Transet 1000™

User's Guide

Hayes®

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Getting Started

1

Introduction

Transet 1000 is a unique multi-function buffer for your computer system. As it buffers data transfers among computers, Smartmodems, printers, and plotters, Transet 1000 frees computer memory and increases productivity.

As a printer buffer, Transet 1000 accepts data from a computer at speeds up to 19,200 bits per second, then parcels it to the printer at a lower rate. Data is printed while the computer goes on to another job.

When connected to a Hayes Smartmodem 300™, Smartmodem 1200™, or Smartmodem 2400™, Transet 1000 also acts as the computer's answering machine. When the telephone rings, the Smartmodem connects and Transet 1000 records the message. The received messages are stored until you're ready to view, print, or route them to disk. The Transet 1000 "Mailbox" is large enough to store this manual, and the Mailbox functions even when the computer is turned off.

The front panel buttons give you control over the Replay Buffer and the path data takes through Transet 1000. In one Data Path, Transet 1000 buffers data from computer to printer. Change the Data Path, and Transet 1000 buffers data from computer to Smartmodem.

What You Have

Check the contents of the Transet 1000 package. In addition to this User's Guide, you should have:

- Transet 1000 unit
- Power cord with attached transformer
- Warranty information
- Configuration Guide

How the User's Guide is Organized

This User's Guide covers the full range of Transet 1000 operations. Note that some chapters will not apply to your uses; the portions of this User's Guide you need depend upon how Transet 1000 is incorporated into your computer system.

To get you up and running with Transet 1000, Chapter 1 provides instructions for Transet 1000 installation.

Chapter 2 is an overview of operations common to all configurations. You are oriented to basic Transet 1000 functions and are shown how to manipulate the Replay Buffer.

Chapter 3 provides information on using Transet 1000 with a Smartmodem and a printer.

Chapter 4 describes Transet 1000 operation when connected to one or two printers.

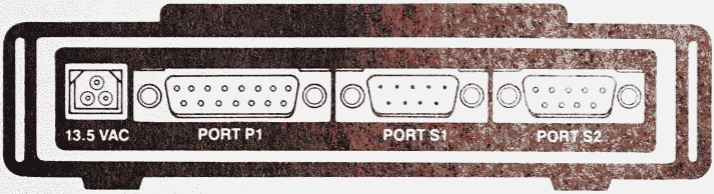
Chapter 5 describes Transet 1000 operation when connected to two computers that share one printer.

Chapter 6 provides details on Transet 1000 commands.

Chapter 7 describes error conditions and possible causes.

Transet 1000 and System Configuration

Transet 1000 features three ports for connection to a variety of devices.



The ports labeled **S1** and **S2** are bidirectional serial ports that can both send and receive data. Connect them to any serial devices, including computers, Smartmodems, serial printers, plotters, and network ports.

The port labeled **P1** is a serial/parallel output port that can be connected to any parallel or serial printer, plotter, or other receiving device.

Because these three ports are compatible with such a wide range of devices, Transet 1000 can be incorporated into a computer system according to your needs; how you connect Transet 1000 to equipment depends on your application.

Default Configuration

In its factory settings, Transet 1000 is ready for connection as follows:

- Port S2 connects to a computer
- Port S1 connects to a Smartmodem
- Port P1 connects to a parallel printer

In this configuration, Transet 1000 serves as a printer buffer and a Mailbox. The computer is no longer slowed by interaction with the printer, and the Smartmodem is constantly ready to answer calls while you continue with other tasks.

Other Configurations

Transet 1000 also lends itself to a variety of other useful applications. For example, when using Transet 1000 exclusively as a printer buffer, two computers can be connected to a single printer or plotter so they can share resources. Or, one computer can be connected to both a serial and a parallel printing device, enabling you to send data to both devices and to switch between them without ever reconnecting cables.

When not attached to a printer or plotter, Transet 1000 can be used exclusively to receive incoming modem messages while keeping the computer free for other operations. Transet 1000 need not be connected to a computer; configure it in a network for use as an inter-office IN basket for memo distribution, or connect alone to a Smartmodem for use as an unattended, password-protected Mailbox. Add a printer, and Transet 1000 serves as a teletypewriter, printing messages automatically as they are received.

Transet 1000 and the Smartmodem

Smartmodem configuration switches ensure that these products work at maximum efficiency with other hardware devices. When installing Transet 1000 with a Smartmodem 300 or Smartmodem 1200, see the Smartmodem User's Guide for details on configuration switches, and set switches 1 and 6 to the UP position. (Be sure to remove power from the Smartmodem before accessing switches.) Make sure that switch 5 is in its factory position, DOWN.

If you are installing Transet 1000 with a Smartmodem 2400, proceed with installation. Rather than with switches, the Smartmodem 2400 is configured with commands as described on page 1-7.

Installation

The Transet 1000 Configuration Guide shows the cables needed for your application. These cables are supplied by authorized Hayes dealers; if you have experience making cables, consult Appendix C of this User's Guide for a list of cable pin assignments.

When you have the necessary cables, follow these steps to connect Transet 1000 to your equipment.

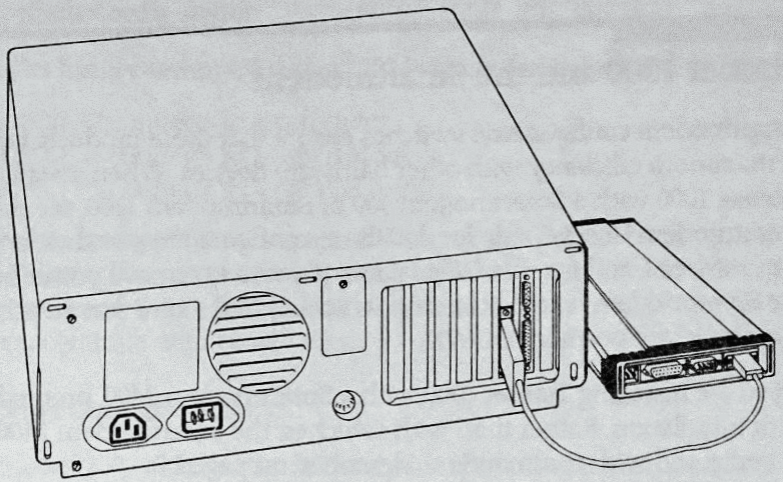
STEP 1: Make sure that Transet 1000 and all other equipment is disconnected from the power source.

STEP 2: Disconnect all cables from the equipment and set them aside.

STEP 3: On each Transet 1000 cable, locate the end that has the model number—that end plugs into Transet 1000. For most uses, connect the cables as follows:

- Port S2 to a computer or network port
- Port P1 to a parallel or serial printer or plotter
- Port S1 to a Smartmodem, serial printer or plotter, or second computer

For other configurations, connect cables as shown on the Transet 1000 Configuration Guide.



Be sure to connect the cable from the Transet 1000 S2 Port to the correct computer port. On the IBM® PC, XT, and AT, for example, connect to the male serial port.

If installing Transet 1000 with a computer that has two serial ports, one for a modem and one for a printer, connect Transet 1000 to the modem port if using a Smartmodem; connect it to the printer port if not.

STEP 4: Connect the remaining cables from Transet 1000 to the equipment as shown in the Transet 1000 Configuration Guide. Tighten the small screws at each connection.

STEP 5: Plug the small end of the power cord into the Transet 1000 power connector labeled 13.5 VAC, and plug the transformer into a three-prong electrical outlet. (Be sure to use a three-prong outlet to reduce the risk of fire or electrical shock.)

STEP 6: Plug in and turn on the rest of your equipment.

The PWR, RDY, and A lights on the front panel of Transet 1000 are lit, indicating that the unit is ready for operation.

Adjusting the Smartmodem 2400

Use the Configuration Program to adjust your Smartmodem 2400 for use with the Transet 1000 Mailbox, or issue Smartmodem 2400 commands as follows:

STEP 1: Turn on the Smartmodem 2400.

STEP 2: Put Transet 1000 in Path C: Press the SELECT button, press the MARK button twice, then press SELECT again.

STEP 3: Start up Smartcom II.

STEP 4: Originate a communication using the Local Mailbox Set (settings are listed on page 3-8).

STEP 5: Turn the Smartmodem 2400 OFF, then ON again.

STEP 6: Type **ATE0** and press **Return**. This turns off double characters. The Smartmodem 2400 responds **OK**.

STEP 7: Type **AT&D2&C1&W** and press **Return**.

When the Smartmodem 2400 responds **OK**, it is set up for use with the Transet 1000 Mailbox.

The settings are saved in non-volatile memory, so you never have to repeat this procedure. Turning the Smartmodem 2400 off and on does not change your settings.

Where To Go from Here

If you have a Hayes Transet 1000 Configuration Program (included in Transet 1000 Accessory Kits), turn now to the accompanying Configuration Program booklet. The Configuration Program gets you quickly set up for particular applications by helping you:

- Communicate directly with the Mailbox via menu selections
- Send commands to Transet 1000 to use print format options, such as numbering pages and adjusting margins
- Customize many Transet 1000 features

If you do not have a Transet 1000 Accessory Kit and would like a Configuration Program, contact an authorized Hayes dealer or Hayes Customer Service.

Note: If you are not using the Configuration Program, have connected Transet 1000 to a serial computer port, and are using a parallel printer, see your computer Owner's Manual for details on directing parallel printer output to the computer's serial port at 9600 baud. (Appendix D provides details for IBM users.) If you have a Smartmodem 300, use the Configuration Guide (or see page 6-16 of this manual) to change the Smartmodem answer string to **ATE0Q0V0A**.

Introduction to Transet 1000

2

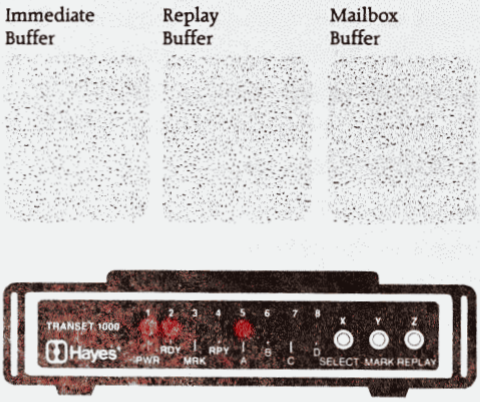
Introduction

This chapter describes the Transet 1000 printer buffers. You learn to use the front panel buttons to perform operations useful in all Transet 1000 applications. This chapter describes how to:

- Perform basic printer buffering
- Send extra copies of a document to the printer
- Append several files into one document
- Store one document while a second is printing
- Interrupt printing

Transet 1000 Buffers

A buffer is an area of electronic memory that stores data for later use. The Transet 1000 memory area is divided into three buffers: the Immediate Buffer, the Replay Buffer, and, if you have a Smartmodem, the Mailbox Buffer.



The Replay Buffer stores data sent to any device, so you can then send a copy of the data to another device, or to the same device.

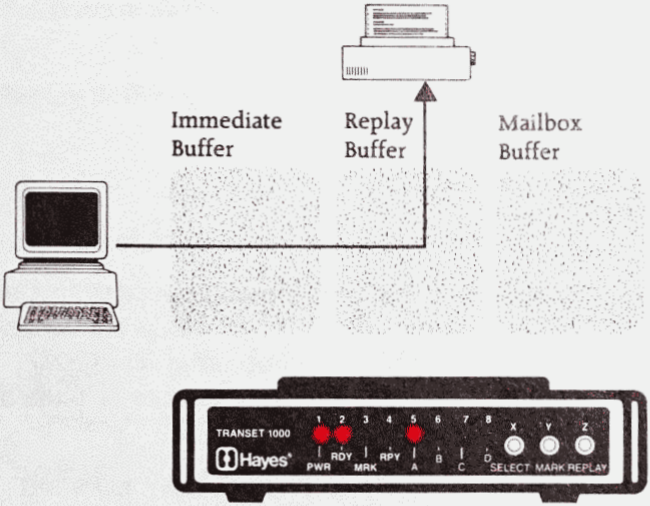
You can lock data in the Replay Buffer to keep it from being erased by new data. When the Replay Buffer is locked, the Immediate Buffer sends data immediately to the printer.

