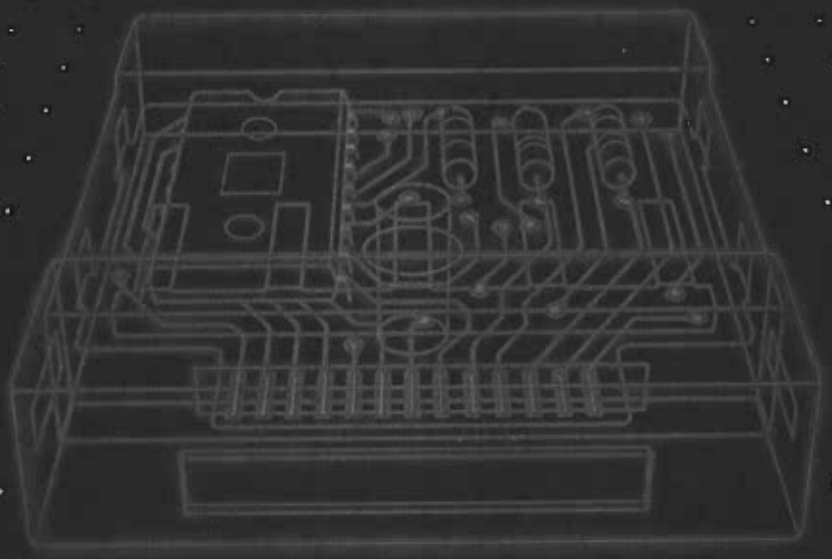
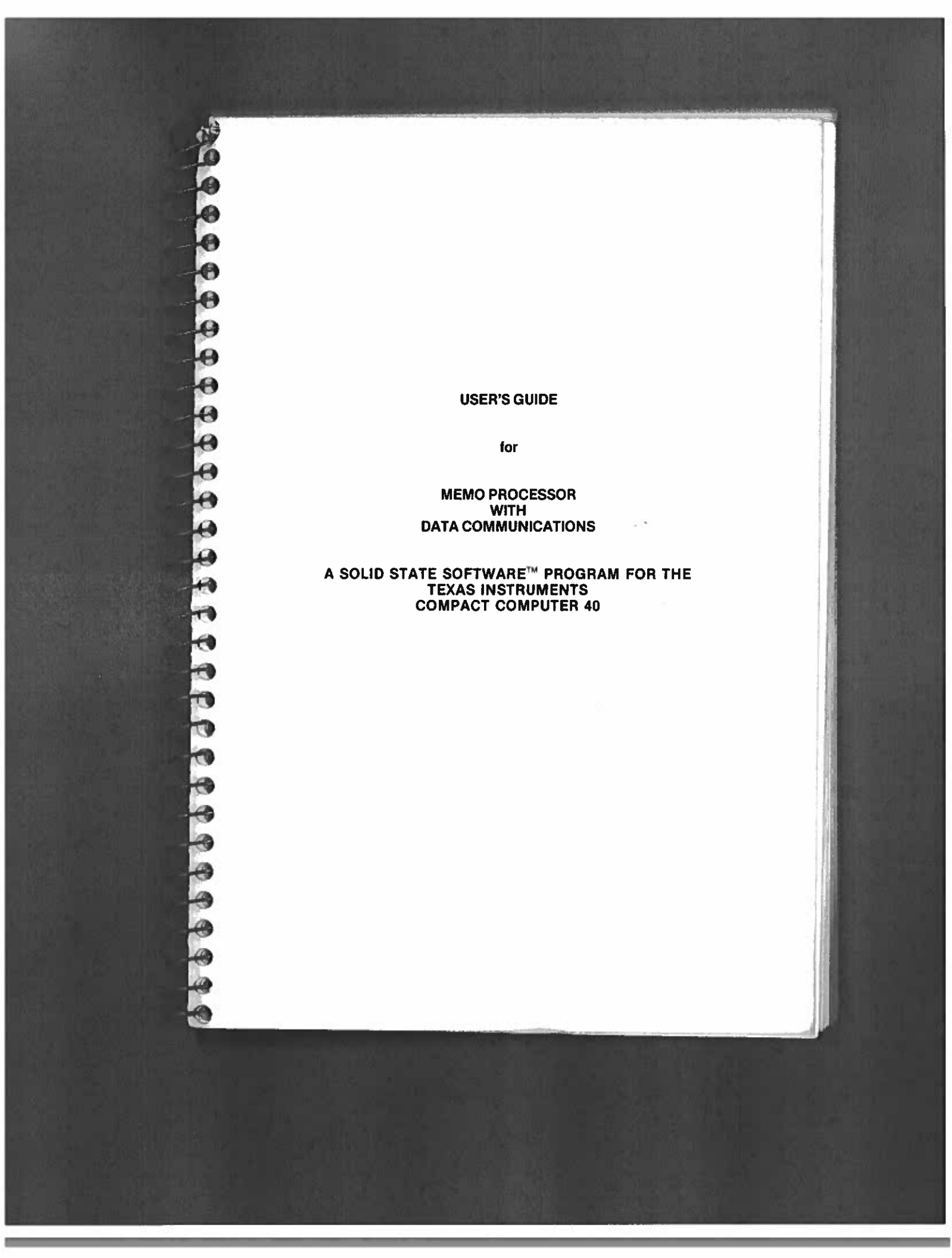
TEXAS INSTRUMENTS **SOLID STATE SOFTWARE™ CARTRIDGE**

FOR THE COMPACT COMPUTER 40



MEMO PROCESSOR

WITH DATA COMMUNICATIONS



USER'S GUIDE

for

MEMO PROCESSOR
WITH
DATA COMMUNICATIONS

A SOLID STATE SOFTWARE™ PROGRAM FOR THE
TEXAS INSTRUMENTS
COMPACT COMPUTER 40

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CHAPTER 1
GETTING ACQUAINTED

Introduction

Welcome to the world of word processing and data communications.

The Memo Processor software package transforms your Texas Instruments Compact Computer 40 into a portable, powerful word processor and communications terminal.

With the word processing portion of Memo Processor, you can create, print, and store documents using features that—up to now—were found only on larger, more expensive word processing systems.

With the communications portion of Memo Processor, you can use the CC-40 as if it were a standard communications terminal. This gives you portable access to many computers, including

- Central timesharing systems such as TEXNET℠, THE SOURCE℠, and CompuServe®
- Corporate computers that support ASCII terminals
- Personal computers running communications programs such as public bulletin boards
- Other CC-40's running Memo Processor

Memo Processor also provides full integration of word processing and communications. You can create a document using word processing and then send it as electronic mail. You can also merge received text with a document in the word processor and then edit, print, save, or re-send the result.

Now you can create, revise, and communicate documents with unprecedented ease, using the portable Compact Computer 40 together with the powerful software package: Memo Processor!

Features

The many features built into the CC-40 console and the Memo Processor software package make word processing and data communications almost as simple as typing on a standard typewriter and dialing the phone. Review the following list of features so that you will be sure to use the full power and convenience of Memo Processor.

℠THE SOURCE is a service mark of Source Telecomputing Corporation.
℠TEXNET is a service mark of Texas Instruments Incorporated.
® CompuServe is a registered trade mark of H&R Block Company.

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Word Processing

- Full upper and lower case alphabet and typewriter symbols
- Up to 32 tab stops
- Line length variable from 9 to 80 characters
- Automatic word wrap
- Automatic page size control
- **[SCAN]** and **[AUTO]** functions for easy document reading
- Full-feature editing: searching, deleting, inserting, moving, copying
- Automatic reformatting while editing
- Document printing on all CC-40 compatible printers
- Document storage on a mass storage device such as *Wafertape*™ cartridges

Communications

- Emulation of a standard asynchronous ASCII terminal (see glossary for definitions of these terms)
- Capability to send and receive full ASCII code set
- Full 80 character by 24 line terminal memory with **[SCAN]** and **[AUTO]** functions for easy reading of received data
- Flexible baud rate, parity, and framing settings for compatibility with many computers, including all major timesharing systems
- Ability to send word processing documents
- Ability to merge received data with word processing data

Special Features

- **[WHERE?]** function tells you where the cursor is located within a document and what function you are performing.
- **[WHAT?]** function repeats system messages when needed.
- **[SCAN]** and **[AUTO]** make it easy to read your document and communications screen without repetitive keystrokes.
- Function keys provide access to all of the special features—no commands to remember, no menus to walk through.
- System messages are simple and self-explanatory.

Using this Guide

This guide is designed to help you learn about the many capabilities of Memo Processor and how to use them. It is also designed to serve as a reference manual for you to use after you have become familiar with Memo Processor.

CHAPTER 1
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Learning to Use Memo Processor

The most important information for you to learn is contained in this chapter. It provides a basic introduction to the computer's overall operation. After you have read and understood this material, you will be ready to learn specifically about the word processing and data communications portions of Memo Processor as discussed in chapters 2, 3, and 4.

There are two basic approaches you may want to use to become acquainted with Memo Processor—experimenting and structured reading. This guide is written to accommodate both of these approaches, and you will probably mix your approach to learning Memo Processor—experimenting at some times and reading the tutorial sections at other times. As you work, remember to turn to this guide whenever you need help.

Experimenters

Many of you will "dive right in" and experiment with Memo Processor's operation. There are several sections designed to help you with this approach. First, though, you should read the section in this chapter entitled "Memo Processor Fundamentals." Then you can start experimenting. As you experiment, remember the following guidelines.

- If you are not sure which function to use for a given operation, look through the Table of Contents for a section on that operation.
- If you need assistance using a specific function, refer to chapter 5 which presents a description of each Memo Processor function in alphabetical order.
- If you do not understand a message displayed by Memo Processor, refer to Appendix E which lists each message in alphabetical order. There you will find an explanation of why the message appears and, if appropriate, what steps you need to take in response to the message.
- Be sure to read Appendix B which provides some suggestions for efficient use of the system.

Readers

In addition to experimenting, you may at times prefer a more guided approach to learning about Memo Processor. Chapters 1 through 4 are written and organized to serve this purpose most effectively when read from beginning to end.

CHAPTER 1
GETTING ACQUAINTED

- Chapter 1 introduces you to Memo Processor and provides the basic concepts needed for using the system.
- Chapter 2 is an introduction to word processing. If you have never used a word processor, this chapter can serve as a helpful tutorial. If you have used a word processor before, chapter 2 can serve as a useful review.
- Chapter 3 explains how to use Memo Processor as a communications terminal for accessing timesharing systems or other compatible computers.
- Chapter 4 explains techniques for using word processing and communications together.

Reference Material

In addition to serving as a tutorial manual, this guide also serves as a complete reference manual for Memo Processor. The Table of Contents is designed to help you quickly find the discussion of a specific topic in the main chapters of the text. The alphabetical organization of chapter 5 allows you to flip easily through the pages to find the desired function, and the appendices contain a variety of reference material for specialized needs.

Overlay

Memo Processor offers most of its power through the use of special color-coded keys which allow you to edit text and control the functions of the system. Look at the Memo Processor keyboard overlay which comes with the software package and is shown in the following illustration. It shows which keys to press for each Memo Processor function. The overlay should be placed on the CC-40 keyboard while you are learning to use Memo Processor.

Typeset Conventions Used in this Manual

The instructions and examples in this guide are presented using special typestyles and conventions to clarify the meaning. You should familiarize yourself with these conventions so that you can easily understand the instructions and examples which are provided.

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GETTING ACQUAINTED

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GETTING ACQUAINTED

- Characters shown in bold face typestyle are characters that you type.
- Characters shown in typewriter style are messages displayed by Memo Processor. For example, when you start up Memo Processor, the following message is displayed.

```
Welcome to Memo Processor
```

- When a word in boldface typestyle is shown in brackets, such as **[UCL]**, this indicates that you are to press the key whose name is shown in the brackets. For example, if the text says "press **[SHIFT] [UCL]**" this means that you are to press the keys labeled SHIFT and UCL.
- If the name in brackets is one of the Memo Processor functions such as **[NEW]**, you first press the **[FN]** key and then press the key marked on the overlay for that function. For example, to use the **[NEW]** function, press the **[FN]** key and then press the **N** key. Note that after a function has been described in this manual, the directions for accessing the function are shown as **[FN] [NEW]** and not **[FN] N**.
- If the name in brackets is a control code such as **[X-ON]**, you first press the **[CTL]** key and then press the key marked on the overlay for that control code. For example, to use the **[X-ON]** function, press the **[CTL]** key and then press the **Q** key. Note that after a control code has been described in this manual, directions for accessing the control code are shown as **[CTL] [X-ON]** and not **[CTL] Q**.

Necessary Equipment

The equipment you need depends on how you use the system. For example, word processing requires only the CC-40 console and the Memo Processor cartridge. However, the complete word processing and communications package is designed to accommodate the CC-40 console, Memo Processor cartridge, a mass storage device such as the *Wafertape*™ Digital Tape Drive, any parallel or serial printer which is compatible with the communications device you are using, and a communications modem. Each of these options is discussed in the following section. Illustrations showing the equipment configurations for each option are shown at the end of this section.

For Printing

If you want to print copies of documents on paper, you may use either the Printer/Plotter peripheral or any parallel or serial printer which is compatible with the communications device.

TI's compact Printer/Plotter peripheral lets you print on 2 1/4-inch paper, using 18 or 36 characters per line. It is battery-powered and small enough to carry while traveling.

You can also use a communications device connected to a standard serial or parallel printer. This setup allows you to print on standard 8 1/2-inch paper using up to 80 characters per line. This combination can provide letter-quality documents but is not as portable as the compact Printer/Plotter.

For Communications

The communications portion of Memo Processor requires the following equipment.

First, you need a communications device such as the TI RS232 Interface peripheral. This allows you to communicate with any other asynchronous communications device. When used with a proper cable, the communications device allows you to make a direct communications connection to any computer which is compatible with the communications device.

Secondly, to communicate over phone lines, you need a modem. The modem you need depends on the computer you will be calling. Refer to the *Owner's Manual* of the computer you are accessing for more information on the modem specifications which that computer requires. With Memo Processor, you can use 110 and 300 baud full and half duplex asynchronous modems.

For Document Storage

If you want to save Memo Processor documents for later modification and printing, you may use a mass storage device such as TI's *Wafertape*™ Digital Tape Drive. The *Wafertape* Digital Tape Drive lets you store documents on continuous-loop *Wafertape* cartridges. Stored documents can subsequently be read from the *Wafertape* cartridges back into the console for editing, printing, communications, etc.

CHAPTER 1
GETTING ACQUAINTED

Configurations of Equipment

Memo Processor supports many combinations of the above equipment. The following illustration shows some samples of possible combinations. Your TI dealer can recommend a combination suited specifically to your needs.

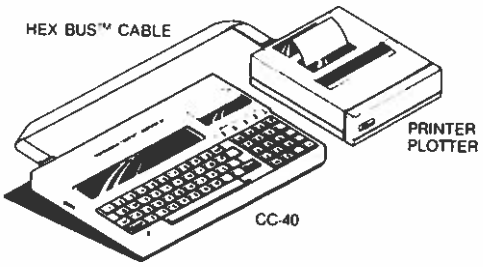
Note: Your communications device may have both a serial and parallel port. This enables you to connect it to a modem and a parallel printer at the same time.

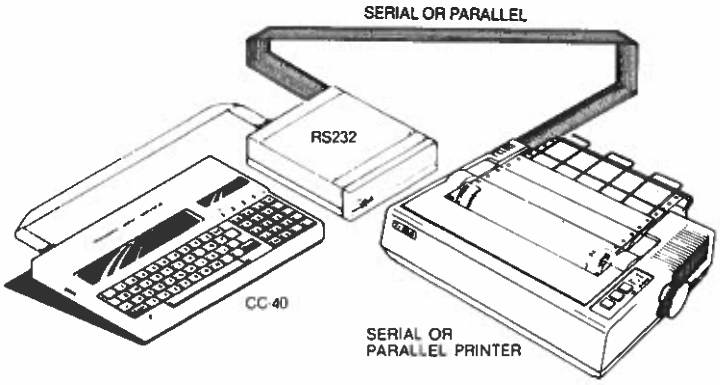
Setting up the Equipment

The *Compact Computer 40 User's Guide* contains complete instructions for setting up your console and peripherals. Refer especially to chapter 1 ("Setting up the CC-40") and chapter 3 ("Set-up Instructions for Peripherals").

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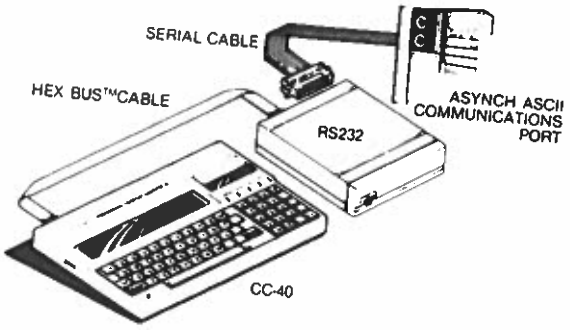
Necessary Equipment For Printing

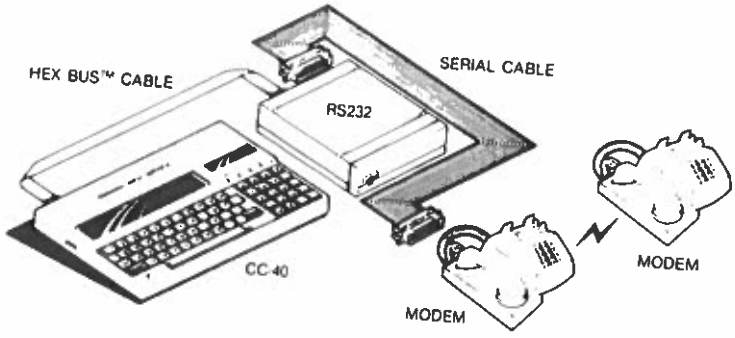




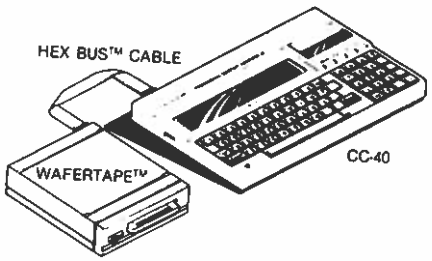
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Necessary Equipment For Communications

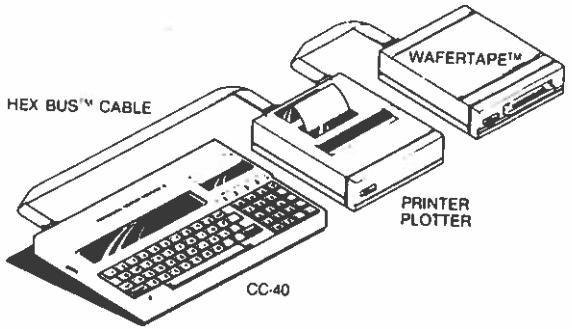




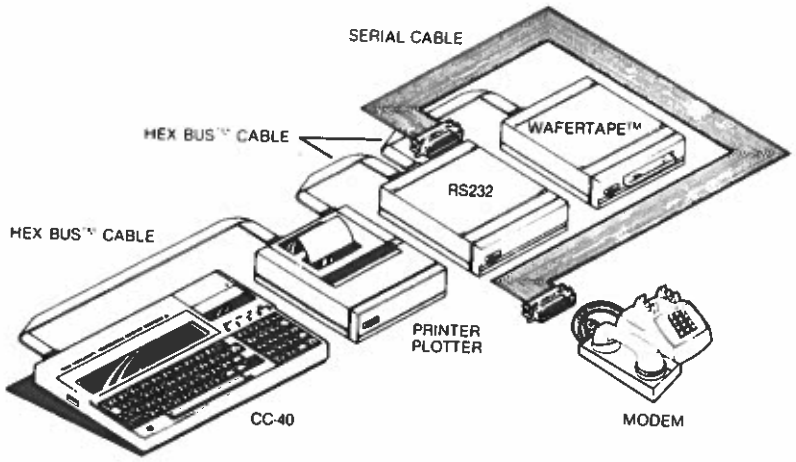
Necessary Equipment For Document Storage

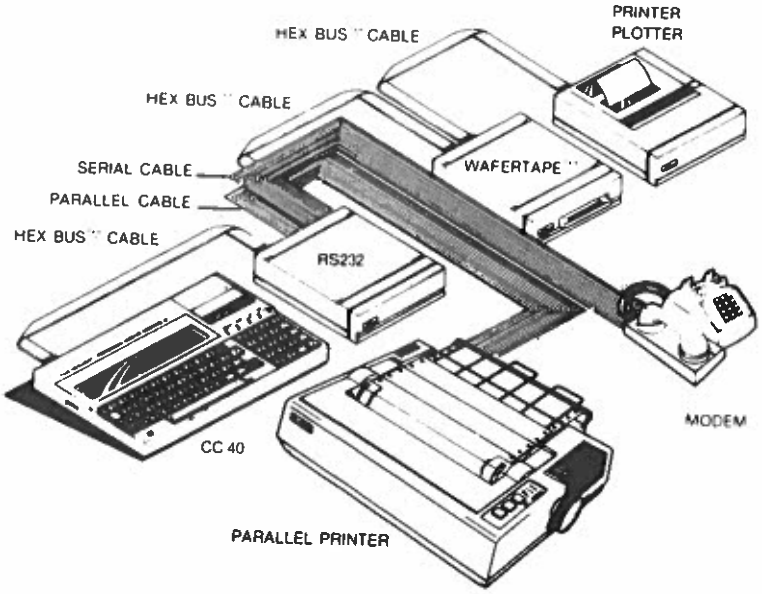


Configurations Of Equipment



Configurations Of Equipment *(continued)*





Note: A serial printer may be used if a serial modem is not connected to the RS232.

