Canon Cat
The Advanced WORK Processor

HOW-TO GUIDE

The Canon Cat
How-to Guide

*Note: You don't have to read
this manual to use the Cat. Turn
the page for more information.*

Manual by
David Alzofon,
David Caulkins,
Jef Raskin,
Dr. James Winter

Canon Cat

Be sure to read and follow the recommendations in *Regulations and Requirements,* page 141 of the *How-to Guide* regarding safety and environmental limitations in using the Cat. Also read and follow the recommendations for safeguarding your information in *Appendix C* of the *Reference Guide*.

This manual drafted on Canon Cats.

For the New Owner:
How to Learn the Cat Quickly

Where to Start?

First, set up your equipment according to the instructions in *Setting Up and Starting Up*, page 1.

What Next?

To learn the things that make the Cat unique, and to take advantage of its more powerful features, you can take either of the following routes: the *Quick Reference Card* or the tutorial contained in this manual.

The Quick Reference Card

The Quick Reference Card is a mini-manual that tells how to use every feature of the Cat. Keep the *Quick Reference Card* on hand while you are getting used to the Cat.

The How to Guide

The Tutorial

We recommend the systematic approach, especially if you are new to electronic word processing. *The tutorial* — the blue-edged section of this manual — will introduce you to the Cat step-by-step.

Step 1 of the tutorial contains vital lessons in the four basic skills that support everything you do on the Cat:

— Typing: Like typing on a typewriter, only easier.

— Leaping: How to move the Cat's fantastically fast cursor, the blinking object that marks your place on the screen.

— Highlighting: How you show the Cat the text you want to do something with, such as erase or print (*text* means the things you type).

— Commands: Commands do things to the text, such as changing margins, recording on a disk or sending text over phone lines.

Step 2 guides you through typing and printing your first document.

How Long Will the *Tutorial* Take?

It varies from person to person. Most people will take from one to two hours to complete the tutorial.

What About the Rest of the *How-to Guide*?

Use the *Table of Contents* or the *Index* to locate the topic you are interested in. Notice that the rest of the manual mirrors the tutorial, with sections on typing, leaping, highlighting, and commands, in that order.

The Reference Guide

This is the second manual in your documentation package. It is like an encyclopedia rather than an instruction book. When you want to know all about a particular feature or command in depth, look here. It, too, is organized like the tutorial, with sections on typing, leaping, highlighting, and commands.

Glossary

The Cat can be almost entirely explained without resorting to jargon. Still, a few words may be unfamiliar to you. If so, consult the *Glossary* in the back of the *Reference Guide*.

On-Line Answers to Your Questions

Last, but not least, the Cat itself has a built-in electronic manual, so help is always within reach. See *Using the EXPLAIN Key*, page 78, for more information about how to use it.

Table of Contents

What Is the Cat?

We call the Cat a *work processor* because it handles like a typewriter or word processor, but it has many of the powers of a computer. Don't worry, you don't have to know anything about computers to use the Cat. When our designers created the Cat they threw out all the junk that makes computers clunky and held onto the personality and immediacy of a typewriter. The combination is simple and unique.

The Cat allows you to

— Type as soon as you turn it on

— Correct your work on the screen before printing it on paper

— Check your spelling

— Print with confidence: What you see on the screen will be what you get on paper

— Move anywhere in a large text of 80 pages or more just about instantly (*text* means the things you type)

— Move paragraphs, pages or documents from place to place fast

— Erase any amount of text as quickly as you can point to it

— Speedily change the format (margins and indents) of any amount of text

— Save your work on a disk in seconds

— Easily find all references to a name, a title, a word, a part of a word — anything you've typed

— Automatically replace one word or phrase with another throughout your text

You can also

— Teach the machine to do routine tasks for you such as insert stock phrases on command

— Arrange long lists or tables of items in alphabetical or numerical order

— Type a math calculation in the middle of the text and do it right there

— Set up and use spreadsheets (tables of interrelated calculations, such as prices and quantities)

— Communicate over telephone lines to other Cats, data services, and computers using the Cat's built-in modem (a *modem* translates text into sound signals that can be sent over the phone)

— Use the Cat as a 24-hour message center and automatic phone dialer

The commands are easy to use. *Commands* are things the Cat can do with text; the UNDERLINE command, for example, can underline whatever text you specify. Most commands require only one keystroke. You don't need to remember command names and locations because they're printed right on the keys.

The Cat is very forgiving. [UNDO] allows you to take back a command, an erasure, and almost anything else you do. You cannot lose your information through trivial error.

The Canon Cat will make a host of information-related tasks easier for you. It is the first machine to bridge the gap between electronic typewriters and computers.

Setting Up and Starting Up

Packing List

Make sure the following items are in the packing box when you unpack your Cat:

```
                                                    MAIN UNIT

INSTRUCTIONS                                        POWER CORD

BLANK DISK                                          PHONE CABLE
```

Getting to Know Your Cat

The major components of the Cat are shown below.

```
                                    DISK DRIVE
                                    DISPLAY

                                    KEYBOARD
```

```
                                    BRIGHTNESS CONTROL DIAL
                                    POWER SWITCH
                                    POWER CORD RECEPTACLE
                                    BACK PANEL
```
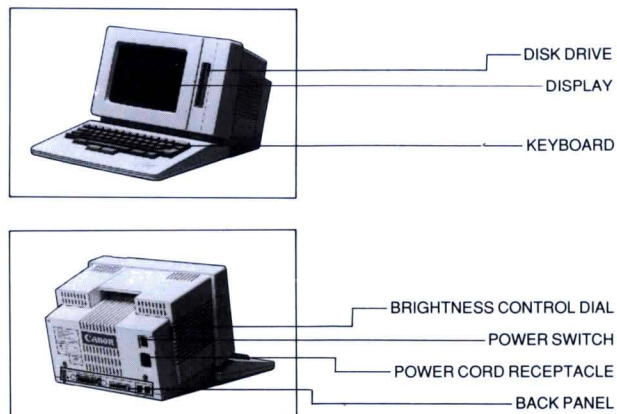
Care and Feeding of the Cat

The Cat is comfortable where you are. Extremes of temperature or humidity should be avoided. You wouldn't sit out in the hot sun, and neither should your Cat. Don't plug the Cat into an already overloaded circuit. Don't spill coffee on the keyboard.

The environmental limitations you should observe when setting up, using, and storing the Cat are detailed below. If you have any questions, contact your Canon sales representative.

Power Source

Use the Cat only within the following power range: AC power, 105-125 volts, supply frequency, 48-62 Hz.

Use the power cord provided with the Cat. The system may malfunction if the power cord (plus extensions) is longer than five meters (about sixteen feet).

Do not use the same electrical outlet on a circuit supplying power to an air conditioner, copier, shredder, or any other machine that uses an electric motor. Noise pickup may cause the system to malfunction. If you cannot avoid using a common outlet, we recommend that you install an isolation transformer or a high frequency noise-eliminating filter.

If your power source is not stable, install a voltage regulator or similar device.

Operating Environment

— Avoid placing the Cat in direct sunlight. Heat from sunlight may cause a temperature rise in the main unit and damage its parts.

— Avoid other sources of intense heat (radiator, fireplace) or extreme cold. Use the Cat and its magnetic disks only within the temperature range 10°C to 35°C (50°F to 95°F).

— Do not block the free circulation of air around and into the vent holes in the case. Allow ten centimeters (about four inches) or more between the sides of the main unit and the wall to prevent a rise in temperature in the main unit.

— Do not set up the Cat where

   – the air is dusty
   – constant vibration occurs
   – machines containing magnetic parts are running
   – motors are running
   – it is near a magnetic field

— Make sure no moisture (rain, snow, steam, spilled drinks) gets on the keyboard, housing, or your disks. The ambient humidity should remain within the range of 20% to 80%.

— Use a humidifier or static electricity protection mat in dry climates to prevent data destruction.

— Do not use a circuit that is already loaded down with large appliances such as a refrigerator or electric heater.

— Avoid letting excessive dust, dirt or cigarette ash fall on or into the keyboard or vents.

Introducing the Keyboard

The Cat keyboard is like a typewriter keyboard, except for the keys shown in blue. The keyboard allows you to type the letters and symbols appearing on your display screen. You can insert, erase, or rearrange them without wasting paper, ink, or energy. They become hard and fast paper and ink only when you send them to the printer.

The keyboard is quite similar to a typewriter keyboard. The few exceptions are explained below:

LEAP keys
The two rose-colored keys centered in front of the SPACE BAR are called the *LEAP keys*. They are used to move the cursor, the blinking object that marks your place on the screen. The left key is[<-LEAP]; the right key is [LEAP->].

USE FRONT keys
Located on either side of the [SPACE BAR], these enable you to use the functions written on the fronts of the keys. [USE FRONT] affects the keyboard only as long as it is held down.

PAGE/DOCUMENT
This key is used to mark the end of one (and beginning of another) page or document. The lowercase character on this key — a *page character* — is interpreted as a numbered page break by the printer. The uppercase character — a *document character* — is a page break that restarts the page numbering.

UNDO
With few exceptions, this key cancels whatever operation you last performed. For example, if you erase something, then press [UNDO], you get it back. If you move the cursor, then press [UNDO], the cursor goes back to where it was.

Introducing the Disk Drive System

The disk drive is located to the right of the display. It has a slot for inserting a disk, an eject button for removing the disk, and a small *in-use* light. The in-use light comes on whenever the disk drive is running. Never remove a disk from the drive while the in-use light is on.

The disk drive is like a built-in tape recorder, except that it records text (the things you type) rather than sound, and uses a 3-1/2" disk rather than tape.

Disk

The blank 3-1/2" disk which came with your Cat will be used in the course of the tutorial. Since one disk can hold about 80 single-spaced pages of manuscript, you can continue to use this disk for quite some time before you fill it up. Canon disks are recommended, since the Cat has been optimized for use with them.

Handling Precautions

The surface of the disk is protected by a retractable metallic cover. Do not open this cover or touch the magnetic disk under it.

Do not touch or clean the disk with solvents such as alcohol or thinner. This is likely to destroy the information recorded on the disk.

Magnetic fields can erase information from your disks (but not easily). To be on the safe side, don't let disks touch things that generate magnetic fields, such as TVs, telephones, appliances, electric motors, and magnets.

Valuable information might be lost if you spill liquid on your disks, bend them, or expose them to excessive heat: 140°F (60°C) or more. Don't leave them in direct sunlight or on the dashboard of your car.

WARNING!

Because disks are delicate, we strongly recommend you make backups (duplicate copies) of important disks, and for extra insurance, always print important manuscripts on paper. Information about backups can be found in Creating a Backup Disk, *page 72.*

Disk Labels

It's a good idea to label your disks before recording information on them, or soon after. Write or type the label before you apply it.

Write-Protect Tab
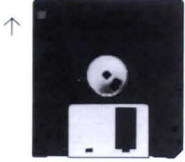
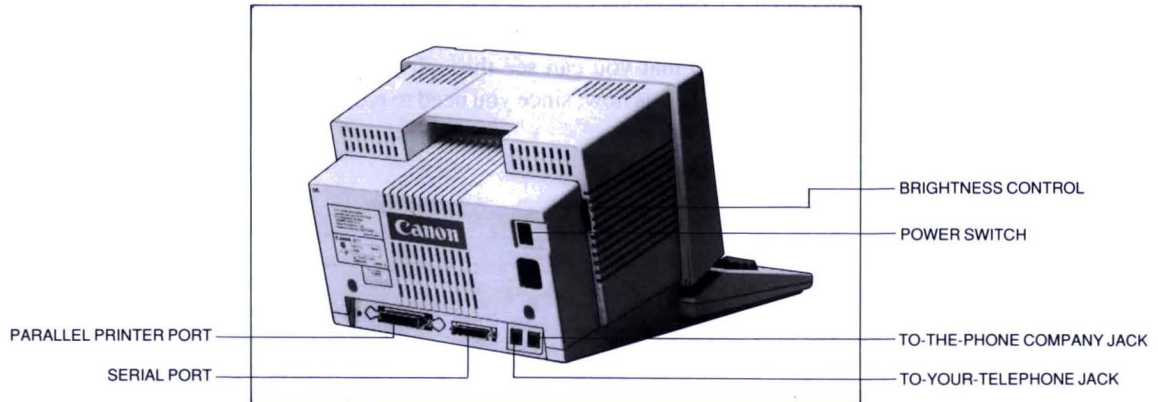*To write-protect a disk, slide the tab in the direction indicated by the arrow.*

In one corner of the disk you will find a small sliding plastic tab called a *write-protect tab*. If you wish to protect the information on the disk from being changed or erased, push the tab so that you can see through the window it covers. Don't do this now, since you need to record on the disk during the tutorial.

A Look at the Back

PARALLEL PRINTER PORT
SERIAL PORT

BRIGHTNESS CONTROL
POWER SWITCH
TO-THE-PHONE COMPANY JACK
TO-YOUR-TELEPHONE JACK

Turn your Cat around so the keyboard faces away from you. On the upper right side of the back panel is the power switch. The power switch should be OFF for now.

While you are looking at the back panel, notice the connectors for hooking the Cat to other equipment:

The parallel printer port
This is where you hook up a printer with a Centronics interface, such as the Daisy Wheel Printer Canon Cat180.

The serial port
This is where you connect a printer with a RS-232C serial interface (such as a Canon Laser Beam printer VP3103II).

Parallel and *serial* are ways of transferring information between computers and printers. Both are common, so the Cat enables you to hook up either kind of printer.

To-your-telephone jack
Where you hook up the cable that goes from the Cat to your telephone.

To-the-phone company jack
Where you hook up the cable that goes from your Cat to the phone jack on the wall.

Brightness Control
The dark gray dial located on the left rear side of the Cat. Turn the dial upward to increase brightness.

Plugging In Your Cat

Plug one end of the power cord into the socket next to the power switch; plug the other end into a three-hole, grounded power outlet.

WARNING!

This product is equipped with a three-prong power cord. As a safety feature, the plug is designed to fit into a polarized, grounded three-hole outlet (single or duplex). If you don't have such an outlet, have a licensed electrician install one (and a grounding conductor, if necessary), where you will use the Cat. Do not defeat the purpose of the grounded plug.

The outlet you plug the Cat into should not be shared with copiers, heaters, air-conditioners, or any electric equipment that is thermostatically controlled.

The rated power is 120 volts and 0.8 amperes.
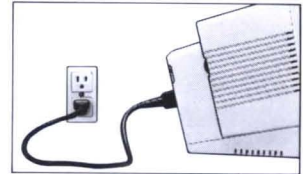
Plugging the power cord into the back and into the wall.

Connecting Your Printer

Compatible Printers

The Cat is designed to run with the Daisy Wheel Printer Canon Cat180 and Canon Laser Beam printer VP3103II. The connections for these printers are illustrated here. In addition, the following Canon products are compatible with the Cat:

— AP100 Series Compact Typewriter
— AP200-II, AP300-II Series Standard Typewriter
— AP400-II Series Deluxe Typewriter
— BubbleJet Printer

and future Canon products.

Note to Users of Canon Laser Beam Printer VP3103II

The Cat and the VP3103II require certain adjustments in order to run. After you attach the printer cable as shown on the following page, follow the step-by-step instructions in *How to Set Up the Canon Laser Beam Printer VP3103II*, page 12, before you proceed with the *How-to Guide*.

Note to Owners of Other Printers

If you have a printer other than the Daisy Wheel Printer Canon Cat180 or Canon Laser Beam printer VP3103II, you will have to use the SETUP command to adjust the Cat before you can print. While you may be able to set the Cat up correctly by reading the *How-to Guide* and the *Reference Guide*, we recommend that you contact a Canon Sales Representative if you want to connect a printer other than the Cat180 or VP3103II.

When using a Canon AP-series or SP400X typewriter as a printer for the Cat, insert the paper so that the left margin setting on the typewriter aligns with the left edge of the paper. You do this because the Cat reads the left margin setting on the typewriter as the edge of the paper. In effect, the typewriter's left margin setting acts as an invisible paper guide. Set the right margin of the typewriter as far right as it will go.

Getting The Printer Ready

Remove your printer from its box. Set it up by following the instructions provided with the printer.

Load your printer with paper.

Place the printer within easy reach of the Cat. Connect the printer cable to the back of the printer.

Connecting the Cat

The plug on the free end of the printer cable will fit into only one of the plugs on the back panel of the Cat. Find the plug that fits and connect the cable as shown in the illustrations on the following page.

Connecting the Daisy Wheel Printer Canon Cat180

The Cat 180 has a parallel interface, so it hooks up to the parallel printer port as shown at the right. The cable plugs can only fit in the parallel ports, so you can't hook them up improperly.

PARALLEL PORTS
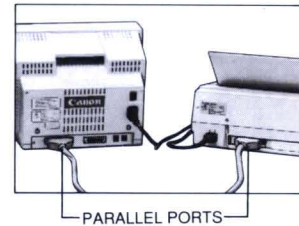
Connecting the Canon Laser Beam Printer VP3103II

The VP3103II has a serial interface, so it hooks up to the serial port as shown at the right. The cable plugs can only fit in the serial ports, so you can't hook them up improperly.

SERIAL PORTS
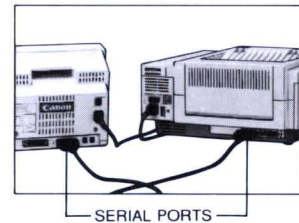
Turning On the Printer

When you turn on your printer, the **ON LINE** light should light. If not, push the ON LINE button and the light will come on. *ON LINE* means that the printer is ready to print.

Ready to Go

Your Cat is plugged in (but not turned on yet), and your Cat180 printer is connected. Turn to *Hooking Up Your Phone* on page 15.

Setting Up the Canon
Laser Beam Printer VP3103II

This section explains how to set up the VP3103II printer. You may skip ahead to the *Final Checklist*, page 16, if you have already set up your Cat180 or other printer.

Setting the Serial Interface on the VP3103II

Before you can use the Laser Beam Printer with the Cat, you have to set the interface for *serial* (RS-232C). The printer will ignore any printing you attempt until it is set for serial interface.

Connect your Cat and printer as explained in the printer's instruction manual or in *Connecting Your Printer*, page 10. Set the printer up as follows (all the keys referred to in the numbered steps below are on the printer):

1. Press [ON LINE] to take the printer off-line. When the printer is off-line, the ON LINE indicator goes off.

2. Press [MENU] once to enter the menu mode.

3. Press [>] five times until **INTERFACE SAVE->** is displayed.

4. Press [v ENTER]: **i/f bysack** will be displayed.

5. Press [v ENTER] again: **i/f =CENTRO** will be displayed.

6. Press [>] to display: **i/f RS232C**

7. Press [v ENTER] to display: **i/f baud rsmode.** This indicates that the printer is now set for the serial (RS-232C) interface.

8. Next, you can set the baud rate. The baud rate is set to 9600 at the factory. Press > to display:
   baud rsmode dtr

9. Press [v ENTER] to display: **baud =9600**

10. The baud rate should already be set to **9600**. If the setting is not **9600**, then press [>] until **9600** is displayed, then press [v ENTER].

11. Now press [>] until **rsmode dtr xon/x** is displayed.

12. Press [v ENTER] to display: **rsmode =8S**

13. Press [>] until the display reads   **rsmode   8SS**, then press [v ENTER].

14. Next, you have to set the DTR handshake mode. The DTR handshake mode is not set at the factory. Press [>] to display: **dtr xon/xoff etx**

15. Press [v ENTER]. The display will read: **dtr=Fix-H**

16. Press [v ENTER] then [>] to display: **xon/xoff etx/ack**

17. Press [v ENTER] to display: **xon/xoff=ON**
    This completes the setup procedure.

18. Press [ON LINE] to put the printer back on-line. When the printer is on-line, the **ON LINE** indicator is on.

Notes: The printer will remain set for printing until you turn the printer off. After you turn the printer on again, you will have to set the printer once again for serial interface.

If you want to save your serial interface setting so that it will be effective when you turn the power on again, follow the procedure outlined in Section 4.3.3, Saving the Current Settings to NV-RAM, of the Laser Beam Printer Operator's Manual.

Using the SETUP Command

The printer will be ready for printing when you make final adjustments with the SETUP command as described below. Don't worry about pressing the wrong key when using the SETUP command. The worst that can happen is you may have to repeat some of the steps.

— Press and hold either [USE FRONT] on the Cat keyboard (immediately to the left or right of the [SPACE BAR].

— While holding [USE FRONT], press and release [SETUP]. You will see **Document Setup** on your screen. Keep holding [USE FRONT] until you've finished with the entire set up procedure.

Selecting the Serial Port

— While holding [USE FRONT], tap [SETUP] until a line saying **Main Printer Setup** appears. (Keep holding [USE FRONT].)

— Tap [LEAP->] once. The **Connected to** choice should change from **Parallel port** to **Serial port**.

Selecting Printer Type

— Tap [SPACE BAR]. A table for the **Printer type** shown will appear.

— Tap [LEAP->] until **VP3103II** and a related list of options appear. If you go too far, you can use [<-LEAP] to back up.

Selecting Options for the Printer

If you wish to change any of the options displayed, tap the [SPACE BAR] to move from one option to the next; when you arrive at the option you want to adjust, tap a LEAP key to cycle through the multiple-choice list at that option. Repeatedly pressing [SPACE BAR] will move you to the top of the list again.

Leaving SETUP

After adjusting each option satisfactorily, let go of [USE FRONT] to complete the setup operation.

Ready to Go

Your Cat is plugged in (but not turned on yet), and your VP3103II printer is connected. Turn the page to *Hooking Up Your Phone*.

Hooking Up Your Phone

Plugging your phone into the Cat allows you to communicate with other Cats or computers, dial phone numbers automatically, and receive messages from other machines. It does not interfere with the normal operation of your telephone. You do not need to hook up your phone to do the tutorial.

Installation Requirements

— Order only a single-line Touch-Tone* or rotary telephone set.

— Order an RJ11-C modular jack (USOC code), which should be installed by the phone company. You cannot make installation unless you have the RJ11-C modular jack. (Don't panic. This is almost undoubtedly the type of wall outlet jack you have for your telephone, but we are required to spell it out in exact detail.) Make sure the RJ11-C modular jack and Cat's power plug are both plugged into the wall relatively close to one another, or you'll have trouble running both at once.

— You should have a normal business line. The line should be a regular voice grade, or the equivalent. Use one line per unit. To allow the Cat to be able to dial long distance, specify a DDD (Direct Distance Dial) line, or IDDD (International Direct Distance Dial) if you communicate overseas.

Plugging In Your Phone

Plugging your phone into the Cat will not interfere with normal voice use of your phone. Federal law requires you to notify the telephone company upon installation; see *Regulations and Requirements*, page 141. The following applies only in the USA. Canadian users should see *Canadian Telecommunications Pre-Installation Requirements*, page 144.

— Unplug the modular telephone cord from your phone, and reconnect it to the to-the-phone company jack (as you face the back panel, this jack is on the right). You now have a telephone cable leading from the wall into the back of the Cat.

*Touch-Tone *is a registered trademark of AT&T.*

— A short telephone cable came with your Cat. Plug one end of this cable into the other telephone jack on the back of the Cat.

— Plug the free end of the short phone cable into the back of your phone. You now have a line running from your phone to the Cat.

— Pick up the phone. You should hear a dial tone. If not, recheck your connections.
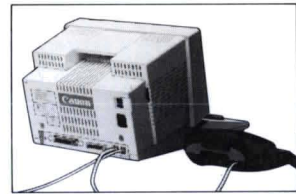
How to connect your phone to the Cat.

In Case of Equipment Malfunction

Should any malfunction occur which cannot be corrected by the procedures described in your manuals, disconnect the Cat from the telephone line or turn the power switch off. The telephone line should not be reconnected or the switch returned to the ON position until the problem is completely resolved. You should contact your Canon Sales Representative for servicing of equipment.

Final Checklist

When you have connected the printer and plugged in the Cat's power cord, turn the Cat around so the keyboard faces you again.

Before turning on the power to your Cat, make sure you've done the following:

— Checked the packaged items against the packing list

— Familiarized yourself with the illustrations of the Cat, including the back panel

— Plugged the power cord into the back and the three-pronged plug into a grounded wall outlet

— Connected a Canon printer via cable to the parallel printer port or the serial port

— Loaded the printer with paper

— Turned the printer on and made sure the **ON LINE** light is lit

What's On the Screen

Power Up

Now that your Cat and its printer are properly set up and you are facing the monitor, you can turn the power on. First, turn the Cat on, then the printer. The light on the drive comes on briefly, then two lines materialize across the top of the screen, as shown below. When you see this, you are ready to type. (When you want to turn off the power, first switch the printer off, then the Cat.)

What to Do If You Get a "Beep"

When you leave the keyboard alone for a while, the Cat automatically attempts to record your text. The light in the disk drive comes on, and, when the Cat discovers there is no disk there, it *beeps* (makes a high-pitched sound). Just ignore this for now.

Dark Screen?

The Cat has a timer that turns off the screen when you leave the keyboard alone for a while. If this happens, press any key. That will wake the screen up again, with everything exactly the way you left it.

If the Cat fails to come alive, check your power cord and wall socket. Also check your brightness control; turn the gray dial on the left side of the Cat clockwise and see if the screen gets brighter.

REMEMBER

If the screen turns off, press any key to wake it up. If the drive light comes on and you get a beep, ignore it for now.

What's in an Empty Text

The things you type are called *text*. The text includes letters, words, paragraphs, pages — everything that you type into the Cat. No text has been typed yet, so you have an *empty text*.
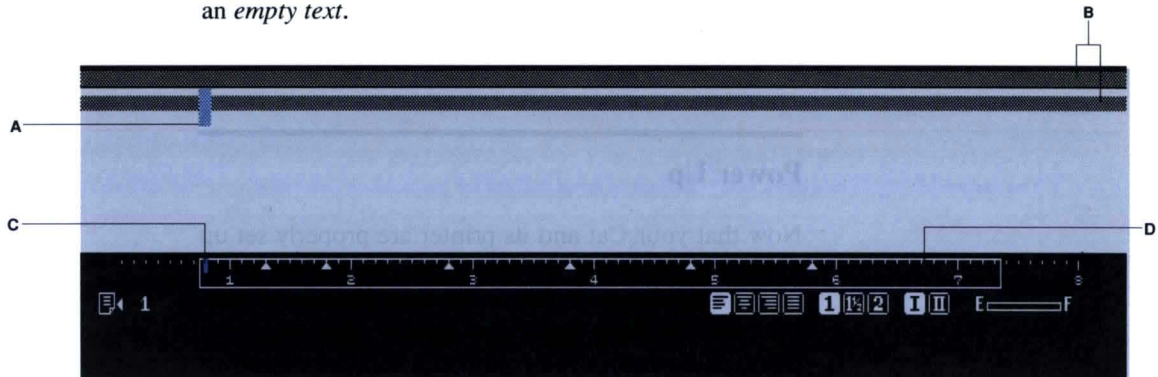
A. The cursor

The blinking object on the upper screen is called the *cursor*. The cursor keeps track of your place on the screen; it is a pointer that shows exactly where your typing will appear.