The Mailbox stores incoming Smartmodem messages you can then send to the printer or Replay Buffer.

Using the front panel buttons, you can control the Replay Buffer to store, erase, and print copies of documents stored in Transet 1000 memory.

Basic Printer Buffering

When printing a document, Transet 1000 utilizes the Replay Buffer (rather than Immediate Buffer) until you select special operations with the front panel buttons.



In the default setup, the Transet 1000 PWR, RDY, and A lights are lit. When you print data, the RPY light comes on steadily to indicate that there is data in the Replay Buffer.

Printer data entering the Replay Buffer is sent immediately to the printer. If the printer is not ready, Transet 1000 waits until it is ready, while continuing to accept incoming data.

Replay Buffer Operations

When buffering printing, as data continues to flow from the computer into the Replay Buffer, Transet 1000 accumulates the data into one document. Once data stops, Transet 1000 waits ten seconds for more data.

If no data is sent for at least ten seconds, Transet 1000 assumes the end of the document.

Producing Additional Copies

The document is stored in the Replay Buffer until you erase it.

As long as the document is in the Replay Buffer, you can print another copy by pressing the REPLAY button. The RPY light blinks to indicate a Replay in progress. Pressing the REPLAY button twice sends two more copies to the printer. Up to 255 additional copies can be printed by pressing the REPLAY button once for each copy.

To cancel the request for additional copies, press REPLAY again and hold it in until the RPY light stops blinking and is on steadily. This does not erase the Replay Buffer contents; it only stops the Replay process.

Transet 1000 interprets any additional data sent to the Replay Buffer as a new document. Transet 1000 finishes the current print job, then erases the Replay Buffer contents and buffers the new data.

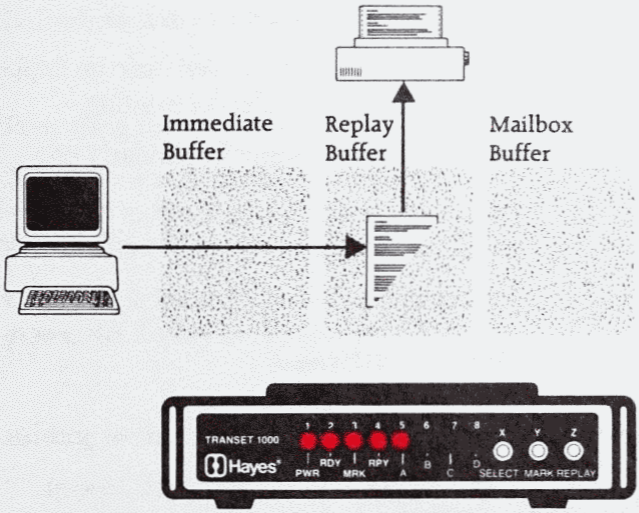
To prevent new data from overwriting the current Replay Buffer contents, manually mark the beginning and end of the document you do not want erased as described below.

Protecting a Document

Marking the beginning

Before sending the document to Transet 1000, press the MARK button once and release it. The MRK light comes on steady. The Replay Buffer is now cleared.

Replay Buffer open



This marks the beginning of a document.

While the MRK light is on steadily, Transet 1000 accumulates data sent to the Replay Buffer until you manually mark the end of it. Automatic marking of documents is now off, so even if there is a ten-second or longer interval between the sending of different pieces of data, the pieces are appended together.

Marking the end

Manually marking the end protects a document from erasure and activates the Immediate Buffer.

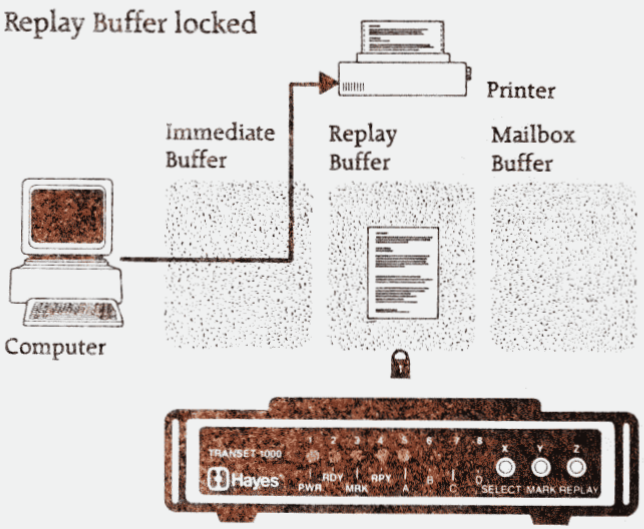
Once the Replay Buffer contains all the data you want buffered as a single document, mark the end of it by pressing the MARK button again. The MRK light begins to blink.

Now the contents of the Replay Buffer are printed as one document. Pressing REPLAY reprints everything in the Replay Buffer.

The Replay Buffer is locked when the MRK light is blinking. To print additional copies of the Replay Buffer contents, press REPLAY. No more data is allowed into the Replay Buffer until you unlock it.

Any new data you send to Transet 1000 is not allowed into the Replay Buffer, but is instead sent to the Immediate Buffer for printing.

Note that the Immediate Buffer's contents cannot be similarly protected or replayed.



Unlocking the Replay Buffer

To unlock the Replay Buffer, press the MARK button again. This also erases all data in the Replay Buffer. The RPY and MRK lights both go off.

To unlock the Replay Buffer without erasing data, press the MARK button, but do not release it until the MRK light comes on steadily. The Replay buffer is locked open, and you can append data into it.

Marking Data Already in the Replay Buffer

Even if you don't mark a document before sending it to the Replay buffer, it is still possible to protect the document or append data to it.

Protecting the Document

To protect an unmarked document already in the Replay Buffer, press and hold in the MARK button until the MRK light begins to blink. The Replay Buffer is now locked and its data is protected.

Caution: Releasing the button before the MRK light begins to blink erases the Replay Buffer contents.

Adding to the Document

To append data to the document already in the Replay Buffer, protect it as described above, then press and release the MARK button again. The MRK light comes on steadily. New data sent for buffering is appended to data already in the Replay Buffer.

Before appending data, always remember to protect the document first, then press the MARK button.

Interrupting Printing

Any time you need to cancel a printing job in progress, for example, if the printer jams or you have accidentally buffered the wrong file, cancelling printing from your computer is not sufficient. Because Transet 1000 has already buffered part of the file, you must first instruct Transet 1000 to stop the printing.

Press the SELECT button and hold it in until the current Path light (A, B, C, or D) goes off. Transet 1000 stops sending data to the printer and stops buffering data from the computer.

Once the Path light is off, instruct the software to cancel printing, or press the SELECT button again to continue printing. If you continue printing, remember that data sent while the Path light was off has been discarded.

Transet 1000 Buffer Sets

Transet 1000 can be configured for use with or without a Smartmodem. The Transet 1000 configuration for use with a Smartmodem is the Communications Buffer Set. When configured for Smartmodem use, Transet 1000 sets aside memory for a Mailbox, sets up Data Paths to the Smartmodem, and buffers printing.

The Transet 1000 configuration for use without a Smartmodem is the Printer Buffer Set. In this configuration, Transet 1000 devotes all its memory to buffers that transfer data to printers, plotters, and computers.

Transet 1000 is pre-set at the factory in the Communications Buffer Set. If you have no Smartmodem, select the Printer Buffer Set using the Transet 1000 Configuration Program, or using the front panel buttons as follows:

STEP 1: Press and hold in the SELECT and MARK buttons.
STEP 2: Press the REPLAY button and release all the buttons. The PWR and A lights flash.
STEP 3: Press the SELECT button. The A light blinks.
STEP 4: Press the MARK button. The B light blinks.
STEP 5: Press the SELECT button. Transet 1000 resets in the Printer Buffer Set.

To later add a Smartmodem to your system, switch back to the Communications Buffer Set by repeating the above steps.

Where To Go from Here

Turn now to Chapter 3 if you have a Smartmodem connected to Transet 1000.

Turn to Chapter 4 if Transet 1000 is connected to a computer and one or two printers or plotters.

Turn to Chapter 5 if Transet 1000 is connected to two computers and one printer or plotter.

Communications Buffer Set: Transet 1000 as Mailbox and Printer Buffer

3

Introduction

While serving as a printer buffer, Transet 1000 receives incoming messages from a Smartmodem and stores them in its Mailbox. When mail enters the Mailbox, the PWR light begins to blink, informing you of the message. You can continue working with your computer, and display or print Mailbox messages at your convenience. You can also leave messages for others; Mailbox contents can be read from a remote computer if the caller has the proper password.

In this chapter, you are shown how to:

- Prepare Transet 1000 to answer incoming calls
- Access the Transet 1000 Mailbox from a remote location
- Access the Transet 1000 Mailbox locally
- Use Data Paths A, B, C, and D for communications and Mailbox tasks

Receiving Mail

When placed in Data Path A, B, or D, Transet 1000 is ready to receive mail. (The uses for these Data Paths are described in this chapter.) To select a Data Path, press and release the SELECT button; press and release the MARK button until the desired Path light is blinking, and press SELECT again. The new Path light comes on steadily.

Transet 1000 is factory set to answer incoming calls on the third ring. If using your telephone line for both voice and data communications, you may want to set Transet 1000 to answer on a later ring, allowing you to answer the phone first. To set the number of rings for answering, use the **&R** command, described in Chapter 6.

If Transet 1000 and your telephone are connected to the same line, and you answer the phone and realize the incoming call is a Smartmodem call, press the Transet 1000 SELECT button and hang up the phone within 30 seconds. Transet 1000 then instructs the Smartmodem to answer the call.

Calling Transet 1000 from a Remote Location

To call a Transet 1000 Mailbox from a remote location, use the Smartcom II settings for Remote Mailbox access:

- 8 data bits
- No parity
- 1 stop bit
- Include Line Feeds to YES (Insert line feed after each Return)
- Half Duplex (Local Character Echo ON)

When the connection is established, press **Return**. Transet 1000 responds:

```
---- TRANSET 1000 MAILBOX ----
ENTER PASSWORD (CTRL-D TO DISCONNECT):
```

Enter the appropriate password and press **Return**.

Passwords

Two passwords allow access to the Mailbox. One password, factory set to SEND, allows a caller to send mail to the Mailbox. The other password, factory set to SCAN, lets a caller read your mail, erase it, and print it on your printer. (To change the SCAN and SEND passwords, use the **&E**, **&F**, and **&G** commands as described in Chapter 6.)

Sending Mail to the Mailbox

If the SEND password is entered, Transet 1000 tells the amount of Mailbox space available:

THERE IS ROOM IN THE MAILBOX FOR
AT LEAST 30416 MORE CHARACTERS

START TRANSMISSION (CTRL-A FOR XMODEM):

Type the message to be left in the Mailbox, and end the message by typing **Ctrl-D** (hold down the **Ctrl** key down and press **D** at the same time). Transet 1000 responds:

MESSAGE ENDED.

---- TRANSET 1000 MAILBOX ----
ENTER PASSWORD (CTRL-D TO DISCONNECT):

Enter the SCAN password if you want to scan the mailbox (described later), or type **Ctrl-D** again to terminate the connection. (The second **Ctrl-D** is optional; Transet 1000 disconnects when the calling Smartmodem hangs up.)

Cancelling Messages

To cancel any message you are typing, type **Ctrl-X** before pressing **Ctrl-D**. This erases the data sent so far and ends the message.

Using XMODEM to Send Mail

To send a file with the error-free XMODEM protocol, after the message:

START TRANSMISSION (CTRL-A FOR XMODEM):

Type **Ctrl-A**. Transet 1000 responds:

START XMODEM:

Use Smartcom II and XMODEM protocol to send the file.

You do not need to enter **Ctrl-D** to end messages sent with XMODEM protocol.

Reading Mail from a Remote Location

When you respond to the password prompt with the SCAN password, Transet 1000 displays the message:

MAILBOX IS EMPTY.

or, if there is mail:

10 ITEM(S) IN MAILBOX
(ENTER CTRL-D TO EXIT SCAN)

followed by the date, number of characters, and the first three lines of the earliest piece of mail.

