P O I N T   4   D A T A   C O R P O R A T I O N
2569 McCabe Way, Irvine, California 92714

POINT 4 MARK 2

COMPUTER

USER GUIDE

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                         4444          44
                          444     4    4444
                         44      444    44444
                       4      44444    444444
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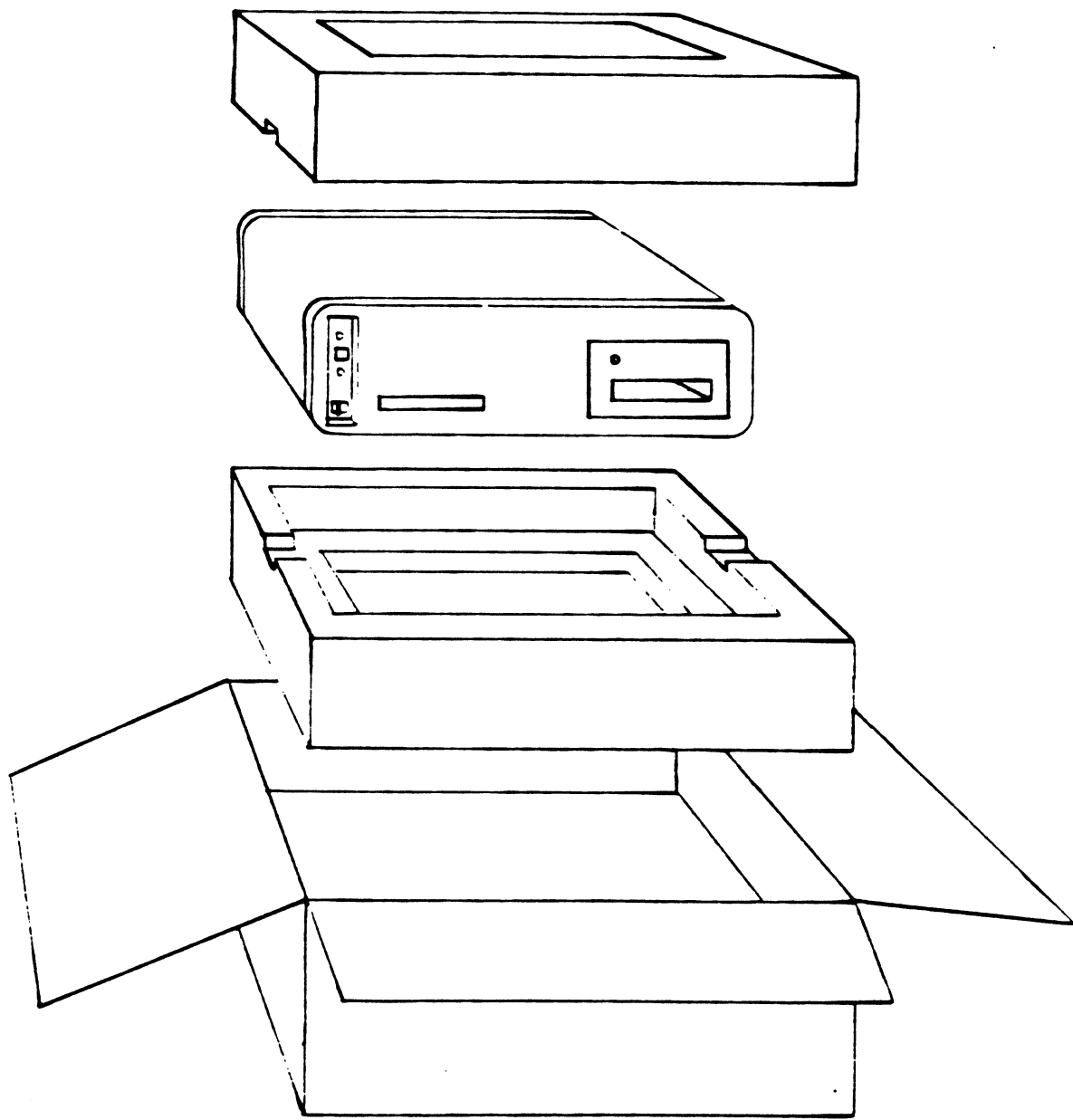
Revision 01

Related Manuals

Related manuals include:

Title	Pub. Number
IRIS R8 User Manual	SM-030-0011

CONTENTS

061-148

Figure 2-1. Computer Packaging

2.2 CONNECTING THE TERMINALS

This section describes how to connect the terminals to the POINT 4 MARK 2 Computer. Before beginning this procedure, be sure the power cables, terminal cables, and terminals are at hand.

CAUTION

Check that the switch on the front panel of the computer is switched to OFF and that the power switch on the rear of the computer is switched to OFF.

2.2.1 REMOVE THE REAR PANEL

Before the computer cables can be connected, the rear panel must be removed.

The rear panel of the computer is held in place by a Phillips screw on each side. When the screws are removed, the panel may be snapped off.

CAUTION

Always unplug the electrical cables before
removing a front or rear panel.

1. Doublecheck that the electrical cables are not plugged in and that the power switches are turned to OFF.

2. Remove the screws.

3. Place the screws in a safe place.

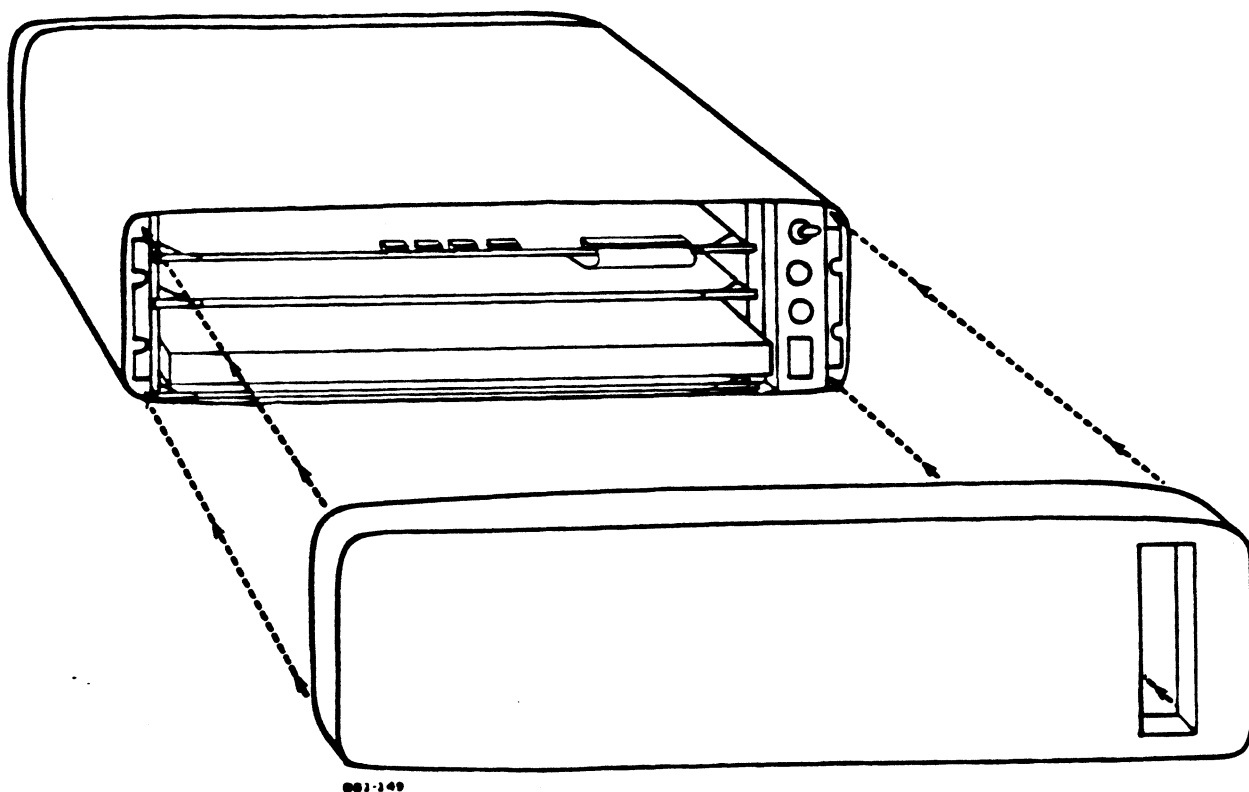4. Snap off the rear panel of the computer, as shown in Figure 2-2.

Figure 2-2. Removing the Rear Panel

2.2.1.1 Internal Terminal Connectors

There are three boards inside the computer. The terminal cables will be plugged into the terminal connectors located on the edge of the top board. Figure 2-3 shows the connectors and how they are numbered.
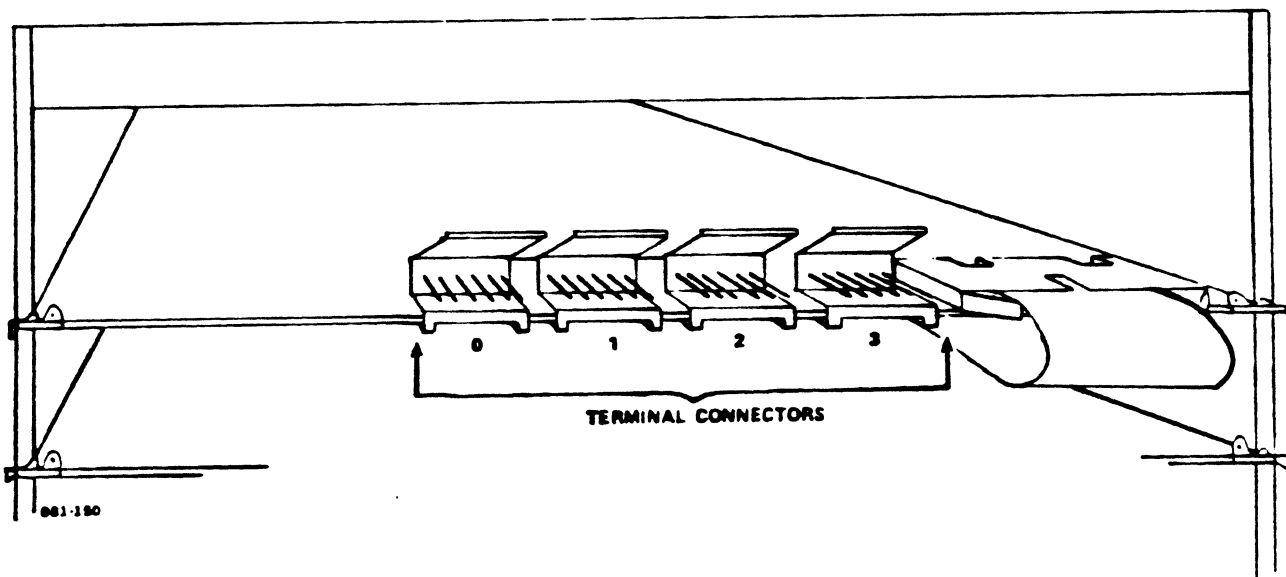
Figure 2-3. Terminal Connectors

2.2.1.2 Terminal Cables

Each terminal connects to the computer via a separate cable. These cables are labelled CRT cables.

Pick up a terminal cable, and look at the plugs on both ends. One plug has six holes and the other has 25 pins. The six-holed plug, shown on the left in Figure 2-4, plugs into a terminal connector on the computer. Notice the ridge on one side of the plug. When plugging in terminal cables, the side with the ridge should face up.

The 25-pin plug, shown on the right in Figure 2-4, plugs into the terminal. Notice that the upper row has 13 pins, and the lower has 12 pins; because of this, the plug is wider on one side. This shape prevents the plug from being inserted improperly into the terminal.

