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LEAP to a key word, or to see examples, LEAP forward to PAGE - PAGE

Canon Cat User's Notes

The examples on this disk will give you some ideas on working with your Cat. New Cat users visualize what they want, and just do it.

You can view examples by other Cat users. LEAP forward to PAGE - PAGE

You can scroll through the text on this disk to read it all. Use SHIFT - LEAP once, let go, and then hold down USE FRONT - LEAP.

To print all thirteen pages, press and hold USE FRONT, then press 7 (This is a simple LEARN command which prints a whole document).

The write-protect tab in the corner of this disk is pushed open, so you cannot change the contents of this disk by recording onto it with the Cat. Try it -- press DISK. Get a beep? Press EXPLAIN.

To make a copy of this disk so that you can fiddle with the examples, add your own text and then save it, put in a blank disk and press DISK.

To move on, LEAP to: blue, and LEAP AGAIN

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1. Getting Started

The best way to get started with the Cat is to sit down and go to work. The Cat was designed to forgive errors, so you can try to do what you want just to see how it comes out. If you don't like the result, just press UNDO.

The Cat Tutorial disk gives you an introduction to the Cat's commands. You should work through it first to become familiar with the Cat's features.

The Cat has a compact and complete built-in manual. Just press and hold USE FRONT, then EXPLAIN, and then the blue-labeled command key you want to learn about. Hold USE FRONT down, and you can peruse the manual's screen. To get back to your work, just let go. Try it now: USE FRONT - EXPLAIN, then DISK.

If you give a command the Cat can't understand, or if you are about to make an error and put your text at risk, the Cat beeps. For an explanation and useful suggestions, press EXPLAIN before you press any other key.

As you become more familiar with the Cat, you will want to refer to the printed manuals to gain a thorough understanding of each of its features.

For Good Habits, LEAP to: bottom, and LEAP AGAIN

Establishing Good Habits

LEAP, don't creep. If you want to move the cursor more than two or three characters away, LEAPing is much faster.

Separate each separate project with a DOCUMENT character (SHIFT - PAGE).

Start each new project at the 'bottom' of your scroll of text. Your work will be recorded sequentially, and it's easier to visualize on the screen.

Make backup disk copies of all of your work. Make 'hard copy' printouts of your essential work to make it available in case of damage to your disks.

Remember the Cat's design goal -- to be compatible with humans. Do what you want to do, in an efficient way; the Cat will support your effort.

For Building up Speed, LEAP to: already, and LEAP AGAIN

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Building up Speed

After you feel comfortable with an editing technique, try a method using fewer keystrokes. The Cat lets you shave keystrokes off many editing tasks.

To highlight a word, LEAP from the first letter to SPACE, but don't let go of the right LEAP key. Press the left LEAP key, and the highlight extends.

If you are trying to highlight a phrase, and the cursor stops short of your intended target, but you have already extended the highlight, keep holding LEAP, press LEAP AGAIN and rehighlight.

To underline a word, just LEAP from its beginning to end, then press USE FRONT - UNDERLINE. You can highlight if you want, but it is not necessary. Other commands which 'autoextend' the highlight are BOLD, CAPS, COPY, and SEND. To use ERASE, you must extend the highlight, to confirm its action.

To re-format a paragraph, press USE FRONT while you set the LEFT MARGIN, then keep holding USE FRONT and change other format parameters all at once.

For LEARN, leap to: list, and LEAP AGAIN

2. LEARN

If you have to do any job more than twice, let LEARN do the work. Show the Cat how to do it the first time, and watch it go! Remember that you cannot UNDO a LEARN sequence, just the last command in the sequence.

A simple LEARN command is stored on the '7' key on this disk. To print the document containing the cursor (like this one), hold USE FRONT and press 7.

You can store up to ten LEARN commands on each disk. Keep a list of your stored commands. Keep one numeral key reserved for temporary tasks like search and replace, or adding rows of expressions to a table.

When you want to use CALC in a LEARN loop, wait for the CALC to be completed before you enter the next command in the sequence. If you don't wait for the CALC to be fully executed, you may get a beep, and the loop may only be executed once. Wait for the CALC message to go off, then enter the next command, and the Cat will do just what you want, waiting for the end of each CALC before making its next move.