CHAPTER 1
GETTING ACQUAINTED

Memo Processor Fundamentals

This section provides information about starting up, accessing, and leaving Memo Processor. Also discussed are the messages which Memo Processor displays and the many function and control keys which provide access to Memo Processor's capabilities.

Starting Up Memo Processor

Install the Memo Processor *Solid State Software*™ cartridge following the instructions in the "Installing or Replacing a Cartridge" section in chapter 3 of the CC-40 *User's Guide*.

After the cartridge is installed, turn the console on by pressing the **[ON]** key. If a message appears in the display, refer to the CC-40 *User's Guide* for an explanation of the message and any necessary action which you may need to take.

At this point, the CC-40 is ready to perform calculations, accept commands, and support programming in the BASIC programming language. This state is called the BASIC Operating System or BASIC Command Level.

To get from the BASIC Command Level to Memo Processor, follow these steps.

You press	and the display shows
[RUN]	RUN
[SHIFT] 2	RUN "
MP	RUN "MP
[SHIFT] 2	RUN "MP"
[ENTER]	(C) 1983 Telos Software Products
[ENTER]	Welcome to Memo Processor Checking memory... Ready for new document (or the display shows the first line of the document left in memory)

At this point, Memo Processor is ready to perform word processing operations. If you want to switch to communications, use the **[SET COMM]** or **[COMM]** functions as explained in chapter 3.

If the above steps do not work as described, verify that the equipment is set up properly and that the Memo Processor cartridge is installed. Make sure everything is typed correctly, including the quotation marks, and try again. Further help is provided in the CC-40 *User's Guide*.

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Quick Access to Memo Processor

After you have entered Memo Processor for the first time by typing **RUN "MP"**, Memo Processor automatically sets up a convenient way for you to quickly access the program. As long as the CC-40's memory is not initialized, you can then access Memo Processor in the following manner.

You press	and the display shows
[FN] 0 **[ENTER]**	RUN "MP" (C) 1983 Telos Software Products Welcome to Memo Processor

Leaving Memo Processor

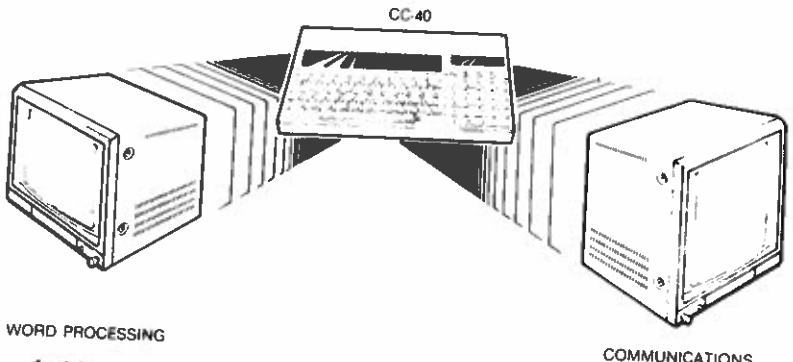
When you have finished using Memo Processor, use the **[BYE]** function (press **[FN] B**) to return to the BASIC Operating System. When you press **[FN] [BYE]**, your current document remains in memory.

Note: Performing calculations and using BASIC commands may result in the loss of portions of the document you have stored in memory. It is recommended that you store your document on a mass storage device such as the *Wafertape*™ Digital Tape Drive before performing calculations or using BASIC commands.

Memo Processor Concepts

This section presents the basic ideas behind Memo Processor's features so that you may more easily understand the procedures and instructions presented later in this chapter.

When you run Memo Processor, it is like having both a word processor and a communications terminal as shown in the following illustration.



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When you use the word processor, the CC-40 keyboard serves as the word processor's keyboard, and the CC-40 display shows a portion of the word processor's screen. Similarly, when you use the communications portion of Memo Processor, you use the CC-40 console to control and view the communications terminal. You can switch from word processing to communications by pressing **[FN] [COMM]** or from communications to word processing by pressing **[FN] [WP]**.

While you are using the communications terminal, you cannot "see" the word processor, but it is still there, undisturbed. When you switch back to word processing, the CC-40 display shows the word processing screen again with your word processing work still intact.

When you first enter the Memo Processor program, you are using the word processor. The console's display shows the first line of the word processor's display, and your typing is processed by the word processor's logic. Chapter 2 describes everything you can do with the word processing portion of Memo Processor, and chapter 3 describes the communications options.

Messages Displayed by Memo Processor

Memo Processor interacts with you by displaying messages. Some of the messages are *paused* in the display for just a few seconds and then revert to showing the text which was in the display before the message appeared; other messages are *frozen* in the display until you press **[ENTER]**.

Paused Messages

An example of a paused message occurs after you use the **[NEW]** function. When you press **[FN] [NEW]**, Memo Processor displays

```
Ready for new document
```

This message appears for just a few seconds and then reverts to showing the end-of-document symbol ◘ on the first line of the new document since the new document contains no text.

If you are unable to read a paused message before it leaves the display, use the **[WHAT?]** function to repeat the message for a longer duration. To use the **[WHAT?]** function, press **[FN] H**.

Frozen Messages

In addition to paused messages, Memo Processor occasionally displays a message that is so important that it waits until you press the **[ENTER]** key before continuing. An example of this type of message is

```
Welcome to Memo Processor
```

This message appears when you first start up Memo Processor, and you can tell that you need to press **[ENTER]** because the message stays in the display and the cursor blinks at the right edge of the display.

If a frozen message indicates an error condition because of some problem, the ERROR indicator will also be turned on.

Function and Control Keys

There are two kinds of keys shown on the keyboard overlay—function and control keys. These keys are used to provide access to the many features of Memo Processor.

Function Keys

To use a function, press the **[FN]** key and then press the labeled key. For example, to use the **[MOVE]** function, press **[FN] M**.

Control Keys

To use a control key, press the **[CTL]** key and then press the labeled key. For example, to use the **[X-OFF]** control key, press the **[CTL]** key and then press the **S** key.

Special Memo Processor Functions

Most of Memo Processor's functions are explained in chapters 2 and 3 in the context of either word processing or data communications. However, a few functions are basic to the use of Memo Processor and are introduced in this section to stress their importance.

[COMM] and [WP]

When you start up Memo Processor, you have access to the word processing portion of the product. To switch to the communications portion of Memo Processor, use the **[COMM]** function (press **[FN] ,**).

Once you have switched to communications, you can switch back to word processing by using the **[WP]** function (press **[FN] .**).

[WHERE?]

The **[WHERE?]** function (**[FN] J**) is used to show the function or activity being carried out, and if appropriate, the option which you are in (word processing or communications) and the current cursor position.

For example, if you press **[FN] [WHERE?]** while using word processing, the computer responds by displaying

```
WP: Line ## Col ##
```

If you press **[FN] [WHERE?]** while using the **[SET PRINT]** function, the computer responds by displaying

```
SET PRINT
```

More information on using the **[WHERE?]** function is presented in chapter 2.

[WHAT?]

Memo Processor displays many of its messages for only a few seconds. If you are unable to read a message in the time provided, use the **[WHAT?]** function (press **[FN] H**) and the message will be redisplayed for a longer period of time. If there is no message to repeat, **[WHAT?]** responds with the message `Nothing to repeat.`

[NEW]

The **[NEW]** function is used to clear the word processor's memory. Whenever you want to create a new document, begin by using the **[NEW]** function.

To use **[NEW]**, press **[FN] N**. If word processing memory contains a document, Memo Processor prompts

```
Clear current document(y/n)?
```

The purpose of this question is to make sure you really mean to use the **[NEW]** key. You would not want a slipped finger to destroy your document! Respond YES by pressing the **Y** key and then press **[ENTER]**. Memo Processor responds by displaying

```
Ready for new document
```

The display clears and then shows the cursor and end-of-document symbol ◆ in column one. Memo Processor is ready for you to start typing the new document.

[BREAK]

The **[BREAK]** function can be used to cancel many of Memo Processor's functions. The functions which **[BREAK]** can cancel are of two types—those functions such as **[PRINT ALL]** which proceed over a period of time and those functions such as **[DEL BLK]** which require additional input to complete the function.

For example, when you are printing a document using the **[PRINT ALL]** or **[PRINT PART]** functions, you can cancel the printing of the document by *holding down* the **[BREAK]** key during printing.

An example of using **[BREAK]** with functions which require additional input is when you are using the delete block (**[DEL BLK]**) function. When you press **[FN] [DEL BLK]**, the computer displays `Delete what?`. The display then returns to your document, and Memo Processor waits for you to move the cursor and press **[ENTER]**. When you press **[ENTER]**, the text which lies between where the cursor was when you pressed **[FN] [DEL BLK]** and where it was when you pressed **[ENTER]** is deleted.

If you press **[FN] [DEL BLK]** by mistake, you can press **[BREAK]** to cancel the delete function.

You press	and the display shows
[FN] [DEL BLK]	`Delete what?`
[BREAK]	(display returns to your document text) `Function cancelled` (display returns to your document text)

[BREAK] can be used with all multi-step functions. See the **[BREAK]** description in chapter 5 for a complete list.

Fundamentals of Typing

The following information discusses the keys and display indicators as they are used with Memo Processor. This information will be very helpful as you begin creating and editing documents.

Cursor

The cursor is a blinking rectangle which appears in the display whenever the system is ready for you to type. Usually, the cursor is located at the point where your typing will appear in the display. It moves along from left to right as you type.

In some cases, the cursor is shown at the far right edge of the display along with a system message. This signifies that Memo Processor is waiting for you to read a message in the display. When you are ready to continue, press the **[ENTER]** key. An example of this is the message `Welcome to Memo Processor` which appears when you begin using Memo Processor.

When no cursor appears in the display, Memo Processor is not ready for you to press a key. You have already seen many examples. For instance, the message `Ready for new document` was displayed without a cursor. Keys pressed while there is no cursor in the display are ignored (except the **[BREAK]** key described earlier). You simply wait a few seconds until the display changes and the cursor reappears.

Keyboard

The keyboard is used to type all text including the text of documents, communications data, and answers to system prompts. The information you type appears in the display, character by character, just as you type it.

The CC-40 typewriter keys are arranged like the keys of a standard typewriter. The **[ENTER]** key is treated as a "return" key on a standard typewriter or computer terminal.

[SPACE BAR]

When you are typing text, the **[SPACE BAR]** operates just like the space bar on a typewriter by typing spaces each time you press it. However, you also use the **[SPACE BAR]** with the **[SET PRINT]**, **[SET COMM]**, and **[SET TAB]** functions to display the various settings when multiple settings are available for a particular option.

[SHIFT] Key

You can type capital letters and the special characters above the numeric and punctuation keys by pressing **[SHIFT]** and then pressing the desired key. Note that the **[SHIFT]** key is located only on the left side of the keyboard.

When **[SHIFT]** is pressed, the SHIFT indicator appears in the display. The next key you press is interpreted as a shifted key rather than a regular key. If you change your mind, you can turn off the SHIFT indicator by pressing **[SHIFT]** again.

You can type several shifted keys in a row by holding down the **[SHIFT]** key while you type other keys—just like a typewriter. Note that the SHIFT indicator only remains on for the first shifted character when you type a group of shifted characters.

[UCL] (Upper Case Lock) Key

There is no shift lock key on the CC-40. However, the upper case lock **[UCL]** key is similar to a shift lock key. **[UCL]** causes all alphabetic keys to be interpreted as upper case but it does not affect the operation of punctuation and number keys.

To activate upper case lock, press **[SHIFT] [CLR]**. The UCL indicator appears in the display to indicate that upper case lock is in effect. Press **[SHIFT] [CLR]** again to cancel upper case lock.

[ENTER] Key

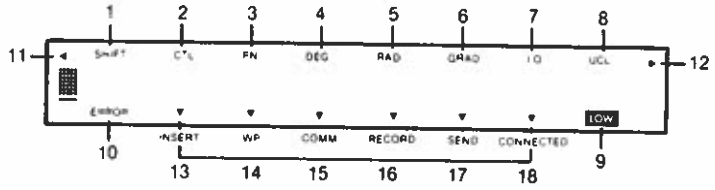
The **[ENTER]** key is located at the right of the keyboard. **[ENTER]** is used differently in Memo Processor than it is in BASIC. In general, you press **[ENTER]** only in the following situations.

- When typing a document, only press **[ENTER]** when you want to end a paragraph or create a blank line. Each time you press **[ENTER]**, a "hard" end-of-line character ◄ is added to the document to indicate that a mandatory line break has been placed at that position. See chapter 2 for an explanation of hard and soft end-of-lines.
- When communicating with a host computer, press **[ENTER]** to send a carriage return (CR) code to the host. Usually, the host computer interprets the carriage return (CR) code to mean "process the current line." See chapter 3 for a discussion of host computers.
- When Memo Processor asks you questions such as `Clear current document(y/n)?`, it waits for you to press **[ENTER]** before processing your answer. This gives you an opportunity to check your response before it is processed.

Display Indicators

As explained in the CC-40 *User's Guide*, the display contains eighteen display indicators. These indicators turn on if certain controls are in effect, such as **[SHIFT]** and **[FN]**. The display of the CC-40 is shown below with labels and descriptions of each indicator.

CHAPTER 1
GETTING ACQUAINTED



CC-40 Indicators

Indicator	Meaning
1. SHIFT	The shift state is in effect.
2. CTL	The control state is in effect.
3. FN	The function state is in effect.
4. DEG	The unit of angular measure is degrees.
5. RAD	The unit of angular measure is radians.
6. GRAD	The unit of angular measure is grads.
7. I/O	Peripheral input or output is in progress.
8. UCL	Upper case lock is in effect.
9. LOW	Battery power is low.
10. ERROR	An error has been detected.
11. ◄	Text has scrolled off the display to the left.
12. ►	Text has scrolled off the display to the right.

Memo Processor Indicators

Indicator	Meaning
13. INSERT	The **[INS]** function is in effect. Typing is being inserted ahead of later document text.
14. WP	The word processing portion of Memo Processor is currently in use.
15. COMM	The communications portion of Memo Processor is currently in use.
16. RECORD	Memo Processor is recording all received data.
17. SEND	Memo Processor is sending the current word processing document over the communications line.
18. CONNECTED	The communications device is opened for communications.

Special Display Characters

Memo Processor uses four special graphic characters to show special word processing codes when displaying a document.

End-of-Document Character: ▦

The end-of-document character always appears at the end of your document, except when you are actually typing new characters at the document's end. You cannot move the cursor beyond the end-of-document character and it cannot be deleted.

Tab Character: ►

When a tab is typed as part of a word processing document, it appears in the display as a solid triangle pointing right. For more information, see the **[TAB]** function in chapter 5.

Soft End-of-Line Character: <

As explained in chapter 2, Memo Processor automatically makes sure that your typing fits in the line length you have set. It does this by inserting "soft" end-of-line codes where needed. Each soft end-of-line code is displayed as an open arrowhead pointing left. See chapter 2 for an example.

Hard End-of-Line Character: ◄

When you press the **[ENTER]** key to end the line you are typing, you create what is called a "hard" end-of-line. Chapter 2 provides more information on hard end-of-lines and presents an example. The symbol for a hard end-of-line is a solid triangle pointing left.

CHAPTER 2
WORD PROCESSING

Introduction

This chapter shows how you can use Memo Processor as a personal word processor. It assumes you have no experience with word processing and walks through the various aspects of word processing, step by step. The chapter contains information which allows you to make full use of the power of this package's word processor, and we recommend that you set aside some time and read it carefully. As you read, be sure to try the examples and experiment as much as you like. You will find that word processing works in a common sense way and that the power it offers can make writing more efficient and enjoyable.

The first part of the chapter explains how you create documents using a one-line display and presents an example. Then the basic activities of creating, reading, editing, printing, and saving documents are explained. The chapter ends by describing other options you have while using the word processing portion of Memo Processor.

How Word Processing Works

This section presents the basic ideas behind Memo Processor's word processing features so that you may more easily understand the procedures and instructions presented later in this chapter.

A word processor is much like a super typewriter but with many more capabilities. Like a typewriter, it lets you do normal typing. In addition, a word processor enables you to quickly and easily change what you type before printing it on paper. While you are typing, the text appears in the display. This lets you see what the document will look like when it is printed. And, since information appears in the display before it is printed, you have complete freedom to overstrike, delete, insert, and rearrange what you have typed. In this way you can correct errors and improve wording without having to retype everthing each time you make a change.

When you type using Memo Processor, you see only 31 characters of each line at a time. However, the length of the line may be adjusted for anywhere from 9 to 80 characters when it is printed. As you type, the information scrolls through the display showing you the right-most portion of the line you are typing. When you move to the next line, the display clears and shows the next line as you type it.

You can think of the CC-40 display as a "window" through which you can see part of your document. The whole document is "behind" the display and you can see what the whole document looks like by moving the display across the document.

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WORD PROCESSING

Once you have typed a document, you can use Memo Processor to print a copy on paper. The electronic version of the document remains in the CC-40 after printing so that if you find a mistake in the printed version you can simply correct the electronic version and reprint it. Also, you can store the document on a mass storage device such as a tape using the *Wafertape*™ Digital Tape Drive and continue to work with it later.

Example: Creating and Printing a Short Document

This section presents a short example showing in just a few pages the complete cycle of creating and printing a document. Of course, this example is intentionally simple and many facets of word processing are purposely omitted. Details about advanced word processing are presented later.

The document you are to type is shown below.

> Dear Boss,
>
> Thanks for the great raise! I used it to buy a TI CC-40.
>
> John

There are six steps to follow to create and print the example.

1. Turn on the CC-40 and start up Memo Processor.
2. Clear the CC-40's memory if it contains an old document.
3. Type the new document.
4. Review the new document.
5. Set up Memo Processor's print controls to work with your printer.
6. Print the document.

Each of these steps is described in the following discussion.

Step 1: Turn on the CC-40 and start up Memo Processor.
Follow the steps explained in the "Starting Up Memo Processor" section of chapter 1.

Step 2: Clear the CC-40's memory if it contains an old document.
When you start up Memo Processor, it checks to see if an old document remains in memory. If memory does not contain a document, the display shows `Ready for new document` and then shows the end-of-document character ◘

If memory does contain an old document, the display shows the first line of that document. Clear the computer's memory using the **[NEW]** function (press **[FN] N**).

If the display shows `Clear current document(y/n)?`, answer YES by pressing the **Y** key and then pressing **[ENTER]**. The display shows `Ready for new document` for a few seconds and then clears.

Step 3: Type the new document.
Typing a document using Memo Processor is essentially like typing on a regular typewriter. However, to illustrate some of Memo Processor's special features, typing this sample document is broken down into several steps.

1. Type the first line: **Dear Boss,**. If you make a typing mistake, use the ← and → keys to go back to the mistake and type in the correct letters.

   After you have typed the comma, use the **[WHERE?]** function (press **[FN] J**) to find out where you are in Memo Processor. The display shows `WP:  Line 1 Col 11` for a few seconds indicating that the cursor is at line 1, column 11 of the document. Then the display returns to your document with the cursor positioned after the comma.

   If you didn't have time to read the message when you used the **[WHERE?]** function, use the **[WHAT?]** function by pressing **[FN] H** .

2. Press the **[ENTER]** key to end the first line. Notice that the display clears and the cursor returns to the first column. The display is showing you line 2, which is empty. Your first line of typing is still there, "above" the display line. Use the **[WHERE?]** function to verify that you are viewing line 2.

3. Press the ↑ key to move back to the first line just to be sure it is still there. Press the ↓ key to get back to line 2.

4. You want line 2 of the document to be an empty line, so press the **[ENTER]** key again. The display moves to line 3.

5. Type line 3: **Thanks for the great raise! I used it to buy a TI CC-40.** Notice what happened when you typed the word **I**. Memo Processor automatically moved the **I** down to line 4 since line 3 is full. Now press the **[ENTER]** key to end the paragraph.

6. Press **[ENTER]** again for a blank line and type the final line: **John.**

Step 4: Review the new document.
Now that you have typed the document, you can review it by scrolling it through the display and making any needed changes. Here are some sample steps for reading the document.

- Use the **[HOME]** function (press **[FN]** ↑) to immediately display the beginning of the document.
- Read what is in the display and then use the **[SCAN]** function (press **[FN] S**) to display the next line of the document. You can use **[SCAN]** again and again to conveniently display each successive 'ine of the document.
- Use the **[BOTTOM]** function (press **[FN]** ↓) to immediately display the end of the document.
- Experiment with the **[HOME]**, **[BOTTOM]**, **[SCAN]**, and **[WHERE?]** functions and the arrow keys to see how they work. When you are ready, go on to step 5 to print your document.

Step 5: Set up Memo Processor's print controls to work with your printer.
Memo Processor supports a wide variety of printer configurations. Different printer options can be selected by using the **[SET PRINT]** function (press **[FN] P**). (Note: Extended printer options can be accessed by using **[FN] Q**. Refer to Appendix D for a description of **[FN] Q**.) When you start up Memo Porcessor, it is set up to use TI's Printer/Plotter peripheral. If you are not using that printer, refer to the section below called "Printer Options" or to the **[SET PRINT]** discussion in chapter 5.

Step 6: Print the document.
Once you have selected the appropriate options for your printer, all you have to do is use the **[PRINT ALL]** function by pressing **[FN] T**.

Typing a Document

Now that you understand the overall process of creating and printing a document, you are ready for more information about typing with Memo Processor.

Line Length

Memo Processor makes sure that each line of typing fits within the margin settings you have selected. When you first use Memo Processor, the right margin is set to 28 which allows each line to contain up to 28 printed characters. That is why the word I moved to the next line in step 3 of the example shown in the previous section.