6-HOLE
COMPUTER PLUG

081-151

25-PIN
TERMINAL PLUG
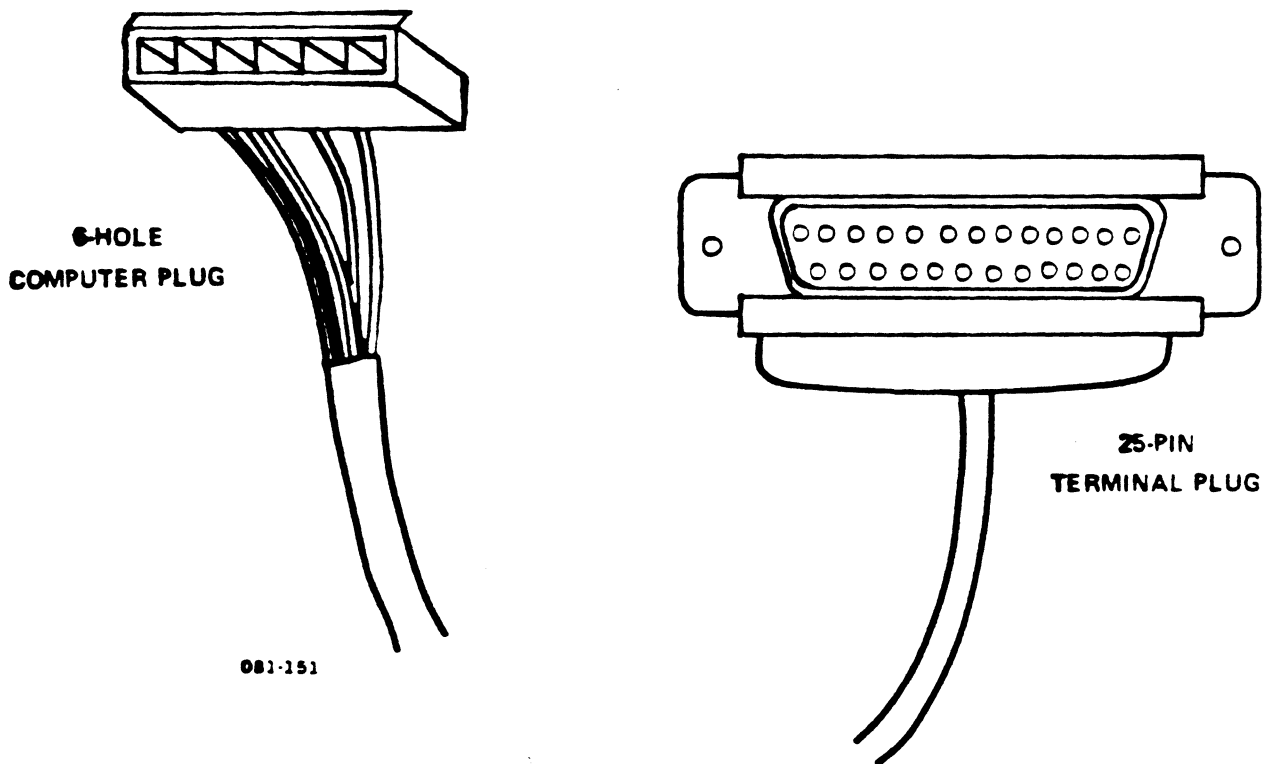
Figure 2-4. Terminal Cable Plugs

2.2.2 CONNECT THE MASTER TERMINAL

The system automatically defines a certain terminal as a "master terminal". The master terminal should be placed within easy reach of the computer because it is frequently necessary to access the computer when performing system operations.

The master terminal must be connected first. It connects to the leftmost port connector on the top board. This connector is identified as port zero. If a terminal cable is already plugged in to the leftmost port connector, the free end of that cable must be attached to the master terminal (see step two in the following procedure). If there is no cable attached to port zero, proceed as follows:

1. Insert the six-holed plug into the leftmost terminal connector as shown in Figure 2-5. Remember that the side of the plug with the ridge must face upward. The plug snaps into place when fully inserted.
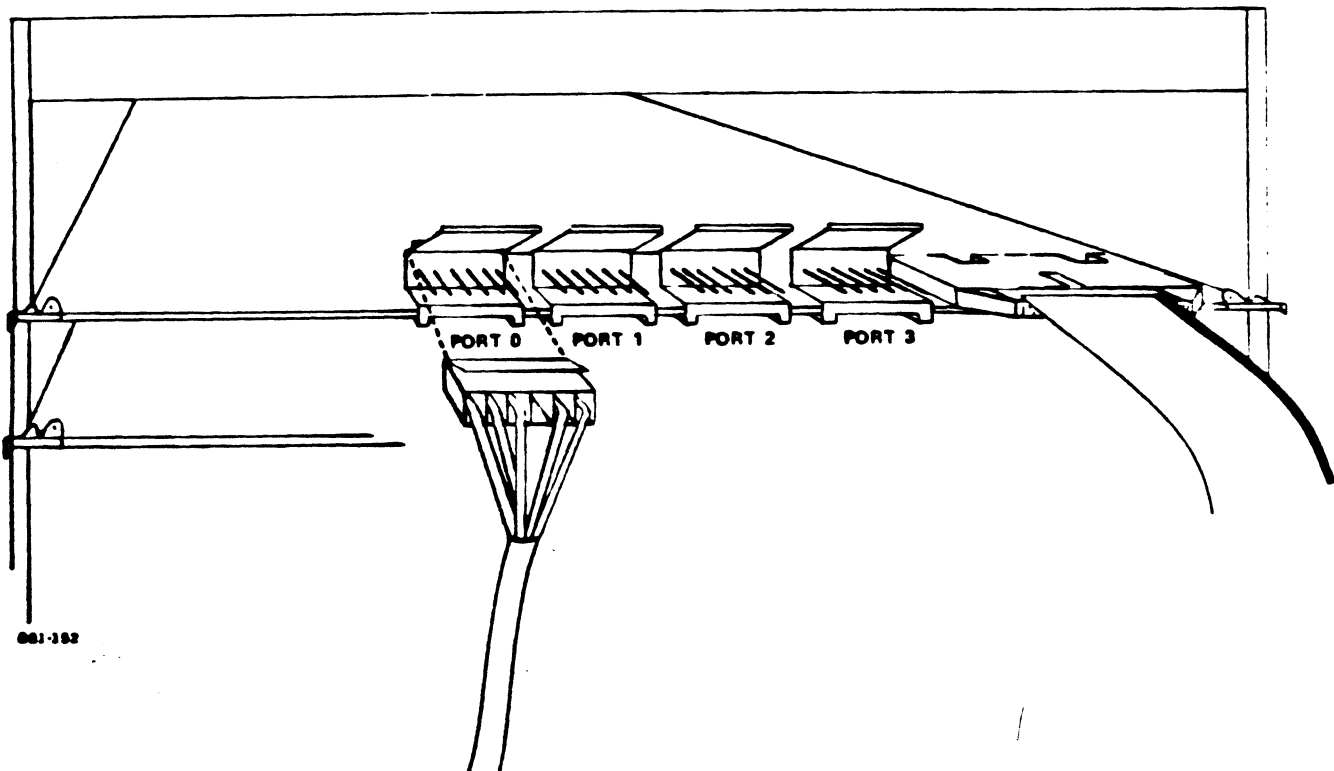
Figure 2-5. Plugging the Master Terminal Cable Into Port 0

2. Plug the terminal cable into the proper connector on the rear of the terminal.

   Figure 2-6 illustrates terminal connectors on the backs of three commonly-used terminals and shows how the connectors are labelled.

   Notice that each terminal has two or three connectors. The connectors have different labels depending on the terminal manufacturer. The terminal cable should be plugged into the connector labelled "Modem", "Main Port", or "RS232". Consult your terminal manual if necessary.

3. Plug the terminal's electrical cord into an electrical outlet, but do not switch the terminal on.
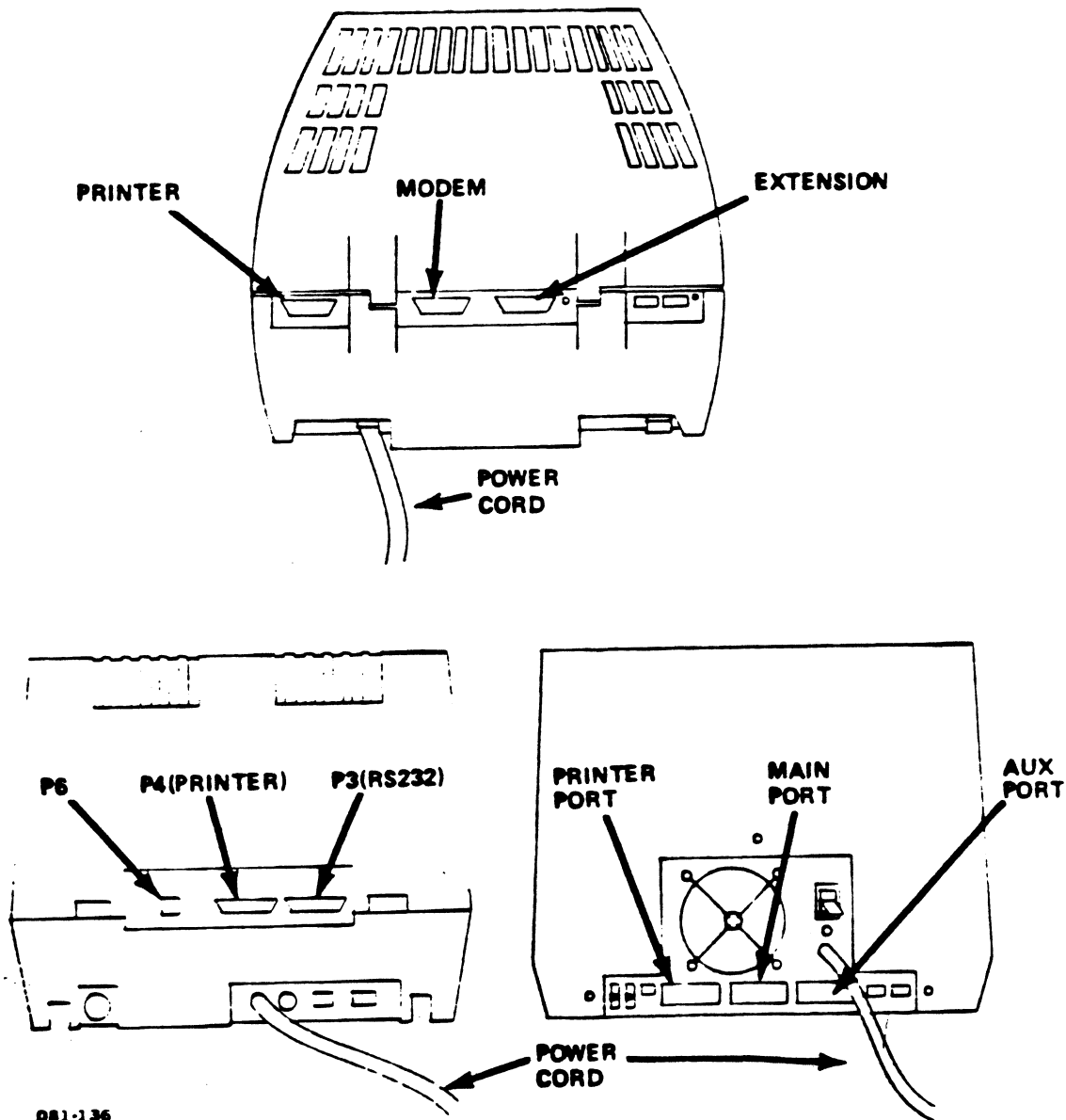
Figure 2-6. Types of Terminal Connectors

2.2.3 CONNECT OTHER SYSTEM TERMINALS

If additional terminals are to be connected to the computer,
follow the procedures in this section. Otherwise, skip to
Section 2.3.

1. Plug the remaining terminal cables into the port connectors
    from left to right, as shown in Figure 2-7. Remember to face
    the ridge side of each plug upward. The remaining ports are
    numbered one, two and three.