For ideas on filing, SORTing and CALCulating, LEAP forward to: PAGE - PAGE

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3. Filing Systems and Information Retrieval

TABS and MARGINS are important parts of the following examples. To see how they are used, check the ruler at the bottom of the screen, and remember that RETURN and PAGE characters contain the formatting information.

Build a 'Rolodex' file, and you can use the Cat for many things:

You can LEAP to an address, COPY it, and drag it into a letter.

You can LEAP to a name, highlight a phone number, and press PHONE; the Cat dials numbers in the highlight and ignores other characters. Pick up your phone to talk or let your Cat stay on the line for a data call.

Each entry, or 'record', in this address list has 8 'fields'. TAB characters separate fields on the same line, and RETURN characters separate fields on different lines. The last field in each entry is for notes. You can LEAP to any part of any name, address, or note.

The Rolodex doesn't really need to be SORTed, as you can LEAP to anything. Some people will find it useful to build their address list with separate fields if they wish to SORT by ZIP code, for example. Scroll for more info.

To add an address, just type it between two others. Type a TAB between the first and last name, and a TAB for each empty field. Highlight the finished entry to check for the correct number of fields.

You should have two RETURN characters between records. To SORT, use SETUP to set the SORT record separator to **2 breaks**. To SORT by ZIP Code, highlight from the beginning of the list to the ZIP Code of the last entry.

SORTING KEY:	Field	What's in it
	1	First name
	2	Last name
	3	Company name
	4	Street address
	5	City and State
	6	ZIP Code
	7	Phone number(s)
	8	Notes and miscellaneous information

Richard E. Tynan
Borrego Valley Foods
P.O. Box 1096
Borrego Springs, CA 92004
619 767-5321
Richard makes great Carne Asada in a mix of 23 spices.

Clarence Brown Alignment Service
7747 Vickers
San Diego, CA 92117
565-2981
Located on dead-end just west of Convoy

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Make a Calendar

Using a series of LEARN commands, you can build a calendar, fill it in, and then LEAP to any date, name, or occasion. In this example, the month and day are separated by a TAB character, so to see what's happening on December 5, you should LEAP to: d - e - c - TAB - 5.

```
Dec 1 Thu    1pm: Power Lunch at Bonneville Electric
Dec 2 Fri    Buckle shoe; 11pm: Fly by night

Dec 3 Sat
Dec 4 Sun    Shut the door
Dec 5 Mon    2pm: F-Stops vs. Infrareads
Dec 6 Tue    Pick up sticks
Dec 7 Wed    7am: breakfast at Tiffany's
Dec 8 Thu    Lay them straight
Dec 9 Fri    12 noon: Luncheon on the grass; 5pm: Dinner at
              Ziggy's; 8pm: Tango in Paris

Dec 10 Sat
Dec 11 Sun    8am: Mammoth tusk excavation
Dec 12 Mon    Final Exams Begin
Dec 13 Tue
```

4. SORT

You can sort a simple list:

```
Yams
Avocados
Rutabagas
Brussels Sprouts
```

Or you can sort on any of the eight columns in the table below:

Batting Leaders

<u>Player</u>	<u>Team</u>	<u>Avq</u>	<u>AB</u>	<u>H</u>	<u>BB</u>	<u>SO</u>	<u>RBI</u>
Belitski, Lightnin'	Boomtown	.376	394	148	42	33	97
Hogan, Pee Wee	Celesteville	.348	451	157	33	46	103
Abdul, Lefty	Smallville	.331	432	143	5	65	78
Banks, Robin	Mudville	.321	355	114	18	49	82

USE FRONT - EXPLAIN - SORT will tell you how

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5. Calculations

Good habits: Take extra care when setting up tables; define numbers with variable names. This makes it easy to modify tables later and leaves an 'audit trail' for tracing the sources of results.

Keep text with a lot of CALCs on a disk without too much other text. When you press CALC, you may have to wait while the Cat looks at everything in a large text. The Cat scans the entire text and recalculates each expression, updating any changes you might make.

Note: Changes in the surface text will not change the underlying definition of a value, and will not be considered in a re-CALC.

Changes in numbers which are ordinary text (like the prices in the following example) will affect results of an expression which uses them.

Build-a-Man Kit

<u>Item</u>	<u>Price</u>	<u>Tax</u>	<u>Total</u>
Parts	\$56.95	\$3.70	\$60.65
Plans	12.95	.84	13.79
Batteries	7.50	.49	7.99
Whole Banana	\$77.40	\$5.03	\$82.43

The sales tax rate is 6.5%, defined in the Cat's memory as .065, but rounded here to .07, since we told SETUP to display 2 decimal places.