----- TRANSET 1000 MAILBOX -----
FRI 3-15-1985
366 CHARACTERS COMPRESSED INTO 321
To: Tom Keats
From: Byron Knotts
Re: Requested documents

V(IEW P(RINT E(RASE F(ORWARD B(ACK

- Enter **V** to view the entire contents of the message. (Optionally, you can use Smartcom II and the XMODEM protocol to receive the file.)
- Enter **P** to send the mail to the printer.
- Enter **F** or **B** to scan forward or backward through the Mailbox, displaying the first three lines of individual pieces of mail. If there is no previous (or later) mail, the message NO MORE MAIL appears.
- Enter **E** to erase the piece of mail currently being scanned or viewed.

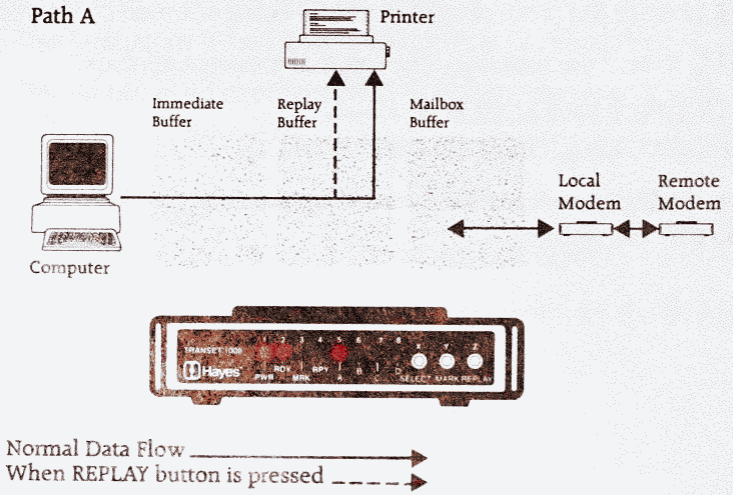
Type **Ctrl-D** to end the message. The original message appears:

```
---- TRANSET 1000 MAILBOX ----
ENTER PASSWORD (CTRL-D TO DISCONNECT):
```

Enter the SEND password to send a message, or type **Ctrl-D** again to terminate the connection.

Data Path A–Print Buffer Operations

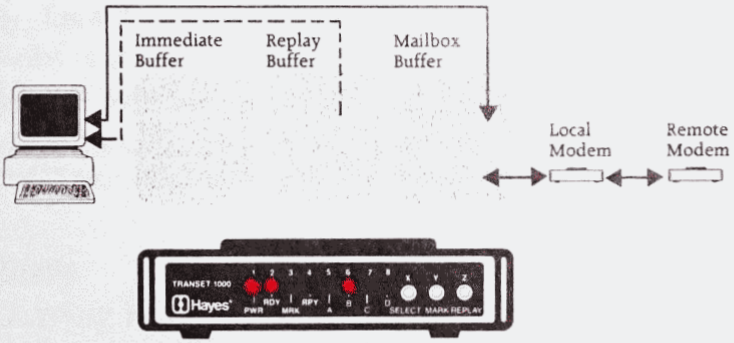
When Transset 1000 is in Path A, it buffers printer data as described in the previous chapter. At the same time, Transset 1000 buffers incoming Smartmodem messages in its Mailbox.



Data Path B—Accessing the Mailbox Locally

Use Data Path B to display mail, erase mail, and send mail to the Mailbox for outside callers to read. You cannot buffer printing in this Path, but can receive incoming mail while reading previous messages.

Path B



Normal Data Flow ——————→
When REPLAY button is pressed - - - - →

PWR light is blinking to indicate that there is mail in the Mailbox.

Use communications or terminal emulation software to access the Mailbox. The Hayes Transet 1000 Configuration Program or Smartcom II can be used.

The settings for communications software are:

- Direct Connect at 9600 baud
- 8 data bits
- No parity
- 1 stop bit
- Include Line Feeds to YES (Insert a line feed after each Return)
- Half Duplex (Local Character Echo ON)

When you establish a connection to the Mailbox, press **Return**. Transet 1000 displays this message:

```
———— TRANSET 1000 MAILBOX ————
ENTER PASSWORD (CTRL-D TO DISCONNECT):
```

Scanning The Mailbox Locally

Enter the SCAN password and press return.

If there is mail, the date/time, number of characters, and first three lines of the earliest message appear.

```
MON 4-16-1985 15:36

157 CHARACTERS COMPRESSED INTO 105
To: Tom Keats
From: Mary Knight
Re: Requested documents

V(IEW P(RINT E(RASE F(ORWARD B(ACK
```

Choose **V** and the first piece of mail appears:

To: Tom Keats
From: Mary Knight
Re: Requested documents

The documents you requested are being processed. I'll transmit them to your Mailbox as soon as they become available.

V(IEW P(RINT E(RASE F(ORWARD B(ACK

You can now print or erase the message (**P** and **E** affect only the current piece), or scan a later or previous message with **F** or **B**. Choose **V** when you want to view an entire message.

When finished viewing mail, type **Ctrl-D** to close the Mailbox. Type **Ctrl-D** again to disconnect from the Mailbox.

Leaving Mail in the Mailbox

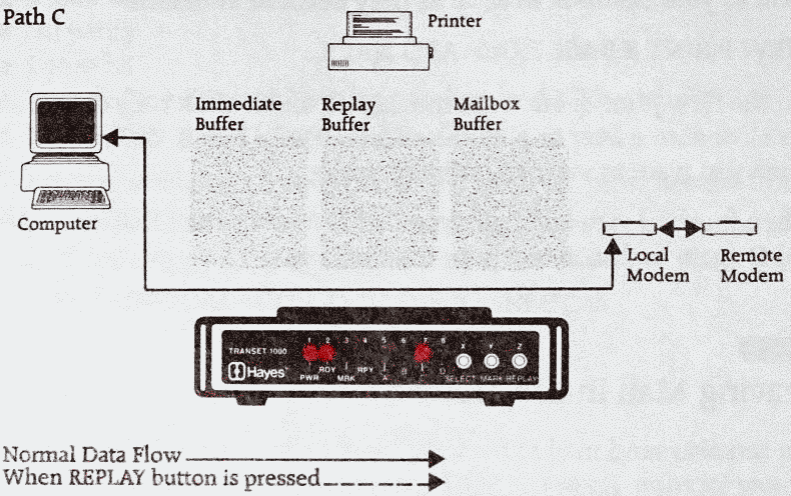
You can also send mail to the local Mailbox for others to read from a remote location. Enter the SEND password when prompted for a password, and type the message you want to leave. End the message by typing **Ctrl-D**, and type **Ctrl-D** again to disconnect.

Displaying Replay Buffer Contents

If you press the REPLAY button while you are in Path B, but not in the Mailbox, any data stored in the Replay Buffer is displayed on the screen.

Data Path C—Direct Line to the Smartmodem

Data Path C puts you in direct contact with your Smartmodem for use in communications.



In Data Path C you can (at data rates up to 4800 baud):

- Use the Smartmodem for normal communications with other modems.
- Call remote Transet 1000 Mailboxes and access their mail.
- Print mail on the remote printers.
- Use Smartcom II to record to disk the mail you are viewing.
- Send whole files to a remote Mailbox using the Smartcom II Send File option after the **START TRANSMISSION** prompt.

Note that you cannot select Path C while receiving mail, as the Smartmodem is in use.

Note: With the specially marked package of Smartcom II for use with Transet 1000, you can also print communications while on-line. With another Smartcom II package or with other communications software, capture data to a disk file and print it after disconnecting. (For information on obtaining an upgraded Smartcom II package from Hayes Customer Service, see the Smartcom II User's Guide.)

Data Path D—Mailbox Transfer

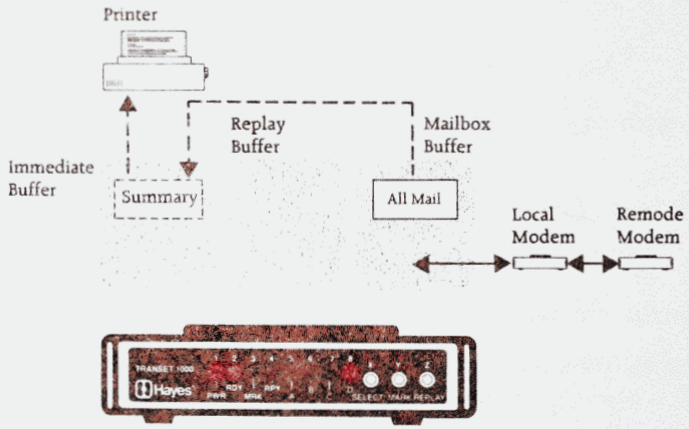
There are two variations on Data Path D. The first option, Mailbox Summary, is selected when the D light is blinking. The second option, Mailbox Dump, is selected when the D light is steadily on.

Sending a Summary of Mailbox Contents to the Printer

The first use of Path D sends to the printer a summary of your mail, consisting of the first three lines of each piece and the time and date each was received.

Use this feature if you want a record of the mail, or to make sure all mail has been read before erasing it. The Mailbox Summary goes to the Immediate Buffer, and does not erase the Mailbox contents or affect the Replay Buffer.

Path D Mailbox Summary



Normal Data Flow ——————→
When REPLAY button is pressed - - - →

Note that the PWR light is blinking to indicate that there is mail in the mailbox.

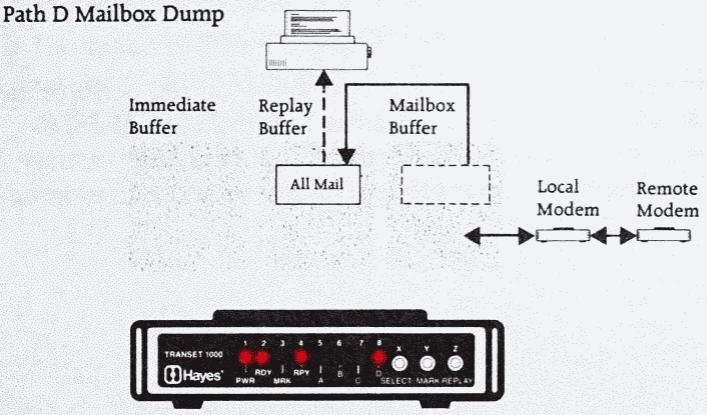
Unlike the other Data Paths, the Mailbox Summary option of Path D is selected not when the Path light (D) is steadily on, but when it is still blinking. To select the Mailbox Summary option:

- Press the SELECT button and release it. The current Path light blinks.
- Press and release the MARK button until the D light blinks.
- While the D light is still blinking, press and release the REPLAY button. Do not press the SELECT button, which would select the Mailbox Dump option.

See the following section for details on the Mailbox Dump.

Sending the Entire Mailbox to the Replay Buffer

The second Path D option, the Mailbox Dump, empties the entire contents of the Mailbox into the Replay Buffer.



Normal Data Flow ——————→
When REPLAY button is pressed - - - - →

Note that the PWR light is on steadily and the RPY light is on steadily because all mail has been transferred from the Mailbox to the Replay Buffer.

The Mailbox Dump is selected when the D light is on steadily. The Mailbox Dump erases the contents of the Mailbox, and preserves it in the Replay Buffer. The PWR light stops blinking and the RPY light comes on.

Once the Mailbox has been emptied into the Replay Buffer, press the REPLAY button to redirect the contents to the printer (Path A or D), to your computer screen (Path B), or to the Smartmodem (Path C).

Note that you cannot select the Path D Mailbox Dump when the RPY light is blinking to indicate Replay Buffer contents are protected, nor when the **&S3** command (which secures the Mailbox—see Chapter 6) is in effect.

Soft Reset

Data Path A is the default Path when Transet 1000 is first plugged in. Transet 1000 reverts to Path A when a "soft" reset is performed by pressing the SELECT and REPLAY buttons simultaneously.