081-153
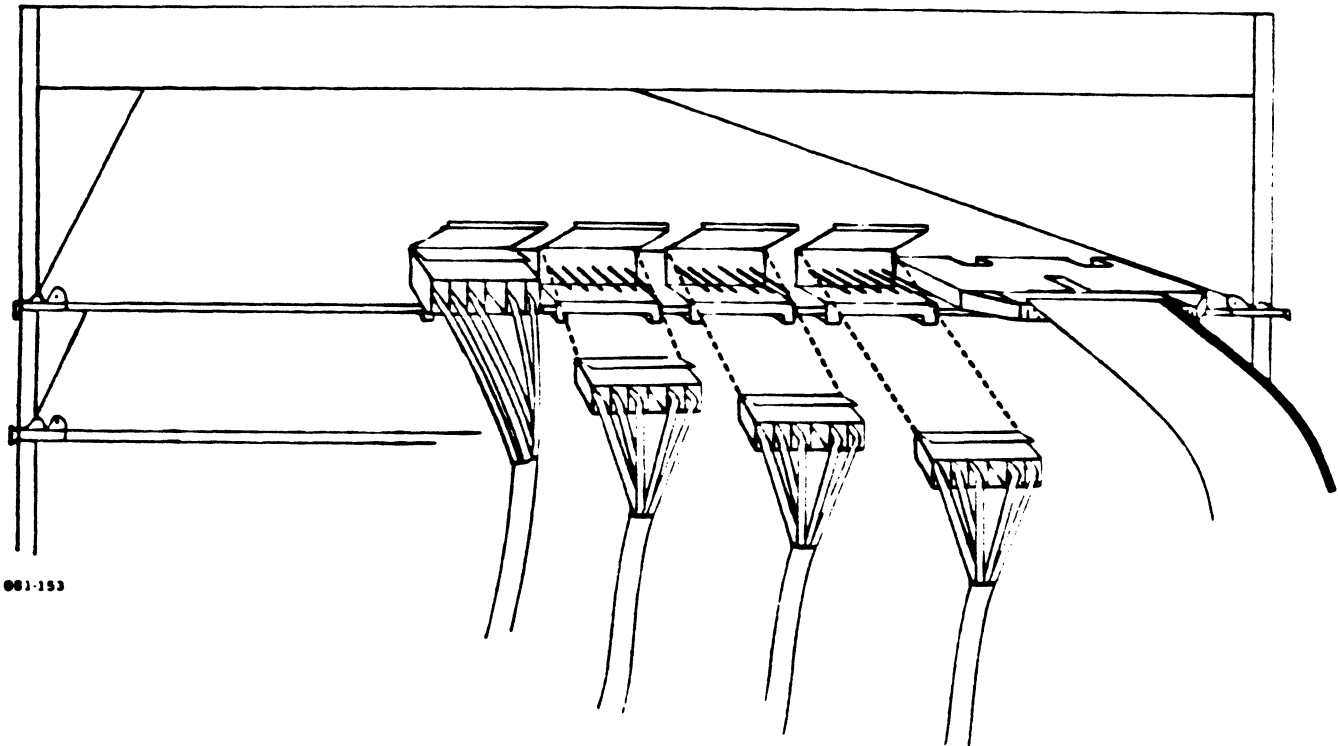
**Figure 2-7. Plugging the Remaining Terminal Cables
Into the Computer**

2. Plug the terminal end of each cable into the proper connector
    at the rear of each terminal. Make sure the cables are not
    tangled.

3. Plug each terminal's electrical cord into an electrical
    outlet, but do not switch on any terminal.

4. Snap the rear panel back into place making sure that the cables extend through the notched flange at the lower edge of the rear panel (see Figure 2-8).

5. Replace the screws which hold the panel in place.

TOP

NOTCH IN
FLANGE

BOTTOM

081-154
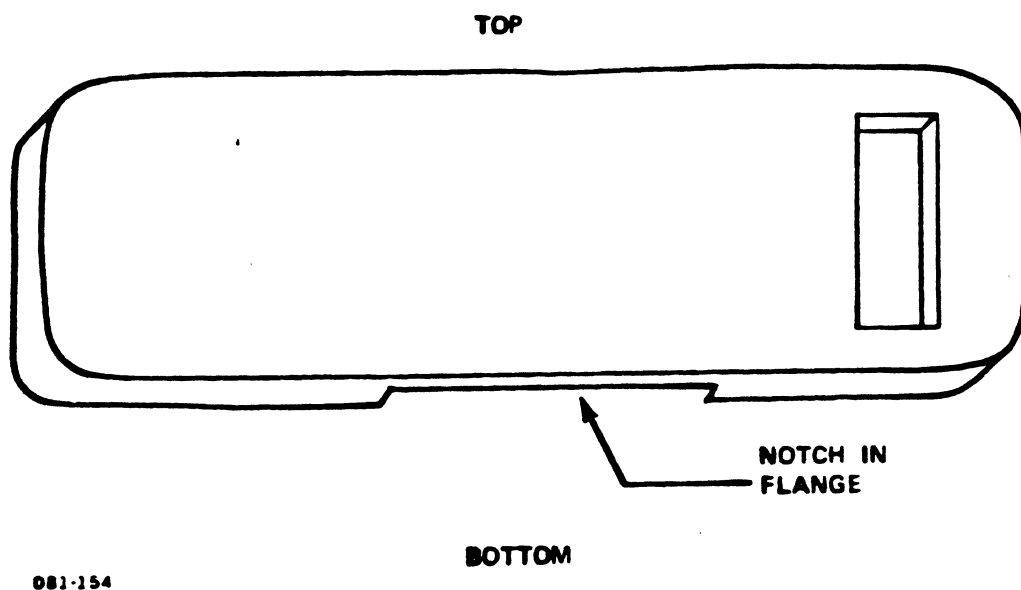
Figure 2-8. Notched Rear Panel Flange

2.3 ATTACH THE POWER CABLE

A connector, indicator light and power switch are located on the right side of the back of the computer. This is shown in detail in Figure 2-9. Notice that the connector has three prongs inside an indentation.
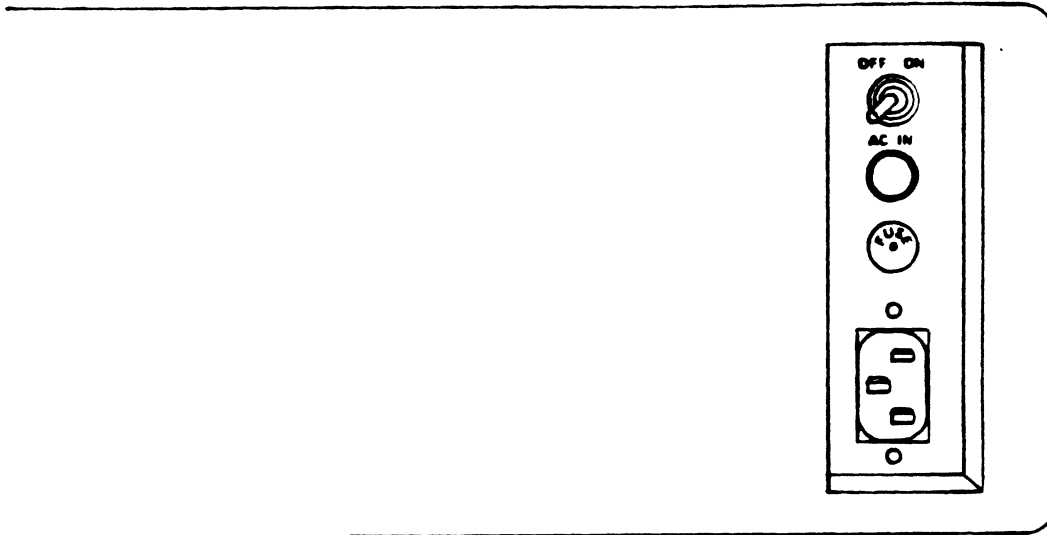
Figure 2-9. Right Rear of the Computer

1. Pick up an electrical cable. It has a socket at one end and a three-pronged plug at the other (see Figure 2-10).

SOCKET   PLUG

081-140
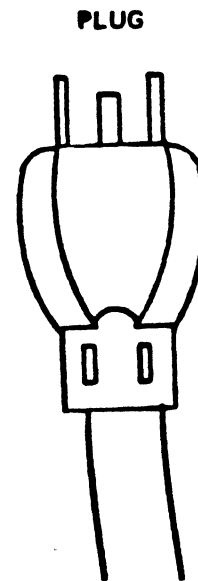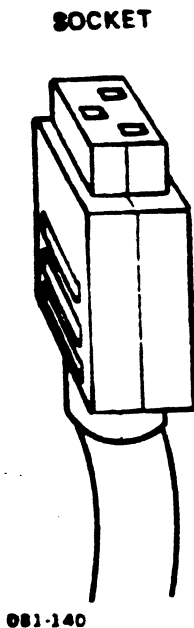
Figure 2-10. Ends of the Electrical Cable

2. Plug the socket end of the electrical cable into the
    computer, as shown in Figure 2-11.
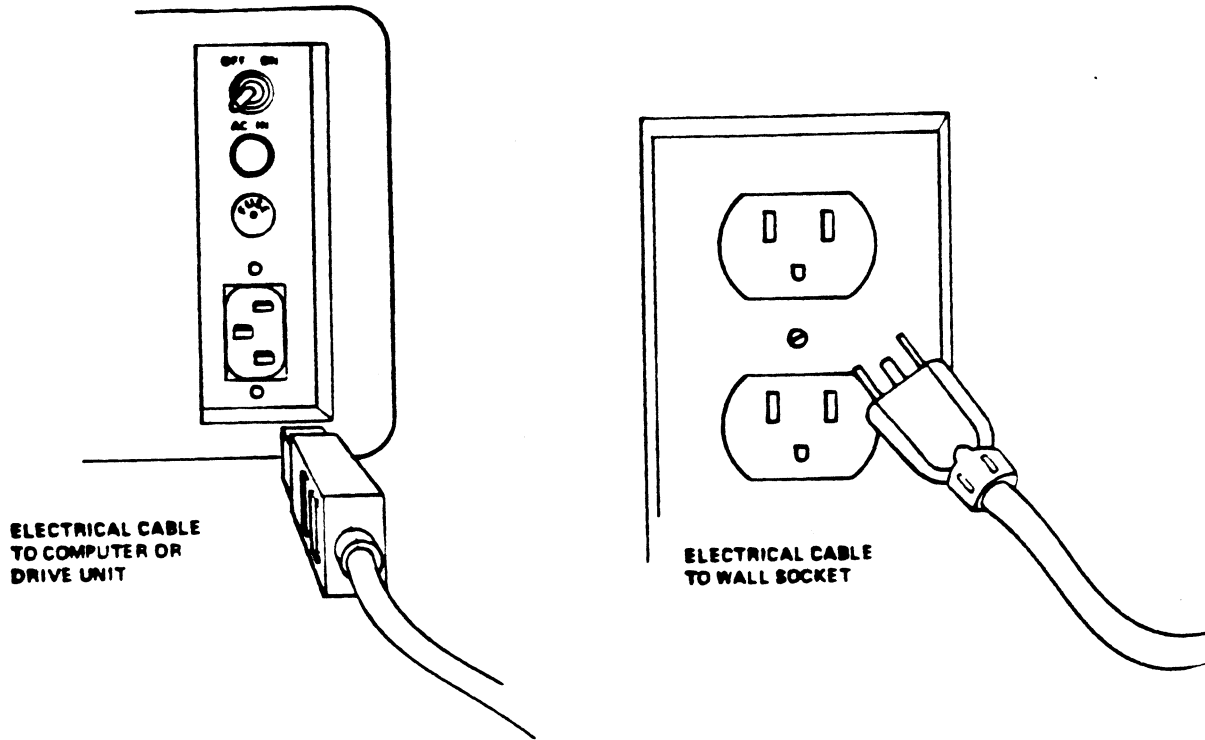
081-141

Figure 2-11.   Plugging in the Electrical Cable

3. Plug the other end of the cable into an electrical outlet.

    Remember that the computer should not be plugged into the
    same outlet as other electrical devices, especially those
    with motors or those which may be turned on and off
    frequently.

2.4 A PROPERLY CONNECTED SYSTEM

Figure 2-12 is a rear view of the computer and master terminal properly connected. The POINT 4 MARK 2 is now ready to begin operation, as described in the next section.
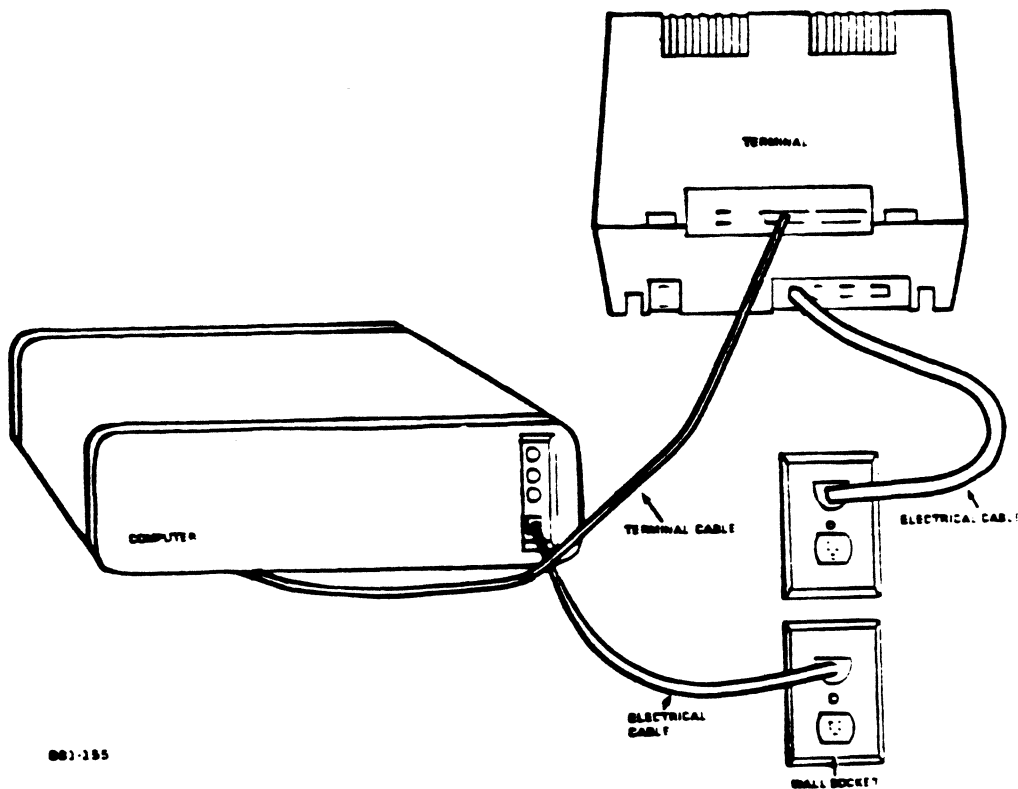
Figure 2-12. Rear View of a Properly Connected System

Section 3

OPERATING PROCEDURES

This section describes the standard operating procedures for the POINT 4 MARK 2 Computer. It discusses the Mini-panel, powering up the computer, inserting tape cartridges, disc utilities, bringing up the IRIS Operating System, and backing up the system.