B. First and final document characters

Document characters begin and end documents. The first and final document characters are special because they begin and end the entire text, and because they cannot be erased. (A *document* is an independent part of the text: a letter, a report, a phone list, or a story, for example.)

The first and final document characters are a lot like bookends: When you begin to type, they move apart to make room for a continuous strip of electronic paper that feeds out between them. The first and final document characters appear when you first turn on the machine, so you could immediately begin typing a document. You can type new document characters as needed to begin new documents.

C. The blinking vertical line

Tells you the horizontal location of the cursor on a line of text.

D. The ruler

The ruler is helpful in arranging text on the page. It is calibrated in numbers of characters, not inches. A *character* is what you get when you press a typing key; letters, symbols, spaces, and punctuation are examples of characters. A maximum of 80 characters will fit on a line.

Tutorial

Step 1:
Learning the Basics

Now that your Cat is turned on and you know what an empty text looks like, you're ready to learn the four things that make the Cat go: *Typing, Leaping, Highlighting,* and *Commands.*

If you know these four, you know the Cat.

The first command to learn is UNDO, which allows you to immediately take back almost anything you've done. Notice [UNDO] in the upper right corner of the keyboard.

UNDO

Key Diagrams

Bracketed boldface letters, words, or symbols indicate keys: [a] means the lowercase "a" key; [UNDO] means the UNDO key.

Do the following

This phrase means "something you should do is about to follow." We hope it doesn't sound like an order. It's just a wakeup call for your fingers.

In general, wait until you see the words *Do the following* before you press any keys.

Relax

If you do not follow instructions perfectly, it's OK. The tutorial can absorb a lot of errors. Keep going and try to get an idea of how things work.

How to Start Over

There is very little to type in the tutorial, and very little can go wrong, but if you get frustrated with the way things are turning out and are unsure how to continue, the remedy is very simple:

— Turn off the power to the Cat.
— Wait five seconds.
— Turn it on again.

Providing you do not have a disk in the drive, this completely clears the screen, and brings back an empty text. You may have to retype a sentence or two, but this will not take more than a few seconds.

Creating Text: Typing

Typing on the Cat is easier than typing on an ordinary typewriter, because line endings and page endings are automatic. Text is always inserted, so you can't destroy text by typing over it.

The Cursor

The *cursor* (blinking object on screen) moves when you type, always showing exactly where the next character you type will appear. You can also make the cursor *leap*, that is, move instantly anywhere you want it to, whether the place you want to move to is on the screen or many pages away.

CURSOR

```
The blinking object is called the cursor▮
```
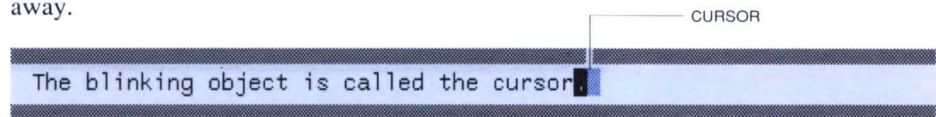
What You Create:
Characters and Text

Typing on the keys produces characters on the screen. *Characters* are the individual letters, punctuation marks, numerals, and so forth that make up text.

Text includes all typed characters, and larger units such as words, sentences, paragraphs, and pages. The text as a whole means all the characters you can see on your screen or reach with the cursor.

Incidentally, spaces are characters, too. Without them, the words *wouldallruntogether*.

To type, just type. The cursor shows you where the next thing you type will appear.

Autorepeat

Holding down a typing key causes the key to repeat automatically or *autorepeat*, like this: tttttttttt
Most keys, including [ERASE], will autorepeat if you hold them down.

The ERASE Key

[ERASE], located on the right side below [UNDO], works like [BACKSPACE] on a typewriter, except it rubs out characters as it goes. We call this *backward erasing*. The next two examples illustrate typing and erasing.

ERASE

Do the following: Type the sentence shown below, including the three extra x's at the end (the Cat will pause momentarily after you type the first letter):

```
The blinking object is called the cursor.xx▮
```
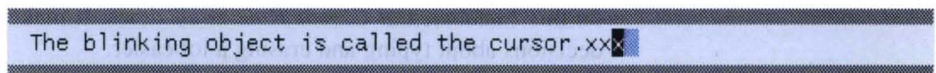
The Highlight

A solid object called the *highlight* accompanies the cursor (it should now be on the last "x"). The highlight lets you know what will be erased if you press [ERASE].

— Press [ERASE] three times to rub out the three x's. The highlight should now sit on the period after "cursor."

—Type two spaces, then type the new sentences shown below. *Do not press* [RETURN] *when you get to the right margin.* Let the new line start automatically:

START TYPING HERE

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight
```

How to Use the RETURN Key

Use [RETURN] to end a paragraph, a short line, a line in a table, or to create blank lines. Pressing [RETURN] ends the line you are working on and moves the cursor to the beginning of a new line below. It also inserts a return character (*return* for short) into the text. When highlighted, a return appears as a hook-shaped arrow.

RETURN

Although returns are invisible unless highlighted, they are genuine characters just like letters, numerals, punctuation and spaces. You can type them or erase them or leap (move the cursor) to them.

—Press [RETURN] twice. The cursor moves down two lines. Notice the highlighted return at the left margin above the cursor.

—Type the new sentence shown in blue below. Be sure to press [RETURN] twice at the end:

PRESS [RETURN]
TWICE HERE

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

The Fundamental Cursor Rule

The most important lesson you've learned so far is this: *The blinking cursor always shows where your typing will be inserted in the text. The solid highlight always shows what will be erased if you press* [ERASE]. You can rely on this *Fundamental Cursor Rule* at all times. It makes decisions about typing and erasing a lot easier.

The Key to the Cat: Leaping

Leaping is more than just a fast way to move the cursor. It helps you find information, and, as you will see in *Highlighting*, it is how you mark text for erasing, printing, moving, or margin and indent changes. Leaping is really the key to the Cat.

If you hold down a LEAP key (one of the rose-colored keys beneath the [SPACE BAR], and, while you hold it, type something that appears in the text — *anywhere* in the text — the cursor will find it almost instantly. The characters you type are used for leaping only and will not be inserted in your text. They are the instructions that tell the cursor where to go, what to find. After leaping, let go of the LEAP key to resume normal typing.

The illustrations below and to the right shows a backward leap. To get the cursor to the "b" in "object," the operator holds down [<-LEAP] key as shown, and, while holding it, presses and releases the "b" key. Most people find that thumbs make the best LEAP key holders, as they leave the fingers free to type.

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

Leaping Forward and Backward

The two rose-colored keys below the [SPACE BAR] — [<-LEAP] and [LEAP->] or *LEAP BACKWARD* and *LEAP FORWARD* — control leaping. When you consider the normal direction of reading (left to right and down), *backward* means earlier than the cursor (to the left or above it), *forward* means later.

Patterns

Whatever you type while holding down [LEAP] is called a "pattern." A pattern can be one or more characters long. The longer it is, the more specific the part of text the cursor will find, but a pattern of three or four characters usually turns out to be enough to get you where you want to go.

Do the following: — To make the cursor leap backward to the "b" in "object" as illustrated above, hold the left LEAP key [<-LEAP] with your left thumb, and while still holding it, press and release [b]. Let go of [<-LEAP] when the cursor arrives.

If you leap to the wrong place, simply let go of the LEAP key and press [UNDO] (upper right corner of the keyboard). Other strategies are discussed in *Getting Back From a Leap*, page 54.

Do the following: —Use [UNDO] now, and the cursor should return to where it was. If it doesn't, it's because you pressed another key after leaping. UNDO can only undo the very last thing you did.

When Leaping Seems Not to Work

If the cursor cannot find what you ask it to, it will not move. Sometimes it leaps a certain distance, then suddenly darts back and seems stuck. We call this *cursor rebound*. The cursor rebounds — returns to where it started from — the instant the pattern can no longer be found in the text.

Cursor rebound does not necessarily mean you made a mistake. What you want to leap to may not be in the text. You may also use cursor rebound on purpose to get the cursor back to its starting point (just type a few x's at the end of a pattern).

What do you do when the cursor rebounds? Let go and try again.

Do the following: —Here's how to make the cursor rebound. Hold the [LEAP->] and, while you hold it, type: *thex*

—The cursor will leap to the nearest "the", but the instant you add the "x" it will rebound. It cannot find "thex" so it gives up the search and goes back where it started from.

—Let go and try it again a few times.

Leaping Without Retyping: How to LEAP AGAIN

Sometimes you want to leap to an "e" (or some other pattern), and there are a lot of other "e"s in the way. [LEAP AGAIN] gets you by those other "e"s by making the cursor leap to the next occurrence of whatever you just leaped to, from "e" to "e" to "e", for example.

You can also leap again with longer patterns. You could leap to "cat," then leap from "cat" to "cat". [LEAP AGAIN] can help you find every "Smith" in a collection of letters, or all examples of a phrase in your text.

When you leap again far enough in one direction, you will completely circle the text and arrive back where you started. This ability is called *circular search*. You know the circle is completed when the cursor leaps to its starting place rather than leaping to another example of the pattern.

The operator uses [LEAP AGAIN] *to leap backward from "e" to "e". She holds* [<-LEAP] *and, while holding it, taps* [USE FRONT] *a few times.*

```
Th█ blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

In order to use [LEAP AGAIN], leap once in the usual manner, then tap either [USE FRONT] while you continue to hold a LEAP key. (You can also tap a LEAP key while holding [USE FRONT].)

[LEAP AGAIN] autorepeats. If you hold down a LEAP key and [USE FRONT] together, the cursor speeds up.

[LEAP AGAIN] means to use the LEAP AGAIN command: hold a LEAP key and press [USE FRONT] or vice versa.

What Do the USE FRONT Keys Do?

While held down, they enable you to use the functions on the fronts of the keys. Notice *LEAP AGAIN* on the front of each LEAP key.

Do the following:

— Read this example all the way through first, so you can watch the screen while you try [LEAP AGAIN] .

—Hold [<-LEAP], and while you hold it, type the word: "the" The cursor leaps backward to the first "the" it can find.

—Keep holding [<-LEAP], and while you hold it, press [USE FRONT]. You will leap from "the" to "the". Stop when you reach "The blinking object" as shown below. It's OK if you overshoot; the cursor will leap from the top to the bottom of the text and continue circling the entire text.

———— STOP CURSOR HERE

```
█he blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```
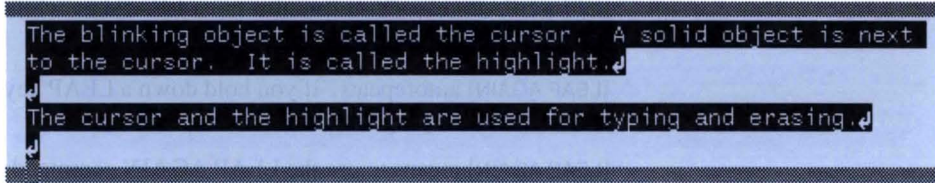
Uppercase and Lowercase Letters in Leaping

Notice that the cursor is on a capital "T", though you leaped to a lowercase "t". A leap to a lowercase letter will find uppercase and lowercase examples of that letter. Leaping to "the" will find "The", "THe", or even "thE".

Leaping to a capital letter will only find a capital letter. Leaping to "THE" will find only "THE".

Marking Text for Change: Highlighting

Highlighting means extending the highlight part of the cursor so that it covers two or more characters. Highlighting is how you show the Cat some text you want to do something with, such as a paragraph, page, or document you'd like to print. You can also erase a lot of text all at once by highlighting it and pressing [ERASE]. An extended highlight is shown in the illustration below.

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.↵
↵
The cursor and the highlight are used for typing and erasing.↵
↵
```

How to Highlight

If you wanted to show someone a certain part of the text, you would point to the beginning and the end and say, "All the text between here and here." Here's how you highlight:

— Leap to one end. Let go of the LEAP key. This shows the Cat one end of the highlight.

— Leap to the other end (use [LEAP AGAIN] if you need to, just don't let go of LEAP).

— Press both LEAP keys.

You can highlight many pages of text with the same ease that you highlight a single word.

The operator presses both LEAP keys at once.

Do the following: — Press both LEAP keys. The highlight extends, lighting up all the text you covered in your last leap. It's OK if you have highlighted a different part of the text than shown in the illustration above.

Erasing With the Extended Highlight

You can erase all the highlighted text simply by pressing [ERASE]. Pressing [UNDO] immediately brings it back.

Do the following: — Press [ERASE]. All the highlighted text disappears.

— Press [UNDO]. It comes back, highlighted.

Unhighlighting and Rehighlighting

The following example shows that you can collapse the highlight to normal size, or "unhighlight," by pressing and releasing either LEAP key. To rehighlight (bring back the extended highlight), press both LEAP keys again.

Do the following: —The highlight should still be extended (if it isn't, then extend it by leaping somewhere and pressing both LEAP keys).

— Press and release [<-LEAP]. The highlight and cursor collapse on the first character in the highlighted text.

— Press both LEAP keys again. This rehighlights the text.

— Press and release [LEAP->]. The highlight lands on the last character in the highlighted text, and the cursor lands on the character to the right of the highlight.

This ability can be very helpful when you have highlighted a lot of text and want to double-check where it begins: Simply unhighlight at the beginning, then rehighlight.

Creeping

Tapping repeatedly on a single LEAP key causes the cursor to "creep," or step one character at a time in the direction indicated by the LEAP key.

Do the following: — Make sure the highlight is not extended. If it is, unhighlight by pressing and releasing a LEAP key.

— To see creeping clearly, you need to move the cursor to the middle of a line, so hold [<-LEAP], and, while holding it, press [d]. The cursor will leap backward to the nearest "d".

— Let go of [LEAP].

— Tap repeatedly on one LEAP key and then the other (but not both at once). Watch the cursor march one character for each tap.

Using Creeping to Adjust the Highlight

Creeping can be helpful in adjusting the borders of an extended highlight, as shown in the following example.

Do the following: — If the highlight is extended now, unhighlight by pressing and releasing a LEAP key.

— Hold [LEAP->] and press [x]. You will leap to the nearest "x". If you do not have an "x", leap to some other letter.

— Press both LEAP keys at once to extend the highlight. Note where it begins and ends. Let go.

— Tap [LEAP->] a few times. On the first tap, the highlight collapses, then the cursor creeps forward with each tap that follows.

— Again press both LEAP keys. The extended highlight will include the distance you creeped. Let go.

— Tap [<-LEAP] a few times. The highlight collapses and the cursor creeps backward.

— Press both LEAP keys to extend the highlight. It includes the distance you creeped.

— Let go, then unhighlight by pressing and releasing a LEAP key.

When Do You Need Creeping?

If you need to anchor one end of the highlight on a difficult-to-reach target, you can leap to an easy-to-reach target nearby, creep backward or forward to the difficult target, and then extend the highlight (a "target" or "target character" is the exact character you are leaping to).

Avoid the Creeping Habit

Leaping is the key to the Cat. In the best sense of the word, leaping is habit-forming. The more you use it, the easier it gets. Very soon you will find yourself leaping with perfect accuracy and scarcely thinking about it. To foster the habit-building process, avoid creeping at first.

The Muscle Power of the Cat: Commands

Commands allow you to do things with your text, such as record it, print it, send it over phone lines, or change the layout of print on the page. A handful of commands are enough to take care of most needs. Most command names are written on the fronts of the keys that control them: [COPY], [SEND], [PHONE], [PRINT], for example, are on the fronts of [a], [RETURN], ['], and [j].

To use most commands, you highlight the text you want to affect, then hold down [USE FRONT], and, while holding it, press and release the command key. Most commands affect only the highlighted text. The following example shows how to use [CAPS].

"CAPS" is on the front of [e]. To use this command you highlight the text you want to affect, hold down [USE FRONT], and, while holding it, press and release [CAPS] as shown above.

```
THE BLINKING OBJECT IS CALLED THE CURSOR.  A SOLID OBJECT IS NEXT
TO THE CURSOR.  IT IS CALLED THE HIGHLIGHT.

The cursor and the highlight are used for typing and erasing.
```

Do the following: — The first step is to highlight the text you are going to capitalize:

— If the highlight is extended now, unhighlight by pressing and releasing a LEAP key.

— Hold [<-LEAP] and, while you hold it type the word "the"
The cursor leaps backward to the nearest "the".

— [LEAP AGAIN] until you come to "The blinking object..."

— Let go of [LEAP]. This anchors one end of the highlight.

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

— Hold [LEAP->], and, while you hold it, press [RETURN].
This leaps you to the return at the end of the first paragraph.

— Press both LEAP keys to highlight the first paragraph
as shown below (if you haven't highlighted exactly as
shown, it's OK):

Notice the highlighted return at the end of the paragraph.

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.↵

The cursor and the highlight are used for typing and erasing.
```

— Now, use [CAPS]: Hold down either [USE FRONT] and,
while holding it, press and release [CAPS]. The highlighted
text will turn to capital letters and the highlight will
unhighlight, as shown below. We're going to use [UNDO]
next, so be sure not to press any keys after using [CAPS].

```
THE BLINKING OBJECT IS CALLED THE CURSOR.  A SOLID OBJECT IS NEXT
TO THE CURSOR.  IT IS CALLED THE HIGHLIGHT.↵

The cursor and the highlight are used for typing and erasing.
```

— Undo the command now by pressing [UNDO]. The
capital letters go away and the text looks like it did before
you used the CAPS command.

— Press [UNDO] again. The CAPS come back. If you press
[UNDO] repeatedly, the text alternates between CAPS and
non-caps. Try it.

— On the last press of [UNDO], leave the text plain.

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.↵

The cursor and the highlight are used for typing and erasing.
```

The UNDO Rule

Pressing [UNDO] repeatedly shows that UNDO can undo itself. As a rule, using [UNDO] twice in a row is the same as not using it at all. UNDO can only reverse the last action you took.

Automatic Highlighting

Some commands permit you to skip the step of pressing both LEAP keys at once. You can simply leap from one end to the other of the text you want to affect, then use the command. The highlight will extend as if you had pressed both keys at once, and the command will be carried out. The following commands have automatic highlighting: [CAPS], [UNDERLINE], [BOLD], [COPY], and [SEND].

Now let's move on to *moving text*.

How to Move Text

Moving text is as easy as grabbing it and pointing to the spot you want to move it: Highlight the text and leap to the new location. The highlighted text will follow the cursor, leaping into place the instant you let go of the LEAP key.

It's OK if the first move isn't right on target. The text remains highlighted so you can move it again. When you move the text again, the surrounding text recovers its former shape.

When you have moved the text into the right position, unhighlight it to complete the move. You may need to type or erase a few characters at either end of the highlighted area to improve the fit.

The text at the point of insertion (at the cursor) moves forward to make room when you move text. Line endings and paragraphs ripple forward as needed to adjust for the added text; the hole occupied by the text you moved automatically fills in.

When you move text, keep in mind that moving it is the same as typing it at the position of the cursor. All text is inserted. You can never wipe out existing text by inserting or moving text.

Where to Move It:
the Inserting Text Rule

For the best fit when you move text, leap to the character that should come immediately after the highlighted text when the move is completed. The same principle applies whether you are moving a word, a sentence, a paragraph, or an entire document.

This rule also applies when you are inserting new text by typing.

Moving a Word
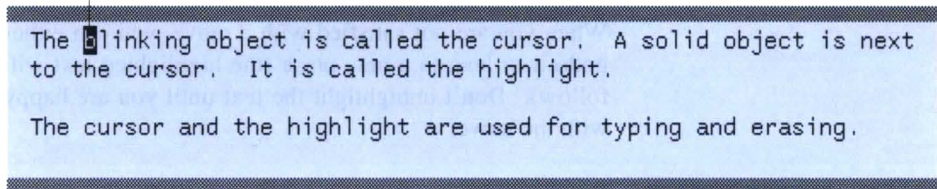
The following example shows how to move the word "blinking" to another place in the sentence.

— If the highlight is extended now, unhighlight by pressing and releasing a LEAP key.

— Here's how to highlight "blinking",

Hold the [<-LEAP] key and, while you hold it, press [b][l] The cursor will leap to the word "blinking", as shown below. Let go of [<-LEAP].
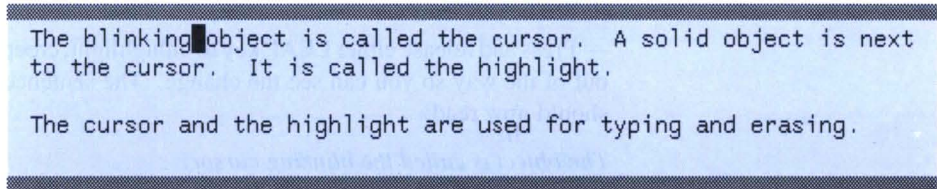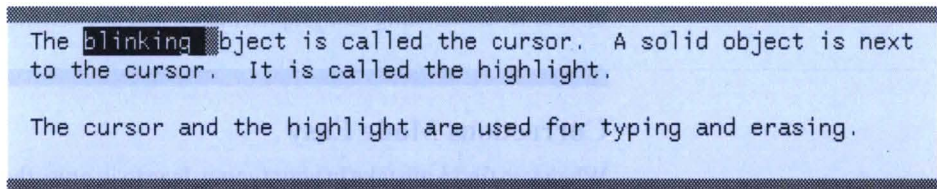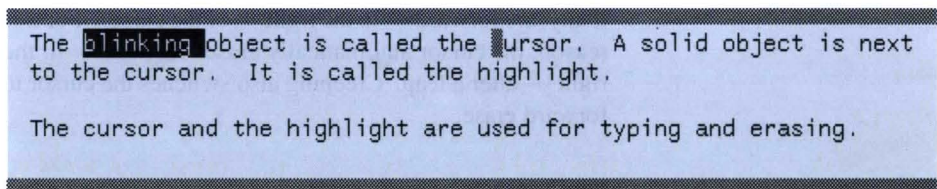
LET GO WHEN THE
CURSOR LANDS HERE

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

— Hold [LEAP->], and, while you hold it, press and release [SPACE BAR]. The cursor leaps to the space after "blinking", as shown below.

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

— Press both LEAP keys to highlight the word "blinking" and the space after it, as shown below.

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

— The next step is to leap to "cursor" in one leap, let go, and unhighlight:

The word "blinking" must still be highlighted. Hold [LEAP->], and, while you hold it, press [c][u]. The cursor leaps to the "c" in "cursor" (the cursor and the highlight are now in two different places as shown below).

```
The blinking object is called the cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

— Let go. The highlighted word "blinking " moves next to "cursor", as shown below. The cursor and the highlight are now together again.

```
The object is called the blinking cursor.  A solid object is next
to the cursor.  It is called the highlight.