To change the right margin setting, use the **[SET MARGIN]** function (press **[FN] U**). The display shows `Right margin column: 28`, with the cursor blinking at the 2. If you decide you really don't want to change the margin setting, just press the **[BREAK]** key. If you do want to change it, type the new setting using a number from 9 to 80 and press the **[ENTER]** key. If there is already a document in memory, Memo Processor reformats it to fit the new line length and then shows the first line of the document.

The only time you need to use the **[SET MARGIN]** function is when you want to change the margin setting. If there is a document in memory when you first start up Memo Processor, the margin setting of that document is maintained.

Example: Change the right margin to 70.

You press	and the display shows
[FN] [SET MARGIN]	`Right margin column: 28`
70	`Right margin column: 70`
[ENTER]	`Reformatting...`
	(displays first line of document)

Line Endings

In word processing, you can type an entire paragraph without regard for line endings. Memo Processor keeps track of the length of the current line as determined by the **[SET MARGIN]** function. When the word you are typing will not fit on the line, Memo Processor automatically ends the line by adding a "soft" end-of-line code. Then it moves the rest of your typing to the next line, all while you continue to type. This line ending is called "soft" because, if you later add or delete characters from the line, Memo Processor automatically reformats the text, removing some soft end-of-line codes and adding others.

Of course, sometimes you need to end a line even if the line is not full. For example, when you come to the end of a paragraph, you normally press the **[ENTER]** key twice—once to end the final line of the paragraph and a second time to put a blank line after the paragraph. These line endings are called "hard" because they are not removed by the system if your editing activities cause the document to be reformatted. In general, you press the **[ENTER]** key only if the next thing you type needs to be at the beginning of the next line.

The following example shows the effect of line length on soft and hard end-of-line codes. A document is shown formatted for a 16-character line and then for a 28-character line. Note that you do not type the soft end-of-line codes. They are added by Memo Processor where needed.

16-Character Line

A short document <
to show soft and <
hard end-of-line <
codes.◄
Word processing <
can be fun!◄

28-Character Line

A short document to show <
soft and hard end-of-line <
codes.◄
Word processing can be fun!◄

Try typing this short document and use **[SET MARGIN]** to select different line lengths. Each time you change the line length, print out the document or read it by using the arrow keys to scroll it through the display. Be sure to start by using the **[NEW]** function to clear out any old document that may be in the system's memory.

Tabs

Setting tabs is much like setting the right margin. When first used, Memo Processor has tabs set every 8 columns, starting with column 8. To change these settings, use the **[SET TAB]** function (press **[FN]** **I**).

When you press **[FN]** **[SET TAB]**, the display shows

```
SET TABS  Column  1: NO TAB
```

At this point, you have several options for viewing and changing the tab settings.

1. Press ↑ and ↓ to view the setting of other columns.
2. Press **[FN] [HOME]** to view the setting for column 1.
3. Press **[FN] [BOTTOM]** to display the setting for the current right margin.
4. Press **[CTL] [TAB]** to see the next column that has a tab set.
5. Press **[CTL] [BTAB]** to see the previous column that has a tab set.
6. Press the **[SPACE BAR]** to change the setting for a column back and forth between NO TAB and TAB.
7. Press **[CLR]** to clear all tabs.
8. Press a number key in the range from 2 through 9. This clears all current tabs and then sets tabs at the specified interval. For example, pressing 5 sets a tab every 5 spaces starting at column 5.

When you have finished setting tabs, press the **[ENTER]** key. If there is a document in memory, Memo Processor reformats it using the new tab settings. Then the display shows the first line of the document properly formatted for the new tab settings.

Example: Set tabs every 9 spaces and at column 11.

You press	and the display shows
[FN] [SET TAB]	SET TABS Column 1: NO TAB ■
9	Clearing all tabs...
	Setting equally spaced tabs...
	SET TABS Column 1: NO TAB ■
[CTL] [TAB]	SET TABS Column 9: TAB ■
↑ twice	SET TABS Column 11: NO TAB ■
[SPACE BAR]	SET TABS Column 11: TAB ■
[ENTER]	Reformatting...
	(displays first line of document)

To use a tab, press **[CTL]** →. This moves the cursor ahead to the next tab stop or to the right margin if that comes first. A special tab symbol (a triangle pointing to the right) shows that you have typed a tab. Try using the ← and → keys to move the cursor across a tab character. Notice that you can move the cursor into the space occupied by a tab, but you cannot type over it.

Multi-page Documents

The size limit for a document in Memo Processor is based solely on the amount of "user RAM" in your CC-40. If it has 6K of RAM, documents can be up to about 3000 characters in length. The number of lines represented by 3000 characters varies depending on the length of each line.

One of the most pleasant aspects of using Memo Processor is that you can type without regard for the number of lines in your document. Memo Processor's print function automatically breaks the document into pages based on page size information you provide using the **[SET PRINT]** function.

Reading a Document

While you are working on a document, you will probably want to reread what you have typed. Memo Processor offers a number of functions to make this convenient.

Arrow Keys

You have already been introduced to the arrow keys but a few additional comments are worth noting. If the cursor is already at the right end of a line, pressing the → key moves the cursor and display to the beginning of the next line. Similarly, if the cursor is at the beginning of a line, pressing the ← key moves the cursor back to the right end of the previous line. All arrow keys repeat when held down.

[HOME] *and* [BOTTOM]

The **[HOME]** and **[BOTTOM]** functions have also been mentioned. The **[HOME]** key immediately displays the beginning of the document, and the **[BOTTOM]** key immediately displays the end of the document.

[GO TO]

The **[GO TO]** function is useful for getting to the "edges" of the current document. When you use **[GO TO]** (press **[FN]** =), Memo Processor prompts

```
Goto where (← → ↑ ↓)?
```

and waits for you to press a key. You can then press any of the following keys.

→	moves the cursor to the right edge of the current line
←	moves the cursor to the left edge of the current line
↑	moves the cursor to the top of the document, just as the **[HOME]** key
↓	moves the cursor to the end of the document, just as the **[BOTTOM]** key
[BREAK]	cancels the **[GO TO]** function

[SCAN] *and* [AUTO]

The keys discussed above are useful for moving to a specific place in the document. But for reading rather than editing, the **[SCAN]** and **[AUTO]** functions are especially useful.

The **[SCAN]** function shows about one "window's-worth" of text in the display. When you have read everything in the display, use **[SCAN]** (press **[FN] S**) to display approximately the next 25 characters and continue reading. **[AUTO]** works just like **[SCAN]** except that it moves from display to display automatically at a preset pace. You just sit back and watch the text go by. If the pace is too fast, tap the ↓ key one or more times to slow it down or tap the ↑ key to speed up the pace. Stop **[AUTO]** at any point by pressing the **[BREAK]** key.

To read an entire document, use the **[HOME]** function to get to the beginning of the document and then press **[FN] [SCAN]** repeatedly or use **[AUTO]** (press **[FN] A**) once and read along. Both **[SCAN]** and **[AUTO]** skip blank lines as they move through the document.

Example of using **[SCAN]**: The following illustration shows a sample document. Try typing it with the line length set to 62.

Dear Boss,

Thanks for the great raise. I used it to buy a TI CC-40. In fact, I am writing you this letter using the CC-40 program called Memo Processor. It works great.

John

Now review the document by using the **[SCAN]** function.

CHAPTER 2
WORD PROCESSING

You press:	and the display shows:
[FN] [HOME]	Dear Boss,◄
[FN] [SCAN]	Thanks for the great raise. I
[FN] [SCAN]	raise. I used it to buy a TI C
[FN] [SCAN]	a TI CC-40. In<
[FN] [SCAN]	fact, I am writing you this let
[FN] [SCAN]	this letter using the CC-40 pro
[FN] [SCAN]	CC-40 program<
[FN] [SCAN]	called Memo Processor. It work
[FN] [SCAN]	It works great.◄
[FN] [SCAN]	John

[FIND] *and* [FND NXT]

The [FIND] and [FND NXT] functions are used to search for a character or sequence of characters in your document.

[FIND]

The [FIND] function is useful for finding the first occurrence of a character or sequence of characters from the current cursor location. Suppose that you print a document and notice a misspelled word such as "mstake". Rather than finding the error by reading through the document, use the [FIND] function (press [FN] F). Memo Processor responds by asking

```
Find what?
```

Type the series of letters to search for and press [ENTER].

```
Find what? mstake [ENTER]
```

Then Memo Processor searches forward through the document, starting at the cursor. If what you are searching for is found, the cursor moves to that point. If it is not found, Memo Processor briefly displays

```
No match found
```

and redisplays the document at its original position.

[FIND] offers two ways to search. If you enclose the search characters in quotes, as in

```
Find what? "Driving"
```

Memo Processor searches for exactly those letters, paying attention to the difference between upper and lower case letters. But if you omit the quotes, as in

```
Find what? Driving
```

Memo Processor searches without regard for upper or lower case differences. This unquoted type of search is often easier to use because you generally want to find a word whether it is capitalized or not.

Here are some examples.

Find what?	Document Text	Result
"Driving"	Driving is fun.	Found
"Driving"	I like driving.	Not Found
"driving"	Driving is fun	Not Found
driving	Driving is fun.	Found
driving	I like driving.	Found
"DRIVING"	Driving is fun.	Not Found
DRIVING	Driving is fun.	Found

Note that **[FIND]** searches forward from the current cursor position. If the cursor is already beyond what you are looking for, use the **[HOME]** function to get to the beginning of the document.

[FND NXT]

The **[FND NXT]** function is used to search repeatedly for the same series of characters. After you find the series of characters you are searching for with the **[FIND]** function, use the **[FND NXT]** function (press **[FN]** ;) to search for the next occurrence of those characters.

Editing a Document

Memo Processor provides the following editing functions.

- Inserting new characters
- Overstriking existing characters
- Deleting a single character
- Deleting a block of characters
- Moving a block of characters
- Copying a block of characters

Each of these functions is discussed below and then an example using all the functions is presented.

Inserting New Characters

You may find that you need to add more text in the middle of what you have already typed. To add new text in front of an existing character, move the cursor to that character and use the **[INS]** function (press **[FN]** →).

Memo Processor responds by "opening a hole" in the document so you can type as much as you want. You can see this hole because part of the display clears, starting at the cursor. Also, the INSERT indicator in the display turns on. When you use the **[INS]** function, you type just as you do when typing at the document's end.

When you have finished inserting your information, press any function key or any of the arrow keys to complete the insertion. Memo Processor turns off the INSERT indicator and "closes up the hole." The text following the insert reappears in the display.

Example: Change "Driving is fun." to "Driving is no fun."

You press	**and the display shows**
Driving is fun.	`Driving is fun.`
← 4 times	`Driving is fun.`
[FN] [INS]	`Driving is `
no [SPACE BAR]	`Driving is no `
[FN] [INS]	`Driving is no un.`

Overstriking Existing Characters

You have probably used the overstrike feature of Memo Processor already. This function allows you to position the cursor at a character and replace that character by typing a different character. For example, if your document contains

A smaal mistake

you can correct this by moving the cursor to the second "a" in "smaal" and typing an "i".

Tab, soft end-of-line, and hard end-of-line characters cannot be overstruck. If you move the cursor to one of these characters and start typing, Memo Processor informs you that it is automatically invoking the **[INS]** function. Then your typing is inserted ahead of the tab or end-of-line character. To stop inserting, press one of the arrow or function keys.

Also, **[TAB]** and **[ENTER]** keys cannot be used to overstrike other characters. If you position the cursor at some point within the document and press **[FN] [TAB]**, the cursor moves ahead to the next tab position. If you press **[ENTER]**, the cursor moves to the beginning of the next line.

To replace a character with a tab or hard end-of-line character, delete the character you wish to replace, press **[FN] [INS]**, then press **[FN] [TAB]** or **[ENTER]**, and complete the insertion.

Deleting a Character

To delete a character, move the cursor to that character and use the **[DEL]** function (press **[FN]** ←). The character disappears and the characters to its right move left to fill in the space. You can delete a group of characters in a row by holding down the **[FN]** and ← keys together.

Working with Blocks of Characters

A block of characters is simply a group of characters that are next to each other. The word "Bill" is a 4-character block, "ing" is a 3-character block, and "CC-40 computer" is a block made up of 14 characters (including the space).

Memo Processor provides three special functions for working with blocks of characters.

- **[DEL BLK]** is used to delete a block of characters.
- **[MOVE]** is used to move a block of characters to another location in the document.
- **[COPY]** is used to copy a block of characters into another location in the document.

These three functions all work in a manner similar to the **[DEL BLK]** function. Examples provided for the **[DEL BLK]** function also apply to copying and moving blocks of text.

Deleting a Block of Characters

The idea is to "mark" the beginning and end of the block. Then Memo Processor deletes the entire block.

Example: Suppose you have this document in memory

```
An EXTRA extra word.
```

You want to delete the second word so use the following procedure.

1. Mark the beginning of the block by moving the cursor to the first character in the block and pressing **[FN] [DEL BLK]**.

You press	and the display shows
[FN] [HOME]	■n EXTRA extra word.
→ 3 times	An ■XTRA extra word.
[FN] [DEL BLK]	Delete what?
	An ■XTRA extra word.

2. Mark the end of the block by moving the cursor to the final character of the block (including the space) and pressing **[ENTER]**. Memo Processor then deletes the block and reformats the document.

You press	and the display shows
	An ■XTRA extra word.
→ 5 times	An EXTRA■extra word.
[ENTER]	Deleting...
	An ■xtra word.

3. When you are marking the end of the block, you can use any of the cursor moving functions to get to the correct position in the document: arrow keys, **[GO TO]**, **[HOME]**, **[BOTTOM]**, **[SCAN]**, **[AUTO]**, **[FIND]** and **[FND NXT]**. Also, there is a special single character search that you may use when marking a block in response to the `Delete what?` question.

   To use the search, press a key such as the **A** key, or the **[SPACE BAR]**. Memo Processor searches forward and moves the cursor to the next occurrence of that character. If the character is not found, Memo Processor tells you so and the cursor remains in its original position. This feature can be used to search for all characters except tabs and soft or hard end-of-lines.

   The character search is also handy for deleting entire words or sentences with a minimum of keystrokes. For example, to delete a word, move the cursor to the first character in the word and press **[FN] [DEL BLK]**. When Memo Processor asks `Delete what?`, simply press the **[SPACE BAR]**. Memo Processor advances the cursor to the space following the word. Then press **[ENTER]** and the word is deleted.

You press	and the display shows
[FN] [HOME]	■n EXTRA extra word.
→ 3 times	An ■XTRA extra word.
[FN] [DEL BLK]	Delete what?
	An ■XTRA extra word.
[SPACE BAR]	An EXTRA■extra word.
[ENTER]	Deleting...
	An ■xtra word.

A similar procedure can be used to delete an entire sentence. Move the cursor to the first character of the sentence and press **[FN] [DEL BLK]**. Then press the period key. This moves the cursor immediately to the end of the sentence. Move the cursor right to include any trailing spaces and press **[ENTER]**.

4. If you press **[FN] [DEL BLK]** by mistake, press **[BREAK]** to cancel the function.

You press	and the display shows
[FN] [DEL BLK]	Delete what?
	■n extra word.
[BREAK]	Function cancelled
	■n extra word.

Moving a Block of Characters

The **[MOVE]** function allows you to "pick up" a block of characters and move it to another point in your document. For example, suppose you have this document in memory and you want to move the word "three" so that it is in front of the word "four."

```
One three two four.
```

There are two steps that you need to use to move the block—mark the block and then indicate where the block should be inserted.

1. Mark the block by moving the cursor to the first character in the block and pressing **[FN] [MOVE]**. Then move the cursor to the last character in the block and press **[ENTER]**.

You press	and the display shows
[FN] [HOME]	▮ne three two four.
→ 4 times	One ▮hree two four.
[FN] [MOVE]	Move what?
	One ▮hree two four.
→ 5 times	One three▮two four.
[ENTER]	Move to where?

Note that the cursor moving functions and single character search can be used to mark the end of the block, just as in [DEL BLK].

2. Mark the point where the block should be inserted by moving the cursor to that location. If you want the block to be inserted in front of a character, move the cursor to that character. Note that you can use all of the cursor moving functions and single character search to answer the question Move to where?.

You press	and the display shows
	Move to where?
	One three▮two four.
f	One three two ▮our.
[ENTER]	Moving...
	One two ▮hree four.

Copying a Block of Characters

The [COPY] function (press [FN] C) is quite similar to [MOVE]. It allows you to make a copy of a block of characters and insert them at another point in your document. Be sure to note the difference between [COPY] and [MOVE]. In [MOVE], the text is removed from its original location and inserted at a new location. In [COPY], the text remains in its original location and is duplicated at a new location.

Here is an example of the [COPY] function. Suppose you have the following document in memory

One Plus Equals Two.

and you want to copy the word "One" and put it in front of the word "Equals" so that the document reads "One Plus One Equals Two.".

There are two steps for copying a block—mark the block and then indicate where the copied block should be inserted.

1. Mark the block by moving the cursor to the first character in the block and pressing **[FN] [COPY]**. Then move the cursor to the last character in the block and press **[ENTER]**.

You press	and the display shows
[FN] [HOME]	▮ne Plus Equals Two.
[FN] [COPY]	Copy what?
	▮ne Plus Equals Two.
→ 3 times	One▮Plus Equals Two.
[ENTER]	Copy to where?

Note that the cursor moving functions and single character search can be used to mark the end of the block, just as in **[DEL BLK]**.

2. Mark the point where the block should be copied by moving the cursor to that location. If you want the block to be inserted in front of a character, move the cursor to that character. Note that you can use all of the cursor moving functions and single character search to answer the question Copy to where?.

You press	and the display shows
	Copy to where?
	One▮Plus Equals Two.
E	One Plus ▮quals Two.
[ENTER]	Copying...
	One Plus ▮ne Equals Two.

Example: Editing a Short Document

The figure below shows a short document with a great deal of editing needed.

> Four snore and seven ears ago, our forefathers brought fourth a great new nation, dedicated that all men are created equal to the principle.

Following the steps below, type in the document.

1. Clear the computer's memory using the **[NEW]** function.
2. Set the right margin to 57 using the **[SET MARGIN]** function.
3. Type the document as shown, including the errors and omissions.

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WORD PROCESSING

Now edit the document as shown below.

1. Change "snore" to "score".

You press	and the display shows
[FN] [HOME]	■our snore and seven ears ago,
→ 6 times	Four s■ore and seven ears ago,
c	Four sc■re and seven ears ago,

2. Add "y" in front of "ears".

You press	and the display shows
Hold down → until the cursor is at the "e" in "ears"	
[FN] [INS]	Four score and seven ■ars ago,
y	Four score and seven y■
←	Four score and seven ■ears ago,

3. Delete the "u" in "fourth".

You press	and the display shows
[FN] [FIND]	Find what? ■
urth	Find what? urth■
[ENTER]	Searching...
	fo■rth a great new nation, dedi
[FN] [DEL]	fo■th a great new nation, dedic

4. Delete the word "great".

You press	and the display shows
Hold down → until the cursor is at the "g" in "great".	
[FN] [DEL BLK]	forth a ■reat new nation, dedic
	Delete what?
[SPACE BAR]	forth a ■reat new nation, dedic
[ENTER]	forth a great■new nation, dedic
	Deleting...
	forth a ■ew nation, dedicated t

5. Insert "conceived in liberty, and ".

You press	and the display shows
Hold down → until the cursor is at the "d" in "dedicated".	forth a new nation, ▮edicated t
[FN] [INS]	forth a new nation, ▮
conceived in liberty,	
[SPACE BAR] and	
[SPACE BAR]	on, conceived in liberty, and ▮
→	n, conceived in liberty, and d▮

6. Move " to the principle" so it follows the word "dedicated".

You press	and the display shows
↓	created equal to the principle▮
←	created equal to the princip▮.
[FN] [MOVE]	Move what?
	created equal to the princip▮.
Hold down ← until the cursor is at the space after "equal".	created equal▮ to the principle.
[ENTER]	Move to where?
	created equal▮ to the principle.
↑	n, conceived ▮n liberty, and de
[FN] [GO TO]	Goto where (← → ↑ ↓)?
→ ←	ved in liberty, and dedicated▮
[ENTER]	Moving...
	ved in liberty, and dedicated▮
→ 2 times	▮o the principle that all men a

The following figure shows the result.

> Four score and seven years ago, our forefathers brought forth a new nation, conceived in liberty, and dedicated to the principle that all men are created equal.

Press **[FN] [HOME]** and use the **[SCAN]** function to read the document. Of course, this document is still not correct—check your history book! You can practice more editing if you want to get this to match Lincoln's final version. You might want to try printing a copy.

CHAPTER 2
WORD PROCESSING

Printing a Document

Memo Processor offers the functions **[SET PRINT]**, **[PRINT ALL]**, and **[PRINT PART]** to provide flexibility of the printed format and compatibility with a wide range of printers.

Printer Options

The **[SET PRINT]** function is used to determine how your document will be laid out on paper and to select the appropriate options needed for your printer. (Note: Extended printer options can be accessed by using **[FN] Q**. Refer to Appendix D for a description of **[FN] Q**.) All **[SET PRINT]** options are preset for use with TI's Printer/Plotter peripheral. If you use that printer, you do not need to use the **[SET PRINT]** function, although you may find its options useful.

To use the **[SET PRINT]** function, press **[FN] P**. Memo Processor responds by displaying the first line of the printer options page as shown below. Each option is described in the next few pages.

```
Print options page
Page length: 66
Number of print lines: 55
First print line: 5
Left margin: 5
Print device number: 10
Mode (print/plot): Compressed
Number of LFs after CR: 1
Pause between pages: No
Strobe level (prl port): Neg
Baud rate (RS-232): 4800
Parity (RS-232): None
Data bits (RS-232): 8
Stop bits (RS-232): 1
Nulls after CR: 0
End of print options page
```

Use the ↑ and ↓ keys to move from line to line of the printer options page. On each line, you can modify the setting and press **[ENTER]** or ↓ to store the new value.