3.1 THE MINI-PANEL

The Mini-panel is located at the front of the computer. It is
used to control and monitor three types of computer functions:
electrical power, operation of the computer, and program
execution. It contains the essential control switches and
indicators as shown in Figure 3-1.
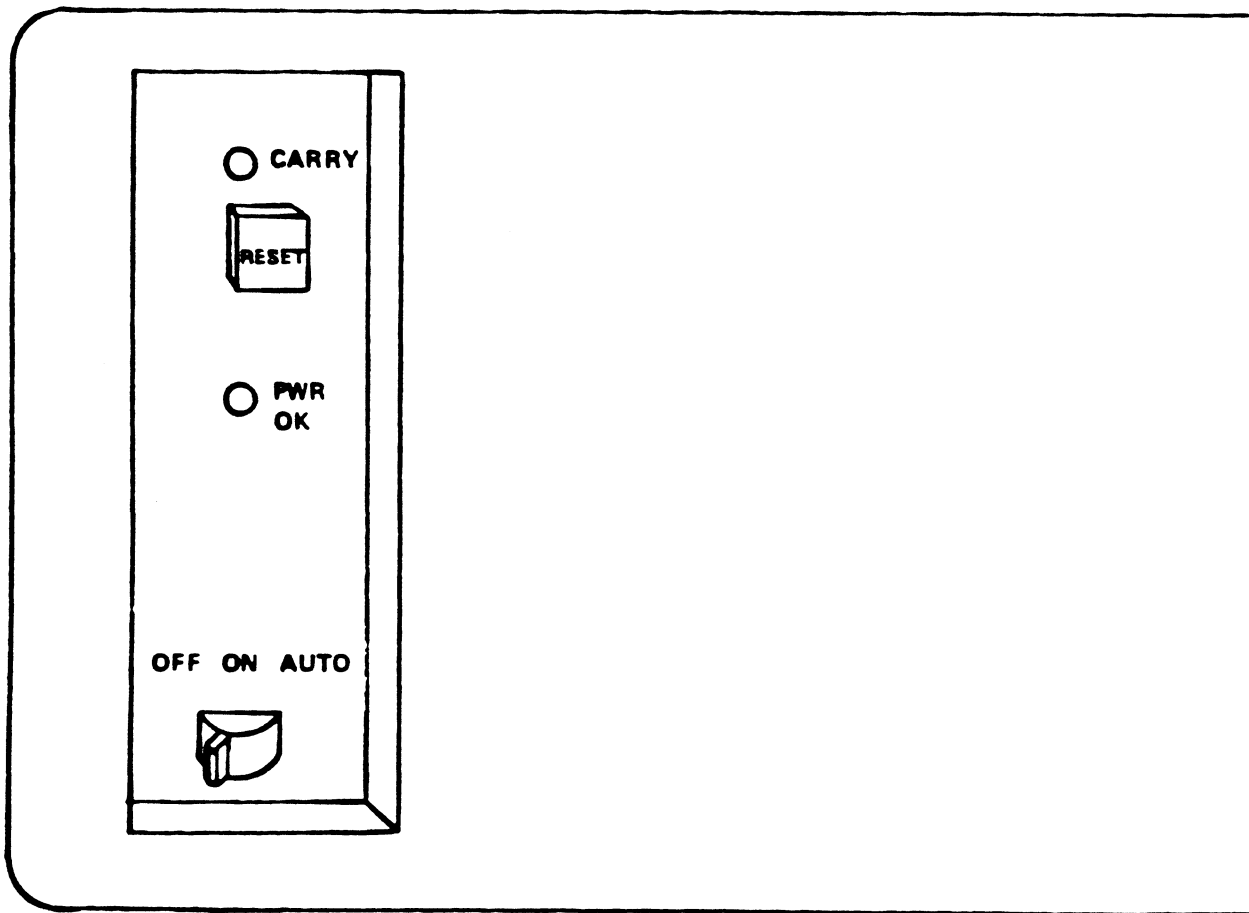
081-156

Figure 3-1. The Mini-panel

3.1.1 INTERNAL ELECTRICAL POWER (POWER SWITCH/PWR OK LIGHT)

Two types of electrical power are used to operate the computer: alternating current (AC) and direct current (DC). When AC power enters the computer from the wall outlet, it is converted to DC and divided into voltages appropriate to run various parts of the computer. The Mini-panel's power switch and PWR OK light control and monitor the DC power inside the computer. The AC power switch at the rear of the computer controls the AC power to the computer.

If the light labelled PWR OK is on, all internal DC power voltages are in tolerance (i.e., within an acceptable limit of the required voltage) and power is available to the computer. If the PWR OK light is off when the computer is plugged in and both the internal and AC power switches are set to ON, one of the power supply voltages is out of tolerance.

When the Mini-panel's power switch is turned on, the computer automatically executes a self-test. The light labelled CARRY flashes on, blinks off for half a second, then comes on again and remains illuminated. The message "OK" is displayed on the master terminal, indicating that the self-test of essential computer functions has been successful.

Setting the Mini-panel's power switch to AUTO is the same as setting it to ON.

Setting the Mini-panel's power switch to OFF turns the internal DC power supply off and thus all computer functions.

3.1.2 COMPUTER OPERATION (CARRY LIGHT)

The light labelled CARRY indicates computer operations by flashing at regular or irregular intervals. Table 3-1 lists the usual indications of the carry light and may be used as a general guide for interpreting the carry light's signals.

TABLE 3-1. CARRY LIGHT INDICATIONS

Operating Mode	CARRY Light Signals	Indication
Stand-alone	Flashing at 1 Hz*	System is waiting for a command
Stand-alone	Flashing irregularly	System is processing data
IRIS	Flashing at 1 Hz	IRIS is up and ready for use
IRIS	Flashing irregularly	System is processing data

*1 Hz (Hertz) = once per second

3.1.3 PROGRAM EXECUTION (RESET SWITCH)

The pushbutton marked RESET should only be used when the instructions given in this document call for it. When RESET is pressed, a line of numbers appears on the master terminal, and the terminal bleeps. These numbers are for system support purposes only and may be ignored. A special program called MANIP is loaded into memory and any data currently in memory is overwritten. MANIP allows the computer to respond to commands given on the master terminal keyboard.

The commands which may be given include "H" to load information from the tape cartridge into the system's memory, "P" for "Program Load" to load the software from the fixed disc into the system's memory, and "T" for "Test" to run the same self-test of essential computer functions which is performed automatically when the computer is switched on. When the "T" command is given, the system executes the self-test repeatedly until the user presses RESET again.

3.2 SWITCH ON THE ELECTRICAL POWER

This section describes how to power up the POINT 4 MARK 2 Computer. Turning on the computer is a simple process. Before beginning, doublecheck that all cables are firmly plugged in at the correct locations.

Follow these steps when applying power to the POINT 4 MARK 2 Computer:

1. Turn the power switch on all terminals to ON.

2. Turn the AC power switch at the rear of the computer to ON.

3. Turn the power switch on the computer Mini-panel to ON. The carry light flashes on, blinks off for half a second, then comes on again and remains illuminated. The PWR OK light on the Mini-panel illuminates, indicating that all voltages are in tolerance.

4. After a few seconds, the master terminal displays the message "OK", indicating that the system has successfully performed an automatic test of the essential computer functions.

   If the master terminal does not function as described, its baud rate may not be set properly. (The baud rate is the rate at which the terminal communicates with the computer; it should be set to 9600.) Contact your supplier for further instructions.

5. Press the RESET button. A line of numbers appears on the master terminal, and it bleeps.

The POINT 4 MARK 2 Computer is now switched on and ready to begin operation. The following sections describe the operating procedures.

3.3 LOADING SOFTWARE

The computer has three areas where programs and information are
stored or used. These areas are the tape cartridges, fixed disc,
and memory. Each area of storage serves a different purpose.
Transferring information to and from these areas is described in
the following sections.

Tape cartridges are used primarily to back up the programs and
information currently on the fixed disc. They are also used to
supply the initial programs and store stand-alone programs such
as DISCUTILITY.

The fixed disc is used to store the operating system, application
programs, and data files. The information on the fixed disc is
copied into memory for use; the disc is updated periodically and
at the end of an operation.

The following section describes how to load the system and
applications software onto the fixed disc.

3.3.1 INSERTING THE TAPE CARTRIDGE

Tape cartridges supplied with the system should include
stand-alone programs such as DISCUTILITY, the IRIS Operating
System, and may include application programs (such as TYPIST or
STYLUS).

In addition, several tape cartridges which are either new
(contain no information) or contain unneeded information, should
be available. These tape cartridges are called "scratch tape
cartridges". They can be overwritten with new data or with
information from the fixed disc.

The DISCUTILITY, IRIS, and applications tape cartridges supplied
with the system must never be written on, because this would
destroy the information on them. To prevent accidental writing
on these tape cartridges, they should always be write-protected.
This is done by setting the write-protect switch on the tape
cartridge to SAFE.

The word SAFE is located in one corner of the tape cartridge as
shown in Figure 3-2. Next to it is a small screw marked with an
arrowhead.

   o To write protect the tape, turn the screw so that the
     arrowhead points to SAFE.

   o To allow the system to write to tape, turn the screw so that
     the arrowhead points away from SAFE.

The system can read information from the tape whether or not it
is write protected.
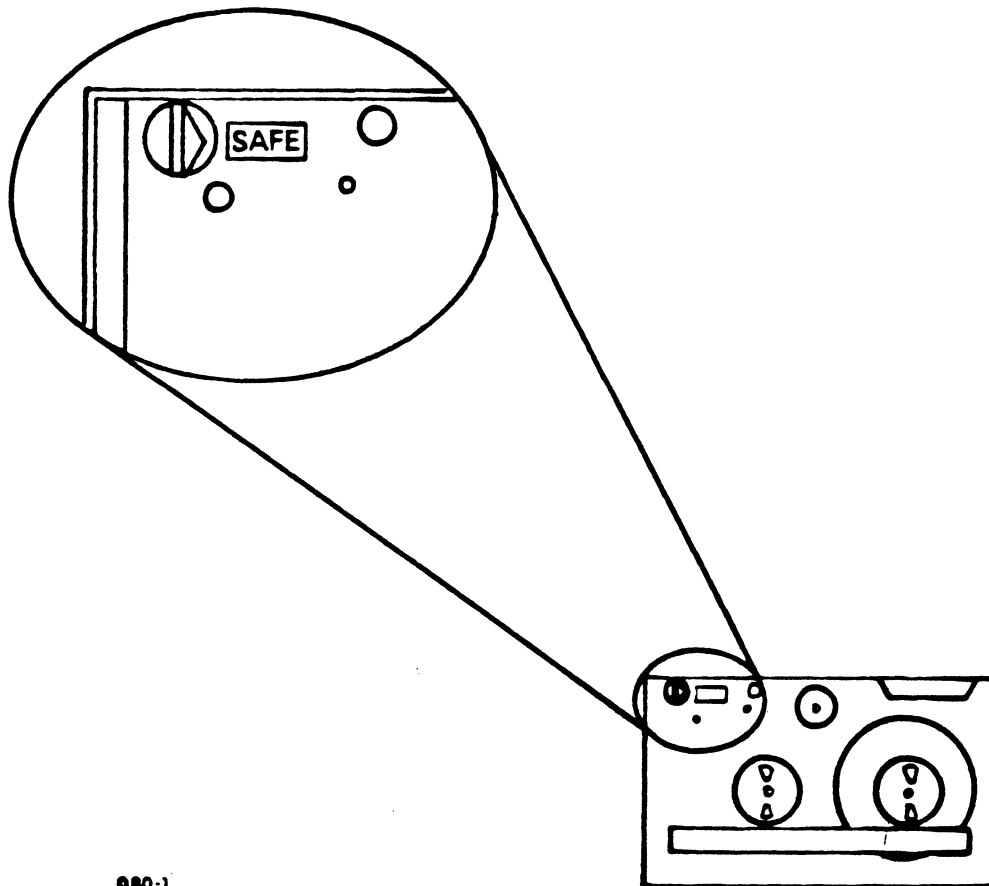
Figure 3-2. Write Protecting a Tape Cartridge