The cursor and the highlight are used for typing and erasing.
```

UNDO Unmoves the Text

When you are not satisfied with a move, you can either undo it or leap to a new place (the highlighted text will follow). Don't unhighlight the text until you are happy with the move.

Do the following:　— Press [UNDO] and the word "blinking" moves back where it was before.

— Press [UNDO] a second time. The word again moves in front of "cursor".

— Press and release either LEAP key to unhighlight, creep out of the way so you can see the change. The sentence should now read:

The object is called the blinking cursor.

Other Moves

Moving Text, page 65, describes how to move other parts of your text, including paragraphs, pages, and documents.

Corrections Made Easy

When you find a mistake in your typing, leap to it, press the [ERASE] key as needed to wipe it out, then retype the correct text. For example, to change "Camon" to "Canon," you would leap to the "m", press [ERASE], then type "n". Corrections are easy because leaping gets you to the mistake quickly and directly.

When you leap to a mistake, the cursor naturally lands on the first of the characters you want to erase, since you use the mistake itself as a leap pattern. The other characters, if any, are forward — to the right — of the cursor. For this reason, the cursor automatically erases forward — to the right — after a leap. Creeping also switches the cursor to forward erase.

Do the following: — Hold either LEAP key, and, while you hold it, type: "the". The cursor will leap to the nearest occurrence of the word "the". Suppose you wanted to erase and retype this word.

— Let go of LEAP, then press [ERASE] three times. The cursor gobbles up the word "the".

— Retype: *the*

— Press [ERASE] three times. Notice that the cursor backspace erases as usual after you type.

Narrow Cursor, Wide Cursor

The cursor's appearance tells you whether it will erase backward or forward.

When you leap or creep, the cursor and highlight both land on the same character, and both blink. This is a *narrow* cursor. As soon as you begin to type, or a command inserts characters into the text, the blinking cursor and the solid highlight separate on adjacent characters. The cursor is *wide* when cursor and highlight are positioned on separate characters.

The ERASE Rule

A wide cursor erases backward, that is, to the left. A narrow cursor erases forward, that is, to the right. It's important to be able to switch erase directions whenever you want. The next example shows you how:

Do the following: — Make sure the cursor is in the middle of a line or paragraph before you start (leap, if necessary).

— Press and release LEAP, then press [ERASE] a few times. The cursor becomes narrow and erases forward.

— Press and release [SPACE BAR], then press [ERASE] a few times. When you type a space, the cursor becomes wide, allowing you to backspace.

— Practice these two steps until you can easily go back and forth between forward and backward erase.

ERASE Is "Smart"

Now that you know about forward erase, you can forget about it most of the time. That's because [ERASE] generally does what you want it to do without any planning.

The Cat in Brief

You now know how to use the four essential features of the Cat: typing, leaping, highlighting and commands. You also know how to erase text, move it, and how to use UNDO.

Typing

Typing is a lot like typing on a typewriter. Remember the Fundamental Cursor Rule: The cursor shows where your typing will be inserted; the highlight shows what will disappear if you press [ERASE]. You can type all you want with or without a disk in the drive, but it is wise to record your work on a disk (page 38 will show you how to record your work).

Leaping

Leaping moves the cursor and finds information in the text. To leap, you hold down [LEAP] and type exactly what you want to find. Whatever you type while holding [LEAP] is called a *pattern*. Use [LEAP AGAIN] if the cursor doesn't land where you want it to.

Highlighting

Highlighting shows the Cat some text you want to do something with. Press both LEAP keys after a leap, or after LEAP AGAIN, and all the text you covered in the leap will highlight. The direction of the leap does not matter. Unhighlight by pressing and releasing a LEAP key. Adjust the highlight by creeping.

Commands

To use commands, highlight the text you want to affect, then hold [USE FRONT] and press the command key. Most commands can be undone with [UNDO].

Moving text

Highlight it and leap to the spot where the highlighted text should be inserted. Unhighlight to complete the move.

Erasing

You erase forward after leaping (narrow cursor), and erase backward after typing (wide cursor). You can also extend the highlight and erase a lot of text all at once.

[UNDO] allows you to take back a leap, a text move, an erasure, highlighting and most commands. Be sure to use [UNDO] immediately after you make the mistake.

Step 2: How to Type, Print, and Record Your First Document

Congratulations on mastering the basics of the Cat. You are ready now to begin your first text. This step will show you how to create a document and record it on a disk. You can go on adding documents to the text on this disk until you run out of room or decide to start another disk. In other words, this is not a trial run — *this is the real thing*!

Page numbering starts over after you type a document character. Other than that, "documents" are ordinary text and document characters are ordinary characters in the text.

Before going forward, be sure you've done *Setting Up and Starting Up*, and *Step 1: Learning the Basics*. You should be familiar with typing, leaping, highlighting, and commands. Your printer should be connected and loaded with paper.

REMEMBER:

If the Cat goes to sleep (screen blanks out), pressing any key will turn it on again. [SHIFT] *is best because it is a nontyping key.*

Do the following:

— Erase the entire text as shown below. This technique enables you to erase a text of any size:

PAGE

— First, locate [PAGE]. It is in the same row as [SPACE BAR], last key on the right, labeled "DOCUMENT/PAGE."

— Make sure the highlight is not extended. If it is, unhighlight by pressing and releasing a LEAP key.

— Hold [<-LEAP], and, while holding it, repeatedly tap [PAGE] until the cursor leaps to the beginning of the text and stops moving. (You know this is the beginning of the text because it is the only time a document character appears at the top of the screen when you leap to it. Three taps are usually enough. You can leap to the beginning of a text of any size this way.

— Let go of [<-LEAP]. This anchors one end of the highlight at the beginning of the text.

— Hold the opposite LEAP key, [LEAP->], and, while you hold it, press and release [USE FRONT] in order to [LEAP AGAIN] directly to the last document character in your text.

— Press both LEAP keys to highlight the entire text.

— Press [ERASE]. This will erase the entire text, leaving you with an empty text, as pictured below:

An empty text contains only the initial document characters, which cannot be erased and the ruler. If your screen doesn't look like the illustration, repeat the steps above until it does.

Another way to get an empty text is to remove the disk, if any, from the drive, then switch the power to the Cat off, wait five seconds, and switch it on again. Switching the power off clears the Cat's memory. Switching it on after a moment brings back an empty text, providing your disk drive is empty.

WARNING!

Turning the machine off and on is not a good way to get an empty text. You are more likely to lose valuable information this way than if you deliberately erase the text. You can undo an erase, but if you turn off the power, everything not recorded on disk or printed on paper is lost forever.

Do the following:

— Place the blank disk that came packed with the Cat in the drive as shown in the illustration below. Put the metal-edged side of the disk into the slot; the label side faces left. Push gently until the disk clicks into place with a slight movement to the right. Don't use force. The disk won't go in if there is already a disk in the drive or if you have it turned the wrong way. You can remove a disk from the drive by pushing the eject button.

EJECT BUTTON

Inserting a disk in the drive.

Do the following:

— Type your document. The document shown below is an example of what you might do: a simple one-page letter. When you press the first typing key, the Cat takes a moment to ready itself before inserting what you type. The rest of the time the Cat will keep up with you no matter how fast you type.

Refer to the *Table of Contents* or the *Index* if you need help with a specific problem, such as margin adjustment.

Feel free to copy the letter on the next page if you need a model:

```
Dear Martin,

Having a great time in Honolulu, but I'm beginning to get
homesick.  I'll be coming back as soon as we wrap up negotiations
on the swimwear contract.

Love,

Mary
```

Page Endings

Don't worry about where to end the page. The Cat will end each full page automatically. A dotted line called an "automatic page break" will appear:

An automatic page break. It means you have filled page 2 and are now beginning page 3.

```
Page 2 ends here.
                                          2
....................................................................
Page 3 begins here.
```

Page Numbering

Page numbers are automatically kept in consecutive order. The pages after a document character are numbered "1, 2, 3," ..., etc. unless set otherwise with [SETUP].

Top and Bottom Margins

One-inch top and bottom margins will appear in the printout, though they do not appear on the screen. One-inch margins will also appear on the left and right of the printed text.

Printing Your Document

It's very easy to print something: Just highlight it and use [PRINT].

— To highlight a document, leap from document character to document character, then press both LEAP keys, as explained below.

Do the following:

— Note that "DOCUMENT" is the uppercase character on [PAGE].

— Hold the left LEAP key, [<-LEAP], and [SHIFT], and, while holding both keys, press and release [DOCUMENT]. This leaps the cursor to the beginning of the document, bypassing all other page breaks, if any.

<- LEAP DOCUMENT

— Let go of [<-LEAP].

— Hold the opposite LEAP key, [LEAP->], and press [USE FRONT] in order to LEAP AGAIN. This leaps the cursor past all other page breaks to the end of the document.

— Press both LEAP keys. Your document should look something like the following illustration. Note that both document characters are highlighted:

```
Dear Martin,↵
↵
Having a great time in Honolulu, but I'm beginning to get
homesick.  I'll be coming back as soon as we wrap up negotiations
on the swimwear contract.↵
↵
Love,↵
↵
Mary↵
↵
```
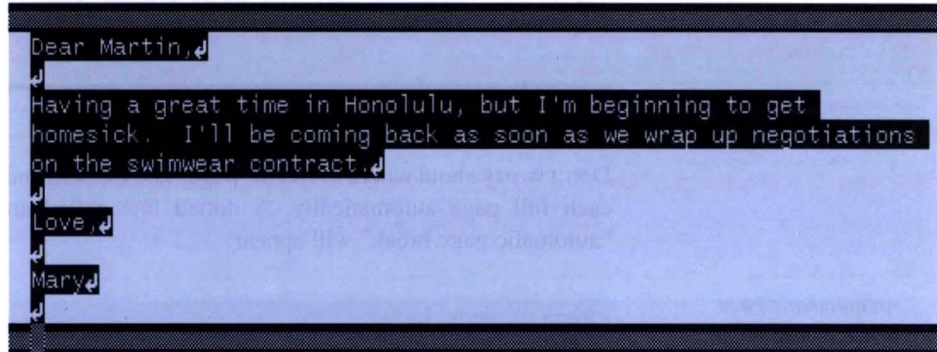
Printing

What you see on the screen is what you'll get on paper. Line endings, page endings, and vertical alignment of characters will be the same.

— Hold [USE FRONT] and press [PRINT]. A "PRINT" sign will appear briefly on the ruler. The printer should begin running right away. As soon as the highlight disappears from your document, you may begin typing again (*but don't type now*).

Do the following: — Now that you've got something to save, record it on disk. The blank disk should be in the drive. To record your text on it, simply use [DISK]: Hold [USE FRONT] and, while you hold it, press and release [DISK]. The in-use light on the front of the disk drive will come on.

The Happy Cursor

When the light goes out, the cursor blinks faster than before. The quickly blinking cursor is called a *happy cursor*. The happy cursor tells you that your text is safely recorded. As soon as you type something — even one character — the cursor slows down, showing that the text has been changed and the change has not been recorded.

It doesn't take long to record your text. Use [DISK] every few paragraphs while you write in order to keep your disk up to date.

Starting a New Document

To start a new document, all you have to do is type a document character, then begin typing the document. First you should position the cursor on a document character. After typing the new document character, you will have document characters on both sides of your new text.

Fortunately, your cursor should now be in the right place. If you have moved the cursor, then leap forward to a document character.

Do the following: — The cursor should be positioned on the document character at the end of the text, as shown below:

```
Dear Martin,

Having a great time in Honolulu, but I'm beginning to get
homesick.  I'll be coming back as soon as we wrap up negotiations
on the swimwear contract.

Love,

Mary
```

FINAL DOCUMENT CHARACTER (HIGHLIGHTED)

BLINKING CURSOR
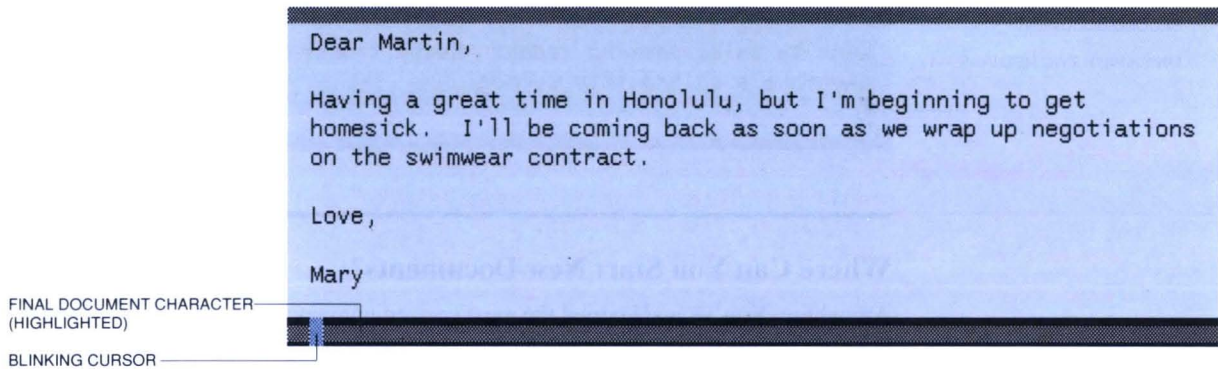
— Type a new document character: Hold [SHIFT], and, while you hold it, press and release [DOCUMENT]. A new document character appears, as shown below:

Note that the final document character is pushed forward according to the inserting text rule explained earlier in How to Move Text, *page 30.*

```
Dear Martin,

Having a great time in Honolulu, but I'm beginning to get
homesick.  I'll be coming back as soon as we wrap up negotiations
on the swimwear contract.

Love,

Mary
```

BLINKING CURSOR

FINAL DOCUMENT CHARACTER (END OF TEXT)

DOCUMENT CHARACTER YOU JUST TYPED
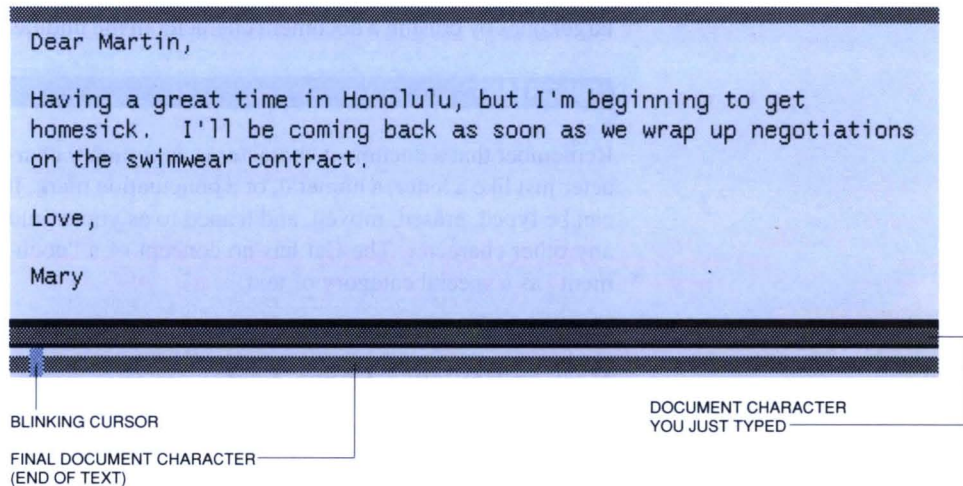
— Now begin typing your second document. It will appear between the two document characters, like "Hawaii diary," shown in blue below:

FIRST DOCUMENT ────────

```
Dear Martin,

Having a great time in Honolulu, but I'm beginning to get
homesick.  I'll be coming back as soon as we wrap up negotiations
on the swimwear contract.

Love,

Mary
```

SECOND DOCUMENT ────────

FINISH WITH TWO RETURNS ────────

```
Hawaii diary

went to sales meeting today.  Baggy trunks and polka-dot bikinis
may make a splash this summer.
```

Where Can You Start New Documents?

Anywhere. You've just learned the most convenient way: Position the cursor on a document character, then type a document character.

You can also type a document character anywhere in the text and begin a new document. You can split larger documents into smaller ones by typing a document character in the middle. You can make smaller documents into larger ones by erasing a document character in the middle.

IMPORTANT

Remember that a document character is an ordinary character just like a letter, a numeral, or a punctuation mark. It can be typed, erased, moved, and leaped to as you would any other character. The Cat has no concept of a "document" as a special category of text.

How to Review a Large Text

If you have many documents, you can review them by leaping to a document character, then using [LEAP AGAIN]. Each use of [LEAP AGAIN] leaps you to a new document.

The TITLES command allows you to create a title library of all documents in a text. In order to use the TITLES command you must first make a minor adjustment to page numbering with [SETUP]. See *How to Make Title Pages*, page 50, for more information.

What to Do When You Run Out of Room

You have just learned how to start new documents, so your way is clear to building a larger and larger text.

The memory gauge on the right side of the ruler tells you how much text you have typed. The more white space on the gauge, the more you have typed. "F" means "Full." It's unlikely that what you've typed up to now has had any effect on the memory gauge.

When you fill up the text, which will probably happen after you type about 80 single-spaced pages, the cursor will stop moving and every key you press will cause a beep. At this point you need to start a new disk (see *Starting a New Disk When You Run Out of Room*, page 72).

How to Change Disks

— Use [DISK] to record the text.
— Change disks in the drive.
— Use [DISK] again to play back the new text (see *Using the Disk Drive*, page 70, for more information).

How to Protect Your Information

Since a power failure would erase the text on the screen, recording on disks is the only way to preserve and protect your information, except for a paper printout.

Making Backup Disks

Backup disks provide an added defense against loss of information. A backup disk is a second, identical recording of your text. See *Creating a Backup Disk*, page 72, for more information.

Automatic Recording

A timer starts running as soon as you stop typing. When the timer runs out, the Cat automatically tries to record your work on disk. If for some reason it cannot record (no disk in the drive, for example) it beeps and the screen stays lighted. The timer starts running again. The Cat will keep trying until it succeeds or until you start using it again.

How to End the Work Session

When you are done, use the DISK command to record your text. The screen will turn off automatically a while later. When you return, press any key ([SHIFT] will do nicely), and the Cat will come on exactly as it was when you left it.

Where to Go From Here

Congratulations! You have launched your first disk, your first volume of text. The disk now in the drive can remain in place indefinitely while you build and modify the text.

You can add documents to the text in any order you like: messages, letters, phone lists, random notes and reports can all happily coexist. Organization is not particularly important because leaping makes all information instantly accessible. Let yourself go a little and see what happens.

The more you use the Cat, the more you'll like it.

Keep the *Quick Reference Card* Handy

Keep the *Quick Reference Card* on hand while you learn to use the keyboard.

Basic Functions

Typing

To type on the Cat, just type. The things you type are displayed on the screen. The screen image of your text is held in the Cat's memory, separate from the disk. Only the electric current from the wall maintains the on-screen text, so keep a disk in the disk drive and use the DISK command every few minutes in order to update your recorded text.

The Fundamental Cursor Rule: *The blinking cursor always shows exactly where what you type will appear. The highlight shows what will be erased by* [ERASE].

Throughout this manual we assume that you type two spaces between sentences, and two returns between paragraphs. This is standard practice, and allows you to use patterns such as [RETURN][RETURN] and [SPACE BAR] [SPACE BAR] to great advantage in leaping.

Starting or Ending a Line

Within paragraphs, keep typing and the line will end automatically.

To end a line before it reaches the right margin, press [RETURN]. The cursor moves to the indent of the next line.

Beginning a Paragraph

Tap [RETURN] twice, begin typing. Press [TAB] to get a standard five-space indent (also see *Setting Margins and Indents*, page 83, and *Setting Tabs*, page 84).

Creating a Blank Line

Press [RETURN] as needed.

Hyphenating at the End of a Line

— Leap to the first letter of the syllable where you want to split the word, even if the word you want to break has wrapped to the wrong line at the moment.

— Type a hyphen [-].

— Press [SPACE BAR]. When you break the word by pressing [SPACE BAR], the first part of it will jump back to the line above. If it doesn't, you need to break the word at an earlier syllable. Erase the space and hyphen and try again.

Typing in All-Uppercase Letters

Press [LOCK]. To unlock, press and release either [SHIFT].

Inserting New Text

All typing is inserted. It is impossible to type over the text that's already there.

In order to insert new text into existing text, position the cursor on the first character that should come after the new material, then type. For example, to change "the sky" to "the blue sky," position the cursor on the "s" in "sky", type "blue", then press [SPACE BAR].

Typing in the middle of bold or underlined text produces text of the same style.

Inserting Text at Certain Places

At the beginning of a sentence:
Leap to the first word in the sentence and type.

At the end of a sentence before the end punctuation:
Leap to end punctuation (a period, for example) and type.

At the end of a paragraph or a line ending in a return:
— Leap to the return at the end of the paragraph;
[LEAP AGAIN] if the first leap does not get you to the end of the right paragraph).
— Let go of the LEAP key and type.

At the end of a page:
Leap to the page or document character, then type.

At the beginning of a page:
— Leap to [PAGE]. Let go of the LEAP key.
— Creep forward one character, and start typing. If you leap to an automatic page break (thin dotted line) it is not necessary to creep forward.

In the middle of a sentence, paragraph, or word:
Leap to the first character that should come after the new material you are going to type, let go and start typing. For example, to change "the brd" to "the bird," leap to "rd", let go, then type "i".

How to Tell Where You Are on a Line

The blinking line on the ruler shows the horizontal position of the cursor on the line. The ruler counts character positions, not inches. Numbers 1, 2, 3, etc. on the ruler correspond to character positions 10, 20, 30 and so forth.

How to Tell Which Line You Are On

The number on the left side of the ruler next to the page sign indicates the line of the page the cursor is on. The number does not include the automatic 1-inch, (6-line) top and bottom margins.

How to Tell How Much Room You Have Used

Read the memory gauge on the right side of the ruler. The more white on the memory gauge, the more room you have used. **E** means *Empty* — lots of room; **F** means *Full* — no more room. When you run out of room, start a new disk (see *Starting a New Disk When You Run Out of Room*, page 72).

Page Numbering

You don't have to think much about paginating your copy. Page endings appear automatically; numbering is also automatic.

To mark the end of a short page (one with less than enough lines to trigger an automatic page ending), press [PAGE]. This is described in *Forcing a Page to End (or Begin)* below.

Change page numbering, page length, and other format features with [SETUP]. See *Changing Document Formats*, page 132, for more information on [SETUP].

Page numbers print at the bottom center of the page. If a page number doesn't appear on-screen, it won't appear in the printout. You can change the first printing page number with [SETUP]. The initial value is "2", which means that page 2 and higher will have their numbers printed at the bottom of the page. *Initial* means the way something is when you turn on the machine.

Automatic Page Endings

A piece of 8-1/2-by-11-inch paper has room for 55 lines of type. When you type enough lines to fill a page, an automatic page break like the one below appears:

The number"2" means "bottom of page 2." Just keep on typing to begin page 3. Numbering can be altered with the SETUP command.
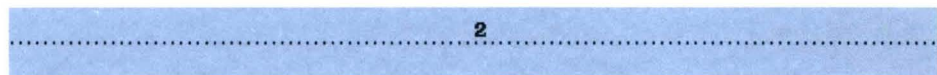
Automatic page breaks are not characters; they are only Cat-generated symbols of the end of the paper page. Thus when you leap to an automatic page break, you land on the first character following it. You cannot erase or move automatic page breaks.

Forcing a Page to End (or Begin)

If you want to end a page at less than 55 lines, press [PAGE]. A *page character* appears:
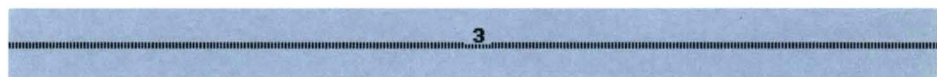
Just keep typing to begin the next page. A page character is a single character just like a letter. You can type it, erase it, or leap to it like any other character.

By typing a page character, you ensure that the next thing you type will appear at the top of the next printed page.

Fixing Inconvenient Page Endings

If you want to put a paragraph at the top of the next page, or fix a paragraph that straddles two pages:

— Leap to the first character in the paragraph.

— Use [PAGE].

This removes the automatic page break by placing a page character above the paragraph.

Page Length and Page Numbering

— Position the cursor in the document you want to change.

— Use [SETUP] to bring up the **Document Setup** screen. The boldface line marks your place on the screen. If you aren't sure how to use [SETUP], see *Changing Document Formats*, page 132.

— Tap [SPACE BAR] until the desired selection is shown in boldface, then use LEAP keys to adjust the setting. Let go of [USE FRONT] to complete the setting.

If you change the first page number of a document, all the following pages are automatically renumbered.

Marking the Beginning of a Document

A document is anything you consider a separate entity in the text. Documents begin and end with a *document character*, the uppercase character on [PAGE]. A document character is a single character, just like a letter, a numeral, or a punctuation mark. You can leap to it, erase it, or move it by highlighting and leaping.

A document character is simply a page character that restarts the page numbering. The first page number is usually "1" but it can be changed with [SETUP].

The document character for page 21 ends the document above and begins the "Phone List".

```
                                         21
PHONE LIST

Jim Ableson 882-9311
Robin Baker 221-█005
Cliff Carlton 336-0132
                                          1
```

NUMBER OF PAGE ABOVE
DOCUMENT CHARACTER

FIRST PAGE OF DOCUMENT

DOCUMENT CHARACTER (END OF DOCUMENT)
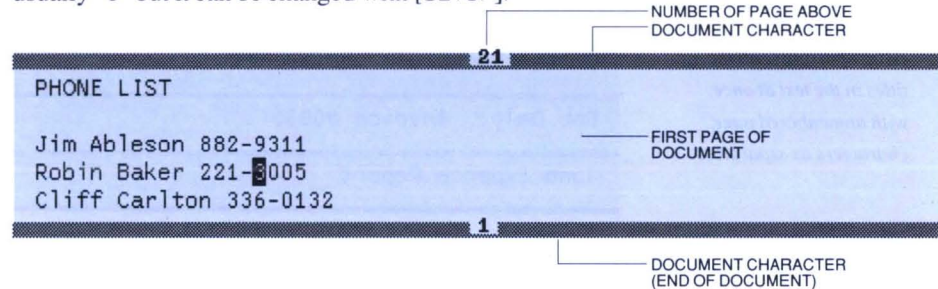
Beginning a Document When the Text Is Empty

Simply begin typing. (The text is *empty* when you start up the machine with no disk or a blank disk in the drive.)

Beginning New Documents

— Leap forward to a document character.

— Type a new document character.

— Start typing the new document. The text should appear between the two document characters.

Nothing special is needed to end a document begun this way.

Titling Your Documents

After changing the first page number of your documents to 0 (zero) with [SETUP], page zero of a document becomes a title page on which you can make notes and commentary. The document itself begins on page 1.

The title pages are ordinary text, but they also can all be viewed at once with the TITLES command. When you use [TITLES], it pulls together all the title pages from every document in your text and shows them to you all at once:

```
October Honolulu conference

Bob Daly:   Invoice #0035

June Expense Report
```

How to Make Title Pages

A *title page* is the text between the document character and the first page character following it when the first page of a document is 0 (zero) or a negative number.

— The cursor should be in the document you want to title.

— Use [SETUP]. On the **Document Setup** screen, change the **First page number** from **1** to **0**.

— Release [USE FRONT]. The document now begins with page zero. Page zero is your title page.

— Type your title on page zero. When you're done typing the title, type a page character.

The TITLES command does not display a title unless you have typed one between the document character and the next page character. Remember to type something in this space. If you forget to type a page character after the title, the entire first page of the document will be included in the title library.

Document titles are ordinary text. If you erase the document character above the title, the title text then becomes part of the last page of the preceding document.

Viewing the Title Library

The assembled title pages remain on-screen as long as you hold [USE FRONT] after pressing [TITLES]. Use the LEAP keys to scroll backward or forward through the listed titles.

When you release [USE FRONT], the titles disappear and the cursor lands where it was originally when you first held down [USE FRONT].

Understanding the Ruler Line

The ruler at the bottom of the Cat's screen is helpful in arranging text on the page. It provides information about margins, indents, tab stops, cursor position, room used, and commands-in-use, if any.

Information on the ruler:
A blinking line,
B regular tab stop,
C decimal tab stop,
D character positions,
E line number of cursor,
F left margin,
G indent,
H right margin,
I "DISK" sign showing the DISK command is in-use,
J paragraph styles,
K line spacing,
L keyboard I/II,
M memory gauge
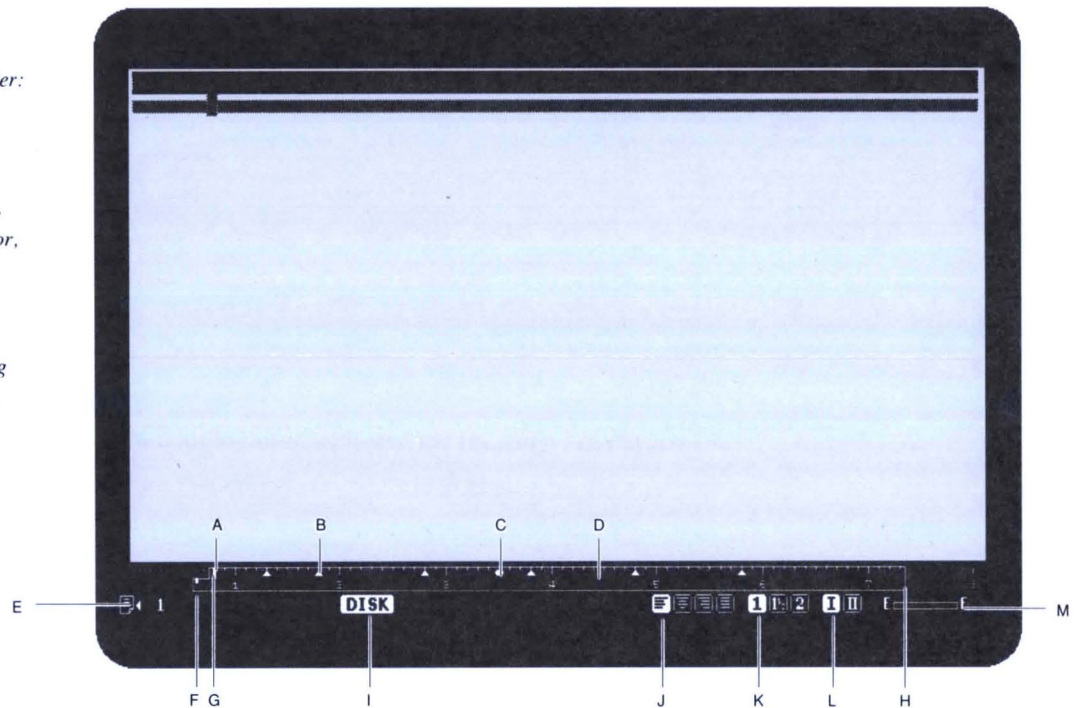
A. The blinking line
This line tells you the cursor's horizontal location on a line.

B. Regular tab stop
Stops cursor at the same character position on every line if [TAB] is pressed.

C. Decimal tab stop
Used in typing columns of numbers.

D. Character positions
The ruler is calibrated in numbers of characters, not inches. The numbers 1-8 stand for character positions 10 through 80. Any character counts as one space on the ruler. [SETUP] allows you to print at 10, 12, or 15 characters per inch. Whatever the setting, the ruler does not change. At 10 characters per inch with one-inch right and left margins, you will be able to fit 65 characters on a line; at 12 or 15 characters per inch, you will be able to fit 80 characters on a line.

E. Line number of cursor
The sign indicates that the cursor is on line 1.

F. Left margin
Line indicates character position of left margin.

G. Indent
Line indicates character position of indent.

H. Right margin
Character position of right margin.

I. "DISK" sign
Some commands, such as DISK, take time to complete. A sign in this position lets you know that the Cat is busy doing something.

J. Paragraph style
The four signs represent four paragraph styles: Left Flush, Centered, Right Flush, and Justified. The lighted sign indicates the style of the paragraph the cursor is in.

K. Line spacing
The signs indicate single, 1-1/2, or double-spaced text. Spacing shown applies to the paragraph the cursor is in.

L. Keyboard I/II
Keyboard II selects the right-hand set of symbols on four-symbol keys.

M. Memory gauge
Shows the amount of text you've typed. **E** means *Empty* — you haven't typed any text and there is lots of room.

Leaping

Leaping is the key to the Cat. Leaping is more than a lightning fast way to move the cursor. It is how you show the Cat some text you want to do something with, and how you can find information in the text.

LEAP character(s)

To leap, hold the appropriate LEAP key, type what you want to find, then let go when the cursor arrives. Use [LEAP AGAIN] (press [USE FRONT] while holding LEAP) if the first example of what you leaped to is not the one you want.

LEAP USE FRONT

Whatever you type while holding the LEAP key is called a *pattern*. The cursor always leaps to the first character in the pattern, which is called the *target character*.

If the pattern cannot be found, the cursor rebounds back to its starting point and stays there (cursor rebound). Should the cursor rebound, let go and try again.

Leaping is circular. Imagine the pages of text extending all the way up to the ceiling and down to the floor, then circling around and joining in a big loop. If necessary, the cursor will make a complete trip around the loop to find what you leap to. Thus you can leap in the wrong direction and still wind up in the right place. The cursor might appear to leap backward when you leap forward and vice versa.

Getting Back From a Leap

Keep holding a LEAP key until you are satisfied with the leap. As long as you hold on:

— You can use [ERASE] while holding a LEAP key. This erases characters from the leap pattern and causes the cursor to backtrack. After erasing part or all of a pattern you can add new characters by typing without releasing the LEAP key.

— You can cancel the leap by adding unfindable characters to the pattern such as *xxx*. This makes the cursor rebound to its starting point. Then you can let go and start over.

If you let go of the LEAP key, use [UNDO] to get back. If that doesn't work, find your place again by leaping to a key word in the text you want to find, using [LEAP AGAIN] if necessary.

Two More Reasons for Holding On

If you keep holding a LEAP key, you can

— [LEAP AGAIN] to cover a wider range of text and then highlight the whole range. If you let go, you may have to leap back to where you started to highlight the text you want.

— Nudge the cursor on to the exact target by adding a few characters to your leaping pattern ([LEAP AGAIN] will do this too).

Common Causes of Mistakes

The most common mistake in leaping is pressing the same key again in order to leap again. For example, holding down a LEAP key and pressing "eeee" will not cause you to skip from *e* to *e*. It will find the "eeee", if such a pattern exists. Instead, use [LEAP AGAIN] if you want to leap from "e" to "e".

Sometimes you overlook the invisible characters such as spaces, returns, and tabs when leaping. It is important to include these characters in the leap pattern if they are part of the text you want to leap to. Page characters and document characters may also be part of a pattern. Automatic page breaks may not.

When Leap Seems Not to Work

Cursor rebound may make leap appear to be out of order. The remedy is to let go and try again. If the leap still does not work, you might be transposing letters or leaving out a space, a punctuation mark, a tab or a return in a pattern. Perhaps what you are looking for just does not exist. That can be valuable information in itself.

The [LOCAL LEAP] and [KEYBOARD I/II] commands can interfere with the normal operation of leaping. Check the ruler for the **LOCAL LEAP** or **KEYBOARD II** signs. If either sign is on, using the associated command will switch it off. [LOCAL LEAP] is described in *Leaping Within a Specified Area*, page 96; [KEYBOARD I/II] is detailed in *Changing the Keyboard Setting*, page 97.

Getting the Cursor to a Spot
You Want to Work On

The specific character you want to leap to is called the *target character*. Any character can be a target: a letter, space, numeral, punctuation mark, return, page character, or document character. The target character and the characters that follow it are called a *pattern*. The more characters in a pattern, the more specific will be the part of the text the pattern finds.

— Decide on a target character.

— Hold the appropriate LEAP key.

— While you hold the LEAP key, type the target character and the characters that follow it, including spaces, punctuation, returns, tabs, etc. When the cursor is on the target character, you can stop typing and let go.

— Use [LEAP AGAIN] if you type much more than three characters without reaching the target. To make [LEAP AGAIN] autorepeat, hold down [USE FRONT] while holding a [LEAP] key. You will quickly leap from one occurrence of the pattern to the next.

LEAP AGAIN

LEAP AGAIN in the Opposite Direction

Let go of the LEAP key you are using, hold the opposite LEAP key, press [USE FRONT].

Leaping to a Space

Hold the appropriate LEAP key, press and release the [SPACE BAR]. To leap to a specific space, add part of the word that follows the space to the pattern. [LEAP AGAIN] if necessary.

Moving the Cursor a Very Short Distance

Tap either LEAP key. The cursor will creep one character at a time per key press. This is not a substitute for leaping!

Leaping to Uppercase Letters

You can leap directly to a capital letter by holding a LEAP key and [SHIFT] and typing the letter.

Leaping to a lowercase character finds both upper and lowercase examples of that character.

Leaping to [DOCUMENT] will find only a document character, while leaping to [PAGE] will find page characters and document characters.

Leaping Word-by-Word

— Hold the appropriate LEAP key, press [SPACE BAR] once. You leap to a space between words.

— [LEAP AGAIN]

LEAP **SPACE BAR** **USE FRONT**

Leaping Sentence-by-Sentence

— Leap to a period. Or, leap to [SPACE BAR][SPACE BAR].

— [LEAP AGAIN]

`LEAP` `.` `USE FRONT`

Leaping Paragraph-by-Paragraph
(Cat-style scrolling)

— Hold a LEAP key, press [RETURN] twice. This leaps you to the end of a paragraph, since paragraphs usually end with two returns.

— [LEAP AGAIN]

`LEAP` `RETURN` `RETURN` `USE FRONT`

Leaping Page-by-Page

— Hold a LEAP key, press and release [PAGE]. This leaps you to a page boundary.

— [LEAP AGAIN]

`LEAP` `PAGE` `USE FRONT`

Leaping Document-by-Document

— Hold a LEAP key and [SHIFT], press and release [DOCUMENT]. This leaps you to a document character.

`LEAP` `DOCUMENT` `USE FRONT`

— [LEAP AGAIN]

Leaping to the Beginning or End
of the Entire Text

Beginning   Hold [<-LEAP], press [PAGE] a few times.
End   Hold [LEAP->], press [PAGE] as needed.

`<- LEAP`

The cursor leaps to the beginning or end as soon as there are more consecutive page characters in the pattern than can be found in the text. After leaping to one end, you can use [LEAP AGAIN] to leap to the opposite end.

`LEAP ->` `PAGE...`

End of a Line Within a Paragraph

When a line ends inside of a paragraph, the last character on the line is a space. Leap to a pattern made up of the space and the first word on the following line.

Finding Words, Phrases, and Other Information by Leaping

Hold either LEAP key and type what you want to find. If the first occurrence you find is not the one you want, use [LEAP AGAIN]. For example, to find "gold", hold a LEAP key and type "gold". If there's any "gold" in the text, you will find it. To find the next occurrence of "gold", simply use [LEAP AGAIN].

In this manner you can find all the "gold" in the text. You will know you've completely circled the text when the cursor arrives back where it was when you first held the LEAP key.

If the cursor doesn't move, or moves out and then moves back and appears to be stuck in one place, it means what you are typing cannot be found.

If you can't remember the whole name or word you are looking for, a part of it might jog your memory. Leaping to the fragment "smith" might find you "Goldsmith," "Smithsonian," or "Jim's locksmith shop."

Be sure to include spaces and returns. For example, if you want to find "now here" it won't do to leap to "nowhere." To find "pen" at the beginning of a paragraph — in a list of office equipment, for example — hold the LEAP key, press [RETURN], then type "pen" The letter combination "pen" is common, but "pen" preceded by a return is rare.

Positioning Copy Vertically on the Screen: Conventional Scrolling

To move the text a few lines up or down with respect to the top and bottom of the screen:

— Hold [SHIFT], and, while you hold it, tap on either LEAP key. [<-LEAP] moves the text up; [LEAP->] moves the text down. Each tap on the LEAP key shifts the text one line up or down.

SHIFT   LEAP

— To speed up, use [LEAP AGAIN]. Engage autorepeat by holding a LEAP key and [USE FRONT] at the same time.

— To reverse directions, let go of the LEAP key you are using, hold down the other LEAP key and use [LEAP AGAIN].

<- LEAP   USE FRONT

How to Browse

Cursor rebound has some unexpected benefits. The ability to browse is one:

— Leap to [RETURN][RETURN].

— [LEAP AGAIN]

— Press the "x" key a couple of times (while continuing to hold the LEAP key) when you want to rebound to the spot you started from.

Planting Markers

If you want to leave a place temporarily to work in another area, simply type a unique pattern of characters such as "qq" or "**" before you go. When you want to get back, leap to this unique pattern.

Markers are very helpful when moving text. Type the marker at the exact point you want to insert the text, then highlight the text you want to move, leap to the marker and let go.

Highlighting Text

Highlighting means extending the highlight so that it covers two or more characters. This is how you can show the Cat the text you want to affect with a command such as ERASE, COPY, SEND, or move. You can highlight any amount of text, including the entire text.

Unhighlighting means collapsing the extended highlight down to normal size, that of a single character.

Rehighlighting means bringing back the extended highlight after unhighlighting.

Highlighting

Simply press both LEAP keys after you leap. The highlight will extend, covering the text you just leaped. The direction you leap is not important. You must cover the text without letting go of the LEAP key. This is usually easy to do because you can help the cursor along with [LEAP AGAIN].

<- LEAP | LEAP ->

Unhighlighting

At the beginning: Press and release [<-LEAP]
At the end: Press and release [LEAP->]

Rehighlighting

Press both LEAP keys again.

Making a Minor Adjustment in the Size of the Highlight

— Unhighlight at the beginning or end, depending on which you want to adjust.

— Creep forward or backward (tap either LEAP key).

— Press both LEAP keys again to rehighlight. The distance you creeped will be added or subtracted.

Highlighting a Word or Several Words
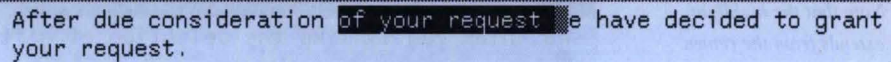
— Leap to the word you want to highlight (or to the first word in the group of words).

— Leap to the space after the word (or the space after the last word in the group).

— Press both LEAP keys to highlight.
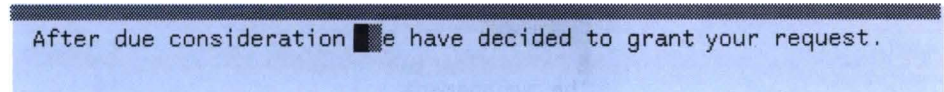
The example below shows how to erase a group of words using this approach.

Before erasing:

```
After due consideration of your request e have decided to grant
your request.
```

After erasing:

```
After due consideration █e have decided to grant your request.
```

Highlighting a Sentence or Sentences

— Leap to the first word in the sentence (or to the first word in the first sentence if you want to highlight a group of sentences).
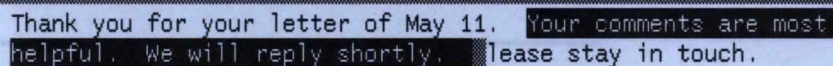
— Leap to the space immediately preceding the first word in the next sentence (or the sentence that follows the group of sentences you are highlighting).

— Press both LEAP keys to highlight.

This ensures that the right number of spaces will be left after erasing or moving the text, as shown by the illustrated example below.
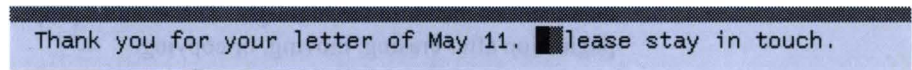
Before erasing or moving the highlighted text:

The pattern [SPACE][p] leaps you directly to the space before "Please"

```
Thank you for your letter of May 11.  Your comments are most
helpful.  We will reply shortly.  lease stay in touch.
```

After erasing or moving the highlighted text:

```
Thank you for your letter of May 11. █lease stay in touch.
```
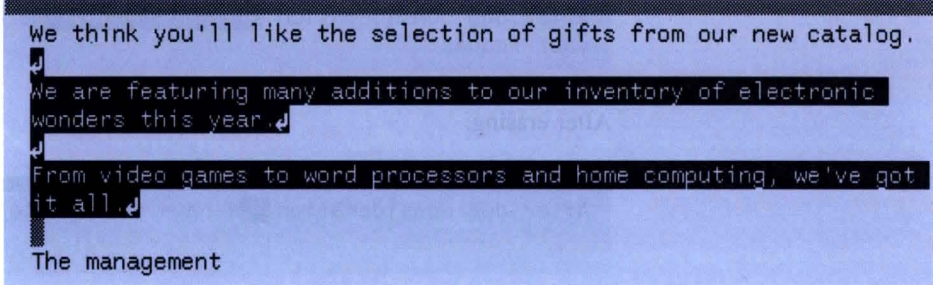
If the space immediately preceding the first word in the next sentence is hard to reach because it is off the screen, leap to [SPACE BAR][SPACE BAR] and use [LEAP AGAIN] until you find it. Then let go of the LEAP key and creep forward a space before you highlight.

Highlighting a Paragraph or Paragraphs

The highlight should extend from the return above the first paragraph to the return at the end of the last paragraph, as in the illustration below:
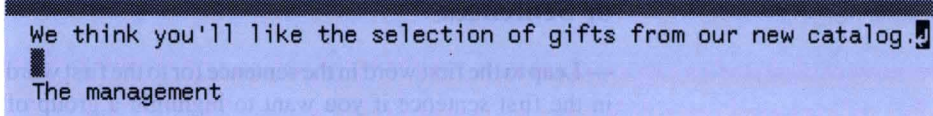
Before erasing or moving:

```
We think you'll like the selection of gifts from our new catalog.
↵
We are featuring many additions to our inventory of electronic
wonders this year.↵
↵
From video games to word processors and home computing, we've got
it all.↵

The management
```

After erasing or moving:

```
We think you'll like the selection of gifts from our new catalog.↵

The management
```

The pattern shown above is best for erasing, copying, moving, printing, or sending a group of paragraphs. You won't leave any extra returns in the text afterward:

— Leap to the first or the last return. For example, you could leap to the return above "We" [<-LEAP]-[RETURN]-[w].

— Leap to the return at the opposite end of the text by pressing[LEAP->]-[RETURN]-[RETURN], using [LEAP AGAIN] as needed.

— Press both LEAP keys to highlight.

Highlighting a Page or a Document

Highlight from the first page or document character to the last character on the page. Don't include the last page or document character in the highlight. This ensures proper pagination after erasing, moving, or copying.

—Leap to the page or document character at the beginning of the area you want to highlight (hold a LEAP key and press [PAGE] once; use [LEAP AGAIN] if you need to).

— Let go. This anchors one end of the highlight.

— Leap to the page or document character at the end simply hold [LEAP->] and use [LEAP AGAIN]. To cover several pages, use [LEAP AGAIN] repeatedly without letting go of the LEAP key.

— Creep backward one character so that the cursor is on the last character of the page.

— Press both LEAP keys to extend the highlight. The illustration below shows what your text should look like:

THIS PAGE CHARACTER IS HIGHLIGHTED

If you are erasing, copying, or moving pages, leave the last page character out. If you are printing, leave it in so that the page number will be printed.

THIS PAGE CHARACTER IS NOT HIGHLIGHTED
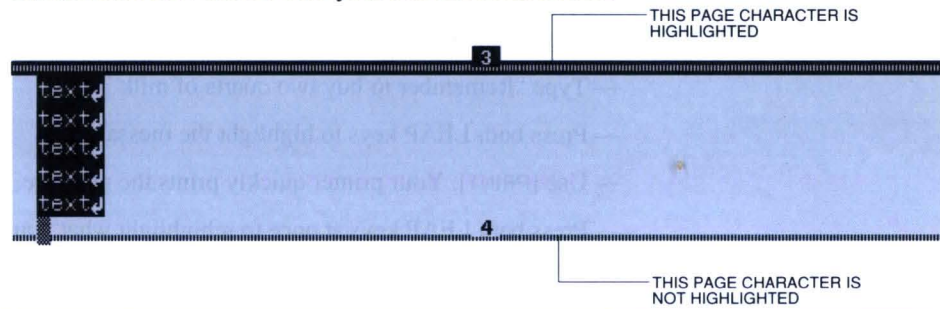
Highlighting a Document or Documents

The same as highlighting pages, but leap to a document character instead of a page character.

Highlighting the Entire Text

— Leap to the beginning of text, let go.

— Leap to the end of text.

— Press both LEAP keys.

Highlighting a Table

— Leap to the very first character that is a part of the table (it might be a tab character).

— To leap to the end of the table, hold [LEAP->] and, while holding it, press [RETURN][RETURN].

— Press both LEAP keys to highlight the whole table.

Highlighting a Line or Lines in a Table

— Leap to first character in first line (may be a tab character).

— Hold [LEAP->] and press [RETURN]. The cursor leaps to the end of the first line. If you want to highlight several lines, use [LEAP AGAIN].

— Press both LEAP keys to highlight.

Highlighting Recently Typed Text

Type some text, then press both LEAP keys at once, or use one of the commands with automatic highlighting ([COPY], [UNDERLINE], [BOLD], [CAPS], or [SEND]): The text you just typed will highlight. To anchor the beginning of the highlight, leap or creep before you begin typing, or press both LEAP keys before you begin typing.

A practical example: To write yourself a quick reminder...

— Press both LEAP keys at once so that a new area you can highlight will begin where you begin typing.

— Type "Remember to buy two quarts of milk."

— Press both LEAP keys to highlight the message.

— Use [PRINT]. Your printer quickly prints the message.

— Press both LEAP keys at once to rehighlight what you just typed, then [ERASE] it.

Moving Text

To move some text:

— Highlight it.

— Leap to the place you want to insert the text.

— Let go of the LEAP key. The highlighted text instantly leaps to the new position of the cursor.

— Unhighlight to complete the move.

When leaping, keep holding the LEAP key until you are happy with the position of the cursor. If the cursor doesn't go where you intended, press [ERASE] while holding the LEAP key to erase the pattern. Then begin the leap over again.

It's OK if the first place you insert the text is wrong. The text remains highlighted so you can leap to a better location. You can also use [LEAP AGAIN] to move the cursor again.

A leap that lands inside the highlighted text causes the highlight to collapse with the cursor narrow on the target character.

[UNDO] undoes the move. The highlighted text returns to where it was when you first held down the LEAP key.

Moving Paragraph(s)

The method given here preserves the format (appearance) of the paragraphs you are moving.

— Highlight the paragraphs from the return above the first paragraph to the return at the end of the last paragraph:

Highlight your paragraphs like Example paragraph 2, from the return above to the return at the end.

```
Example paragraph 1.
↵
Example paragraph 2.↵
```
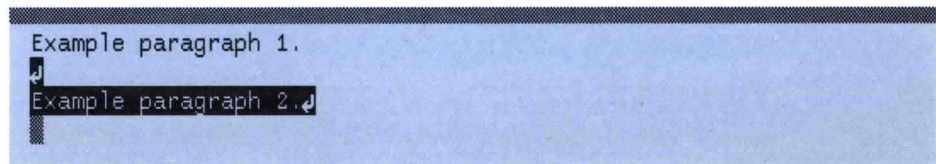
—Leap to the blank line between the two paragraphs where you intend to insert your text. To do this, hold the appropriate LEAP key and press [RETURN] once, then use [LEAP AGAIN] as needed until you come to the blank line.

— When you let go of the LEAP key, the highlighted paragraphs move to the position of the cursor, fitting perfectly between the paragraphs.

— If the text looks OK, unhighlight. If it doesn't, leap to a new target to improve its position.

Moving Pages or Documents

— Highlight the page (or pages) from the page character at the beginning of the first page to the last character of the last page as shown on page 63.

— Leap to a page character (or document character), and [LEAP AGAIN] as needed until you come to the top of the page that should follow the pages you are inserting.

— When you let go of the LEAP key, the highlighted pages will be inserted at the position of the cursor, pushing forward the page you leaped to. Page numbering automatically adjusts.

— If the text looks OK, unhighlight. If it doesn't, leap to a new target to improve its position.

Move documents in the same manner you move pages.

How to Copy Some Text and Move the Copy Somewhere Else

— Leap from one end to the other of the text you want to copy, then use [COPY]. Highlighting is automatic. The copy appears and remains highlighted. Don't be concerned if the copy pushes the surrounding text out of shape. As soon as you move it, everything will return to normal.

— Leap to the place you want to insert it. When you let go, the copied text will appear at the cursor.

— Unhighlight.

Erasing Text

Whatever is highlighted will be erased when you press [ERASE]. You can erase any amount of text, from a single character up to the entire text.

Erase works three ways: To the left of the cursor (backward), to the right of the cursor (forward), and — by extending the highlight — you can erase a lot of text all at once.

Backward erase:
If the cursor is *wide* (the highlight and cursor are on different characters), the cursor will erase to the left, or backward erase, a character at a time. The cursor is always wide after typing.

Forward erase:
If the cursor is *narrow* — the highlight and cursor are both on the same character and both are blinking — it will erase to the right, or *forward erase* a character at a time. Leaping or creeping makes the cursor narrow. That means forward erase is there automatically when you leap to the beginning of a word or to a mistake you want to erase.

WIDE CURSOR
ERASES TO THE LEFT

Wide curso█

Narrow █ursor

NARROW CURSOR
ERASES TO THE RIGHT
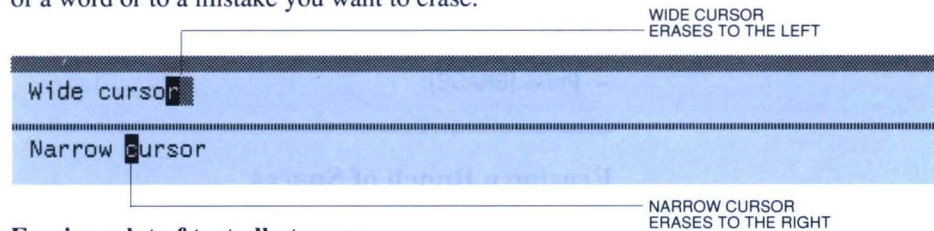
Erasing a lot of text all at once:
If the highlight is extended to include two or more characters, all the highlighted text will vanish the instant you press [ERASE]. For help with highlighting, and some illustrated examples, see *Highlighting Text*, page 60.

How to Get Forward Erase or Backward Erase Any Time

If the cursor erases backward (erases left) when you want to forward erase (to the right), press and release either LEAP key to make the cursor narrow, then start erasing.

If the cursor erases forward (erases to the right) when you want to backspace (erase left), press [SPACE BAR] (or any typing key) to make the cursor wide, then start erasing.

How to Recover Erased Material

[UNDO] *immediately* after erasing. If you highlighted the text before erasing it, it will be highlighted when it comes back. Be sure to unhighlight by pressing and releasing either LEAP key, or the highlighted text will follow the cursor on your next leap (see *Moving Text*, page 65).

Erasing a Single Character, a Small Typing Error, or a Word

— Leap to it.

— Let go of the LEAP key, press [ERASE].

Erasing Words, Sentences, Paragraphs, Pages, Documents, or the Entire Text

— Highlight the text you want to erase.

— Press [ERASE].

Erasing Recently Typed Text

You can't UNDO typing, but the following two steps will erase everything you've typed since your last leap.

— Press both LEAP keys. This highlights the recently typed text.

— Press [ERASE].

Erasing a Bunch of Spaces
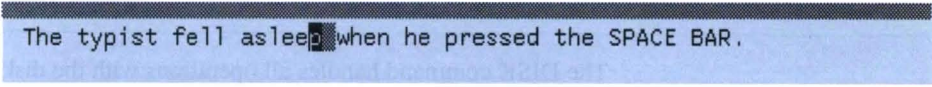
— Leap to a pattern of two spaces and the printing characters following the spaces. In the example shown below, leap to [SPACE][SPACE][w].

— Leap backward to the first character preceding the spaces. [<-LEAP][p] in the example.

— Creep forward one character (adjusting the size of the highlight).

— Press both LEAP keys to highlight the spaces.

— Press [ERASE].

Before erasing:

```
The typist fell asleep▇▇▇▇▇▇▇when he pressed the SPACE BAR.
```

After erasing:

```
The typist fell aslee█when he pressed the SPACE BAR.
```

Erasing a Paragraph Break

— Leap to the return at the end of the first paragraph.

— Press [ERASE] twice.

Erasing a Bunch of Blank Lines

Returns create the blank lines, so leap to the first of them and then press [ERASE] repeatedly. Or, if there are quite a few returns, try this:

— Leap to the first return.

— Leap to the first character of the next paragraph. Creep backward once.

— Press both LEAP keys to highlight all the returns.

— Press [ERASE] to erase them.

Using the Disk Drive

The DISK command handles all operations with the disk drive. It records (saves) text, plays it back (loads), and transfers text from disk to disk. DISK is a *smart* command: it knows when it should record or play back, and never gets confused. If it can't act safely, it gives you a warning beep and does nothing — it will *not* inadvertently lose your text.

For Safety's Sake

Because coffee spills and power failures do occur, you should always keep extra copies of text you can't afford to lose. Make backup copies of disks, and print important texts on paper. Disks are inexpensive and reusable, but the information you record on them may be irreplaceable.

How and When to Use DISK

Always use the DISK command just before you take a disk out. This will record your text. Always use the DISK command just after you put a disk in. This will play back the new text.

Changing Disks

— Use [DISK]. This records the text currently on your screen. Wait for the fast-blinking "happy" cursor.

— Remove the disk from the drive and insert the new disk.

—Use [DISK]. This discards the text on the screen (no danger — it's safely recorded on disk), and plays back the new text. You can begin typing as soon as you see the blinking cursor on your screen.

Recording for the First Time

You need a blank 3-1/2" disk. Insert the disk in the drive as shown. Push gently until it moves slightly to the right and clicks into place. If it does not go in easily, you may have it turned the wrong way.

Press [DISK]. The light on the drive will come on. A **DISK** sign appears on the ruler. The light and the DISK sign go out when recording is done. The cursor then blinks at a faster rate. You know your text is safe when you see this *happy* cursor. As soon as you change the text — by typing or erasing, for example — the cursor will blink more slowly, indicating that the text has been changed and not yet recorded.

Inserting disk in drive. The disk drive contains a device similar to the recording head of a tape recorder. It can record or play back information on the disk.

WARNING!

Never remove a disk from the drive while the disk drive light is on.

Updating Your Disk

Use the DISK command every few minutes while you work. This ensures that the text on the disk is up-to-date in case of a power failure.

Playing Back Another Disk

EJECT BUTTON

— Use [DISK] to record the text currently on the screen. Wait until the **DISK** sign goes out, the *in-use* light goes off, and the cursor is blinking rapidly.

— Push the eject button as shown and remove the disk from the drive.

— Put the other disk in the drive.

— Use [DISK]. The text on-screen disappears (that's OK, you just recorded it), and the text from the second disk appears in its place. When you play back the new text, the cursor will be just where you left it when you last recorded the text.
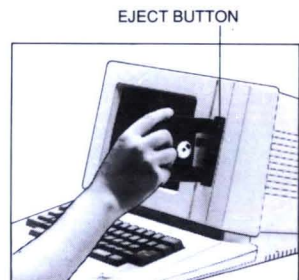
Removing a disk from the drive

Transferring Text From One Disk to Another: Copy Up

Copy up uses the DISK command to transfer text from one disk to another. Only a copy of the text actually moves. No text is removed or erased from either disk.

—Use [DISK]. This records the text now on-screen. Wait for the happy cursor.

— Highlight the text you want to copy up. Make sure the cursor is still happy. If it isn't, use [DISK] again to record your text.

— Remove the first disk from the drive.

— Insert the disk that will be receiving the duplicate of the highlighted text.

— Use [DISK]. When the disk plays back, a copy of the highlighted text from the first disk will be inserted at the position of the cursor. The text remains highlighted so you can move it if desired.

— Unhighlight.

— Use [DISK] to record the combined texts.

When You Forget to Put a Disk in the Drive

If you type something without a disk in the drive, there's a way to get your text onto a disk that already has text on it: Highlight the entire text, put the disk in the drive, use [DISK]. The entire text will copy up. Since the entire text is preserved, you do not have to record it first.

Starting a New Disk When You Run Out of Room

Use [DISK] to record the text as it is, then remove the disk from the drive. Insert a blank disk in the drive. Erase some or all of the text to give yourself room, then continue typing. Use [DISK] to record the new text on the blank disk.

Creating a Backup Disk

A *backup* is an identical copy of a given text. It is a good idea to have one or more backups of any important text.

— The text you are going to back up should be on the screen.

— Place a blank disk in the drive (if you do not have a blank disk, you can erase one, as described in *How to Erase a Disk* on page 74).

— Use [SHIFT]-[DISK]: Hold [USE FRONT] and [SHIFT], and, while holding both keys, press and release [DISK]. A sign saying **BACKUP** appears on the ruler, and the disk drive light comes on. When the light goes out, you have a backup.

SHIFT DISK

Using [DISK] (instead of [SHIFT]-[DISK]) to record your text on a blank disk does not create a backup. Though the recorded text is the same, the disks cannot be used as backups with each other. In other words, the text of one will not record on the other.

[SHIFT]-[DISK] is used only to create the backup. Afterward, use [DISK] to update the backup disks. The original is the same as the backups, as far as the Cat is concerned, so it doesn't matter in what order you update the disks.

Backup disks are identical as far as the Cat is concerned. The Cat also knows which version of the text is most up-to-date. You cannot accidentally wipe out a later, more up-to-date version by recording an earlier, out-of-date version over it.

It's best to record the text on all backup disks after each work session so you always have at least two disks with up-to-date texts. However, it is possible to play back and record on one disk up to 32 times before making backup recordings on the other disks in the group.

WARNING!

During a successful backup, the text remains on-screen while the DISK command runs. If the screen momentarily goes blank after you use [DISK], the Cat is playing back the disk in the drive, not making a backup recording. This tells you that the disks are no longer backups. To regain the backup relationship, do the following:

— Play back the original disk. Now the text you want to back up is on-screen.

— Place the other disk in the drive and erase it (see *How to Erase a Disk*, page 74).

— Use [SHIFT]-[DISK] to record a valid backup.

Breaking the Connection Between Backup Disks

You may wish to preserve the text at some point in its development by breaking the connection between backups. Once you break the connection, the Cat will regard the texts as different, and you will not be able to record the text of one disk on the other. Here's how:

— Play back one of the backup disks, then record the text again by using [DISK] again.

— Erase the text completely or play back another unrelated disk.

— Play back a different backup disk, then record it. The two backup disks are now different.

If you create and record new text on a backup disk, forgetting that it is a backup, the connection is automatically broken to prevent accidental loss of text.

Beeps and Peeks

If the text on-screen has not been recorded, and the disk in the drive is not related to it, the Cat will refuse to do anything when you use [DISK]. To play back or record would risk losing valuable text. The Cat beeps, and for as long as you continue to hold [USE FRONT], displays a portion of the text recorded on the disk in the drive. This is called *peeking*, since you are peeking at what would appear on your screen if you were to play back the disk in the drive.

If the disk in the drive is not a Cat disk, you will get a beep, and no peek will appear.

You have a choice when you get a beep:

— Record the text on-screen on its own disk, then play back the other disk.

— Highlight the entire text, then use [DISK], thus copying up the entire text.

— Erase the disk, then record with [DISK] or make a backup with [SHIFT]-[DISK] (see *How to Erase a Disk* below).

— Erase the entire text, then use [DISK] — the Cat will play back the other disk.

WARNING!

This irrevocably wipes out the text on-screen. Make sure you don't mind losing it.

How to Play Back a Disk Without Recording First

If you are sure you don't want the text on-screen, you can play back without recording. Here's how:

— Put the disk you want to play back in the drive.

— Erase the entire on-screen text.

— Press [DISK]. The disk will play back.

How to Erase a Disk

Use [SHIFT]-[DISK]-[ERASE]:

SHIFT DISK ERASE

— Hold [USE FRONT] and [SHIFT].

— While holding both keys, press and release [DISK] , then press and release [ERASE] after you hear the beep.

WARNING!

This wipes out the text on the disk.

Splitting a Text Onto Two Disks

If you're running out of room and want to split your text so that the first part is on one disk and the second part is on another, do the following:

— Use [DISK] to record the text on its own disk. Set this disk aside in a safe place.

— Get two blank disks.

— Put a blank disk in the drive, and use [DISK] to record the text.

— Put the second blank disk in the drive, erase the second half of the text, and use [DISK] to record the first half.

— Put the first of the *blank* disks back in the drive, press [DISK] to play back the text, then erase the first half of the text.

Printing Your Document

To print some text, highlight it, then use [PRINT]. A **PRINT** sign appears on the ruler. This shows that your text is being sent to a storage area (*print buffer*) inside the Cat that holds the text and feeds it to the printer.

You are free to go on typing, erasing, and working on your text when the highlight collapses and the **PRINT** sign goes away, even while the printer is running. The stored text will be fed to the printer as fast as the printer can print it.

Relationship Between On-Screen Text and Printout

The printout is *WYSIWYG* (pronounced "wizzy-wig"), which stands for *What You See Is What You Get*. The text on paper will look the same as it does on the screen. Line endings will be the same, vertical alignment of characters will be the same.

The horizontal distance of a character from the edge of the paper depends on the characters per inch or *pitch* you have selected. Ten characters per inch is standard; 12 or 15 may be selected with [SETUP]. For example, if you are typing in 10 pitch and the last character is at character position 60, the line is $60/10 = 6$ inches long. At 12 pitch the line is $60/12 = 5$ inches, and at 15 pitch it is $60/15 = 4$ inches. The ruler's appearance does not change no matter what the pitch. The vertical position of a line is calculated on the basis of six lines per inch. The line of the page the cursor is on is shown at the extreme left of the ruler.

How to Print Pages or Documents

Always include the page or document characters at both ends of the pages you want to print:

— Leap to the page or document character at one end of the text you want to print.

— Leap in the opposite direction to a page or document character.

— Press both LEAP keys to highlight the text to be printed.

The highlighted text should resemble the illustration. Note that the page characters at both ends of the page are highlighted. Though the first page character ("3") is highlighted, no text on that page is highlighted, so the Cat begins printing with the first character on page 4. This makes it easy to highlight a page for printing.
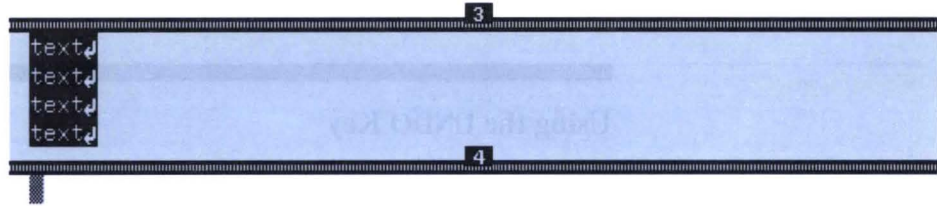
Stopping and Restarting Printing

If you are printing something, and the **PRINT** sign is on in the ruler, pressing [SHIFT] will collapse the highlight and stop any more text from being sent to the printer. If you use [UNDO] after stopping, printing will be restarted from where you left off.

If the **PRINT** sign is off and the printer is still running, you can stop printing by using [PRINT] without extending the highlight. You can restart printing from where you left off by pressing [UNDO]. You cannot restart printing after pressing any other key.

Printing Documents in Order

After the **PRINT** sign goes off, you can highlight another part of the text by using [PRINT] again. This part will wait in line to be printed after the first thing you sent. You can line up several selections this way and they will print in order.

Printing Single Sheets

You can highlight one page at a time and use [PRINT], or you can use [SETUP] to select the **Pause between sheets** option. The latter allows you to highlight more than one page. When you use [PRINT], one page prints out and the highlight diminishes by that much. The Cat then waits for you to press [PRINT] again.

Sending Text to an Alternate Printer

Use [SHIFT]-[PRINT]. Even if you have an alternate printer, printing can occur on only one printer at a time.

Using the UNDO and EXPLAIN Keys

Using the UNDO Key

[UNDO] undoes the previous operation. It is discussed throughout the *How-to Guide* in connection with each operation.

[UNDO] itself can be undone. Pressing [UNDO] twice in a row causes UNDO to undo itself, and leaves the text as it was before you pressed [UNDO].

You can only undo the previous operation. You can't backtrack through history, undoing a sequence of operations. To recover erased text you must press [UNDO] immediately after erasing.

If you press [UNDO] at the end of a LEARN command, only the last thing that LEARN did will be undone.

[UNDO] has no effect on [DISK] or [SETUP], or on typing.

Using the EXPLAIN Key

EXPLAIN

Whenever the Cat beeps at you, [EXPLAIN] can give you the reason and the remedy. [EXPLAIN] also gives you access to the Cat's built-in manual.

Finding Out Why You Got a Beep

Hold [USE FRONT] and press and release [EXPLAIN]. A message explaining the beep and giving a remedy for the problem appears on-screen and remains until you let go of [USE FRONT].

Finding Out About a Command

Hold [USE FRONT], press and release [EXPLAIN], and then press and release the key you want to know about.

EXPLAIN Key

For example, suppose you wanted to review the LEAP keys. You would hold [USE FRONT], then press [EXPLAIN], [LEAP]. A message explaining leaping will appear on-screen and remain until you let go of [USE FRONT].

Advanced Functions

Customizing the Appearance of Paragraphs

The following commands affect the margins, indents and general appearance of paragraphs:

LEFT MARGIN	[±§]
RIGHT MARGIN	[=]
INDENT	[-]
PARAGRAPH STYLE	[t]
SET/CLEAR TAB	[TAB]
LINE SPACE	[u]

A *paragraph* is the text between any two break characters. A *break character* is a return, page character, or document character.

A paragraph includes the break character at its end, but not the break character at its beginning. This is important for two reasons: If you position the cursor on the return at the end of the paragraph and type, what you type will have the same appearance as the paragraph you're starting from. If you erase this return, the appearance of the paragraph may change as it conforms to the characteristics of the paragraph below it. The paragraph boundaries include the return at the end.

THIS RETURN IS NOT PART OF THE PARAGRAPH

THE PARAGRAPH BEGINS HERE

The Cheshire Cat vanished quite slowly, beginning with the end of the tail, and ending with his grin, which floated in the center of Alice's display screen.

THE PARAGRAPH INCLUDES THIS RETURN

THIS RETURN IS NOT PART OF THE PARAGRAPH
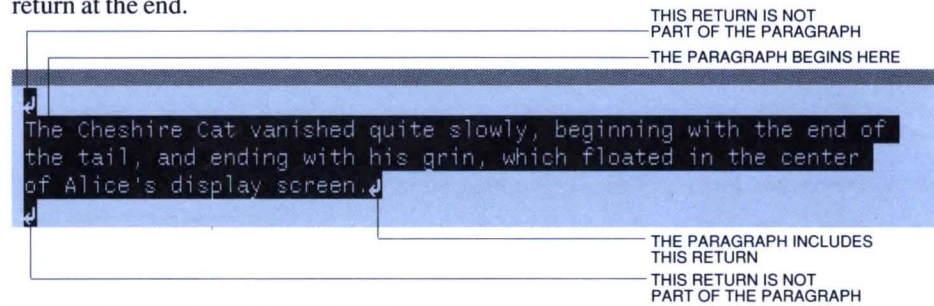
The Paragraph Appearance Commands: What They Do

All the paragraph appearance commands work on highlighted text, or on the paragraph the cursor is in if the highlight is not extended.

[LEFT MARGIN], [RIGHT MARGIN], and [INDENT] are closely related commands located in the top row of keys. They change margins, line length, and indents (the margin of first lines relative to the rest of the paragraph). You can change one paragraph at a time, or, by extending the highlight, many paragraphs all at once.

[PARAGRAPH STYLE] allows you to select Flush Left, Centered, Flush Right, or Justified text.

[SET/CLEAR TAB] creates and removes regular and decimal tab stops, which can be used in typing columns.

[LINE SPACE] allows you to select single, 1-1/2, and double-spaced text.

The illustration below shows what each command can do to paragraph appearance.

The title on this sample page was centered with [PARAGRAPH STYLE]. Indents were set with [INDENT]. The table was set up with [SET/CLEAR TAB] and indented with [LEFT MARGIN]. Decimal tabs allow the alignment of numbers at their decimal points. The ruler gives you information about the paragraph in which the cursor is located.

Canon Inc.

Dear Canon Customer,

Thank you for purchasing the new Canon Cat. This machine offers an unprecedented array of features designed to make it easier than ever to handle the typewritten word.

Adjusting margins, indents, and other features of paragraph appearance is quite simple. Highlight the text you want to affect, then use the command. Or, use the command, then type.

If you want to draw attention to important information, use the LEFT MARGIN and RIGHT MARGIN comands to indent both margins. You do not have to extend the highlight if it's only one paragraph.

Once you set the indent, every new paragraph will be

indented correctly. LINE SPACE lets you select single, double,

or 1-1/2-space text, like this.

The PARAGRAPH STYLE command allows you to center the lines of a title, type left or right flush text, or justify text as shown in this paragraph. The SET/CLEAR TAB command enables you to set up tables of text and numbers:

USA	3,150.00	5.2%
Canada	2,317.00	2.6%
France	1,174.00	3.5%
Germany	2,895.00	1.7%

The ruler displays precise information about the paragraph the cursor is in. You can calculate the exact horizontal and vertical position of any character on the printed page. Indent your closing lines by highlighting them and using the LEFT MARGIN command:

Yours truly

Canon Inc.

CURSOR POSITION
TAB STOPS
INDENT

MARGINS

STYLE

LINE SPACING

Setting the Appearance Before Typing

— Type a couple of returns to give yourself a blank line.

— Set the margins, indents, line spacing, tabs, or paragraph style. It doesn't matter whether there is text on the line or not. Look at the ruler to see what the settings are.

— Start typing. The format of every line you type will conform to these settings.

Setting Top and Bottom Margins

One-inch margins appear automatically when you print your text. These can be altered with [SETUP].

Using Multiple Commands

You can use any of the above commands one after the other in any combination by pushing one button after the other while continuously holding [USE FRONT]. If you use [UNDO] after making multiple changes, the text returns to the way it was before you held down [USE FRONT].

Using the Extended Highlight

You can highlight any amount of text and make alterations to all of it at once. When you release [USE FRONT], the highlight automatically collapses.

Using One Paragraph As a Model

If different styles of text are present in the highlight, the first press of the command will cause all the text to switch to the same setting as that of the last highlighted paragraph. This allows you to set up one paragraph and use it as the model for many above it.

Erasing Paragraph Breaks

If you have two successive paragraphs with different appearances, and you erase the returns that separate them, a new, larger paragraph results. The new paragraph will take on the appearance of the second of the two paragraphs.

The information about paragraph appearance is stored invisibly in the return (or other break character) at the end of each paragraph. When you erase the return at the end of a paragraph, you erase the information about the appearance. The appearance information from the return at the end of the second paragraph then applies to the new, larger paragraph.

**UNDO and Paragraph
Appearance Commands**

Any of the commands that control paragraph appearance can be undone. As always, you must use [UNDO] right away.

1. Setting Margins and Indents

The ruler shows the margin and indent settings of the paragraph the cursor is in. Use the following steps to adjust the margins and indents of highlighted text. When you begin a new paragraph (by typing a return) it will have the same settings:

— Highlight the paragraphs you want to affect. If you only want to affect one paragraph, just place the cursor anywhere inside it.

— Hold [USE FRONT] and press [LEFT MARGIN], [RIGHT MARGIN] or [INDENT]. A vertical *set line* appears. Keep holding [USE FRONT].

LEFT MARGIN   LEAP

— Tap the left or right LEAP key to move the set line to the left or right. The character position of the set line is shown on the ruler. Paragraph indent is shown by a ledge on the ruler. Pressing and holding the LEAP key engages autorepeat and speeds the movement of the set line.

— When the set line is in the right place, release the LEAP key, then release [USE FRONT]. The text adjusts instantly. Unhighlighting is automatic.

Changing Line Width

[LEFT MARGIN] and [RIGHT MARGIN] control line width. The maximum width of a line is 80 characters. The initial setting is 66 characters, with the left margin set at "8" and the right margin set at "73." This gives you one-inch margins at 10-pitch (10 characters per inch). The minimum line width is two characters.

Hanging Indent or Bulleted Paragraphs

— Highlight the paragraphs you want to affect. If you are adjusting only one paragraph, just position the cursor inside it.

— Move the left margin of the highlighted text to the right a few spaces using [LEFT MARGIN]. Keep holding [USE FRONT].

— Press [INDENT]. The left margin adjusts instantly and the set line now refers to the indent, the margin of the first line of the paragraph.

— While continuing to hold [USE FRONT], press [<-LEAP] to move the set line to the left of the left margin. Notice the overhanging ledge on the ruler, indicating a hanging indent.

— Set a tab stop at the left margin. This allows you to type a number or a bullet, then tab in to the beginning of the paragraph.

— Release [USE FRONT]. The hanging indent will appear in the text.

Resetting Initial Margins and Indents

To reset the margins and indents to their initial values (the values they would normally be when you first turned on the Cat), hold [USE FRONT] and [SHIFT], and, while holding both keys, press and release one or more of the command keys: [LEFT MARGIN], [RIGHT MARGIN], or [INDENT]. This will affect all the highlighted text or the paragraph the cursor is in.

`SHIFT` `MARGIN`

2. Setting Tabs

When you press [TAB], the cursor moves to the next tab stop, which is a fixed point on the ruler. This allows you to align text in vertical columns above the tab stop. Tab stops are created and erased with [SET/CLEAR TAB], on the front of [TAB]. The maximum number of tab stops is 79; they can be placed at columns 2 through 80.

The space between the last character you typed and the tab stop is filled in by a *tab character*.

When a tab character is highlighted it looks like a black ribbon with a gray arrow through it. Otherwise it is invisible. You can leap to tab characters, erase them or move them just as you would any other character. When you begin a new paragraph by typing a return at the end of the old one, the tab settings remain the same.

TAB CHARACTERS
RETURNS
DECIMAL
REGULAR

Tab characters are invisible unless highlighted, as they are here.

Employee	Duty	Day off	Overtime
Jim	Reptiles	Monday	8.5
Bill	Pachyderms	Wednesday	5.5
Lori	Aviary	Friday	12.0
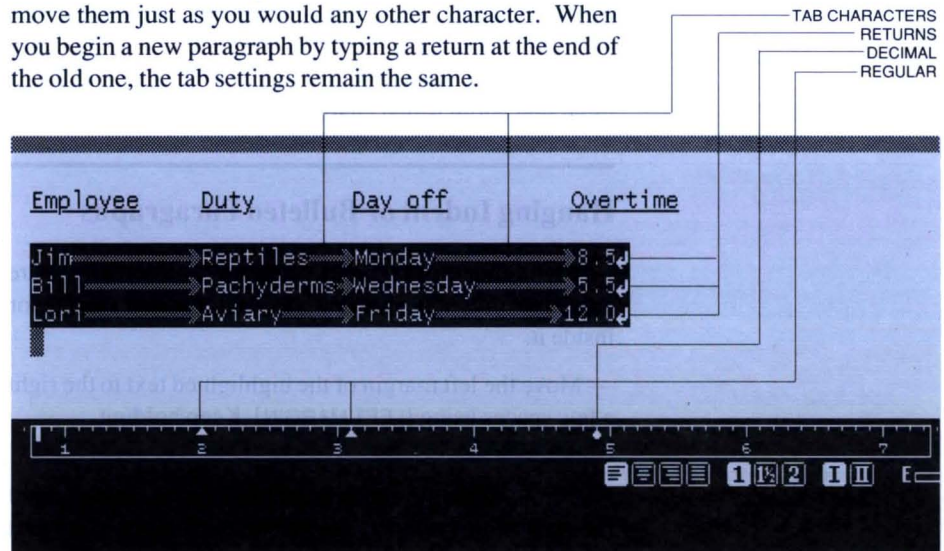
Regular and Decimal Tab Stops

A regular tab stop, shown by a small triangle on the ruler, aligns the text along the first character of each item in the column. A decimal tab stop, shown by a round dot on the ruler, aligns the text along the last character or decimal point in each item.

Decimal tabs are usually used in typing columns of numbers. When you start to type at a decimal tab, the cursor stands still and characters emerge to the left of it. Normal typing resumes when you type a tab, a return, or a period, or when you run out of room for characters on the left side of the cursor. Thus you can use decimal tabs for right-flush tabs if desired, providing you don't type periods in your right-flush tabbed text.

Extended Highlight

If you extend the highlight, the tab settings in all paragraphs touched by the highlight will be affected by [SET/CLEAR TAB].

Resetting Initial Tabs

When you turn the machine on, regular tab stops automatically appear at certain columns. These are called the *initial tab stops*. To reset altered tab stops to initial tab stops, use [SHIFT]-[TAB]:

— Highlight the text you want to affect. (You do not have to extend the highlight if you want to change a single paragraph or line in a table.)

— Hold [USE FRONT] and [SHIFT], and, while you hold them both, press and release [SET/CLEAR TAB].

Setting a Tab Stop

— Use [SET/CLEAR TAB]. The set line appears at the cursor. The LEAP keys can be used to move the set line to the right and left along the ruler. Pressing [SPACE BAR] leaps the set line to the next existing tab stop. Both keys autorepeat.

— Press [SET/CLEAR TAB] as needed; pressing the key changes the tab stop from normal to decimal, to no tab stop.

— Let go of [USE FRONT] to complete the setting.

SET/CLEAR TAB

Clearing a Tab Stop

— Press [SET/CLEAR TAB]. The set line appears.

— Press [SPACE BAR] to move the set line to a tab stop.

— Press [SET/CLEAR TAB] until the tab stop clears.

— Let go to complete setting, or go on to the next tab stop by pressing [SPACE BAR] .

Clearing All Tab Stops

— Extend highlight if necessary.

— Press [SET/CLEAR TAB]. The set line appears. Keep holding [USE FRONT] .

SET CLEAR TAB | ERASE

— Press [ERASE] while holding [USE FRONT]. All tab stops vanish from the highlighted paragraphs.

Setting Tab Stops on Existing Text

Suppose you have a column titled "Shipments" and want to set a tab stop under the "S" so that you can begin making a list of your shipments. Here's how:

— Leap to the "S" in "Shipments" (in other words, leap to the character you want to align the tab stop with).

— You may want to clear all tab stops. To do this, press [USE FRONT]-[SET/CLEAR TAB]-[ERASE].

— Hold [USE FRONT] and press [SET/CLEAR TAB] twice. This sets a regular tab stop in the "S" column. Three presses of [SET/CLEAR TAB] sets a decimal tab stop.

— Let go of [USE FRONT] .

— Leap to the return at the end of the line.

— Type a return. The new line also has a tab stop in the "S" column.

— Press [TAB] to tab in underneath "Shipments", then type your first column entry.

Setting Tab Stops for a Table or for Columns

First construct a line that will serve as a model for the rest:

— Type one line which combines the longest entry from each column, including titles. Space comfortably between each example from each column. Don't type any tab characters in the example! Use spaces. This tells you where each column should begin.

— Clear all tab stops in the example line.

— Leap to the example for the first column — the first character of a word, the decimal point in a number — and set a tab stop (regular for words, decimal for numbers).

— Leap to the example for the second column and set a tab stop. Continue setting tab stops for each column.

So much for the model line. Now type your table:

— Leap to the return at the end of the model line.

— Press [RETURN] twice. The new lines have the same tab stops as the model line.

— Type the title for column 1; press [TAB], then type the title for column 2; press [TAB], and type the title for column 3; continue in the same manner until you've typed all the column titles. Press [RETURN] at the end of the line.

— Start typing the table.

— Erase the model line when you are through typing the table.

Adjusting Tabs in an Existing Table

If the columns are not spaced properly, proceed as follows:

— Highlight the whole table.

— Use [SET/CLEAR TAB]. The set line appears.

— Press [SPACE BAR] to leap to existing tab.

— Press [SET/CLEAR TAB] to erase the tab.

— Move the set line to a preferable position for the tab stop.

— Press [SET/CLEAR TAB] to create the new tab.

The table remains highlighted while reflecting your changes. Unhighlighting and readjustment of the text is automatic as soon as you release [USE FRONT].

You can reset the last line and then transfer the change to the rest of the table as follows: After resetting the tabs on the last line or paragraph, highlight the table, and use [SET/CLEAR TAB]. The highlighted text instantly takes on the tab settings of the last paragraph in the highlight.

UNDO and Tab Stops

Using [UNDO] after using [SET/CLEAR TAB] restores the tab stops that were there when you first pressed [USE FRONT].

3. Setting Line Spacing

[LINE SPACE] adjusts the space between lines, offering the standard settings of single, 1-1/2, and double-space. The line space setting is shown on the right side of the ruler beneath the **6**. This command operates on the highlighted text or on the paragraph in which the cursor is located, if the highlight is not extended. It can be used in combination with [LEFT MARGIN], [RIGHT MARGIN], [INDENT], [SET/CLEAR TAB], and [PARAGRAPH STYLE] on one press of [USE FRONT].

SPACING

How to Set Line Spacing

— Highlight the text you want to affect. If you only want to affect one paragraph, just place the cursor inside the paragraph.

— Hold [USE FRONT] and, while holding it, press [LINE SPACE] one or more times to cycle through the settings. The change occurs on the screen immediately with each press of the command key. Line spacing of the paragraph containing the cursor is shown on the ruler.

Setting the Line Spacing Before You Type the Text

Leap to a return that creates a blank line, set the line spacing while watching the line space indicator on the ruler, then type the new text.

UNDO and LINE SPACE

[UNDO] restores the text to the condition it was in when you first held down [USE FRONT].

4. Styling the Paragraphs

Style refers to the appearance of a paragraph's margins. They may be straight, ragged (uneven), or centered. Four styles may be selected with [PARAGRAPH STYLE]. The style signs below the **5** on the ruler indicate the style of the paragraph the cursor is in.

¶ STYLE

Left Flush
Resembles typewritten text, with straight left margin and ragged right margin. When you begin a new paragraph by typing a return, the style remains Left Flush.

Centered
This is used for titles. Every line is centered, the left and right margins are ragged. If you add or erase text in centered lines, the line remains centered. When you begin the next paragraph by typing a return, the style of that paragraph will remain centered.

Right Flush
Ragged left margin, straight right margin. When you begin a new paragraph by typing a return, the style remains Right Flush.

Justified
Looks like magazine or book text, both margins are straight. This manual has justified margins. When you begin a new paragraph at the end of a Justified paragraph by typing a return, the new paragraph will also be Justified.

Setting Left Flush, Right Flush, Centered, and Justified Text

— Highlight the text you want to affect. If you only want to affect one paragraph, you don't have to extend the highlight. Just place the cursor inside the paragraph.

— Hold [USE FRONT] and, while holding it, press [PARAGRAPH STYLE] as needed.

The first use of [STYLE] will set all highlighted paragraphs to the style of the last highlighted paragraph. This allows you to use the last paragraph in a group of highlighted paragraphs as the model for those above it.

Using Multiple Commands

Without releasing [USE FRONT], you can use another paragraph appearance command such as [LEFT MARGIN] or [RIGHT MARGIN]. To finish the setting, just release [USE FRONT].

Customizing the Appearance of Words/Letters

Three commands allow you to change the appearance of words or letters. All three have automatic highlighting:

[CAPS]   Allows you to CAPITALIZE
[UNDERLINE]   Allows you to underline
[BOLD]   Allows you to make **boldface**

If you type new text where the text is underlined or boldface, the new text you type will automatically be underlined or boldface.

You can use more than one command while you hold [USE FRONT]. For example, you can hold [USE FRONT] and press [CAPS] and [BOLD] to make the text both uppercase and boldface.

If you use [UNDO] after using these commands, the text goes back to the way it was before you held down [USE FRONT].

Using [CAPS] on text that is already capitalized makes the text lowercase. Similarly, each command is capable of doing the opposite of what its name says. [UNDERLINE] removes the underlining if the text is already underlined. [BOLD] makes the text plain if it is already bold.

When used within a LEARN command, [CAPS], [BOLD], and [UNDERLINE] will first do what their names say, never the opposite. ([LEARN] allows you to record a series of keystrokes, then re-enact them with the press of one key.)

1. Capitalizing Words/Letters

— Without letting go of the LEAP key, leap from one end to the other of the text you want to capitalize.

— Let go of LEAP, then press [CAPS]. Highlighting is automatic. (Press [CAPS] again if you want to lowercase the text.)

— You can press [UNDERLINE], [BOLD], or another autohighlighting command before you release [USE FRONT], if you wish.

CAPS

2. Underlining Words/Letters

— Without letting go of the LEAP key, leap from one end to the other of the text you want to underline.

— Let go of LEAP, then press [UNDERLINE]. Highlighting is automatic. (Press [UNDERLINE] again if you want to change the underlined text to plain text.)

— You can use [CAPS], [BOLD], or another autohighlighting command before you release [USE FRONT], if you wish.

`UNDERLINE`

3. Making Boldface Words/Letters

— Without letting go of the LEAP key, leap from one end to the other of the text you want to make boldface.

— Let go of LEAP, then press [BOLD]. Highlighting is automatic. (Press [BOLD] again if you want to change the bold text to plain text.)

— You can use [CAPS], [UNDERLINE], or another autohighlighting command before you release [USE FRONT], if you wish.

`BOLD`

Making a Single Character Capital, Underline, or Bold

— Leap to the character.

— Press [ERASE] to erase it, then retype it.

— Press [CAPS], [UNDERLINE], or [BOLD].

Copying Text

[COPY] makes a duplicate of the text covered in your last leap. Highlighting is automatic. The copy remains highlighted so you can move it elsewhere. Holding the command key down engages autorepeat, creating many copies.

Copying text is like typing new text, and therefore may cause you to run out of room.

[UNDO] removes the copy. If you've made multiple copies, only the last copy will disappear.

Copying Some Text

— Leap from end to end of the text you want to copy. Use [LEAP AGAIN], if necessary, to cover the text in one leap without releasing the LEAP key.

— Let go of the LEAP key, then press [COPY].

Copying Page(s) or Document(s)

— Highlight the text (see *Highlighting Text*, page 60.)

— Press [COPY].

Moving the Text After Copying

Simply leap to the point you want to insert the copied text and let go of the LEAP key. Markers can be used to make the cursor leap exactly where you want it to go. See *Planting Markers*, page 59, and *Creating and Printing Form Letters*, page 134, for more about using markers.

Checking and Correcting Your Spelling

[SPELL CHECK LEAP] searches for misspelled words and typographical errors using the 90,000-word main dictionary (derived from the *American Heritage Dictionary*) and your personal spelling dictionary. The personal spelling dictionary is able to store up to 450 technical terms or names for easy checking.*

Use [ADD SPELLING] to add or delete words from your personal spelling dictionary, which is backed up by a battery in case of power failure. This dictionary is also recorded on disk each time you use [DISK].

Checking Your Spelling

— Hold down a LEAP key, and, while you hold it, press and release [SPELL CHECK LEAP]. The search begins in the direction indicated by the LEAP key. A leap in one direction searches the entire text, or the local leap region if [LOCAL LEAP] is on. Failure to find a misspelled word triggers cursor rebound.

— When the cursor finds a possible misspelled word, it stops on the first character. To erase the word press both LEAP keys to highlight it, then press [ERASE]. Retype the correct word.

— Use [LEAP AGAIN] to continue the search.

Adding a Word to Your Spelling Dictionary

Highlight the word and press [ADD SPELLING]. This adds the word to your personal spelling dictionary. If the dictionary is full when you add a word, the least used word will be thrown out.

*This spelling verification software contains unpublished materials owned by Houghton Mifflin Company, licensed for use solely in Canon Firmware. Reproduction or disassembly of embodied computer program or algorithms is prohibited. Based upon The American Heritage Dictionary.

Adding Many Words to Your
Spelling Dictionary

Highlight the text, then press [ADD SPELLING]. All new words will be added; redundant entries will be ignored.

Erasing Word(s) From Your
Spelling Dictionary

Highlight the word or words and use [SHIFT]-[ADD SPELLING].

Protecting Your Documents Against Changes

[DOCUMENT LOCK] protects a document, or documents, against changes. You can leap about in a locked document, scroll the text, or copy the document, but you cannot add, erase, or move text. If you copy part of the text inside a locked document, the copy will appear at the first unlocked position after the document. Locked documents have gray borders.

Locking a Document

Place the cursor inside the document, then use [DOCUMENT LOCK].

Locking Several Documents

Highlight the documents, then use [DOCUMENT LOCK]. Any document even partly touched by the extended highlight will lock.

Unlocking

Highlight the documents, then use [DOCUMENT LOCK] again.

Leaping Within a Specified Area

[LOCAL LEAP] restricts leaping to one or more adjacent documents. This enables you to restrict
[SPELL CHECK LEAP] or changes made with [LEARN] to those documents and no others.

While local leap is on, you cannot move the cursor beyond the document characters at either end of the local leap region. The *local leap region* is the document or documents touched by the highlight at the time you use [LOCAL LEAP].

A **LOCAL** sign on the ruler warns you when local leap is on. If you don't notice that local leap is on, it may cause problems. You may try to leap to certain information and conclude that it is not in your text; in reality the information is there, but you can't get to it because local leap is denying you access to the whole text.

Switching on Local Leaping

Local leaping in one document: Place the cursor inside the document, then use [LOCAL LEAP].

In several documents: Highlight the documents, then use [LOCAL LEAP].

Switching off Local Leaping

Use [LOCAL LEAP] again.

Changing the Keyboard Setting

A few keys have four symbols — a right set and a left set. To activate the right-hand set of symbols, press [KEYBOARD I/II].

Switching to Keyboard II or Keyboard I

The first use of [KEYBOARD I/II] activates the right-hand set of symbols. Use the command again to switch back to Keyboard I. The I/II signs beneath the **7** on the ruler show which keyboard is active.

Note: If Keyboard II is on, it is impossible to leap to Keyboard I characters on keys with two sets of characters and vice versa.

Other Useful Features

Using the Cat Over the Telephone

The Cat makes telecommunications easy. *Telecommunications* means exchanging information over telephone lines with other Cats, data services, and computers. Three commands control telecommunications:

PHONE

Used to dial numbers, answer and hang up on machine-to-machine communications. Can be used as an automatic dialer for voice communication.

SEND

Transmits your text.

SEND CONTROL

Sends special characters sometimes needed to communicate with non-Cat machines.

1. Dialing and Hanging Up

When the highlight is extended, [PHONE] will dial any highlighted numbers. This lets you use your Cat as an autodialer once you've connected your telephone (see *Hooking Up Your Phone*, page 15, for instructions). Without the extended highlight, [PHONE] answers or hangs up on your Cat-to-Cat or Cat-to-computer phone calls.

PHONE

To Dial a Number

Your telephone handset should be hung up (the official term is *on-hook*).

— Type the phone number (or leap to it if you have a phone list).

— Highlight it.

— Press [PHONE].

Suppose you want to call "Dave Daly," whose phone number and name are on your phone list in the Cat. Do the following:

— Leap to "Daly" or "Dave Daly," and let go of the LEAP key.

— Leap forward to the return at the end of the line.

— Press both LEAP keys to highlight the line as shown.