Several options, such as pause between pages are displayed with the cursor at the far right of the display. This indicates that you do not type the desired setting. Rather, you press the **[SPACE BAR]** one or more times to select from the list of available settings. In this way, you can examine all possible settings without having to refer to this manual.

To leave the **[SET PRINT]** function, press **[FN] [PRINT ALL]** or **[FN] [PRINT PART]**, or press ↓ while viewing the last line of the options page. Also, you can press **[BREAK]** to cancel any changes you have made to the printer option settings.

Page Length, Number of Print Lines, and First Print Line

These settings affect the number of blank lines at the top and bottom of each printed page. The first print line option specifies the line number on which the first printing will occur for each page of the document. The number of print lines option specifies the number of lines to print on each page, and the page length option describes the total number of lines on each page, including blank lines at the top and bottom. Note that the page length setting must be large enough to accommodate the number of print lines and first print line settings. The illustration below identifies the parameters which this option sets.

Left Margin

This option allows you to determine the width of the left margin. You may set it anywhere from 1 to 99 spaces. However, you should make sure that the total width of the right and left margins does not exceed the width of the paper. The illustration below identifies the parameters which this option sets.

Print Device Number

This option indicates which *HEX-BUS*™ device is being used for printing. The following table shows available device numbers and their meanings.

Device type	Device numbers
Printer/plotter	10 through 11
Other printers	12 through 19
RS232 Serial Interface	20 through 23
Parallel Interface	50 through 53

Refer to the CC-40 *User's Guide* and the individual peripheral manuals for more information on device numbers and the *HEX-BUS* Interface peripheral.

Printer/Plotter Mode

TI's Printer/Plotter peripheral supports compressed and normal modes. In compressed mode, 36 characters may be printed on each line and in normal mode the maximum line width is 18.

The setting for this option is only important if you are using a Printer/Plotter for printing (i.e., if the print device number is either 10 or 11).

Number of LFs after CR

This option determines line spacing during printing and refers to the number of line feeds after a carriage return. To display the available settings, press the **[SPACE BAR]** one or more times. Press **[ENTER]** to select the desired setting when it is being displayed.

If possible, set your printer to not use auto-newline. Then use this table to select the appropriate setting.

Setting	Result
0	Not recommended. May shred paper!
1	Single spacing.
2	Double spacing.
3	Triple spacing.

If you need to use an auto-newline printer, follow the settings in this table.

Setting	Result
0	Single spacing.
1, 2, 3	Not recommended.

Pause Between Pages

If your printer uses single sheets of paper, choose YES for this option by pressing the **[SPACE BAR]**. If your printer uses continuous paper (sometimes called tractor-feed), use the NO setting for this option.

Strobe Level

This option is important when using the parallel interface for printing, i.e. when the print device number is between 50 and 53. Select the POSitive or NEGative setting by pressing the **[SPACE BAR]** as needed. Refer to the printer's *Owner's Manual* for more information.

Baud Rate, Parity, Data Bits, and Stop Bits

These options are important when using a communications device such as the RS232 for printing. In the **[SET PRINT]** discussion in chapter 5, a list is given of the available settings for each option. Your serial printer's *Owner's Manual* describes the required settings.

Nulls after CR

This option is useful when using serial printers that do not buffer received characters. When a printer receives a carriage return (CR) code, it moves its print head to the left edge of the page rather slowly. If, while the head is moving, another character is received by a non-buffering printer, that character may be printed in the middle of the page rather than at the left margin.

Memo Processor can send one or more null characters after every carriage return code in order to give the print head time to reach the left margin.

Starting and Stopping the Printer

Once the printer options have been selected, you can print all or part of your current document.

The **[PRINT ALL]** function (**[FN] T**) prints the entire document from beginning to end. The **[PRINT PART]** function (**[FN] R**) prints the document starting at the cursor position and ending at the document's end.

You can stop the printer by holding down the **[BREAK]** key until the message

```
Printing cancelled
```

is displayed.

If the printer option pause between pages is set to YES, the message

```
Load paper and press [ENTER]
```

is displayed before each page is printed. At each pause, insert a *new* sheet of paper and press the **[ENTER]** key or press the **[BREAK]** key to stop printing.

Storing and Retrieving Documents

Documents can be stored on a mass storage device such as a tape using TI's *Wafertape*™ peripheral. The following examples explain how to store and retrieve documents using TI's *Wafertape* Digital Tape Drive. Refer to the CC-40 *User's Guide* and the *Wafertape* peripheral manual for setup instructions.

There are several functions in Memo Processor that enable you to store documents on tape. The **[SAVE]** function is used to copy a document from memory to a *Wafertape*™ cartridge. The **[OLD]** and **[GET]** (insert document) functions copy documents from a tape into memory. Here are a few of the reasons why you may want to store and retrieve documents with tapes.

- You may want to work on a new document before finishing your current document. Word processing memory holds only one document at a time so use a *Wafertape* cartridge to hold the first document while you work on the second.
- Documents stored on a tape can be read back into word processing memory for further modifications and printing.
- Documents stored on a tape are easier to transport than paper documents. They take up less space and are less likely to get wrinkled.

Saving a Document on Tape

The **[SAVE]** function is used to copy a document from the computer memory to a mass storage device. In this example, the mass storage device that we will be referring to is the *Wafertape*™ peripheral. To store a document on a new tape, you must first format the tape. To do this, leave the Memo Processor program using the **[BYE]** function. Clear the display of any messages by pressing **[ENTER]**. Then type the formatting command. For example, type

FORMAT 1 [ENTER]

This command formats the tape in *HEX-BUS*™ device number 1. *Wafertape* peripherals can have device numbers from 1 through 7.

Once you have a formatted tape, you need to go back into Memo Processor and use the **[SAVE]** function (press **[FN]** K). The example below illustrates saving your current document on a tape in device 1 with the name MYDOC.

You press	and the display shows
[FN] [SAVE]	`Save dev.name: `
1.MYDOC	`Save dev.name: 1.MYDOC`
[ENTER]	`Preparing for save...`
	`Saving document...`
	`Save complete`
	(display returns to document text)

If you store more than one document on the same tape, be sure to give each document a different name. If the tape is unformatted or full, Memo Processor displays an appropriate message.

If the device name specified while using **[SAVE]** matches the name of a document already on that device and tape, Memo Processor asks

`Overwrite old document(y/n)?`

If you respond **Y**, the original tape document is deleted, and the document in computer memory takes its place. If you respond **N**, the **[SAVE]** function is cancelled.

Retrieving a Document from Tape

This example shows how to copy the document just saved on tape back into word processing memory using the **[OLD]** function (press **[FN]** L).

You press	and the display shows
[FN] [OLD]	`Old dev.name: `
1.MYDOC	`Old dev.name: 1.MYDOC`
[ENTER]	`Searching for document...`
	`Retrieving old document`
	`Old complete`
	(display shows first line of MYDOC)

[OLD] clears memory before it reads the document in from tape, so you should **[SAVE]** any document in memory if you don't want to lose it. If the document which you requested to have loaded into memory is not found in the specified device, Memo Processor displays an appropriate message and leaves your current document in memory.

The [GET] function ([FN] G) allows you to merge a document stored on tape into the document currently in memory. To insert a document in front of any character in memory, move the cursor to that character and use the [GET] function in the same way you use the [OLD] function.

Finally, you can press the [BREAK] key in response to any prompt issued by [SAVE], [OLD], and [GET] to cancel use of those functions.

Switching to Communications

As described in chapter 1, when you start up Memo Processor you have direct access to the word processing portion of the system. To access the communications portion, use the [COMM] function. Refer to chapter 3 of this guide for instructions.

Leaving Memo Processor

The [BYE] and [OFF] keys are used to leave Memo Processor and return to BASIC Command Level. Refer to chapter 1 for instructions on use of these keys.

CHAPTER 3
DATA COMMUNICATIONS

Introduction

This chapter explains how to use your CC-40 as a portable communications terminal. The complete procedure for setting up the communications option of Memo Processor and accessing a host computer is explained as well as a few of the time-sharing systems which are available to you and the services they offer. An example of accessing a hypothetical time-sharing system is then given at the end of the chapter.

How Communications Work

This section presents the basic ideas behind Memo Processor's communications features. Once you understand how and why a communications system operates, you should have no difficulty in accessing the wide variety of time-sharing systems and other compatible computers with which you may want to communicate.

When you use the communications portion of Memo Processor, the information you receive is stored in a 24-line by 80-character screen format. The CC-40 displays 31 characters at a time from any line of this screen.

As text is received, Memo Processor places it in the 24-line screen. At the same time, the information scrolls across the display to show each new character as it arrives. Often, the information moves too quickly for you to read while it is being transmitted. However, the interactive computer systems you are accessing usually send 24 lines or less at a time and then pause until you press a key indicating that you are ready to receive more information. To read the information you receive, wait until the transmission pauses and then move the cursor back as far as needed and read the 24-line screen at your own pace.

Overview of Communications Procedures

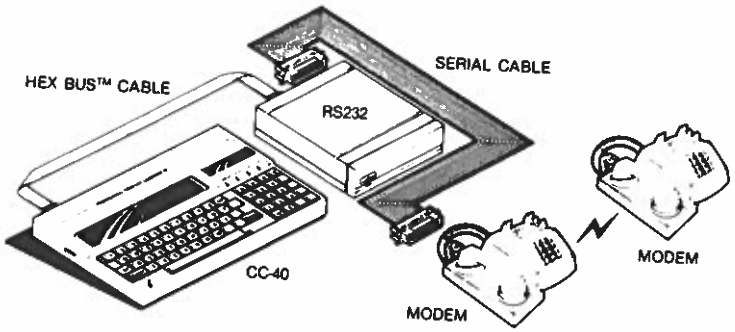
The following section discusses the procedures for accessing and using the communications portion of Memo Processor.

Setting Up the Equipment

Set up your equipment as shown in the figure below. Refer to chapter 1 of this guide for information on selecting equipment and to the *Owner's Manual* of each peripheral for set-up instructions.

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DATA COMMUNICATIONS

Setting Up the Equipment



Setting Communications Options

After the equipment is set up, set the appropriate communications options for the computer you will access, and place the Memo Processor program in the communications mode by pressing **[FN] [COMM]**.

The communications options are selected from the options page which is displayed by using the **[SET COMM]** function (press **[FN] O**). The first line of the communications options page is shown below with the "default" values which appear when you first start up the system. Each of the options listed on the options page is described in the next few pages.

Communications options page
Comm device number: 20
Baud rate: 300
Number of data bits: 8
Transmit parity: None
Check parity on receive: No
Duplex: Full
Number of stop bits: 1
End of comm options page

To change the communications options, use the ↑ and ↓ keys to move from one line to the next. On each line, you can change the setting to meet your requirements and press **[ENTER]** or ↓ to store the new value.

Several options such as Baud rate, Number of data bits, and Transmit parity are displayed with the cursor at the far right of the display. This indicates that rather than changing the setting by typing in a new value, you press the **[SPACE BAR]** one or more times to select from the list of available settings. Press **[ENTER]** to select the desired setting when it is being displayed.

Comm Device Number

This option indicates which *HEX-BUS*™ device is being used for communications. (Note: Extended options for the communications device number can be accessed by using **[FN] Q**. Refer to Appendix D for a description of **[FN] Q**.) You should refer to the communications device's *Owner's Manual* to determine the device number and also to find out how to change the device number in case you are using two communications devices.

Baud Rate, Number of Data Bits, Transmit Parity, and Number of Stop Bits

These settings define the speed and format of data as it travels over the communications line. Different systems you may access need different settings. Refer to the *User's Guide* of the system you are accessing for the required settings. The table below lists the settings which are available in Memo Processor.

Option	Available Settings
Baud Rate	110, 300
Data Bits	7, 8
Transmit Parity	None, Space, Mark, Odd, Even
Stop Bits	1,2

To modify the setting for one of these options, use the ↑ or ↓ key to move to the appropriate line. Then press the **[SPACE BAR]** one or more times until the desired setting appears in the display. Press **[ENTER]** to select the desired setting when it is being displayed.

Check Parity on Receive

This option lets you decide if you want to know when there is a parity error in the received data. If you select the No setting, parity errors are ignored. If you select the Yes setting, Memo Processor displays a brief message whenever it detects a parity error.

Parity is information added to data when it is transmitted so the receiver can verify that the incoming data is accurate. Some computers add parity information to their transmission and others do not. Communication over telephone lines is subject to line noise and occasional parity errors are expected.

Duplex

Select full duplex if the computer you are accessing sends back to your screen whatever you type on the keyboard. This is known as "echoing" back each character it receives. Select half duplex if the computer you are accessing does not echo each received character.

If, while using Memo Processor for communications, each character you type appears twice in the display, you need to change the duplex setting from half to full. If communications appear to be working but your typing does not appear in the display, you need to change the duplex setting from full to half.

After you have modified all of the options to meet your requirements, there are several ways to leave the communications option page.

1. Press **[FN] [COMM]** to go directly to the communications portion of Memo Processor.
2. Press **[ENTER]** when the display shows `End of comm options page` to return to word processing.
3. Press **[BREAK]** to cancel all changes you have made to the communications options settings.

Changing Communications Options while in [COMM]

Note that communications options can only be changed when the communications device is not open for communications. So, if you find that communications options need to be changed after you enter communications, use the **[HANG UP]** function (press **[FN]** *I*) which closes communications and returns you to word processing. Then use **[FN]** **[SET COMM]** again to reset the options as needed.

Switching from [WP] *to* [COMM]

When the communications options have been set properly and the equipment is set up, press **[FN]** **[COMM]** to switch to communications. Memo Processor displays `Now in communications` and then tries to access the communications device specified on the communications options page. If everything is set up correctly, Memo Processor displays `Ready to communicate` for a moment. Then the display clears, showing you line 1 of the communications screen which is empty.

If the equipment or communications options are not properly set up, Memo Processor turns on the ERROR indicator and displays an appropriate error message. To correct the problem, press the **[ENTER]** key to return to word processing. Check that the communications device has power, that it is turned on, and that it is plugged into the *HEX-BUS*™ interface properly. Then check the communications device's number and the **[FN]** **[SET COMM]** device number setting to verify that the two match.

Once Memo Processor displays `Ready to communicate`, it has switched to the communications portion of the system. Note that the COMM indicator is now on. Your typing is now transmitted out the communications device and everything received by the communications device is shown in the CC-40 display.

If you are using a modem and telephone line to reach the host computer, dial up the computer at this point. Then follow the procedure which is given in the *User's Guide* for the host computer you are accessing.

Simple Typing

In communications, the space, letter, number, and symbol keys work like the keys of a standard terminal.

The **[ENTER]** key is equivalent to the return key on a standard terminal.

The [CTL] key can be used in combination with other keys to send all ASCII control codes including escape sequences. Appendix C lists the keys for sending each code. Memo Processor function keys and the arrow keys are not transmitted when pressed.

Correcting Typing Errors

Correcting typing errors while communicating with a host computer involves moving the cursor left to the mistyped character and retyping the line correctly. The key used to move the cursor left depends on the computer. Some require a backspace (BS) code, while others use a rubout (RUB) code. Refer to the *User's Guide* of the host computer you are accessing to determine which code is required. To type a BS code, press [CTL] H. To type a RUB code, press [CTL] ↓.

Stopping and Starting the Host Using [X-ON] and [X-OFF]

Many computer systems support x-on/x-off protocol. [CTL] [X-OFF] turns the host computer's output off and [CTL] [X-ON] turns it back on. This protocol can be used to stop input of information from the host computer if it is sending more than 24 lines without pausing. You can then read the information and use [X-ON] to begin receiving more information when you are ready.

To send an [X-OFF] code to the host, press [CTL] S. To send an [X-ON] code, press [CTL] Q.

Reading Received Data

Data often arrives from the host at a rate too fast for reading. At these times you should either wait for the host to stop sending or use the x-on/x-off protocol. Memo Processor saves the data for you. Once the host stops sending, you can read the 24-line screen at your own pace using the same functions that are available for reading a document in word processing.

Clearing the Communications Screen

At any time during communications you may clear the screen of all information using the [CLR] key. When you press [CLR], the screen is cleared and the cursor moves to line 1, column 1. It does not cause any codes to be transmitted to the host computer.

Viewing the Data with Arrow Keys, [TAB]*, and* [BTAB]

The arrow keys move the cursor up, down, left, and right. As you move from line to line, Memo Processor automatically skips over blank spaces at the end of each line to avoid showing you an empty display. If the cursor is at column 1 of a line, pressing the ← key moves the display to the last visible character in the previous line. If the cursor is at the last visible character of a line, pressing → moves the display to column 1 of the next line.

The **[HOME]** function (**[FN]** ↑) moves the cursor and display to line 1, column 1 of the communications screen.

The **[BOTTOM]** function (**[FN]** ↓) moves the cursor and display to the point at which the next received character will appear on the communications screen.

The **[GO TO]** function (**[FN]** =) moves the cursor to any of the four edges of the screen. When you press **[FN]** =, Memo Processor prompts `Goto where (← → ↑ ↓)?` and responds to your next key as follows.

→	moves the cursor right as far as possible to show the last visible character on the current line
←	moves the cursor to the left edge of the current line
↑	moves the cursor to the top of the screen, just as the **[FN]** **[HOME]** key
↓	moves the cursor to the point at which the next received character will appear on the communications screen, just as the **[FN]** **[BOTTOM]** key
[BREAK]	cancels the **[GO TO]** function

[TAB] and **[BTAB]** move the cursor forward or backward one tab position on the current line. **[TAB]** is accessed by pressing **[CTL]** → and **[BTAB]** is accessed by pressing **[CTL]** ←. Tabs are set every eight spaces on the communications screen.

Scanning the Screen with [SCAN] *and* [AUTO]

The easiest way to read the communications screen is to press **[FN]** **[HOME]** to move the cursor to the beginning of the screen and then use **[FN]** **[SCAN]** or **[FN]** **[AUTO]**.

[FN] [SCAN] displays the next 25 characters of the screen each time it is pressed. If appropriate, it repositions the next display at the beginning of the last word in the current display. If there are no more visible characters on the current line, **[FN] [SCAN]** moves ahead to the next line that has a visible character. You can hold down the **[FN]** key and tap the **S** key at your own pace to read from display to display. Once you have scanned ahead to the last visible character in the screen, additional presses of **[FN] [SCAN]** are ignored since the display cannot advance any further. However, you can move the cursor up and use **[FN] [SCAN]** again if you wish.

[FN] [AUTO] moves the display ahead just as **[FN] [SCAN]** does. But **[FN] [AUTO]** waits a moment for you to read the new display and then moves the display ahead automatically. This automatic playback continues until the last visible character on the screen appears in the display. While using **[FN] [AUTO]**, you can press the following keys.

↑	tap this key once or twice to speed up the scan rate
↓	tap this key once or twice to slow down the scan rate
[BREAK]	press this key to stop scanning

Resuming Interactive Communications

You normally read the communications screen while the host waits for you to respond to a prompt. When you are ready to go on, just type your response. The display automatically jumps to the proper screen position. You can also use the **[FN] [BOTTOM]** key to get back to the proper position before you respond to the prompt.

If the host sends more data while you are reading the document, Memo Processor automatically displays the new data so that you won't miss anything.

Switching Back to Word Processing

There are two ways that you can switch from communications to word processing.

1. Pressing **[FN] [WP]** allows you to go back to word processing without losing your place in communications. This gives you access to all word processing functions but keeps the communications device open for communications. When you want to get back to communications, just press **[FN] [COMM]**.

2. Press **[FN] [HANG UP]** when you have finished using communications or when you need to change the communications options. This closes communications, clears the communications screen, and returns you to word processing. From that point, you can leave Memo Processor by pressing **[FN] [BYE]** or **[OFF]**, or continue working with the word processing functions of Memo Processor.

Time-Sharing Systems

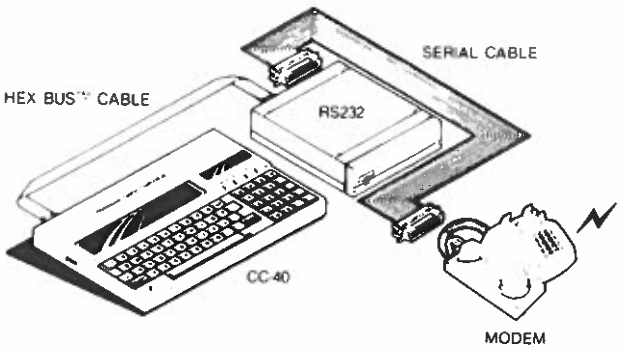
Now that you know how to use Memo Processor's communications features to access host computers, here is a description of a few of the time-sharing systems which are most commonly used and an explanation of how to access these systems.

Accessing Time-Sharing Systems

Most time-sharing systems have membership agreements in which you pay a yearly membership fee. Additional costs may include long-distance telephone charges, user charges for the amount of time that you are on-line with the system, charges for storing information in the system, etc.

The procedure for accessing most time-sharing systems is fairly standardized and is designed for simple and quick access. When you join one of the time-sharing systems, they will send you your personal account number, a password which insures the privacy of your files and transactions, and instructions on how to access their system.

The following illustration shows the equipment set-up which is necessary for accessing a timesharing system.



CHAPTER 3
DATA COMMUNICATIONS

Choosing the Right Time-Sharing System for You

The following discussion provides a brief description of a few of the most popular time-sharing systems. For more information about these systems, you should write to or call the time-sharing systems which most interest you.

THE SOURCE℠

Helping you to attain efficient and effective management productivity is the goal of THE SOURCE. The following list provides a sample of the nearly 800 programs and services which THE SOURCE makes available to you.

