
USER'S MANUAL



an innovative word processing system

program written by David Welsh
manual written by Theresa Welsh

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LAZY WRITER USER'S MANUAL
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**Covers 3.5 Version for
Model I/III,4 and Max-80**

SEND ANY SUGGESTIONS OR COMMENTS ON THIS MANUAL TO:

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WE RECOMMEND YOU DO FREQUENT SAVES AND BACKUPS TO PROTECT AGAINST LOSS OF TEXT.

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HOW THIS MANUAL IS ORGANIZED

This manual has ten sections, each dealing with a different aspect of Lazy Writer. In front of each section in the manual, you'll find a table of contents for that particular section. This is to assist you further in finding the information you want. Each section has its own numbering, which makes revision easier. There are three introductory sections:

"INSTALLING LAZY WRITER"
"IF YOU'RE NEW TO COMPUTERS"
"INTRODUCTION TO LAZY WRITER"

There are ten regular chapters, as follows:

ONE: GETTING STARTED
TWO: TEXT ENTRY
THREE: EDITING
FOUR: FILE MANAGEMENT
FIVE: LAZY WRITER EXTENSIONS
SIX: PRINTER DRIVERS
SEVEN: PRINTING YOUR TEXT
EIGHT: HEADERS AND FOOTERS
NINE: FORMATTER
TEN: PROGRAMMER'S NOTES

Sections are arranged in logical order for learning Lazy Writer's features, but once you're using Lazy Writer, you'll need to skip around. Refer to the main table of contents to locate the information you want or check the index in the back of the manual. Once you have learned how the features work, you can use the Reference Card to refresh your memory about commands.

NOTATION USED IN THIS MANUAL:

Keyboard keys are enclosed in quotation marks and are given as lower case, unless they must be used as upper case. Upper case means press "SHIFT" first, then the key. For example, the statement:

press the "t" key

means to simply press that key. The keys are shown upper case on your keyboard, but "t key" means the key marked T. The statement:

press the "T" (capital "T") key

means press "SHIFT", then the key. The action keys, "SHIFT", "CLEAR", "BREAK" are always in quotes, unless they are used as part of a description of a series of keystrokes. In that case, they are shown like this: [BREAK] or <BREAK>. On the Model 4, the keys for control and capitals are shown as CTRL and CAPS, just as they appear on the keyboard. When you see quotation marks around a key (as in "t" key), this does not mean you should use quotation marks. The quotation marks merely differentiate a reference to a key from the rest of the sentence.

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APPENDIX: Using Lazy Writer With Other Programs

IF YOU'RE NEW TO COMPUTERS.....

There are a number of important things to remember in using a computer. When you enter text from the keyboard, it is going into the computer's memory. As it goes into the memory, you see it on your screen. Now, if you shut off the computer, your text will be gone. That's why you have a method of storing your text - your disk drive. Once you have text typed on the screen (in memory), you should save it onto a disk. Your computer can only store so much information in its memory at one time. With short letters and reports, your whole document can be one file that you save onto disk after you've typed it in. With very long documents, you may want to divide them into a number of different files on disk. You would type in part of the document, save it, eliminate it from memory, then begin again, typing the rest of the document.

When you do a "save", your material will be both in memory and on the disk. If you are doing a lot of editing, you may want to do "saves" every ten minutes or so, just to be safe. Every time you "save", you are preserving on disk the text as it existed in memory when you did the "save". When you save a new version, it goes right over the old version, so the old version is no longer on the disk, only the latest version. The text is also still in memory, so if you were doing your last "save" and want to start on some new text, you need to remove the old saved text from memory. You do this with an editing command; shutting off the computer, of course, also removes all text from memory. The computer's memory is temporary storage; floppy disks are permanent storage. NEVER SHUT OFF YOUR COMPUTER WITHOUT SAVING YOUR TEXT ONTO DISK

When you want to look at that text again, perhaps to add to it, you simply insert the disk that contains that text into the disk drive and load that text back into the computer's memory. When using a word processor, you must load your word processor into memory first, then load the text file you wish to edit. As you use your word processor, you'll have lots of different text files saved onto disks. In order to load these files back into memory, you'll have to keep track of your files. You will need some method of file management. It is not totally unlike the problem you have with paper files: you have a file cabinet with folders in it, each with a key word on the folder tab. With a word processor, instead of file drawers, you have floppy disks with files on them. You must work out a method of numbering your disks (yes, you will soon have LOTS OF disks!) and labeling them with file names. Because disks can fail, it is wise to periodically make duplicates (backups) of your important disks and store these separate from the disks you use every day; for very important documents which you constantly edit, you may want to keep two copies and save to two disks each time you do any editing.

The computer limits you somewhat as to the names you can give to a file. The name must not exceed eight characters, plus you may add a "/" and three more characters. Neither the first nor second parts of the name can begin with a number, but you may use numbers within the first eight characters or as either of the last two characters of the second part. For instance a legal name would be: "MEMO23/PT1". If you type mainly letters, you could use the name of the person you're writing to as the

IF YOU'RE NEW TO COMPUTERS.....

file name (e.g. "SMITH"). You could add numbers for subsequent letters to the same person ("SMITH2"). You may have to use a short version of the person's name if they have more than 8 characters in their name. But, remember, that file is your permanent record of that letter. It is retrievable only if you know where it is. You will also want to periodically purge your disks of old letters and documents that you don't need any more. Just like you can record over a cassette tape, you can reclaim space on your disks by "killing" unneeded files.

When you bought your computer, you also got software with it called a Disk Operating System (DOS). A floppy disk is just a piece of magnetic media, much like a cassette tape. The disk is divided into sectors, each storing an equal amount of text or data. But, the computer needs some way to find the particular text you want to load into memory. The main function of the Disk Operating System is to locate your files. It also has a secondary function - it contains utility programs that help you use your computer. For instance, if you want to backup a disk, the DOS contains a utility program that does the backup. Other DOS utilities enable you to format data disks, copy files from one disk to another, etc. When using a word processor like Lazy Writer, you will not need to use the DOS much, but you will need it occasionally and it will be working when you're not aware of it. It would be a good idea to study your DOS manual and get some idea of what the DOS can do for you.

The keyboard, memory, and disk drives are important in word processing, but of equal importance is your printer. Much information in this manual is not specific to your printer. There are MANY different kinds of printers that people use. You are going to have to spend some time understanding how your particular printer works. All printers receive signals from the computer that the printer translates back into your text and prints via its print head. Printers can receive signals in two ways: serial or parallel. Today, most printers are parallel (as are ALL Radio Shack printers). However, if you have a serial printer, you will need a different kind of cable than you use for a parallel printer. The software printer driver will also be different.

Computers can add to our efficiency, but using a computer is not always smooth sailing. As you get acquainted with your new computer, you will probably have times when it doesn't seem to be working as it should. These problems will fall into one of the following categories: hardware, software, bad disk, user error. Random crashes are generally a hardware problem. Bad disks are rare, but you may find one. If you get a lot of error messages when you try to save or load, try a fresh disk. The most common problem though is simple user error. You have to allow some time to learn how to use your computer system; you also have to read the manuals.

If you are using your computer mainly for word processing, it may seem to you that word processing is what it does best. But that is not strictly true; a computer is a GENERAL kind of tool. With the right software, it can be whatever you want it to be.

INTRODUCTION TO LAZY WRITER

LAZY WRITING

Lazy Writer provides a way to make all your writing chores easier. It means you can write words and save them on disk for future use, change or correct what you've written, and print what you've written on paper in your choice of formats. With an ordinary typewriter, the words you type are put permanently on paper, including all your errors. Making a mistake means getting out the liquid paper, erasers, or correction tape; changes mean retyping the entire document. If you've always hated the frustration of time wasted typing and the poor appearance of your efforts, Lazy Writer can set you free.

Lazy Writer is a word processor for the Radio Shack TRS-80 Model I, III, and 4 and MAX-80 computers. The program itself is stored on disk and loaded into the computer memory each time you use it. Once the program is loaded, you can begin typing and the words will appear on the computer video display. There are two basic modes of operation to Lazy Writer: Text Entry and Edit. You can either enter all your text and then go back over it in Edit (by "scrolling" what you've written down the screen from beginning to end) and edit the mistakes, or you can make changes and corrections as you type.

Of course, there is much more to word processing than simply entering text and correcting mistakes. With Lazy Writer, you can do things that you could not do with an ordinary typewriter. Lazy writer will automatically center titles for you, it will search out all occurrences of a word and delete it or change it, it will justify your copy, it will move whole blocks of text from one part of a document to another. With Lazy Writer, you not only can write better looking letters, but you can also create forms and flyers or produce copy in any column width for use in a newsletter or brochure. Your capabilities suddenly soar when you use a word processor.

But even these new capabilities do not tell the whole story. Because you're using a computer, your word processor can take advantage of the power of your computer. For instance, you can receive material from other computers over your phone lines using a device called a modem. You can edit this material and incorporate it into something you are writing. If you are writing for a publication that has a computer, you can send your written material over the phone lines direct to the publication. (If they have a modem that will work with your modem.) For the professional writer, professor, consultant, or anyone who does a lot of writing, a word processor is becoming a necessity. Every business, large or small, has a certain amount of correspondence to take care of. It is an undeniable advantage to have all of your letters going out without errors. Most publications and many businesses now use word processors rather than typewriters.

INTRODUCTION TO LAZY WRITER

This manual explains all the features of Lazy Writer. Some are easier to understand than others, but it is not necessary that you understand or use all the features of this program in order to put it to good use. If your needs are simple, you will find the program simple. Typing in material, correcting typos, making a few changes - all this is pretty easy. If your needs are more complex, you will have to spend more time learning how to get the results you want. Using only Lazy Writer, you could write, edit, and format a newsletter. Your newsletter could include bold face headlines, remarks next to a column of type, different size columns, and even graphics. To do all this, you will need to read the manual carefully and experiment with the many features.

You may find there are some editing commands you use all the time and others you don't use. This is normal, with a program this complex. In designing the program, we've tried to accommodate all styles of writing and editing. Some of the features may not be for you. If you use only half the commands available in Lazy Writer, you will get your money's worth. Some were meant for advanced word processing users. To put it another way, you don't have to have a Ph.D. in math to use an electronic calculator, but the person with more knowledge will be able to get more use out of the calculator.

Word processing is a new skill; it is different from typing on paper. To get started, you will have to learn which keys to press to make things happen. Most will be easy to learn since the letter you press stands for the function, such as pressing the "s" key to "save" your text. Some of the keys were chosen for convenience on the keyboard. For example, you use the "z" key for scrolling the text because it is near the arrows, which are used for cursor moves. After you have become familiar with the basic moves in Lazy Writer, you can start learning how to make word processing work for you.

LAZY WRITER WORD PROCESSING SYSTEM
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by David Welsh

I N S T A L L I N G L A Z Y W R I T E R

All versions of Lazy Writer, except for the MAX-80 and the TRSDOS 6 versions, are on a tiny version of MULTIDOS called LAZYDOS. For Model III and Model "4 + 3" (for the Model 4), you'll find the first thing that happens when you put the disk in your #0 drive and press RESET is that an automatic "welcome" program begins. This automatically executes a "checksum" program, which tells you if the files on the disk are correct. If you get the message "file altered", return the disk directly to AlphaBit Communications, Inc for replacement.

The "welcome" program also gives you on-screen help in making up a working disk for the DOS of your choice and making backups. It lets you select a custom printer driver suitable for use with your printer, or select the standard printer driver, which works with any printer. This program will only run once, the first time you use the disk. If it should run again, it is probably because you did not remove the write-protect tab on the disk. Check to see if the notch on the side of the disk is covered with a small sticker. If so, remove the sticker. The "welcome" program is simply activated by LAZYDOS's AUTO feature. AUTO commands can always be defeated by holding down <ENTER> as you reset the computer. The Model 4 TRSDOS 6 version has no "welcome" program since it is not on a DOS.

M O D E L I

Your Model I Lazy Writer is on a tiny version of the MULTIDOS Disk Operating System called LAZYDOS, so all you have to do is put the disk in drive #0 and press RESET. When you do this, a CHECK program will run automatically. This will tell you if the files on the disk are correct or not. If you see the message "file altered", return the disk to AlphaBit Communications for replacement. The CHECK program will run only once, since it is activated by the LAZYDOS's AUTO feature.

The Model I version is on a single-density disk. It does not have a full "welcome" program because there is not enough room on the disk for it and for the BASIC needed to run it. The optional text and driver files (files ending in "/TXT" and "/DRV") are on the back of the disk (or they may be on a separate disk). Both disks (or both sides of one disk) have a DOS and a COPY command. If you want to use one of the driver files, it should be copied to the filename P1/CMD on your working disk. There is enough room on a single density disk for all the program files needed to use Lazy Writer, but not for all the optional files. If you are copying the program to a double density disk, you will have plenty of room.

Although the MULTIDOS disk provided is a single density disk, MULTIDOS can read and write double density disks. If you have a doubler installed in your Model I, you can format a double density data disk with this version of MULTIDOS. If you do not have lower case characters on the screen, Lazy Writer will work fine anyhow, and you'll be able to print lower case if your printer has upper and lower case. To check which characters will print lower case, hit the "; " key from Edit. The characters will be marked with "#"s. If you DO have lower case, Lazy Writer will sense it - there is nothing you have to do to tell Lazy Writer to produce upper and lower case on the screen.

Model I Lazy Writer has been tested on all major DOSes. You can move the files to the DOS of your choice if you do not want to use the DOS provided. LAZYDOS will copy directly to and from all single density Model I DOSes. It will also copy directly to all double density DOSes, except for Radio Shack 2.7/2.8dd. This is the DOS sold with the Radio Shack doubler. The Radio Shack DOS will read and write to LAZYDOS, however. You CAN use Lazy Writer with the Radio Shack doubler without using the Radio Shack DOS. Use the DOS provided or buy a full MULTIDOS.

Once Lazy Writer is installed on a working disk, just press "l" (the L key) to load the program. Follow the instructions on the screen.

M O D E L I I I

Your Model III Lazy Writer disk is on a tiny version of the MULTIDOS Disk Operating System, so after you have used the WELCOME program, all you have to do is put your working disk (SAVE your MASTER in a safe place) in drive #0 and press RESET. When you see the large LAZY WRITER banner and DOS READY, press "l" (the L key) then <ENTER>. That will load the initial screen for Lazy Writer. Follow the prompts on the screen from here.

Model III Lazy Writer has been tested on all Major DOSes. The "welcome" program will copy the files onto the DOS of your choice. Or you can simply copy the files with the COPY command to move them to another Model III DOS. The only exception is TRSDOS 1.3. Text files created by Lazy Writer on TRSDOS 1.3 will not be directly readable by LAZYDOS and vice versa. You should make a decision on which DOS to use when you begin with Lazy Writer and stick with it. If you begin with LAZYDOS, you can later safely switch to DOSPLUS, LDOS, single sided NEWDOS-80, or the full MULTIDOS with no problems. When moving text files between these DOS, just remember that LAZYDOS is smarter than the other DOSes, it is the child of MULTIDOS which automatically recognizes the type and density of most of the other DOSes. So use LAZYDOS or MULTIDOS if you have it, to copy to and from disks created by the other DOSes. If you want to use TRSDOS 1.3, see the instructions on "MOVING FILES FROM TRSDOS..." and "MOVING FILES TO TRSDOS...".

INSTALLING LAZY WRITER/PAGE 2

M O D E L 4

Lazy Writer is provided with a version for use with LAZYDOS (the files can also be copied to any Model III DOS) and, on the other side of the disk, a version for use with TRSDOS 6, Radio Shack's Disk Operating System. Files created by either version are fully interchangeable, but the program files are different. If you purchased Model 4 Lazy Writer, you have both versions. The program is usually sold on a "flippy" disk, with programs on both sides; otherwise you will have two disks. The choice of which version to use is up to you, but we recommend you use the "4 + 3" version if you are a beginner. Using this version means you will not have to copy any files to a new disk, and you will find the DOS provided does all you need to do.

You can also use the Model III Lazy Writer with your Model 4 computer. The main difference is that the Model III Lazy Writer displays 64 x 16 characters instead of 80 x 24 and does not make use of the function keys. See the chart at the end of this section for keyboard differences between the various versions.

M O D E L 4, " 4 + 3 "

Your Model 4 Lazy Writer is on a tiny version of the MULTIDOS Disk Operating System called LAZYDOS, so all you have to do is put the disk in drive #0 and press RESET. When you see the large LAZY WRITER banner and DOS READY, press "I" (the L key) then <ENTER>. That will load the initial screen for Lazy Writer. Follow the prompts on the screen from here. Although MULTIDOS is a Model III DOS and works in standard 64 character format, when you load Lazy Writer, you will have 80 x 24 characters on the screen.

The Model "4 plus 3" disk contains all the Lazy Writer program files, plus a program called FAST/CMD. This program turns on the high speed clock in the Model 4, which makes programs run faster. The clock regulates the speed of the microprocessor. FAST changes the speed from 2 megahertz to 4 megahertz, the same speed you get with TRSDOS 6. The high speed clock has been incorporated into the LAZYDOS, but we've included FAST so you can use it on other Model III DOSes and with other programs, if you want. We do not recommend its use, however, with TRSDOS 1.3. From DOS READY, type FAST "ENTER". The high speed clock is now on. It stays on as long as the computer is on; to turn it off, RESET the computer. Some functions, such as loading from cassette, may not work properly with the high speed clock on.

M O D E L 4, T R S D O S 6

The TRSDOS 6 version of Lazy Writer is on an TRSDOS 6 formatted data disk. It may be on a "flippy" disk, with the "Four Plus Three" version on the other side. Just use the COPY command for TRSDOS 6 to move the files onto a system disk. In order to get all the Lazy Writer files onto your system disk, you will have to purge some of the DOS files. Check your DOS manual for information on which files you don't need.

INSTALLING LAZY WRITER/PAGE 3

Put a disk containing only the stripped TRSDOS 6 in your #0 drive and a disk containing the Lazy Writer files into your #1 drive. Now COPY the following files from the #1 to the #0 drive.

L/CMD	UTILITY/CLW	DIR/CMD	PRINTGEN/CLW
EDIT/CMD	P1/CMD	LPNT/CMD	FT

These are the main program files. The rest of the files are less frequently needed and could remain on a data disk. You might want to also copy the HELP file to the system disk. See the pages at the end of this section containing a listing of all files on the disk.

You may also use Lazy Writer on DOSPLUS version A.4, using the same COPY command to move the files from the #1 drive to the #0 drive. The file P1/CMD, which is the same as PAKDRV/CMD, is the printer driver file. It works with a parallel printer. You may wish to use one of the custom drivers on your disk in place of P1/CMD. See the chapter, PRINTER DRIVERS. If you are using a serial printer, refer to the TRSDOS 6 manual for information on using a serial driver.

TRSDOS SPOOLER - The file SYSDRV/CMD found on the Lazy Writer disk is a driver that works through the DOS. When using the SYSDRV/CMD, you should be able to use the spooler and other DOS functions. To use SYSDRV/CMD, copy it over to P1/CMD, so that it replaces P1/CMD. The TRSDOS 6 spooler returns the computer to you shortly after printing begins. Load the spooler program from DOS, using the SPOOL command, then load Lazy Writer. However, when using the spooler, you will also have to insure that the DOS FORMS command is set to "off" so it doesn't interfere with Lazy Writer's paging. In this case, any filters installed on the DOS can interfere with Lazy Writer. See the TRSDOS 6 manual under the command SPOOL for more information.

SOME DIFFERENCES IN THE TRSDOS 6/DOSPLUS 4 VERSION:

FUNCTION KEYS - You can use the three function keys found on the Model 4 for the following: F1 for loading Directory, F2 for using the Formatter, and F3 for the Printer Menu. See the chart for more information on key differences.

CAPS - The Model 4 keyboard has a CAPS key that is not on the Model III keyboard. With TRSDOS 6 or DOSPLUS A.4, you can use this CAPS key, but it will not have the same effect as using the Lazy Writer "caps" method (hitting "SHIFT" "CLEAR"). Using CAPS will change command keys into upper case, as well as characters you type. Pressing "l" for loading will actually get you "L" for list, and so on.

REVERSE CASE COMMANDS - Note that with DOSPLUS, some of the commands are reversed when used with the "CLEAR" key from TEXT ENTRY. Loading and listing, for instance, are reversed. You load with "L" and list with "l". Single key commands in EDIT are not affected. See the chart for the correct commands.

INSTALLING LAZY WRITER/PAGE 4

These difference exist because the Model 4 Lazy Writer uses the DOS for all functions and DOSPLUS returns a different case from TRSDOS 6 when you press CLEAR and a letter. DOSPLUS requires "CLEAR" + "SHIFT" + a letter. To reduce the problems this causes, the Model 4 version's key commands are case independent, where possible. Where there's only one function on a key ("d" for delete, for example), you can use either upper or lower case to get that function. But where there's two functions ("c" and "C", for instance), you must use the correct one.

MISSING FEATURES - Some functions found in the Model I and III versions are not in Model 4 versions. There is no need for the "+" command, which marks upper case characters on a lower case Model I machine. Unfortunately, using the DOS for the keyboard scan functions meant we could not retain the speeded cursor by pressing SHIFT and an arrow key. You can't toggle on and off the repeating keys anymore either, but you can set more speed using the DOS SET command.

There are some advantages though in going through the DOS for the keyboard. Anything the operating system can do, you can do through Lazy Writer. For instance, you can use the spooler, the key stroke multiply, and also the keyboard type-ahead DOS features. The TRSDOS 6 "type-ahead" feature will insure that you cannot lose any keystrokes with Lazy Writer, but sometimes the screen display may fall behind. When deleting near the top of the screen, the delete routine may get a few characters behind; if you accidentally delete a few too many characters, back up the arrow key to recover them.

STOP PRINTING - When you're printing text, if you want to stop the printing before the page is finished, hit ENTER briefly. Do not hold it down, as you do with the Model III version; that would not stop it. Or, a more effective method is to hit BREAK.

SPECIAL CHARACTERS - The Lazy Writer manual provides a chart for producing special characters not on the keyboard. This chart will not be completely accurate for TRSDOS 6 and DOSPLUS; consult your DOS manual for the correct keys to get these characters.

DEFINABLE KEYBOARD - There are also two files on your Model 4 disk that are not on the Model III version. These are PLUS/CLW and KEY/CLW. PLUS is a program you load from DOS that redefines the keyboard. KEY is an object code file that can be loaded in as a text file; it contains two alphabets that you can overtype and change or use as is. The first alphabet represents the keyboard as it is; the second alphabet is the keyboard with the high bit set (plus 128). This second alphabet represents control keys, such as "CLEAR"+"d" for delete, etc.

PLUS corrects the DOSPLUS keyboard so it works more like TRSDOS. To use it, from DOS READY type:

L E PLUS

Do this each time you load Lazy Writer. If you want to set up your own keyboard, load PLUS/CLW or KEY/CLW into Lazy Writer as if it were a text file. Make any changes you want by overtyping the characters.

INSTALLING LAZY WRITER/PAGE 5

Save the file, then go to DOS READY and type:

L E KEY

This will load your changes into Lazy Writer. This is not permanent and must be done each time you load Lazy Writer. If you want a permanent change, you can load L/CMD into Lazy Writer, look for the place that has a complete upper and lower case alphabet and overwrite what you want, then save it back as L/CMD. This permanently alters Lazy Writer and should be tried only on a backup copy. You could use this method to adapt Lazy Writer for the Dvorak keyboard, which has a different (and better) keyboard layout.

