want to protect.
Backup	A spare copy of data or software you keep in case the original is damaged or lost.
Backup-Set	A group of files that were backed up in one operation. More than one backup-set can reside on a single tape.
Command	An instruction that tells the computer to perform a function or carry out an activity.
Cursor	A mark that shows where the next action will be taken or character will be displayed on the screen.
Data	Facts, numbers, letters, and symbols that a computer can process.
Default	A value the computer uses if the user does not specify a value.
Disk	Circular magnetic medium used to store data and programs. This term can refer to a floppy (flexible) disk or a hard disk.
Disk Drive	A device that reads and writes information on a disk. The disk in a floppy disk drive can be removed and replaced; a hard disk drive is sealed and its disk cannot be removed.

Error Message	A response from a program indicating that a problem has arisen or something unexpected has happened that requires your attention.
File	A collection of data organized as a unit and identified by a name. All of the work you store on the computer is kept in files.
Filecabinet	An Office object where you can store work, including folders and files.
File Folder	A named container used to store files and other folders.
Floppy Disk	Removable flexible plastic medium used with the floppy disk drive to store data and programs.
Format	To prepare a new tape or a floppy disk to use with the **UNIX** PC.
Icon	A symbol you can select with the mouse to perform a function or command.
Install	To set up the hardware and software of a computer so it can be used. Installing often includes customizing the system for a particular situation or user.
Login	A command you enter when you start using a computer to identify yourself so that you gain access to your files.
Logout	A command you use to exit from the Office when you have finished working.
Menu	A list of selectable items displayed by the program. As in a restaurant, you must choose something from the menu before anything else happens.

Mouse	A device that moves a pointer on the screen as you move the mouse along the surface of your desk. The mouse has three buttons that give you access to various computer functions.
Mouse Pointer	A symbol that moves on your screen when you move the mouse and indicates what you have selected. The pointer is usually an arrow, but can change shape when you point to certain parts of the screen display.
Object	An article in the Office you can act upon or use to store information. For example, the Filecabinet is an object that stores files and folders.
Office	The central part of the UNIX PC system, from which you can get to objects and to which you return when you are finished doing work.
Pathname	A means of identifying a file by including the names of the folders that must be opened to reach it from the Filecabinet. The names of the folders are separated by slashes (/). For example, the pathname of the file **myfile**, stored in the **practice** folder, is **practice/myfile**.
Printer	An output device that transfers information stored in or received by the computer onto paper as a permanent or <u>hard</u> copy.
Program	A set of step-by-step instructions that tells a computer how to do a particular task.
Restore	To replace lost files by copying data stored on a tape or a floppy disk to the hard disk.

Retension	To adjust the tape in its cartridge so the tape can be read by the tape drive.
Screen	The **UNIX** PC's workstation display.
Screen Keys	The commands displayed at the bottom of the screen labeling the function keys F1 through F8. These commands can also be selected with the mouse.
Scroll	An action that causes the contents of a window to move up or down, right or left. This lets you display information not visible when a window is first opened.
Select	To highlight an object or command for action by pointing to it. You can select several items by pointing to each in succession and pressing B3 or Mark.
Software	Computer programs that have been stored on a disk or other media.
Status Line	An area at the top of the screen reserved for information about the current state of the computer and its activities.
System	A general term for a computer and its software and data.
System Administrator	The user who logs in with the login **install**. This user has access to all programs and functions of the **UNIX** PC.
Tape	Magnetic medium used to store copies of your data and programs.
Tape Drive	A device that reads and writes information to a tape. The tape cartridge can be inserted and removed from the tape drive.

Window	A section of the screen surrounded by a border containing a portion of your work or information necessary to perform your work. Windows are used to separate many tasks you may be working on at .the same time.
Write-Protect	To protect a tape or floppy disk from having data erased accidentally.

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