When in any path or performing any operation, you can perform the soft reset. In addition to returning Transet 1000 to Path A, the soft reset erases all stored data, buffered printer jobs, and Mailbox messages, and interrupts any Smartmodem communications in progress by breaking the connection.

Summing it Up

The Communications Buffer Set offers four Data Paths.

In Paths A, B, and D, Transet 1000 automatically receives incoming Smartmodem calls.

In Data Path A, Transet 1000 buffers printing and stores incoming Smartmodem messages in its Mailbox.

In Data Path B, send or read Mailbox contents while Transet 1000 answers Smartmodem calls.

In Data Path C, use your Smartmodem for normal communications.

Data Path D offers two options:

- The Mailbox Summary, selected when the Path D light is blinking and the REPLAY button is pressed, sends the first three lines of all messages from the Mailbox to the Immediate Buffer for printing.
- The Mailbox Dump, selected when the Path D light is on steadily, sends the entire Mailbox to the Replay Buffer, erasing all data already in the Replay Buffer.

Where To Go from Here

Many Transet 1000 features can be customized with commands: use the Transet 1000 Configuration Program or communications software to issue commands as described in Chapter 6.

Printer Buffer Set: One Computer and Two Printers

4

Introduction

Now that you have learned how to buffer, protect, and replay data to a printer, you are ready to buffer data for two devices at the same time. Transet 1000 allows one computer to share a pair of printers, plotters, or a combination of the two.

In this chapter you learn to:

- Switch Data Paths to route data from one printer to the other
- Print the same or different data on both printers at the same time
- Use Transet 1000 to format documents

If you have not already done so, select the Printer Buffer set. See page 2-9 for instructions.

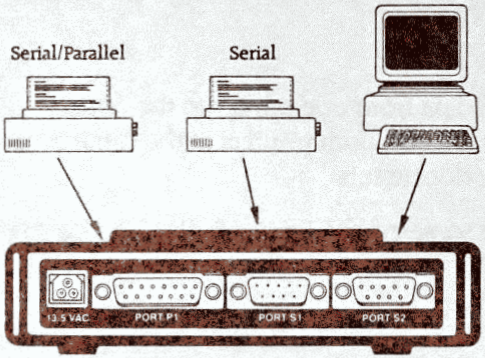
Selecting Data Paths

Data Paths A through D route data between different devices to perform operations described in this chapter. To select a Data Path, press and release the SELECT button, press and release the MARK button until the desired Path light is blinking, then press SELECT again.

The Printers and the Ports

With Transet 1000 connected to a computer on S2, to a serial printer on S1, and to a parallel or serial printer on P1, the computer can send data to both printers.

A pair of Data Paths send data from the computer to each printer. Two Paths per printer are provided so that, with commands, you can create and store two document formats for each printer (described on page 4-5). For example, if you have a parallel printer on P1 that can use either 80- or 120-column paper, you can store an 80-column format for Path A, and a 120-column format for Path C; both Paths send data to P1.

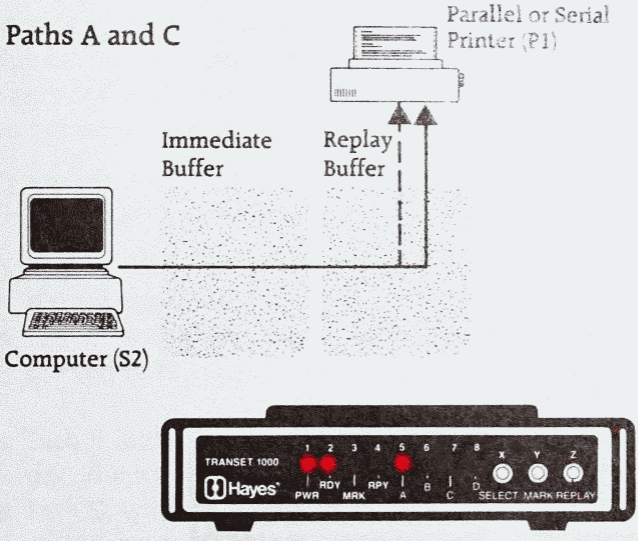


Print Buffer Set
Print Buffering to Two Printers

When connected to two devices that require different formats, you can print one format on the first device, then switch Paths and print the other format on the second device, even while the first printer job is being buffered.

Data Paths A and C

In Paths A and C, data from the computer on S2 is sent to the parallel or serial printer on P1.

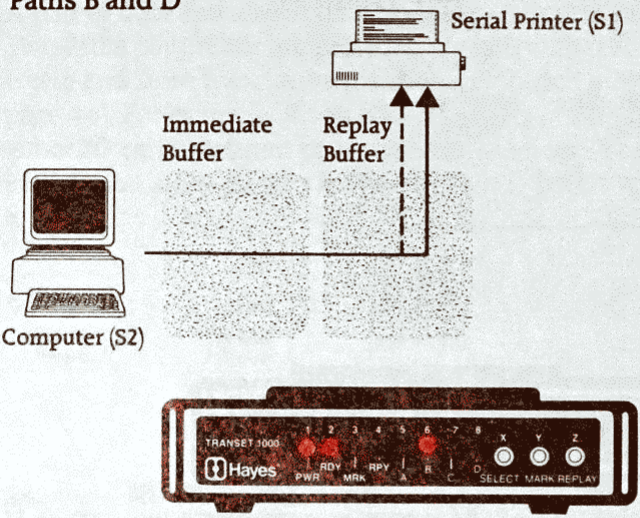


Normal Data Flow ——————→
When REPLAY button is pressed – – – →

Data Paths B and D

In Paths B and D, data from the computer on S2 is sent to a serial printer on S1.

Paths B and D



Normal Data Flow ——————→
When REPLAY button is pressed – – – →

(The D light would be on in Path D.)

Printer Buffering

Document formats can be stored for each of the four Paths. (See Chapter 6 for details on entering commands.)

Once a Path to a printer has been assigned a document format, any document that goes along that Data Path is given the new format. The format can be stored in non-volatile memory (with the W command, described in Chapter 6), so that powering Transet 1000 off and on does not erase the format.

If you use a word processor to format documents, you may want to leave two Paths unformatted, and two formatted, for example:

- Path A, with no document format, lets your word processor format documents printed to P1
- Path C, with a document format, lets Transet 1000 format documents printed to P1

- Path B, with no document format, lets your word processor format documents printed to S1
- Path D, with no document format, lets Transet 1000 format documents printed to S1

In this way you can print documents with or without your word processor to either printer.

In Paths C and D, Transet 1000 automatically breaks pages after 60 lines of text.

Printing with Two Printers Simultaneously

To print on the printers at the same time:

- Choose a Data Path to the first printer.
- Send the first document.
- When the entire document has been stored in Transet 1000, switch to a Data Path for the other printer and send a second document.

Printing the Same Document on Two Printers

To print the same document on two printers:

- Send a document for printing to the first printer.
- When the entire document is stored in Transet 1000, change Data Paths while the first printer is still printing, and press the REPLAY button.

The document printing on the first printer is now printing on the second printer as well.

Note that different printers may print data of incompatible formats. If so, you may not be able to print the same document on both printers.

Soft Reset

Data Path A is the default Path when Transet 1000 is first plugged in. Transet 1000 reverts to Path A when a "soft" reset is performed by pressing the SELECT and REPLAY buttons simultaneously.

When in any Path or performing any operation, you can perform the soft reset. In addition to returning Transet 1000 to Path A, the soft reset erases all stored data and buffered printer jobs.

Where To Go from Here

Many Transet 1000 features can be customized: use the Transet 1000 Configuration Program or communications software to issue commands as described in Chapter 6.

Printer Buffer Set: Two Computers and One Printer

5

Introduction

Now that you have learned how to buffer, protect, and replay data to a printer, you are ready to buffer data from two computers to one printer or plotter.

In this chapter you learn to:

- Send data from both computers to the same printer or plotter
- Send data from one computer to the other
- Replay data to a computer or to the printer/plotter

If you have not already done so, select the Printer Buffer Set with instructions on page 2-9.

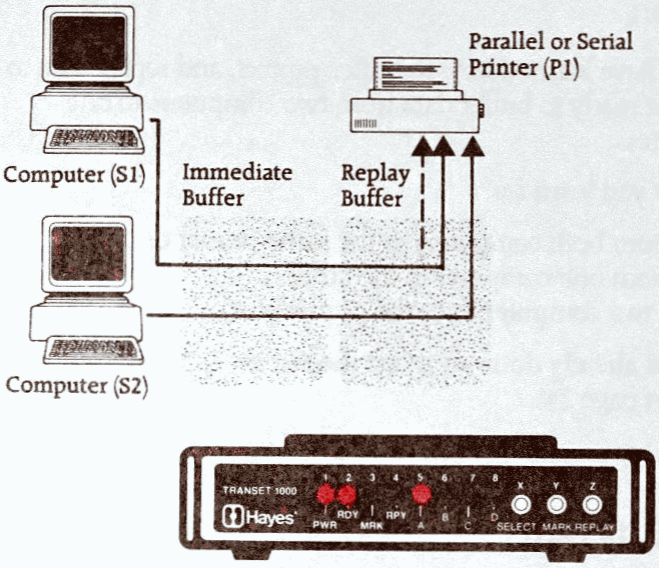
Selecting Data Paths

Data Paths A through D route data between different devices to perform operations described in this chapter. To select a Data Path, press and release the SELECT button, press and release the MARK button until the desired Path light is blinking, then press SELECT again.

Data Paths A and C: Both Computers Send Data to the Printer

Use Data Paths A and C to send data from either computer, through Transet 1000, to the printer connected at P1.

Paths A and C



Normal Data Flow ——————→
When REPLAY button is pressed – – – →

Queue several documents at once

If a print job is sent from the computer at S1, then another from S2 before the first job is finished, Transet 1000 monitors the first job, and, when the printer has finished it, sends the second job to the printer. You can queue up to 63 printer jobs to Transet 1000's buffers, up to 128K bytes in all.

Transet 1000 accepts new printer data even while the first set of data is being printed. This allows two computers to send data to Transet 1000, one after the other, freeing both of them to go on with other work.

In addition, use the Replay Buffer as described in Chapter 2 to protect one document while sending another job through the Immediate Buffer to either of the printers.

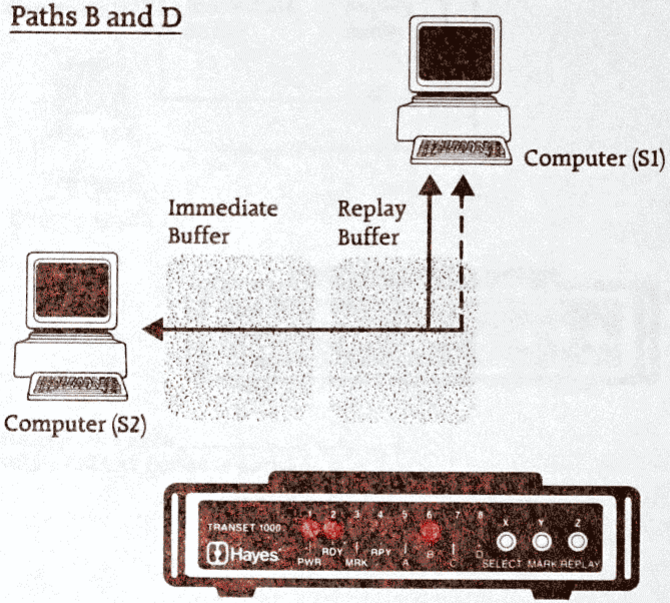
Data Paths B and D—Computers Exchange Data

To exchange data between the computers connected at ports S2 and S1, switch to Path B or D, and use Smartcom II or other software that can send and receive data.

Setting up the Computers To Transfer Data

First, install your software, whether Smartcom II or a terminal emulator, in Direct Connect at 9600 baud. Select Path B on Transet 1000.

Paths B and D



Normal Data Flow ——————→
When REPLAY button is pressed – – – →

(The D light would be on in Path D.)