MAKING BACKUPS AND FORMATTING DATA DISKS WITH LAZYDOS/MULTIDOS

To make a backup of your Lazy Writer original disk. Type:

BACKUP <ENTER>

and answer the prompts. You can make as many backups as you want. You'll also want to format a data disk.

Type:

FORMAT <ENTER>

and answer the prompts. If you have a two-drive system, the disk you create can go in your #1 drive and hold your text files. When the disk fills up, format a new one. Don't forget to make backups of your text files too, for your own protection.

USING OTHER DISK OPERATING SYSTEMS WITH MODEL III OR MODEL 4 LAZY WRITER

MULTIDOS (LAZYDOS) files are compatible with most other Model III and 4 operating systems, except for TRSDOS 1.3. The WELCOME program takes care of copying Lazy Writer to other operating system. Here's how you can do it without the "WELCOME" program.

If you have another Model III DOS you want to use, you can use the LAZYDOS COPY command to move the files from the enclosed LAZYDOS disk to the DOS of your choice. You will have to copy each file individually. The correct syntax is:

COPY L/CMD :0 :1

Do this with each file on your Lazy Writer disk. LAZYDOS lets you put more than one command on a line (separated by commas) so you can speed up the copying by using multiple COPY commands on one line. You can use a single drive system too if the destination disk is a system disk. Do that with this command:

INSTALLING LAZY WRITER/PAGE 6

COPY \$L/CMD:0 :0

The "\$" tells LAZYDOS that you're going system disk to system disk. You will be prompted to swap disks at the appropriate times.

If you are using NEWDOS 80, you'll need a new Directory program called NEWDIR80/CMD, which is on your disk. Copy it over to DIR/CMD so that it replaces DIR/CMD. If you are using DOSPLUS, do the same with a file called DIRPLUS/CMD. The Model I version has DIRPLUS/CMD (for DOSPLUS and LDOS) and TRSDIR/CMD (for TRSDOS and NEWDOS).

MOVING FILES FROM TRSDOS MODEL I & MODEL III

If you are new to Lazy Writer, we suggest you use the DOS provided, especially at first. It is the simplest way to begin using Lazy Writer and you'll find it does all you need. However, if you try to read a TRSDOS disk with LAZYDOS, you will find LAZYDOS returns an error message. Here are the situations that will be a problem:

- * **CONVERT/CMD** If you have a program on a Model I single density data disk formatted by TRSDOS 1.3, LAZYDOS will not read it. However, there is a solution. On your Lazy Writer disk is a utility program called CONVERT. This utility changes the address marks on the target disk to a format LAZYDOS can read. To convert a disk to readable format, put the TRSDOS disk in drive #1 and type CONVERT:1 from DOS Ready. Now you can copy files from the disk onto your Lazy writer disk using the COPY command. The disk will no longer be easily readable by TRSDOS 2.3 but can be read by most other modern Model I operating systems. (The problem is that TRSDOS used disk data address marks that are not available on the Model III or Model 4.)
- * **TU/CMD** If you have a program on a double density Model III TRSDOS 1.3 disk, LAZYDOS will not read this disk, nor can it be converted. CONVERT is only for Model I formatted disks. The solution is another utility called TU, which is on your Lazy Writer disk. Put the TRSDOS disk in drive #1 and from DOS Ready, type TU. What you are going to do is move the files from the #1 drive onto the #0 drive. Answer all prompts and when you get a list of the files on the TRSDOS disk, mark the ones you want moved by moving the cursor with the arrow keys. Hit the "Y" key to mark a file to be moved and the "N" key to skip files. When you're finished marking files, hit <ENTER>. There must be room on the Lazy Writer disk to receive these files. NOTE: TU moves files from TRSDOS to LAZYDOS. It will not work the other way around.

MOVING FILES TO MODEL III TRSDOS 1.3

You can move files from LAZYDOS to TRSDOS 1.3. Here's how to do it:

First, using the LAZYDOS, format a single density 35 track data disk. Type FORMAT and answer any prompts. LAZYDOS will ask you the number of tracks (you want 35) and density (you want single). Do not format the disk with TRSDOS - TRSDOS does not give you the option of formatting single density and wouldn't provide the correct track layout.

Next, with the LAZYDOS disk in drive :0 and the newly formatted disk in drive :1, COPY all files from :0 to :1. Use this command (or multiple commands on one line, separated by a comma):

```
COPY MYTEXT:0 :1
```

Do this with all files you want to move from the system disk.

Now, remove the LAZYDOS disk from drive #0 and insert a disk containing TRSDOS 1.3. The disk you use should contain only TRSDOS so there is enough room to receive the Lazy Writer files. Press RESET and wait for the TRSDOS initial screen.

With the single density data disk still in drive :1 and the TRSDOS disk in drive :0, form TRSDOS Ready, type:

```
CONVERT :1 TO :0
```

You are going to convert the files from drive #1 onto drive #0. (Note that this is different from the CONVERT program on your Lazy Writer disk mentioned above, which just changes address marks on the target disk and does not move the programs) TRSDOS will react to your data disk as if it were a Model I disk and will copy the files off it onto your system disk.

A NOTE ABOUT THE CHECK PROGRAM

The file CHECK/CMD on your disk computes a "checksum" number for each file. The only purpose of this is to compare the correct number for that file with the number generated by checking the files on the disk you received. This is a way of checking whether files are correct on the disk (sometimes disks are damaged in shipment and files are changed). This program will run once when you first boot up your disk. However, you can use it again later to check your files. But once you have changed files by using CHANGE LAZY WRITER or using PRINTGEN (both accessed from UTILITY/CLW), you will get "file altered", but the file will be ok. CHANGE LAZY WRITER alters the file L/CMD and PRINTGEN alters the file P1/CMD and sometimes alters LPNT/CMD. The program will give you a new checksum number, which will now be correct for that file. If you have copied the Lazy Writer files to TRSDOS 1.3, you will also get "file altered" because of the CONVERT program used by TRSDOS 1.3. The number you get is a new number that usually doesn't match the original number, but this does not mean your files are bad.

INSTALLING LAZY WRITER/PAGE 8

LAZYDOS COMMANDS

LAZYDOS is a tiny version of MULTIDOS 1.6d. It is exactly the same DOS, except that many commands and features of the full MULTIDOS have been left out. We cannot supply full instructions for this DOS, but offer the following information that should help you in using Lazy Writer with the DOS.

The following library commands are included with LAZYDOS/MULTIDOS:

AUTO	BOOT	CLEAR	CLOCK
CLS	CONFIG	DATE	DIR
FORMS	KILL	LIB	LIST
PRINT	SKIP	TIME	VERIFY

To use any of them, type the command name along with any parameters. These functions work pretty much the same as they do with TRSDOS, but three of them, AUTO, DIR, and FORMS, are a bit different.

The command AUTO causes automatic execution of other DOS commands. You can "AUTO" into Lazy Writer, for instance. This would mean every time you hit RESET, Lazy Writer is loaded automatically. The following is an AUTO command to load Lazy Writer:

AUTO L <ENTER>

MULTIDOS also provides for multiple AUTO commands. To make more than one command, either press down arrow to make a line feed between commands or enter commands with commas between them. Here's an example of a multiple command:

AUTO,DIR,TIME

You may enter a maximum of 32 characters into an AUTO command. To disable the AUTO command, hold down the ENTER key and when you see DOS READY, simply type:

AUTO <ENTER>

To find out what's in an AUTO command, type:

AUTO ?

To execute an AUTO command, without re-booting, type:

AUTO %<ENTER>

All DOS's have DIR (Directory), but LAZYDOS gives you a bonus: your directory is displayed in alphabetical order. Besides the Directory, you will see displayed the drive number, diskette title, diskette date, number of tracks, number of free granules, K byte granule equivalent, plus the names of all non-system files. To see the Directory on drive #1,+type:

DIR :1

There are five options you can use with DIR. They are: A (files shown with dates created and other info), I (display invisible files), K (display "killed" files if not overwritten), P (direct output to printer), S (display system files).

INSTALLING LAZY WRITER/PAGE 9

To make full use of DIR, you need the following syntax:

```
DIR[ [:]d[(opt[,opt...])]<ENTER>
```

Using the "A" option lets you see the directory with a line for each file. The line shows you the date the file was created and other information about the file.

LAZYDOS also has a FORMS command that lets you set print-out parameters, but you will not need to use this with Lazy Writer. FORMS provides for these parameters: I (initialize line counter), W (width), P (page length), T (text in print lines), S (blank spaces between printed text), L (linefeed after carriage return), C (direct printer output to RS232C on Mod III), nn (nulls after line feed). Here's a sample command:

```
FORMS (I,W=80,T=60,P=66)
```

This command has been left on the DOS, even though you don't need it with Lazy Writer. It might prove useful with other programs.

Also on the LAZYDOS disk is the JKL and HJK functions. When you press the JKL keys simultaneously, the contents of the screen will go to the printer. When you press HJK simultaneously, the same thing happens only any graphics you have will also be sent, whereas with JKL these graphics are converted to periods. These commands work from DOS only; you do not need them when you're using Lazy Writer; use the Lazy Writer menu to print your text. Use JKL to print DOS commands or information displayed on the screen (Directory, list of library commands, etc) by DOS.

LAZYDOS provided with the Model III, and Model 4 versions of Lazy Writer also contains a full disk BASIC. We can not provide documentation for BASIC, but most common applications will run under this BASIC. It is a smaller version of SUPER BASIC provided with the full MULTIDOS.

As mentioned previously, there are two utility programs on the disk, CONVERT and TU. These utilities let you access programs and data on disks created with TRSDOS.

DOUBLE-SIDED DRIVES - LAZYDOS works with single and double-sided floppies. When used with double-sided drives, use the CONFIG command to tell the DOS you are using two sides. LAZYDOS treats each side as a separate disk. Address the second side by using a "'" (this is the apostrophe above the "7" on your keyboard) after the drive number. (for example: DIR 1') LAZYDOS will not read or write to files created by other DOS' that treat both sides as one volume.

INSTALLING LAZY WRITER/PAGE 10

MULTIDOS was written by Vernon Hester and is one of the best values in a DOS for the TRS-80; it offers outstanding power and ease of use. The full MULTIDOS comes with SUPER BASIC, which incorporates BOSS, a single-stepper debugging aid. It also includes a Spooler, and a Help file for all Library commands. It contains many useful utility programs, including one that copies, moves, or purges files by showing you a directory of the files on the specified disk and letting you move the cursor to mark the ones you want acted on. This program can even move files from data disk to data disk with a two drive system.

IF YOU LIKE LAZYDOS, YOU'LL LOVE THE REST OF IT!

Send for more information about the full MULTIDOS or order your copy. MULTIDOS comes in versions for the Model I, III, and 4. Write to:

ALPHABIT COMMUNICATIONS, INC.
13349 MICHIGAN AVE., DEARBORN, MI 48126
or call (313) 581-2896.

MULTIDOS (LAZYDOS) is copyrighted by Cosmopolitan Electronics Corporation and is licensed to AlphaBit Communications, Inc. LAZYDOS is provided for your use only; please do not give it away.

Memo

September 17, 1985

These are the files on your Model I disk. Note that this DIR was read by the DOS command DIR (I,A) - showing invisible files as well as visible files. The dates maybe different on your disk. We have added comments below some files.

Filename	Date	Eof	Lrl	Lrec	Seg	Grans
1 Multidos	08/06/82	35 log	35 phy cyla	0 grans		0.00 K
BACKUP/CMD I	07/31/82	10/247	256	11	1	3
CHECK/CMD	09/17/85	3/106	256	4	1	1
COMM/CLW	07/20/85	2/120	256	3	1	1
New on 3.5 version						
COPY/CMD I	05/14/82	5/0	256	5	1	1
DIR/CMD	09/03/85	12/234	256	13	1	3
DIRPLUS/CMD	09/05/85	12/191	256	13	3	3
Copy to DIR/CMD for LDOS and DOSPLUS - can be used with Multidos 1.7x (COPY DIRPLUS/CMD:0 DIR/CMD:0 to copy from MASTER to working disk)						
EDIT/CMD	08/09/85	25/20	256	26	1	6
FORMAT/CMD I	08/06/82	12/233	256	13	1	3
FT	09/14/85	22/202	256	23	2	5
HELP	00/00/00	22/115	256	23	3	5
L/CMD	09/17/85	22/125	256	23	1	5
Main Lazy Writer program - type "L" from DOS to run						
LPNT/CMD	09/14/85	24/55	256	25	1	5
Pl/CMD	00/00/00	1/28	256	2	1	1
Standard driver - can be replaced with precustomized driver from side 2 for the printer you have. (COPY FILENAME/DRV:0 Pl/CMD:1 to copy to working disk)						
PRINTGEN/CLW	07/15/85	21/183	256	22	3	5
RS232/CMD	09/08/85	1/116	256	2	1	1
Pl/CMD for use with RS-232 board						
SYSDRV/CMD	08/30/85	1/21	256	2	1	1
Pl/CMD that routes printer output though DOS print driver						
TRS232/CMD	09/08/85	1/107	256	2	1	1
Pl/CMD for TRS232 device						
TRSDIR/CMD	09/07/85	13/144	256	14	1	3
DIR/CMD for TRSDOS 2.3 and NEWDOS 80 - (COPY TRSDIR/CMD:0 DIR/CMD:1 - to copy to working disk)						
UTILITY/CLW	09/03/85	16/2	256	17	3	4

Side 2:

These are the files on side two of the Model I disk. There is an operating system, but none of the main Lazy Writer files. All files that end in /DRV are drivers precustomized for different printers. We have added comments as above.

Filename	Date	Eof	Lrl	Lrec	Seg	Grans
1 Multidos	08/06/82	35 log	35 phy cyls	24 grans		30.00 K
BACKUP/CMD I	07/31/82	10/247	256	11	1	3
COPY/CMD I	05/14/82	5/0	256	5	1	1
DAISYII/DRV	09/09/85	1/28	256	2	1	1
Radio Shack Daisy Wheel II Pl/CMD						
DAISYIIB/DRV	09/09/85	1/28	256	2	1	1
Radio Shack Daisy Wheel IIB Pl/CMD						
DIOBF10Q/DRV	09/09/85	1/28	256	2	1	1
Driver for Qume/Dioblo/C.Itoh F10/etc.						
DMP200/DRV	09/10/85	1/28	256	2	1	1
Radio Shack DMP-200 Pl/CMD						
DMP2100/DRV	09/09/85	1/28	256	2	1	1
Radio Shack DMP-2100 Pl/CMD						
DMP500/DRV	09/09/85	1/28	256	2	1	1
Radio Shack DMP-500 Pl/CMD						
DWP410/DRV	09/10/85	1/28	256	2	1	1
Radio Shack DWP-410 Pl/CMD						
FORMAT/CMD I	08/06/82	12/233	256	13	1	3
JUKI6100/DRV	09/09/85	1/28	256	2	1	1
Juki-6100 Pl/CMD						
JUKI6102/DRV	09/09/85	1/28	256	2	1	1
Juki-6100 Pl/CMD - Alternate method						
LINEVI/DRV	09/09/85	1/28	256	2	1	1
Radio Shack Line Printer VI - Pl/CMD						
LINEVIII/DRV	09/10/85	1/28	256	2	1	1
Radio Shack Line Printer VIII - Pl/CMD						

Memo

September 17, 1985

```

=====
LQ1500/DRV      09/12/85      1/28      256      2      1      1
    EPSON LQ-1500 P1/CMD

NEC8023/DRV     09/10/85      1/28      256      2      1      1
    NEC-8023 P1/CMD

OKIDAT92/DRV    09/10/85      1/28      256      2      1      1
    Okidata 92 P1/CMD

PRINT/TES       09/16/85      37/159    256      38      2      8
    A test file you can load into Lazy Writer and print out. A
    printout is included in the printer appendix

PRO8510A/DRV    09/10/85      1/28      256      2      1      1
    Prowriter 8510A P1/CMD

RX80/DRV        09/17/85      1/28      256      2      1      1
    EPSON RX-80/FX-80 P1/CMD

X1              09/17/85      1/0       256      1      1      1
    A sample X-key keyboard macro file

X2              09/17/85      1/0       256      1      1      1
    A sample X-key file

```


Memo

September 17, 1985

These are the files on your Model III disk. Note that this DIR was read by the DOS command DIR (I,A) - showing invisible files as well as visible files. The dates maybe different on your disk. We have added comments below some files.

2 Lazy dos 09-09-82 40 log 40 phy cyls	0 grans	0.00 K
Filename Date Eof Lrl Lrec Seg Grans		
BACKUP/CMD I 12/08/83 11/226 256 12 1 2		
BASIC/CMD I 09/06/83 14/231 256 15 1 3		
CHECK/CMD 12/18/83 3/106 256 4 1 1		
COMM/CLW 07/20/85 2/108 256 3 1 1		

New on 3.5.

CONVERT/CMD 11/08/82 2/127 256 3 1 1

Converts Model TRSDOS 2.3 disks.

COPY/CMD I 12/08/83 5/1 256 6 1 1
DAISYII/DRV 09/10/85 1/26 256 2 1 1
DAISYIIB/DRV 09/10/85 1/26 256 2 1 1
DIOBF10Q/DRV 09/10/85 1/26 256 2 1 1
DIR/CMD 09/03/85 12/234 256 13 2 3
DIRPLUS/CMD 09/05/85 12/191 256 13 2 3
DMP200/DRV 09/10/85 1/26 256 2 1 1
DMP2100/DRV 09/10/85 1/26 256 2 1 1
DMP500/DRV 09/10/85 1/26 256 2 1 1
DWP410/DRV 09/10/85 1/26 256 2 1 1
EDIT/CMD 08/09/85 25/20 256 26 1 5
FORMAT/CMD I 12/08/83 13/53 256 14 1 3
FT 09/14/85 22/202 256 23 1 4
HELP 05/21/84 54/157 256 55 2 10
JUKI6100/DRV 09/10/85 1/26 256 2 1 1
JUKI6102/DRV 09/10/85 1/26 256 2 1 1
L/CMD 09/16/85 22/116 256 23 1 4

Main Lazy Writer program.

LINEVI/DRV 09/10/85 1/26 256 2 1 1
LINEVIII/DRV 09/10/85 1/26 256 2 1 1
LPNT/CMD 09/14/85 24/63 256 25 1 5
LQ1500/DRV 09/10/85 1/26 256 2 1 1
NEC8023/DRV 09/10/85 1/26 256 2 1 1
NEWDIR80/CMD 09/07/85 13/144 256 14 2 3
OKIDAT92/DRV 09/10/85 1/26 256 2 1 1
P1/CMD 00/00/00 1/26 256 2 1 1
PRINT/TES 09/16/85 37/159 256 38 1 7

Test text file. Load into Lazy Writer and print.

PRINTGEN/CLW	07/15/85	21/183	256	22	2	4
--------------	----------	--------	-----	----	---	---

Memo

September 17, 1985

=====

PRO8510A/DRV	09/10/85	1/26	256	2	1	1
RS232/CMD	09/08/85	1/114	256	2	1	1
RX80/DRV	09/12/85	1/26	256	2	1	1
SYSDRV/CMD	09/08/85	1/21	256	2	1	1
TRSDIR/CMD	09/06/85	11/80	256	12	1	2
TU/CMD	04/29/82	10/195	256	11	1	2

Moves files FROM TRSDOS Model III 1.3

UTILITY/CLW	09/03/85	16/2	256	17	1	3
WELCOME/BAS	00/00/00	43/172	256	44	2	8
X1	09/01/81	0/201	256	1	1	1

Sample X-key file

X2	09/01/81	0/200	256	1	1	1
----	----------	-------	-----	---	---	---

Sample X-key file

MEMO

September 27, 1985

=====

These are the files on your Lazy Writer Model 4 disk on the "4+3" LazyDos side of the disk. Note that this DIR was read by the DOS command DIR (I,A) - showing invisible files as well as visible files. The dates may be different on your disk. We have added comments below some files with Lazy Writer.

1 Lazy dos 09-09-82 40 log 40 phy cyls 5 grans 7.50 K	Filename	Date	Eof	Lrl	Lrec	Seg	Grans
	BACKUP/CMD I	12/08/83	11/226	256	12	1	2
	BASIC/CMD I	09/06/83	14/231	256	15	1	3
	CHECK/CMD	09/17/85	3/155	256	4	1	1
	COMM/CLW	07/20/85	2/120	256	3	1	1

New on 3.5

CONVERT/CMD	11/08/82	2/127	256	3	1	1
-------------	----------	-------	-----	---	---	---

Converts Model I 2.3 disks to be readable by LAZYDOS.

COPY/CMD I	12/08/83	5/1	256	6	1	1
DAISYII/DRV	09/19/85	1/24	256	2	1	1
DAISYIIB/DRV	09/19/85	1/24	256	2	1	1
DIOBF10Q/DRV	09/19/85	1/24	256	2	1	1
DIR/CMD	09/03/85	13/57	256	14	2	3
DIRPLUS/CMD	09/05/85	12/219	256	13	2	3
DMP200/DRV	09/19/85	1/24	256	2	1	1
DMP2100/DRV	09/19/85	1/24	256	2	1	1
DMP500/DRV	09/19/85	1/24	256	2	1	1
DWP410/DRV	09/19/85	1/24	256	2	1	1
EDIT/CMD	09/24/85	27/14	256	28	1	5
FAST/CMD	09/25/83	0/19	256	1	1	1
FORMAT/CMD I	12/08/83	13/53	256	14	1	3
FT	09/19/85	25/222	256	26	2	5
HELP	05/21/84	52/210	256	53	1	9
JUKI6100/DRV	09/19/85	1/24	256	2	1	1
JUKI6102/DRV	09/19/85	1/24	256	2	1	1
KEY/CLW	09/29/83	1/8	256	2	1	1
L/CMD	09/25/85	27/58	256	28	1	5

Main Lazy Writer program.

LINEVI/DRV	09/19/85	1/24	256	2	1	1
LINEVIII/DRV	09/19/85	1/24	256	2	1	1
LPNT/CMD	09/12/85	25/220	256	26	1	5
LQ1500/DRV	09/19/85	1/24	256	2	1	1
NEC8023/DRV	09/19/85	1/24	256	2	1	1
NEWDIR80/CMD	09/05/85	13/203	256	14	3	3
OKIDAT92/DRV	09/19/85	1/24	256	2	1	1
P1/CMD	09/19/85	1/24	256	2	1	1
PARDRV/CMD	09/19/85	1/24	256	2	1	1
PRINT/TES	09/16/85	37/159	256	38	1	7

Test test file. Load into Lazy Writer and print.

PRINTGEN/CLW	09/19/85	22/213	256	23	2	4
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PRO8510A/DRV	09/19/85	1/24	256	2	1	1
RS232/CMD	09/19/85	1/112	256	2	1	1
RX80/DRV	09/19/85	1/24	256	2	1	1
SYSDRV/CMD	09/19/85	1/19	256	2	1	1
TRSDIR/CMD	09/24/85	11/235	256	12	1	2
TU/CMD	04/29/82	10/195	256	11	1	2
Moves files FROM TRSDOS Model III 1.3						
UTILITY/CLW	09/19/85	16/24	256	17	1	3
WELCOME/BAS	09/21/85	43/229	256	44	2	8
X1	09/19/85	1/0	256	1	1	1
Sample X-Key file.						
X2	09/19/85	1/0	256	1	1	1
Sample X-key file.						