1. Remove the tape cartridge containing DISCUTILITY from its protective case.

2. Check that the cartridge is write protected.

3. To insert the tape cartridge, orient the cartridge so its clear plastic side is up, and the exposed tape is away from you, as shown in Figure 3-3. Gently insert the tape cartridge into the streamer tape drive and push in until it catches.
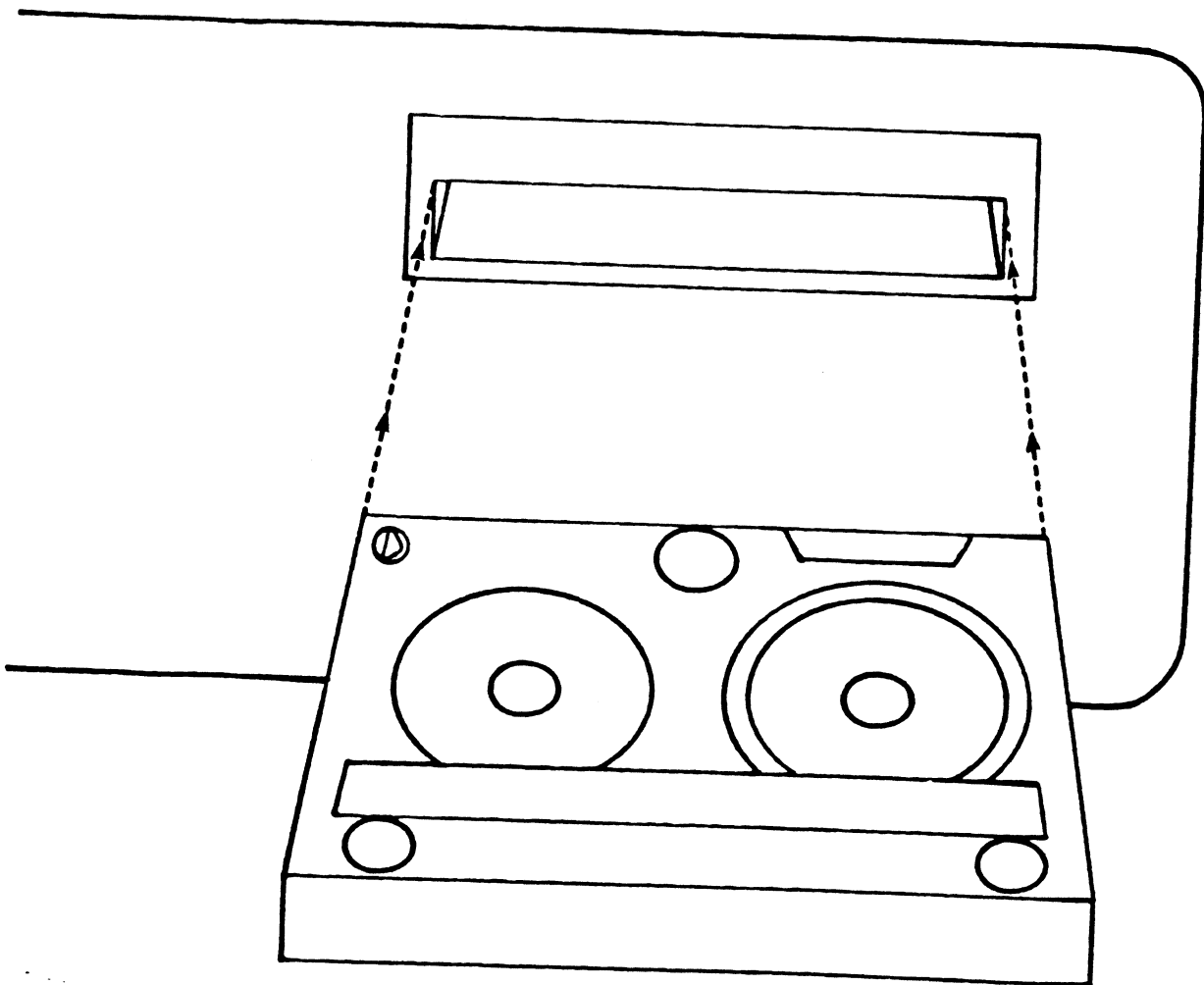
081-156

Figure 3-3. Inserting the Tape Cartridge

3.3.2 LOADING THE SOFTWARE INTO MEMORY

When the tape cartridge containing DISCUTILITY has been inserted,
press the RESET button. The CARRY light begins flashing on and
off. This indicates that the computer is waiting for a command.

To load the tape cartridge's software into the computer's memory,
enter the following on the master terminal keyboard

   <H>

The terminal displays a message which indicates that DISCUTILITY
has been loaded into memory and identifies the utility.

The computer is now ready to use the program called DISCUTILITY.

3.3.3 DISCUTILITY

DISCUTILITY is a stand-alone utility program for the POINT 4
MARK 2 Computer. Its main function is to transfer information to
and from the fixed disc and tape cartridges.

DISCUTILITY is entirely interactive, and guides the user through
each of its functions by displaying prompts and instructions on
the screen. The user may enter <H> for "help" at any prompt to
display additional information concerning that prompt.

3.3.3.1 Load the Operating System onto Disc

DISCUTILITY was loaded into memory in Section 3.3.2. It will now be used to load the operating system programs onto the fixed disc.

1. Look at the label on one of the tape cartridges containing the operating system programs. The label should include a date and a brief description of the contents of the tape. If the tape cartridge is one in a series of cartridges, a sequence number is also shown. This information will be requested when DISCUTILITY is used. If the creation date and descriptor are not written on the tape cartridge, contact your supplier for further instructions.

    Select volume one of the operating system tape cartridges and note its creation date and description.

2. Insert the tape cartridge into the tape drive. DISCUTILITY displays the following prompt on the master terminal:

    PROGRAM NAME:

3. Enter <H> and the utility lists the functions available. The functions used on the MARK 2 Computer include the following:

    S - Save information from the fixed disc to the backup tape cartridge; used most often to create a backup tape cartridge

    R - Restore information from the tape cartridge to the fixed disc; used to load programs or information from a tape cartridge to the fixed disc

    IPL - Initial Program Load from the fixed disc; used to load IRIS into the system's memory for operation

    TAPE - Tape tension; used to adjust the tension of the tape in the tape cartridge by unwinding and rewinding it

    STR - Streamer Tape Verify; used to verify that information has been copied correctly to or from the tape cartridge

    Save and Restore produce copies of information; the information still resides on disc or tape after using these functions. Save is discussed in Section 3.5; Restore is discussed in this section.

    The IPL function may be used whenever DISCUTILITY is in memory and the user wishes to load IRIS. That procedure is discussed in Section 3.4.1.

    The TAPE function should be utilized every third time a given tape cartridge is used. It is discussed in Section 3.3.3.3.

After a Save or Restore, DISCUTILITY asks the user whether a tape should be verified. The user should always verify a tape after a Save or Restore either by responding affirmatively to this prompt or by using the Streamer Tape Verify function. Follow-up verification is discussed in this section; the Streamer Tape Verify function is discussed in Section 3.3.3.4.

The steps required for using these DISCUTILITY functions are summarized in Section 3.6. The summary may be used as a reminder of the procedure for each function when the user has become familiar with DISCUTILITY.

4. At the prompt PROGRAM NAME, enter <R> for Restore. DISCUTILITY then asks

    RESTORE FROM STREAMER TAPE?

Enter <Y> to confirm that the information is to be copied from the tape. If an <N> is entered or <ESC> is pressed, the program name prompt is redisplayed.

A number of prompts requesting information about your equipment and where on the disc the information is to be written are then displayed. These prompts are discussed in the following subsections.

3.3.3.1.1 DISC DRIVE PARAMETER

Three parameters are requested by the program for identifying the disc drive, disc drive number, and a location on the disc. A Help module may be called at each prompt.

1. The first prompt is for the drive type

   DESTINATION DRIVE-

   TYPE:

   "DESTINATION DRIVE-" indicates that the following indented prompts are questions concerning the drive to which the information will be copied.

   When <H> is entered at this prompt, DISCUTILITY displays a list of drive types which are available on a POINT 4 MARK 2 Computer. Disc drives currently available on a MARK 2 and their codes include the following:

Name	Capacity	Code
Atasi	20-megabyte	ATI20
Atasi	46-megabyte	ATI46
CMI	19-megabyte	CMI19

   Enter the code which identifies the type of drive on your system. For example, if your MARK 2 has an Atasi disc drive with 20-megabyte capacity, enter ATI20.

2. The next prompt is for the drive unit number

   NUMBER:

   Enter an <H>, and notice that only drive number zero may be used to identify the hard disc drive. Enter <0> as the drive number.

3. The next prompt is for a location on disc. This allows the user to specify where on the disc the information is to be written:

   SURFACE(S):

   Enter an <H>, and notice that all or selected cylinders may be specified. The user is not required to enter cylinder numbers when restoring an entire disc, because DISCUTILITY will prompt the user when one tape has been restored and the next tape should be inserted. "ALL" should be entered unless your supplier has instructed you otherwise.

   Enter "ALL".

3.3.3.1.2 TAPE PARAMETERS

The RESTORE program asks whether validation of the tape label is required with the following prompt:

    IF VALIDATION OF DESCRIPTOR & DATE IS NOT DESIRED, ENTER A '!'

Always press <RETURN> to allow the program to check the internal tape label. (Entering an exclamation point is described below.) The following prompt requests the creation data of the tape:

    KEY IN CREATION DATE MM-DD-YY:

The creation date must be entered exactly as it was when the tape was created and should correspond to the date noted on the tape cartridge. Enter the date in the form shown in the prompt with two digits to represent the month, day and year, respectively; the dashes which separate the month, day and year must also be entered.

The following prompt requests the tape's descriptor:

    DESCRIPTOR:

The descriptor is a short description of the contents of the tape. Each descriptor must be entered exactly as it was when the tape was created. The descriptor is written on the tape cartridge label. Enter the descriptor.

DISCUTILITY then checks that the user's date and descriptor entries match the date and descriptor recorded on the tape.

If they do not match, an error message appears and the program displays the date and descriptor stored on the tape followed by the data you entered. The label information is followed by the prompt

    TO CONTINUE WITH THIS TAPE, ENTER A '!'

If this occurs, refer to Appendix B.1 for further instructions. NEVER proceed with the inserted tape without checking your input or after specific instructions from your supplier.

If the date and descriptor do match, the system displays the following:

    WHEN BOTH DISC AND TAPE UNITS ARE READY, HIT RETURN TO START

Press <RETURN>.

An exclamation point may be entered at the prompt

    IF VALIDATION OF DESCRIPTOR & DATE IS NOT DESIRED, ENTER A '!'

If an exclamation point is entered, the program does not check the internal tape label. Instead, it displays the date and descriptor from the internal tape label for your information only. No error message appears if the label information you enter does not correspond to the information recorded on the internal tape label.

3.3.3.1.3 RESTORE PROGRAM MESSAGES

The RESTORE program displays the following message while it copies the data:

    STREAMING FROM TAPE

The process continues for several minutes until that tape has been completely copied. When an additional tape must be inserted, a message similar to the following appears:

    REMOVE STREAMER TAPE CARTRIDGE
    MOUNT TAPE 2 AND PRESS RETURN

Insert the requested tape. The system automatically checks that the creation date and descriptor match and that the inserted tape is in proper sequence. If an error has occurred, the system displays an error message as described in Appendix B.

DISCUTILITY displays instructions for inserting each tape in sequence. If an incorrect tape is inserted, the system alerts the user by displaying appropriate error messages. When all the information has been restored to disc, a message similar to the following appears:

    TRANSFER COMPLETE

    TOTAL DISC ERRORS: HARD = 0   SOFT = 0
    NO TAPE ERROR
    VERIFY TAPE AGAINST DISC?

3.3.3.1.4 VERIFYING THE DATA

The information (data) contained on tape should always be verified against the data written to disc by responding Y for "Yes" to the VERIFY TAPE AGAINST DISC prompt. Tapes can also be verified by using the Streamer Tape Verify function.

Enter <Y> to verify the tapes against the disc.

The following prompt then indicates which tape should be inserted for verification:

MOUNT TAPE 1 AND PRESS RETURN

Insert the first tape of the sequence. DISCUTILITY will display instructions for inserting each tape in sequence. If an incorrect tape is inserted, DISCUTILITY alerts the user by displaying appropriate error messages. Press <RETURN> to begin the verification.