```
Dave Daly 1-888-765-4321
Frannie Z. 1-500-678-9197
```

— Use [PHONE]. The Cat will dial the number it finds in the highlight.

— Wait for the highlight to unhighlight, showing that the number has been dialed, then pick up the handset and wait for an answer.

The number will be tone-dialed. If you have a rotary dial, pulse-dial the number by underlining it before you highlight it and use [PHONE].

Use the symbols * and # as you would in dialing with the extended tone-dial keypad.

Use a comma to create a 1/2-second pause in dialing. For example, "9,,555-1212" (two commas) creates a one-second pause between the "9" and the "5".

The Cat will ignore anything in the highlighted region except numbers, commas, and the "*" and "#" symbols. This allows you to punctuate phone numbers any way you wish:

J. J. Thompson: 9, 1-(455) - 875-2948

will be dialed correctly.

A phone symbol and the word **DIAL** appear on the ruler while the Cat is dialing. After dialing the number, the Cat normally waits 30 seconds for a connection to be made at the other end. [SETUP] can be used to select waiting times of 2, 30, 60, or 180 seconds (make this adjustment on the **Wait before hangup** line of the **Internal Modem Setup** screen).

Using the Cat As an Automatic Dialer

Keep a phone list in your text, and you'll never misdial a number again. You can leap right to someone's number, highlight it, and dial it with [PHONE]. After dialing, lift the handset and wait for an answer. A phone list in your text makes it easy to take notes on calls as they come in:

```
Dave Daly, toy dealer 1-800-765-4321
    called 2/14 - ordering 12 toy tigers; called 2/15 - "make it 24
Frannie Z. 1-500-678-9197  new extension x609
Jim        222-1114 birthday 7/22
```

If you are using [PHONE] as an automatic phone dialer, you might want to use [SETUP] to adjust the **Wait before hangup** line on the **Internal Modem Setup** screen to **2 seconds**. *Wait before hangup* is the length of time the Cat will wait for an answer from another Cat or computer after dialing. If you adjust the **Wait before hangup** period to only two seconds, the Cat will untie the line very quickly. The mechanics of this is explained below in *Hanging Up*.

Hanging Up

If you are talking to a person, simply replace the handset in its cradle. After you hang up, make sure the phone symbol is not on the screen. If it is, it means the Cat is still waiting for another computer to answer the phone. Use [PHONE] to turn off the phone symbol and hang up completely. This way you will never lift the handset and be puzzled to hear a dead phone.

When the phone symbol is on the screen, it means the Cat is waiting for a carrier signal from another Cat or computer. If the waiting time is 30 seconds or longer, and you use the phone for less than the waiting period, the Cat will continue to tie up the line after you hang up. If you pick up the handset, you hear nothing. Using [PHONE] will cause the Cat to hang up and free the line. A short waiting time, such as 2 seconds, frees the line quickly and automatically, lessening the chance of a dead phone.

Cat-to-Cat or Cat-to-Computer Calls

In this type of call there is no voice communication; you are only transferring text. Dial in the same manner: Highlight the number and use [PHONE]. The **DIAL** sign comes on in the ruler as the Cat dials and tries to make a connection.

If another Cat or a computer picks up the receiver at the other end, your Cat will emit a low-pitched tone called a *confirm tone*, and the number **300** or **1200** will appear on the ruler. You're now ready to send or receive text, and you won't need [PHONE] again until you hang up.

The number in the ruler indicates the communication rate or *baud* rate. Your text will be sent at 1200 baud (120 characters per second) if the machine you are talking to can run at 1200 baud; otherwise the Cat will send at 300 baud (about 30 characters per second).

Changing From Voice to Machine Communication and Vice Versa

If you are talking to someone and you wish to send some text using [SEND], arrange to have one of you use [PHONE] while the other waits for a whistling noise (the modem carrier signal). When the person waiting hears the whistling noise, he should use [PHONE], too.

If for some reason the Cat cannot make a connection, it gives up and returns you to voice communications again. If your partner doesn't have a Cat, but has a computer equipped with a modem, he needs to get his modem to answer when he hears the whistling noise, usually by typing "ATA" and pressing [RETURN], providing that his communications program is activated.

When you use [PHONE], the word **WAIT** will appear on the ruler. Don't press any other keys until you get the confirm tone. If you do, the Cat will hang up. It assumes that you would rather carry on with typing and you don't want to make the connection.

If you are telecommunicating Cat-to-Cat and want to switch to a voice call, take your handset off-hook, then use [PHONE]. Your partner can just pick up his handset.

Hanging Up on a Cat or a Computer

Use [PHONE] to disconnect at the end of your conversation with another machine.

How to Answer When Someone Dials You

Answer your telephone normally when it rings. If you pick up the handset and hear nothing or you get a high-pitched tone, it's a machine trying to connect to your Cat. Simply press [PHONE]. That will turn off your handset and connect your two machines for telecommunication. The Cat also sounds a confirm tone, and a **300** or **1200** sign appears on the ruler. When this happens, you can hang up the handset.

After answering your telephone you typically have about 15 seconds to use [PHONE] before the machine at the other end will hang up.

If you press [PHONE] and a person rather than a machine is calling you, they will hear the carrier tone. You can guess that something is wrong because there is no confirm tone, and the **300** or **1200** sign does not appear. If the other party hasn't hung up, you should pick up the handset and use [PHONE] to switch off the modem and get voice communication.

Autoanswer

The Cat is capable of automatically answering the phone and receiving text. You don't want to do this unless the people who are calling you know that your Cat will answer. Using [SETUP], go to the **Internal Modem Setup** screen, and set **Rings before autoanswer** to **7 rings**. This way you can effectively screen out non-telecommunications calls by giving yourself time to answer the phone normally if you're there.

If you don't have another telephone connected to the same line as your Cat, you probably want it to autoanswer after a few rings, since you'll never receive a call from a person, only from other Cats or computers. You can do this with [SETUP] as described above.

If the PHONE Command Doesn't Work

It is possible you have inadvertently used [SETUP] to connect the serial port to the SEND command. This disconnects the internal modem and disables the PHONE command. [PHONE] will beep, and an error message will be provided if you use [EXPLAIN], but nothing else will happen. Check this possibility by using [SETUP] until you come to the **Serial Port Connection** screen. Note the **Connected to** line. It should say **Alternate Printer**. If it says **SEND command**, press a LEAP key and it will change to **Alternate Printer**.

2. Holding a Cat Conversation

SEND

Once you make the connection with [PHONE], you are ready to converse, using [SEND] . You and the device you are talking to can work in alternation, as in normal human conversation. When you have finished conversing, press [PHONE] to hang up.

Sending Text

You can type your text before you call, or type it in the course of conversing. To send text, highlight it and use press [SEND]. You can skip the highlighting step if you like: Just leap from one end of what you want to send to the other and press [SEND]. The highlight will extend automatically.

The autoextending highlight is especially convenient when you are having an electronic conversation. Just type what you want to send, then use press [SEND].

If you use a LEAP key in the course of typing your response, you will have to leap from end to end of the whole response before you send it. Use of character-by-character erasing does not affect the automatic highlight.

Receiving Text

Receiving is automatic and begins the moment your partner sends.

You can type while receiving text from outside. Just start typing. The incoming message will be inserted at the beginning of what you are typing without disturbing it. It is a good idea to type a couple of returns at the beginning of your message whether you are receiving or not at the moment. This ensures a blank line between your messages and the responses of your partner.

If you and your partner take turns sending and receiving, the Cat will automatically keep messages and replies separate and in order, like this:

(1) incoming message
(2) your reply
(3) incoming message
(4) your reply, and so on

If you have finished typing a message and you have not yet sent it when text begins to come in, the incoming message will be inserted at the beginning of what you have typed, as **(1)** is to **(2)** in the illustration above. If you have already sent what you have typed, the incoming message will be inserted after it, at the cursor, as **(3)** is to **(2)**, for example.

Avoid leaping while a message is coming in. If you leap while receiving text (say, to edit something you are typing), the incoming text will start appearing where the cursor has landed. This can be quite confusing because the incoming text will mix with the text already on-screen. Sending messages such as "over", "repeat", and "wait..." can smooth communications and help avoid confusion about whose turn it is. But even then your partner may accidentally send out of turn. If incoming text appears in the middle of yours: Stop typing and let the text come in (don't leap), press both LEAP keys to highlight it, then leap backward and let go of the LEAP key to move it away from your reply and maintain proper sequence.

If you do not type or leap while receiving a message, you can press both LEAP keys and all the text you received will highlight for moving or erasing.

When information comes into the Cat it is just as if another person were typing on your screen. All the things you can do with text that you create yourself can be done with text you receive.

It's also possible that text coming in over the modem will exceed your storage capacity. When this happens, the Cat beeps and the cursor stops moving. The Cat also tries to tell the system sending information to stop (we say *tries* because not all systems respond to the same signals).

When communications are Cat-to-Cat, you send and receive the surface text plus hidden information such as the expressions underlying the results of calculations (pocketed expressions), and paragraph format information. When you are communicating with a computer or other device, only the surface text is sent. *Surface text* means the characters you can see on your screen, plus returns and spaces.

How to Tell If You Are Talking to a Cat

If you are talking to a Cat, you can prompt it to send you the identifying message **Canon Cat Modem** by sending a CONTROL-E character. To do this, use [SEND CONTROL], then, while still holding [USE FRONT], press and release the [e]. If no message comes back, you are not conversing with a Cat.

Using the Cat As a 24-Hour Message Center

When you turn on the automatic answering feature with [SETUP], your Cat can receive messages any hour of the day or night, whether you are there or not.

No one can raid your Cat for information by calling in and prompting it to talk back. The Cat is completely secure in this respect; it will receive messages but divulge nothing. The only way information can get out is if you send it.

If autoanswer is on and your Cat is sleeping (your text is recorded and the screen is dark) when somebody calls from another machine, the Cat wakes up and makes room for the incoming message by erasing the entire text, which is meanwhile safely preserved on disk. Later it saves the message on the disk. The number of rings before the machine picks up the line can be adjusted to 1, 3, 5, or 7.

It is possible that there won't be enough room on the disk to record the incoming text. If the text you received won't fit, it will be held on the screen. When you return, simply remove the disk from the drive, insert a blank disk and use [DISK] to record.

This arrangement allows you to receive a full text while you are away from your desk. Anything received will be highlighted, and you can move it or erase it as you please.

3. Talking With Outside Data Services

While sitting at your Cat keyboard you can reach out over the phone lines to commercial data services and electronic bulletin boards. You can exchange messages with thousands of people, make travel arrangements, run library searches, and do research from your desk. Some commercial data services provide electronic banking or stock trading. Any text you receive can be edited, printed, or recorded as you would with text you type.

Getting Ready to Talk

When talking to outside data services, use [SETUP], go to the **Internal Modem Setup** screen, and change the **Communications mode** line to **Half-duplex** or **Full-duplex** in order to match your data service. If you don't know which matches, set to **Full-duplex**. If the manual for your data service requires a *line feed* at the end of each line, you can do this with [SETUP]. Move to **Line terminator** on the **Internal Modem Setup** screen and set it to **CR/LF**.

Calling a Data Service

Dialing and connecting with a data service is very similar to dialing a friend. Dial the number with [PHONE]. When the data service answers, you get a confirm tone and the **300** or **1200** sign turns on.

Depending on the data service, you may need to send one or two returns or a control character before it will start talking to you. The first thing it may do is ask you to identify yourself and perhaps give a password. Simply type the required information and use [SEND].

You can type your responses while the data service is sending you text, just like when you talk to a friend. But do not type returns at the beginning of your message unless the data service requires this. If you send a return first, the data service will probably interpret it as meaning *no reply*. When you are through communicating use [PHONE] to hang up.

Sending Control Characters

Communicating with data services sometimes involves sending *control characters,* special characters used by non-Cat systems. [SEND CONTROL] enables you to do this with the typewriter keyboard. For as long as you continue to hold down [USE FRONT] after using [SEND CONTROL], every letter key you press will send the control character corresponding to that letter. See the *Reference Guide* for a complete list of control characters.

SEND CONTROL character...

Receiving: How to Pause It and Resume It

To pause incoming text, send a CONTROL-S (hold [USE FRONT], press and release [SEND CONTROL], then press and release [s]). To restart, send a CONTROL-Q (hold [USE FRONT], press [SEND CONTROL], then press [q]). Using CONTROL-S and CONTROL-Q is sometimes called by the mysterious name *XON-XOFF* protocol. Holding down [USE FRONT] will stop the incoming text temporarily (no text will be lost as a result).

Sometimes a data service will send a huge block of text in response to a simple question. You can usually stop the flood by sending a control character: CONTROL-S, CONTROL-C, CONTROL-P, or break ([SEND CONTROL] -[SPACE BAR]). Refer to your data service to find out which one is appropriate.

Using MCI Mail*

MCI Mail allows you to send electronic correspondence with your Cat. In order to take advantage of MCI Mail you must be a subscriber.

If you are sending to another user of MCI Mail, delivery of your messages is almost instantaneous. If you wish to send mail to someone who does not use MCI Mail, MCI will print your letter and mail it from a city near the recipient. This makes MCI Mail much faster than ordinary surface mail.

When you dial MCI, their computer answers back with instructions for sending mail or viewing mail you may have received. Here is how a sample session might go:

— Use [SETUP] to get to the **Internal Modem Setup** screen. Set the **Communications mode** line to **Full-duplex**. Make sure the other values on the screen are set up as follows:

Baud rate	**Autoselect 300 or 1200**
Data word length	**8 bits**
Parity	**None**
Stop bits	**1**
Communications mode	**Full-duplex**
Answerback	*(Not important)*
Rings before autoanswer	*(Not important)*
Wait before hangup	*(30 seconds or longer)*
Line terminator	**CR**
Ring sound	*(Not important)*

— Type the message you want to send via MCI Mail.

— Leap to the local MCI Mail Service number you have typed in your phone list, or type it in your text.

*MCI Mail, MCI Letter, *and* MCI Mail Service *are registered service marks of MCI Communications Corporation.*

— To dial the number, highlight it and use [PHONE].

— After you get the confirm tone showing that you have made a connection, press [LEAP->], then use [SEND] once or twice.

— **Please enter your user name** appears on your screen. Type the user name, which MCI gives you when you subscribe, then type a return, and use [SEND]. Highlighting is automatic. Type a return at the end of all messages you send.

— **Password** appears. Type your password and a return. Use the SEND command to send it.

— **Welcome to MCI Mail!** and other information appears. The message **Press <RETURN> to continue** means to type a return and use [SEND]. Only by using [SEND] can you transmit information back to MCI Mail.

— A list of activity choices appears. As it explains, if you want to write an MCI letter, type "CREATE", press [RETURN], and use [SEND].

— Follow the MCI format for typing the letter, filling in the blanks for **TO, CC** (copies), and **Subject.** When you come to the line that says **Text,** leap to your prepared letter, highlight it, and [SEND].

— To finish the text transmission, highlight and send a slash, typed on a separate line with a return after it. After you send the slash, MCI sends back the list of activities, now including several options for delivering your MCI Letter.

— Choose the method of delivery and type the command. Suppose you select **postal delivery for paper; instant electronic delivery.** Type "SEND", press [RETURN], and [SEND].

— MCI Mail tells you your letter has been posted. You type and send a return to continue.

— Type and send the word "EXIT" and a return to sign off.

— **Call clearing requested by remote source** appears on your screen. This means MCI wants you to hang up. Press [PHONE] to do this. If you do not hang up within a few seconds, MCI's computer will hang up on you.

Calculating With the Cat

Calculating with the Cat is a snap. Calculations are performed by typing them, highlighting them, then using the [CALC]. For example, suppose you are doing an inventory. You know there are 2,267 sets of folders with 45 folders in each set, so you do the following:

CALC

1. Type the calculation. The asterisk is used to indicate multiplication.