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This is a dump of the directory of the Multidos 80/64 version disk for Lazy Writer. Comments have been added with Lazy Writer. Dates of files may differ on your disk. There is no welcome program for this version, but installation is easy. Mount a system disk with enough room in drive 0. Mount the Lazy Writer master disk in drive 1. Type "DO TRANSFER"<ENTER> and watch Multidos copy the needed files to your system disk. Once Lazy Writer is installed, copy the printer driver that is the closest fit with your printer from drive 1 to Pl/CMD on drive 0. If the driver needs additional modification, you can do it with PRINTGEN (after reading the manual).

The DIR/CMD file will work with all disks created by Multidos 1.7 and some others. It handles double sided, one volume disks, hard disks and memdisk. The MULTIDIR/CMD is provided because it will handle 1.6 and LazyDos disk which DIR/CMD will not. If you plan to be using a lot of disks that were create under 1.6, you might want copy MULTIDIR/CMD to DIR/CMD on your working disk.

This special version of Lazy Writer takes advantage of the fact that Multidos 80/64 is an all RAM operating system and the area of memory that would contain the ROM on a Model III is available for use by Lazy Writer, providing more room for the program and about 5000 more characters for text compared to the "4+3" version. The "4+3" verison can also be used on Multidos 80/64.

1	LWMS 3.5	10/14/85	40 log	40 phy	cyls	64	grans	96.00	K
Filename		Date	Eof	Lrl	Lrec	Seg	Grans		

CHECK/CMD	09/17/85	3/90	256	4	1	1			
Checks Lazy Writer files. Run from DOS.									
COMM/CLW	07/20/85	2/114	256	3	1	1			
New with 3.5									
DAISYII/DRV	10/12/85	1/24	256	2	1	1			
Pl/CMD for Radio Shack Daisy Wheel II.									
DAISYIIB/DRV	10/12/85	1/24	256	2	1	1			
Pl/CMD for Radio Shack Daisy Wheel IIB.									
DIOBF10Q/DRV	10/12/85	1/24	256	2	1	1			
Pl/CMD for Qume/F10 C.Ithoh and similar printers.									
DIR/CMD	09/05/85	11/9	256	12	1	2			
Handles directories from within Lazy Writer									
DMP200/DRV	10/12/85	1/24	256	2	1	1			
Pl/CMD for Radio Shack DMP-200.									

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=====
DMP2100/DRV      10/12/85      1/24      256      2      1      1
    Pl/CMD for Radio Shack DMP-21000.

DMP500/DRV       10/12/85      1/24      256      2      1      1
    Pl/CMD for Radio Shack DMP-500.

DWP410/DRV       10/12/85      1/24      256      2      1      1
    Pl/CMD for Radio Shack DWP-410.

EDIT/CMD         09/24/85      28/28      256      29      1      5
    Program file needed to EDIT in Lazy Writer.

FT               10/07/85      25/138     256      26      1      5
    Program file needed to use format feature in Lazy Writer.

HELP             05/21/84      52/210     256      53      1      9
    Text file listed when "help" key is pressed.

JUKI6100/DRV     10/12/85      1/24      256      2      1      1
    Pl/CMD for Juki 6100.

JUKI6102/DRV     10/12/85      1/24      256      2      1      1
    Pl/CMD for Juki 6100 - setup to use backspace method.

KEY/CLW          11/07/83      1/15      256      2      1      1
    CMD file that can be altered to produce different keyboard.

L/CMD            10/04/85      30/86      256      31      1      6
    Main program for Lazy Writer - manages the others.

LINEVI/DRV       10/12/85      1/24      256      2      1      1
    Pl/CMD for Radio Shack Line Printer VI.

LINEVIII/DRV     10/12/85      1/24      256      2      1      1
    Pl/CMD for Radio Shack Line Printer VIII.

LPNT/CMD         09/12/85      26/119     256      27      1      5
    Lazy Writer program to arrange and output text. Needed to
    print.

LQ1500/DRV       10/12/85      1/24      256      2      1      1
    Pl/CMD for EPSON LQ-1500 printer.

MULTIDIR/CMD     09/03/85      11/103     256      12      2      2
    Alternate version of DIR/CMD.

NEC8023/DRV      10/12/85      1/24      256      2      1      1
    Pl/CMD for NEC-8023.

OKIDAT92/DRV     10/12/85      1/24      256      2      1      1
    Pl/CMD for Okidata 92.

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=====
P1/CMD      08/29/85      1/24      256      2      1      1
Driver program that actually delivers output to the
printer. This program also contains tables manipulated by
PRINTGEN and act on by LPNT/CMD. Needed to print.

PRINT/TES   09/16/85      37/159     256      38      1      7
Text file containing common printer commands - reproduced
in printer appendix.

PRINTGEN/CLW 09/19/85      22/218     256      23      1      4
Extension program to change P1/CMD for different printers.

PRO8510A/DRV 10/12/85      1/24      256      2      1      1
P1/CMD for the Prowriter 8510A.

RX80/DRV     10/12/85      1/24      256      2      1      1
P1/CMD for the EPSON RX-80 and FX-80.

SYSDRV/CMD   10/09/85      1/19      256      2      1      1
P1/CMD that directs output through the operating system.
Allows use of the spooler. It can be PRINTGEN to any
printer configuration.

TRANSFER/IDO 10/14/85      0/157     256      1      1      1
DO FILE for moving Lazy Writer programs from master to
Multidos system disk.

UTILITY/CLW   10/08/85      16/24     256      17      1      3
Lazy Writer extension file.

X1            09/19/85      1/0       256      1      1      1
X2            09/19/85      1/0       256      1      1      1
X1 & X2 are sample X-Key files.

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These are the files on your Lazy Writer Model 4 disk on the TRSDOS 6 data disk side of the disk. Note that this DIR was read by the DOS command DIR (A). The dates may be different on your disk. We have added comments below some files with Lazy Writer.

Filename	Date	Eof	Lrl	Lrec	Seg	Grans
1 LAZYTR6D	09/24/84	40 log	40 phy cyls	48 grans		72.00 K
DAISYII/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for the Daisy Wheel II printer.						
DAISYIIB/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for the Daisy Wheel IIB printer.						
DIOBF10Q/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for Dioblo, Qume, C.Itoh F10 printers.						
DIR/CMD	09/05/85	10/245	256	11	2	2
Lazy Writer directory program overlay.						
DMP200/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for Radio Shack DMP-200 printer.						
DMP2100/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for Radio Shack DMP-2100 printer.						
DMP500/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for Radio Shack DMP-500						
DWP410/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for Radio Shack DWP-410						
EDIT/CMD	08/15/85	27/140	256	28	1	5
Edit overlay for Lazy Writer						
FT	09/19/85	25/189	256	26	2	5
Formatter overlay to Lazy Writer.						
HELP	05/21/84	52/210	256	53	2	9
Help text file loaded by Lazy Writer.						
JUKI6100/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for Juki 6100 printer.						
JUKI6102/DRV	09/19/85	1/17	256	2	1	1
Pl/CMD for Juki 6100 PRINTGENed to backspace method.						
KEY/CLW	09/29/83	1/8	256	2	1	1
Look up table file that can be altered and loaded to change Lazy Writer's key board.						

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=====
L/CMD          09/25/85      28/94      256      29      2      5
Main Lazy Writer program - controls and services the
others.

LINEVI/DRV     09/19/85      1/17      256      2      1      1
Pl/CMD for Radio Shack Line Printer VI.

LINEVIII/DRV   09/19/85      1/17      256      2      1      1
Pl/CMD for Radio Shack Line Printer VIII.

LPNT/CMD       09/12/85      26/119    256      27      2      5
Lazy Writer program that readies text for the printer.

LQ1500/DRV     09/19/85      1/17      256      2      1      1
Pl/CMD for Epson LQ-1500 printer.

NEC8023/DRV    09/19/85      1/17      256      2      1      1
Pl/CMD for NEC 8023 printer.

OKIDAT92/DRV   09/19/85      1/17      256      2      1      1
Pl/CMD for Okidata u92.

Pl/CMD         09/15/85      1/17      256      2      1      1
Standard parallel print driver unPRINTGENed.

PARDRV/CMD     09/15/85      1/17      256      2      1      1
Copy of Pl/CMD.

PLUS/CLW       09/24/83      1/8       256      2      1      1
Correction file for DOSPLUS 4 keyboard - use L E
PLUS<ENTER> to load.

PRINT/TES      09/16/85      37/159    256      38      1      7
A test text file you can load into to Lazy Writer and print
out. A printed version is in the Printer Appendix section
of this manual.

PRINTGEN/CLW   09/19/85      22/213    256      23      2      4
Lazy Writer extension program that allows customizing
Pl/CMD. Executes from the Lazy Writer directory program or
by typing L E PRINTGEN<ENTER>.

PRO8510A/DRV   09/19/85      1/17      256      2      1      1
Pl/CMD for the Prowriter.

RX80/DRV       09/19/85      1/17      256      2      1      1
Pl/CMD for the EPSON RX-80, FX-80.

SYSDRV/CMD     09/15/85      1/15      256      2      1      1
Pl/CMD that directs printer output through the DOS printer
driver.

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UTILITY/CLW	09/03/85	14/163	256	15	1	3
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An extension to Lazy Writer that loads from the Lazy Writer directory program or by typing L E UTILITY<ENTER>.

X1	09/19/85	1/0	256	1	1	1
----	----------	-----	-----	---	---	---

X-Key sample file.

X2	09/19/85	1/0	256	1	1	1
----	----------	-----	-----	---	---	---

X-Key sample file.

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These are the files on your Lazy Writer Max-80 disk. The disk is an LDOS data disk which is readable by the Max-80 LDOS or Multidos. The program will work with either. Note that this DIR was read by the DOS command DIR (A). The dates may be different on your disk. We have added comments below some files with Lazy Writer.

Filename	Date	Eof	Lrl	Lrec	Seg	Grans
1 LAZYWRIT	10/09/84	40 log	40 phy cyls	43 grans		64.50 K
CHECK/CMD	09/17/85	3/82	256	4	1	1
Checks main files for shipping errors.						
COMM/CLW	07/20/85	2/108	256	3	1	1
New with 3.5 version - only works with Multidos.						
DAISYII/DRV	10/08/85	1/26	256	2	1	1
Radio Shack Daisy Wheel II Pl/CMD						
DAISYIIB/DRV	10/08/85	1/26	256	2	1	1
Radio Shack Daisy Wheel IIB Pl/CMD						
DIOBF10Q/DRV	10/08/85	1/26	256	2	1	1
Pl/CMD for Qume/Spinwriter/dioblo/Qume						
DIR/CMD	09/05/85	11/9	256	12	1	2
Directory program - can be used with either Multidos 1.7 or LDOS. Will not work with some older disks made by other DOSes.						
DMP200/DRV	10/08/85	1/26	256	2	1	1
Radio Shack DMP-200 Pl/CMD						
DMP2100/DRV	10/08/85	1/26	256	2	1	1
Radio Shack DMP-2100 Pl/CMD						
DMP500/DRV	10/08/85	1/26	256	2	1	1
Radio Shack DMP-500 Pl/CMD						
DWP410/DRV	10/08/85	1/26	256	2	1	1
Radio Shack DWP-420						
EDIT/CMD	09/24/85	27/199	256	28	1	5
Lazy Writer overlay program for editing. Must on working disk.						
FT	10/07/85	25/121	256	26	2	5
Lazy Writer formatter overlay. Must be on working disk to use the formatter (F2 or CLEAR+ENTER).						
HELP	05/21/84	52/210	256	53	2	9
Text file used with the help feature.						

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JUKI6100/DRV    10/08/85    1/26    256    2    1    1
    Pl/CMD for the Juki 6100.

JUKI6102/DRV    10/08/85    1/26    256    2    1    1
    Pl/CMD for the Juki 6100 setup for the backspace method.

KEY/CLW        11/07/83    1/15    256    2    1    1
    Keyboard overlay file for changing keyboard.

L/CMD          10/09/85    30/52    256    31    2    6
    Main Lazy Writer program manages and provides support for
    the entire system.

LINEVI/DRV     10/09/85    1/26    256    2    1    1
    Radio Shack Line Printer VI Pl/CMD...can be used for most
    early Radio Shack printers.

LINEVIII/DRV   10/09/85    1/26    256    2    1    1
    Radio Shack Line Printer VIII Pl/CMD.

LPNT/CMD       09/12/85    26/124    256    27    2    5
    Main program for formatting and sending text to the printer
    - needed on working disks if you intend to print.

LQ1500/DRV     10/09/85    1/26    256    2    1    1
    EPSON LQ-1500 Pl/CMD.

MULTIDIR/CMD   09/03/85    11/103    256    12    1    2
    Directory program for use with Multidos - will read some
    older DOSes that other DIR program won't. Use only with
    Multidos.

NEC8023/DRV    10/09/85    1/26    256    2    1    1
    NEC-8023 Pl/CMD.

OKIDAT92/DRV   10/09/85    1/26    256    2    1    1
    Okidata 92 Pl/CMD - this driver will be a starting point
    for most Okidatas.

Pl/CMD         09/15/85    1/26    256    2    1    1
    The standard printer driver - mostly unPRINTGENed. Copy
    the printer driver for your printer or the one that matches
    most closely and use PRINTGEN to make any changes you see
    fit.

PRINT/TES      09/16/85    37/159    256    38    3    7
    This is a text file you can use to check how Lazy Writer
    works with your printer. There is a copy of this file in
    the manual.

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=====
PRINTGEN/CLW    09/19/85    22/213    256    23    3    4
    This program is the printer customization extensions.
    Consult the extensions chapter and "Printing Your Text" for
    more information.

PRO8510A/DRV    10/09/85    1/26    256    2    1    1
    Prowriter 8510 Pl/CMD

RX80/DRV        10/09/85    1/26    256    2    1    1
    EPSON RX-80/FX-90/MX-80 Pl/CMD.

SYSDRV/CMD      09/15/85    1/19    256    2    1    1
    This is a version of the standard Pl/CMD that goes through
    the system rather than directly to the printer port. To
    use it, copy to Pl/CMD. It is unPRINTGENed but can be
    PRINTGENed to any printer configuration.

TRANSFER/IDC    10/09/85    0/182    256    1    1    1
    Do file for transferring the most important Lazy Writer
    programs from drive 1 to a drive 0 Multidos system disk.

TRANSFER/JCL    10/09/85    0/182    256    1    1    1
    Do file for transferring the most important Lazy Writer
    programs from drive 1 to a drive 0 LDOS system disk.

UTILITY/CLW     10/08/85    16/32    256    17    1    3
    Lazy Writer Utility.