Path B is bi-directional, so that both computers can send and receive data typed at the keyboard, or in files transferred with software. For example, to transfer files with the Smartcom II Direct Connect feature, use the Disk Capture option on the receiving computer, and use the Send File option on the sending computer.

Sending Data to the Computer at S1 and to the Printer

Once data has been sent to the Replay Buffer, switch Data Paths to send it to the second device. For example, when printer data has been sent to the Replay Buffer with Path A, switch to Path B and press the REPLAY button to send the same document to the computer connected at S1.

You can also send different documents to each port. Protect a document in the Replay Buffer, then switch Data Paths and send a second document to the computer at S1 via the Immediate Buffer.

Soft Reset

Data Path A is the default Path when Transet 1000 is first plugged in. Transet 1000 reverts to Path A when a "soft" reset is performed by pressing the SELECT and REPLAY buttons simultaneously.

When in any path or performing any operation, you can perform the soft reset. In addition to returning Transet 1000 to Path A, the soft reset erases all stored data and buffered printer jobs.

Where To Go from Here

Many Transet 1000 features can be customized with commands: use the Transet 1000 Configuration Program or communications software to issue the commands described in Chapter 6.

Sending Commands to Transet 1000

6

The Command and On-line States

When Transet 1000 performs its normal printer buffering or Mailbox operations, it is in the On-line State. Data sent to Transet 1000 in the On-line State is interpreted as data to be buffered or communicated.

When Transet 1000 is in the Command State, data sent to Transet 1000 is interpreted as commands it executes.

Going from the On-line to the Command State

There are three ways to put Transet 1000 into the Command State:

- with front panel buttons
- with the escape code
- with the program escape code

Note that placing Transet 1000 in the Command State with the escape code or program escape code does not erase any data in the buffers, nor does it interrupt any data transfers in progress. Using front panel buttons, however, resets Transet 1000, and clears the buffers.

Entering Command State with Front Panel Buttons

If you have software that cannot send commands at 9600 bps but can communicate at 1200 bps, use front panel buttons on Transet 1000 to enter the Command State:

- Press the SELECT and MARK buttons at the same time and keep them depressed.
- Press the REPLAY button, then release all the buttons. The PWR and A or B lights blink rapidly.

Transet 1000 is in the Command State. Commands must be sent from the computer at 1200 bps.

Once Transet 1000 settings have been adjusted with commands, issue the W command to write these new settings into non-volatile memory. The settings must be saved because returning to the On-line State resets Transet 1000 and removes temporary settings. To return to the On-line State, press the SELECT button twice.

Entering Command State with the Escape Code

Use Smartcom II or other software at 9600 baud to send Transet 1000 the escape code and enter the Command State.

The escape code consists of a guard time, three escape code characters, and the guard time repeated.

In order to prevent the accidental interpretation of transmitted data as the escape code, which could put the Transet 1000 into the Command State unintentionally, the escape code must be bracketed with a guard time. In addition, the escape code must consist of three characters, and the interval between the entry of each of the escape code characters must be less than the guard time.

The factory-set, default escape code consists of three dollar signs: **$$$**. The default guard time is one second. The escape code consists of:

- A one-second pause
- **$$$** (the interval between the entry of each **$** character must be less than the guard time of one second)
- A one-second pause

Send this escape code when on-line with Transet 1000 in any Data Path (except Path C of the Communications Buffer Set). Use the same communication settings you use when on-line with the Mailbox:

- Direct Connect at 9600 baud
- 8 data bits
- No parity
- 1 stop bit
- Include Line Feeds set to YES (Insert a line feed after each return)
- Half Duplex (Local Character Echo ON)

Note: If you change port settings with Communication commands, use the new settings.

After you send the escape code, Transet 1000 returns the result code OK. Now issue the desired commands described later in this chapter.

When you have finished issuing commands, return to the On-line State with the **O** command.

The escape code guard time and escape code characters can be changed with System Commands described later in this chapter.

Entering Command State with the Program Escape Code

To control Transet 1000 by designing your own software, put Transet 1000 into Command State under program control by issuing an escape code sequence consisting of a break signal followed by the **$** character.

To issue the program escape code, software sends the break signal by placing the serial TxD line in the spacing state for longer than 5 milliseconds, then within 20 milliseconds sends the **$** character.

Software forces the Command State baud for the port to 9600 baud when the break signal lasts between 1 and 1.5 seconds. This is useful when the current on-line baud of the port is unknown.

When the **O** command is issued, baud reverts to what it was before Command State was entered (unless Communication Commands changed it.)

Command Syntax

Command lines end in carriage returns. A command line can consist of more than one command, and then all the commands are executed at the receipt of the carriage return. Up to 190 characters can be contained on a single command line. If more than 190 characters are placed on a single command line, the result code ERROR is returned by Transet 1000 and the commands are not executed.

Most commands are followed by parameters, a number value that defines the command's intent. For example, the command to set Transet 1000's time-of-day clock is

T

followed by a parameter. The command to set Transet 1000's clock to 8 AM is:

T8:00

followed by a carriage return.

If you do not specify a parameter, Transet 1000 assumes the parameter 0.

Result Codes

After a carriage return ends a command line, Transet 1000 executes the command and sends back a result code, one of three:

- OK
- ERROR
- BUSY

The OK result code means the command was accepted and executed.

The ERROR result code means that Transet 1000 did not understand the command because the command or its parameter was invalid.

The BUSY result code means that the requested function is not available.

The Q command can be used to change to numeric result codes or to disable them.

If the Command State is entered with the program escape code, result codes by default are not sent.

Returning On-line

To return to the On-line State to perform normal buffering operations, use the O command. Remember to first use the W command to save any new settings you want written to non-volatile memory.

Resetting Transet 1000

There are two kinds of Transet 1000 reset that restore Transet 1000 features, the full reset and the soft reset.

Full Reset

The full reset restores all Transet 1000 factory-set defaults. All settings, even those in non-volatile memory, are reset.

There are two ways to perform a full reset:

- Issue the **#Z** command. **#Z0** resets Transet 1000 into the Communications Buffer Set; **#Z1** resets Transet 1000 into the Printer Buffer Set.
- Use front panel buttons to switch from the current Set to the other Set, then back again to your Set. (See page 2-9.)

Soft Reset

The soft reset restores all the Transet 1000 settings stored in non-volatile memory. There are three ways to perform it:

- Press the SELECT and REPLAY buttons simultaneously (as discussed previously)
- Unplug Transet 1000 from the power source and then plug it back in
- Issue the **Z** command

Transet 1000 Commands

The rest of this chapter describes the commands that customize Transet 1000 settings. Default settings are listed for each Path and port.

Use the Specify Path and Specify Port commands (described below) before issuing Document Formatting, Communication, and System Commands to specify which Path and port the new settings will affect. For example:

AS1&P1

This command string turns on Page Pause for Path A, port S1 only. When the Path and port are not specified, settings affect:

- the current or last-specified Path
- the port sending the commands or last specified

Most settings can be saved in non-volatile memory. The command descriptions that follow in this chapter end with the notation: **Saved by the W command:**, followed by **YES, NO,** or **N/A**.

- If YES, the **W** command stores the setting in non-volatile memory
- If NO, the setting cannot be stored
- If N/A, the command, by itself, does not alter a setting

General Purpose Commands

Request Value—?

Parameters: ? is preceded by a command without a parameter

The ? request follows a command. Transet 1000 responds with the current setting. For example, T? requests the current time.

Write Current Settings to Non-volatile Memory—W

Parameters: None

The W command saves current settings to non-volatile memory so that power interruption does not erase them. Note that not all settings can be saved in non-volatile memory.

Change Path—#P

Parameters: 0-3, representing Paths A through D, and 6, representing an alternate Path C to the Smartmodem.

The #P command puts Transet 1000 into the specified Path.

Note: the alternate Path C can only be selected by the #P6 command, while the other Paths are selectable with commands or front panel buttons. Path C selected with #P6, useful for software control of communications, buffers data sent from S2 by default at 9600 baud in the Immediate Buffer, and transmits it out S1 at 1200. (Communications Commands can change these rates.) Pressing the REPLAY

button in this Path sends data in the Replay Buffer out port S1.

Specify Path—A, B, C, D

Parameters: None
Default: The current or last specified Path

The Specify Path command is used before other commands to specify the Path to be affected.

Saved by **W** command: N/A

Specify Port—S2, S1, P1

Parameters: None
Default: The port sending the commands or last specified.

The Specify Port command is used before other commands to specify the port to be affected.

S? returns the port sending the commands.

Saved by **W** command: N/A

Set Default Path—F

Parameters: 0-3, representing Paths A-D
Default: 0

The **F** command sets the Path Transet 1000 adopts after a Soft Reset or power interruption.

Saved by **W** command: YES

Identify Product Model—I

Parameters: None
Default: None

The **I** command causes Transet 1000 to return, on three lines:

- The unit revision model code
- Number of 64K blocks of RAM—**2**, representing 128K
- The active Set, 0 for Communications Buffer Set, 1 for the Printer Buffer Set

Saved by **W** command: N/A

Change Data Flow Delay for Automatic Marking—M

Parameters: 0-255, representing 1/8-second increments
Default: 80 (10 seconds)

The **M** command sets the time delay Transet 1000 uses to automatically mark the end of a document. If data stops entering Transet 1000 for the set period of time, the document end is marked.

M0 disables automatic marking; when it is disabled, the end of a document must be manually marked.

Saved by **W** command: YES

On-line—O

Parameters: None
Default: N/A

The **O** command returns Transet 1000 from the Command State to the On-line State.

Saved by **W** command: N/A

Result Code Display Options—Q

Parameters: 0-2
Default: 0 when Command State is entered with **<BREAK>$**
2 when Command State is entered with **$$$**

The **Q** command controls how Transet 1000 displays result codes:

Q0 displays:	**Q1** displays:	**Q2** displays:
No result codes	0	OK
	1	ERROR
	2	BUSY

Saved by **W** command: NO

Set Time–T

Parameters: The time, in 24-hour format--hh:mm
Default: N/A

The **T** command stores the time in a battery-powered clock.
T? returns the time in the format hh:mm:ss.

Saved by **W** command: N/A

Set Date–Y

Parameters: The date, in the format mm-dd-yy.
Default: N/A

The **Y** command stores the date in a battery-powered clock.
Y? returns the date in the format www mm-dd-ccyy, for example: **FRI 03-15-1985**.

Saved by **W** command: N/A

Soft Reset–Z

Parameters: None
Default: N/A

The **Z** command performs a Soft Reset, restoring settings stored in non-volatile memory.

Saved by **W** command: N/A

Pause after Printing Each Page—&P

Parameters: 0-1 representing OFF and ON
Default: 0

When Page Pause is turned on, Transet 1000 prints each page only after the SELECT button is pressed.

Saved by **W** command: YES

Automatic Page Break—&A

Parameters: 0-1 representing OFF and ON
Default: 0 (1 for the Printer Buffer Set, Paths C and D)

When Automatic Page Breaking is ON, a new page is printed after the number of lines specified by the &L command.

Saved by W command: YES

Set Left Margin—&Q

Parameters: 0-63
Default: 0

The &Q*n* command inserts *n* blank spaces in the left-hand column to create a margin.

Saved by W command: YES

Time/Date Stamp—&T

Parameters: 0-1, representing OFF and ON
Default: 0

When time/date stamping is on, a document is printed with the date and time received by Transet 1000.

Saved by **W** command: YES

Define Page Width—&W

Parameters: 0-3
Default: 0

The **&W** command defines the width of the page, in columns, so that Transet 1000 can center the time/date stamp and page numbers.

0 defines 80 columns
1 defines 90 columns
2 defines 132 columns
3 defines 160 columns

Saved by **W** command: YES

Set Lines per Page—&L

Parameters: 0-3
Default: 0

The **&L** command sets the number of lines per page when Automatic Page Breaking is ON (**&A1** is set).

0 sets 66 lines
1 sets 84 lines
2 sets 88 lines
3 sets 112 lines

Saved by **W** command: YES

Set Margin Between Pages—&B

Parameters: 0-60
Default: 0

When **&A1** is set, the **&B*n*** command inserts ***n*** blank lines at the bottom of each page to avoid printing across the perforations on continuous feed paper.