- *Management Contents Ltd.*—provides concise abstracts from many of the leading financial publications
- *UNISTOX*—gives regularly updated reports on stocks, bonds, commodities, futures, options, gold and other precious metals, money markets, mutual funds, foreign exchange, and Treasury rates
- *Media General Financial Services, Inc.*—provides reports and analyses of over 3,100 stocks in 58 performance categories
- *Commodity News Services, Inc.*—lists complete news and price wires from all major commodity markets
- *Participation Systems Inc.*—allows you to hold computer conferences similar to telephone conferences but without the long distance telephone cost
- *Dittler Brothers, Inc.*—gives you complete, current domestic and international airline schedules
- *First World Travel*—puts you in touch with First World Travel independent travel agency in order to shop for the best rates, place ticket orders, rent a car, and make hotel reservations
- *Mobil Travel Guide*—provides weather information and a listing of accommodations and restaurants in cities and towns all across North America
- *INFORMATION ON DEMAND*—puts you in touch with research experts around the world who will send you electronic or hard copy of any document or article you want on virtually any subject and in every major language

℠THE SOURCE is a service mark of Source Telecomputing Corporation.

- *U-Star*—lets you do computerized discount shopping on over 50,000 name-brand items. You can shop by product, manufacturer, model number, and product features as well as prices. The best price is calculated for you automatically and then you can order the purchase to be delivered to you within days.
- *Cineman*—provides you with the latest movie reviews
- *Model 1*—a service for financial planning, simulation, and analysis as well as for calculating your taxes, cash flows, equipment lease vs. purchase decisions, and loan amortizations

In addition to these services, you can receive listings of the schedule of Congressional committees, regulatory agencies, and the President; send messages and reports as electronic mail; talk with anyone else who is on-line when you are; read and place classified ads in a global electronic bulletin board and public forum; receive the latest news stories within minutes after the stories are filed by UPI correspondents around the world; read consumer information tips on recipes, food and nutrition, choosing the right wines, home repair and decorating, healthcare and medicine, and over ninety toll-free telephone numbers; not to mention the puzzles, riddles, card tricks, electronic games, and instructional programs.

TEXNET[SM]

TEXNET is a special edition of THE SOURCE[SM] which provides 1200 services and programs. It is uniquely designed to support many of the special features of the Texas Instruments Home Computer by enabling you to exchange software with other users, get technical updates, and find out about new products and announcements from Texas Instruments. Some of the special TEXNET services include the following.

- *TI News*—an electronic newsletter with product and technical announcements from Texas Instruments
- *TI Help*—how to use TEXNET
- *TI Software Directory*—a listing of the latest software available for the TI Home Computer
- *TI User Group*—a nationwide listing of Texas Instruments user groups and who to contact

[SM]TEXNET is a service mark of Texas Instruments Incorporated.

- *TI Service Centers*—a listing of locations for maintenance and repairs on Texas Instruments equipment
- *TI Submit*—enables TEXNET users to submit software programs electronically to any of TI's software exchanges, including the International 99/4 Users-Group, Inc.

CompuServe®

The CompuServe Information Service provides you with access to up-to-the minute news, weather, sports, financial information, entertainment, electronic mail, home information, and many personal computing services. Here is a description of a few of the most popular services.

- *Commodity News Service*—provides current-day commodity news and prices on wheat, gold, oil, and other commodities as well as general economic news, agricultural news, and reports on how the weather is affecting the commodities market
- *Quick Quote Database*—gives high, low, closing, volume, and net change figures for over 12,000 stocks and bonds
- *MicroQuote Database*—includes historical prices, volumes, and dividends for more than 40,000 stocks, bonds, mutual funds, government issues, and options
- *Standard & Poor's*—provides up-to-date descriptive and financial information on more than 3,000 companies
- *Value Line*—provides current and historical data that allows you to analyze the performance of more than 1,600 major industrial, transportation, utility, retail, banking, and insurance companies which collectively represent 95% of the dollar value of stocks traded on the exchanges
- *Reference Library*—gives you access to research subjects ranging from dietary and nutritional information to electronics and science
- *Shop-at-Home*—lists over 30,000 items from cookware to clothing which may be ordered and purchased at discount prices

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- *Bank-at-Home*—enables you to pay regular monthly bills by simply indicating to whom the money is to be sent, how much to send, and when; you can also receive current information on your checking account including a running balance and a list of all checks and deposits that have been received by the bank that day
- *Electronic Mail*—gives you access to a person-to-person message delivery system on which you can read your mail, send mail, receive information on undelivered mail, or file your mail for future reference
- *BULLET*—a National Bulletin Board information exchange where you can post a message for all CompuServe users to read
- *Personal Computing*—provides a variety of computer services, including creating your own program or text file; software exchanges; a line printer art gallery; challenging games; programming languages; word processing; and business and educational programs
- *CB*—CompuServe's unique simulation of the 11 meter Citizens' Band radio equipped with a multiple channel transceiver and a scanning monitor

Example: Accessing a Timesharing System

This example shows the steps for using Memo Processor to access a hypothetical system called NewsBits.

1. Set up the equipment as shown in the "Accessing Time-Sharing Systems" section in this chapter.
2. Turn on all equipment and start up Memo Processor as explained in chapter 1.
3. Determine required communications settings and set them. The *NewsBits User's Guide* shows that the following settings are needed.

   300 Baud
   7 Data Bits
   Odd Parity
   Full Duplex
   1 Stop Bit

You press	and the display shows
[FN] [SET COMM]	Communications options page
↓	Comm device number: 20
↓	Baud rate: 300
↓	Number of data bits: 8
[SPACE BAR]	Number of data bits: 7
[ENTER]	Transmit parity: None
[SPACE BAR] 3 times	Transmit parity: Odd
[ENTER]	Check parity on receive: No
↓	Duplex: Full
↓	Number of stop bits: 1

4. Switch to communications.

You press	and the display shows
[FN] [COMM]	Now in communications Ready to communicate

5. Dial up NewsBits. When you hear the high-pitched carrier tone, set the modem to ORIGINATE if needed and place the phone hand set in the modem. Your modem may have slightly different requirements. See your modem's *Owner's Manual* for exact instructions.
6. Log on and use NewsBits as you would with a standard 24-line terminal.
7. If NewsBits sends text too fast for you to read, just wait until NewsBits prompts you for a response. Then use [FN] [HOME] and [FN] [SCAN] to read the text at your own pace.
8. When you are finished with NewsBits, log off, hang up the phone, and use the [HANG UP] function.

You press	and the display shows
[FN] [HANG UP]	Disconnected (displays some part of word processing screen)

When you use the [HANG UP] function, Memo Processor returns you to word processing.

CHAPTER 4
WORD PROCESSING AND DATA COMMUNICATIONS TOGETHER

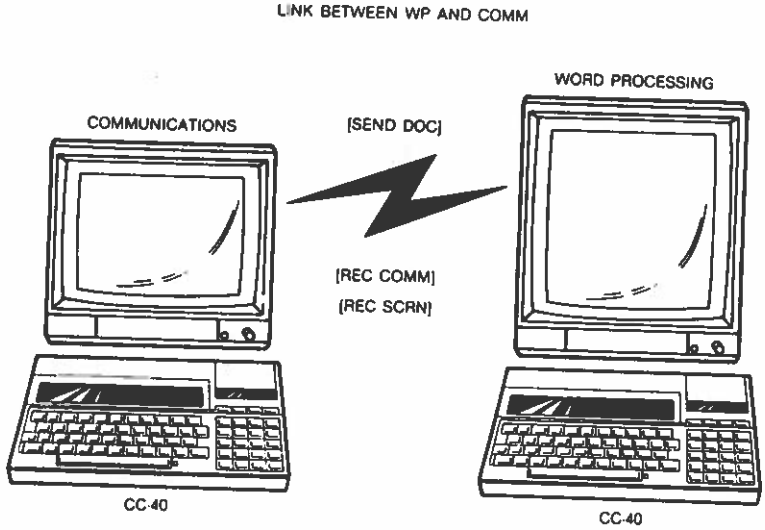
Introduction

This chapter explains how word processing and data communications can be used together. It assumes that you are familiar with the operation of the word processing and communications portions of Memo Processor as discussed in chapters 2 and 3.

How Word Processing and Data Communications Work Together

The word processing and data communications portions of Memo Processor are associated with each other as shown in the illustration below.

This association allows data to flow in either direction between the word processing and communications portions of Memo Processor. Three functions within the communications portion are designed to make use of this connection: send document **[SEND DOC]**, record screen **[REC SCRN]**, and record communications **[REC COMM]**. Each of these functions is explained below.



CHAPTER 4
WORD PROCESSING AND DATA COMMUNICATIONS TOGETHER

Sending a Document Via Communications—[SEND DOC]

The **[SEND DOC]** function (**[FN]** +) lets you send a document that has been created using Memo Processor's word processor. This capability enhances your use of electronic mail systems in two ways. First, Memo Processor's word processor offers easier and more powerful editing than most electronic mail text editors. Second, since you can create mail messages before accessing the host computer, you reduce actual connect time. This saves system usage fees and telephone charges. The steps for creating and sending a document are quite simple as shown below.

1. Create the document using word processing as explained in chapter 2.
2. Switch to communications and access the host as explained in chapter 3.
3. Follow the usual steps for sending electronic mail as you would with a standard communications terminal until you reach the point where you would normally type in the text of the message.
4. Instead of typing the message, use the **[SEND DOC]** function.
   Memo Processor sends a copy of the document currently in word processing memory to the host. When Memo Processor starts to send the document, it displays `Sending document to host` for a few seconds. If you are using full duplex communications, each character of the document is echoed back by the host and is shown in the CC-40 display. When the entire document has been sent, Memo Processor displays `Document sent to host` and then returns the display to the communications screen.
5. After the document has been sent, press the **[ENTER]** key to make sure the cursor is at the left margin. Then type the appropriate message to tell the host that the document is complete. For example, if you are using Source Mail, type **.S** and press **[ENTER]**.

To send more than one document, follow these steps.

1. While in the word processing mode, create and **[SAVE]** all of the documents onto a mass storage device. The last document that you **[SAVE]** will remain in memory.

2. Switch to communications, access the host computer, and send the document in memory using the steps previously described.
3. When the first document is sent, switch back to word processing by pressing **[FN] [WP]**. This lets you use all of the word processing functions without losing your place in communications.
4. Use the **[OLD]** function to copy another document back into word processing memory.
5. Press **[FN] [COMM]** to switch back to communications. Send the document now in memory just as you sent the first one.
6. Continue the cycle (**[WP]**, **[OLD]**, **[COMM]**, **[SEND DOC]**, **[WP]**, **[OLD]**, etc.) until all of the documents have been sent.

If you need to, you can press **[BREAK]** to stop sending in the middle of a document transmission.

When using **[SEND DOC]**, all tabs in the document are transmitted as one or more spaces to create the correct spacing. Also, each soft and hard end-of-line in the document is sent as a carriage return code.

Recording the Communications Screen—[REC SCRN]

The **[REC SCRN]** function (**[FN]** –) lets you copy the communications screen to the end of the document that is in word processing memory. This capability has a wide range of applications. Once the screen is copied to word processing, it can be edited, printed, and saved just like any other text.

For example, suppose you are reading news stories on the hypothetical NewsBits timesharing system and notice an article that would interest your boss. What you would like to do is write your boss a letter and include a copy of the story.

To do this, begin typing the letter using the word processing features of Memo Processor. At the point where you want to add the NewsBits story, switch to communications, access NewsBits, and get the story on your communications screen. Then press **[FN] [REC SCRN]**. Memo Processor displays `Adding screen to document end` while it does the copying. You now have a copy of the screen added to the letter. It is that simple.

Then switch back to word processing—press **[FN] [HANG UP]** if you are finished with communications or press **[FN] [WP]** if you will be switching back to communications in a moment. In word processing, finish typing the letter, print it, and send it off to your boss.

Recording Data as it is Received—[REC COMM]

The **[REC COMM]** function (**[FN] ***) is similar to **[REC SCRN]** except that it records all communications as they occur. You should use **[REC COMM]** if you want to record several screens at once or if the host is about to send a document without pausing at the end of each screen.

Once you turn on **[REC COMM]**, everything received by the communications screen will also be added to the end of the word processing document. Recording continues until one of the following conditions occur.

- You stop recording by pressing **[FN] [REC COMM]** again. Note that the RECORD display indicator turns on and off to indicate whether or not you are recording.
- You switch to word processing by pressing **[FN] [WP]** or **[FN] [HANG UP]**. This switch automatically turns off recording.
- Word processing memory becomes full. The message `Document full` is displayed, followed by the message `No longer recording`.

Editing, Printing, and Saving Communications Data

Text data that is recorded into word processing using **[REC SCRN]** and **[REC COMM]** is no different from text that you type using word processing. It can be printed, modified, moved, saved, and transmitted using all of the Memo Processor functions.

CHAPTER 5
QUICK REFERENCE SECTION

Introduction

This section contains an alphabetical listing and description of each Memo Processor function and control key. The discussion of each function and control key is organized as follows.

Name	Name of the function or control key.
Key Sequence	Shows which keys to press in order to invoke the function. Only included when more than one key is required.
Used In	States those activities (word processing, communications, and answering system prompts) in which the function or control key is used.
Description	Gives a complete explanation of how to use each function or control key.
Cross Reference	Lists related function and control keys.
More Information	Lists other sources of information for further discussion of the function or control key.

CHAPTER 5
QUICK REFERENCE SECTION

Arrow Keys

Used In

Word Processing, Communications, and answering system prompts

Description

The ← and → keys move the cursor to the next and previous character of text, respectively. These keys move across line boundaries and repeat when they are held down. For instance, if the cursor is at the beginning of line 2, ← moves the cursor to the end of line 1. ← is ignored if the cursor is at the beginning of the text and → is ignored if the cursor is at the end of the text.

The ↑ and ↓ keys move the cursor to the line above or below the current line and repeat when held down. Normally, the cursor remains in the same character position as it moves from line to line. However, if pressing the arrow key would move the cursor to a point beyond the end of a line, the cursor is positioned at the final character of that line. ↑ is ignored if the cursor is at the beginning of the text and ↓ is ignored if the cursor is at the end of the text.

The ← and ↓ are also used with the following functions.

[SET TAB]	used to view tab settings of other columns
[AUTO]	used to increase or decrease the speed at which the information is scrolled across the display
[SET PRINT]	used to move from line to line of the printer options page
[SET COMM]	used to move from line to line of the communications options page

Any of the arrow keys may be used to complete the **[INS]** function.

Cross Reference

[HOME], [BOTTOM], [GO TO], [WHERE?]

[AUTO]

Key Sequence

[FN] A

Used In

Word Processing and Communications

Description

[AUTO] scrolls the document or communications screen across the display at a steady rate so that you can read the text without repeatedly pressing keys. It starts at the current cursor position and continues until there is no more to read or until you press [BREAK].

Often, you will use [HOME] and [AUTO] together. [HOME] moves the cursor to the first character of text in the word processing document and on the communications screen. Then you can read the entire text using [AUTO].

To change the scanning speed, press the ↑ key to go faster or the ↓ key to go slower.

Cross Reference

[SCAN], [HOME]

CHAPTER 5
QUICK REFERENCE SECTION

[BOTTOM]

Key Sequence

[FN] ↓

Used In

Word Processing and Communications

Description

[BOTTOM] moves the cursor and display to the end of the word processing or communications text. In word processing, it moves to the end-of-document character. In communications, it moves to the position where the next received or typed character will be displayed.

When used with the **[SET TAB]** function, **[FN] [BOTTOM]** displays the current setting of the right margin.

Cross Reference

[GO TO], [HOME]

[BREAK]

Used In

Word Processing and Communications

Description

[BREAK] is used to cancel multiple-step Memo Processor functions. For example, it takes two steps to delete a block (one marks the beginning of the block, and the other marks the block's end). Pressing **[BREAK]** during the second step cancels the delete block function.

[BREAK] also cancels functions such as **[PRINT ALL]** which proceed over a period of time.

[BREAK] can be used to cancel the following functions.

[AUTO], [COPY], [DEL BLK], [FIND], [GO TO], [GET], [MOVE], [NEW], [OLD], [PRINT ALL], [PRINT PART], [SAVE], [SEND DOC], [SET COMM], [SET MARGIN], [SET PRINT], [SET TAB]

Cross Reference

[COMM BRK]

[BS] (Back Space)

Key Sequence

[CTL] H

Used In

Word Processing, Communications and answering system prompts

Description

In word processing and system prompts, **[BS]** moves the cursor back one character and erases that character. As the cursor moves back, all characters from the cursor on move with it. **[BS]** does not complete the **[INS]** function as does ←, so it is a convenient way to correct errors as you use **[INS]**. **[BS]** is ignored if the cursor is at the beginning of the text.

In communications, **[BS]** moves the cursor back one character, and the next typed or received character overwrites the character at the cursor. **[BS]** is ignored if the cursor is at the beginning of the current communications line.

Cross Reference

[DEL]

[BTAB] (Back Tab)

Key Sequence

[CTL] ←

Used In

Word Processing and Communications

Description

[BTAB] moves the cursor and display left to the nearest tab position or to the left margin, whichever comes first. When the cursor is at the left margin, **[BTAB]** is ignored.

When used with the **[SET TAB]** function, **[BTAB]** displays the column number of the previous tab setting.

Cross Reference

[TAB], [SET TAB]

[BYE]

Key Sequence

[FN] B

Used In

Word Processing, Communications, and answering system prompts

Description

[BYE] is used to leave Memo Processor. It returns control of the CC-40 to the BASIC Operating System. When [FN] [BYE] is pressed, the following events occur.

1. If the communications device is opened for communications (shown by the CONNECTED display indicator), the message `Disconnected` is displayed to remind you to hang up your phone. Then the communications device is closed.
2. If you have a document in memory, the message `Preparing for exit...` is displayed while Memo Processor takes steps to detect memory loss when Memo Processor is next used. As long as other programs do not modify word processing memory, you can return to Memo Processor later and continue to work with the document that was in memory when you pressed [FN] [BYE].
3. The message © 1983 Telos Software Products is displayed for a moment. Then control is returned to the BASIC Operating System.

Cross Reference

[OFF]

[CLR] (Clear)

Used In

Word Processing, Communications, and answering system prompts

Description

In word processing, **[CLR]** is used to clear all tabs when using the **[SET TAB]** function.

In communications, **[CLR]** clears the communications screen and moves the cursor to line 1, column 1. It does not cause any codes to be transmitted to the host computer.

When answering system prompts, pressing **[CLR]** erases the default answer or clears out what you have typed prior to pressing **[ENTER]**.

[COMM] (Communications)

Key Sequence

[FN] ,

Used In

Word Processing

Description

In word processing, [COMM] switches Memo Processor to communications.

Cross Reference

[SET COMM], [WP]

[COMM BRK] (Communications Break)

Key Sequence

[FN] [BREAK]

Used In

Communications

Description

[COMM BRK] causes a communications BREAK signal to be transmitted by the communications device. Most timesharing systems respond to BREAK by cancelling the current activity and returning to command level.

CHAPTER 5
QUICK REFERENCE SECTION

[COMM TAB]

Key Sequence
[CTL] I

Used In
Communications

Description
[COMM TAB] causes an ASCII tab code (09) to be transmitted to the host computer.

More Information
See Appendix C.

[COPY]

Key Sequence

[FN] C

Used In

Word Processing

Description

[COPY] is used to copy a group of adjacent characters from one point in the text to another. This can be useful for generating forms and to speed other repetitive typing.

Here is how it works.

1. Move the cursor to the first character in the group you want to copy.
2. Press **[FN] C** to use the **[COPY]** function.
3. Memo Processor prompts `Copy what?` for a few seconds.
4. Answer this question by moving the cursor to the end of the block you want to copy.
5. When you have moved the cursor to the final character to be copied, press the **[ENTER]** key. Memo Processor responds by asking `Copy to where?` for a moment.
6. To copy the block to a point in front of any character, move the cursor to that character and press **[ENTER]**. Memo Processor responds with `Copying block...` as it reformats the document. Then the document is redisplayed with the text properly copied.

Cross Reference

[MOVE]

[DEL BLK]

Key Sequence

[FN] D

Used In

Word Processing

Description

[DEL BLK] is used to delete a group of adjacent characters in the text. All characters beyond those deleted are moved up and reformatted to fill in the gap. This can be useful for deleting entire words, sentences, etc.

Here is how it works.

1. Move the cursor to the first character in the group (block) you want to delete.
2. Press **[FN] D** to use the **[DEL BLK]** function.
3. Memo Processor prompts `Delete what?` for a few seconds.
4. Answer this question by moving the cursor to the end of the block you want to delete.
5. When you have moved the cursor to the final character to be deleted, press the **[ENTER]** key. Memo Processor responds by showing `Deleting...` for a moment as it reformats the document. Then the document is redisplayed with the text properly deleted.

Cross Reference

[DEL]

[DEL] (Delete Character)

Key Sequence

[FN] ←

Used In

Word Processing and answering system prompts

Description

[DEL] deletes the character at the cursor. All characters beyond the one deleted are moved up and reformatted to fill the gap.

Cross Reference

[DEL BLK], [BS]

[ENTER]

Used In

Word Processing, Communications, and answering system prompts

Description

In word processing, **[ENTER]** works like a standard word processor's return key.

When adding new text to the document, press **[ENTER]** to end a paragraph or to create a blank line. This signifies a hard end-of-line.

When the cursor is within previously typed text, press **[ENTER]** to move the cursor and display to the beginning of the next line. You cannot overstrike another character with the **[ENTER]** key.

In communications, **[ENTER]** is used as a return key to send a carriage return code (HEX 0D).