X1              09/19/85    1/0    256    1    1    1
X2              09/19/85    1/0    256    1    1    1
    X1 and X2 are sample X-key files.

```


The X-Key files on your disk

There are two files on your Lazy Writer disk called X1 and X2. They are found on the backside of a Model I "flippy" disk. These files are X-key macro file you can use as a demo of how X-keys work. These X-keys insert text into your document when you press "CLEAR" and then while holding down clear press "1" through "9" to produce the insert in TEXT ENTRY, INSERT, and OVERTYPE. X-keys can do far more for you than just insert a few words. Study your manual and play around.

Here are the contents of the X1 X-key file:

1. >center
2. >title
3. >indent
4. >left
5. >right
6. >width
7. >stop
8. >F

>t
Page (#)
>X

Note that "8" is a simple footer that puts a page number at the bottom and the middle of each page.

Here are the contents of x2

- 0 = &x2 - load x2 file.
1 = >elite
2 = >dark
3 = >empha
4 = >set off,
5 = >right
6 = *>sup* *>sup off*
7 = *>sub* *>sub off*
8 = >h/t

9=

>X

Note that "8" is the start of a simple header and "9" ends it. Your titles can go between.

All these X-keys are to be used from the TEXT ENTRY, INSERT or OVERTYPE. The text they reproduce is for inserting a text command to the printer at a paragraph break except for six and seven, which

The **X-Key** files on your disk

are embedded commands. To use these X-keys. Go into Lazy Writer by typing "L" from DOS ready, then make sure you are in the EDIT mode. Type "&" and enter the file name X1, or just press "0" then when the "0" X-key put you into X-key load, just press "ENTER" to get the X1 file. Do the same to get the X2 file, but type "X2" to answer the file name prompt. All the number keys will load each time from the same file.

KEYBOARD DIFFERENCE BETWEEN VERSIONS OF LAZY WRITER

FUNCTION	MOD III(64x16)	MOD 4+3	TRSDOS 6	DOSPLUS 4
CAPS, text only	SHIFT+CLEAR	SHIFT+CLEAR CAPS key	SHIFT+CLEAR	- not available -
CAPS, text+ commands	--- not available ---		CAPS key SHIFT+O	CAPS key
FROM TEXT ENTRY:				
load file	CLEAR+l	CLEAR+l	CLEAR+l	CLEAR+L
list file	CLEAR+L	CLEAR+L	CLEAR+L	CLEAR+l
get x-key prompt	SHIFT+BREAK	CTRL+x	CLEAR+CTRL+x	CLEAR+CTRL+x
execute x-key	CLEAR+x	CLEAR+x	CLEAR+x	CLEAR+X
case-LC to UC	CLEAR+c	CLEAR+c	CLEAR+c	CLEAR+C
open insert	not available	CLEAR+SHIFT+I	CLEAR+SHIFT+I	CLEAR+i
character insert	CLEAR+i	CLEAR+i	CLEAR+i	CLEAR+I
load Directory	CLEAR+BREAK	CLEAR+BREAK F1	F1	F1
load Formatter	CLEAR+ENTER	CLEAR+ENTER F2	CLEAR+ENTER F2	F2
go to Printer Menu	CLEAR+P	CLEAR+P F3	CLEAR+P F3	CLEAR+P F3
toggle re - peating keys	CLEAR+r	CLEAR+r	not used	not used
see underlining, line feeds	CLEAR+;	CLEAR+;	CONTROL+;	- not available-
mandatory sp.	SHIFT+SPACE BAR	SHIFT+SPACE BAR CONTROL+z	CONTROL+z	CONTROL+z
FROM EDIT:				
move backward by word	SHIFT+SPACE BAR SHIFT+w	SHIFT+SPACE BAR SHIFT+w/CONTROL+z	SHIFT+w CONTROL+z	SHIFT+w CONTROL+z
mark caps	+	not used	not used	not used
load Electric Webster	from DIR	from DIR CLEAR+m	from DIR CLEAR+m	from DIR CLEAR+m
increase cursor speed	SHIFT+arrow	SHIFT+arrow	not used	not used
end X-key definition	SHIFT+ENTER	SHIFT+ENTER	SHIFT+ENTER	CONTROL+2

ONE:

GETTING STARTED



LAZY WRITER HAS TWO MODES OF OPERATION:

TEXT ENTRY AND EDITING



an innovative word processing system

Entering material is easy with Lazy Writer. When you see the blank screen with the cursor in the upper left and "Text Entry" at the bottom, begin typing. It is important to understand that Text Entry is primarily for entering text. While you can backspace through the text and overtype, you cannot do many editing functions from Text Entry. To make major alterations to your text, you need to go to the Edit mode; you can do this by hitting the "BREAK" key. The "BREAK" key toggles you back and forth from Text Entry to Edit. You must also remember that, once in Edit, you cannot enter text except in "insert". If you want to put a new paragraph into the middle of the text, you would do this in "insert" from Edit. Text Entry is for creating new text at the end of the document. If you are not at the end of the document in Text Entry, you will always be over-writing text.

From Edit, you can enter many different levels of operation. You can insert, delete, move material, find phrases, save and load to disk, and make your printer run. In Text Entry, the computer prints on the screen the characters you enter from the keyboard. In Edit, these characters have different meanings. For example, pressing "d" in Edit puts you in "delete". In Text Entry, pressing "d" prints a "d" on the screen. The computer needs to know the difference between entering text and control functions and that is why Lazy Writer employs these two modes.

Some word processors use a control key for all editing functions. This can mean pressing several keys at once. Lazy Writer uses the "CLEAR" key as a limited control key for some editing functions. It enables you to load, save, or print text that you will not be reworking and gives you quick access to some other editing functions. But generally, you will want to go to Edit to make changes.

In order to see how easy it is to use Lazy Writer, try typing in the following short paragraph. After you've typed it in, we'll show you how to make some simple changes in this text. If you make a mistake entering a word, backspace over the word with the left arrow and retype the material from that point.

GETTING STARTED

An old fashioned sidewalk sale with free balloons and big bargains will kick off The Southwest Detroit Village Arts & Crafts Fair June 28 and 29 on W. Vernor Hwy. The sidewalk sale will start on Thursday and continue through the Fair, which begins Saturday. During the two days of the fair, W. Vernor will be closed to automobile traffic from Springwells to Central. The closed area will be filled with artists selling original goods ranging from oil paintings to belt buckles.

First, press the "BREAK" key to get into the Edit mode. Note that the display at the bottom of the screen is different from Text Entry. It says "EDIT" in the lower left corner. Try pressing the up arrow and watch the cursor move up through the text. Try the down arrow and left and right arrows too and see the effect. Try some of the other ways to move the cursor. Press the period key and watch the cursor jump to the end of the sentence. Press the space bar and watch it jump one word.

Now suppose you've made an error in this text and the dates for the art fair are actually June 27 and 28. Move the cursor to the "8" in 28. Press "o" and note the prompt on the bottom of the screen. Most of the editing features you'll use have this type of prompt, to let you know you're now in a special level of operation. You are now ready to "overtyping". Press "7" and see that the "8" has been changed to "7". The "overtyping" prompt is still on the screen, so you're still in this special level of operation. You get out of "overtyping" by pressing "ENTER", but before you do that, you can move the cursor to the "9" (move the cursor with the right arrow) and overtype the "9" with an "8". Then, when you're through with these corrections, press "ENTER". Now the prompt is gone - you're out of "overtyping".

Ok, you've corrected that, but suppose you've also found out that the balloons will not be free. You want to delete the word "free". Simply move the cursor to the "f" in "free". Press the "d" key and note the prompt at the bottom of the screen. You are now set to delete the offending word. Simply press "d" again. You'll notice that the "f" has gone. Press the "d" key again and see "r" vanish. Hold down the "d" key and watch what happens. After a short pause, the cursor starts

GETTING STARTED

swallowing letters. This is because most keys in Lazy Writer will repeat their function if held down. Now let up on the "d" key and press the left arrow. Watch the letters you deleted reappear. When you've finished playing, and have "free" deleted, press "ENTER" to make your delete permanent....or press "BREAK" to restore your text and start again.

In looking over your paragraph, let's say you realize you forgot to say that the original goods being sold will all be hand-made. Move the cursor to the "g" in "goods". Now press "i" and note the prompt telling you you're "inserting". Now type in "hand-made" and one space with the space bar. Then press "ENTER". Note the word "hand-made" is now in your text.

Now your text reads as you want it, but let's suppose you're writing it for a newsletter that will appear in 32 character columns. You wonder how it will look on paper. Press "v" and note the prompt "Video Width" on the bottom of the screen. Type in "33" (32 + 1 space at the end of each line) and press "ENTER". You now see your paragraph in a 32 character column. (To make the text appear normal again, press "v" again and type in the width of your screen - either 64 or 80)

You can save this paragraph on disk by pressing "s" (from Edit) and answering the prompt with a file name (such as "art") and pressing "ENTER". Your disk drive should come on, saving the file.

If you don't want to save the paragraph or saved it and now want to type in your own material, you can remove it from the screen by pressing "SHIFT" up arrow, then pressing "CLEAR" and holding it down while pressing "e". The "SHIFT" up arrow moves the cursor to the top of the text and "clear" and "e" delete all material after the cursor. This is a method of deleting that is handy when you have finished with text and want to type in something new.

This is your first lesson in using Lazy Writer. The rest of this manual will provide the information you need to do more complex things. Be sure to plan enough time to try out all of the features that interest you before counting yourself an expert. The more you experiment with Lazy Writer, the easier it will become to use.

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TEXT ENTRY

Text Entry, as you might guess, is for entering text. If you type a letter incorrectly and want to fix it right away, you can backspace and type over the mistake, then return to the end of text by pressing "ENTER". You can also press "BREAK" at any time to get into Edit, then backspace with the left arrow to the mistake and use the editing functions to make the correction. Press "ENTER" twice to get back to the end of file. Hitting "BREAK" will take you right back to Text Entry.

When the cursor is at the end of text, pressing "ENTER" will make a down line feed/carriage return. This is the normal way to start a new paragraph. If you wish to leave additional lines between paragraphs, press "ENTER" again. Each time you press "ENTER", the cursor will go down a line. If you've left lines without text in entering your material, you cannot move the cursor into these areas. Lazy Writer sees only the down line feed/carriage return. The cursor will only move through characters you've entered and line feeds/carriage returns are treated as characters. If you want to get rid of extra line feeds or add more line feeds, you can do this from Edit. Line feeds/carriage returns are inserted and deleted just like other characters.

You do not need to create lines for material you plan to insert later. Lazy Writer has unlimited insert capability (at least to the limits of your computer's memory) and you can later insert as much text or space as you want. This means you do not have to decide on exact format for your text while entering it. You can come back and add titles, printer commands, space between paragraphs, or whatever.

You cannot move the cursor into all places that appear as space on the screen. You can only move the cursor where you've typed characters. Since Lazy Writer treats line feeds and carriage returns as characters, if you type over a line feed, you will replace the line feed with the character you've typed. The line below will move up on the screen to reflect this.

Some editing functions such as "delete" and "insert" are available from Text Entry by holding down the "CLEAR" key and holding down the appropriate key for these functions. When you complete these subfunctions, you'll be returned to Text Entry. See the section on "CLEAR" key functions below. Once your text is all entered, it is best to switch to Edit to scroll back through it and look for errors.

You might wonder how you will know when you've nearly filled up the available space in your computer's memory. When you're typing in Text Entry, there are always two sets of numbers displayed at the bottom of the screen. The first set is the number of characters (bytes) you've typed already. The second number is the the number of characters you can still type before running out of memory. If you see you are about to run out of memory, what you should do is save your text, then begin a new file.

TEXT ENTRY

SCREEN DISPLAY IN TEXT ENTRY

** ** *

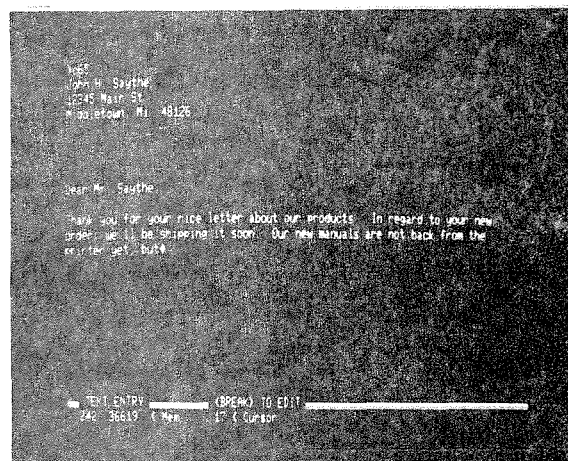
The cursor will flash in Text Entry, except at the end of your text. The flashing cursor is a small square, which alternates on the screen with the character it's on. The appearance of the cursor changes with function. Moving the cursor with arrows causes an arrow to alternate with the normal cursor. If you do not like the appearance or speed of the cursor, you can change it by using the CHANGE LAZY WRITER option from the UTILITY extension program. See chapter five for more information.

At the bottom of the screen, where you see the words "TEXT ENTRY", you'll see two sets of numbers. The first number tells you the number of characters (or bytes), from the beginning of your text to the present cursor position. The second number is the number of characters (bytes) still available in memory. Once you start entering text, you'll also see "< cursor" with a number in front of it. This is the present cursor position, counting from the left edge of the screen.

There are a number of prompts that appear in special cases in Text Entry. If you press "SHIFT" "CLEAR" to type in all capitals, you get a prompt "*CAPS*". If you press "SHIFT" "BREAK" (or CTRL "x" on the Model "4 + 3", MAX-80, or TRSDOS 6) to use the X-keys in Text Entry, you'll see the prompt "X KEYS". And if you should exceed your computer's memory in entering text, you'll get an "Out of Memory" prompt.

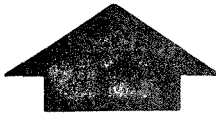
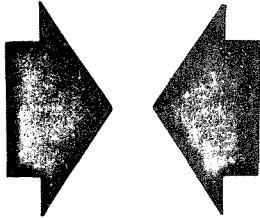
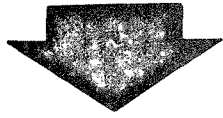
With the MULTIDOS Special Version, it is possible to get a black on white video display. From Edit, press "CLEAR" "v" to change the display. You can then go to Text Entry and type with this reverse display. By pressing "CLEAR" "v" (or "SHIFT" "v" from Edit) again, you can produce a display that shows only underlined characters in reverse video. To go back to the regular screen, press "SHIFT" "v".

Here is what the screen looks like part way through typing a short letter:



TEXT ENTRY

- 1. CURSOR MOVES** You can backspace through what you've written with the left arrow; holding down the left arrow will cause the cursor to move continuously through the text. Notice that backspacing doesn't destroy text. However, once you have backspaced, any typing will replace the text that's there as you type. In Text Entry, over-typing destroys the old text. To get the cursor back to the end of your text, press "ENTER" or press "right arrow" to move the cursor through the text. (When it's at the end of file, "right arrow" is a tab key.) You can go up through text, two lines at a time, by pressing "CLEAR", then "up arrow" (pressing "up arrow" by itself puts you in Edit). The down arrow replaces characters with carriage returns. If you are going to be doing a lot of scrolling through text, go into Edit first (by pressing "BREAK"). Be especially cautious in using the "CLEAR" "up arrow" to go back in text; remember, in Text Entry entering characters always replaces characters that are already there. See the section in Edit on "SCROLLING".



- 2. INDENTING PARAGRAPHS** To indent for the start of a paragraph, press "ENTER" to go to a new line, then press the right arrow. The right arrow tabs over 6 spaces. End paragraphs with "ENTER".

- 3. DOWN LINE FEEDS** Keep typing when you get to the end of the line on the screen; words automatically move down to the next line. To go down a line before you've filled a line, press "ENTER"; the cursor will move down to the next line. "ENTER" is the normal way to make a carriage return (ASCII 13). Pressing "ENTER" and then the right arrow is the normal way to start a new paragraph. If you should backspace, then overwrite a carriage return, that carriage return will be replaced with whatever character you typed over it and the screen will be reprinted. If you hit the down arrow while the cursor is on a character, that character will be replaced with a carriage return. Lazy Writer treats down line feeds and carriage returns the same and both are treated as characters. However, if you need to put an ASCII 10 (down line feed) instead of a 13 (carriage return) into your text, press "CLEAR" + DOWN ARROW. In Edit, pressing ";" reveals both down line feeds and carriage returns by displaying them as arrows.

- 4. MARGINS** There is no need to be concerned about margins when entering text. If you are printing on standard size paper with normal type size, you can print your text using the defaults supplied by the Printer Menu. Lazy Writer provides many other ways to create margins with printer commands, which require some study to use. Read the chapter "Printing Your Text" to learn how to use text commands to control margins. It is not necessary to put these commands in text as you type; you can edit them in later.

- 5. UNDERLINING** Most printers can produce underlining by one of the three methods: backspacing (print the character, back up and put the

TEXT ENTRY

underscore beneath it), two-pass (print the line, go back to the words to be underlined and add the underscore), or by-code (requires sending a code to the printer; underscoring done by a variety of means). Read the section of this manual on the PRINTGEN PRINTER CUSTOMIZATION PROGRAM which is used to customize your copy of Lazy Writer for the underlining method needed by your printer. If your printer cannot underline, then you can't get underlining with Lazy Writer. But if it can, you can create the underlining easily as you enter text.

You can underline words as you type or go back later and underline them. To "turn on" underlining, press "CLEAR" and "u" together, then type the words you want underlined. All words you type will be underlined until you turn underlining "off". To stop underlining, press "CLEAR" plus "u" again. When underlining is "on", you'll see a small "u" on the bottom of the screen. See the "EDITING" chapter for more information on underlining.

6. ALL CAPITALS To enter your material as all capital letters, use the CAPS key as a toggle. On the Model I or III, press the "SHIFT" and "CLEAR" keys. On Model 4 and MAX-80 versions, you can also press CTRL and "SHIFT" to get caps. You will see a prompt at the bottom of the screen telling you you're typing in caps. To return to lower case, press "SHIFT" and "CLEAR" again and subsequent text will be lower case. This "cap lock" feature only affects letters, not numbers or punctuation. Of course, the "SHIFT" key followed by pressing a letter also produces a capital, as on any typewriter.

On the TRSDOS 6 and DOSPLUS 4 versions, hitting the CAPS key does not give quite the same result as using CTRL and "SHIFT". The CAPS key gives you capitals from DOS control, while CTRL and "SHIFT" are under Lazy Writer control. The difference means that when you've pressed CAPS, entering a command, such as "l" to load, will result in that character being upper case. In this case, pressing lower case "l" will result in an upper case "L". This would change the command from "load" to "list".

7. REPEATING KEYS Any key will repeat as long as it is pressed down. This would enable you to make a row of asterisks, a row of z's, or whatever. You can disable the repeating key feature from Edit by pressing "CLEAR" and the "r" key (except for TRSDOS 6 and DOSPLUS 4, which do not have this feature). You can reactivate the feature the same way.

8. TABS To type in tabbed columns, tabs have to be set in Edit. To enter material once the tabs have been set, press the right arrow to move from one tab to the next. When the cursor is beyond the last tab position and the tab key (right arrow) is pressed, the cursor will go to the first tab on the next line. This is handy when entering long columns in tabular form. See "SET TABS" in the "EDITING" chapter.

9. MANDATORY SPACE The final appearance of your text is sometimes very important and one of the ways you can control how the printed

TEXT ENTRY

copy of your document looks is with mandatory spaces. This feature lets you enter blank spaces that are treated as characters. For example, if you are typing a name, like "Dr. John Smith", you may not want the name to break between two lines. You can put mandatory spaces between "Dr." and "John" and between "John" and "Smith" and the name will be treated as one word.

To place a mandatory space in your text, place the cursor where you want the mandatory space, then press "SHIFT", and the space bar. In the TRSDOS 6 version, press CTRL "z". This procedure leaves a graphic block on the screen below the text line. This is so you can see where you've left mandatory spaces when you scroll through your text. You can remove these in Edit by placing the cursor on the mandatory space, then hitting "o" for "overtyp" and overtyping a plain space with the space bar. You can also overtype a mandatory space in an ordinary space. You can insert and delete mandatory spaces the same as any other character.

Another use of this feature is in numbered lists or bulleted points. You may be typing a report and want to list six ways to interface a whozit with a whatzit. Type "1.", then put in a mandatory space ("SHIFT" "space bar"), then type your material; do the same for the other five points. If you are justifying the final copy, typing a normal space may result in the space between "1." and the material following being spread out. With the mandatory space, this doesn't happen and your points will line up. This is especially effective when used with the "reverse indent" printer text command. We have used this technique in preparing this manual. Look, for instance, at the section in "EDITING" on Block Moves. The summary at the bottom lists four points. We created this appearance by using mandatory spaces between "1." and "Mark" and so on. We then used a printer command for a reverse indent of 3, and made the numbers bold face.

If you want to leave two or more spaces after a key word, these spaces will not be broken by the justification. Lazy Writer treats more than two spaces together as characters. So, you need to use the Mandatory Space only if it is one space (not two or more) that you want unbroken. Conversely, if you have more than one space and you want those spaces to spread, you can use a mandatory space, plain space, then another mandatory space. Lazy Writer will see the plain space and spread that to justify.

10. KEYBOARD MACROS (X-KEYS) This is a user definable command that enables you to custom program the number keys. You must enter the command sequence in Edit, but can carry out the sequence in Text Entry. Activate the x-keys by pressing CTRL "x" in the Model 4 "4 + 3" or "CLEAR" CTRL "x" on TRSDOS 6 or "SHIFT" "BREAK" on the Model I and III, which gives you a prompt, "X-KEYS". Pressing CTRL "x" (or "SHIFT" "BREAK") again will restore the numbers to normal function. A more convenient way of using the "X-KEYS" is to press "CLEAR" and a number key which will activate the macro commands previously programmed on that key. Or you can use "CLEAR" and "x" to execute the last used command. See "KEYBOARD MACROS" in the "EDITING"

TEXT ENTRY

chapter.

11. CLEAR KEY FUNCTIONS The "CLEAR" key acts as a control key from Text Entry and lets you use some of the Edit functions. The following keys, when held down along with the "CLEAR" key, will work from Text Entry:

- * "l" - load a file
- * "s" - save a file
- * "L" - List a file
- * "p" - go to Printer Menu
- * "h" - displays "help" file
- * "BREAK" - go to Directory extension
- * ";" - Display all underlining as broken lines, all capitalized letters as "#", and all line feeds as down arrows
- * "i" - insert
- * "d" - delete
- * "e" - deletes all text below cursor
- * Press any number - activates x-key command stored on that number
- * "x" - executes last used multi-function command
- * "X" - define x-key command in TRSDOS 6 version
- * CTRL + x - produce x-key prompt in TRSDOS 6 version
- * "u" - activate underlining
- * "c" - changes to upper case whatever letter the cursor is on
- * "C" - changes to lower case whatever letter the cursor is on
- * "v" - sets video width
- * "Up Arrow" - scrolls up
- * "Down Arrow" - produces an ASCII 10 (down line feed) in text

You'll find more information on each of these functions in the appropriate manual section dealing with each of them. Using any of them in Text Entry is supplemental; you can carry out all of them from Edit.

12. NON-STANDARD CHARACTERS Your printer is probably capable of making characters that are not on your TRS-80 keyboard. Indeed, the full set of ASCII characters are not on your keyboard. Most of the characters you generate with your keyboard and printer are standard ASCII. What is ASCII? It stands for "American Standard Code for Information Interchange". The idea behind ASCII was that all keyboards should work the same, so that when you press the key for "?", For example, your computer sends a signal to the printer to print a "?". Unfortunately, like most good ideas, this one was never fully put into practice. The upper and lower case characters, the numbers, and the punctuation are pretty standard, but everything else is not. The chart below represents standard ASCII. We printed it with a standard ASCII daisy wheel. If you print with a standard ASCII character set, you'll get these same results. However, not all printers use the standard ASCII. If you're using a daisy wheel, it might vary from one wheel to another. If you have a dot matrix printer, you may get these characters, but you may not (you may get others). You will have to try pressing the keys shown here (KEY column), print the results, and see what you get.

TEXT ENTRY

First, press the "CLEAR" key, then the other key, as shown below.

NON-KEYBOARD CHARACTERS

ASCII	SYMBOL	KEY
92	\	/
91	[(
93])
94	^	.

FROM TEXT ENTRY OR INSERT IN CAPS

124		/
123	{	(
125	})
126	~	.

WITH SHIFT KEY BUT NOT IN CAPS

124		?
126	~	>

THREE: EDITING

	SCREEN DISPLAY IN EDIT.....	1
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2.0	SCROLLING.....	2
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2.2	Down.....	2
2.3	Advance Screen.....	2
2.4	Beginning of Text.....	2
2.5	End of Text.....	2
2.6	Advance Cursor One Screen, Up or Down....	2
2.7	Additional Line of Text, Up or Down.....	2
3.0	CURSOR MOVES.....	2
3.1	By Word.....	3
3.2	By Sentence.....	3
3.3	By Paragraph.....	3
3.4	Move Back by Word, Sentence, Paragraph...	3
3.5	By Video Line.....	3
3.6	Up.....	3
3.7	Down.....	3
3.8	Right.....	3
3.9	Left.....	3
3.10	Search Move.....	3
3.11	Search Backward.....	4
4.0	SET TABS.....	4
4.1	Clear Tabs.....	4
4.2	Change Tab Character.....	4
4.3	Adjust Tabs.....	4
5.0	OVERTYPING.....	5
6.0	INSERTING.....	5
6.1	Simple Insert.....	5
6.2	Open Insert.....	5
6.3	Inserting Empty Lines.....	6
6.4	Aborting An Insert.....	6
6.5	Inserting Above Text.....	6
6.6	Backspace insert.....	6
6.7	Inserting An ASCII 9.....	6
6.8	Inserting a Disk File.....	6
7.0	DELETING.....	8
7.1	Simple Delete.....	8
7.2	Delete by Word, Sentence, Paragraph.....	8
7.3	Deleting Spaces or Carriage Returns.....	8
7.4	Deleting a Video Line.....	8
7.5	Restoring Deleted Material.....	8
7.6	Deleting at Bottom of File.....	9
7.7	Deleting From Cursor To Top Of File.....	9
7.8	Search Delete.....	9
7.9	Block Delete.....	9
7.10	Find Delete.....	9
7.11	Special Character Delete.....	9

8.0	UNDERLINING.....	10
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8.2	Underlining Spaces.....	10
8.3	Deleting Underlining.....	11
8.4	Variations of Underlining.....	11
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8.6	Graphics Mode.....	12
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9.1	Find.....	12
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9.4	Wild Card Find.....	13
10.0	FIND AND REPLACE.....	13
10.1	Add at End.....	14
11.0	BLOCK MOVES.....	15
11.1	Moving Text.....	15
11.2	Deleting Block Move Markers.....	15
11.3	Named Blocks.....	15
12.0	CASE CHANGE.....	16
13.0	SPECIAL DISPLAY.....	17
14.0	AUTOCAP.....	17
15.0	VIDEO WIDTH.....	17
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15.3	Removing Hyphens.....	18
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18.0	DATE.....	23
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21.0	RUNNING ELECTRIC WEBSTER.....	23
22.0	HELP FILE.....	23
23.0	GETTING TO OTHER PARTS OF LAZY WRITER.....	24



EDITING

Editing is a different mode from Text Entry. Changes or additions anywhere but at the end of file are done from Edit. Go back to Text Entry only when you want to add to the end of your text.

SCREEN DISPLAY IN EDIT

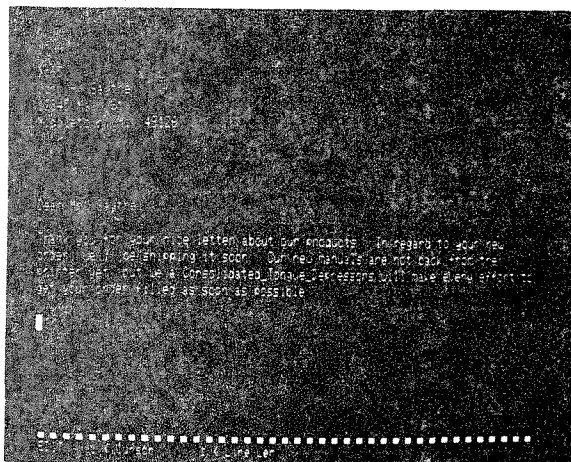
** ** *

In Edit, you have the same flashing cursor as in Text Entry. Use the arrows to scroll through the text. When you move through text by pressing the space bar to move a word at a time, or the period key to move a sentence at a time, or the "p" key to move a paragraph at a time, you'll get a bigger cursor briefly when you make the jump. This is to help you find the cursor after a move. In "insert", you'll have a bigger cursor. When you press "ENTER" twice to get to the end of file, you'll see a bigger cursor at the bottom of your text.

At the bottom of the screen after the word "EDIT", you'll see "< Cursor" with a number in front of it. This is the cursor position. The number in front of "< Line Length" is the length of the line (in characters) containing the cursor.

With a Model 4 computer and the MULTIDOS Special Version of Lazy Writer, you have the option of using a reverse video display (black on white instead of white on black). See section 13 of this chapter for more information.

Here is what Edit looks like on your screen:

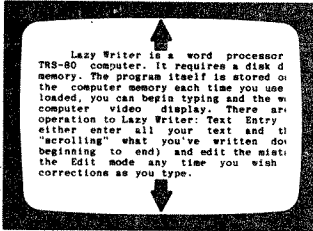


** ** *

EDITING

1. **ENTER EDIT** by pressing "BREAK"; **EXIT EDIT** by pressing "BREAK".

2. **SCROLLING** When you have a lot of text typed in, you will want to move the text up and down the screen ("scroll"). The following keys will scroll the text for you:



2.1 **UP** The up arrow, used for cursor moves, scrolls up one line at a time when the cursor is at the top of the screen, or hold down the up arrow key for continuous scroll.

2.2 **DOWN** The down arrow moves the cursor down the screen and, when it gets to the bottom, scrolls the text down one line each time you press it; or you can hold down the down arrow key for continuous scroll.

2.3 **ADVANCE SCREEN** Pressing the "a" key will print the next "screen" (display the text just below the text now on the screen). You can print the previous screen by pressing "SHIFT" "A" (capital "A").

2.4 **BEGINNING OF TEXT** To get back to the beginning of the text from any part of the text, press the "SHIFT" key, then up arrow. In the MAX-80 version, you can also get to top of text by pressing the "ESCAPE" key.

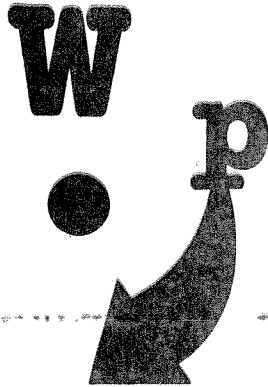
2.5 **END OF TEXT** Pressing "ENTER" twice will move you to the bottom or end of the text and display half a screen of text. If you have less than one screen of text typed in and press "ENTER", the cursor will move to the end of your text.

2.6 **ADVANCE CURSOR ONE SCREEN, UP OR DOWN** When the cursor is at the bottom of the screen, pressing "z" will scroll the text down one screen, advancing the cursor to the bottom of the screen. When the cursor is at the top of the screen, pressing "Z" (capital "Z") moves the text up one screen in the same way but in the other direction.

2.7 **ADDITIONAL LINE OF TEXT, UP OR DOWN** If you want to leave the cursor at the same spot in the text, but want to see additional text at the top or bottom of the screen, you can do this with the "q" key. Pressing "q" adds one line of text to the bottom of the screen. Pressing "Q" (capital "Q") adds a line at the top of the text. When you use the "q" key, the cursor and the text move together. You cannot move the cursor off the screen with this command.

3. **CURSOR MOVES** Before you can use most of the Edit functions, you must know how to move the cursor to the part of the text you want to edit. The following are the ways to move the cursor:

EDITING



- 3.1 BY WORD** Simply press the space bar or "w" key to move the cursor one word at a time. When used at the bottom of the screen, this command will scroll the text.
- 3.2 BY SENTENCE** Press the period to move the cursor one sentence at a time. Used at the bottom of the screen, this command will scroll the text.
- 3.3 BY PARAGRAPH** Press "p" to move the cursor one paragraph at a time. Used at the bottom of the screen, this command will scroll the text.
- 3.4 MOVING BACKWARD BY WORD, SENTENCE, OR PARAGRAPH** To go back through the text, you can use the space bar (or "w"), the period, or the "P" key as described in points 3.1, 3.2, and 3.3, but press the "SHIFT" key first. In the TRSDOS 6 version, to move backward by word, press <CTRL> + Z KEY.
- 3.5 BY VIDEO LINE** Press "@" to move the cursor to the end of a video line. If the cursor is already at the end of a line, it moves it down one. To go backward one video line, press capital ("SHIFT") "@"; this moves the cursor to the end of the previous video line.
- 3.6 UP** By pressing the up arrow, you can move the cursor up a line at a time; when the cursor gets to the top of the screen, it will scroll the text. Pressing "SHIFT" while holding down the up arrow will speed movement in all versions except TRSDOS 6.
- 3.7 DOWN** Down arrow will move the cursor down through the text and, when the cursor comes to the last line, cause the screen to scroll. Pressing "SHIFT" while holding down the down arrow will speed movement in all versions except TRSDOS 6.
- 3.8 RIGHT** Right arrow moves the cursor through the text as well. Pressing it once moves the cursor one character; holding it down makes it move continuously. Pressing the "SHIFT" key at the same time will speed the movement, except in the TRSDOS 6 version.
- 3.9 LEFT** You can also go backwards by pressing left arrow (back spacing). On the Model I, III, MAX-80, or "4 + 3", pressing the "SHIFT" key at the same time will put the cursor into "high gear" for faster movement.
- 3.10 SEARCH MOVE** Another way to move the cursor is with "/". If you press this key, then the key for any character, the cursor will jump to the next occurrence of that character. For example, if you press "/", then "!", the cursor will go to the next "!" that occurs in text. You can stop this process by pressing the "BREAK" key. This feature will even search for invisible characters, such as carriage returns (press "/" "ENTER" to find a carriage return).

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3.11 SEARCH BACKWARD You can make the cursor go backward in text by pressing "?" instead of "/", then the character. (Note that "?" is the same key as "/", but requires using "SHIFT" first)

4. SET TABS To set tabs, press "t", then move the cursor to where you want the tab set by pressing the space bar or the right arrow. You will see a line of graphics at the top of the screen; press "t" to set the tab - a "t" will appear at the top of the screen. Move the space bar to the next setting and press "t" again. Set all tabs this way, then press "ENTER". The screen will be back to Edit, and the tabs will be there until you turn off the computer. When entering tabs, you can backspace only to the last tab setting.

You can use tabs in "insert" or Text Entry. When entering text, pressing the right arrow will move the cursor to the next tab setting.

4.1 CLEAR TABS To clear all tabs, press "t", then the "CLEAR" key then "ENTER". In the TRSDOS 6 version, press "t" "SHIFT" "CLEAR" "ENTER". This terminates all tab settings except the "paragraph indent" tab.

4.2 CHANGE TAB CHARACTER Normally, tabbed items are separated by space. But you can have a character print in place of the space. For example, use periods between items. To do this, first press "t" to go into tabset mode. Now press "c", then some other character such as a period. Enter your tab settings and press "ENTER" to be back in Edit. Go to Text Entry or "insert". When you enter your items, the spaces between will fill with the character you've chosen.

4.3 ADJUST TABS The tab function of Lazy Writer works by figuring out how many spaces to add to the end of the current line to bring the cursor to the next tab position. It figures from the last carriage return ("ENTER" in Text Entry). The advantage of this is that the resulting tabs are made up of spaces which almost any printer or other program will recognize and reproduce. The disadvantage is that once the tabs are in place, it is impossible to adjust all the items at one time. You have to make adjustments line by line. You can simply move the cursor into the spaces and insert or delete the right number of spaces to move all tabs. Or, you can use the delete function for both deleting or inserting since the backspace character used in delete will reproduce characters, in this case, spaces. Just press "d" for delete, then press the left arrow. Remember, Lazy Writer is reproducing spaces, so there must be a space to the left of the cursor to reproduce. Once you learn how to do this, you could set up an x-key to do the work for you.

Another method you can use for adjusting tabs, is with the Find and Replace function. Set up the Find to look for a space, then replace it with more spaces; or to delete spaces, set it up to find spaces and replace them with nothing.

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If you always desire the same tab settings, you can use the **CHANGE LAZY WRITER** option from the **UTILITY/CLW** extension to create permanent tab settings that will still be there the next time you use your Lazy Writer disk. While you may create as many tab settings as you want from Edit, you are limited to five permanent tab settings via **CHANGE LAZY WRITER**.

THE OPTIONAL EXTENSION PROGRAM, LAZYTAB, ADJUSTS TABS INSTANTLY AND ALIGNS DECIMALS.

5. OVERTYPING You will often make an error in typing that consists of hitting the wrong key. For example, typing "test" instead of "text". In these cases, the easiest way to correct is with the "overtyp" feature of Lazy Writer. To overtype an error, move the cursor to the character that is wrong. Press "o" and see the prompt at the bottom of the screen. This is to remind you that you are in "overtyp". Now just hit the correct key and this letter will replace the one that was there. You can move the cursor through the text while in "overtyp" and not destroy text; use the arrows to move the cursor. This will enable you to correct a number of errors of this type at one time while in "overtyp". Now hit "ENTER" and you'll be back in Edit. You can use this to change more than one letter, but you can't type beyond the end of the line unless you hit the arrow. You can't restore the old text; "overtyping" is permanent and is best for just a few letters. If you have a lot of material to change, it is better to insert the new material, then delete the old.

INSERTING

6.1 SIMPLE INSERT With Lazy Writer, "inserts" are made from any point in the text by pressing "I" or "i", then entering the new material. This is different from the method used in other word processors like Electric Pencil, where you create space for the inserted material. To make an "insert", move the cursor to the place you want the "insert" to begin. The material will be inserted to the left of the cursor. Now press "i". You'll see a prompt at the bottom of the screen and note that you are presented with a larger cursor showing where your insert will begin. The text will move to the right as you type in new characters. Press "ENTER" to make the "insert" permanent. To abort the "insert", press "CLEAR" "BREAK". In the TRSDOS 6 version, press "SHIFT" and the F1 key. To insert more than a few words, you may prefer using the "open insert". See below.

6.2 OPEN INSERT When you use "I" (capital), the screen will clear below where you will start inserting and one line of the text that follows your "insert" will be printed at the bottom of the screen. When using "i", the text will move as you type. The latter is good if you are inserting a few letters, but response is slower because the program is doing more work. For long inserts and fast typing, you will probably prefer using "I" (capital "I").

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**** NOTE:** With either method of inserting, you can insert a letter, word, sentence, or as much as you like. You can insert all upper case letters, if you like, by pressing the keys for caps ("SHIFT" and "CLEAR"). In "insert", ALL keys will repeat as long as you keep the key pressed. For instance, you can make a line of periods, if you want. You can also insert carriage returns (ASCII 13 carriage return) by using the down arrow and can make paragraph indents with the right arrow. When you finish any "insert", press "ENTER" to make it permanent or press "CLEAR" "BREAK" (for TRSDOS 6, press "SHIFT" F1) to abort the "insert" and restore your text to its previous appearance.

If you have memory nearly full, you might get an OUT OF MEMORY error message as you type inserted material. Check the numbers at the bottom of the screen to see if you have any memory left. You cannot exceed available memory space.

6.3 INSERTING EMPTY LINES Lazy Writer treats line feeds just like characters. If you want to put two empty lines between each paragraph, for instance, do this by inserting down line feeds. (ASCII 13) Press "i" for "insert", then hit the down arrow. This will create an empty line. Insert as many down line feeds as you want.

6.4 ABORTING AN INSERT If you've inserted some material and then change your mind, you can restore your text to the way it was by pressing "CLEAR" "BREAK". In the TRSDOS 6 version, press "SHIFT" and F1. This only works before you've pressed "ENTER". After you've "ENTERed" your material, your only recourse in getting rid of it is to delete it.

6.5 INSERTING ABOVE TEXT You may also want to insert something above your text. Place the cursor at the first character in your file. Now press "i" (or "I") for "insert", type in the new material, then hit the down arrow. This will create a line feed between the new paragraph and the old.

6.6 BACKSPACE INSERT You can go into "insert", then backspace through current text and replace it with new text. This, in effect, deletes the old text. You can abort the insert if you want (with "CLEAR" "BREAK" or "SHIFT" F1), but any text you've typed will permanently replace the previous text.

6.7 INSERTING AN ASCII 9 You can insert the ASCII code "9", which is the code for tabs, by pressing "SHIFT" right arrow while in "insert". This WILL NOT make tabs from Lazy Writer, but is for people using Lazy Writer to create a file for another program (such as an Editor-Assembler) which requires an ASCII 9.

EDITING

6.8 INSERTING A DISK FILE To insert a file you have stored on disk into your current text, place the cursor where you want the file inserted. Press "I" for the "insert" prompt, then press "CLEAR" "I" (for "load"). When you get the "loading" prompt, type in the name of the file you want inserted. Press "ENTER". The file will load at the cursor position. Once loaded, you'll still be in "insert".

****** If you want to add new text at the end of file, do this in Text Entry, not in "insert".

THE STEPS FOR INSERTING NEW WORDS INTO YOUR TEXT ARE:

1. ORIGINAL SENTENCE

Live entertainment will
start Saturday morning
←
With Blue Grass
music...

1. Place the cursor on the character where you want the "insert" to begin. The cursor will move to the right and the inserted characters will replace the cursor on the screen. In the example provided, the cursor is on "w" (in "with"). The "insert" will go in front of this word.

2. Press "i" for a simple insert. You will see a large blinking cursor.

2. AFTER INSERT

Live entertainment will
start Saturday morning
at 10AM with Blue Grass
music...

3. Type your new words. The cursor will move to the right, moving the old text with it as you type.

4. Press "ENTER". Your "insert" is complete and you're back in Edit.

OR
==

USE "OPEN INSERT"

1. Place the cursor on the character where you want the "insert" to begin, as described above.
2. Press "I" (capital "I"). The screen will clear below the text, leaving only one line of text on the bottom of the screen.
3. Type in your new material. Type as much as you like; when you get to the bottom of the screen, the text will scroll to allow you to continue entering new material.
4. Press "ENTER" to make your "insert" permanent.

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DELETING

7. DELETE Deleting material is one of the most common uses of a word processor, so Lazy Writer gives you a number of ways to do it.

1. ORIGINAL SENTENCE

Live entertainment will
start Saturday morning
with Blue Grass
music...

2. AFTER DELETE

Live entertainment will
start Saturday morning
with music...

7.1 SIMPLE DELETE The simplest way to delete is to move the cursor to the character you wish to delete (or the first character you wish to delete) and press "d". You'll see a prompt at the bottom of the screen that says "DELETING". Then press "d" again and that character will be gone. Keep pressing "d" to eliminate subsequent characters or hold "d" down. In the Model I, III, "4 + 3", or MAX-80, you can make the cursor move faster in deleting characters by pressing the right arrow and holding it down until you get to the end of the material you wish to delete.

7.2 DELETE BY WORD, SENTENCE, PARAGRAPH You can also press "w" or the space bar and delete the whole word at once, or press the period key to delete to the next period (the whole sentence), or press "p" to delete the entire paragraph at once. Holding down any of these keys will repeat the function.

7.3 DELETING SPACES OR CARRIAGE RETURNS Deleting spaces or carriage returns is the same as deleting any other character. When a carriage return is deleted, the text moves up.

7.4 DELETING A VIDEO LINE If you press the down arrow in "delete", you will delete a video line of text. This is handy in deleting empty lines or short lines such as printer commands. A similar delete is the "delete to end of video line"; press "d" "@". This deletes all material to the end of the displayed line of text.

7.5 RESTORING DELETED MATERIAL If you delete too far and want to restore part of what you deleted, you can backspace to restore one character at a time. If you backspace further than the original delete, you will start duplicating the previous material (you may find some occasion when this is handy - like duplicating a row of asterisks). If you want to restore your entire delete, press the

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"BREAK" key; once you have pressed "ENTER", your delete is permanent.

7.6 DELETING AT BOTTOM OF FILE To delete material at the bottom of the file, put the cursor where you want to end the document, then press "CLEAR" and the "e" key at the same time Or "SHIFT", down arrow, "e". Both methods will work in Text Entry or in Edit. From Edit, you can also use "SHIFT" "!" . If you are at the top of file and use these methods, you can delete your entire file. You can now leave Edit and go back to Text Entry and type new material. CAUTION: there is no recovery from this method of deleting, except with the extension program "RESCUE".

7.7 DELETING FROM CURSOR TO TOP OF FILE If you want to delete a lot of material at the top of your text, you can use this method. Place the cursor at the end of the text you wish to delete. Press "d" "CLEAR" "up arrow"; all the text ABOVE the cursor will be deleted.

7.8 SEARCH DELETE Another way to delete is in tandem with the "/" character search feature. First, press "d", then press "/" and the key for any character and everything up to that character will be deleted. This is handy for deleting the rest of a sentence, for example, by pressing "/" ".". As described in the section on cursor moves, you can search backward through the text, pressing "?" Instead of "/", but you can't delete going backwards.

7.9 BLOCK DELETE Another way to delete that is useful with large blocks of material is to mark the material to be deleted with parentheses. How to mark these parentheses is described in the section on Block Moves - these are not the same parentheses as you use in entering text. Then, with the cursor anywhere outside the parentheses, you can press "d", then press the "b" key, then "ENTER" and the material will be deleted. If you have a large block of text at the bottom of your file that you want deleted, it's easier to use "CLEAR", "e", as described in 7.2. For material you want deleted at the top of text, use the method described in 7.7.

7.10 FIND DELETE This kind of delete uses Lazy Writer's "Find" feature. Press "d", then "F". In response to the prompt at the bottom of the page, type in a word and everything up to the first instance of that word (or character, such as a number) will be deleted. If you want to delete up to a word you've already defined (by previously typing "F" and entering a word), just press "d" then "f".

7.11 SPECIAL CHARACTER DELETE There are special delete commands for deleting underlining, "soft" hyphens, and block move markers.

* **UNDERLINING** is removed by pressing "d" (for "delete") and "u". This deletes all contiguous underlining from the cursor position. You can also delete underlining one character at a time by pressing the capital "U" key with the cursor on the underlined character, or do a global delete of underlining by pressing "d", then "U" (capital "U"). See the section on "UNDERLINING".

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- * **"SOFT" HYPHENS** are removed by pressing "d" (for "delete") and then "=". This deletes all hyphens from your text. It does not delete "hard" hyphens, those used in normal text. You may also delete hyphens from the current paragraph only (the paragraph containing the cursor) if you press "d", then "=", which is the same key as "=", only unshifted. See the section on "COLUMN DISPLAY" for more information.
- * **BLOCK MOVE MARKERS** can be removed one by one by moving the cursor to them and pressing "d" (simple delete) or you can press "d" (for delete) and "(" to remove the first pair of block move markers encountered. See the section on "BLOCK MOVES" for more information.

8.1 UNDERLINING

1. ORIGINAL SENTENCE

Live entertainment will
start Saturday morning
...

2. UNDERLINING -

SCREEN DISPLAY

Live entertainment will
start _____
...

3. RESULTS FROM

PRINTER

Live entertainment will
start Saturday morning
...

To underline what you have written, move the cursor to where you want to begin underlining. Press "u" to activate underlining; you will see lines on the screen replacing the words. This is to show you where you've underlined, since both the words and the underlining cannot be on the screen at once. To make the words appear again instead of the lines, press ";". Pressing this again will again display where you have underlined, as well as capitals and line feeds - this will give you a better idea of what your text will look like once it's printed, and help you catch errors before your text goes to the printer. If you move the cursor once you're through underlining, you'll notice that the screen also shows down line feeds (with down arrows), and, with upper case only machines, capitals (with "#"). The ";" key works as an "off" - "on" push button and is next to the "ENTER" key for handy use, so you can press it at any time to display capitals, down line feeds, and underlining - or to turn off the display. When you underline spaces (such as the spaces before and after a word to be underlined), the markers will show at all times. In the MULTIDOS Special Version, underlining can display in reverse video. See section 13.

- ### 8.2 UNDERLINING SPACES
- If you want to underline spaces to create a form (For example, "Name _____"), you do this from Edit by going into "insert" and pressing "CLEAR" and "u" key. You can hold these keys down to make the underlining go faster. From Text

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Entry, you can make underlined spaces by pressing the "CLEAR" key and "u". Underlined spaces will be displayed at all times, not just when you press ";".

8.3 DELETING UNDERLINING Once you have marked something for underlining, you may change your mind and want to remove it. To do this, place the cursor on the beginning of the unwanted underlining. To remove underlining, one character at a time, press the "U" (capital "U") key for each character you want underlining removed for. To delete one instance of underlining (for example, one underlined word), press "d" for delete. Now press the "u" (small "u") key and all contiguous underlining will be removed. You can also do a global removal of underlining. Press "d" for delete, then "U" (capital "U") and all underlining in your file will be gone. This will also remove certain special characters in Scripsit files that are not compatible with Lazy Writer.

8.4 VARIATIONS OF UNDERLINING When you underline words on the screen, this will normally result in those words being underlined when printed. However, you can set Lazy Writer to bold face (or produce italic or double-wide) instead. This is done by using a "set" command preceding the text containing the words you want to print bold. See the chapter PRINTING YOUR TEXT for information on this command. You can also use the command ">bold 3". The number represents the numbers of times the character is struck (">bold4" would be four strikes). Bold face can only be produced on a printer that can backspace (by overstriking characters) or that can do a carriage return without a line feed ("two-pass" method). Lazy Writer will recognize all underlined characters that follow the "set" command or the ">b" command as characters to be printed bold face. You must terminate either command if you want to go back to underlining as the default. Terminate the ">b" command with ">b 0" or with ">bold off".

****** In order to get bold face, you must have your printer program set to one of the methods mentioned above, either the Backspace Method or the Two-Pass Method. First, determine if your printer can backspace or do a carriage return without a line feed (Two-Pass). Then, read the section of this manual on PRINTGEN PRINTER CUSTOMIZATION and customize your printer for one of these methods.

****** You can also substitute double-wide for underlining via "set". Or use the printer text command or ">D" (capital "D") or ">doub" to convert underlined characters to double-wide characters; this is for use with dot matrix printers that make double-wide characters. You need to enter the right codes for double-wide with your printer via PRINTGEN PRINTER CUSTOMIZATION to get double-wide when you underline. See the sections on "EXTENSIONS", and "PRINTGEN for more information.

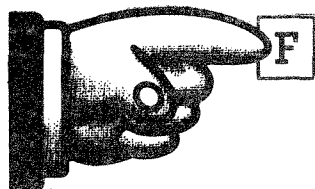
8.5 REVERSE DISPLAY OF UNDERLINING (Model 4 MULTIDOS Special Version) The Model 4 is capable of making a reverse (black on green or white) display. You can use this to display underlining in reverse video; this means you'll be able to see the underlining as

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well as the words underlined at the same time. To use this feature, press "CLEAR" "v". This will produce a white background with black type. Now press "CLEAR" "v" again. This time only the underlined words will be reversed. To just reverse the underlined text, press "CLEAR" "v", which also toggles you back to a normal display.

- 8.6 GRAPHICS MODE** The printer command ">g" will send all underlined material to the printer with the high bit set (the normal ASCII code plus 128). The effect of this is to produce graphics and special characters on some printers. We have not tested this with any printer and have no idea what it will do on any particular printer. The real purpose of the command is to enable underlining to be transferred to a print image file ("Formatted Save"). A formatted "Save" (see "PRINTING YOUR TEXT") normally would print underlining or boldface to the disk in the same manner as to paper. That means that the "bold b" command, for example, would result in six characters for each original character and all the back space characters needed to make the command function. The ">g" command prevents this, making it easier to do some fancy formatting tricks with the formatted "Save".

- 9.1 FIND** To find a word or phrase in your text, press "F" (capital "F"). At the bottom of the screen you'll see:



"Find What?"

Type in the word you want it to find, then press "ENTER", and the screen will display the paragraph that has the first occurrence of the word (searching from the cursor position), which will be marked with a larger cursor. To find additional occurrences of the word, press "f" (small f).

- 9.2 CASE INDEPENDENT FIND** In finding a word, the word you type in must match exactly the one you are looking for. For example, if the word in text is all capitals, to find it you must normally type in the word in all capitals too; but if "@" (capital - press "SHIFT" first) is the first character you type after the prompt "Find What?", Then Lazy Writer will find the word regardless of case. This also means you cannot use a capital "@" as the first character in your search phrase, as Lazy Writer will respond to it as the symbol to ignore case in its search. You could, however, use two of them; only the first one would be seen as the "ignore case" symbol.
- 9.3 FIND BACKWARD THROUGH TEXT** The Find feature will normally only find beyond the cursor. If you want to search backward (above the cursor), press "CLEAR" "SHIFT" "f" ("CLEAR" and capital "F"). The cursor will jump to the first instance of the Find word above the cursor. To continue finding backward, press "CLEAR" "f". Antime you are using "f", you can switch to "CLEAR" "f" to find backward.

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9.4 WILD CARD FIND To use a "wild card", enter "CLEAR" "@" in place of one or more characters in the "find" word. For example, if you want to find all three-letter words beginning with "y" and ending with "u", enter "Y[CLEAR]@ou".

10. FIND AND REPLACE A variation of finding is find and replace. With this feature, you can search for a word or phrase or any group of characters that occur in your text. As with finding, press "F" (capital "F") and type in the word to be found next to the prompt at the bottom of the screen, but put "<" after the word you want to find, then the word to replace it. (For example: art<paintings.) Now press "ENTER". The cursor will jump to the first occurrence of that word and another prompt will appear on the bottom of the screen asking you if you want to replace the word. If you do want to replace it, press "r" and the word will be replaced.

To go to the next occurrence of the word, press "f" (small "f" this time). When Lazy Writer has found the last occurrence of the word, it will display "none found". If you are sure you want to change all instances of the word, press "R" (capital "R") and all occurrences of the word will be replaced with the new word. You can also delete the found word by replacing it with nothing (typing in the word to be found, then "<", but no replacement word).

You can type in a whole phrase or group of words to be replaced, but you are limited to 255 characters total. Be aware that the computer will find your word embedded in other words. For example, let's say you want to replace the word "entertain" with "perform". If you simply use the "R" (capital R) to replace all instances, you may find the computer has changed "entertainment" to "performment". This is why we have the feature of letting you see each occurrence of the word, then exercising the option of changing it if you wish.

You can get around the above-mentioned problem to some extent by putting spaces in front of and/or after the word when you type it in after the prompt. The computer will recognize the spaces as characters and only find the word in text when it has the same spaces as you typed in. However, if you use spaces in typing the word to be found, then delete that word, Lazy Writer will also delete the spaces. So, in entering a replacement word, you must also enter replacement spaces. For example, if you have the phrase "and big bargains" and you want to change it to "and huge bargains", if you type in:

Find What? Big <huge

The result will be "andhugebargains", because you left spaces in typing in "big", but did not leave spaces in typing in "huge". The way to get the result you want is the following:

Find What? Big < huge

In the above version, spaces were left before and after both "big" and "huge"; Lazy Writer searched for the word "big" with the spaces before

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and after, deleted "big" and the spaces, then inserted "huge" with spaces before and after. You could also have simply entered both words with no spaces, and if the word "big" was not embedded in another word (like "ambiguous"), you would also get a correct replacement.

You must also use caution in using the symbol "<" in your words to be found. If you type in "A<B", Lazy Writer will find "A" and replace it with "B". If you simply want to search for "<B", it will find this ok. If you want to replace "<B" with "<C", you can enter it like this: "<B<<C". In this example, the first "<" is treated as a character; the next "<" tells the computer to replace, and the third "<" is again treated like any character and will be inserted (along with "C").

Should you press "F" and get the prompt, then decide you want to still find the old word (or simply want to see what the old word was), you can press the right arrow and it will reveal the last word you typed in; you can then hit "ENTER" or the "BREAK" key and the cursor will go to the next occurrence of this word. After pressing "F", pressing the "BREAK" key will take you to the next occurrence of your last find word, whether you reveal it with the right arrow or not.

If you press "F" by mistake and see the prompt, you can exit "Find" by pressing the "BREAK" key.

10.1 ADD AT END You can add to the end of the "Find" word when you replace it by using a variation of entering the "Find" word. For example, if you want all instances of "go" changed to "going", here's how to do it:

```
Find what?   Go[CLEAR][SHIFT]+ing[ENTER]
              OR  Go[CLEAR];ing[ENTER]
```

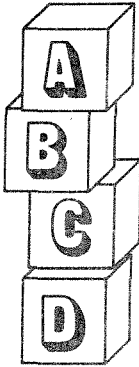
First type the word ("go"), then hit the "CLEAR" key, which acts as a control key, then "SHIFT" and the "+/;" key, then the ending ("ing"). Finally, press the "ENTER" key. Pressing "F" will find instances of "go". If you press "R" to replace, the word will be replaced with "going". You can use the small "r" to check before replacing, or the global "R".

THE BASIC STEPS IN FIND AND REPLACE ARE:

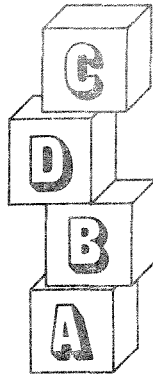
1. Press "F" (capital "F").
2. See the prompt "Find What?" On the bottom of the screen. Type in the word or phrase you want to find, then "<", then the replacement word or phrase. (Art<paintings)
3. Press "ENTER"
4. The cursor will go to the first occurrence of that word or phrase. You'll see a prompt "Replace?" On the bottom of the screen. If you want to replace this occurrence, press "r"; if not, press "f" to go on to the next occurrence. When every instance of the word has been found, Lazy Writer displays "none found".

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11.1 BLOCK MOVES Sometimes you may wish to move a whole block of text from one part of your document to another. Lazy Writer utilizes the Find function in making block moves.



First, mark the text to be moved with parentheses. (This must be done from Edit) Place the cursor on the first letter you want inside the parentheses, then hit the beginning parentheses key. To place the end parenthesis, move the cursor to the space after the last character you want inside the parentheses, then hit the close parentheses key. You cannot place these parentheses while in "insert"; These "marker" parentheses are actually underlined parentheses, so the computer can distinguish them from the ones you use in text.



Now move the cursor to where you wish to move the material and press "b". You'll now see the "Find What?" Prompt on the bottom of the screen. To simply move the block, press "ENTER". This will move it to the new position and delete it from the old position. If you want the text in both places, press "B" (capital B, instead of lower case "b") and the text will be moved, but will also remain where it was. With the capital "B", you can move your block to as many places as you want - just move the cursor to each place you want that block of text to appear and press "B". If you move the material with a small "b", you can only move it once.

It is handy to use the "REMEMBER CURSOR" feature when making block moves. Lazy Writer will remember the present cursor position when you press "M" (capital "M"). Then when you scroll to the material to be moved and mark it for the move, you can return instantly to the previous location by pressing "m" (small "m").

11.2 DELETING BLOCK MOVE MARKERS If you use the copy feature (capital "B"), the block move markers will still remain on your original block. You can delete the markers in the usual way with "d" or you can delete them without moving the cursor to the markers with a special "block move marker delete" feature. Do this by pressing "d", then "(", then "ENTER". The cursor must be above the location of the block move markers and only the first set of markers encountered will be deleted.

11.3 NAMED BLOCKS You can also mark more than one block at a time and name your blocks, a Lazy Writer original feature. Put parentheses around each block you wish to move and, to keep them straight, you can "name" each one with any character, word, symbol, or number, which you insert in front of the block to be moved. Whatever name you use, the name must be unique and not used elsewhere in your text. You cannot give two blocks the same name if you are duplicating the block, as Lazy Writer will keep

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finding the same block. If you move a block and delete its name, then you can reuse the name. You can if you wish use a word or a word with a symbol for standard blocks you're using a lot (for example, "\$disclaimer"). Using a symbol with the word will probably insure the same thing wasn't used elsewhere in text. Lazy Writer locates the named block by searching for the name, then looking for the next marked block. So, your name wouldn't have to be directly in front of your block if you prefer to put it higher in text. You could also have Lazy Writer search for a word or symbol that you've used in text just previous to your block.

You can mark and name as many blocks as you want. Then, when you press "b" (or capital "B") and see the "Find What?" Prompt, you can write in the name of the block you want moved. If you don't write in a name, it will move the first marked block found, named or unnamed. In looking for the first block, Lazy Writer starts looking from the beginning of your text, not from the cursor position. If you use the capital "B", your named block will now be in both new and old locations. If you use the small "b", your block will only be in the new location, but the name you gave it will remain in the old location. However, you can cause it to be deleted while you're moving the material by typing in the block name followed by "<" - this way it will be replaced with nothing, as described in the section on Find. When you use the replace feature during a block move, Lazy Writer does not ask you if it's ok; it does the replace and block move all at once.

THE GENERAL SEQUENCE TO REMEMBER IN BLOCK MOVES IS:

1. Mark the block you want moved with parentheses. If you are going to name it, put the name in front of the block.
2. Move the cursor to the new location for the block.
3. Press either "b" or "B" and see the prompt "Find What?" (Small b for move to new location, capital B for move, but leave in old location as well).
4. If you haven't named the block, just press "ENTER"; if you have named the block, type in the name of the block you want moved and "<" to delete the name, then press "ENTER".

12. CASE CHANGE You can change from lower to upper case by moving the cursor to the letter to be capitalized, then press "c". Using the "c" makes instantaneous change and there is no need to press "ENTER". When changing case on more than one word, you can hold down the "c" key for faster action. Keep holding it down right over punctuation - these are unaffected by the "c"; pressing "c" only changes letters. To change from upper case to lower case, place the cursor on the character you want changed and press "SHIFT" and "c" (capital "C").

(MODEL I ONLY) For anyone with an original Model I computer, which did not have a lower case display, Lazy Writer works fine. Model I Lazy

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Writer automatically checks if you have the lower case conversion on your computer. However, if you have a conversion with an off-on switch, you must turn on the lower case feature before loading Lazy Writer. Lazy Writer recognizes the "Pencil" type conversion and the Radio Shack conversion, but if you have some other kind, try pressing "+" from Edit; this may cause display of lower case.

Lazy Writer will print lower case on the printer even if it is not displayed on the screen if your printer allows it. You can print upper case only to the printer, if you want, or if your printer requires it. (See "PRINTING YOUR TEXT" section.) If you have the lower case conversion, there may be situations where you want an all upper case display. To simulate an upper case only machine, press "+". This key acts as a toggle back and forth from lower to upper case display. If you have an uppercase only machine, pressing the "+" will produce "garbage" on the screen. Pressing it again will restore normal operation.

13. SPECIAL DISPLAY Pressing the ";" key displays down line feeds (with down arrow or graphic block) and underlining (with lines). Underlining anything causes this mode to be turned on; you can turn it off by pressing ";". On a Model I computer that displays only upper case, pressing ";" will also display capitalized letters by replacing them with "#".

(MULTIDOS SPECIAL VERSION) Pressing "CLEAR" "v" will flip the screen into reverse video. The background will be white, with black characters. Pressing "SHIFT" "v" leaves just underlined material in reverse display. Turn off reverse video (total reverse and underline reverse) with "SHIFT" "v".

14. AUTOCAP Regardless of cursor position, pressing "CLEAR" "c" will cause the first letter in each sentence and all free-standing occurrences of "I" to be capitalized. Autocap ignores printer commands on a line by themselves, so will not alter these. This feature works throughout the text and is fairly intelligent, but you may not get exactly the expected result with special material such as tabular columns. An interesting trick: all upper case text can be converted to upper/lower case by using the "#", then "C". The "#" changes it to lower case and the "C" autocaps it.

15.1 VIDEO WIDTH To display text in a specified width, press "v"; see the prompt "Video Width" on the bottom of the screen and type in a number between 2 and 255 (representing the number of characters across the screen). Press "ENTER" to put the text into that width. Your words will be in a column, exactly as your printer will print them, except they will not be justified on the screen. (And, of course, the line breaks will not be correct if you're using proportional spacing) In order to duplicate the screen display when you print your material, you must use the proper print commands. See the section on Printing Your Text. Lines longer than 80 (64 on the Model I or III) will "wrap around", as this is the maximum the screen can print across. To remove the vertical line, press "v" again and type in 80 (or 64) - the screen will return to normal. Video width does not take into account

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reverse indents and printer commands embedded in text.

The video width you view on the screen always contains a space at the end of each line. However, when you send the copy to your printer, the printer disregards that space. Consequently, if you want a column width of 33 characters to print out, you must give a video width of 34 to view the results on the screen.

15.2 HYPHENS You don't normally need to hyphenate when using a word processor. Your text will look fine without hyphenating, but you may want to use hyphens when printing in a small column. To determine where to hyphenate, you'll need to set the video width correctly (to one more character than you'll have in the printed version). The numbers on the bottom of the screen will tell you how many characters are in the line containing the cursor - this will help you determine if you want to hyphenate. Pressing the "=" key in Edit will move the cursor to the last opportunity to hyphenate in a line. Pressing "-" will insert a hyphen and a space. The hyphenated material will split between the two lines. Remember that your column width in the printed version will change if you have indents or other margin commands that alter text width. You would need to view the text in the correct width before placing any hyphens.

THE FOLLOWING STEPS WILL INSERT A HYPHEN IN A LINE:

1. Set the video width to one character more than the width you want in the printed copy.
2. Place the cursor on the line below the short line.
3. Press the "=" key ("SHIFT" first); the cursor will go to the last place you could hyphenate.
4. Move the cursor to any point before the character it designated as the last one. You will need your own knowledge of where to break a word, or you can decide not to hyphenate.
5. If you decide to hyphenate, press "-" (the unshifted key "=") and the hyphen will appear at the cursor position and the text will be adjusted.

15.3 REMOVING HYPHENS Hyphens are useful only when you've designated a certain column width. You may later want to print the material in a different width and will need to remove the hyphens. You can do this by pressing the "d" key, then the "=" key. This deletes all hyphens from your text. If you wish to delete hyphens only from the paragraph containing the cursor, press "d" and "-" (the unshifted version of "="). Keep in mind that this method removes "soft" hyphens only (those you added by the method described above) and will not remove hyphens in normal words (like "well-meaning"). Only hyphens that are ASCII 29 will be removed. You can also remove hyphens by use of the utility program "STRIP/CMD", which also removes underlining and mandatory spaces.

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15.4 FORMATTER HYPHENATION A more automatic method of hyphenation is provided within the FORMATTER. When working with formatted text, you can hyphenate easily even if you frequently change the width of your text. See the chapter on the FORMATTER.

16. KEYBOARD MACROS (X-KEYS) Lazy Writer was one of the first word processors to give you 10 user-definable, keyboard macros. This means you can define a series of changes to text, then, with one key-stroke, accomplish these changes.

16.1 WRITING AN X-KEY COMMAND To create a macro command, press "X" (Capital "X") and see the prompt at the bottom of the screen:

Which Command Key (1-0) ?

The 1-0 corresponds to the digits represented at the top of your keyboard. If you have a machine with a keypad, you can use your keypad in entering these numbers.

Now press the number key that you want to use for your custom command. You'll see another prompt that says :

Define X-key

Now type in the desired sequence of commands. For example, to put title centering commands throughout the text, you could use this series: "i" ; ">t"; "ENTER"; "SHIFT" "ENTER". In entering your sequence, hitting "ENTER" prints a down arrow on the Model I, a heart on the Model III, and a graphic block on the Model 4. If you make a mistake in entering the series, press "SHIFT", then backspace and retype over the error. You should not enter spaces in between command keys as spaces are treated as characters. So this particular sequence would look like this on your screen:

i>t[ENTER]

Items enclosed in brackets "[]" are instructions; pressing these keys will leave various symbols on the screen.

You also pressed "SHIFT" "ENTER", which does not show on the screen - "SHIFT" "ENTER" is how you terminate the command series and get back to Edit.

To execute this series, move the cursor to where you want to place the title center command and press the number key you are using for that command. The title center command will appear in that spot. You can move the cursor to other places you want to put a title center command and press the number key or x to put this command there. The small "x" will cause the last used macro command to execute. For example if you defined "2" to insert the title command and have been using that key, then "x" will give you the same result. Each time you hit x, a ">t" will appear there.

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You can enter in as many as 10 custom commands by assigning them each a different number. You will have to remember or write down which commands do what. In all ten commands, you cannot exceed 200 characters total, and you are limited to 20 characters per key. However, you can exceed the 20 characters if you do not store any command on the next key. For example, if you have a 30 character command on key #1, you should put your next command on key #3, not on key #2. Also note that key #9 will have an absolute limit of 20 characters, since there is no "next" key to borrow from.

XxXxXxXxXxXxXxXxXxXxXxXxXxXxXxXxXx

****** You can also enter a series of different steps to be accomplished in one command if you separate the steps with an "e". For example: "i"; ">c80"; "down arrow" "ENTER"; "e"; "i"; ">c60"; "down arrow" "ENTER"; "SHIFT" "ENTER". This is two separate sets of instructions separated by the "e". (* NOTE - the "e" command only works in Edit.) In this case, you have to press "x" to execute your commands, rather than pressing the command number. The first time you press "x", the first set of instructions will be carried out (centering text at 80 characters wide); the next time you hit the "x" key, the second set of instructions will be carried out (centering text at 60 characters wide). If you should get into a perpetual execution, press "e" or "BREAK" to stop the execution of the command.

****** If you use "N" (capital "N") as the last command in an x-key series, then type "n" to execute, the prompt "number?" will appear. Enter the number of times you want the command to execute; it will then execute that number of times. Each time the command is pressed it will repeat the same number of times until the "n" command is used again and changed. For example, if you want to scroll down three screens each time the "1" key is pressed in Edit, define the command key "1" as "zN", then press "n" and enter the number three. The "z" command will be executed three times. Each time "1" is pressed, "z" will be executed three more times.

****** You can also have a command execute until the end of text by using "CLEAR" "g" at the end of your command. You can also stop execution by pressing "BREAK". You could, for instance, write a command to search for all instances of "George" in your text. In this case, when the "Find" function shows "not found", the x-key execution is terminated.

****** You can have an x-key count something for you by using the "k" key. Pressing "k" anytime from Edit will put a "1" at the right hand bottom of the screen. Press "k" again and you see "2", and so on. You can incorporate this into an x-key command to keep count of something. To use the example above, if you want to find all instances of "George", by writing your x-key as follows:

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FGeorge[ENTER]k[CLEAR]g

you can count how many times "George" appears in text.

TURN OFF THE NUMBER COUNT WITH "CLEAR" "k". IN THE MODEL 4 VERSION, PRESS "CLEAR" "k" "ENTER".

XxXxXxXxXxXxXxXxXxXxXxXxXxXxXxXxXx

- 16.2 EXITING X-KEY PROMPTS** If you press something by mistake and get the "Which Command Key?" prompt, you can exit the prompt by pressing "BREAK". If you get the prompt "Define X-key" but want to exit, press "SHIFT", then down arrow; this will not alter the contents of your keys.
- 16.3 SAVING & LOADING X-KEY COMMANDS** To save your x-key commands on disk, press "%" (SHIFTed 5 key). In response to the prompt, give the name of the x-key file you want saved and the disk number you want it saved to (e.g., "PRNTCOM/XKY:1"). Press "ENTER" to save the file to disk. This will save ALL x-key commands currently in memory; if you have commands on all 10 keys, they will ALL be saved. To load that file back into memory, press "&" (SHIFTed 6). This will load ALL x-keys that were in memory When you did the save.
- 16.4 EDITING X-KEY COMMANDS** After the prompt "Define X-Key", you can press "SHIFT" right arrow to move the cursor to the right, revealing the command stored there. Use "SHIFT" left arrow to move the cursor backward through the command; you can then type over any character of the the old command you want changed. "SHIFT" down arrow will leave the command as it is without change, while "SHIFT" "ENTER" will terminate the command at the point where you left the cursor.
- 16.5 USE IN TEXT ENTRY, INSERT, OVERTYPE** Activate X-Keys in Model I and III by pressing "SHIFT" "BREAK"; in Model 4 TRSDOS 6 use "CLEAR" CTRL "x"; in MAX-80 and Model 4 "4 + 3" use CTRL "x". You'll see the prompt "X-Keys" at the bottom of the screen. Pressing any number will execute whatever command is stored on that key. You can also execute x-keys by pressing "CLEAR" and the number. Remember that the effect of an "X Key" is dependent on what mode the program is in when the key is executed. For example, a key programmed as "iHi there" will insert the words "Hi there" when used from "Edit" but will write "ihi there" if activated from "Text Entry". Use x-keys from "insert" and "overtyp" by pressing "CLEAR" and the number.
- 16.6 ADVANCED X-KEY USE** The important thing to remember about the X-keys is that they are stand-ins for your own fingers. Almost any key or sequence of keys that you can type, the X-Keys can type for you. Their mission is to save you from boredom by typing frequently used combinations of commands or text over and over again at the press of a number key. Their "smart" additions, such

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as the "N" command, add power by allowing automatic repetition of your command - something that computers are good at doing.

An X-Key can take Lazy Writer anywhere that your fingers can. For example, you can have an X-Key press the "l" for load a file, then type the file name, press "ENTER", then when the file is loaded move the cursor to the top of the text by pressing "SHIFT up arrow", then move the cursor down five paragraphs by pressing the "p" five times, then press "CLEAR" "p" (or F3) to go to the Printer Menu, and finally press the "f" key to print from the cursor. An X-Key can be programed to press "CLEAR" "BREAK" (or F1) to fetch the "DIRECTORY AND FILE HANDLER", then "e" to load a frequently used extension, type the file name of the extension, and finally hit "ENTER" to execute the extension.

In "EDIT", an X-Key can jump to another X-Key by including it's number. So little X-Keys can be linked together after they have been tested by editing them to include the number of the next X-Key at the end. Very "powerful" X-Keys can be written this way to do much useful work if they are carefully thought out.

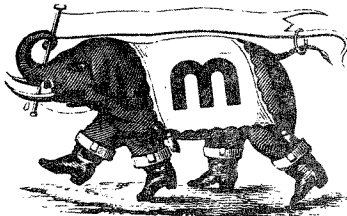
By combining Lazy Writer's ability to search for words and phrases and its extraordinary cursor-moving talents, the X-keys turn mind numbing drudgery into something that's fun to watch. For example, suppose you have a BASIC program (saved with the "A" option, of course) from which all the REM statements have to be removed. You could write an X-key that searches for the word "REM", moves the cursor to the preceeding carriage return, goes into DELETE, searches forward to the next carriage return and completes the DELETE, and then repeats the process until reaching the end of the file.

The sequence of keys is:

```
F REM [ENTER]?[ENTER]/[LEFT ARROW]&g
```

Note that we have again used the words "ENTER" and "LEFT ARROW" enclosed in [] to indicate keys that would show up on the screen as graphic blocks, arrows, or hearts and that the "CLEAR" key shows as a "&" when included in an X-key. When entering an X-Key, the "CLEAR" key acts just like it does normally, so "CLEAR" key functions are entered by pressing the "CLEAR" key and holding it down while pressing the "g" key or whatever.

17. REMEMBER CURSOR You can mark any cursor position with this feature. Pressing "M" (capital "M") marks the cursor position. Then you can scroll anywhere in your text and, when you want to get back to the marked spot, press "m" (small "m") and Lazy Writer will return you to that spot.



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18. DATE (MAX-80 AND MODEL 4 VERSIONS) You can insert the date into your file by pressing CTRL "d" from "insert", "overtyping" or Text Entry. This will put the current date held in the DOS into your file at the cursor position. The date will be spelled out; for example, "January 1, 1986". If you want the date in DOS format (as in 01/01/86), press "CLEAR" CTRL "d". This feature also works from Text Entry. In the Model 4 "4 + 3" version, you can only get the date in DOS format.



19. TIME (MAX-80 AND MODEL 4 VERSIONS) You can insert the time into your file by pressing CTRL "t" from "insert", "overtyping", or text Entry. This will put the current time held in the DOS into your file at the cursor position. If you did not enter the time correctly when you turned on your computer, the time obtained by using this feature will not be correct.

20. AUTOMATIC NUMBERING (MODEL 4 VERSIONS ONLY) By pressing "CLEAR" and the "k" key from Edit, you'll get a prompt at the bottom of the screen, "enter count". Type a number from the keyboard and that number will be displayed on the bottom of the screen. It can be instantly inserted in your text anytime you press "CLEAR" and the "k" key from Text Entry, "insert", or "overtyping". Each time you press "CLEAR" and "k", the number inserted will increment by one. For example, if you started with "20", the second time you press "CLEAR" and "k", the number "21" will appear; the third time it will be "22" and so on. This can be helpful in numbering paragraphs or anytime you need consecutive numbering. You can increment the number on the bottom of the screen by pressing "k" from Edit - the number displayed is the number that will be used next. Pressing "CLEAR", "k", and then "ENTER" will have the effect of resetting the number to zero. Numbers available cannot exceed five digits or be over 65,536. When you insert the number, there will always be five positions, regardless of how large or small your number is. For example, the number "10" would always be preceded by three spaces.

You can trick this feature into incrementing by 10 by writing an x-key that includes "CLEAR" "k", then 0. This will add a zero to each number generated by the "k".

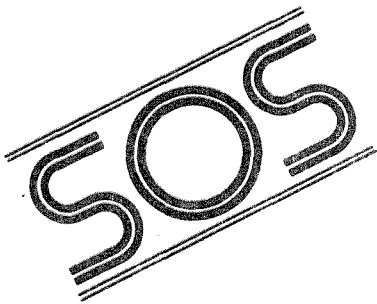
21. RUNNING ELECTRIC WEBSTER You can get into the Electric Webster Spelling Checker by pressing "CLEAR" "m". Of course, you must have the Electric Webster program properly installed on your disk for this command to work. You can also use Electric Webster as an extension from DIR, or from the UTILITY Menu.

22. HELP FILE If you're having problems remembering some of these editing features, you can always press "h" and you will see the "help" file appear on the screen. This file is actually being listed to the screen from disk, the same way you can list any file. See the chapter "FILE MANAGEMENT" for more information on listing a file.

The "help" file contains some information about using Lazy Writer. When the file appears on the screen, it will not affect your text, which is still

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in memory and will return to the screen when you press "BREAK". You can add your own "help" information and save it into the "help" file. Do this by loading the "help" file into memory, move the cursor to the end of the text, then go into "Text Entry" and type in whatever you want. Save this file under the file name "help". Now, when you press "h", the "help" file will come on the screen with your material added. You can also replace all the entire "help" file, if you wish. The "help" file is for your convenience and is an alternative to searching for your manual. You get out of the "help" file and back into Edit by pressing the "BREAK" key.



You will get a prompt, "press any key to continue", when you're viewing the "help" file. The only key you **SHOULDN'T** press is the "l" key - this would cause the "help" file to be loaded instead of listed. If you have text in memory, the "help" file would suddenly be loaded into memory at the cursor location. This would, in effect, wipe out your text, so press any key but the "l" key.

23. GETTING TO OTHER PARTS OF LAZY WRITER From Edit, you can go to:

- * The Printer Menu (press F3 or "CLEAR" "P")
- * The Directory (press F1 or "CLEAR" "BREAK")
- * Load or save files (press "l" to load and "s" to save)
- * The FORMATTER (press F3 or "CLEAR" "ENTER").



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FILE MANAGEMENT

1. TO SAVE TEXT press the "s" key while in Edit or "CLEAR" and "s" while in Text Entry. You'll see a prompt on the screen :