To change the tax rate above, unpocket the underlying value by LEAPing to the number with the dotted underline. Press CALC, edit the number, and press CALC again. The tax and totals will be recalculated.

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Check Register -- June 1988

<u>Date</u>	<u>Check #</u>	<u>To</u>	<u>For</u>	<u>Amount</u>
6-3	3245	The Floppy House	disks	\$15.90
6-5	3246	Max Headroom	alter ego	2500
6-8	3247	Doberman Recyclers	cracked block	50
6-18	3248	Bilgeco Marine	limber holes	132.67
			Total Debits	\$2,698.57

DEPOSITS		
<u>Date</u>		<u>Amount</u>
6-1	Paycheck	1868.34
6-20	Sale of IBM system	1100
6-22	Rolls Royce rebate	100
	Total Credits	\$3,068.34

PREVIOUS BALANCE	\$384.22	CURRENT BALANCE	\$753.99
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Dinosaur Inventory

Herbivores:	Yellow	Green	Blue	Striped	Species	Total
Apatosaurus	5	7	1			13
Diplodocus	4			1		5
Stegosaurus	3	2		1		6
Triceratops		2	5	3		10
					Total=	34

<u>Carnivores:</u>	Brown	Gray	Spotted	Species	Total
Tyrannosaurus	3	2	1		6
Allosaurus	2	5			7
Herrerasaurus	7		1		8
Daspletosaurus	1	1			2
				Total=	23

The total population of dinosaurs is 57, of which 60% are herbivores and 40% are carnivores.

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Boatbuilder's Estimator

In this example, we estimate the cost of a classic wooden boat. Since smaller boats have simpler rigs, are kept out of the water, and have no engines, galleys or heads, we use CALC's Boolean operators to set these expenses to zero, so that they are not simply scaled down.

Boats over 25 feet will have one engine, over 65 feet will have two. Boats over 22 feet will have heads and galleys. Boats over 20 feet will be kept at the marina at \$11 per foot per month. Labor is \$15 per hour.

To estimate a boat's cost, LEAP to the boldface number (with the dotted underline) defining the boat's length. Use CALC to unpocket the definition and change it to your planned boat's size. CALC again to revise the table.

To adjust an underlying expression to make the mathematical model more accurate, leap to the appropriate number, unpocket, edit, and recalc.

Overall Length of Boat: 37 feet

<u>Materials:</u>	Plywood	Mahogany	Spruce	Adhesives	Finishes	Total
Hull	4559	4306	1773	7091	5825	23554
Spars			3039	507	507	4052
Interior	1621	2279		760	507	5167
					Materials:	\$32772
					Labor:	\$60409
<u>Sails:</u>	Main	Jib	Genoa	Spinnaker		
	2875	890	1848	3491	Sails:	\$9104
<u>Rigging & Hardware</u>						\$9371
<u>Appliances & Electronics</u>						\$6332
<u>Engine & Electrical</u>						\$8864
					Total:	\$126852

We estimate that the overall cost of custom construction of a 37-foot boat will be \$126852, and it will cost \$407 for monthly slip rental.

Advice to sailors with big ideas: materials for a hull of this size cost about 50.7 times as much as a 10-foot boat, and sails 13.7 times as much.

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6. The Cat is a Computer

The following suggestions describe unofficial Cat features which allow you to get more out of your Cat. Be advised, however, that some of these techniques temporarily disable some of the Cat's unique safeguards. They require extra care, and may result in loss of your text. Pay attention!

Type and highlight 'Enable Forth Language' (with a RETURN at the end), then use the ANSWER command (USE FRONT-ERASE), and the Cat will run FORTH and 68000 assembly language via the ANSWER key. Just highlight the code you want executed and press ANSWER. This command also turns off the Cat's disk read-write verification, which is a redundant step, so DISK is speeded up. This command is saved on the disk -- it does not need to be redone.

(The Cat runs tFORTH, which shares most features with the FORTH-79 standard described in Leo Brodie's excellent Starting Forth.)

CAUTION: If you mess around with Forth, make sure you take text disks out of the drive; certain strange combinations of FORTH words will destroy your text on the disk and 'hang' the system!