```
Our current folder inventory consists of 2,267 * 45 units
```

2. Highlight what you want calculated.

```
Our current folder inventory consists of 2,267 * 45 units.
```

3. Use [CALC]. Note that while the result remains underlined, the underline does not print. It simply tells you that the number results from a calculation.

```
Our current folder inventory consists of 102015.00 units.
```

The result of a calculation is just ordinary text that you can edit and use just like any other text. Press [ERASE] three times to erase ".00", then creep backward three times and type a comma as shown below:

```
Our current folder inventory consists of 102,015 units.
```

Arithmetic is that simple. Just type what you want to calculate, highlight it, and press [CALC].

You can use [CALC] like a desk calculator. When you just want to add a few numbers, for example, but don't want the result in your text, just type:

Spaces are optional. You could also type 356.92+212.45+7770.18.

```
356.92 + 212.45 + 7770.18
```

Highlight them, and press [CALC] to get the result, which you can then simply highlight and erase from your document. Results always have a dotted underline.

8339.55

Getting Problems Back From Results

The Cat can get the problem back from the result. Just leap to the result (anywhere in the result will do), let go of the LEAP key, and use [CALC] again. You will see this:

102,015_2,267 * 45

When you first do a calculation, the result will have no commas and will always be displayed with two decimal places, like "102015.00" (you can change the number of decimal places with [SETUP]). After you edit a result so that it looks the way you want it to, the Cat will keep the number in the same form thereafter.

Let's say you get a call from inventory, and their recount shows that there are only 2,102 sets of folders. How to recalculate? Simply recover the problem as you've done already, erase 2,267, retype 2,102, then use [CALC] again (there is no need to highlight anything). In a fraction of a second the result will change to

Notice that there is still a comma in the result.

94,590

Pockets

When you do a calculation, you type an arithmetic expression. When you highlight and [CALC] it, the Cat evaluates (digests) the expression and changes it to a numerical value. The expression itself disappears from view, but it is not destroyed. The Cat puts it into what we call a *pocket*.

The dotted underline shows that there is a pocket behind a number. To *unpocket* whatever is in the pocket, move the cursor onto the number (by leaping or creeping), and press [CALC].

What Arithmetic Can the Cat Do?

The Cat is designed to do ordinary four-function calculator arithmetic: addition +, subtraction - , multiplication *, division /, percent %, and square root.

Multiplication uses an asterisk (*), to avoid confusion with the letter *x*.

We can use an example of division to illustrate another Cat feature.

— First, type

```
3/59▮
```

— Highlight what you've typed and use [CALC]. You get

```
.0▮
```

— Now type seven zeros after the .01, changing it to .010000000

— Use [CALC] once. [CALC] now calculates the expression to additional decimal places, giving you

```
.005076142▮
```

The Cat gives you up to ten places to the right of the decimal point (which is more than most calculators) and twelve places to the left of the decimal point (which is much more than most calculators). In other words, a number such as 147,629,556,476.0245573024 is no problem for the Cat.

Taking a Square Root

An acre, the encyclopedia says, is 43,560 square feet. Suppose you want to know the size of a square whose area is one acre. The way to do this is to take the square root of 43,560. On the Cat you do this by typing, highlighting, and using [CALC] on

```
sqrt 4356▮
```

and you will now know that one acre is a plot 208.71 feet on a side.

Percent

To leave a tip of 15% on a restaurant bill of $32.78, you would type, highlight, and press [CALC] on

```
15% * 32.7▮
```

and you would know that the tip is $4.92. The expression is best read as *fifteen percent of* rather than *fifteen percent times*.

Percent (%) really divides the number to its left by 100. Thus 15% * 32.78 is the same as .15 * 32.78.

More Powerful CALC Features

If all you need from the Cat is a convenient, six-function calculator, you've already got it. But if you want to have results automatically updated (even in different documents) when you change an item in just one place, if you want to do simple spreadsheets or more elaborate financial calculations, the Cat has more for you.

Parentheses

If you already know how to use parentheses from your grade-school math classes, skip this section, since the Cat works just the way you learned.

The Cat uses parentheses to force certain things to be calculated first. Whatever is in parentheses will be calculated before anything outside of the parentheses. For example, if you had 719 apples, and I had 354 apples (we're in the business) and they cost $.26 each, and you wanted to find out how much they all cost, you might type, highlight and use [CALC] on

```
719 + 354 * .26
```

which gives the wrong answer, 811.04. To force the calculation to do what you want, use parentheses:

```
(719 + 354) * .26
```

Now you get the right answer: 278.98.

Precedence

Calculations are done in the following order:

1. Operations inside parentheses (if there are parentheses within parentheses, the Cat will start with the innermost set and work its way out).

2. All minus signs are applied to their numbers.

3. Percent is applied to any number it modifies (as in 15% = .15).

4. Square roots are taken.

5. Multiplication and division are done.

6. Addition and subtraction are done.

7. Any logical operators (see the *Reference Guide*) are applied.

Naming Numbers

It is usually easier to remember a name such as "sales", rather than, say, "seven hundred twelve dollars and eighty-three cents."

We can give a name a numerical value by typing it in the following form:

name:numerical value

highlighting it, and pressing [CALC]. For example, we can give "sales" a numerical value of "712.83" by typing, highlighting, and using [CALC] on the following:

```
sales:712.83
```

After using [CALC], you will see

```
712.83
```

in your text. However, the Cat will remember that you named it *sales*. In fact, if you leap to the value and use [CALC] again, you can unpocket the underlying expression:
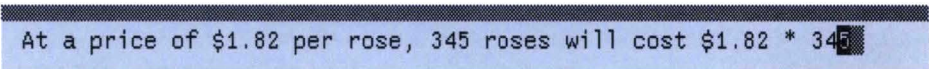
```
712.83 sales:712.83
```

which shows you the value, and how you got it. You can name the result of a calculation as well.

Recalculating Without Retyping Numbers

You can do calculations using named values just as if they were numbers. For example, you might type

```
At a price of $1.82 per rose, 345 roses will cost $1.82 * 345
```

and then use [CALC] to find the answer. If you change the price or the quantity, you will have to make at least two changes in the sentence. However, the Cat can save you from having to make changes except in one place, and it will make the correct changes everywhere else.

— Start by typing

```
At a price of $price:1.82
```

— Highlight as shown above and use [CALC]. You get

```
At a price of $1.82
```

— Now continue typing

```
At a price of $1.82 per rose, quantity:345
```

— Highlight as shown, then use [CALC].

Now the Cat knows both the price and the quantity, and your text looks like this:

```
At a price of $1.82 per rose, 345.00
```

— Press [ERASE] three times to erase the .00, and continue with the sentence. Note: Do *not* type a period after "quantity" yet or you will confuse the Cat. The name "quantity" is not the same as "quantity." with the period.

```
At a price of $1.82 per rose, 345 roses will cost $price *
quantity
```

— Use [CALC] on the highlighted portion, which gives you

```
At a price of $1.82 per rose, 345 roses will cost $627.90
```

Let's say that the price changes, and roses are now $1.66 each.

— Leap to the 1.82, and use [CALC]. You will get your original expression back, and it will look like this:

```
At a price of $1.82 price:1.82 per rose, 345 roses will cost
$627.90
```

— Now change the second 1.82 to read 1.66 and highlight it as shown below:

```
At a price of $1.82 price:1.66 per rose, 345 roses will cost
$627.90
```

— Use [CALC] on the highlighted portion and see that the price changes. The total at the end of the sentence also automatically changes.

```
At a price of $1.6█ per rose, 345 roses will cost $572.70
```

It would have been even better to have typed

```
At a price of $1.82 per rose, 345 roses will cost $total:price *
quantity
```

because now the result has a name. This means that wherever you want the total, all you have to do is to type and highlight the word *total* and use [CALC]. The current value for the total will automatically appear. If you are careful to always use this feature, you will never have the problem of forgetting to update all the figures when you update just one.

Totaling Columns

When you have made columns of numbers using either decimal or ordinary tabs, you can sum the column by tabbing over to the column you want summed, typing the word "sum" underneath the column, highlighting the word "sum", and using [CALC].

That's all there is to it.

For example, given the column which follows (decimally tabbed):

```
    45.8
     7
    89
     .02
  su█
```

If you highlight the word "sum" at the bottom of the column at the same tab stop, and use [CALC], you will get the correct answer:

```
    45.8
     7
    89
     .02
  141.8█
```

You can give the sum of a column a name. Say the name is "inventory", then you can use

inventory:sum

at the bottom of a column. If you change a value in a column, then the next time [CALC] is used, the sum will be corrected accordingly.

Taking an Average

The average of a column is just as easy: type the word "average" instead of the word "sum" at the bottom of the column, highlight and [CALC].

Rounding of Results, and Other Good Stuff

Let's do a simple addition. Type, highlight and [CALC]

```
4.128 + 5
```

You get 9.13 rather than the expected 9.128. This is because the Cat is set up to give answers rounded to two decimal places. Even though the machine shows 9.13, it really remembers that the value is 9.128. To see this, just type a few zeros at the end of the calculated number and use [CALC].

If you want a number rounded to fewer places, just erase the digits you don't want (for example, edit the number down to "9.12"). So far this gives you a value that's abbreviated, not truly rounded. Move the cursor away from the number, and use [CALC]. You will see the 9.12 change to 9.13.

If you sum a column of figures, the sum will always work with the *actual* values, not the rounded ones that show. So the answer might look wrong, even though it is correct (say if someone totaled the column with an adding machine, not realizing that they were rounded values). If you want to add the numbers just as they appear, use the word "sumdisplay" instead of the word "sum", and the answer matches what is on-screen.

Errors: When the Answer Cannot Be Calculated

There are some things that cannot be calculated. For example, there is no answer to any division by zero. So if you try to [CALC] an expression such as

```
trouble:9/0
```

you get

```
>???.?▓
```

and if you use the name "trouble" in further expressions, they will become question marks too.

SETUP and Calculations

Use the **Decimal places in calculations** feature on the [SETUP] screen (see the SETUP command) to change from the standard two decimal places to any other value (from none to ten) that you'd prefer. You can also use [SETUP] to change the punctuation of numbers to accommodate various international styles (the Swiss, for example, punctuate their numbers like this: 1'000'000.00).

[SETUP] prepares you for new calculations but doesn't affect existing results.

Spreadsheets

A spreadsheet is just rows and columns of numbers arranged so that when you change some of them, others change accordingly. You can set up many small departmental, company, and personal spreadsheets easily and conveniently on your Cat.

Let's say that you want to have a chart of products, their prices, the amount of tax on each item, and the price of each item with tax included.

You know that you want the tax and the totals to change if the tax rate does, and you know that the price of each item can change over time. The final chart should look something like the screen below, except with the real prices, taxes and the like.

Item	Price	Tax	Total
Suitcase	34.21	2.45	111.11
Strap	2.23	.50	3.45
. . .	. . .	. . .	. . .

Where do you begin?

— You might start with the heading:

```
Price list for the current tax rate of rate:7.5%
```

The % is not part of the calculation; it is outside the highlight.

Which, when you highlight it, and use [CALC], will give you:

```
Price list for the current tax rate of 7.50%
```

— Next, set up the tabs for the table. Use decimal tabs for each of the three numeric entries in each line. Each line of the table will have the same form: the item name, the price, the tax (which is just the price times the rate in percent), and then the price with tax (which is just the price plus the tax).

— Construct the first line by typing the item name, and then tab over to the appropriate column and give the item a price with the appropriate name:

```
Suitcase        Suitcase: 34.50
```

— Use [CALC] and you will have

```
Suitcase        34.50
```

— Now you can find the tax, which we will call "suitcase-tax" by tabbing to the next column, then typing and highlighting:

```
Suitcase        34.50    Suitcasetax: Suitcase * rate%
```

which, when [CALC] is pressed, gives you

```
Suitcase        34.50        2.59
```

— Now for the total. We had to give the tax a name so that we could define the total as being

Suitcase + Suitcasetax

as we see here in the calculation for the third column:

```
Suitcase        34.50        2.59  Suitcase+ Suitcasetax
```

[CALC] gives you the final result

```
Suitcase        34.50        2.59        37.09
```

Why All This Bother?

This is all faster to do, once you've tried it, than it is to describe. If you are going to type the list once, and never change it, then it would be silly to give every quantity a name, but if any price will ever change, then your work when setting up the chart will save you much time later. For example, if you leap to "34.50" and use [CALC] to unpocket the expression, then change the price of a suitcase to "$5.22", you will see the tax and the total automatically change when you use [CALC] again:

Suitcase	5.2**2**	.39	5.61

After making only a few changes like this, where the tax and the total change automatically, you will have saved much more time than the time you spent setting up the chart in the first place.

"Use" That Number: an Easier Way

While it is often the best policy to give a quantity a name, sometimes it would be nice to be able to just tell your Cat to "use the number over there."

— Let's use the same example. You start out the same way, except this time don't give the price of a suitcase a name, and there is nothing to [CALC].

Suitcase	34.5**0**

— Now, tab over to the next column and type as follows:

Suitcase	34.50	use(-1) * rate

The phrase "use(-1)" means *use the number in the column one over to the left*. When you highlight and [CALC] the expression, the Cat takes the number from the column to the left, multiplies it by *rate* treated as a percent, just as before. You now have

Suitcase	34.50	2.5**9**

— To get the total, you want to add the two columns together, so you type and highlight

Suitcase	34.50	2.59	use(-2) + use(-1)

which means to add together two numbers, one from two columns over to the left, and one from one column over to the left. When you use [CALC], you get

```
Suitcase        34.50           2.59          37.09
```

and just as before, if you change the price of a suitcase, the other values will automatically change, too. However, even this has gotten easier, since there is no pocket for the price of a suitcase. All you have to do is edit it, and use [CALC] (without highlighting the value).

Using Values to the Right

The expressions; use(1), use(2), use(3)

and so on mean *take the value from the column immediately to the right, the next column over to the right, the third column to the right*, and so forth.

Note: Columns must be separated by tabx.

Using Values From Above and Below

Say you have a table with some numbers in it, like this

```
6            2
7
```

and you want to multiply them all together, then put the product in the lower right-hand corner. You would type and highlight as shown below, and use [CALC]

```
6            2
7    use(-1) * use(-1 -1) * use(0 -1)
```

The first **use** says *go over one to the left*. This gets the "7". The second **use** says *go over one to the left, and one up*. This gets the "6". The last **use** says to *stay right in this column (that's the "0") and go up one (that's the "-1")*. This gets the "2". Then the Cat multiplies 7, 6, and 2. The result is

```
6            2
7          84.00
```

How to Use "use( )"

To refer to a value on the same line, "use" has just one number in the parentheses. To refer to a value on another line, the second number in parentheses (the numbers are separated by one or more spaces) says how far to go up or down. The two numbers then say how far to go to the right and down. We use the following memory aid:

use(right down)

Negative values for *right* or *down* mean *left* or *up*:

use(-left -up)

Note: *If your keyboard has [and], you may use [x y] instead of use(x y).*

Putting Text in
Alphabetical/Numerical Order

[SORT] can quickly put a list into alphabetical or numerical order. You can also sort on any column in a table, any part of an address, or sort larger parts of the text, such as paragraphs.

[SORT] can be undone. If you use [UNDO] right after sorting, the text will be put back in its original unsorted order and left highlighted.

Sorting a Single Column, Such As a List of Names

— Leap to the beginning of the list. Let go of the LEAP key. The cursor should be on the first character of the first item in the list.

— Leap to the end of the list. This is easiest to do by holding [LEAP->] and pressing [RETURN] twice.

— Press both LEAP keys to highlight the entire list.

— Use [SORT].

A **SORT** sign appears below the ruler while the Cat is thinking. The time it takes to sort the list depends on the number of items in the list. When the Cat finishes, it unhighlights the list and rearranges it in the new order all at once. If the list is numbered, the numbers will be ranked from smallest to largest. If the list contains both numbers and words, numbered items will be grouped together ahead of the words.

Sorting in Reverse Alphabetical or Numerical Order

Reverse order means largest first: "100, 99, 98, 97, ..., " for example, or "Zebra, Yak, Wallaby, Vicuna, ..." To sort in reverse order, use [SHIFT] with [SORT]. Hold [USE FRONT] and [SHIFT], and, while holding both keys, press and release [SORT].

SHIFT SORT

Sorting Multiple Columns

— Type the table, using tab characters to set up the columns. Don't leave out the tabs. [SORT] uses the tab characters to keep track of the columns.

— If you want to sort on column 1, the first column on the left, highlight the entire table, as shown below with "High School Wrestlers:"

Before sorting:

```
High School Wrestlers:  National Ranking

1────▶Baker─────────▶Minnesota↵
5────▶Calvin────────▶Hawaii↵
4────▶Edwards───────▶New York↵
3────▶Daly──────────▶Louisiana↵
2────▶Andrews───────▶Ohio↵
```

After sorting:

```
High School Wrestlers:  National Ranking

1       Baker           Minnesota
2       Andrews         Ohio
3       Daly            Louisiana
4       Edwards         New York
5       Calvin          Hawaii↵
```

To sort on other columns end the highlight on the column you wish to sort on.

For example, suppose you wanted to sort the wrestlers by state in order to more easily find the ranking of a particular state. You would leap from the first line of the table to the last state on the list, "Ohio", then press both LEAP keys to highlight, as shown below:

```
High School Wrestlers:  National Ranking

1────▶Baker─────────▶Minnesota↵
5────▶Calvin────────▶Hawaii↵
4────▶Edwards───────▶New York↵
3────▶Daly──────────▶Louisiana↵
2────▶Andrews───────▶O io
```

When you use [SORT], the table will be alphabetized by state:

```
High School Wrestlers:  National Ranking

5       Calvin          Hawaii
3       Daly            Louisiana
1       Baker           Minnesota
4       Edwards         New York
2       Andrews         Ohio↵
```

Multi-Column Sorting by Rank and Suit

Sometimes you want to alphabetize several groups, then alphabetize within these groups, something like separating playing cards into suits and then ranking each suit.
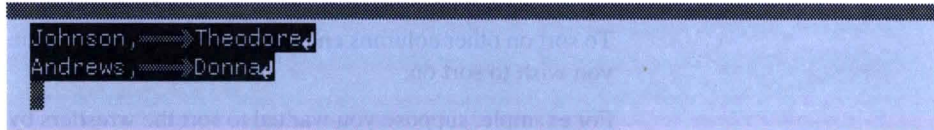
To sort multiple columns in this manner, sort each of the columns in turn, in the order of increasing significance. Start with the least significant and end with the most significant.

Similarly, if you wanted all the people with the same last name together, you would sort the last names last. The next example shows how.

Sorting Last-Name-First-Name Lists

This is a common example of multiple-column sorting. We want all the last names alphabetized, and, where last names are identical, all first names in alphabetical order.

— Type the last name, first name list as if it were a two-column table. Type a tab character between the last name and the first name, as shown below. [SORT] uses the tab characters to locate the elements it will sort.

```
Johnson,       Theodore
Andrews,       Donna
```

— Sort the first names column (column 2). All the Alices, Barbaras, Carls, and Davids will appear in alphabetical order, regardless of last names.

— Now sort on the last names column (column 1). This will order the last names. First names will be alphabetized along with last: "Smith, Al" will be followed by "Smith, Bob," and "Smith, Carl."

If you don't want the names lined up in columns, use [SET/CLEAR TAB] to set a tab stop at every character position, so that the tab character between the last and first name only occupies the width of a single character.

Sorting Paragraphs

Normally the Cat sorts parts of the text ending in one return, such as the lines in a table. To sort by addresses with multiple lines, you must tell the Cat, "Sort paragraphs that end in two returns." To do this, use the SETUP command. On the **Machine Setup** screen, move to **SORT record separator** and select **2 breaks**.

For example, if you wanted to sort a group of address labels where each address was separated by two returns, you would use the SETUP command to change the record separator to **2 breaks**. See the following example for more information.

Sorting an Address List by Name, Street, City, State or Zip Code

— Type the addresses, using returns or tab characters between first and last names, street address, city and state. All addresses must have the same number of tab characters and returns, even if there isn't any text between some of them. Note the tab characters between the city, state, and zip code in the address below:

Tab characters between first and last names, and between city, state, and zip code, allow you to sort on these elements of the address.

TAB CHARACTERS

```
Kim⟶Mascoli↵
c/o Bar-B-Q Ranch↵
11206 Lois Ln.↵
Mantis,⟶OK⟶77777↵
```
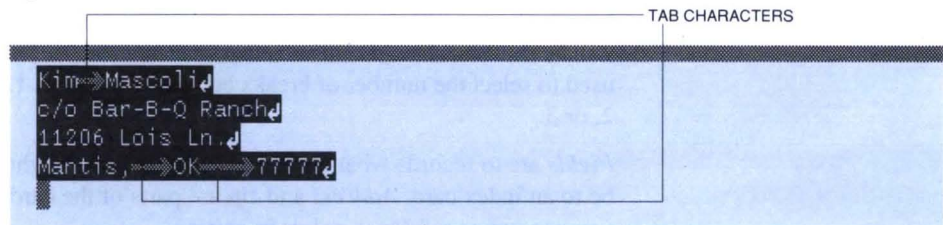
— Use [SETUP] to reset the SORT record separators to **2 breaks** (use the **Machine Setup** screen).

— Highlight the address list, ending the highlight on the last address, in the part of the address you want to sort on. For example, if you want to sort by zip codes, leap from the beginning of the list to the last zip code in the list, and press both LEAP keys:

End highlight in the zip code to sort by zip code


```
Kim⟶Mascoli↵
c/o Bar-B-Q Ranch↵
11206 Lois Ln.↵
Mantis,⟶OK⟶7 777
```
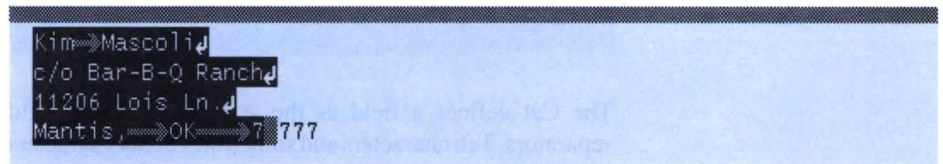
— Use [SORT]. Similarly, to sort by state, terminate the highlight on the state of the last address. To sort by last names, terminate the highlight on the last name.

Sorting Numbers

When the Cat sorts numbers, it respects number signs and decimal places. It sorts by quantities, not by longer and shorter, or some other computerish criteria. The result is that numbers are sorted the way you want them sorted. For detailed information, see the *Reference Guide*.

Understanding Fields and Records

Fields and records can easily be understood in terms of index cards. *Records* are the cards you shuffle, *fields* are the information they contain.

The Cat defines a record as the text between two record separators, a *record separator* being one or more break characters. Break characters are returns and page or document characters (automatic page breaks don't count). Therefore you select the size of your *index cards* by the number of break characters separating them.

For example, if a single break character defines a record, each line in a table is a record because each line begins and ends in a return (a single break character). If two break characters define a record, then groups of single-spaced lines ending in two returns — addresses, for example — will be shuffled. The **Machine Setup** screen of [SETUP] is used to select the number of breaks between records as 1, 2, or 3.

Fields are to records what an address and zip code might be to an index card. *Address* and *zip* are parts of the card you can use as reference points in sorting.

Note that if you sort according to zip, the addresses will not be in alphabetic order.

Likewise fields are parts of records that you can use as reference points in sorting. For example, each line in the table of wrestlers can be subdivided into three fields as shown:

```
Record:  5━━━▶Calvin━━━▶Hawaii
Fields:  1     2         3
```

The Cat defines a field as the text between two field separators. Tab characters and sometimes break characters are field separators. The wrestler's name "Calvin," for example, has tab characters on either side of it, so it is a field. His state, "Hawaii," has a tab character on its left and a return on its right, so it, too, is any line in an address. Note the seven fields in the address shown below:

Note tab characters separating city, state, and zip code

```
                                        ┌── FIELDS 1, 2
                                        ┌── FIELD 3

    ↵
    ↵
  Kim━▶Mascoli↵
  c/o Bar-B-Q Ranch↵
  11206 Lois Ln.↵
  Mantis,━━▶OK━━▶77777↵
    ↵