The following message then indicates that verification is in progress:

CHECKSUMMING TAPE

When the first tape has been verified, a message similar to the following appears:

REMOVE STREAMER TAPE CARTRIDGE

MOUNT TAPE 2 AND PRESS RETURN

Insert the second tape of the sequence. If an incorrect tape is inserted, DISCUTILITY alerts the user by displaying appropriate error messages. Press <RETURN> to continue the verification.

When all the tapes have been verified, a message similar to the following appears:

CHECKSUMS= 75327 131150 177760
    RECORD COUNT= 700

CHECKSUMMING DISC
CHECKSUMS= 75327 131150 177760
    RECORD COUNT= 700
VERIFY DONE

A checksum is the result of a defined calculation performed using specific data. To verify data on the tape against that on the disc, the computer checksums the data on the tape; then it checksums the same data on the disc. If the resulting checksums do not match, there is a discrepancy between the data on the tape and that on the disc. DISCUTILITY's method of calculating a checksum produces a "rotational checksum". This means that the order of the data is important in the calculation. For example, a rotational checksum calculated using "1234" and one calculated using "2134" would be different.

The record count is a count of the number of records used when calculating each checksum, and is essentially equal to the number of blocks on the fixed disc. In the above example, the checksums for tape and disc are 75327 131150 177760 and each record count is 700.

If the checksums match, the operating system has been successfully copied to the fixed disc.

If the checksums for this (or any other) verification do not match, an error message will appear. If this occurs, repeat the procedure using the Streamer Tape Verify function described in Section 3.3.3.4. If the checksums still vary after repeating the procedure, contact your supplier for further instructions.

3.3.3.2 Load Each Application onto Disc

Each application must now be loaded onto the fixed disc. Follow your supplier's instructions for specifying the surfaces of the disc on which the system should load each application. If you have no applications, skip to Section 3.3.3.3. If you have more than one application program, repeat the procedure in this section for each application.

The procedure for loading an application onto the disc is as follows:

1. Select the first volume of the application you wish to load and insert it into the tape drive. Remember to note its creation date and descriptor.

2. At the prompt PROGRAM NAME, enter <R> for Restore.

3. The following prompt then requests the drive type of the destination drive:

    DESTINATION DRIVE-

    TYPE:

    Refer to Section 3.3.3.1.1 for the types of disc drives available on a MARK 2 Computer.

4. The following prompt then requests the number of the drive:

    NUMBER:

    Since the POINT 4 MARK 2 Computer has only one drive for the fixed disc, enter <0>.

5. The following prompt then allows the user to specify the numbers of the surfaces to be restored:

    SURFACES:

    Instead of specifying that all cylinders should be restored, you must specify selected cylinders, according to your supplier's instructions. Enter OPT,ALL, which allows you to specify the cylinders to which the application will be restored. The following then appears:

    ENTER-

    THE STARTING CYLINDER #:

    Enter the number of the starting cylinder indicated by your supplier. The following then appears:

    FOR HOW MANY CYLINDERS?

    Enter the number of cylinders (in octal) as indicated by your supplier.

6. The following prompt then requests the creation date of the tape:

   KEY IN CREATION DATE MM-DD-YY:

   Enter the creation date, which is written on the tape cartridge label.

7. The following prompt then requests the tape's descriptor:

   DESCRIPTOR:

   Enter the descriptor, which is written on the tape cartridge label.

8. DISCUTILITY then checks that the date, descriptor and starting cylinder number entered by the user match the information recorded on the tape which is in the tape drive.

   If they do not match, an error message appears and the program displays the date and descriptor of the tape which should be inserted. If this occurs, refer to Appendix B for further instructions. NEVER proceed to load programs from the inserted tape without specific instructions from your supplier.

   If the date, descriptor and starting cylinder number do match, the system displays the following:

   WHEN BOTH DISC AND TAPE UNITS ARE READY, HIT RETURN TO START

   Press <RETURN>.

9. The following message then indicates that the information is being loaded from the tape onto the fixed disc:

   STREAMING FROM TAPE

   The process continues for several minutes until that tape is completely copied. If an additional tape must be inserted, a message similar to the following appears:

   REMOVE STREAMER TAPE CARTRIDGE
   MOUNT TAPE 2 AND PRESS RETURN

   Insert the subsequent tape. The system automatically checks that the creation date and descriptor match and that the inserted tape is in the proper sequence. If they match and the correct sequence has been observed, the operation proceeds as described in step 10.

   If they do not match, an error message appears and the program displays the date and descriptor of the tape which should be inserted. If this occurs, refer to Appendix B for further instructions. NEVER proceed with the inserted tape without specific instructions from your supplier.

10. When all the information has been restored to disc, a message similar to the following appears:

    TRANSFER COMPLETE

    TOTAL ERRORS: HARD = 0   SOFT = 0
    NO TAPE ERROR
    VERIFY TAPE AGAINST DISC?

    The tape should always be verified against the disc. Enter <Y> to verify the tapes against the disc.

11. The following prompt then indicates which tape should be inserted for verification:

    MOUNT TAPE 1 AND PRESS RETURN

    Insert the first tape of the sequence. If an incorrect tape is inserted, DISCUTILITY alerts the user by displaying appropriate error messages. Press <RETURN> to begin the verification.

12. The following message then indicates that verification is in progress:

    CHECKSUMMING TAPE

    When the first tape has been verified, a message similar to the following appears:

    REMOVE STREAMER TAPE CARTRIDGE

    MOUNT TAPE 2 AND PRESS RETURN

    Insert the second tape of the sequence. If an incorrect tape is inserted, DISCUTILITY alerts the user by displaying appropriate error messages. Press <RETURN> to continue the verification. Continue until all tapes have been verified.

13. When all the tapes have been verified, a message similar to the following appears:

    CHECKSUMS= 75327 131150 177760
      RECORD COUNT= 700

    CHECKSUMMING DISC
    CHECKSUMS= 75327 131150 177760
      RECORD COUNT= 700
    VERIFY DONE

    If the checksums displayed by your system match, the application has been successfully copied to the fixed disc. If you have additional applications, repeat the above procedure for each application.

If the checksums for this (or any other) verification do not
match, an error message will appear. If this occurs, repeat
the procedure using the Streamer Tape Verify function
described in Section 3.3.3.4. If the checksums still vary
after repeating the procedure, contact your supplier for
further instructions.

3.3.3.3 Adjust the Tape Tension

The TAPE function winds the tape forward and then rewinds it to
adjust the tension of the tape for optimum performance. This
function should be used every third time a given tape cartridge
is used. The function takes little time to complete and can
prevent time-consuming tape malfunctions.

1. At the prompt PROGRAM NAME, enter TAPE. The following prompt
    then appears:

    WHEN TAPE UNIT IS READY, HIT RETURN TO START

2. Press <RETURN>.

3.3.3.4 The Streamer Tape Verify Function

After a Save or Restore, DISCUTILITY asks the user whether a tape should be verified. The user should always verify a tape after a Save or Restore either by responding affirmatively to this prompt or by using the Streamer Tape Verify function.

To use the Streamer Tape Verify function, complete the following steps. If a tape has already been verified, there is no need to verify it again (unless the checksums did not match).

1. Insert the tape to be verified, noting its creation date, descriptor, and volume number.

2. At the prompt PROGRAM NAME, enter STR for Streamer Tape Verify.

3. The following prompt then requests the drive type of the source drive:

    SOURCE DRIVE-
       TYPE:

    "SOURCE DRIVE-" indicates that the following indented prompts concern the source drive, which is the drive against which information will be verified. The source drive may be thought of as being the source of the information to be verified. Enter the code which identifies the type of drive on your system (see Section 3.3.3.1.1).

4. The following prompt then requests the number of the drive:

    NUMBER

    Since the computer has only one drive for the fixed disc, enter <0>.

5. The following prompt then allows the user to specify the numbers of the surfaces to be restored:

    SURFACE(S):

    Enter ALL if the starting cylinder number for the tape(s) being verified is zero. If the starting cylinder number is not zero, enter OPT,ALL; then specify the appropriate starting cylinder and number of cylinders.

6. The following prompt then requests the creation date of the tape:

    KEY IN CREATION DATE MM-DD-YY

    Enter the creation date, which should be written on the tape cartridge label.

7. The following prompt then requests the tape's descriptor:

    DESCRIPTOR:

    Enter the descriptor, which is written on the tape cartridge label.

8. DISCUTILITY then checks that the starting cylinder (if selected cylinders were specified), date and descriptor entered by the user match the information recorded on the tape which is in the tape drive.

    If they do not match, an error message appears and the program displays the date and descriptor of the tape currently in the drive. If this occurs, refer to Appendix B.2 for further instructions. NEVER proceed with the inserted tape without specific instructions from your supplier.

    If the date, descriptor and starting cylinder (if specified) do match, the system displays the following:

    WHEN BOTH DISC AND TAPE UNITS ARE READY, HIT RETURN TO START

    Press <RETURN>.

9. The following message then indicates that verification is in progress:

    CHECKSUMMING TAPE

    If additional tapes must be inserted to continue the verification, a message similar to the following appears when the first tape has been verified:

    REMOVE STREAMER TAPE CARTRIDGE

    MOUNT TAPE 2 AND PRESS RETURN

    Insert the second tape of the sequence. If an incorrect tape is inserted, DISCUTILITY alerts the user by displaying appropriate error messages. Press <RETURN> to continue the verification.

10. When all the tapes have been verified, a message similar to the following appears:

```
CHECKSUMS= 75327 131150 177760
  RECORD COUNT= 700

CHECKSUMMING DISC
CHECKSUMS= 75327 131150 177760
  RECORD COUNT= 700
VERIFY DONE
```

If the checksums displayed by your system match, the verification has been successfully completed.

If the checksums displayed by your system do not match, an error message will appear. If this occurs, repeat the verification procedure by using the Streamer Tape Verify function again. If the checksums still vary after repeating the procedure, contact your supplier for further instructions.

3.3.4 DATA TRANSFER COMMAND SUMMARY

Figure 3-4 illustrates the direction of the commands used to transfer data between memory, tape cartridge and fixed disc.

081-145
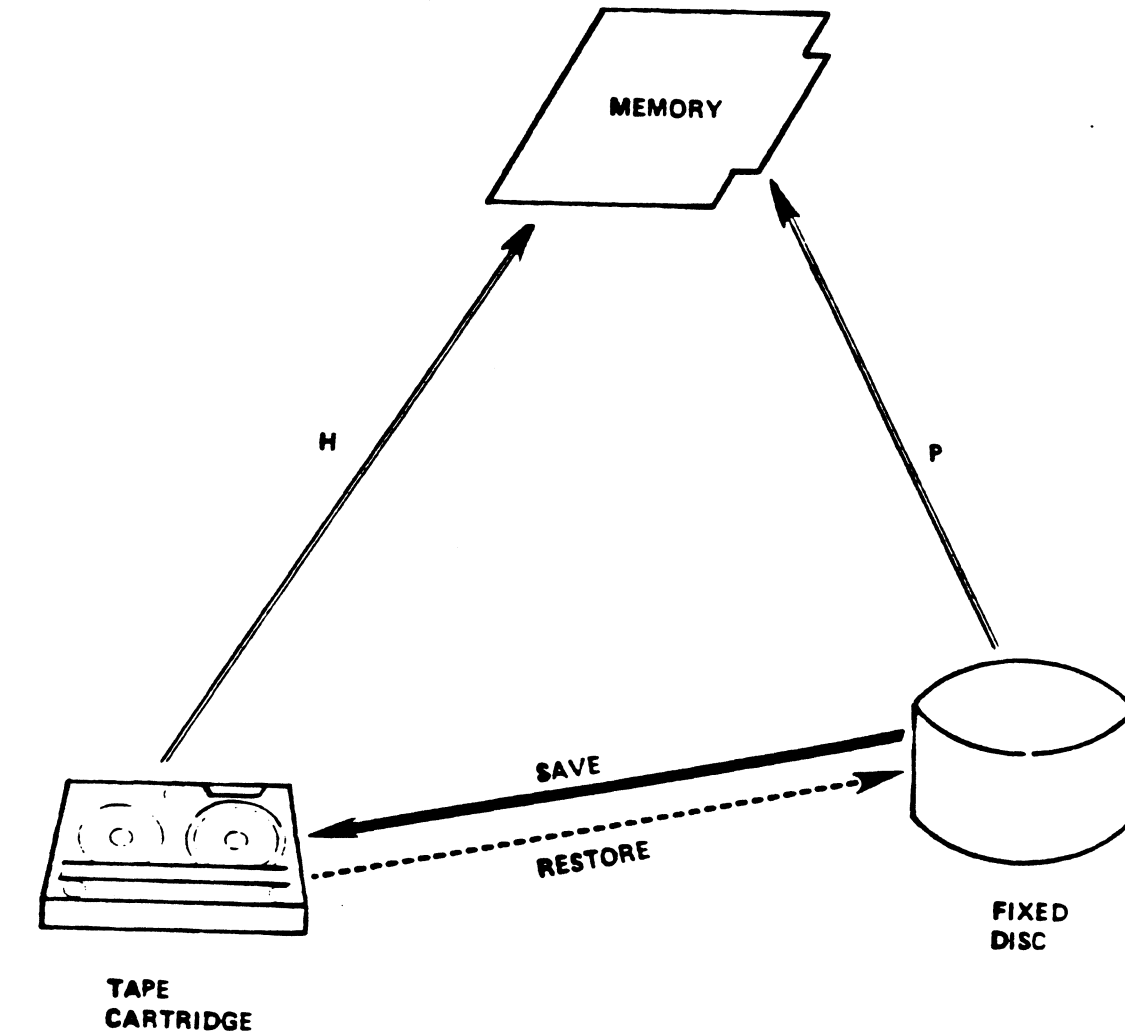
Figure 3-4. Direction of Data Transfer Commands

The "H" and "P" commands are given after RESET has been pressed to activate the computer. Both commands are used to load software into memory. "H" loads software from the tape cartridge into memory; "P" loads software from the fixed disc into memory.