To answer system prompts, press **[ENTER]** when your answer is properly typed. **[ENTER]** causes Memo Processor to respond to your answer.

When using the **[SET MARGIN]**, **[SET TAB]**, **[SET COMM]**, or **[SET PRINT]** function, press **[ENTER]** to select the appropriate option when it is being displayed.

[FIND]

Key Sequence

[FN] F

Used In

Word Processing

Description

[FIND] is used to search forward through the word processing document for a character or group of characters, starting at the cursor. If the characters are found, the cursor and display are moved to that point in the text. Normally, **[FIND]** ignores the distinction between upper and lower case letters. To search without ignoring this distinction, enclose the character(s) to be searched for in quotes.

If you press **[FN]** **[FIND]** by mistake, press **[BREAK]** to get out of the **[FIND]** function.

To search repeatedly for a group of characters that occurs frequently in your document, use **[FIND]** for the first search and then use **[FND NXT]**.

Cross Reference

[FND NXT]

[FND NXT]

Key Sequence

[FN];

Used In

Word Processing

Description

[FND NXT] is used to search repeatedly for the same sequence of characters after using **[FIND]**. An important feature is that you can perform other editing functions between use of **[FIND]** and **[FND NXT]**.

Cross Reference

[FIND]

[GET] (Insert Document)

Key Sequence

[FN] G

Used In

Word Processing

Description

[GET] is used to merge text stored on tape with text in word processing memory. This can be useful if you include stock text (the same exact words) in many of the documents you write.

First, type the stock text and use the [SAVE] function to store it as a separate document on tape. Then use [GET] as you type the individual documents to quickly and easily add the stock text.

Cross Reference

[INS], [SAVE], and [OLD]

[GO TO]

Key Sequence

[FN] =

Used In

Word Processing and Communications

Description

[GO TO] is used to jump the cursor and display to the left, right, top, or bottom edge of the document or communications screen. Press [FN] [GO TO] followed by ←, →, ↑, or ↓ to move the cursor.

Cross Reference

[HOME], [BOTTOM]

[HANG UP]

Key Sequence

[FN] /

Used In

Communications

Description

[HANG UP] is used when you have finished using communications or when you want to change communications parameters (use **[HANG UP]** and then use **[SET COMM]**). **[HANG UP]** closes the communications device, turns off the CONNECTED display indicator, and switches back to the word processing portion of Memo Processor.

Cross Reference

[WP]

[HOME]

Key Sequence

[FN] ↑

Used In

Word Processing and Communications

Description

[HOME] moves the cursor and display to the beginning of the document or communications screen.

Cross Reference

[GO TO], [BOTTOM]

[INS]

Key Sequence

[FN] →

Used In

Word Processing

Description

[INS] is used to insert new text ahead of text that has already been typed. To insert text in front of a specific character, move the cursor to that character and press [FN] [INS]. The display clears starting at the cursor and the INS display indicator comes on. You can type as much or as little new text as needed (limited only by memory space).

When you are through inserting, press any of the arrow keys, or use any function that moves the cursor. This ends the insert and turns off the INS indicator. The text following the insert is properly reformatted.

To correct typing errors made while using [INS], press [CTL] [BS]. This key moves the cursor back one character without cancelling the [INS] function, allowing you to retype a mistyped character and continue inserting.

[MOVE]

Key Sequence

[FN] M

Used In

Word Processing

Description

[MOVE] is used to move a sequence of characters from one point in the text to another. This can be useful for changing the order of words, sentences, and paragraphs within a document.

Here is how it works.

1. Move the cursor to the first character in the group (block) you want to move.
2. Press **[FN] M** to use the **[MOVE]** function.
3. Memo Processor prompts `Move what?` for a few seconds.
4. Answer this question by moving the cursor to the end of the block you want to move.
5. When you have moved the cursor to the final character to be moved, press the **[ENTER]** key. Memo Processor responds by asking `Move to where?` for a moment.
6. To move the block to a position in front of any character, position the cursor at that character and press **[ENTER]**. Memo Processor responds with `Moving block...` as it reformats the document. Then the document is redisplayed with the text properly moved.

Cross Reference

[COPY]

[NEW]

Key Sequence

[FN] N

Used In

Word Processing

Description

[NEW] is used to clear word processing memory of the current document so that you can begin typing a new document.

If there is a document in memory, **[NEW]** asks `Clear current document(y/n)?` to make sure that you really meant to press **[FN] N**. If you do want to clear memory, type **Y** and press **[ENTER]**. Otherwise, type **N** and press **[ENTER]**.

[NEW] does not change the right margin, tab, or print settings.

[OFF]

Used In

Word Processing, Communications, and answering system prompts

Description

[OFF] is used to leave Memo Processor. It returns control of the CC-40 to the BASIC Operating System. When **[OFF]** is pressed, the following events occur.

1. If the communications device is opened for communications (shown by the CONNECTED display indicator), the message `Disconnected` is displayed to remind you to hang up your phone. Then the communications device is closed.
2. If you have a document in memory, the message `Preparing to exit...` is displayed while Memo Processor takes steps to detect memory loss when Memo Processor is next used. As long as other programs do not modify word processing memory, you can return to Memo Processor later and continue to work with the document that was in memory when you pressed **[OFF]**.
3. The message `© 1983 Telos Software Products` is displayed for a moment. Then control is returned to the BASIC Operating System.

Cross Reference

[BYE]

[OLD]

Key Sequence

[FN] L

Used In

Word Processing

Description

[OLD] is used to clear word processing memory of its current document and then load into word processing memory a document which has been saved on a mass storage device. When you press **[FN] [OLD]**, Memo Processor prompts for the device and filename of the desired document. When you have typed in this information, press **[ENTER]** and Memo Processor displays the following messages as it loads the desired document.

```
Searching for document...
Retrieving old document
Old complete
```

Cross Reference

[GET], **[NEW]**, **[SAVE]**

[ON]

Used In

Initial startup of CC-40

Description

Used to turn the power on to the CC-40 console.

More Information

See the CC-40 *User's Guide* .

[PRINT ALL]

Key Sequence

[FN] T

Used In

Word Processing

Description

[PRINT ALL] is used to print a paper copy of the document in word processing memory. Printing starts at the beginning of the document and continues to the document's end. The printed copy is formatted according to the settings on the printer options page.

Printing can be stopped at any point by *holding down* the **[BREAK]** key until the message `Printing cancelled` is displayed.

If **[PRINT ALL]** does not work as desired, use **[SET PRINT]** to modify the appropriate settings.

Cross Reference

[PRINT PART], [SET PRINT]

[PRINT PART]

Key Sequence

[FN] R

Used In

Word Processing

Description

[PRINT PART] is used to print a paper copy of part of the document in word processing memory. Printing starts at the current cursor position within the document and continues to the end of the document. The printed copy is formatted according to the settings on the Printer Options Page.

Printing can be stopped at any point by *holding down* the **[BREAK]** key until the message `Printing cancelled` is displayed.

If **[PRINT PART]** does not work as desired, use **[SET PRINT]** to modify the appropriate settings.

Cross Reference

[PRINT ALL], [SET PRINT]

[REC COMM] (Record Communications)

Key Sequence

[FN] *

Used In

Communications

Description

When the **[REC COMM]** feature is turned on, all further text that is added to the communications screen is also added to the end of the document in word processing memory. This allows data received through communications to later be edited, printed, saved, and retransmitted.

When you press **[FN] [REC COMM]** to begin recording, the RECORD display indicator is turned on. Recording continues until one of the following occurs.

1. You turn recording off by pressing **[FN] [REC COMM]** again. Note that the RECORD display indicator turns on and off to indicate if you are recording.
2. You switch to word processing by pressing **[FN] [WP]** or **[FN] [HANG UP]**. This automatically turns off recording.
3. Word processing memory becomes full. The message `Document full` is displayed followed by the message `No longer recording`.

Cross Reference

[REC SCRN]

[REC SCRN] (Record Screen)

Key Sequence

[FN] –

Used In

Communications

Description

[REC SCRN] copies all text on the current communications screen to the end of the document in word processing memory. This can be useful if the communications screen contains some text that you would like to print, save, or add to a word processing document.

[REC SCRN] does not record trailing spaces or trailing blank lines. If the screen contains two or more blank lines in a row, it copies only one blank line to the word processing document.

Cross Reference

[REC COMM]

[RUN]

Description

Executes the program in computer memory, cartridge port, or tape drive according to the information which follows the **[RUN]** command.

More Information

See the "Starting up Memo Processor" section of chapter 1 and the CC-40's *User's Guide*.

[SAVE]

Key Sequence

[FN] K

Used In

Word Processing

Description

[SAVE] is used to copy a document from word processing memory to a mass storage device. Once a document is saved, it can later be copied back into word processing memory using the **[GET]** or **[OLD]** functions.

To store a document on a tape using the *Wafertape*™ Digital Tape Drive, you must first format the tape. To do this, leave the Memo Processor program using the **[BYE]** function. Clear the display of any messages by pressing **[ENTER]**. Then type the formatting command. For example, type

FORMAT 1 [ENTER]

This command formats the tape in *HEX-BUS*™ device number 1. *Wafertape* peripherals can have device numbers from 1 through 7.

Once you have a formatted tape you need to go back into Memo Processor and use the **[SAVE]** function. When you press **[FN] [SAVE]**, Memo Processor asks for the number and filename. After you type in this information, press **[ENTER]**. Memo Processor then displays the following messages.

```
Preparing for Save...
Saving document...
Save complete
```

If you store more than one document on the same tape, be sure to give each document a different name. If the tape is unformatted or full, Memo Processor displays an appropriate message.

If the device name specified while using **[SAVE]** matches the name of a document already on that device and tape, Memo Processor asks

```
Overwrite old document(y/n)?
```

If you respond YES, the original tape document is deleted, and the document in computer memory takes its place. If you respond NO, the **[SAVE]** function is cancelled.

Cross Reference

[GET], [NEW], [OLD]

More Information

See Appendix D.

[SCAN]

Key Sequence

[FN] S

Used In

Word Processing and Communications

Description

[SCAN] allows you to read the word processing document or the communications screen at your own pace without having to move the cursor across each character. [SCAN] scrolls the next 25 characters through the display each time [FN] [SCAN] is pressed. You can read the entire document or screen by pressing [FN] [HOME] to move the cursor to the beginning of the text and then pressing [FN] [SCAN] repeatedly until you reach the end of the text. Once the cursor is at the end of the text, the [SCAN] key is ignored.

Cross Reference

[AUTO], [HOME]

[SEND DOC] (Send Document)

Key Sequence

[FN] +

Used In

Communications

Description

[SEND DOC] causes the document in word processing memory to be transmitted over the communications line as if it were being typed from the communications keyboard. This is useful when using electronic mail. You can compose a mail message off-line and minimize communications connect time.

The steps for creating and sending a document are quite simple as shown below.

1. Create the document using word processing as explained in chapter 2.
2. Switch to communications and access the host computer as explained in chapter 3.
3. Follow the usual steps for sending electronic mail as you would with a standard communications terminal until you reach the point where you would normally type in the text of the message.
4. Instead of typing the message, use the **[SEND DOC]** function. Memo Processor sends a copy of the document currently in word processing memory to the host. When Memo Processor starts to send the document, it displays `Sending document to host` for a few seconds. If you are using full duplex communications, each character of the document is echoed back by the host and is shown in the CC-40 display. When the entire document has been sent, Memo Processor displays `Document sent to host` and then returns the display to the communications screen.
5. After the document has been sent, press the **[ENTER]** key to make sure the cursor is at the left margin. Then type the appropriate message to tell the host that the document is complete.

To send more than one document, follow these steps.

1. While in the word processing mode, create and **[SAVE]** all of the documents onto a mass storage device. The last document that you **[SAVE]** will remain in memory.
2. Switch to communications, access the host computer, and send the document in memory using the steps previously described.
3. When the first document is sent, switch back to word processing by pressing **[FN] [WP]**. This lets you use all of the word processing functions without losing your place in communications.
4. Use the **[OLD]** function to copy another document back into word processing memory.
5. Press **[FN] [COMM]** to switch back to communications. Send the document now in memory just as you sent the first one.
6. Continue the cycle (**[WP]**, **[OLD]**, **[COMM]**, **[SEND DOC]**, **[WP]**, **[OLD]**, etc.) until all of the documents have been sent.

If you need to, you can press **[BREAK]** to stop sending in the middle of a document transmission.

When using **[SEND DOC]**, all tabs in the document are transmitted as one or more spaces to create the correct spacing. Also, each soft and hard end-of-line in the document is sent as a carriage return code.

Cross Reference

[REC COMM], **[REC SCRN]**

[SET COMM] (Set Communications Options)

Key Sequence

[FN] O

Used In

Word Processing (it is a preliminary step for switching from word processing to communications).

Description

[SET COMM] is used to set all options pertaining to communications. The **[SET COMM]** options and available settings are as follows.

Option	Available Settings
Comm device number	20-27 (RS232), 70-77 (modem)
Baud rate	110, 300
Number of data bits	7, 8
Transmit parity	None, Space, Mark, Odd, Even
Check parity on receive	No, Yes
Duplex	Full, Half
Number of stop bits	1,2

Note that **[SET COMM]** can be used only if communications are not already open (the CONNECTED display indicator is on when communications are open). If you want to change communications options after starting communications, use the **[HANG UP]** function while in communications. This closes communications and returns you to word processing. Then use **[SET COMM]**.

Cross Reference

[COMM]

More Information

See Appendix A.

[SET MARGIN]

Key Sequence

[FN] U

Used In

Word Processing

Description

[SET MARGIN] is used to set the maximum width of each line in the word processing document. If the margin is set to 28, each line can contain up to 28 visible printing characters. However, "invisible" characters such as trailing spaces, trailing tabs, and end-of-line characters may occur to the right of column 28. The right margin setting may be any value from 9 through 80.

When you leave the **[SET MARGIN]** function by pressing **[ENTER]**, the document is reformatted to fit within the desired setting.

When a document is stored on a mass storage device using the **[SAVE]** function, its right margin setting is also stored. If that document is later read back into word processing memory using the **[OLD]** function, the right margin setting is properly restored.

Note that the left margin is set using the **[SET PRINT]** function and that the right margin setting is relative to the left margin. For example, if a document with a right margin of 65 is printed using a left margin of 10, the document will actually extend across the page from column 10 to column 75.

Cross Reference

[SET PRINT], **[SET TAB]**

[SET PRINT]

Key Sequence

[FN] P

Used In

Word Processing

Description

[SET PRINT] is used to set all options pertaining to document printing.

The **[SET PRINT]** options and available settings are as follows.

Option	Available Settings
Page length	1-99
Number of print lines	1-99
First print line	1-99
Left margin	1-99
Print device number	10-23, 50-53
Mode (print/plot)	Normal, Compressed
Number of LFs after CR	0-3
Pause between pages	Yes, No
Strobe level (prl port):	Negative, Positive
Baud rate (RS-232):	50, 75, 110, 135, 150, 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200
Parity (RS-232):	None, Space, Mark, Odd, Even
Data bits (RS-232):	7, 8
Stop bits (RS-232):	1, 2
Nulls after CR	0-99

Cross Reference

[PRINT ALL], [PRINT PART]

More Information

See Appendix A.

[SET TAB]

Key Sequence

[FN] I

Used In

Word Processing

Description

[SET TAB] is used to set the word processing tab positions. When first used, Memo Processor has tabs set every 8 columns, starting with column 8. When you press **[FN] [SET TAB]**, the display shows

```
SET TABS  Column  1: NO TAB
```

At this point you have several options for viewing and changing the tab settings.

1. Press ↑ and ↓ to view the setting of other columns.
2. Press **[FN] [HOME]** to view the setting for column 1.
3. Press **[FN] [BOTTOM]** to display the setting for the current right margin.
4. Press **[CTL] [TAB]** to see the next column that has a tab set.
5. Press **[CTL] [BTAB]** to see the previous column that has a tab set.
6. Press the **[SPACE BAR]** key to change the setting for a column back and forth between NO TAB and TAB.
7. Press **[CLR]** to clear all tabs.
8. Press a number key in the range from 2 through 9. This clears all current tabs and then sets tabs every so many spaces. For example, pressing 5 sets a tab every 5 spaces starting at column 5.

When you have finished setting tabs, press the **[ENTER]** key. If there is a document in memory, Memo Processor reformats it using the new tab settings. Then the display shows the first line of the document, properly formatted for the new tab settings.

Cross Reference

[TAB], [BTAB]

[TAB]

Key Sequence

[CTL] →

Used In

Word Processing and Communications

Description

In word processing, **[TAB]** moves the cursor ahead to the next tab position. If **[TAB]** is pressed while the cursor is within the text of the document, it does not overstrike existing characters. If **[TAB]** is pressed while you are typing new text (at the end of the document or while using the **[INS]** function), a **[TAB]** character and an appropriate number of spaces are added to the document.

In communications, **[TAB]** moves the cursor ahead to the next tab position. It does not transmit any code to the host computer. If the cursor is already at the end of a line or at the final visible character on the communications screen, **[TAB]** is ignored.

Cross Reference

[COMM TAB], [SET TAB]

[UCL]

Key Sequence

[SHIFT] [CLR]

Used In

Word Processing, Communications, and answering system prompts

Description

Causes all characters to be displayed in upper case. It does not affect punctuation or numeric keys.

[WHAT?]

Key Sequence

[FN] H

Used In

Word Processing, Communications, and answering system prompts

Description

[WHAT?] causes Memo Processor to repeat the most recently displayed system message. Often, Memo Processor prompts you to do something or advises you of the status of an operation by displaying a message for a few seconds. If you were unable to read the message, press **[FN] [WHAT?]** to see the message again.

Memo Processor keeps track of how long it has been since a message was displayed. If a message becomes inappropriate, Memo Processor responds to **[WHAT?]** by displaying `Nothing to repeat`.

[WHERE?]

Key Sequence

[FN] J

Used In

Word Processing, Communications, and answering system prompts

Description

[WHERE?] is used when you want to find out where the cursor is located within a document and what function is being performed.

[WP]

Key Sequence

[FN].

Used In

Communications

Description

[WP] is used to switch temporarily from the communications portion of Memo Processor to the word processing portion. It leaves the communications portion undisturbed. You can switch back to communications by pressing [FN] [COMM] and continue to work as if you had never left.

[WP] is useful if you are using communications and need to use a function available only in word processing. Here are some sample uses of the [WP] function.

1. To print the communications screen.
   Suppose you are using communications and want to print the contents of the communications screen. To do this, press [FN] [REC SCRN]. Then press [FN] [WP] to switch to word processing. Now you can edit and print the recorded screen as needed. To switch back to communications press [FN] [COMM].

2. To transmit a document from tape.
   Suppose you are using communications and want to transmit a document that is stored on a *Wafertape* cartridge. To do this, press [FN] [WP] and then use the [FN] [OLD] function. Then switch back to communications by pressing [FN] [COMM]. Now you can send the document by pressing [FN] [SEND DOC].

   Note that when you have finished using communications, you should use the [HANG UP] function to close communications and switch back to word processing.

Cross Reference

[COMM], [HANG UP]

[X-OFF] (Transmit Off)

Key Sequence

[CTL] S

Used In

Communications

Description

[X-OFF] causes many host computers to pause in the middle of their transmission. This can be useful if the host is sending more than 24 lines without pausing. You can press **[CTL] [X-OFF]** and then read what has been sent. When you are ready for the host to continue sending, press **[CTL] [X-ON]**.

Cross Reference

[X-ON]

[X-ON] (Transmit On)

Key Sequence

[CTL] Q

Used In

Communications

Description

[X-ON] causes the host computer to resume transmitting after it has been stopped using **[X-OFF]**.

Cross Reference

[X-OFF]

APPENDIX A
GLOSSARY

Appendix A—Glossary

Arrow Key
The term *arrow key* refers to one of the four keys labeled with an arrow head. These four keys are on the right side of the keyboard in the numeric pad and represent ←, →, ↑, and ↓. They are used to move the cursor left, right, up, and down, respectively.

ASCII
ASCII stands for American Standard Code for Information Interchange. It is the code set used by the communications portion of Memo Processor to exchange data with host computers.

ASCII Terminal
An *ASCII terminal* is a communications terminal that uses ASCII (see above) to represent the information (letters, symbols, and control codes) it transmits, receives, and displays.

Asynchronous
The term *asynchronous* describes a technique of data communications in which the sender transmits characters one at a time and requires no special timing (synchronization) between successive characters. A communications terminal may use this technique, in which case it is known as an asynchronous terminal, which is often abbreviated as async terminal. The communications portion of Memo Processor uses asynchronous communications and is an asynchronous terminal emulation.

The opposite of asynchronous is synchronous. In synchronous communications, long messages are sent in one block with the timing of successive characters (or bits) in the message synchronized throughout the entire message. Memo Processor does not support synchronous communications.

BASIC Command Level (See BASIC Operating System)

BASIC Operating System
The *BASIC Operating System* or *BASIC Command Level* is the program which controls the CC-40 when it is first turned on. It allows the CC-40 to support the writing of programs in BASIC, to perform calculations, and to access other programs such as Memo Processor. If you leave Memo Processor using the **[BYE]** command, Memo Processor returns control of the CC-40 to the BASIC Operating System.

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GLOSSARY

Baud Rate

Baud rate is a measure of data transfer speed during communications. For instance, the value 300 baud means that approximately 300 bits of data can be transferred in one second. Each communicated character usually requires 10 or 11 bits, including start, stop, and parity bits. So 300 baud represents about 30 characters per second.

Block

In this document, the term *block* is used to mean a group of adjacent characters, such as "blo", "block,", and "block is." The Memo Processor functions **[DEL BLK]**, **[COPY]**, and **[MOVE]** all allow you to work with blocks of adjacent characters.