Saved by **W** command: YES

Number Pages—&N

Parameters: 0-1, representing OFF and ON
Default: 0 (1 for the Printer Buffer Set, Paths C and D)

The **&N1** command inserts page numbers at the bottom of each printed page. Page numbering adds two lines.

Saved by **W** command: YES

Mailbox Commands

Authorize Password Changes—&E

Parameters: The SCAN password
Default: SCAN

The **&E** must be issued before a user can request or change the SCAN or SEND password setting. This command is also required to authorize the **&S3** command.

Saved by **W** command: N/A

Set Scan Password—&F

Parameters: Printable ASCII (33-122), up to eight characters
Default: SCAN

The &F command sets the SCAN password, which allows a user to read, print, and erase mail.

Saved by **W** command: YES

Set Send Password—&G

Parameters: Printable ASCII (33-122), up to eight characters
Default: SEND

The **&G** command sets the SEND password, which allows a user to send mail.

Saved by **W** command: YES

Set Minimum Print Buffer Size—&J

Parameters: 0-14, representing 8K-byte increments
Default: 1

The **&J** command sets a minimum size for the print buffers. This guarantees that a full Mailbox never deprives RAM room for print buffering. Valid parameters for the **&J** command may depend on the size of the Mailbox, as set by the **&K** command.

Saved by **W** command: YES

Set Minimum Mailbox Size—&K

Parameters: 0-14, representing 8K-byte increments
Default: 1

The **&K** command sets a minimum size for the Mailbox. This guarantees that full Replay and Immediate buffers never deprive RAM room for mail buffering. Valid parameters for the **&K** command may depend on the size of the print buffers, as set by the **&J** command.

Saved by **W** command: YES

Modem Answer Mode—&M

Parameters: 0-3
Default: 0

The **&M** command sets the method for answering incoming calls.

M0—answer after the number of rings set by the **&R** command
M1—answer when Data Carrier Detect goes TRUE
M2—answer continuously

Saved by **W** command: YES

Ring To Answer On—&R

Parameters: 0-15
Default: 3

The **&R** command sets the number of rings allowed before Transet 1000 issues an answer command to the Smartmodem.

Saved by **W** command: YES

Modem Answer String—&D

Parameters: Smartmodem command string
Default: ATE0Q0V0X1A

The **&D** command sets the answer command Transet 1000 sends to the Smartmodem after the number of rings set by the **&R** command. See the User's Guide for your Smartmodem for information on valid answer commands.

Saved by **W** command: NO

Auto Print Selection—&S

Parameters: 0-3
Default: 1

The **&S** command selects an automatic mail-printing option.

&S0—mail is not printed until requested
&S1—oldest piece is printed, then deleted, when Mailbox fills
&S2—all mail printed as received
&S3—mail printed only after request from Mailbox menu—SCAN password required (see **&E** command)

Saved by **W** command: YES

Communication Commands

Baud Setting—/B

Parameters:

For S1 and S2:

110	2400
300	4800
600	9600
1200	19200

For P1 when asynchronous, serial:

110	2400
300	4800
600	9600
1200	

Default: See table on page 6-22.

The /B command sets the baud for the specified Path and port.

Saved by W command: YES

Data Bit Setting—/D

Parameters: 5, 6, 7, and 8
Default: 8

The /D command sets the number of data bits for the specified Path and port.

Saved by W command: YES

Parity Bit Setting—/P

Parameters: 0-2
Default: 0

The **/P** command sets parity for the specified Path and port.

/P0—no parity
/P1—odd parity
/P2—even parity

Saved by **W** command: YES

Stop Bit Setting—/S

Parameters: 1-2, representing the number of bits
Default: 1

The **/S** command sets the number of stop bits for the specified Path and port.

Saved by **W** command: YES

Receive Protocol Setting—/R

Parameters: 0-7
Default: (See the table at the end of this section)

The **/R** command sets the receive protocol for the specified Path and port.

0—No handshaking
1—Use DSR, ignore DTS
2—Use RTS, ignore DTR
3—Use DTR and RTS
4—Use XON/XOFF, ignore DTR, RTS
5—Use XON/XOFF and DTR, ignore RTS
6—Use XON/XOFF and RTS, ignore DTR
7—Use XON/XOFF, DTR, and RTS

Saved by **W** command: YES

Transmit Protocol Setting—/T

Parameters: 0-10
Default: (See the table at the end of this section)

The **/T** command sets the transmit protocol for the specified Path and port.

P1 and S1 Serial Settings:

0 —No handshaking
1 —Use DSR, ignore CTS
2 —Use CTS, ignore DSR
3 —Use DSR and CTS
4 —Use XON/XOFF, ignore DSR, CTS
5 —Use XON/XOFF and DSR, ignore CTS
6 —Use XON/XOFF and CTS, ignore DSR
7 —Use XON/XOFF, DSR, and CTS

P1 Parallel Settings:

8 —Normal BUSY handshaking
9 —Inverted BUSY handshaking
10—ACK handshaking

Saved by **W** command: YES

Note: RTS and CTS are not used on S2. Therefore, **/R** or **/T** commands that affect port S2 and with parameters that affect RTS or CTS return the ERROR result code.

Default Port Settings

Transset 1000 default port protocols provide communication with the most widely-used kinds of equipment. However, settings may need to be changed to accommodate devices that do not use these settings.

Note that in the Communications Buffer Set, the setting of port S1 for Paths A, B, and D is forced by the setting of Path A. This is to prevent incoming modem calls from being disrupted when Paths are changed.

P1 Parallel Settings

When port P1 is parallel, its default protocol is the Centronics Parallel protocol using normal BUSY handshaking (/T8). This setting is the default for both the Communications Buffer Set and the Printer Buffer Set, in all Data Paths.

The P1 parallel protocol can be changed to use inverted BUSY handshaking (/T9 command) or ACK handshaking (/T10 command). BUSY handshaking, inverted BUSY handshaking, and ACK handshaking are the only settings available for port P1 when it is parallel.

Serial Port Settings

The two tables that follow list the default protocols for all Transet 1000 serial ports in both the Communications Buffer Set and the Printer Buffer Set, including P1 when it is serial.

Communications Buffer Set

	Baud	Data Bits	Par-ity	Stop Bits	DTR	DSR	RTS	CTS	DCD	XON/ XOFF	Default Commands
PATH A											
S1	1200	8	NO	1	NO	NO	NO	NO	NO	YES	/B1200/D8/P0/S1/R4/T4
S2	9600	8	NO	1	YES	NO	NO	NO	NO	NO	/B9600/D8/P0/S1/R1/T0
P1	9600	8	NO	1	NO	YES	NO	NO	NO	NO	/B9600/D8/P0/S1/T1
PATH B											
S1	1200	8	NO	1	NO	NO	NO	NO	NO	YES	/B1200/D8/P0/S1/R4/T4
S2	9600	8	NO	1	NO	NO	NO	NO	NO	YES	/B9600/D8/P0/S1/R4/T4
P1	9600	8	NO	1	NO	YES	NO	NO	NO	NO	/B9600/D8/P0/S1/T1
PATH C*											
S1	1200	8	NO	1	NO	NO	NO	NO	NO	NO	/B1200/D8/P0/S1/R0/T0
S2	9600	8	NO	1	YES	NO	NO	NO	NO	NO	/B9600/D8/P0/S1/R1/T0
P1	9600	8	NO	1	NO	YES	NO	NO	NO	NO	/B9600/D8/P0/S1/T1
PATH D											
S1	1200	8	NO	1	NO	NO	NO	NO	NO	YES	/B1200/D8/P0/S1/R4/T4
S2	9600	8	NO	1	NO	NO	NO	NO	NO	NO	/B9600/D8/P0/S1/R0/T0
P1	9600	8	NO	1	NO	YES	NO	NO	NO	NO	/B9600/D8/P0/S1/T1

Key:

DTR	data terminal ready
DSR	data set ready
RTS	request to send
CTS	clear to send
DCD	data carrier detect
XON/XOFF	use XON/XOFF on input and output
NO	not used
YES	used

* Path C selected with the **#P6** command. Path C selected with the **#P2** command or with front panel buttons is a direct line to the Smartmodem and has no port settings.

Printer Buffer Set

PATHS A and C:

	Baud	Data Bits	Par-ity	Stop Bits	DTR	DSR	RTS	CTS	DCD	XON/ XOFF	Default Commands
S1	9600	8	NO	1	YES	NO	NO	NO	NO	NO	/B9600/D8/P0/S1/R1/T0
S2	9600	8	NO	1	YES	NO	NO	NO	NO	NO	/B9600/D8/P0/S1/R1/T0
P1	9600	8	NO	1	NO	YES	NO	NO	NO	NO	/B9600/D8/P0/S1/T1

PATHS B and D:

	Baud	Data Bits	Par-ity	Stop Bits	DTR	DSR	RTS	CTS	DCD	XON/ XOFF	Default Commands
S1	9600	8	NO	1	YES	YES	NO	NO	NO	NO	/B9600/D8/P0/S1/R1/T1
S2	9600	8	NO	1	YES	YES	NO	NO	NO	NO	/B9600/D8/P0/S1/R1/T1
P1	9600	8	NO	1	NO	YES	NO	NO	NO	NO	/B9600/D8/P0/S1/T1

Key:

DTR data terminal ready
DSR data set ready
RTS request to send
CTS clear to send
DCD data carrier detect
XON/XOFF use XON/XOFF on input and output

NO not used
YES used

Return Break Signal—#B

Parameters: None
Default: None

The **#B** command causes Transet 1000 to send a break signal out the port issuing the command. The break signal is a spacing longer than the length of one character. This command can be used to interrupt transmissions to insert unrelated data, such as result codes.

Saved by **W** command: N/A

Escape Code Character Setting—#C

Parameters: Any three, printable ASCII (33-127) characters
Default: **$$$**

The **#C** command sets the escape code characters.

Saved by **W** command: NO

Escape Code Guard Time—#G

Parameters: 0-255, in 1/50-second increments
Default: 50 (one second)

The **#G** command sets the guard time that brackets the escape code.
#G0 disables the escape code guard time.

Saved by **W** command: NO

End Packet—#E

Parameters: None
Default: None

The **#E** command ends a packet of data, manually marking the end of a document.

Transet 1000 does not allow port setting changes during transmission of a packet (document). Software can use the **#E** command to delimit a packet, change port settings, and return on-line. The command is also useful when the **M0** command has disabled automatic marking.

Saved by **W** command: N/A

Load Code—#L

Parameters: Decimal ASCII digits, representing the number of code bytes to be loaded
Default: None

The **#L*n*** obtains a contiguous block of RAM in Transet 1000 high memory for the execution of 68008 code. The parameter ***n*** represents the number of bytes of code to be loaded. On receipt of the carriage return, Transet 1000 returns the ERROR result code if that many bytes are not available, OK if they are. After returning OK, Transet 1000 loads the next ***n*** bytes into memory, jump subroutines (JSRs) to the first byte, and executes the program.

If experienced using 68008 code, use the **#L** to download applications, create new commands, or change Transet 1000 functionality entirely.

Replay Source Setting—#R

Parameters: 0 (no source), 1 (S1), 2 (S2), and 3 (S1 and S2)
Defaults:

Communications Buffer Set:	Printer Buffer Set:
Path A - 2	Path A - 3
Path B - 0	Path B - 3
Path C - 0	Path C - 3
Path D - 0	Path D - 3

The **#R** command specifies which port sends data to the Replay Buffer. Note that P1, output only, cannot be a source. When the Mailbox is a circuit destination (see **#D** command), the **#R** command cannot also send data to the Replay Buffer, and instead returns ERROR.

Saved by **W** command: YES

Disable Front Panel Buttons—#S

Parameters: 0-1
Default: 1

#S0 disables front panel button operations (except the soft or full resets). This command is useful for software that needs complete control over Transet 1000 operations. In some instances, when front panel buttons are being pressed at the same time the **#S0** command is being issued, the command may not work properly.