The "T" command may also be given after RESET has been pressed; "T" runs the computer's self-test.

"Save" and "Restore" are functions of DISCUTILITY. Both functions transfer software between the tape cartridge and fixed disc. "Restore" copies from the tape cartridge to the fixed disc; "Save" copies from the fixed disc to the tape cartridge.

3.4 BRINGING UP IRIS

This section describes how to bring the IRIS Operating System into the computer's memory by performing an initial program load (IPL). It discusses the IRIS start-up procedure and installing logical units.

3.4.1 IPL IRIS USING DISCUTILITY

IRIS was loaded onto the fixed disc in Section 3.3.4.

DISCUTILITY is still memory-resident because it has not been overwritten since it was used in the last section. (Section 3.4.2 describes how to IPL IRIS when DISCUTILITY is not memory-resident.) Since DISCUTILITY is active, its IPL command may be used to load IRIS into memory.

1. At the prompt

        PROGRAM NAME

    enter

        IPL

    The following message is then displayed:

        WHEN DRIVE IS READY, PRESS RETURN TO START

    The drive referred to is the disc drive. It is usually ready (i.e., up to speed) 20 seconds after the computer is powered on.

2. Press <RETURN>.

    IRIS then identifies itself with a revision number and copyright message.

3. The system prompts

        PRESS RETURN

    After <RETURN> is pressed, the system prompts for date and time

        ENTER DATE AND TIME (YEAR,MONTH,DAY,HOUR,MINUTE)

    The time is based on the 24-hour clock; the format is yy,mm,dd,hh,mm. For example, the following would be entered for the date June 26, 1983 and time 4:01 p.m.:

        83,6,26,16,01

4. Enter the date and time or press <DEL> if the date and time
    are not required.

    If the time entered is earlier than the last access time of
    the most recently accessed file on LU/0, the system will ask

    "TIME RUNS BACKWARDS?"

    Check the entry, and press <Y> for "yes" if it is correct.
    Otherwise, press <N> and enter the date and time again.

    When the system accepts the date and time (or when <DEL> is
    pressed to skip the date and time), it displays

    !

    The CARRY light flashes to indicate that the system is up and
    ready for use. The CARRY light should flash brightly once
    per second.

5. Press <ESC>.

6. Respond to the ACCOUNT ID? prompt with the Manager's Account
    ID (the default is MANAGER). Proceed to Section 3.4.3.

3.4.2 LOADING IRIS USING COMPUTER COMMANDS

This section describes the procedure for loading IRIS into memory when DISCUTILITY is not memory-resident. If IRIS has already been IPLed, proceed to Section 3.4.3.

To IPL IRIS when DISCUTILITY is not in memory, follow this procedure:

1. Press the RESET button. A line of numbers appears on the master terminal, and the terminal bleeps. The CARRY light flashes once per second.

2. Enter <P> to load IRIS from the fixed disc into memory.

   IRIS identifies itself, and then prompts

   PRESS RETURN

   After <RETURN> is pressed, the system displays the following:

   ENTER DATE AND TIME (YEAR,MONTH,DAY,HOUR,MINUTE)

   The time is based on the 24-hour clock; the format is yy,mm,dd,hh,mm. For example, the following would be entered for the date June 26, 1983 and time 4:01 p.m.:

   83,6,26,16,01

3. Enter the date and time or press <DEL> if the date and time are not required.

   If the time entered is earlier than the last access time of the most recently accessed file on LU/0, the system will ask

   "TIME RUNS BACKWARDS?"

   Check the entry, and press <Y> for "yes" if it is correct. Otherwise, press <N> and enter the date and time again.

   When the system accepts the date and time (or when <DEL> is pressed to skip the date and time), it displays

   !

   The CARRY light flashes to indicate that the system is up and ready for use. The CARRY light should flash brightly once per second.

4. Press <ESC> and respond to the ACCOUNT ID? prompt with the Manager's Account ID (the default is MANAGER). The system command prompt (#) is then displayed. Proceed to Section 3.4.3.

3.4.3 INSTALLING LOGICAL UNITS

A disc may be divided into two or more logical units. Information about the number of logical units on your system should be provided by your supplier. Each logical unit (LU) must be installed after an IPL is performed. The daily installation of LUs is a simple process.

At the system prompt (#), enter

    INSTALL

Press <RETURN> n+1 times, where n is the number of LUs on your system. For example, if there were two LUs on a system, <RETURN> would be pressed three times.

When the IRIS system prompt (#) is displayed, IRIS is ready for use.

3.5 BACKING UP THE SYSTEM

A backup copy of information on the fixed disc should be made on
tape cartridges for protection in the event the fixed disc is
damaged. This section describes how to back up the system. The
IRIS Operations Manual gives further details on backups.

Backups should be performed on a regular basis (e.g., daily).
This ensures against the loss of files and keeps the IRIS
Operating System at its optimum level.

DISCUTILITY functions are used to create backup tape cartridges.

Before beginning, check the following points:

   o All users must be logged off.

   o An adequate number of tape cartridges must be available to
     back up the system.

The following steps describe the normal backup procedure.

1. Log on to the Manager account at the master terminal.

2. Ensure that all users are logged off the system. The MAIL
    processor, described in the IRIS User Manual, may be used to
    send messages to all users to log off.

3. Enter the following at the system prompt:

        RETRY

    The RETRY program counts and displays the number of errors
    which have occurred since the last IPL. It asks the user
    where the error count should be displayed with the prompt:

        PRINT WHERE (NAME OR L OR L1 OR CR)?

    NAME may be entered to output the error count to a file; L or
    L1 may be entered to output to a printer ($LPT for L or $LPT1
    for L1); and <RETURN> may be pressed to display the error
    count on the screen. Press <RETURN>. The display is similar
    to that shown in Figure 3-5.

    A high error count indicates a hardware problem which should
    be attended to without delay. If this occurs, contact your
    supplier for further instructions.

```
                    JAN  3, 1983    6:34:20

                    ••• RETRY COUNT •••

    •••             DATA        ADDRESS        DATA
    •••             CHECK       CHECK          LATE

    LU/ 0 =           0           0             0
    LU/ 1 =           0           0             0
    LU/ 2 =           0           0             0
    LU/ 3 =           0           0             0
    LU/ 4 =           0           0             0
    LU/ 5 =           0           0             0

    MUX OVERLOAD ERROR COUNT = 0

081-146
```

Figure 3-5. A Typical RETRY Display

4. DISCUTILITY is used to back up the system, so it must be loaded into memory. DISCUTILITY is stored on both the DISCUTILITY tape cartridge and the tape cartridge containing the operating system programs. If IRIS is not active, follow the instructions in step 4a; if IRIS is active, follow those in step 4b.

   a. IRIS not active - Insert the tape cartridge containing DISCUTILITY into the tape drive. Load DISCUTILITY into memory by pressing RESET, waiting for the CARRY light to flash, and entering <H> to load the information from the tape into memory.

   b. IRIS active - IRIS must be shut down to DISCUTILITY by entering the following on the master terminal at the IRIS system prompt (#)

      SHUTDOWN <CTRL-E>key<CTRL-E> DISCUTILITY

      where key is the password; the default password is "X". This tells the system to shut down IRIS and load DISCUTILITY.

                            CAUTION

                 This command must be entered on the
                 master terminal (physical port zero).
                 If this command is entered on any other
                 port, the system will be inoperable
                 because IRIS will be shut down and the
                 system will operate DISCUTILITY from
                 port 0 only.

5. Remove the tape cartridge containing DISCUTILITY from the tape drive and insert a scratch tape cartridge which is not write-protected.

6. Since DISCUTILITY was loaded into memory in step 4, the following prompt should be displayed on the master terminal:

       PROGRAM NAME:

   At the prompt, PROGRAM NAME, enter <S> for Save.

7. The drive type of the source drive is then requested:

       SOURCE DRIVE-
          TYPE:

   "SOURCE DRIVE-" indicates that the following indented prompts concern the source drive, which is the drive from which the information is being copied. The source drive may be thought of as the source of the information. Refer to Section 3.3.3.1.1 for information on the types of disc drives available on a MARK 2 Computer.

8. The number of the drive is then requested:

NUMBER:

Since the POINT 4 MARK 2 Computer has only one drive for the fixed disc, enter <0>.

9. The following prompt allows the user to specify the numbers of the surfaces to be restored:

SURFACE(S):

All or selected cylinders may be specified. The user is not required to enter cylinder numbers when saving an entire disc, because DISCUTILITY will prompt the user when one tape has been filled and a new tape should be inserted. "ALL" should be entered unless your supplier has instructed you otherwise.

Enter "ALL".

10. The creation date of the tape is then requested:

KEY IN CREATION DATE MM-DD-YY:

The creation date is the date entered when the tape is created. When using Save, this date is the day you are creating the tape. The date must be entered using two digits to represent the month, day and year, respectively.

Enter today's date as the creation date.

11. The tape's descriptor is then requested:

DESCRIPTOR:

The descriptor is a short description of the contents of the tape. POINT 4 recommends that each descriptor be made unique, perhaps by including the exact time of day. The descriptor should not exceed 50 characters. It must be entered exactly as it is entered here whenever the system prompts for it. An example of a good descriptor is:

ROUTINE BACKUP OF ENTIRE DISC 5:35:40PM

Enter the descriptor.

12. When the date and descriptor have been entered, the system displays the following:

WHEN BOTH DISC AND TAPE UNITS ARE READY, HIT RETURN TO START

Press <RETURN> to begin the backup.

13. The following message then indicates that the information is being saved from the fixed disc to the tape cartridge:

    STREAMING TO TAPE

    The process continues for several minutes until that tape has been completely filled. When an additional tape must be inserted, a message similar to the following appears:

    REMOVE TAPE AND LABEL AS FOLLOWS:
    CREATION DATE 01-03-83 SEQUENCE 1
    DESCRIPTOR: ROUTINE BACKUP OF ENTIRE DISC 5:35:40PM

    MOUNT TAPE 2 AND PRESS RETURN

    Remove the tape and label it exactly as displayed.

14. Several tapes may be required to back up an entire disc. DISCUTILITY will display instructions for removing and labeling each tape in sequence.

    When all the information has been saved, a message similar to the following appears:

    TRANSFER COMPLETE

    VERIFY TAPE AGAINST DISC?

    The tape should always be verified against the disc by using the Streamer Tape Verify function or by responding "Y" for "Yes" to the above prompt.

    Enter "Y" to verify the tapes against the disc.

15. The following prompt then indicates which tape cartridge should be inserted for verification:

    MOUNT TAPE 1 AND PRESS RETURN

    Insert the first tape of the sequence. If an incorrect tape is inserted, DISCUTILITY alerts the user by displaying appropriate error messages. Press <RETURN> to begin the verification.

16. The following message then indicates that verification is in progress:

    CHECKSUMMING TAPE

    When the first tape has been verified, a message similar to the following appears:

    REMOVE STREAMER TAPE CARTRIDGE

    MOUNT TAPE 2 AND PRESS RETURN

    Insert the second tape of the sequence. If an incorrect tape is inserted, DISCUTILITY alerts the user by displaying appropriate error messages. Press <RETURN> to continue the verification.