Communications

The term *communications* is used with two meanings in this document. First, it refers to the process of transferring information between two computers. Second, it refers to the set of Memo Processor functions which support the transfer of information between the CC-40 and another computer.

Communications Terminal

A *communications terminal* is a device for exchanging information with a host computer. The device has a keyboard for sending information to the host and a display for showing information received from the host. The communications portion of Memo Processor allows the CC-40 to emulate a communications terminal that uses asynchronous communications to transmit and receive ASCII data.

Control Code

The term *control code* refers to communications data that does not represent graphic characters or symbols, but represents control information such as "move the cursor left one column" (that is the meaning of the ASCII BS control code). Appendix C shows all of the ASCII control codes and the keys you must press to send the control codes to a host computer.

CR (Carriage Return)

CR is the ASCII *carriage return* code. Its most basic meaning is "move the cursor from its current position to the left margin." Often, it also means "move the cursor to the beginning of the next line."

Current Document

Memo Processor allows you to work with one document at a time. That document is called the *current document*.

APPENDIX A
GLOSSARY

Cursor

The *cursor* is a blinking rectangular graphic that appears in the CC-40's display whenever Memo Processor is waiting for you to press a key. In addition to indicating that you may type, the cursor shows you where your typing will appear in the display. As you type, it moves ahead, always indicating the position of the next character.

Display

The term *display* is used throughout this guide to represent the Liquid Crystal Display (LCD) in the CC-40 console. This LCD shows the items that you type, information from host computers, and messages generated by Memo Processor.

Display Indicator (see Indicator)

Editing

Editing is the process of modifying the text of a document. The word processing portion of Memo Processor supports many functions that allow you to change what you have typed, and these functions are known as editing functions.

Framing Bits

Each character transmitted via asynchronous communications consists of one start bit, several data bits, and one or more stop bits. The start and stop bits are called *framing bits*, since they act like a frame around the actual data being communicated. These framing bits serve to coordinate the sender and receiver by marking the beginning and end of each character. If the total number of bits for each character is not correct, as marked by the framing bits, this is known as a framing error.

Hard End-of-Line

A *hard end-of-line* is a character typed by pressing the **[ENTER]** key. It causes the current line to end and moves the cursor to the beginning of the next line. The character is a left-pointing solid arrowhead. It is called a hard end-of-line because it is never removed by Memo Processor due to Memo Processor's automatic reformatting process. This is in contrast to soft end-of-line characters which are automatically added and/or deleted by Memo Processor as it formats what you type based on the right margin setting.

Host Computer

A computer accessed by a communications terminal is called a *host computer*.

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GLOSSARY

Indicator

A *display indicator* is a small word or symbol that can be displayed at any edge of the CC-40 console's liquid crystal display (LCD). The display indicators are used to help you understand the operation of the CC-40 and Memo Processor. Examples include the SHIFT, CTL, and ERROR indicators, and the six triangular indicators at the bottom edge of the LCD. You can see all of the display indicators by turning on the CC-40 and turning the contrast control (at the left side of the console) until the display is as dark as possible.

Keyboard Overlay (see Overlay)

LF (Line Feed)

LF is the ASCII *line feed* code. It means "move the cursor down one line."

Medium and Media

The term *medium* is used in this document to mean a tape cartridge or a magnetic disk. Media is the plural of medium.

Modem

A *modem* is a device that allows data to be communicated via standard telephone connections. The term stands for "Modulator – Demodulator," indicating the basic processing carried out by the device. When data is transmitted by a modem, the modem transforms the digital information into an analog representation in which a tone's frequency (or phase or amplitude) is modulated. Conversely, data received by a modem is demodulated, that is, transformed from analog back into digital voltage changes. This explains why modems must be used in matched pairs, one at each end of the phone connection.

Null

Null is an ASCII control code meaning "print nothing". It is used following other control codes, such as CR, to give a printer time to position its printing element before receiving the next graphic character.

Overlay (keyboard)

The *keyboard overlay* is a sheet of plastic which fits over the CC-40 keyboard. It marks the special function keys used by Memo Processor.

Overstriking

In word processing, *overstriking* is the process of moving the cursor to a previously-typed character and then typing a different character. This new character replaces the original.

APPENDIX A
GLOSSARY

Parity
: *Parity* is information added during data communications so that the receiver can detect transmission errors. Usually, parity takes the form of an extra bit of information that is transmitted immediately following the data bits which make up each transmitted character. Memo Processor supports even, odd, mark, space, and no parity.

Peripheral
: A *peripheral* is a device that works in conjunction with the CC-40 console to perform some specialized task. For example, the *Wafertape*™ Digital Tape Drive peripheral is used for document storage.

Remote Computer (see Host Computer)

Soft End-of-Line (see Hard End-of-Line)

System Prompts
: *System prompts* are messages displayed by Memo Processor which ask you for information. An example is the message `Clear current document(y/n)?`. This system prompt is displayed when you use the **[NEW]** function.

Word Processing
: The term *word processing* is used with two meanings in this document. First, it refers to the general process of creating and editing a document using a word processor. Second, it refers to the set of Memo Processor functions which support the creation, editing, saving, and printing of documents.

Word Processing Memory
: *Word processing memory* is that portion of the CC-40's Random Access Memory (RAM) used to hold a document for use with the word processing portion of Memo Processor.

Word Wrap
: *Word wrap* is the process of moving words from one line to the next automatically, to insure that each line fits within the desired right margin. The word processing portion of Memo Processor always performs word wrap as you type and modify document text. See Hard End-of-Line discussion for related information.

APPENDIX B
SUGGESTIONS AND PROBLEM SOLVING

Appendix B—Suggestions and Problem Solving

This appendix presents some suggestions which may make your use of Memo Processor more efficient and some advice for solving potential problems.

Suggestions

The suggestions in this section are intended to increase the efficiency and effectiveness of your use of Memo Processor.

- *Line length.* If you use a full-size printer, you will probably want to print documents using a right margin of 65 and a left margin of 10. However, you may also find it most convenient to create (type and edit) documents using a right margin of 28 since this allows each line to fit within the CC-40 display.

  This difference between print line length and create line length does not pose a problem. Simply set the right margin to 28 while you type and edit the document. Then, when you are ready to print the document, change the margin to 65. Memo Processor will fully reformat the document for proper printing. You can then change the margin setting back to 28 for further editing.

- *Using the CC-40 Printer/Plotter.* The Printer/Plotter supports both compressed (36 characters per line) and normal (18 characters per line) modes. For documents, you will probably find compressed mode to be most efficient. To maximize the readability of compressed mode printing, try using upper-case letters only in your document (use the **[UCL]** key to turn on upper case lock when typing). These letters are significantly larger than lower case letters in compressed mode.

  Also, be sure to set the right and left margins so that the number of characters on each line is small enough to fit on the paper. Otherwise, the plotter may split words across lines and your printed copy may be hard to follow. It is suggested that you limit the margin so that a maximum of 35 characters (compressed mode) or 17 characters (normal mode) are printed.

- *Correcting errors while using the* **[INS]** *function.* If you make a typing error while inserting some text, use the **[BS]** key to correct it, rather than the ← key. To use **[BS]**, press **[CTL] H** key. **[BS]** allows you to move the cursor left without leaving the **[INS]** function.

APPENDIX B
SUGGESTIONS AND PROBLEM SOLVING

- *Using the* **[BOTTOM]** *key.* Often, as you type you may decide to change something a few words back from the end of your typing. To do this, move the cursor back to the desired point using the arrow keys and make the desired change. To continue typing at the end of the document, just use the **[BOTTOM]** function (press **[FN]** ↓). This gets you right to the end of the document.

  Note that you can use **[BOTTOM]** to end the **[INS]** function. So, if you have gone back a few words to insert something, you can end the inserting and get to the end of the document in one step by pressing **[FN] [BOTTOM]**.

Problem Solving

While using Memo Processor, you may encounter some problems. This section lists some potential problems and what to do about them.

General

- *All keys are ignored.* If the CC-40 appears to be "hung," that is, all keys are ignored, check to see if the I/O display indicator is on. If so, the CC-40 console is waiting for a peripheral to complete some action. If the I/O light stays on for an inordinate amount of time, reset the peripheral by turning it off and on. If that does not solve the problem, try holding down the **[BREAK]** key for a few seconds. If the problem persists, disconnect the peripherals and press the **[Reset]** key.
- *System messages go by too quickly for reading.* Use the **[WHAT?]** function (press **[FN] H**) and Memo Processor will redisplay the message.

Word processing

- *The message* `*** Now Inserting ***` *keeps appearing in the display.* This message appears when you try to overstrike at the end of a line or at a tab character. In general, overstrike is intended to change only a few graphic characters. If you want to change an entire sentence, paragraph, or document, use the **[DEL BLK]** function or the **[NEW]** function to clear out the unwanted text. Then **[INS]** the new text.
- *The bottom half of the document appears to be missing.* This is probably because the **[INS]** function is in effect (is the INSERT display indicator on?). Press the ← key to end the **[INS]** function.

APPENDIX B
SUGGESTIONS AND PROBLEM SOLVING

Communications

- *Received text moves through the display too quickly for reading.* This is normal. Simply wait for the host to stop sending. Then use the **[HOME]** function or an arrow key to move the cursor up as far as needed. Then use **[SCAN]** or **[AUTO]** to read the received data at your own pace.
- *Each typed character appears twice in the display.* This happens when half duplex is selected but full duplex is the correct setting. To fix this, press **[FN] [HANG UP]**. Then use the **[SET COMM]** function to select full duplex. Then press **[FN] [COMM]** to return to communications.
- *Typed characters do not appear in the display, but characters from the host do appear in the display.* This happens when full duplex is selected but half duplex is the correct setting. To fix this, press **[FN] [HANG UP]**. Then use the **[SET COMM]** function to select half duplex. Then press **[FN] [COMM]** to return to communications.
- *Some characters appear properly in the display but others do not.* This suggests that the parity is set incorrectly. Use the **[HANG UP]** function to leave communications. Then use **[SET COMM]** to select a different parity setting.
- *All received characters are displayed incorrectly.* This suggests that the baud rate or parity is set incorrectly. Use the **[HANG UP]** function to leave communications. Then use **[SET COMM]** to select the appropriate settings.

APPENDIX C
TYPING ASCII CODES

Appendix C—Typing ASCII Codes for Communications

The communications portion of Memo Processor allows you to transmit all 127 ASCII characters. The following table shows each character and its associated key sequence.

You can also transmit a communications BREAK signal by pressing **[FN] [BREAK]**.

ASCII CODE DEC	HEX	Character	Key Sequence
00	00	NULL	[CTL] 0
01	01	SOH	[CTL] A
02	02	STX	[CTL] B
03	03	ETX	[CTL] C
04	04	EOT	[CTL] D
05	05	ENQ	[CTL] E
06	06	ACK	[CTL] F
07	07	BEL	[CTL] G
08	08	BS	[CTL] H
09	09	HT	[CTL] I
10	0A	LF	[CTL] J
11	0B	VT	[CTL] K
12	0C	FF	[CTL] L
13	0D	CR	[CTL] M or [ENTER]
14	0E	SO	[CTL] N
15	0F	SI	[CTL] O
16	10	DLE	[CTL] P
17	11	DC1	[CTL] Q
18	12	DC2	[CTL] R
19	13	DC3	[CTL] S
20	14	DC4	[CTL] T
21	15	NAK	[CTL] U
22	16	SYN	[CTL] V
23	17	ETB	[CTL] W
24	18	CAN	[CTL] X
25	19	EM	[CTL] Y
26	1A	SUB	[CTL] Z
27	1B	ESC	[CTL] [CLR]
28	1C	FS	[CTL] =
29	1D	GS	[CTL] ;
30	1E	RS	[CTL] .
31	1F	US	[CTL] ,
32	20	Space	[SPACE BAR]
33	21	!	[SHIFT] !
34	22	"	[SHIFT] "

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ASCII CODE DEC	HEX	Character	Key Sequence
35	23	#	[SHIFT] #
36	24	$	[SHIFT] $
37	25	%	[SHIFT] %
38	26	&	[SHIFT] &
39	27	'	[SHIFT] '
40	28	(	[SHIFT] (
41	29	)	[SHIFT])
42	2A	*	*
43	2B	+	+
44	2C	,	,
45	2D	-	-
46	2E	.	.
47	2F	/	/
48	30	0	0
49	31	1	1
50	32	2	2
51	33	3	3
52	34	4	4
53	35	5	5
54	36	6	6
55	37	7	7
56	38	8	8
57	39	9	9
58	3A	:	[SHIFT] :
59	3B	;	;
60	3C	<	[SHIFT] ,
61	3D	=	=
62	3E	>	[SHIFT] .
63	3F	?	[SHIFT] ?
64	40	@	[CTL] 2
65	41	A	[SHIFT] A
66	42	B	[SHIFT] B
67	43	C	[SHIFT] C
68	44	D	[SHIFT] D
69	45	E	[SHIFT] E
70	46	F	[SHIFT] F
71	47	G	[SHIFT] G
72	48	H	[SHIFT] H
73	49	I	[SHIFT] I
74	4A	J	[SHIFT] J
75	4B	K	[SHIFT] K
76	4C	L	[SHIFT] L
77	4D	M	[SHIFT] M

APPENDIX C
TYPING ASCII CODES

ASCII CODE DEC	ASCII CODE HEX	Character	Key Sequence
78	4E	N	[SHIFT] N
79	4F	O	[SHIFT] O
80	50	P	[SHIFT] P
81	51	Q	[SHIFT] Q
82	52	R	[SHIFT] R
83	53	S	[SHIFT] S
84	54	T	[SHIFT] T
85	55	U	[SHIFT] U
86	56	V	[SHIFT] V
87	57	W	[SHIFT] W
88	58	X	[SHIFT] X
89	59	Y	[SHIFT] Y
90	5A	Z	[SHIFT] Z
91	5B	[	[CTL] 8
92	5C	\	[CTL] /
93	5D	]	[CTL] 9
94	5E	^	[SHIFT] ^
95	5F	_	[CTL] 5
96	60	`	[CTL] 3
97	61	a	A
98	62	b	B
99	63	c	C
100	64	d	D
101	65	e	E
102	66	f	F
103	67	g	G
104	68	h	H
105	69	i	I
106	6A	j	J
107	6B	k	K
108	6C	l	L
109	6D	m	M
110	6E	n	N
111	6F	o	O
112	70	p	P
113	71	q	Q
114	72	r	R
115	73	s	S
116	74	t	T
117	75	u	U
118	76	v	V
119	77	w	W
120	78	x	X

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ASCII CODE DEC	HEX	Character	Key Sequence
121	79	y	Y
122	7A	z	Z
123	7B	{	[CTL] 6
124	7C	|	[CTL] 1
125	7D	}	[CTL] 7
126	7E	→	[CTL] 4
127	7F	DEL	[SHIFT] ↓

APPENDIX D
TECHNICAL INFORMATION

Capacities

The purpose of this section is to provide information regarding storage limits and capacities within Memo Processor. This section describes the amounts of memory used for communications and word processing and the space used by documents when they are stored on *Wafertape*™ cartridges.

Communications

The communications portion of Memo Processor uses 1920 bytes of internal RAM for the virtual screen image. This provides 24 lines of 80 columns for the communications terminal.

Word Processing

The RAM used by the word processing portion of Memo Processor is called word processing memory. Its size depends on how much RAM is available in your CC-40. The following formula may be used to compute the size of word processing memory.

Amount of RAM available in the Compact Computer – 3073

For example, a Compact Computer with 6K of available RAM ($6 \times 1024 = 6144$) would have $6144 - 3073 = 3071$ bytes of RAM available for a word processing document. A system with 18K of RAM would have 15,359 bytes. Each character of a document requires one byte, except the TAB character which requires three bytes. Memo Processor requires a minimum of 6K of RAM available in the Compact Computer.

Wafertape™ *Storage*

The Memo Processor **[SAVE]** function stores the working document on any mass storage device. When using a *Wafertape* Digital Tape Drive, Memo Processor stores the document by writing out a format record and then as many text records as needed to store the working document (see the section on "Document File Format" below for more information). The format record contains 34 bytes. Each text record except the final one contains 255 bytes. The final text record contains from 2 to 255 bytes.

The tape drive uses about six inches of tape to store each record and inter-record gap. This means that a 10-foot tape holds about 20 records. With one record for the tape directory and one for the format record, a 10-foot tape may hold a document of approximately $18 \times 255 = 4590$ bytes.

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Document File Format

This section describes Memo Processor's interaction with tape files. The information is provided so that other software can read files created by Memo Processor's **[SAVE]** function and so that other software can write files that can be read by Memo Processor's **[OLD]** and **[GET]** functions.

Internal Data Format

Memo Processor tape functions can only use files that conform to the internal-type data format described in the CC-40 *User's Guide* (see Data Format in the *User's Guide* index). Briefly, this format stores data as a length byte followed by up to 255 bytes of data.

/ length / data / ... / data /

Structure of Documents Stored by Memo Processor [SAVE]

This section describes the structure of the files and records that the Memo Processor **[SAVE]** function uses to store documents on a tape.

There are two record types that **[SAVE]** stores in a document file—format record and text record. The Memo Processor **[SAVE]** function stores a document as one format record followed by as many text records as are needed to store the working document.

Format record
First text record
.
.
.
Final text record

Format Record

The format record contains the right margin setting and the tab settings for the document.

The format record contains 34 bytes in which the right margin and 32 tab settings are saved.

/ 33 / right margin / TAB32 / TAB31 / ... / TAB1 /

The first byte gives the number of data bytes in the record (33 Decimal). The next byte is the right margin setting and the remaining bytes are the 32 tab settings. Note that the lowest tab setting, in terms of column number, is at the highest address in the record. Both the right margin and the tab settings are 0-based rather than 1-based column numbers. For example, if you set the right margin to 28, the value 27 appears in this record.

Each tab setting (from TAB1 to TAB32) is greater than the previous tab setting until all 32 tabs are set or until one tab equals 255. All the tab settings after that (if any) are also set at 255.

Text records

The text records contain the actual document text in ASCII, as well as certain format information. Each of these records contains 254 bytes of the document except the final text record which may contain less. Thus, each of these records except the last are 255 bytes long (see the section on "Internal Data Format" above for the structure of these records).

The embedded format information includes tab blocks and soft and hard end-of-lines.

Tab blocks appear in the text records as three bytes—the tab character 09, followed by the number of spaces it represents in binary, followed by a tab block terminator 07. For example, a tab that represents five spaces would appear in the data as follows.

/ 09 / 05 / 07 /

Note that this three-byte block may be split across two text records.

Soft end-of-lines appear in the text records as a 01 and hard end-of-lines appear as a 13 (carriage return).

Memo Processor [OLD] and [GET] Function Processing

This section describes the methods used by Memo Processor's **[OLD]** and **[GET]** functions to interpret internal format files stored on tape as documents.

The purpose of the processing performed by Memo Processor's **[OLD]** and **[GET]** functions is to maximize the potential for compatibility with other software applications. Memo Processor's **[OLD]** and **[GET]** functions support file structures as simple as streams of ASCII text strings and as complex as those of the Memo Processor **[SAVE]** function.

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Processing the First Record

The Memo Processor **[OLD]** function reads the first record of a file into memory and determines if it qualifies as a valid format record. If the first record is a valid format record, the Memo Processor **[OLD]** function accepts those settings as it reads in the document. If the first record does not qualify as a format record, the Memo Processor **[OLD]** function retains the settings of the current document and interprets the first record of the tape file as a text record.

This means that the document file may or may not have a format record as the first record and the Memo Processor **[OLD]** function will still accept the document. Note that tab values greater than the right margin and less than 255 should not be included in the format record although they are not considered invalid.

The **[GET]** function works just like the Memo Processor **[OLD]** function except that when it finds the first record to be a valid format record, it ignores that record.

Processing Text Records

Both the Memo Processor **[OLD]** and **[GET]** functions interpret text records as streams of graphic ASCII data with embedded format controls and accept the following data in the text records.

Graphic ASCII	32 ... 126
Hard end-of-line	13
Tab block	09/count/07

All other values (including soft end-of-line 01) are ignored. Also, the space counts contained in tab blocks are not used. Instead, the right margin setting is used to format the incoming document with soft end-of-lines and the tab settings are used to format the tabs found in the incoming document. This means that other software need not output soft end-of-lines to be compatible with Memo Processor, but must output tab blocks with the correct three byte format.

Finally, the text records may be shorter than 255 bytes and may be composed of strings that are shorter than 255 bytes, and the Memo Processor **[OLD]** and **[GET]** functions will still accept them correctly. All that these functions require is that the data records are in the internal data format. For example, a record with the following strings would be retrieved correctly from a tape file using the Memo Processor **[OLD]** function.

/ 4 / 't' / 'e' / 'x' / 't' / 4 / 'd' / 'a' / 't' / 'a' /

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TECHNICAL INFORMATION

Function Q

[FN] Q is a special feature that allows you access to the extended options of the OPEN statement used in BASIC progamming language. To access this function, press **[FN] Q** when responding to the `Print device number:` option in the **[SET PRINT]** options page or `Comm device number:` option in the **[SET COMM]** options pages.

Memo Processor is compatible with all available *HEX-BUS*™ devices (Printer/Plotter, RS232 serial and parallel interface, and *Wafertape*™ Digital Tape Drive). Each *HEX-BUS* device has an associated OPEN statement as described in its own documentation. The format of the OPEN statement varies from device to device. Memo Processor allows you to type a custom OPEN statement for each of the Memo Processor functions (**[SET COMM]** and **[SET PRINT]**) that use *HEX-BUS* devices. You may use this feature for both new devices and the devices currently available.