#S1 re-enables front panel button operations

Saved by the **W** command: NO

Command State Lockout—#X

Parameters: 0-1
Default: 0

The **#X1** command prevents entry to the Command State via the port *not* giving the command. For example, if the #X1 command is given from S2, port S1 is locked out of Command State. #X0 unlocks Command State.

Note that Command State is not completely disabled for a locked-out port, and is actually entered with the escape code or program escape code. However, the only commands available are #B, Q0, Q1, Q2, and O. Once into Command State, a locked-out user must issue the O command to return on-line. Note also that disallowed commands return BUSY when result codes are enabled, as when the Command State is entered with **$$$**, but that result codes are disabled when Command State is entered with **<BREAK>$**. The Q1 or Q2 command enables subsequent disallowed commands to return the BUSY result code.

Saved by W command: YES

Restore Factory Defaults—#Z

Parameters: 0-1
Default: None

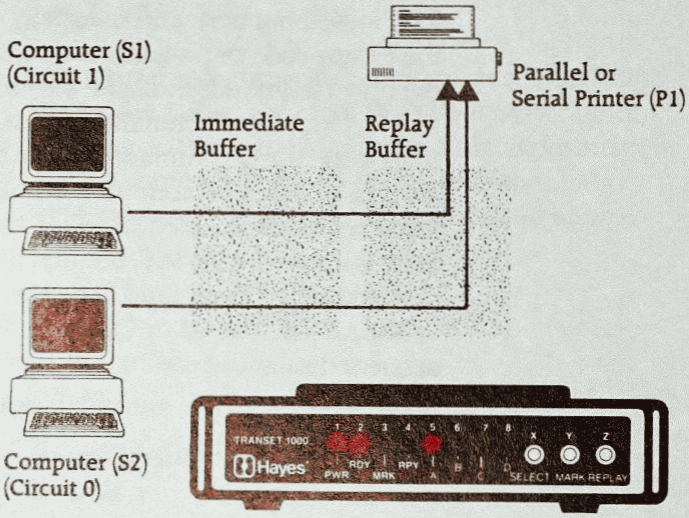
The **#Z0** command restores all factory defaults and resets Transet 1000 into the Communications Buffer Set.
The **#Z1** command restores all factory defaults and resets Transet 1000 into the Printer Buffer Set.
#Z? requests the current Set. Transet 1000 responds with 0 for Communications Buffer Set, 1 for the Printer Buffer Set.

Saved by W command: N/A

System Commands for Designing New Data Paths

The **X**, **#D**, and **#A** commands design new Data Paths by altering or creating data circuits that comprise the Data Paths.

Each Data Path by default consists of two circuits, designated 0 and 1. For example, Data Path A of the Printer Buffer Set consists of the following two circuits:



The commands described in this section alter the existing circuits 0 and 1 or create the unused circuits 2 and 3. This can be done for all Paths in both Sets.

Caution: Changing circuits involved in Mailbox operation may disable the Mailbox. These circuits are in the Communications Buffer Set:

Circuit 0 in Paths A, B, and D
Circuit 1 in Path B

Step One: Specify Path—A, B, C, or D

Parameters: None
Default: Path issuing the command or last-specified Path

The first step in designing a circuit is to specify the Path in which the circuit is to be changed or created.

Step Two: Select a Circuit—X

Parameters: 0-3
Default: Circuit issuing the commands or last-specified circuit

After specifying the Path of the circuit, select the circuit, 0 through 3.

Step Three: Destination Setting—#D

Parameters: Derived from a bit map (see below)
Default: None

The next step is to specify the destination for the data that travels the specified circuit. There can be up to five destinations for the circuit. The parameters that specify the destination(s) are derived from the following bit map:

Bit 7—Replay Buffer—128
Bit 6—Mailbox — 64
Bit 2—Port S2 — 4
Bit 1—Port S1 — 2
Bit 0—Port P1 — 1

Bits 3 through 5 are not used.

To specify one destination for the circuit, set the corresponding bit to 1. To specify more than one destination, set all destination bits to 1, then add the decimal equivalent (right hand column) for each destination. The sum becomes the **#D** parameter.

For example, to set the Replay Buffer as the circuit destination, use the **#D128** command. To set the Replay Buffer and Port P1 as destinations for a circuit, use the **#D129** command.

The **#D** command cannot be used to assign the Replay Buffer as a destination for the same circuit in which the Mailbox is also a destination.

Step Four: Specify the Port To Be the Data Source—S1 or S2

Use the Specify Port command to specify the port that will be the source of the circuit's data.

Step Five: Assign the Source for the Circuit—#A

Parameters: None
Default: N/A

The **#A** command sets the specified port as the data source and completes the circuit.

The new circuit cannot be saved in non-volatile memory with the W command.

Example: Designing a Circuit

This diagram shows normal data flow for circuits 0 and 1 in the Printer Buffer Set's Path A.

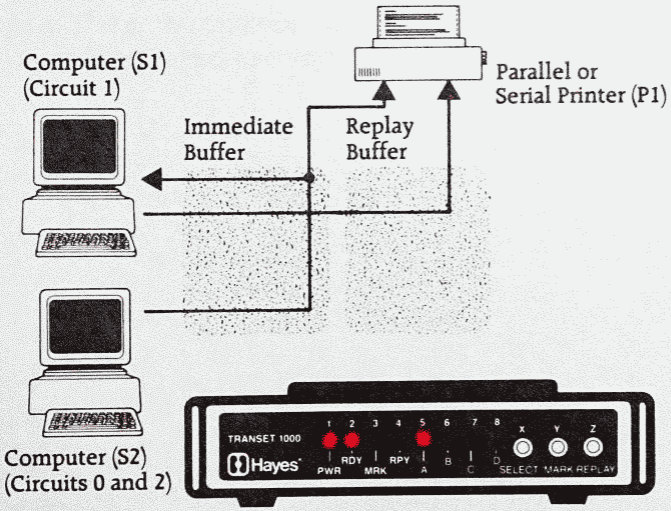
To change the Printer Buffer Set's Path A to make both S1 and P1 the destinations for the source S2:

STEP 1: Issue the **A** command to specify the Path.
STEP 2: Issue the **X2** command to specify the new circuit.
STEP 3: Issue the **#D3** command, the parameter of which is the decimal equivalent of the binary 00000011, which sets bits 0 and 1, corresponding to ports P1 and S1, as destinations.
STEP 4: Issue the **S2** command to specify the source port.
STEP 5: Issue the **#A** command to assign the source port to the circuit and complete the circuit.

The commands could be combined:

AX2#D3S2#A

The resulting data flow for Path A is:



Summing It Up

There are three ways to put Transet 1000 into the Command State:

- with front panel buttons: press SELECT and MARK, then press REPLAY and release all buttons; use 1200 baud to send commands.
- with the escape code: one-second pause, **$$$**, one second pause; use 9600 baud to send commands.
- with the program escape code: **<BREAK>$**; use 9600 baud to send commands. Result codes are not sent.

Commands are all sent with 8 data bits, no parity, and 1 stop bit; line feeds should be included. (If you change port settings, use the new settings.)

Transet 1000 sends result codes in answer to the escape code and to commands.

Return to the On-line State with the **O** command.

There are two ways to reset Transet 1000:

- The Full Reset restores all factory default settings
- The Soft Reset restores all settings stored in non-volatile memory for the current Set

Error Conditions

7

Introduction

The PWR light flashes rapidly when Transet 1000 detects an error condition. This rapid flashing is much faster than the blinking that the PWR light does when it signals the presence of mail in the mailbox.

Error conditions can be traced to a number of causes. To determine the cause, press the SELECT button while the PWR light is flashing rapidly. The A B C D lights, which ordinarily indicate the current Data Path, instead display an error code.

Refer to the table on page 7-2 to determine the source of the problem. In most cases, the error is caused by a loose cable or by a mismatch in port settings between Transet 1000 and a piece of equipment connected to it. The error condition can be corrected by tightening the connection or by changing port settings with the Communication Commands.

Table of Error Codes

Lights				Error	Cause
A	B	C	D		
on	off	off	on	:Port S2	Port mismatch error. Transet 1000 port settings do not match those required by equipment connected to the port.
on	off	on	off	:Port S1	Same as above.
on	off	on	on	:Port P1	Same as above.
on	on	off	off	:EEPROM checksum error	Checksum incorrect and EEPROM reprogrammed with factory defaults.
on	on	on	off	Unused	
on	on	on	on	:Fatal Error	Transet 1000's computer took improper action.
off	off	on	on	:Bent RAM pins	RAM in row A has a bent pin.
off	on	on	off	:Bent RAM pins	RAM in row B has a bent pin.

Clearing the Error Condition

The following solutions correct most errors:

- Port mismatch errors: Check cable connections, then make sure port settings for your equipment are compatible with those listed on pages 6-22 and 6-23. Transet 1000 port settings can be adjusted to match those of other equipment with the Configuration Program or with Communication Commands.
- EEPROM checksum error: Transet 1000 restores factory defaults to correct this part of its memory. Reset Transet 1000.
- Fatal error: Reset Transet 1000, and, if the error persists, contact Hayes Customer Service. See the Warranty pamphlet.
- Bent RAM pins: Reset Transet 1000 and, if the error persists, contact Hayes Customer Service. See the Warranty pamphlet.

When the suspected cause of the error is eliminated, clear the error condition: press and release the REPLAY button, then press the SELECT button.

Appendices

Appendix A
Transet 1000 Physical and Environmental Specifications

- Power consumption: 7 watts
- Power pack 120VAC, 60 Hz, 13.5 VAC output
- Size: 1.5 inch x 5.5 inch x 9.6 inch
  3.81 cm x 13.97 cm x 24.38 cm
- Operating Specifications:
  Temperature: 5° to 35°C (41° to 95°F)
  Humidity: 5% to 95%
- Storage Specifications:
  Temperature: -20° to 85°C (-4° to 185°F)
  Humidity: 5% to 95%
- Battery: 3-volt, lithium, model BR2325

Appendix B
FCC Part 15

FCC regulations Part 15, Subpart J require that information be provided to you concerning the interference potential of the Transet 1000 and simple measures that can be taken to correct the interference.

Transet 1000 generates and uses radio-frequency energy. If not installed according to the Transet 1000 Getting Started and used properly, the Transet 1000 may interfere with your radio or TV reception.

Transet 1000 has been type-tested. It complies with the limits for a Class B computing device in accordance with Part 15, Subpart J, which is designed to provide reasonable protection against radio-frequency interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If interference does occur, the following measures are suggested to correct the problem:

- Move the receiving antenna
- Move the Transet 1000 away from the radio or TV
- Plug the Transet 1000 into a different electrical outlet
- Talk to an experienced radio or TV technician for other suggestions

You can also order a booklet called "How to Identify and Resolve Radio/TV Interference Problems" from the U.S. Government Printing Office, Washington D.C. 20402, Stock # 004-000-00345-4.

Appendix C
Cable Information

Transset 1000's flexible port configuration requires the use of "custom" cables for connection to microcomputers, printers, modems, and other devices. This appendix provides complete information on cables to support a variety of host computers and peripheral devices. All cables may be assembled using standard connectors and shielded multi-connector cable.

Host Cables

This section lists pin assignments for "host" cables, which connect Transet 1000 to a computer.