Sophisticated Cat users beware: the standard Cat, without the FORTH language enabled, is a very secure system and rigorously protects your text.

However, when FORTH is enabled, the USE FRONT - ; command (which you can hit by mistake instead of DISK, or SHIFT - ; to type ':') may erase your disk. This feature was retained from the development prototypes, which had double-sided disk drives, and the 'USE FRONT - ;' command would access the other side of the disk.

If you should hit USE FRONT - ; by mistake, the disk drive will make a different sound as it starts up. This may alert you to your mistake. If you notice this, press any key and immediately push the eject button and take out the disk. (It's ok to do this when the disk drive light is on.) You have probably salvaged your text on the disk. Play it safe and save your screen text on a blank disk. Then play back the questionable disk to verify it.

To put your own message on the blanked-out screen, in place of the 'Canon Cat' logo:

1. First, turn on the FORTH interpreter with 'Enable Forth Language' as described above.

2. then type the FORTH code:

" string you want to put on screen" screensave\$ "to ↵

3. Note the leading space, then highlight this and use ANSWER.

example: " Out of Service" screensave\$ "to

Each disk stores its own 'screensave' message, so you can tell which disk is in the drive even the screen is dark. For a completely blank screen, use a single space (required by FORTH) to place an 'empty string' on the screen.

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You can transfer your files from your old computer, or you can send text back and forth to another computer if it runs a communications program. SEND is all the Cat needs for communications. Connect an appropriate cable from the Cat's serial port to the serial port of the other machine. Use a null modem connector, or slide the Cat's null-modem switch to the disk drive side of the Cat (see Null Modem above). Use SETUP to set the serial port to the SEND command, with Full-Duplex communications at 9600 baud. If the other machine's communications program is set to these parameters, you can just start sending things back and forth.

If you get too many RETURNS in the text coming into the Cat, try setting both machines to line terminator: None.

All text coming into a Cat is Cat text, so you know what to do with it.

You can send text to other serial devices, such as a speech synthesizer, which allows you to hear your text spoken.

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8. Things not mentioned in the Cat manuals

SEND into a LOCKED Document is Unsuccessful

Caution: If the cursor is left in a LOCKED document, text sent from a remote source to the Cat will be lost, with no notice to the sender or the sendee!

DISK RECOVERY Warning

If you get a DISK RECOVERY message at the lower edge of the screen, hit any key and immediately remove the disk (it's ok to do this when the drive is spinning), then put in a blank disk and try to save your text. Check the original disk a few times by recording and playing back, as it is probably a bad disk and should be discarded.

9. Odds and Ends

Saving Homeless Text

If you have no disk in the drive when you create some new text, you can save it safely on a disk which already has text recorded on it. Highlight the new text, put your disk in the drive, and press DISK. The new text, which had no disk source, will be 'copied up'. Then use DISK again to save it along with your old text on the disk.

A Fancy Way to Lose Your Text, While Thinking You Are Smart:

Take your disk out of the drive, because you are doing some weird CALC, LEARN or FORTH that may goof up your text. Then erase everything except a small amount of text in memory, which is a subset of your larger text on the disk. Fiddle around with the small text, then make a few notes about what you have done, highlight them and **try** to copy them up to your original disk. What you really do is write the little text over the big original text and wipe-out your original text on disk! Both the little text and the big text had the same source disk, so the Cat considers the little text to be an updated version of the big text.

Prevent Loss of Loved Ones Overboard

Save experiments on a separate disk, and always make backups of your important work.

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To see What's on This Disk, LEAP backward to: PAGE - PAGE

0. Summary of Examples, and Where to Find Them

```
Filing:  Rolodex -- who's who
         (LEAP forward to:  PHONE)
         Calendar -- who's doing what with whom
         (LEAP forward to:  door)
SORT:    Batting Leaders -- SORTing on several columns
         (LEAP forward to:  eight)
CALC:    Build-a-Man Kit -- simple table with relative addresses
         (LEAP forward to:  banana)
         Check Register -- simple accounting
         (LEAP forward to:  DEPOSITS)
         Dinosaur Inventory -- table, with expressions embedded in text
         (LEAP forward to:  spotted)
         Boatbuilder's Estimator -- fancy table with Boolean operators
         (LEAP forward to:  marina)
```

To return to this screen, LEAP forward to PAGE - PAGE

- FINIS -

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