To use the extended options of **[FN] Q** for communications, begin by using the **[SET COMM]** function. When prompted for `Comm device number:`, press **[FN] Q**. Memo Processor prompts `Comm dev.opts:`. Respond by typing the desired OPEN statement as it would be typed in a BASIC program except that you should not type the quote symbols. Then press the **[ENTER]** key. All further use of communications functions will use this custom OPEN statement until one of the following occurs.

- You press **[FN] [SET COMM]** again.
- You leave Memo Processor, and upon reentry, are greeted with the message `Ready for new document`.

To use the extended options of **[FN] Q** for printing, begin by using the **[SET PRINT]** function. When prompted for `Print device number:`, press **[FN] Q**. Memo Processor prompts `Print dev.opts:`. Respond by typing the desired OPEN statement as it would be typed in a BASIC program except that you should not type the quote symbols. Then press the **[ENTER]** key. All further use of printing options will use this custom OPEN statement until one of the following occurs.

- You press **[FN] [SET PRINT]** again.
- You leave Memo Processor, and upon reentry, are greeted with the message `Ready for new document`.

The **[SAVE]**, **[OLD]**, and **[GET]** functions allow you to use the extended options of **[FN] Q** without having to press **[FN] Q**. When the prompt `dev.name` is displayed, simply type the desired options as part of the file name according to the standard format of an OPEN statement in BASIC as discussed in the CC-40 *User's Guide*.

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Note that use of custom OPEN statements may result in I/O errors or other unexpected results due to the presence of inappropriate characters in the OPEN statement. The error messages which are displayed are BASIC language errors rather than the messages discussed in this manual. Refer to Appendix K of the CC-40 *User's Guide* for a discussion of BASIC language error messages. Also refer to the peripheral's documentation for more information and assistance in resolving such problems.

APPENDIX E
SYSTEM MESSAGES

`Adding screen to document end`

Meaning This message appears when you use the **[REC SCRN]** function while in communications and indicates that the system is appending the current image of the communications screen to the end of the document in word processing memory.

Action None required.

`Can't copy block into itself`

Meaning This message appears when you use the **[COPY]** function and attempt to copy a block of text to a point within the block.

Action Move the cursor to a point outside the block and press **[ENTER]**, or cancel the function by pressing the **[BREAK]** key.

`Can't move block into itself`

Meaning This message appears when you use the **[MOVE]** function, and you attempt to move a block of text to a point within the block.

Action Move the cursor to a point outside the block and press **[ENTER]**, or cancel the function by pressing the **[BREAK]** key.

`Can't send while recording`

Meaning This message appears when you try to use the **[SEND DOC]** function while recording communications.

Action Press **[FN] [REC COMM]** to turn off recording of communications, and then use the **[SEND DOC]** function.

`Can't write to device`

Meaning This message appears when you are in communications and the system cannot write to the selected communications device. This may indicate a hardware failure in the device.

Action None required.

`Checking memory...`

Meaning This message appears when you enter the system and indicates that the system is determining whether or not a valid document currently resides in memory.

Action None required.

`Clear current document(y/n)?`

Meaning This message appears when you use the **[NEW]** function to clear word processing memory. It is asked to make sure that you have not pressed **[FN] [NEW]** by mistake. If you really want to clear word processing memory, press **Y** and **[ENTER]**. Otherwise, press **N** and **[ENTER]**, or press **[BREAK]**.

Action None required.

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`Clearing all tabs...`

Meaning This message appears when you use the **[SET TAB]** function to change the tab settings.

Action None required.

`Copying block...`

Meaning This message appears when you use the **[COPY]** function and indicates that the system is copying the defined block of text to the defined destination point.

Action None required.

`Copy to where?`

Meaning This message appears when you use the **[COPY]** function and indicates that the system is waiting for you to define the destination point for the block of text you have defined.

Action Use the arrow keys or single character search to find the point at which you want the defined block of text to be copied. Then press the **[ENTER]** key.

`Copy what?`

Meaning This message appears when you use the **[COPY]** function and indicates that the system is waiting for you to define the block of text you want to copy.

Action The system takes the point at which you pressed **[FN] [COPY]** to be one boundary point for the block of text you are defining. Use the arrow keys or single character search to find the other boundary point with which you want to complete the definition of the block, and then press the **[ENTER]** key.

`Delete what?`

Meaning This message appears when you use the **[DEL BLK]** function and indicates that the system is waiting for you to define the block of text you want to delete.

Action The system takes the point at which you pressed **[FN] [DEL BLK]** to be one boundary point for the block of text you are defining. Use the arrow keys or single character search to find the other boundary point with which you want to complete the definition of the block, and then press the **[ENTER]** key.

`Deleting...`

Meaning This message appears when you use the **[DEL BLK]** function and indicates that the system is deleting the block of text you have defined.

Action None required.

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`Device doesn't allow documents`

Meaning This message appears when you use the **[SAVE]**, **[OLD]**, or **[GET]** functions and the device you have selected does not support document storage and retrieval.

Action None required.

`Device in use`

Meaning This message appears when you use the **[COMM]** function to start communications. The device you have selected for communications has already been opened and remains open for some other purpose. It may not be used unless you close or reset the device first.

Action None required.

`Device incompatible`

Meaning This message appears when you use the **[COMM]** function and the device you have chosen is not compatible with one or more of the communications options currently in use.

Action Determine the proper settings for the communications option page for the device you have selected by referring to the *User's Guide* for the selected device. Use the **[SET COMM]** function to change the appropriate communication options and try the **[COMM]** function again.

`Device num too large or small`

Meaning This message appears when you use the **[SET COMM]** function and select a device number which does not support communications, or when you use the **[SET PRINT]** function and select a device which does not support printing.

Action See the section on **[SET COMM]** or **[SET PRINT]** and pick a device number which is supported.

`Device problem - try again`

Meaning This message appears when you use the **[SAVE]**, **[OLD]**, or **[GET]** functions and indicates that the selected device did not respond as expected.

Action Try the same function again. If the problem persists, this may indicate a problem with the hardware in the selected device.

`Directory is full`

Meaning This message appears when you use the **[SAVE]** function and indicates that no more documents will fit in the media directory.

Action Use another medium with enough room to store the document.

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`Disconnected`

Meaning: This message appears when you use the **[HANG UP]** function while in communications or when you use the **[BYE]** function or the **[OFF]** key when communications are still active and you have not used the **[HANG UP]** function.

Action: This indicates that the communications device you have been using for communications has been closed, and you should hang up the telephone line you have been using for communications.

`Document is full`

Meaning: This message appears while you are in word processing and the current document becomes full or when you are using the **[REC COMM]** or **[REC SCRN]** functions while you are in communications and the working document becomes full.

Action: None required.

`Document not found`

Meaning: This message appears when you use the **[OLD]** or **[GET]** functions and the system could not find the document you selected on the device you selected.

Action: None required.

`Document sent to host`

Meaning: This message appears when you use the **[SEND DOC]** function and indicates that the document in word processing memory was sent to the host computer.

Action: None required.

`Extended options will be used`

Meaning: This message appears when you invoke the extended options from the communication options page or the print options page.

Action: See the section on "Function Q" in Appendix D.

`Function cancelled`

Meaning: This message appears any time you press the **[BREAK]** key in an active function. For the **[SET MARGIN]**, **[SET TAB]**, **[SET COMM]**, and **[SET PRINT]** functions, this indicates that the system exited the function without changing any of the available options. For the **[GO TO]**, **[SAVE]**, **[OLD]**, **[GET]**, **[COPY]**, **[MOVE]**, and **[FIND]** functions, this indicates that the system exited the function without performing the function.

Action: None required.

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SYSTEM MESSAGES

`Function not available here`

Meaning This message appears any time you try to invoke a function that is not available where you are within the system.

Action If you are in the middle of doing something, and want to switch to something else, press the **[BREAK]** key to get out of the original function.

`Goto where (← → ↑ ↓)?`

Meaning This message appears when you use the **[GO TO]** function in word processing or communications and indicates that the system is waiting for you to press one of the arrow keys.

Action None required.

`Get complete`

Meaning This message appears when you use the **[GET]** function and indicates that the selected document has been successfully inserted into the current document.

Action None required.

`Incompatible file on medium`

Meaning This message appears when you use the **[SAVE]**, **[OLD]**, or **[GET]** functions and the system found that the file you selected does not have the proper internal format (see Appendix D for more information on internal format).

Action None required.

`Inserting document...`

Meaning This message appears when you use the **[GET]** function and indicates that the selected document is being inserted into the working document.

Action None required.

`Line is full`

Meaning This message appears when you type too many characters while answering a system prompt. It is simply a warning that your response has reached the maximum allowable length.

Action You may leave the response at this maximum length, or you may delete some characters and type a new response.

`Load paper and press ENTER`

Meaning This message appears during the printing of a document if you have selected **YES** for the pause between pages option in the print options page (see the **[SET PRINT]** function).

Action This pause between pages allows you to use a printer without continuous sheet paper. Insert a sheet of paper in the printer and align the paper so that the next page of the document will print correctly. Then, press the **[ENTER]** key to print the next page.

APPENDIX E
SYSTEM MESSAGES

`Low batteries in peripheral`

Meaning This message appears when you use the **[SAVE]**, **[OLD]**, or **[GET]** functions and the system finds that the device you selected has low batteries.

Action Replace the batteries in the peripheral device before using it further.

`Medium is full`

Meaning This message appears when you use the **[SAVE]** function and indicates that the storage medium in the device you selected has become full.

Action Replace the medium in the selected device with one that has been properly formatted and which has enough room for the working document.

`Medium is write protected`

Meaning This message appears when you use the **[SAVE]** function and indicates that the storage medium in the device you selected is write protected.

Action Remove the medium from the device and remove the write protection before attempting to use the **[SAVE]** function again.

`Medium must first be formatted`

Meaning This message appears when you use the **[SAVE]**, **[OLD]**, or **[GET]** functions. This indicates either that the medium you have in the selected device is not properly formatted or that there is no medium currently in the selected device.

Action See the description of the **[SAVE]** command in chapter 2 for instructions on formatting media.

`Moving block...`

Meaning This message appears when you use the **[MOVE]** function and indicates that the system is moving the defined block of text to the defined destination point.

Action None required.

`Move to where?`

Meaning This message appears when you use the **[MOVE]** function and indicates that the system is waiting for you to define the destination point for the block of text you have defined.

Action Use the arrow keys or single character search to find the point to which you want the defined block of text moved and then press the **[ENTER]** key.

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SYSTEM MESSAGES

`Move what?`

Meaning This message appears when you use the **[MOVE]** function and indicates that the system is waiting for you to define the block of text you want to move.

Action The system takes the point at which you pressed **[FN] [MOVE]** to be one boundary point for the block of text you are defining. Use the arrow keys or single character search to the other boundary point and then press the **[ENTER]** key.

`Must hang up from comm first`

Meaning This message appears when you attempt to use the **[SET COMM]** function while communications are still active.

Action Press **[FN] [COMM]** to switch to communications and use the **[HANG UP]** function. Then use the **[SET COMM]** function.

`Name too long or short`

Meaning This message appears when you use the **[SAVE]**, **[OLD]**, or **[GET]** functions and either the document name you specified was too long or too short, or the extended options you specified are not compatible with the device you selected.

Action Either specify a document name from 1 to 12 characters long or refer to the *User's Guide* for the selected device and use the correct options for that device (see the section on "Function Q" in Appendix D).

`No longer recording`

Meaning This message appears when Memo Processor ceases the recording of communications.

Action Refer to the description of the **[REC COMM]** function for more information.

`No match found`

Meaning This message appears when you use the **[FIND]** or **[FND NXT]** functions and the system could not find the string you specified. It also appears when you use single character searching in the **[COPY]**, **[MOVE]**, or **[DEL BLK]** functions and the system could not find the single character you pressed.

Action If you suspect that the string for which you are searching may be somewhere between the current position and the beginning of the document, press **[FN] [HOME]** and use the **[FND NXT]** function.

`No response from device`

Meaning This message appears when you use the **[COMM]**, **[SAVE]**, **[OLD]**, or **[GET]** functions and the system finds that the device you have selected does not respond to instructions from the CC-40.

Action None required.

APPENDIX E
SYSTEM MESSAGES

`Not enough room`

Meaning This message appears when you use the **[GET]** or **[INS]** functions and indicates that there is not enough room in the working document to perform the insertion.

Action None required.

`Not enough room to reformat`

Meaning This message appears when you use the **[SET MARGIN]** or **[SET TAB]** functions and there is not enough room in the working document to reformat.

Action None required.

`Nothing to repeat`

Meaning This message appears when you press **[FN] [WHAT?]** when there is no message to repeat.

Action None required.

`Now in Communications`

Meaning This message appears when you press **[FN] [COMM]**, and indicates that you are using the communications portion of Memo Processor.

Action None required.

`*** Now Inserting ***`

Meaning This message appears when you attempt to overstrike a hard or soft end-of-line or a tab character while in word processing and indicates that your typing is now being inserted in the working document.

Action To end inserting, press any of the arrow keys.

`Now in Word Processing`

Meaning This message appears when you press **[FN] [WP]**, and indicates that you are using the word processing portion of Memo Processor.

Action None required.

`Overwrite old document(y/n)?`

Meaning This message appears when you use the **[SAVE]** function and the tape already contains a document whose name matches the name specified for the document being saved. If the document being saved should replace the one already on tape, press **Y** and **[ENTER]**. Otherwise, press **N** and **[ENTER]**. Then select a different name for the document you are saving.

Action None required.

`Old complete`

Meaning This message appears when you use the **[OLD]** function and indicates that the system has successfully retrieved the document you selected.

Action None required.

`Page length too short`

Meaning This message appears when you change the page length, number of print lines, or first print line in the print options page, and they are not consistent with each other. The system returns you to the page length option.

Action Change the page length, first print line, and number of print lines options so that they are mutually consistent. That is, the page length setting must be greater than or equal to the sum of the first print line setting and the number of print lines setting, minus 1.

`Peripheral bus error`

Meaning This message appears when you use the **[SAVE]**, **[OLD]**, or **[GET]** functions and indicates that the *HEX-BUS*™ Interface is not working correctly.

Action None required.

`Preparing for exit...`

Meaning This message appears when you use the **[BYE]** function or press the **[OFF]** key and indicates that the system is preparing to return to BASIC or turn itself off.

Action None required.

`Print device is incompatible`

Meaning This message appears when you are attempting to use a device that is not compatible with the current option settings in the print options page.

Action Refer to the CC-40 *User's Guide* for the selected device, and use the **[SET PRINT]** function to change the print options page to be compatible with the selected print device.

`Printer problem`

Meaning This message appears when you use the **[PRINT PART]** or **[PRINT ALL]** functions and the printer device informs the system that it has encountered a problem.

Action None required.

`Printing...`

Meaning This message appears when you use the **[PRINT PART]** or **[PRINT ALL]** functions and the system is actually printing.

Action None required.

APPENDIX E
SYSTEM MESSAGES

`Printing cancelled`

Meaning This message appears when you use the **[BREAK]** key to terminate printing.

Action None required.

`Printing completed`

Meaning This message appears when the printing you started with the **[PRINT ALL]** or **[PRINT PART]** functions has completed normally.

Action None required.

`Ready for new document`

Meaning This message appears when you enter the system without a working document in memory or when you use the **[NEW]** function to clear the working document from memory.

Action None required.

`Ready to communicate`

Meaning This message appears when you enter communications using the **[COMM]** function. This indicates that the communication device is open for communications and the system is fully ready to act as a communications terminal.

Action None required.

`Received bad parity or framing`

Meaning This message appears if received data has a parity error or a framing error. See the glossary for definition of these terms.

Action None required.

`Recording communications`

Meaning This message appears when you use the **[REC COMM]** function while in communications. This indicates that everything that is added to the communications screen will also be recorded in the current word processing document.

Action None required.

`Record(s) too long`

Meaning This message appears when you use the **[OLD]** or **[GET]** functions. This indicates that the system cannot read the file you are attempting to retrieve or insert because the file has records that are too long (see Appendix D for information on record lengths).

Action None required.

`Reformatting...`

Meaning This message appears when you use the **[SET MARGIN]** or **[SET TAB]** functions and indicates that the document format is being changed to match the changes you have made to the right margin or tab settings.

Action None required.

`Replacing document...`

Meaning: This message appears when you use the **[SAVE]** function and you have instructed the system to replace an existing document. This indicates that the replacement is in progress.

Action: None required.

`Retrieving old document...`

Meaning: This message appears when you use the **[OLD]** function to retrieve a document and indicates that the retrieval is in progress.

Action: None required.

`Save complete`

Meaning: The message appears when you use the **[SAVE]** function and indicates that the system has successfully saved the current document.

Action: None required.

`Saving document...`

Meaning: This message appears when you are using the **[SAVE]** function and indicates that the system is in the process of saving the document.

Action: None required.

`Searching...`

Meaning: This message appears when you use the **[FIND]**, **[FND NXT]**, **[COPY]**, **[MOVE]**, or **[DEL BLK]** functions.
When you are using the **[FIND]** and **[FND NXT]** functions, this indicates that the system is searching for the string you have selected.
When you are using the **[COPY]**, **[MOVE]**, and **[DEL BLK]** functions, this indicates that the system is searching for the single character you have pressed.

Action: None required.

`Searching for document...`

Meaning: This message appears when you use the **[OLD]** or **[GET]** functions and indicates that the system is searching the device you have selected for the document you have selected.

Action: None required.

`Sending document to host`

Meaning: This message appears when you use the **[SEND DOC]** function and indicates that the system is sending the current document to the host computer.

Action: None required.

APPENDIX E
SYSTEM MESSAGES

`Setting equally spaced tabs...`

Meaning This message appears when you are using the **[SET TAB]** function. This indicates that the system is using the digit (from 2 to 9) you have pressed to set tab stops in every column that the selected digit indicates.

Action None required.

`Value too large or small`

Meaning This message appears when you are using the **[SET COMM]** or **[SET PRINT]** functions and you are changing an option that has an upper or lower limit on its value (e.g. page length in **[SET PRINT]**).

Action Look up the range of values available for this option and use a value within that range.

`Welcome to Memo Processor`

Meaning This message appears when you are entering the system.

Action Press the **[ENTER]** key to begin word processing.

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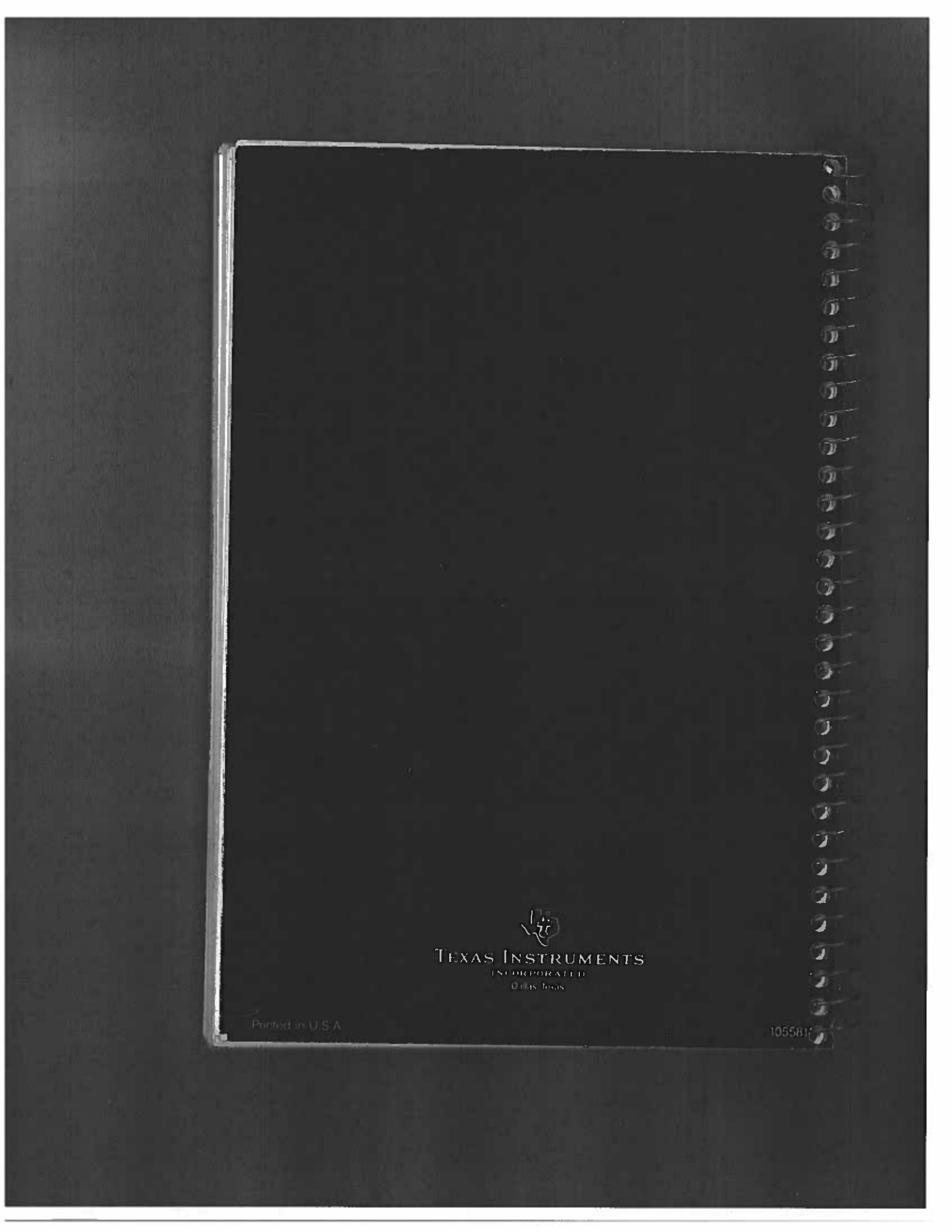
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