17. DISCUTILITY will display instructions for inserting each tape in sequence. If an incorrect tape is inserted, the program alerts the user by displaying appropriate error messages. When all the tapes have been verified, a message similar to the following appears:

    CHECKSUMS= 75327 131150 177760
      RECORD COUNT= 700

    CHECKSUMMING DISC
    CHECKSUMS= 75327 131150 177760
      RECORD COUNT= 700
    VERIFY DONE

    If the checksums displayed by your system match, the information on the fixed disc has been successfully saved to tape.

    If the two checksums for this (or any other) verification do not match, an error message will appear. If this occurs, repeat the procedure using the Streamer Tape Verify function described in Section 3.3.3.4. If the checksums still vary after repeating the procedure, contact your supplier for further instructions.

18. When the backup tape cartridges have been verified, write-protect them by turning the arrowhead to point to the word SAFE, and store them in safe place. (Tape cartridges may also be write-protected prior to verification.)

3.6 SUMMARY OF DISCUTILITY FUNCTIONS

The following sections summarize the basic procedures for using the Restore, Save, Tape tension, Streamer Tape Verify and IPL functions of DISCUTILITY. The summaries do not show error messages.

In each summary, user input is underlined. Variable numbers and information are shown by lowercase "x"s.

3.6.1 RESTORE SUMMARY

Prompts/Responses	Comments
PROGRAM NAME: R	Enter R for Restore.
DESTINATION DRIVE-	Following prompts concern destination drive.
TYPE: ATI20, ATI46, CMI19	Enter the correct code/ mnemonic for your drive.
NUMBER: 0	Only one drive exists, so always enter zero.
SURFACES: ALL	Enter ALL unless instructed otherwise.
KEY IN CREATION DATE MM-DD-YY:	Enter date on tape cartridge label.
DESCRIPTOR:	Enter descriptor exactly as written on label.
WHEN BOTH DISC AND TAPE UNITS ARE READY, HIT RETURN TO START <RETURN>	
STREAMING FROM TAPE	Restoration is in progress.
REMOVE STREAMER TAPE CARTRIDGE MOUNT TAPE x AND PRESS RETURN	These lines appear only if additional tapes must be inserted.
TRANSFER COMPLETE TOTAL DISC ERRORS: HARD=0 SOFT=0	Appears when all tapes in series have been restored.
NO TAPE ERROR VERIFY TAPE AGAINST DISC?Y	Always verify.
MOUNT TAPE x AND PRESS RETURN	Insert the first tape of the sequence.
CHECKSUMMING TAPE	Verification is in progress.
REMOVE STREAMER TAPE CARTRIDGE MOUNT TAPE x AND PRESS RETURN	These lines appear only if additional tapes must be inserted.
CHECKSUMS= xxxxx xxxxxx xxxxx RECORD COUNT= xxx	Appears when all tapes in series have been verified.
CHECKSUMMING DISC CHECKSUMS= xxxxx xxxxxx xxxxx RECORD COUNT= xxx VERIFY DONE	

3.6.2 SAVE SUMMARY

Prompts/Responses	Comments
PROGRAM NAME: S	Enter S for Save.
SOURCE DRIVE-	Following prompts concern source drive.
TYPE: ATI20, ATI46, CMI19	Enter the correct code/ mnemonic for your drive.
NUMBER: 0	Only one drive exists, so always enter zero.
SURFACES: ALL	Enter ALL unless instructed otherwise.
KEY IN CREATION DATE MM-DD-YY:	Enter today's date.
DESCRIPTOR:	Enter a unique descriptor.
WHEN BOTH DISC AND TAPE UNITS ARE READY, HIT RETURN TO START <RETURN>	
STREAMING TO TAPE	Save is in progress.
REMOVE TAPE AND LABEL AS FOLLOWS: CREATION DATE xx-xx-xx SEQUENCE x DESCRIPTOR: xxxx...	Label tape exactly as instructed.
MOUNT TAPE x AND PRESS RETURN	This line appears only if additional tapes must be inserted.
TRANSFER COMPLETE	Save has been completed.
VERIFY TAPE AGAINST DISC?Y	Always verify.
MOUNT TAPE x AND PRESS RETURN	Insert the first tape of the sequence.
CHECKSUMMING TAPE	Verification is in progress.
REMOVE STREAMER TAPE CARTRIDGE MOUNT TAPE x AND PRESS RETURN	These lines appear only if additional tapes must be inserted.
CHECKSUMS= xxxxx xxxxxx xxxxx RECORD COUNT= xxx	Appears when all tapes in series have been verified.
CHECKSUMMING DISC CHECKSUMS= xxxxx xxxxxx xxxxx RECORD COUNT= xxx VERIFY DONE	

3.6.3 TAPE TENSION SUMMARY

Prompts/Responses	Comments
PROGRAM NAME: <u>TAPE</u>	Enter TAPE to adjust the tape tension.
WHEN TAPE UNIT IS READY, HIT RETURN TO START <u><RETURN></u>	
	The tape tension is adjusted.

3.6.4 STREAMER TAPE VERIFY SUMMARY

Prompts/Responses	Comments
PROGRAM NAME: <u>STR</u>	Enter STR for Streamer Tape Verify.
SOURCE DRIVE-	Following prompts concern source drive.
TYPE: <u>ATI20</u>, <u>ATI46</u>, <u>CMI19</u>	Enter the correct code/ mnemonic for your drive.
NUMBER: <u>0</u>	Only one drive exists, so always enter zero.
SURFACES: <u>ALL</u>	Enter ALL unless verifying only part of the disc.
KEY IN CREATION DATE MM-DD-YY:	Enter date on tape cartridge label.
DESCRIPTOR	Enter the descriptor as written on label.
WHEN BOTH DISC AND TAPE UNITS ARE READY, HIT RETURN TO START <u><RETURN></u>	
CHECKSUMMING TAPE	Verification is in progress.
REMOVE STREAMER TAPE CARTRIDGE MOUNT TAPE x AND PRESS RETURN	These lines appear only if additional tapes must be inserted.
CHECKSUMS= xxxxx xxxxxx xxxxx RECORD COUNT= xxx	Appears when all tapes in series have been verified.
CHECKSUMMING DISC CHECKSUMS= xxxxx xxxxxx xxxxx RECORD COUNT= xxx VERIFY DONE	

3.6.5 IPL SUMMARY

Prompts/Responses	Comments
PROGRAM NAME: IPL	Enter IPL for Initial Program Load.
WHEN DRIVE IS READY, HIT RETURN TO START \<RETURN> PRESS RETURN \<RETURN> IRIS...	IRIS identifies itself after \<RETURN> is pressed.
ENTER DATE AND TIME(YEAR,MONTH,DAY,HOUR,MINUTE)yr,mo,dy,hr,mi	Enter the date/time or press \<DEL> if they are not required.
!	Indicates the date/time have been accepted and user may press \<ESC> to log on.

Appendix A

GLOSSARY

This glossary contains definitions of terms used in this manual.

Application program - a program or series of programs used to perform functions such as word processing, automatic code generation, or accounting, by applying sets of instructions to data and manipulating this information

Backup - a second copy of programs or information which is kept for reference in case the original is damaged or destroyed

Baud rate - the number of bits which can be transmitted in one second; may be thought of as the rate at which one device (such as a terminal) communicates with another device (such as the computer)

Bit - a binary digit; either zero or one

Board - a board which holds capacitors, diodes, resistors, transistors and other elements of electrical circuits

Byte - a unit of eight binary digits; eight bits

CARRY Light - a light on the computer front panel (see Section 3.1.2)

Checksum - the result of a calculation performed on specific data; two checksums are calculated using the same data from two mediums (such as tape and disc) to determine the accuracy of copied data

CRT - Cathode Ray Tube; because some terminals contain cathode ray tubes, terminals are often referred to as CRTs

Destination - a device or file to which a given action is directed

Fixed disc - a nonremovable magnetic storage device containing several rotating surfaces on which information is stored

Hardware - the physical equipment which makes up the computer and its peripheral equipment

Hz - abbreviation for Hertz; equal to once per second

In Tolerance - within an acceptable limit of a required value

KB - abbreviation for kilobytes; equal to 1024 bytes

Logical Unit - a division of the physical disc

Master Terminal - terminal on port zero; used to perform certain system operations

MB - abbreviation for megabyte; equal to 1,048,576 bytes

Memory Resident - residing in the computer's memory

Multiplexer - a piece of hardware in the computer which manages large amounts of input and output (i.e., data transfers) simultaneously

Operating System - a collection of programs which direct and supervise the computer's operation

Pin - any small, stiff, wire-like piece; a connector usually contains many pins

RAM - Random Access Memory - the type of memory where the time needed to access or store information does not depend on the location of the most recently accessed or stored information

Read/Write Heads - devices inside the fixed disc which read or write information on the storage surfaces of the fixed disc

Ribbon Cable - any flat, wide cable

Scratch Tape Cartridge - any tape cartridge which contains either no information or information which is no longer useful; because the tape cartridge is scratch, the user may write on the tape without losing valuable information

Software - Programs and tables which tell the computer how to operate and respond to a user's input and commands

Source - the device from which a given action originates or a file which is the origin of specified information

Tape Cartridge - a cartridge containing recording tape used to store programs and information

Winchester - a technology which encloses floating or air bearing heads with the disc in a special particle-free, clean pack; this technology allows greater storage in a smaller space and minimizes the potential for damaging the media

Word - a unit of data which is comprised of 16 bits or 2 bytes

Write-Protected - a tape cartridge or other storage media which cannot be written on

Appendix B

DISCUTILITY TAPE LABEL/CYLINDER
ERROR DISPLAYS

This appendix shows the messages displayed by DISCUTILITY when a
tape label or cylinder error occurs, and describes the steps
which may be taken in response to possible errors.

B.1   TAPE LABEL IN ERROR

A message similar to the following may be displayed in at least
two possible cases: if the date or descriptor entered by a user
does not match the date and descriptor on the tape currently in
the tape drive; or if a tape has been inserted in the incorrect
sequence.

```
    THE FOLLOWING TAPE LABEL IS IN ERROR:
        VOLUME SEQUENCE #: x
        CREATION DATE: xx-xx-xx
        DESCRIPTOR: xxx xxxx xxx...

    THE CORRECT VOLUME LABEL MUST BE AS FOLLOWS:
        VOLUME SEQUENCE #: n
        CREATION DATE: nn-nn-nn
        DESCRIPTOR: nnnn nnn nnnn...

    TO CONTINUE WITH THIS TAPE ENTER A '!'
```

The first label information is the information found on the tape
currently in the tape drive. The second label information is
either the description input by the user or the volume sequence
expected by the system.

To correct the error, press <RETURN> or <ESC>. DISCUTILITY will
abort the operation which was in progress and display the prompt
PROGRAM NAME. Remove the incorrect tape and repeat the procedure
using the correct tape.

If the user has been instructed to do so, an exclamation point
may be entered to continue with a tape whose tape label is in
error. However, the user should never do so without explicit
instructions from a knowledgeable support person or without
thorough knowledge of the consequences of this action.
Continuing with a tape whose tape label is in error may cause
valuable information to be overwritten and lost.

B.2 INCORRECT CYLINDER NUMBER

The messages described in this section may occur when the user
selected the Save, Restore or Streamer Tape Verify functions and
entered OPT,ALL at the SURFACE(S) prompt to indicate that only
selected cylinders are to be saved, restored or verified.

Before DISCUTILITY begins a Save, Restore, or Streamer Tape
Verify, it checks that the starting cylinder number recorded on
the tape and that entered by the user agree. If they do not, a
message similar to the following appears:

     STARTING CYLINDER OF SAVED TAPE= n

     TO CONTINUE WITH THIS TAPE BUT AT CYLINDER x ENTER A '!'

If using the Save function, this message indicates that the tape
was saved at a different starting cylinder number than that
specified by the user.

If using the Restore function, this message indicates that the
information on the tape currently in the tape drive was
originally saved at a different starting cylinder number than the
starting cylinder number to which it is being restored.

If verifying a tape, this message indicates that the information
on the tape currently in the tape drive was originally saved at a
different starting cylinder number than the starting and
subsequent cylinder numbers against which it is being verified.

To correct the error, press <RETURN> or <ESC>. DISCUTILITY will
abort the operation which was in progress and display the prompt
PROGRAM NAME. Remove the incorrect tape and repeat the procedure
using the correct tape.

If the user has been instructed to do so, an exclamation point
may be entered to continue with a tape whose tape label indicates
a different cylinder number from the one entered. However, the
user should never do so without explicit instructions from a
knowledgeable support person or without thorough knowledge of the
consequences of this action. Continuing with a tape whose tape
label indicates a different cylinder number from the one entered
may cause valuable information to be overwritten and lost.

COMMENT SHEET

MANUAL TITLE POINT 4 MARK 2 Computer User Guide

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