Transet 1000 Port S2 To IBM® PC, PC-XT (Serial Port)

(Cable No. 07-00062)

Transet 1000 Port S2 9 Pin Male		IBM PC Serial Port 25 Pin Female	
SHIELD	1	1	SHIELD
DCD	2	4	RTS
GND	3	7	GND
RXD +	8		
TXD –	5	3	RCVR
DTR	6	5	CTS
		6	DSR
		8	DCD
		22	RI
DSR	7	20	DTR
RXD –	9	2	XMIT

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Transet 1000 Port S2 To IBM PC-AT (Serial Port)

(Cable No. 07-00064)

Transet 1000 Port S2 9 Pin Male		IBM PC-AT Serial Port 9 Pin Female	
SHIELD	1	*	SHIELD
DCD	2	7	RTS
GND	3	5	GND
RXD +	8		
TXD –	5	2	RCVR
DTR	6	1	DCD
		6	DSR
		8	CTS
		9	RI
DSR	7	4	DTR
RXD –	9	3	XMIT

* Shield connected to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Transet 1000 Port S1 To IBM PC, PC-XT (Serial Port)

(Cable No. 07-00082)

Transet 1000 Port S1 9 Pin Female		IBM PC Serial Port 25 Pin Female	
SHIELD	*	1	SHIELD
RXD	2	2	TXD
TXD	3	3	RXD
DTR	4	5	CTS
		6	DSR
		8	DCD
		22	RI
GND	5	7	GND
DSR	6	20	DTR
CTS	8	4	RTS

* Shield connects to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

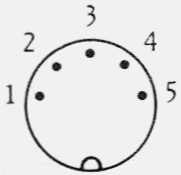
Transet 1000 Port S2 To Apple® IIc (Serial "Modem" or "Printer" Port)

(Cable No. 07-00066)

Transet 1000 Port S2 9 Pin Male		Apple IIc Serial Port 5 Pin DIN Male	
SHIELD	1	*	SHIELD
GND	3	3	GND
RXD +	8		
TXD –	5	4	RCVR
DTR	6	5	DSR
DSR	7	1	DTR
RXD –	9	2	XMIT

5 Pin DIN Male Connector (Looking Into Connector)

Note: Pin assignment is per Apple IIc specification and differs from DIN standard.



* Shield connects to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality shielded data cable only.

Transet 1000 Port S2 To Apple Macintosh™ (Serial "Modem" or "Printer" Port)

(Cable No. 07-00075)

Transet 1000 Port S2 9 Pin Male		Macintosh Serial Port 9 Pin Male	
SHIELD	1	1	SHIELD
GND	3	3	GND
RXD +	8	8	RXD +
TXD –	5	9	RXD –
DTR	6	7	DSR
RXD –	9	5	TXD –

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Transet 1000 Port S2 To Apple IIe (Super Serial Card)

(Cable No. 07-00069)

Transet 1000 Port S2 9 Pin Male		Apple IIe Super Serial Card 25 Pin Male	
SHIELD	1	*	SHIELD
DCD	2	4	RTS
GND	3	7	GND
RXD +	8		
TXD –	5	3	RCVR
DTR	6	5	CTS
		6	DSR
		8	DCD
		22	RI
DSR	7	20	DTR
RXD –	9	2	XMIT

* Shield connects to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Peripheral Device Cables

This section lists pin assignments for peripheral cables, which connect Transet 1000 to devices other than computers.

Technical Note—Serial Printer on Port P1

With a serial device connected to Port P1, Transet 1000 looks to the serial device's DTR (Data Terminal Ready) line as a "busy" signal (pin 20 on the device's DB-25 interface connector). The serial device on P1 must support this signal. A logic "0" (space) on DTR tells Transet 1000 that the device is on and able to accept data.

Also, the Port P1 TXD (Transmit Data) line uses standard TTL levels; the device must be compatible with these levels.

Many popular serial devices meet these requirements. These include:

Apple ImageWriter
Apple Scribe®
Houston Instruments plotters

Other equipment may have special cabling or reconfiguration requirements. If your equipment is not listed above, please consult your dealer or your equipment's User Manual for additional information on your equipment's interface requirements.

Transet 1000 Port P1 To Serial Printer

(Cable No. 07-00081)

Transet 1000 Port P1 15 Pin Male			Serial Printer 25 Pin Male	
TXD (/STB)	1		3	RD
D3	5		7	SIG. GND
GND	13			
D4	6	(Jumper)		
/INIT	14			N/C
DSR (BUSY)	11		20	DTR
SHIELD	*		1	FRAME GND

* Shield connected to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Transet 1000 Port P1 to Centronics®-Type Parallel Printer Interface

(Cable No. 07-00067)

Transet 1000 Port P1 15 Pin Male		Centronics Interface 36 Pin Centronics-Type Connector	
/STB	1	1	/STB
D0	2	2	DI
D1	3	3	D2
D2	4	4	D3
D3	5	5	D4
D4	6	6	D5
D5	7	7	D6
D6	8	8	D7
D7	9	9	D8
/ACK	10	10	/ACK
BUSY	11	11	BUSY
PE	12	12	PE
GND	13	33	GND
		36	/SLCT IN
INIT	14	31	INIT
ERROR	15	32	ERROR
SHIELD	*	16	
		17	GND
		19	
		THRU	
		30	

* Shield connected to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Transet 1000 Port S1 To Hayes Smartmodem 300, Smartmodem 1200, or Smartmodem 2400.

(Cable No. 07-00070) Transet 1000 Port S1 9 Pin Female		Hayes Smartmodem 300 Hayes Smartmodem 1200 Hayes Smartmodem 2400 25 Pin Male	
DCD	1	8	DCD
RXD	2	3	RXD
TXD	3	2	TXD
DTR	4	20	DTR
GND	5	7	SIG. GND
DSR	6	6	DSR
RTS	7	4	RTS
CTS	8	12	HS
RI	9	22	RI
SHIELD	*	1	SHIELD

* Shield connects to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Transet 1000 Port S1 To Serial DTE Device

(Cable No. 07-00073)

Transet 1000 Port S1 9 Pin Female		Serial DTE 25 Pin Male	
DCD	1	8	DCD
RXD	2	2	TXD
TXD	3	3	RXD
DTR	4	6	DSR
GND	5	7	GND
DSR	6	20	DTR
RTS	7	5	CTS
CTS	8	4	RTS
RI	9	22	RI
SHIELD	*	1	SHIELD

* Shield connected to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Transet 1000 Port S1 To Serial DCE Device

(Cable No. 07-00080)

Transet 1000 Port S1 9 Pin Female		Serial DCE Device 25 Pin Male	
DCD	1	8	DCD
RXD	2	3	RXD
TXD	3	2	TXD
DTR	4	20	DTR
GND	5	7	SIG. GND
DSR	6	6	DSR
RTS	7	4	RTS
CTS	8	5	CTS
RI	9	22	RI
SHIELD	*	1	SHIELD

* Shield connects to metal shell of connector.

All connectors are D-subminiature type with metal shells except as indicated. Use high-quality, shielded data cable only.

Appendix D
Routing Data to a Parallel Printer

This appendix describes how to route parallel printer data to the serial port of an IBM PC, XT, or AT, using the Disk Operating System (DOS version 1.1 or higher) MODE.COM command file. Before performing these steps, make sure the disk, default disk drive, and directory contains the DOS MODE.COM file, so that the file is accessible to the computer. (To check if the file is on the disk, type **DIR MODE.COM**.)

Note: If you are connecting Transet 1000 to your computer's COM2 serial interface, substitute **COM2** for **COM1** in these instructions.

STEP 1: Turn on the computer.

STEP 2: From the system prompt, type in the following:

```
COPY CON TRANSET.BAT <CR>
MODE COM1:96,N,8,1,P <CR>
MODE LPT1:=COM1: <CR>
^Z <CR>
```

(where <CR> is a carriage return, and ^Z is entered by holding in the **Ctrl** key while striking the **Z** key).

This process has created a batch file. The batch file is executed whenever you type in its name.

STEP 3: From the system prompt, type:

```
TRANSET <CR>
```

The commands in the batch file are executed. Now parallel printer data is sent through the serial interface, to Transet 1000, and on to your printer(s).

Every time you start up your computer, type in **TRANSET <CR>**.

Hint: If you already use an AUTOEXEC.BAT file (a batch file that is executed automatically when you start up your computer) you can also add the TRANSET command to the AUTOEXEC.BAT file.

Appendix E
Path C Direct and Path C Buffered

In the Communications Buffer Set, Transet 1000 provides two Data Paths to the Smartmodem. Each has different attributes for different applications.

Direct Path C

Path C selected either with front panel buttons or with the #P2 command is a direct connection to the Smartmodem with a maximum throughput of 4800 baud. Because Transet 1000 does not control the baud of this connection, it is useful for software that relies on the Hayes Smartmodems' autobaud feature.

The Smartmodem automatically selects transmission speed according to the rate at which data is sent to it. When in this direct Path C, Transet 1000 responds to the long **<BREAK>$** program escape code but not to the **$$$** escape code.

In this direct Path C, RxD and TxD are "wire" connected. DCD on S1 goes to DTR on S2, DSR on S2 goes to DTR on S1.

Buffered Path C

Path C selected with the **#P6** command is a buffered Path to the Smartmodem, using baud rates that can be changed with Communications Commands. Default baud rates are 9600 baud from S2 to the Transet 1000 Immediate Buffer, and 1200 baud from Transet 1000 to S1. When on-line with a remote Smartmodem, pressing the REPLAY button in this Path C sends data from the Replay Buffer (sent there in another Path) to the Smartmodem at S1.

Remember when changing port settings for Path C that they affect only the Path C selected by the **#P6** command, not the direct connection.

Glossary

Glossary

append To add one string of data to the end of another string.

baud The speed at which data is transmitted.

break signal A string of data consisting of zeros transmitted for a time longer than the time it takes to transmit one ordinary character. Used by many communications programs to indicate an interruption in normal transmission.

buffer An area of electronic memory set aside to store data for later use.

Buffer Set A group of Data Paths. Transet 1000 provides two Buffer Sets, the Communications Buffer Set, with Data Paths for printer and modem buffering, and the Printer Buffer Set, with Data Paths for printer buffering.

circuit The route taken by data from one port or buffer to another. The combination of from one to four circuits is a Data Path.

CTS	Clear To Send, a positive response to RTS.
data	Information that can be electronically stored.
Data Path	A pattern for routing data to perform tasks. A Data Path consists of from one to four circuits.
DCD	Data Carrier Detect. A signal used by a device to indicate that it has detected a modem's carrier signal.
default	The setting used when none is specified.
destination	The port or buffer to which data is sent.
device	Any computer or peripheral connected to Transet 1000, including printers, plotters, modems, and network ports.
document	A string of data with a marked beginning and end.
DSR	Data Set Ready, a handshaking signal that indicates a device is ready to begin communications.
DTR	Data Terminal Ready. A protocol signal a device sends to indicate that it is ready to communicate with another device.

Immediate Buffer	The printer buffer Transet 1000 uses when the Replay Buffer is locked.
Mailbox	The portion of Transet 1000 memory that buffers modem messages.
Mailbox Dump	The Data Path in the Communications Buffer Set that transfers modem messages into the Replay Buffer.
Mailbox Summary	The Communications Buffer Set selection that sends the first three lines of all messages from the Mailbox to the Printer.
mark (a document)	To define a string of data as a document by assigning it a beginning and end with the MARK button or with the **#E** command.
non-volatile memory	An area of memory that is not erased by a power interruption. In Transet 1000, this area stores operational features, such as the default Path Transet 1000 adopts when it is turned on.
packet	a string of data Transet 1000 defines as one unit: a document.
port	A connector through which data is sent and received.
protocol	A standard set of electronic signals used by devices to establish how data is to be exchanged.

RAM	Random Access Memory, the portion of Transet 1000 memory devoted to buffering data.
replay	To send a copy of the Replay Buffer's data to a port or to another buffer.
Replay Buffer	The buffer that stores data to be reproduced, protected, or transferred to another device.
reset (full)	The operation that restores the Transet 1000 factory-installed settings, regardless of new settings stored in non-volatile memory.
reset (soft)	The operation that restores the settings saved in non-volatile memory.
RTS	Request To Send. A signal used in some hand-shaking protocols to question a device whether it is ready to receive data.
Set	See Buffer Set.
source	The buffer or port from which the Replay Buffer receives its data.
syntax	The "grammar" of commands. The format for command lines that allows Transet 1000 to interpret them correctly.

terminal emulator — A program that allows characters typed on a computer keyboard to be sent directly to another device. Sometimes called dumb terminal emulation.

XMODEM — A protocol that checks for transmission errors by comparing the sum of bytes sent to the sum of bytes received.

XON/XOFF — A standard protocol used by devices receiving data, consisting of two signals: ready to receive, and not ready to receive.

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