                                        ── FIELD 4
                                        ── FIELDS 5, 6, 7
```

What the Extended Highlight
Tells the Cat About Fields

When you highlight the text you want to sort, the Cat uses the endpoint of the highlight to determine which field to sort on. For example, if the highlight ends in field 7 in the illustration above, the Cat will sort the addresses by zip code.

Teaching the Cat
to Repeat Your Commands

Whenever you find yourself doing something over and over again, it is time to use [LEARN]. This command eliminates repetitious drudgery by enabling the Cat to *learn* how to perform a set of keystrokes, then re-enact them on command. [LEARN] is useful when you have to replace one word with another, type page headings or stock phrases, leap to or highlight some standard part of the text, or do any other repetitious task.

[LEARN] can incorporate other commands. For example, you could set up a [LEARN] that, when you pressed the appropriate key, would automatically highlight and print whatever page the cursor happened to be in. You might devise another that indented the left margin of the paragraph in which the cursor was located.

UNDO and LEARN

You cannot undo the entire sequence of keystrokes re-enacted by a LEARN command. UNDO undoes only the last step in the re-enacted keystrokes. So it's a good idea to use [DISK] before you use[LEARN]. See *How to Play Back a Disk Without Recording First*, page 74, for information on recovering the text as it was before you began [LEARN].

How to Use the LEARN Command

There are two parts: learning, in which you teach the Cat what to do, and re-enacting, in which the Cat repeats your performance.

Learning

— Hold [USE FRONT], and, while you hold it, press and release [LEARN], then press and release a numeral key (1,2,3,...,0).

LEARN

For the sake of discussion, let's say you press
[USE FRONT]-[LEARN]-[2]. A **LEARN 2** sign appears on the ruler to let you know that the Cat is ready to learn whatever you do next.

— Let go of [USE FRONT], then perform the keystrokes you want the Cat to learn: type, erase, leap, highlight; use any commands you please (with the exception of [LEARN] itself, which would end the learning process).

— If you get part way through and want to start over, press [USE FRONT]-[LEARN], then start over with [USE FRONT]-[LEARN]-[digit].

— To end the learning process, hold [USE FRONT] and press [LEARN]. The **LEARN** sign goes out and the numeral 2 key is now a command key.

Re-enactment

— From now on when you hold [USE FRONT] and press the "2" key, you will get a re-enactment of the learned keystrokes.

To interrupt the Cat while it is re-enacting, press any key.

You can record and store up to ten LEARN commands in each text (digits 1, 2, 3, ... 0).

`USE FRONT` digit

Changing All of One Thing to Another: "Global Search and Replace."

If you want to change all "cats" to "dogs", start by changing one "cat" to "dog", recording the keystrokes with [LEARN].

— Leap to the beginning of the document or region of the text you want to change.

— Hold [USE FRONT], press [LEARN] and then one of the numeral keys, 1,2,3,...,0.

For the sake of discussion, suppose you press [USE FRONT]-[LEARN]-[3]. A sign reading "LEARN 3" appears on the ruler to let you know that the Cat is learning.

— Leap forward to the first example of "cat". Be sure to use a pattern that positively identifies the word. For example, leaping to "cat" might also find "catalog", but leaping to [SPACE BAR]*cat*[SPACE BAR] would find only the word "cat".

— Erase "cat".

— Retype "dog".

You have changed "cat" to "dog" and recorded the keystroke sequence. You could stop the learning sequence right here by pressing [USE FRONT]-[LEARN], then change the cats to dogs one at a time. But to get the Cat to change all cats to dogs automatically, do this:

— Press [USE FRONT]-[3]. This will cause the Cat to repeat steps 3, 4, and 5 again and again until it can find no more cats to change to dogs.

In order to start [LEARN] repeating itself automatically, end the LEARN recording by holding [USE FRONT] and pressing the same digit key which you assigned [LEARN] to in the beginning.

The LEARN will automatically stop when it gets to the end of the text. If you want to interrupt it, press any key.

You may need to do your global search and replace in several steps so that "cats" get changed to "dogs", and "cat." or "cat?" gets changed — but so that *catalog* isn't changed to *dogalog*.

If you want to restrict the search and replace to one or two documents, use [LOCAL LEAP] before using [LEARN].

Note: If you are attempting to erase all occurrences of something, you need to creep backward one character before you start the command autorepeating. This protects you in case of two occurrences of what you want to leap to, one immediately after the other. After erasing the first occurrence, the cursor will be on the next occurrence; leaping will cause the cursor to miss this occurrence unless you creep backward one character.

Changing Some *Cats* to *Dogs*

Set up two LEARN commands, one to leap to "cat", the other to change "cat" to "dog". Alternate them.

Storing a Stock Phrase

— Highlight the text you want to store. For the sake of discussion, suppose we highlight "YOUR NAME AND ADDRESS" (whatever it is).

— [USE FRONT]-[LEARN] and a numeral key, 1,2,3,...,0 and keep holding [USE FRONT]. Suppose we press [USE FRONT]-[LEARN]-[4]. The ruler displays **LEARN 4**, letting us know that the Cat is learning.

— Keep holding [USE FRONT] , and press [LEARN]. This stores the highlighted phrase.

— Unhighlight.

— Move the cursor to a location where "YOUR NAME AND ADDRESS" is needed and press [USE FRONT]-[4].

Using CAPS, UNDERLINE, or BOLD in a LEARN Command

Whenever one of these commands is included in a LEARN sequence, it does just what the name of the command implies: [CAPS] always capitalizes, [UNDERLINE] always underlines, [BOLD] always makes the highlighted text boldface on the first use of the command. This prevents LEARN from doing the opposite of what you intended when it is repeating automatically and encounters text that is already capitalized, underlined or bold.

Linking LEARN Commands

You can link LEARN commands together. The final step in LEARN-1 can be LEARN-2, for example.

Changing Document Formats

The SETUP command tells the Cat what printers or telephone modems are attached, what to do with them, and how to format documents. When you change document format values, the changes apply to the document the cursor is in, or, if the highlight is extended, to all highlighted documents.

You need to use [SETUP] if you want to change the document format (first page number, top and bottom margin, paper size) or the basic machine setup (a French language keyboard with accents, for example).

If you have a Daisy Wheel Printer Canon Cat180 without a cut-sheet feeder, you won't have to use [SETUP] . Other printers require adjustments with SETUP.

SETUP cannot be undone.

How to Use the SETUP Command

— Place the cursor in the document you want to affect. If there is more than one document, highlight them.

— Use [SETUP]; keep holding [USE FRONT] until you are done. A list of document format features appears on the screen. There is no longer a cursor or a ruler, but the boldface item on the list marks "your place on the screen."

— Use [SPACE BAR] to go line-by-line down the list.

When you come to something you want to change, use the LEAP keys. For example, the first feature you can change is "beginning page number of document." Using [LEAP->] increases the page number. Using [<-LEAP] decreases it. Holding down the LEAP key causes the numbers to move up or down much more rapidly.

Keep holding [USE FRONT] and press [SETUP] again to go to the next list of items.

Many of the SETUP choices are self-explanatory. See the *Reference Guide* for a complete discussion.

— Release [USE FRONT] to complete the setting.

Stopping an Operation
Already In-Progress

To stop a command in progress, press any key. The Cat stops what it is doing and the keyboard returns to normal.

Some commands take time to carry out. CALC may take many seconds if there are a large number of calculations in your text. Other commands that take time include PRINT, SPELL CHECK LEAP, SORT, SEND, LEARN, and DISK. A sign on the ruler lets you know when the Cat is carrying out a command. When the **DISK** sign appears, for example, it means the Cat is carrying out the DISK command.

The DISK command cannot be stopped. That would leave the text half-recorded or half-played back — unusable, in other words.

Stopping PRINT

If you are printing something, and the **PRINT** sign is on in the ruler, pressing any key will collapse the highlight and stop any more text from being sent to the printer. If you press [UNDO] immediately after stopping, printing will be restarted from where you left off.

If the **PRINT** sign is off and the printer is still running, you can stop printing by using [PRINT] without extending the highlight. You can restart printing from where you left off by pressing [UNDO]. You cannot restart printing after pressing any other key.

The creation and printing of nearly identical letters for a mass mailing (sometimes called *mail merge*) is a common office task which can easily be done on the Cat.

First, you need a letter. To make it easy to find the letter later, put a marker at the beginning, like this:

```
//letter/
```

We use two slashes because this pattern seldom occurs in real letters. If it occurs in yours, then use some other ridiculous marker of your own creation.

Where the address goes, put the marker

```
//address/
```

and where the person's name goes, put

```
//name/
```

These markers let the Cat know where you want to put names and addresses. With all the markers in place, the letter itself might look like this. Note that there is a document character at the end of the letter. This will be important later, when you highlight and copy the letter:

```
//letter/
Foremost Bicycle Company
3 East Elm St.
Bakersville, NJ 07070

14 December 1902

//address/

Dear //name/,

We are pleased to announce our new stair-climbing bicycle with
patent leather tires. We will soon announce, we hope, an
attachment that will allow you to descend the stairs as well.

Yours Truly,

T. Whitley, President
```
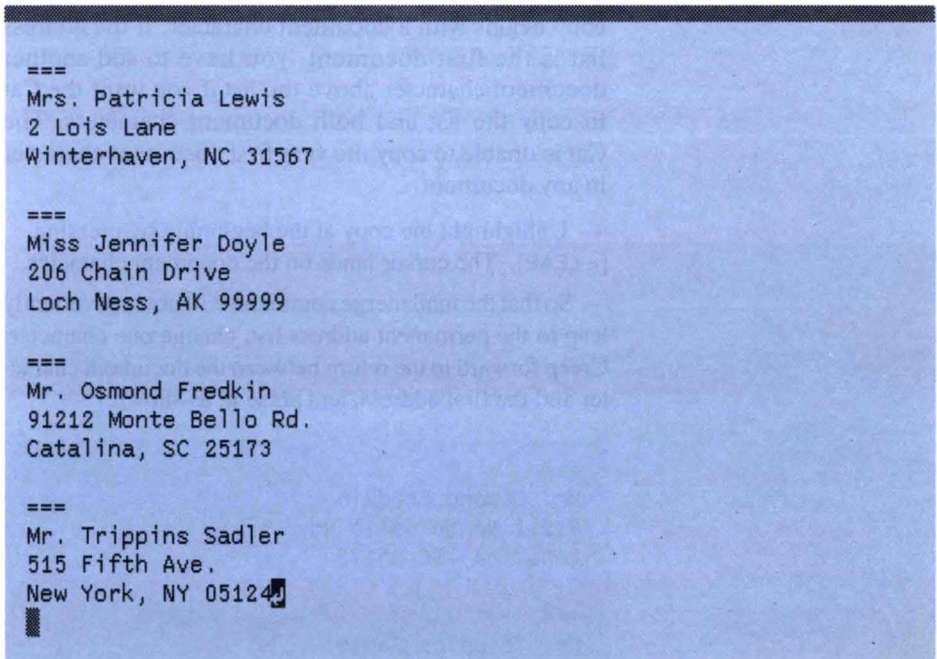
If the letters are going to companies, it might be better to begin "Dear Sir" or "Madam," since the Cat is going to substitute the first name of the addressee for the name marker, and nobody likes to see a letter that begins "Dear Fredkin, Doyle, and Hammerhead, a limited partnership," since it looks like a computer sent it.

Now that you have a letter, you need a list of addresses. For automated mass mailings, the list of addresses must be carefully and uniformly typed. The address may be any number of lines, so the Cat needs to know how to find the beginning and end of each address.

How the Cat finds the beginning of an address: A visually distinctive marker — three equal signs (===) and a return — precedes each address in the list.

How the Cat finds the end of an address: Two returns follow each address. This helps you see them better on the screen as well.

Here is a typical, if brief, list done in the correct manner:

```
===
Mrs. Patricia Lewis
2 Lois Lane
Winterhaven, NC 31567

===
Miss Jennifer Doyle
206 Chain Drive
Loch Ness, AK 99999

===
Mr. Osmond Fredkin
91212 Monte Bello Rd.
Catalina, SC 25173


===
Mr. Trippins Sadler
515 Fifth Ave.
New York, NY 05124
```

The Importance of Consistent Form

Notice the blank line between "Patricia Lewis" and the document character at the top of the list. Notice that each entry has the same form: three equal signs and a return, first name followed by last name (never "Himmel, Richard," but always "Richard Himmel"). This is important because we are going to use the first name separately later. The form of the rest of the address is not important since the address will be used as a whole. The two returns at the end of each address, however, are essential.

The Plan

Many tasks besides mail merge can be done with the techniques discussed here. The overall method is very simple: We work out how we would do it ourselves once, and then use [LEARN] to teach the Cat how to do it over and over again.

It takes a bit of practice, and you may not do it right the first time, but once you get it right, then the Cat will do it right every time thereafter! You can record the *mail merge command* on your disk and use it over and over for different letters.

Copy the Address List

The mail merge command, once you construct it, will consume the address list as it works. Thus you need to copy your address list, creating a disposable version and a permanent version.

— Highlight and copy the address list. *Important*: Include the first document character in the highlight so that the copy begins with a document character. If the address list is the first document, you have to add another document character above the list if you want the Cat to copy the list and both document characters. The Cat is unable to copy the **very** first document character in any document.

— Unhighlight the copy at the beginning by pressing [<-LEAP]. The cursor lands on the document character.

— So that the mail merge command will not inadvertently leap to the permanent address list, change one character: Creep forward to the return between the document character and the first address, and erase it, as shown:

```
===
Mr. Osmond Fredkin
91212 Monte Bello Rd.
Catalina, SC 25173


===
Mr. Trippins Sadler
515 Fifth Ave.
New York, NY 05124
```
THE END OF THE
PERMANENT LIST

```
■==
Mrs. Patricia Lewis
2 Lois Lane
Winterhaven, NC 31567


===
Miss Jennifer Doyle
206 Chain Drive
Loch Ness, AK 99999
```
THE BEGINNING OF
THE DISPOSABLE
COPY

Alternatively, you could turn on [LOCAL LEAP], excluding the permanent address list from the local leap region.

The Importance of Positioning the First Name

Note that in the disposable copy, "Mrs. Patricia Lewis" is right next to the first document character. In the permanent list, a return separates them. Thus the Cat can find the top of the disposable list with the pattern: [PAGE][=][=][=]

Getting the Address List and the Letter Together

Most Cat users keep their mailing list on a separate disk from their correspondence. Use the copy up feature of [DISK] (see *Transferring Text From One Disk to Another — Copy Up,* page 71), and your editing commands, if necessary, to position the body of the letter at the very end of the list of addresses. Make sure that there are two returns between the last address and the letter. It is wise to remove the disk from the Cat while doing this so that the recorded text can't get changed accidentally.

In this example, we are going to end up with a copy of the letter for each name and address on the list, with document characters between the letters. To print them out, you would highlight the entire text and use [PRINT].

It is just as easy to have the Cat assemble each letter-and-address pair, then have it print each one as it goes. The way it has been done here allows you to proof the letters before they go out. However, if you have thousands of names, the Cat can't hold all those copies of the letter. Thus you would have to have it print each letter out as it was created, then erase it and go on to the next letter.

Giving Yourself a Second Chance If You Make a Mistake

Record the addresses and the letter on a disk, and hide it away somewhere safe. You might even write-protect it. If you err in doing this procedure, then you can just erase the entire text, put the disk back in the drive, and use [DISK] to get back your letter and address list.

Teaching the Cat How to Do It

We are now going to teach the Cat how to make a copy of the letter and insert a name and address from the list. Take your time. If you make a mistake that prevents you from continuing, you have to start teaching it all over again.

— The cursor should be somewhere near the end of the text, forward from the disposable address list.

— Start the Cat learning by using [LEARN]. Assign the command to the "1" key. ([USE FRONT]-[LEARN]-[1]). It really doesn't matter which number key you use.

A sign at the bottom of the screen says **LEARN 1**, so you know that the Cat is ready to learn.

Doing the Mail Merge Once

1. The first thing to do is to highlight and copy the letter as follows:

— Leap backward to [PAGE][=][=][=]. Let go. This verifies that the disposable address list has an address in it.

— Leap forward to the //letter/ marker with the pattern "//letter/" Let go. This puts the cursor at the beginning of the letter.

— Leap forward to [RETURN]. Let go.

— Creep forward once. The cursor should now be on the first character in the letter.

— Leap forward to [DOCUMENT]. Let go. This gets you to the end of the letter.

— Use [COPY] to make a copy of the letter (highlighting is automatic). Don't worry how the copy looks right now.

— Move the copy in front of the //letter/ marker by leaping backward to the pattern "//letter/".

— Unhighlight forward by pressing and releasing [LEAP->].

2. Now to get a name and address. We'll use the first one first. Remember that you erased the return in order to make it easy to find this address.

— Leap backward to [PAGE][=][=][=], a page character followed by three equal signs. This locates the document character that is just above the first address:

```
===
Mr. Trippins Sadler
515 Fifth Ave.
New York, NY 05124
```
LEAP HERE ──
```
===
Mrs. Patricia Lewis
2 Lois Lane
Winterhaven, NC 31567
```
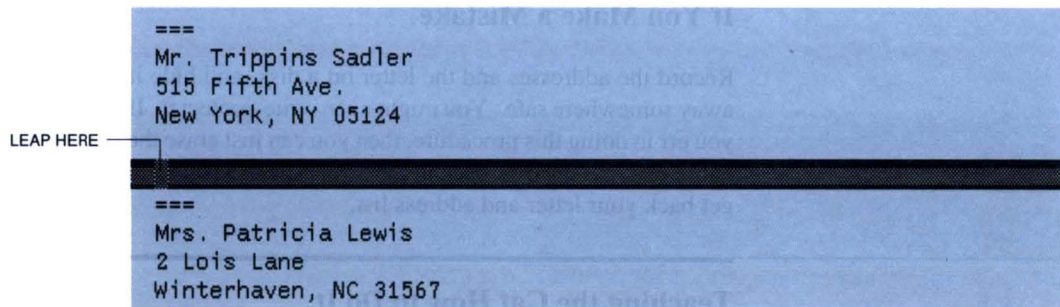
— Creep forward once to get the cursor off the document character.

— Erase the three equal signs and the return after them by pressing [ERASE] *four* times. The cursor is now on the first character of the first address.

—To get to the end of the address, leap forward to [RETURN][RETURN]. Let go.

—Erase the returns by pressing [ERASE] twice.

—Creep backward once to get the cursor on the last character of the address.

—Press both LEAP keys to highlight the first address.

—Leap forward to "//address/", and let go. This will move the highlighted address to its proper place in the copy of the letter. (It finds the marker in the copy rather than the marker in the original because we moved the copy above the original.)

3. Now we must get rid of the marker so that it doesn't appear in the final letter.

—Press and release [LEAP->] to unhighlight at the end of the address.

—Creep forward once to put the cursor on the marker.

—Leap to the other end of the marker using the pattern [/][RETURN], highlight, and erase.

4. We now need another copy of the title, "Mrs.", and last name "Lewis," so that we can address the letter to "Dear Mrs. Lewis."

We can't just leap to the first letter of the name because not everybody has the same first name, so we must do it by position.

—Leap backwards to [RETURN][RETURN], which puts the cursor before the address.

—Creep forward twice to get to the "Mr." or "Mrs."

—Leap forward to [SPACE]. Let go. This gets the cursor to the space after the title.

—Use [COPY] to copy "Mrs."

—Leap forward to //name/ and let go. This moves the copied title in front of "//name/".

—Unhighlight forward by pressing and releasing [LEAP->] .

5. Now to get the cursor back to copy the last name:

—Leap backward to [RETURN][RETURN] and [LEAP AGAIN]. The cursor should be before the address.

—To get to the end of the name line of the address, leap forward to [RETURN] and [LEAP AGAIN] once.

—Creep backward one. This puts you on the last character of the name.

—Leap backward to [SPACE]. The cursor is on the space between names.

— Creep forward once. This puts you on the first letter of the name.

— Use [COPY] to copy the last name.

— Move the last name to the correct place by leaping forward to //name/ and letting go.

— Collapse the highlight by pressing and releasing [LEAP->].

— Creep forward once to the first slash.

— Leap to the end of the marker using the pattern [/][,].

— Highlight the marker by pressing both LEAP keys; press [ERASE] to erase it.

6. The letter on your screen is now complete. Now comes the magic step. Press [USE FRONT]-[1] to get the process to repeat, and the Cat will begin to do what you just taught it over and over again.

The Cat stops when it is done because when all the addresses are used up, the pattern [PAGE][=][=][=] ceases to exist. A LEARN stops when the Cat attempts to leap to something that isn't there.

7. The final step is to save the mail merge command on the disk by using [DISK]. Now whenever you play back this disk, your Cat will know how to do a mail merge. All you will have to do to set up the mail merge is

— Position the letter properly.

— Copy the address list to provide a disposable version, and erase the return separating the first address and the document chatacter.

You can add refinements to the scheme presented here. For example, you could plant additional markers in the letter so that copies of the first name appear in the text. You could also store the "print each letter and erase it" version of this command on another key to handle longer lists or longer letters.

Regulations and Requirements

FCC Regulations (USA Only)

This equipment generates and uses radio frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been typetested and found to comply with the limits for a *Class B* computing device in accordance with the specifications in *Subpart J* of *Part 15* of the FCC Rules which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient the receiving antenna.

— Relocate the Canon Cat with respect to the receiver.

— Move the Canon Cat away from the receiver.

— Plug the Canon Cat into a different outlet so that the Canon Cat and receiver are on different branch circuits.

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

How to Identify and Resolve Radio-TV Interference Problems

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

Use of shielded cable is required to comply with *Class B* limits in *Subpart J* of *Part 15* of *FCC Rules*.

This equipment has been certified to comply with the limits for a Class B *computing device, pursuant to* Subpart J *of* Part 15 *of FCC rules. Only peripherals (computer input/ output devices, terminals, printers, etc.) certified to comply with the* Class B *limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.*

Federal Telecommunications Requirements

This equipment complies with *Part 68* of the FCC rules. On the back of this equipment is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be given to the telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line shall not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your right to file a complaint with the FCC.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this telephone equipment, please contact your Canon Sales Representative for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

Canadian Telecommunications
Pre-Installation Requirements

— Provide only a single line to touch-tone or rotary telephone set terminated with a standard 4-pin modular phone plug. Touch-tone is recommended if it is available in your area.

— Order a RJ11-C modular jack (USOC code), which should be installed by the phone company. If the RJ11-C jack is not present, installation cannot be made.

— The line should be a regular voice grade line or the equivalent. Use one line per unit. To allow the Cat to be able to dial long distance, specify a DDD (Direct Distance Dial) line, or IDDD (International Direct Distance Dial) if you communicate overseas.

Make sure the RJ11-C modular jack and Cat's power plug are both plugged into the wall relatively close to one another, or you'll have trouble running both at once.

NOTICE:

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee equipment will operate to the users' satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together.

This precaution may be particularly important in rural areas.

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE:

The Load Number (LN = 16.9) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100.

Index

Tone dialing, 100
Top margin, 82
Totaling columns, 115
Tutorial, 19-42
Typing, 44
    at beginning of page, 45
    at beginning of sentence, 45
    at end of page, 45
    at end of paragraph, 45
    at end of sentence, 45
    at middle of sentence, 46
    blank lines, 44
    hyphenation, 45
    line ending, 44
    line, starting, 20
    new text, 45
    paragraph, beginning, 44
    tutorial on, 21
    uppercase, 45
Typing in all uppercase, 45
Typing while receiving, 104

UNDERLINE command, 90
    in LEARN command, 131
    single character, 91
    words/letters, 90
UNDO command, 78
    BOLD and, 90
    CAPS and, 90
    COPY and, 92
    erasing and, 68
    leaping and, 54
    LEARN and, 128
    moving and, 65
    paragraph appearance commands and, 83
    previous operation only, 78
    PRINT and, 77
    recently typed text and, 68
    SET/CLEAR TAB and, 87
    SETUP and, 132
    SORT and , 122
    UNDERLINE and, 90
    undoing UNDO, 78
Unhighlighting, 60
    adjusting highlight size, 60
    at beginning (backward), 60
    at end (forward), 60
    in moving, 65
Unlocking, document, 95
Update disk, 71
Using use(), 121

voltage rating, 9
VP3103II Laser Beam Printer, 11, 12-14

Waking up screen, 17
Warnings
    backup disks, 73
    disks, 6, 71
    environmental limits, 3-4
    information loss, 36, 74
    outlet, 9
    peripheral devices, 143
Words/letters, customizing appearance of, 90
    BOLD command, 91
    CAPS command, 90
    single character and, 91
    UNDERLINE command, 91

WYSIWYG ("wizzy-wig"), 76

XON-XOFF protocol, 107

symbol in dialing, 100
* symbol in dialing, 100
% (percent), 110
* (multiplication), 110
+ (addition), 110
- (subtraction), 110
/ (division), 110

Command Index

Command Name	Key Used	Page
ADD SPELLING	[O]	93
BOLD	[W]	91
CALC	[G]	109
CAPS	[E]	90
COPY	[A]	92
DISK	[L]	70
DOCUMENT LOCK	[LOCK]	95
EXPLAIN	[N]	78
INDENT	[–]	83
KEYBOARD I/II	[/]	97
LEAP AGAIN	[<- LEAP], [LEAP ->]	54
LEAP BACKWARD	[<- LEAP]	23, 54
LEAP FORWARD	[LEAP ->]	23, 54
LEARN	[V]	128
LEFT MARGIN	[+/–]	83
LINE SPACE	[U]	87
LOCAL LEAP	[X]	96
PARAGRAPH STYLE	[T]	88
PHONE	[']	99
PRINT	[J]	76
RIGHT MARGIN	[=]	83
SEND	[RETURN]	103
SEND CONTROL	[D]	106
SET/CLEAR TAB	[TAB]	84
SETUP	[1/2]	132
SORT	[,]	122
SPELL CHECK LEAP	[UNDO]	93
TITLES	[PAGE]	50
UNDERLINE	[Q]	91
UNDO	[UNDO]	78

How to Set the H/T Switch

Sometimes you may want to connect your Cat directly to another Cat or personal computer. To do this you have to use a special connection cord called an RS-232C cable. There are two kinds of RS-232C cables you can use to make the connection: a straight cable and a cross cable. The type of cable that you use determines the **H/T** switch setting. ("H/T" stands for host/terminal. This describes the relationship between a computer, disk drive, and printer; the host being the computer with the disk drive and printer as terminals.)

> **If you are using a straight cable**
>
> Set the Cat to the same setting as the other Cat or personal computer. Either setting may be used as long as it matches the setting of the other unit. For example, if the other unit is set to **H**, set your Cat to **H** and vice versa. (Note: Most personal computers are set to **H** internally and can't be switched.)

> **If you are using a cross cable**
>
> Set the Cat to the opposite setting of the other unit. For example, if the other unit is set to **H**, set your Cat to **T** and vice versa. (Note: Most personal computers are set to **H** internally and can't be switched.)

H/T switch ────┐
                │
                ▼
┌───┐
│   │ Parallel I/F │   H │ T   │ Serial I/F │   ☐   ☐   │
└───┘

Fig.: Back of Cat

Canon