```
SAVING TO DISK  
CURRENT FILE:ART2:0  
FILE NAME PLEASE >_____/____
```

In this example, the current file name is "ART2". If you want to save your text to this file just press the "ENTER" key or the "CLEAR" key. You'll get a message on the screen warning you that this file already exists. This gives you a chance to save it by a different name if you don't wish to overwrite the previous file. If you do want to overwrite, just press "ENTER". (The warning does not appear on the Model I or III version.)

If you want to save to a new file name, type in the name of your new file next to the "FILE NAME PLEASE" prompt. If you make a mistake entering the name, backspace and retype. You can only enter eight characters - the maximum for a file name. After those eight characters, you may enter a three character extender after typing the "/". If you want to change the name after you've typed the extender, you can still backspace to before the "/" and reenter the name. The Model 4 version will not let you enter more than the eight characters for the name and three characters for the extender; the Model I and III versions do not have this protection built in.

Once you've typed the name and extender, the only acceptable options left are entering "." to add a password or ":" to enter a drive number. In the Model 4 version, the program will not let you enter any character but these at this point. In any version, password and drive number are optional. Use a password only if you want to protect or limit access to the file. The password can be up to eight characters. When you load, save, or list a file currently in use, Lazy Writer puts the "current file" filename on the screen. However, if that file has a password, the password will not appear on the screen. You must type it each time. When you go to the Directory, you will see the filename without its password. It would also be possible to have two files with the same name but different passwords; the same name would be listed twice in the Directory.

If you don't indicate a drive number, your file will be saved to whichever drive contains a file by that name. If no file by that name exists, it will save to the zero drive. Finally, press "ENTER". This will start your disk drive and save to your new name.

If you want to create a new version of an old file, you simply need to give the new version a different file name and save it under the new name. Enter the new file name next to the prompt "File Name Please". If you press the right arrow, the old file name will appear one character at a time in this space. You can then edit this name to one slightly different (example: "ART1" becomes "ART2"). You can change the first few letters of an existing file name and then press "CLEAR" (in the

FILE MANAGEMENT

TRSDOS 6 version, press "SHIFT" "CLEAR"). The file name will then be the old one altered by what you typed to make a new file name. For example the old name was SEXY/LW; you type "r" then hit the "CLEAR" key. The file is saved as "REXY/LW".

If you try to save a file to a disk that doesn't have enough room, you'll get an error message. If this happens to you, get a new formatted disk to save your file on, or kill some files on your current disk. If you choose to kill files, you can either go out to DOS, or load the Directory (press F1 or "CLEAR" and "BREAK") and use the "kill" function. You can kill a file from DOS, then return to Lazy Writer without losing text.

The "save" command saves all the text in the computer regardless of cursor position.

2. TO LOAD A FILE from disk, press the "l" (load) key while in Edit or "CLEAR" and "l" while in Text Entry. You'll see a prompt on the screen:

```
LOADING FROM DISK
CURRENT FILE
FILE NAME PLEASE> _____/_____
```

In this case, there is no current file in memory, so type in the name of the file you wish to load. If you've loaded or saved a file previously, that name will be listed after "current file". If you see the correct name there, you can press the "CLEAR" key or "ENTER" key to load your text (in the TRSDOS 6 version, press "SHIFT" "CLEAR" or "ENTER"). The right and left arrow will move the cursor for editing the file name. If you edit part of the file name, hitting "CLEAR" ("SHIFT" "CLEAR" in TRSDOS 6) will retain the characters you did not change and load the file.

If there is a file in memory, and the cursor is at the top of file, the file in memory will be overwritten. There is no need to delete files in memory before loading a new file. However, be sure the cursor is at the top of the file before loading a new file. Otherwise, the file just loaded will append to the material above the cursor.

LOADING FILES FROM INSERT

You may load a file from the "insert" mode. Place the cursor where you want the material inserted. Press "I" or "i" for insert. Once in "insert", press "CLEAR" and the "l" key. You will get the loading prompt. Type in the file name as in loading from Edit. The file will load at the cursor position. You will still be in "insert" when the file has loaded. Press "ENTER" to complete the insert.

LOADING FILES FROM DOS

You may also load a file directly from DOS, at the same time, you load the Lazy Writer program. For example, if you have a file called LETTER, you can load it from DOS like this:

```
L LETTER<ENTER>
```


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First, Lazy Writer will load, then the file called LETTER. The program will be in the Edit mode, with the LETTER file on the screen, ready for you to edit.

You can load two files from DOS, one after the other. Let's say you want to load LETTER and PS2, the second file to load at the end of the first. Here's how to do it:

```
L LETTER PS2<ENTER>
```

Both files will load, and you'll find them on the screen, with the file PS2 at the end of the file LETTER. In effect, they've been appended together in memory. Obviously the files cannot be larger than will fit into memory.

There's another way to append files. If you have a file in memory and have gone out to DOS, you can get back that file with a new file appended with this procedure:

```
L<DOWN ARROW>  
NEWFILE<ENTER>
```

This should load Lazy Writer, restore your old file, and load NEWFILE at the bottom of the old file.

Besides loading text files from DOS, you can load extensions too. For example, if you want to load LazyMerge from DOS, type:

```
L E LAZYMERGE<ENTER> or L LETTER E LAZYMERGE<ENTER>
```

The "L" loads Lazy Writer; the "E" tells Lazy Writer you're executing an extension, and LAZYMERGE is the name of the extension you're using. In the second example, LETTER is the name of a text file you're loading into memory to use with LazyMerge. These commands leave the LazyMerge Menu on the screen.

In addition to loading text files and extension programs, you can also load and execute x-keys (keyboard macros) from DOS. For example, suppose you have your letterhead stored on the #3 x-key in a file called X2. You want to load Lazy Writer and the x-key at once and execute x-key #3. Type:

```
L X X2 3
```

This will load Lazy Writer and load the x-key file, which contains all your x-key commands. The "3" will cause the #3 x-key to execute; in this case, it will put your letterhead on the screen. If you omit the specific number (in this case 3), the X2 file will load and begin executing any command stored in the 0 key. If you have not saved any command on the zero key, there is a default command on that key (it loads a file called X1). Remove it by defining a command on the zero key, then entering nothing as that command. (Do that by typing: 0<SHIFT><ENTER>)

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These files can be entered in combination, but be sure to enter the text file names first and extensions or x-keys next.

NOTE: In all of the examples above, the spaces shown between file names MUST BE THERE. In the last x-key example, you cannot use "LXX23". You must use one space between each file name entered from DOS. When you load files from DOS, your text will be on the screen in the Edit mode.

LOADING ERRORS

Lazy Writer itself has only one error message dealing with disk operations (all other error messages are from your DOS). If you try to load a file that is longer than you have room for in your computer's memory, you'll get a "File Out of Memory" error message. This would only happen if you are loading a file created with another program or created on a machine with more memory than the machine you are trying to load it into. The file will load to the limit of your present memory, but the remainder of it will not load.

There is a rather complex way of dealing with this problem, involving breaking the file into two or more files. Load as much of the file as you can and delete some of the last part. Save the part now in memory with a new file name. Put the cursor at the top of text and list (press capital "L") the old oversize file to the part that wouldn't load. Just before you get to that part, hit the "I" key to load instead of list and this part of the old file will now load normally into memory. You now have two smaller files instead of one big one. You can kill the big file from your disk. The thing to remember is that whatever comes after you hit "I" will load into memory. After a load, the program returns to Edit and shows the top of the text.

Sooner or later, you'll get a file that just won't load. Instead of the file loading into memory, you'll get an error message such as "PARITY ERROR". This bad news is from your DOS, informing you there is something wrong with the file you want to load. There are a number of causes of this and none of them are the fault of Lazy Writer. However, Lazy Writer has a feature to help you get whatever you can salvage from the file.

In the Model 4 versions, when a loading error occurs, the error message will print on the screen, along with a mini menu of three options:

- 1) retry
- 2) skip
- 3) quit

If you choose "retry", Lazy Writer will attempt to load the file again - you can keep doing this as long as you want. It is possible the file will load on one of the attempts. However, you could bail out of these attempts and choose "skip". With this option, Lazy Writer will overlook the bad sector of the disk (the part of the file that is causing the problem), and load in whatever is there. The cursor will be at the start of the bad part of the file, which may be as little as a few characters. Fix or salvage what you can from the file. If you select "quit", you'll

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get the file up to the bad part.

In the MODEL I AND III VERSIONS, this same error recovery is available from the Directory. Press "CLEAK" plus "BREAK" to go to the Directory. Hit the "I" key and try to load your file. If it won't load, you'll get the mini-menu shown above. Proceed as described above.

Lazy Writer can only help with errors in the file. Errors in the directory cannot be recovered from Lazy Writer.

3. APPENDING FILES To stick two documents together, load one and move the cursor to the end of that document, then load the other file and you can save them together. If you want only part of one file added to another file, load the first file, move the cursor to the bottom of the material you want, then load the second file. The second file will be appended at the place you left the cursor and will load over the material below the cursor, in effect, deleting it. Any material above the cursor position from the first file that you may not want, delete in the normal way. You can use the "M" key to "remember" the cursor position before the "load" the return to it after the "load" by pressing "m". (See the "Remember Cursor" feature in the section, "EDITING")

4. TO LIST A FILE from disk (without it going into memory), press "L"(capital "L"). You'll get the same prompt as for loading (except that the screen will say "LIST" instead of "LOAD"), but there will be no file name shown. Type the name of the file you want to list. Your file will begin appearing on screen and you'll see the prompt "hit any key" to make it continue. This works much like a DOS list, except that it stops after each screen full until you tell it to continue. This gives you time to read the screen, if you want. If you want to stop listing, press "BREAK". You can also switch from listing to loading by hitting the "I" key while you are listing.

Listing is a way of verifying that your file was properly saved on disk. You can also use the list feature to look at a file you are not currently working on. You can be editing one file, but decide you want to view some material from another file. Simply press "L" and enter the name of the file you want to see. It will begin listing, but since it is not going into memory but is being read directly from the disk, it does not destroy the file in memory. When you are through listing, your original file will still be there.

A file being listed on the screen will not be nicely formatted like one that has loaded into memory; words will be broken and there may be brief pauses as the computer searches the disk for the next batch of text. Also, you cannot change the listed text or edit it in any way - listing just allows you to see it, a screen full at a time. Obviously, you must have the disk with the file you want to see in your disk drive in order to list it.

5. SAVING/LOADING KEYBOARD MACROS ("X-Keys") X-key commands can be saved on disk by pressing "%" while in Edit. You will get the usual prompt for "saving". Type in the file name and proceed as with any other save. Whatever "x keys" are in memory will be saved for

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future recall. It is not necessary to save each "x-key" separately - all will save together.

X-keys can be loaded into memory from disk by pressing "q" while in Edit. You will get the usual prompt for "loading". Type in the file name as you would for other files. The "0" key is set up by the program to load a file called X1. Pressing "0" in Edit will cause the prompt for loading to appear and the file name "X1" to be written. Pressing "ENTER" will load the X1 file. The X1 file could include an "X-key" that loads another "X-key" file or that loads your work file into memory.

6. DIRECTORY You can see your directory from Lazy Writer by use of the DIR overlay. You use this by pressing F1 (Model 4) or holding down the "CLEAR" key and pressing "BREAK". This will display a directory of all files currently on the disk you have in your zero drive; it also tells you how many free grans you have. From the Directory, you can save, load, and list as well as perform several other functions. You exit by pressing "BREAK". See the chapter, LAZY WRITER EXTENSIONS, for more information.

7. GETTING TO DOS From Edit, you can get to DOS by pressing "x". You can then carry out any DOS command, including DIR, KILL, etc. and return to Lazy Writer without losing your text. With many newer DOS's, you will lose text if you do a COPY, BACKUP, or FORMAT and then return to your text. Otherwise, you would only lose your text if you load BASIC or make use of memory space above DOS (7000 hex). To bring your text back, type "l" (file name for Lazy Writer) and reload Lazy Writer; if you get the initial screen (with the copyright notice) instead of your text, your text is probably gone. Pressing the up arrow in a Model I machine and the "@" in a Model III or 4 machine may recover it; but if nothing happens when you press this, your text is probably no longer in memory or the text pointers are gone. Your only hope is to load Lazy Writer and use the "RESCUE/CMD" extension. This will retrieve whatever is still there; however if you've used the area of memory where the text buffer resides or power is lost or you have a bad hardware crash that changes memory, nothing can help you. Such things do happen; that's why we suggest frequent "saves" and regular backups.

WARNING: There are a few additional dangers in going to DOS with a Model III computer. A reboot can change characters, especially if the orange RESET button is held down. If you must reboot, press the RESET button quickly.

8. TECHNICAL INFORMATION Lazy Writer will load or save any file that can normally be loaded by DOS, including BASIC programs saved either compressed or as ASCII, Editor/Assembler(EDTASM) files, object code files, data files, etc. Lazy Writer does not distinguish the type of file you've loaded. If you inadvertently load an object code file, it will look like nonsense on the screen, as Lazy Writer tries to print every byte as ASCII, including information the disk system uses. You will not see hex numbers contained in object codes, but only translations into ASCII characters. And because Lazy Writer normally discards the high bit of every byte when printing to screen (it uses it for underlining),

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you will not see any graphic characters, except for white "page break" bars.

It is possible to edit prompts in object code programs that are in ASCII if their length is not altered and if you use care not to overwrite characters that are used for file management by DOS that appear within words. If those conditions are met, you can save the program back and the program will execute with the new prompts.

Compressed BASIC will load into Lazy Writer with the same difficulties as object code files, but again you can't change the length. BASIC saved as ASCII can be loaded into Lazy Writer and edited freely as any text. It's best to set the video width at 255 when editing BASIC so programs will appear as they would in BASIC. The Find and Replace and Block Move features of Lazy Writer are very helpful in editing BASIC programs, but remember your lines have to be less than 248 characters in order for BASIC to accept them and line numbers will be loaded into BASIC consecutively regardless of where they are in Lazy Writer. In Text Entry, "CLEAR" plus the down arrow produces an ASCII code of 10, "ENTER" produces a 13, and in "insert" the down arrow produces a 13. Lazy Writer treats these all the same, while BASIC treats them differently.

If you want to get a neat print-out of your BASIC program, save the program with the "A" option from BASIC. (SAVE "THISFILE :0",A) Now, load it into Lazy Writer. If you are one of those people who don't put spaces in BASIC programs, it is going to be hard to read, because Lazy Writer will break the lines up in strange places. It will print out weird too. To remedy this, use Find and Replace to replace ":" with " : ". (space before and after). You can also add spaces before and after key words like PRINT. To finish the job, put in a header with page numbering and a Reverse indent command, and you'll have a very readable print-out of your program.

Files created by BASIC and saved as random files can be loaded into Lazy Writer and theoretically be edited, but there are problems. Usually these files have no carriage returns, so Lazy Writer responds slowly when scrolling. The problem is worse with longer files.

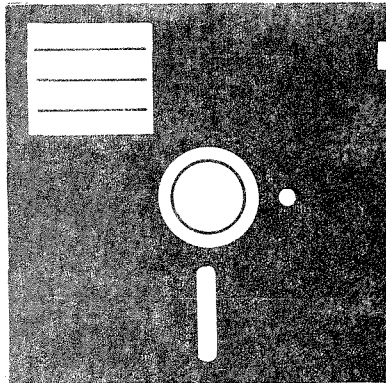
Editor/Assembler files will load into Lazy Writer and line numbers will appear normally, but at present, Lazy Writer does not recognize Editor/Assembler tab characters; it prints them as spaces. In general, this will not affect its ability to edit files. If you press the ";" key, you'll see that Lazy Writer thinks the line numbers are all underlined. Therefore, to create a valid Editor/Assembler line number, write a normal number, then underline it. You will also discover that part of the beginning of text is underlined (high bit set); these must remain underlined if Editor/Assembler is to accept the file. Edited Editor/Assembler files should be saved with the same file name. After re-loading into Editor/Assembler, do a renumber which will take care of any non-consecutive line number. A tab character can be created with a "SHIFT" "right arrow" in Insert.

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Any underlining other than a line number and block move markers, which are underlined parentheses, will cause Editor/Assembler to reject the file with the message "bad parameters". If it does this, reload the file into Lazy Writer and look for the problem. Editor/Assembler files contain a termination byte which must be left at the end of text.

ZEUS Editor/Assembler files should be saved in ASCII before editing with Lazy Writer.

Scripsit files should load into Lazy Writer but we haven't made extensive tests. To get rid of Scripsit's special characters, press "a" then "U" (capital "U") from Edit. Then load STRIP from the UTILITY menu. Use any of the following sequences from STRIP: "a" and "c"; "u" and "a"; "u" and "c". You will need to delete Scripsit printer commands and insert Lazy Writer printer commands.



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LAZY WRITER EXTENSIONS

WHAT ARE EXTENSIONS?

Extensions are programs that work with the Lazy Writer core program and run through the Directory "DIR/CMD" (see below). Extensions used from the Directory end in "/CLW"; they will not run correctly from DOS.

DIRECTORY AND FILE HANDLER

DIR/CMD is a special function program that lets you see directories of your disks and carry out some functions normally done from DOS. To load the Directory, press the F1 key or hold down the "CLEAR" key and press "BREAK" while in Edit. You'll get a file directory at the top of the screen and a menu on the bottom of the screen. Note that the top of the screen shows "DISK NAME"; this will be the name of your LOS on a system file, but on a data disk, it be the name given the disk when it was formatted. There's also a date and the number of free grans. DISK NAME and FREE grans will not display with Model III TRSDOS. The file names are arranged in five columns and will include the Lazy Writer program files, but not "SYSTEM" files or "invisible" files.

To see the directories of other drives, press "0", "1", "2", or "3" or higher number in the case of hard disk. (If you're using TRSDOS 1.3 for the Model III, you'll only be able to designate drives #0 - #3.) The Model III Lazy Writer disk contains a file called DIRPLUS that is an alternate version of the Directory program. Use this program with MULTIDOS 1.7 (or later version), DOSPLUS and LDOS; it will let you designate drive numbers 4 to 9 for use with hard disk. Another alternate DIR is called TRSDIR, for use with TRSDOS 1.3 (MODEL III) or TRSDOS 2.3 (MODEL I). If your disk contains a "Welcome" program, this will copy the appropriate file to your working disk. The TRSDOS 6 (Model 4) version has only one Directory file, which also works with DOSPLUS 4.

THE MENU AT THE BOTTOM LOOKS LIKE THIS:

To See Directory, Type drive No. (0-7) A
<l> = load <s>ave <BREAK> = quit - back to Edit
<L> = list - (capital l) <c> = compile directory list
<k> = kill <v> = verify <e> = execute extension

1. **LOAD** a file from disk to memory. Pressing "1" displays the current file name after the prompt "FILE NAME PLEASE>_____/_____". Load the current file name by pressing "CLEAR" or "ENTER", or enter the name of the file you want loaded. This "load", works the same as it does from EDIT. If the load is successful, you will be returned to EDIT. If not, you will get an error message and a mini menu of options to help you recover the file. In the Model I and III versions, you will get this mini menu ONLY when loading from the Directory, not when loading from Edit. See the FILE MANAGEMENT chapter for more information on error recovery.

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2. **LIST** a file from disk. This also works the same as from Edit. Press "L" (capital "L") to get the prompt, then use "CLEAR" to list the current file, or enter the name of the file you want listed. You can stop a list at any time with the "BREAK" key. Pressing "l" will put you into a "load" from that point on.

3. **SAVE** a file from memory to disk. This is the same as from Edit. Hit the "s" key and get the prompt "FILE NAME PLEASE>_____/_____". Save the current file by pressing "ENTER" or "CLEAR" ("SHIFT" "CLEAR" on TRSDOD 6), or type the name of the file you want saved.

4. **EXECUTE EXTENSION** Pressing "e" will enable you to run an extension program from Lazy Writer. This includes - but is not limited to - UTILITY/CLW and PRINTGEN/CLW. Just enter the name of the extension you want to use and it will load into Lazy Writer. It is not necessary to type the "/CLW" ending - Lazy Writer adds that automatically. If you want to load a file that is called "/CMD", however, you'll need to type in the whole thing, or else Lazy Writer will add a "/CLW", which will give you a "file not in directory" message. Once executed, the extension returns you to Edit.

5. **COMPILE DIRECTORY LIST** This feature enables you to make a catalogue of disk directories from your collection of disks. Press "c" and you'll see a new prompt at the bottom of the screen, "STARTING with DISK NO.?" . Answer with a starting number and "ENTER". The number you enter will appear as the "disk number" of the first disk you put in the drive. The subsequent disks will be numbered sequentially from the number you give. Now the line at the top of the screen will say "CATALOGING DISK NO." and the number. Pressing a number key from "0-9" will load the directory for that drive number both to the screen and into the memory. Each time you press the drive number a new directory will be loaded into memory. (Of course you must keep changing disks or it will be more copies of the same directory.) The directory for the drive you've indicated will be loaded into memory at the cursor position. If you're adding this information at the bottom of a file, be sure you've left the cursor at the bottom of your file. This feature will overwrite previous text, so be careful! Pressing "c" again and replying "0" to the disk number prompt will shut off this feature.

6. **KILL** "Killing" a file means erasing it from the disk, the same as the DOS command, "KILL" (in TRSDOS 6 it's called "REMOVE"). To kill a file, press "k" and you'll get a prompt containing the current file name. If you're not killing the current file, type the name of the file you want killed. You'll get a prompt that says "KILLING FILE !!!". If you really want to kill the file, press "ENTER". Pressing any other key will return the Directory display.

7. **VERIFY** Verify lets you compare a file in memory to one on disk. You might want to use this to make sure your file saved correctly or to check if two disk files are the same (load one into memory, then compare with the other file on disk). Press "v" and the current file name will be displayed. Enter the name of the file you want to compare to the one in memory or press "ENTER" for the current file name. The disk drive

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will come on as the comparison is accomplished. If the files are the same, you'll get a prompt that says "everything ok". If they differ, the prompt will say "not the same". When you return to Edit, the cursor will be on the first difference found in the text in memory, as compared to the file on disk.

UTILITY/CLW

The extension called UTILITY/CLW is a menu for four small programs plus PRINTGEN/CLW. Run UTILITY from the Directory (accessed by pressing the F2 key or pressing "CLEAR" + "BREAK"). The programs you can select from the UTILITY menu are: RESCUE, SIZE, STRIP, CHANGE LAZY WRITER, FIGURE CHECKSUM, and PRINTGEN. You can also access the optional spelling checker, Electric Webster. The PRINTGEN program can also be used directly from the Directory.

RESCUE

"RESCUE" is a program you can try if you think you've lost your text. Lazy writer protects you as much as possible and will normally let you re-enter the program with text intact, but if you have managed to delete all your work by pressing "CLEAR" and "e" or "SHIFT" "!" Unintentionally, (and in so doing reset the end of file pointer), "RESCUE" will save you. Select this program and you'll get a question on the screen asking you how many bytes were in the lost file. Type in a number and press "ENTER". Lazy Writer will retrieve the number of bytes you've specified. If your guess is too low, just run this extension again and use a higher number. If your number is too high, you will get your file plus what ever else might be in memory. Once back in Edit, you can delete the extra by using "SHIFT" "!" or "CLEAR" and "e" to set the end of file pointer.

SIZE

You will not ordinarily need SIZE. "SIZE" alters TOPMEM. Lazy Writer takes its top memory (TOPMEM) from the DOS initially. However, if you want to protect more memory, use SIZE to change the location of TOPMEM. On the Model I and III, Lazy Writer sets the same memory location used by DOS to indicate high memory (4049H on the Model I and 4411H on the Model III) and does not check for actual end of memory so don't set it for more memory than you have. On the MAX-80 and TRSDOS 6, Lazy Writer gets TOPMEM from the DOS, then refers to its own TOPMEM after that - using SIZE with these versions only alters Lazy Writer's TOPMEM. You will not be able to set memory below the start of the text buffer.

STRIP

"STRIP" gives you some options for one shot removal of different kinds of non-standard characters from the file. For example, if you have a file with control characters you want to get rid of (such as a Scripsit file), use STRIP to delete them from your file. You may also want to use STRIP to remove Lazy Writer control codes from a file that you wish to

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use with another program.

STRIP presents you with a menu for selecting what you want removed from your file. In addition to removing characters, STRIP will substitute a decimal code for a character or a decimal code for another decimal code. This is a way to change all @'s, for example, to a special character code such as 125 or to substitute code 13 (produced by pressing "ENTER") for code 10 (produced by "CLEAR" and down arrow).

Here is the STRIP menu:

- a = all control codes and underlining
- m = mandatory spaces
- = Soft hyphens
- c = non Lazy Writer control character
- u = underlining except block move markers
- (= Block move markers
- s = selected decimal code removed
- R = replace one character code with another
- r = replace character code with another
- d = replace down line feed (10) with carriage return (13)
- p = remove printer commands in text
- <BREAK> = exit to Edit

CAUTION: STRIP acts on the whole text. Save your text first, then run STRIP and check the results. You may have wiped out something you need.

CHANGE LAZY WRITER

As you use Lazy Writer, you may find some of the defaults unsuitable for your use. You may wish the cursor were a different shape or moved faster, and you may want the page width set for 12 characters per inch, or maybe you always print 60 lines per page instead of 54 and don't like changing it each time. CHANGE LAZY WRITER lets you change these defaults. With this extension, you can alter any value on the Printer Menu except "output printer commands" and software form feed. Software form feed can be permanently turned on from PRINTGEN, rather than from CHANGE LAZY WRITER. The values you see on the CHANGE LAZY WRITER menu when it loads are the current values. When you finish using CHANGE LAZY WRITER, you will return to DOS, but any text you had in memory can be recovered by reloading Lazy Writer.

(t)abs - This allows you to set five permanent tab positions. Go into Edit first and set the tab positions you desire, using the normal method. Now, go to the Directory and load CHANGE LAZY WRITER. Press the "t" key. Your tabs are recorded as permanent settings.

(f)lashing cursor - This lets you change the shape of the cursor you use in Edit. Enter a number, representing the decimal ASCII shape desired. The shape you select will appear next to the number. Your computer or printer manual will have a table

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of ASCII shapes. You might want to try 191 to get a giant cursor or 95 to get a small dash cursor.

(d)elay - This sets the speed of flashing for the cursor. The lower the number you enter, the faster the cursor will flash.

(r)epeating keys delay - This sets the time between the repeats when you hold a key down. (NOT IN TRSDOS 6 VERSION)

(R)epeating key - This sets the initial delay when you press a key - the time before that key would begin to repeat. The higher the number, the slower the repeat. (NOT IN TRSDOS 6 VERSION)

(c)ursor byte - This changes the cursor shape for Text Entry. As in changing the cursor in Edit, you'll see the shape next to the ASCII number you enter.

(l)eft and right arrows - This item controls the speed of both the SHIFTed and unshifted cursor when you press the arrow keys. (NOT IN TRSDOS 6 VERSION)

(u)p and down arrows - This controls the speed of scroll you get when you use the up or down arrow. The lower the number, the faster the scroll. (NOT IN TRSDOS 6 VERSION)

(p)rinter defaults - This sets whatever values you've entered on the Printer Menu. You need to load the Printer Menu from Edit, set the values to whatever you want, then go to UTILITY and select CHANGE LAZY WRITER. Pressing "p" sets those values as the new defaults.

(s)top at end of print-out - Pressing "s" will cause the screen to return to Edit when finished printing, rather than displaying the mini-menu and the prompt "done" when you're through printing.

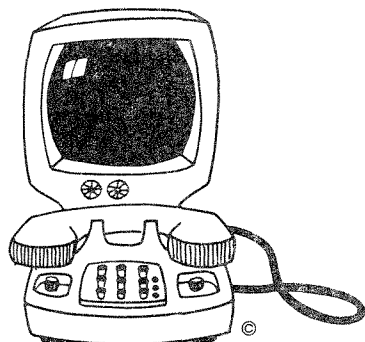
You exit the CHANGE LAZY WRITER menu by pressing "BREAK". This takes you out to DOS; this is necessary so the new values can be loaded back into memory. Load Lazy Writer again from DOS and you'll have your new defaults. If you go to the CHANGE LAZY WRITER menu, but decide not to change anything, you can press "e" to get back to Edit.

A word of caution is needed about this extension. If you run this, you'll be altering the code that makes up Lazy Writer. Don't run this extension until you've used Lazy Writer for a while and are familiar with how it works. You won't really know if you want to change any defaults anyhow until you've tried the program as it comes.

When you think you're ready to run CHANGE LAZY WRITER, don't use your master disk. Use a backup and test what you've done to see if it's what you want. Once you learn how to use Lazy Writer and CHANGE LAZY WRITER, you could set up several disks with different defaults to cover the different kinds of word processing you do.

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COMMUNICATIONS



**** NOTE:** There is no communications in the TRSDOS 6 version. On the MAX-80, communications works only with MULTIDOS.

In order to communicate with other computers, you must have a peripheral device called a "Modem" and an RS232 Board in your computer.

To use communications, load COMM/CLW from the Directory. Once loaded, the screen will say "RS232 Communications". On the Model III and 4 computers, RS232 software is contained in ROM. Both communications and the RS232 printer driver use whatever baud rate settings, parity settings, etc that the DOS "SETCOM" command provides. Set the RS232 parameters before using Lazy Writer. Consult your TRSDOS manual for instructions on "SETCOM". On the Model I, baud rate settings, parity settings, etc. Are derived from switch settings in the expansion interface; consult your RS232 manual for more information.

Computer communications go over regular phone lines, using the modem (modulator - demodulator), with the help of the RS232 hardware contained in your computer. The RS232 board translates the signals from the computer to the modem, which translates them into sound or into sound signals that can travel over phone lines.

Once you're ready to operate your equipment and have Lazy Writer set to communicate, call the phone number for another computer (usually with your modem turned off). The other computer should answer with a tone. Now turn on your modem and set the modem to "originate" and "full duplex". Your modem should respond to the other computer with a tone. If you don't get any response, try pressing "ENTER", then down arrow, or try just pressing the down arrow. These are common ways to begin communication. To talk to most mainframe computers, you'll need a password to get any further. You may see a prompt on your screen (sent by the other computer) that says "sign in, please". For most personal computers, you'll be ready to send data without a sign-in.

Modems can "answer" and "originate", but to talk to one another, they must each be set to a different mode. One must be "answer", the other "originate". You'll also see a switch for "full duplex" and "half duplex". "Full duplex" means the signals you're sending are going to the other computer, then coming back to you, like an echo. In "half duplex", your own modem is echoing back the signal from your keyboard, instead of the other computer. "Half duplex" is used for testing your equipment and with some computers (check your modem manual and find out the requirements of the other computer).

LAZY WRITER EXTENSIONS

*** MODEL III ONLY** If the other system does not provide an echo of the character which Lazy Writer has sent, you can press "CLEAR" "e" to get a "local echo". This would be needed when two TRS-80s are "hard wire" connected. Most modems provide a half duplex switch which provides a local echo, but in the case of hard wiring, there is no modem between the two systems. This is when "CLEAR" "e" should be used to see the characters typed on your own machine. "CLEAR" "e" should not be used in any situation where characters are echoed by the other system (it will cause two letters for each letter typed.) "CLEAR" "e" will also switch off this feature if it's on. There's no indication of the current status of this function except for the effect.

When you're on-line with another computer, you'll see numbers to the right of the words "RS232 Communications", with a cursor cycling through the numbers. These numbers are control codes being sent by the system you're communicating with. The block cursor shows which one is currently being sent.

RECEIVING

Now, if you want to put the data coming over your phone line into memory, press the "up arrow". You'll see a number on the bottom of the screen that's constantly increasing. This is telling you how many characters you're putting into memory. You can put this into an existing file by setting the cursor in your old file to the point where you want to add this new material. If the cursor is at the end of file, the new material will be added onto the end; if there is no document in memory and you left the cursor at the top of the screen, you will have a new file. Press the up arrow again to stop the data going into memory. The only limitation on how much data you can receive into memory is the size of your memory.

Normally, control characters sent by another system are discarded by Lazy Writer. However, if you want to receive the control characters and put them in memory, press "CLEAR" "c". Press these keys again to turn off this feature.

You may also elect to receive a full eight bits from the other computer. Lazy Writer normally treats the eighth bit as a parity bit and discards it. Pressing "CLEAR" "u" causes Lazy Writer to accept all eight bits. This could be useful where eight bits can be transmitted. The eighth bit is used as an underlining marker in Lazy Writer; in other kinds of files, it may be used for graphics or other purposes. "CLEAR" "u" turns this off as well.

LAZY WRITER EXTENSIONS

SENDING

There are three ways to "send" material in your computer's memory to another computer. All are carried out from Lazy Writer Communications.

1. UNFORMATTED DUMP To do an unformatted dump, press "SHIFT", right arrow. Everything in memory will now go over the phone. This method does no handshaking; it's ok for sending to a dumb terminal (like Lazy Writer itself) which takes whatever comes over the phone.
2. FORMATTED, NO HANDSHAKING Sign on with the new computer, then leave the Communications program and go to the Printer Menu. Then print over the phone, as you would to paper, using your RS232 driver. Set the "n" menu item to zero.
3. FORMATTED, NO HANDSHAKING Do a "Save Formatted" to disk from the printer menu before loading the communications extension and signing on. Load this file back into Lazy Writer. Proceed as in method no. 1.

You can use the "x-keys" (keyboard macros) by pressing "CLEAR" and then the number on which the command is stored. This can be used to store sign-on phrases for easy retrieval. The x-keys still must be defined in Edit, but once defined, can be used in Communications.

CONTROL KEY

Once you're on-line with the other computer, you may find you need some control codes to operate the other computer from your keyboard. These are ASCII control codes from A to Z and the other computer may prompt you about these codes. (For example, "press control A to make the screen stop scrolling"). You must hit the keys for "control" as well as the letter key. With Lazy Writer, the "SHIFT" key and the "down arrow" are for this kind of control key. Press "SHIFT" then "down arrow", hold down both of these at the same time, then the letter key. With the "4 + 3" version for the Model 4, you can use the CTRL key - but note that this key will not work if you're using the Model III version on your Model 4. Because of some letter keys are being used for internal functions in Lazy Writer, they will not work as with "SHIFT" DOWN ARROW alone. Specifically, "Y", "I" and "Z" will not work. However, for these letters, use "CLEAR" "SHIFT" down arrow plus the letter (Y or I). You can get CONTROL "Z" by pressing "CLEAR" and "z".

LAZY WRITER EXTENSIONS

*** SUMMARY OF COMMUNICATIONS COMMANDS ***

KEYS	EFFECT
Up arrow	receive data into memory
CLEAR, c	put control characters into memory
CLEAR, u	receive 8 bits
CLEAR, e	provide local echo (Mod III only)
CLEAR, number	execute x-key
SHIFT, down arrow	sends CONTROL A to X
SHIFT, down arrow + CLEAR	sends CONTROL I and Y
CLEAR + Z	sends CONTROL Z
SHIFT, @	enter & leave Communications
SHIFT, right arrow	unformatted send
Right arrow	formatted send

When you're through sending, you'll be back in Communications (blank screen), except for the second method of sending. You'll probably want to sign off, then get back to Edit.

IF YOU WANT A COMPLETE COMMUNICATIONS PROGRAM WITH MANY MORE FEATURES, YOU CAN ORDER OUR OPTIONAL PROGRAM, LAZYCOMM. LAZYCOMM LETS YOU SET ALL PARAMETERS FROM A MENU, GIVES COMPLETE ERROR REPORTING, AND LETS YOU SEND INCOMING DATA TO A PRINTER. IT RUNS AS AN EXTENSION TO LAZY WRITER.

LAZYCOMM for Model I, III, or 4 ("4 + 3" version only).....\$34.95

ADD TO YOUR WORD PROCESSING SYSTEM!

OTHER EXTENSIONS TO LAZY WRITER

Lazy Writer is a family of programs that work together to improve your productivity. The following programs can be purchased as you need them:

LAZYDOC - The LAZYDOC Document Maker will help you make changes to standard documents such as wills, court orders, school forms, etc. Load in the basic document prepared for use with LAZYDOC. Then you or your secretary can just "fill in the blanks" by answering prompts on the screen. It also can pull standard documents off disk and insert them into your document.

LAZYDOC FOR MODEL I, III, 4, or MAX-80.....\$59.95

LAZYMERGE - Do you sometimes need to send letters to a list of names? If so your letter would have more impact if it was personalized. LAZYMERGE can print your letter using the names and other data contained in your mail list. Instead of getting a letter that says "Dear Client", the letter can say "Dear Mr. Jones". The body of the letter can also contain personalized information. You don't need to buy an expensive mail list program to use LAZYMERGE. Use Lazy Writer as a mail list program! Using the list you create (which can include as many data fields as you want), mail selectively or to the whole list.

LAZYMERGE FOR MODEL I, III, 4, or MAX-80.....\$44.95

LAZYTAB - If you have columns of tabbed material, LAZYTAB will readjust them in seconds and align the decimals for a neater appearance. Just tell LAZYTAB where you want those columns, using a printer command that looks like this: ">tab 2,22,42,62".

LAZYTAB FOR MODEL I, III, 4, or MAX-80.....\$15.00

LAZYCALC - This program will add, subtract, multiply, and divide numbers. If you have numerical data in your reports, why bother totaling numbers with a calculator? let LAZYCALC do it for you. Simply put "###" in place of the totals, run LAZYCALC and in seconds your text will be back with the answers in place.

LAZYCALC FOR MODEL I, III, or 4.....\$29.95

LAZYTYPE - LAZYTYPE turns your word processor into a typewriter. When you type, the characters are sent directly to the printer, a line at a time. Load Lazy Writer as usual, invoke LAZYTYPE, and you're ready to go.

LAZYTYPE FOR MODEL I or III.....\$29.95

PRINTGEN PRINTER CUSTOMIZATION

"PRINTGEN/CLW" is an extension program that enables you to customize your copy of Lazy Writer to suit your particular printer. Run "PRINTGEN/CLW" from the UTILITY menu, or from the "DIR" extension (it won't work from DOS.) Be sure you've made a back-up copy of Lazy Writer and run "PRINTGEN/CLW" with the back-up. You'll be changing code on the disk, so you don't want to use it on your master disk of Lazy Writer. "PRINTGEN/CLW" actually alters the file called "P1/CMD", which is the printer driver you'll be using. A table in P1/CMD holds values used by LPNT/CMD to communicate with your printer.

To use PRINTGEN, go to the Directory by pressing F2 or "CLEAR" "BREAK". Press the "e" key to run an extension. When you get the prompt requesting a file name, type in PRINTGEN (or UTILITY). The PRINTGEN Menu will appear on your screen. If you've typed UTILITY, you'll get the UTILITY Menu. Select PRINTGEN from here.

The PRINTGEN menus look like this:

Menu No. 1

<d> - down linefeed	OFF		
<s> - software formfeed	OFF		
<n> - nulls or delay after cr	2		
<h> - handshake	OFF		
<t> - underline method	backspace		
<u> - underline codes	27,	45,	49,
<e> - end underline codes	27,	45,	48,
<o> - overstrike/dark cmd	27,	71,	
<l> - light/end dark	27,	72,	
<m> - more menu items			
<BREAK> = Return to EDIT <q> = quit - no changes			

Menu No. 2

<e> - emphasized type codes	27,	69,	
<c> - cancel emphasize codes	27,	70,	
<1> - user command 1 (cmd1)	27,	120,	49,
<o1> - user command 1 off	27,	120,	48,
<2> - user command 2 (cmd2)	27,	52,	
<o2> - user command 2 off	27,	53,	
<3> - user command 3 (cmd3)			
<o3> - user command 3 off			
 - backspace characters	95,	8,	
<m> - more menu items			
<BREAK> = Return to EDIT <q> = quit - no changes			

Menu No. 3

<s> - standard pica type	27,	33,	0,
<os> - standard off	27,	77,	
<p> - proportional	27,	112,	49,

PRINTGEN PRINTER CUSTOMIZATION

<op> - proportional off	27,	112,	48,
<e> - elite	27,	77,	
<oe> - elite off	27,	80,	
<c> - compressed/condensed	15,		
<oc> - compresses/condensed off	18,		
<m> - more menu items			
<BREAK> = Return to EDIT <q> = quit - no changes			

Menu No. 4

<u> - move up, superscript	27,	83,	48,
<ou> - move back, end superscript	27,	84,	
<d> - move down, subscript	27,	83,	48,
<od> - move back, end subscript	27,	84,	
<w> - doublewide starting code	14,		
<ow> - normal, return from doublewide	20,		
<i> - initialization codes to printer	27,	120,	49,
<l> - line end codes for doublepass			
<m> - more menu items			
<BREAK> = return to EDIT <q> = quit - no changes			

Menu No. 5

<e> - end of print reset codes			
<p> - top of page code			
<o> = overstrike or special character			
<c> = change name of driver			
<r> = carriage return	13,		
<l> = linefeed for additional lines	10,		
 = baud rate for TRS-232	300 baud		
<d> = dump PRINTGEN menus into text buffer			
<m> - more menu items			
<BREAK> = Return to EDIT <q> = quit - no changes			

You can move from menu to menu by pressing the "m", or using the up and down arrows. Hitting UP ARROW moves you to the previous menu; DOWN ARROW moves you to the following menu.

The numbers displayed to the right are the codes that are in the current P1/CMD (the printer driver) file. They may be in decimal or hexadecimal. The default condition is to display decimal, but you can toggle to a hexadecimal display by pressing "CLEAR" plus "b" or hitting the RIGHT ARROW key. This changes all the codes from decimal to hexadecimal. Pressing "CLEAR" plus "b" or RIGHT ARROW again will toggle the display back to decimal.

If you want to leave PRINTGEN without making your changes permanent, press "q". To record your changes in the current P1/CMD, press "BREAK".

PRINTGEN PRINTER CUSTOMIZATION

HOW TO ENTER NUMBERS

To enter numbers into any of these items, press the key indicated. Some need two keys, so press one key, then the other. A cursor will appear at the right side of the screen next to the numbers. Type the correct decimal number or code from the keyboard. Do not enter more than three digits for each cursor setting. If you want to retain the number currently there, hit "ENTER". The numbers you enter will move to the left as you enter them. The cursor moves to the next slot after you've typed a number and hit "ENTER". You can also hit "BREAK" if you've entered all the numbers, but the cursor has moved on to the next slot. Hitting "BREAK" will eliminate the subsequent numbers, but retain the numbers you've entered.

You may enter numbers as decimal, hexadecimal, or keyboard (ASCII) characters. The numbers you see in the menus above are decimal. If your printer manual gives you codes in hexadecimal numbers (you'll know because the numbers will be preceded or followed by an "H"), it would be more convenient for you to enter them here the same way. To enter a hexadecimal number, just type "h" or "H" first, then the number. The number should be two digits consisting of 0-9 and A-F (or a-f). Many manuals will give a hex number in a line of BASIC. You might see a line like this:

```
20 LPRINT CHR$(%H1B);"T"
```

In this case, type "H1B" for the first code and " "T " for the next code. The "T" is not hex, but a keyboard (ASCII) character. You can enter such a character into PRINTGEN if you precede it with the quote mark. This is the double quote mark located above the "2" on your keyboard. Follow that with the character.

Although you can enter the codes as decimal, hex, or ASCII keyboard, they will display only as all decimal or all hex. So what you type from the keyboard is not necessarily what you will see on the screen. If you are currently displaying as decimal, numbers entered as hex or ASCII will be translated into decimal in the display.

In the example above, if the display is decimal, when you enter "H1B", you'll see "27" displayed. When you enter "T", you'll see "84". You could also have the display in hex.

YOU TYPE	DECIMAL DISPLAY	HEX DISPLAY
H1B or 27	27	H1B
"T" or 84 or H54	84	H54

You may also type a zero, if this is required by your printer. A zero is not the same as no code. If you enter zeros, zeros will be sent to the printer. To get rid of zeros in PRINTGEN, when the cursor gets to the last valid code, hit "BREAK" to eliminate the subsequent codes, including the zeros.

Anytime you have an extra code you don't need, you can get rid of it

PRINTGEN PRINTER CUSTOMIZATION

with this technique. If you have the codes "27 66 88", and you want to retain the 27 and 66, but eliminate the 88, do this: select the item, hit "ENTER" twice to retain 27 and 66. Then hit "BREAK" to eliminate the 88.

DOWN LINEFEED/SOFTWARE FORMFEED

"Down line feed" is for printers that require a line feed after a carriage return. Press "d" to turn this "on" or "off". If your printer automatically provides a line feed then set this to "off". Lazy Writer needs proper setting of this feature to give you accurate software form feed counts and paging.

By pressing "s" ("software formfeed"), you can make the software formfeed the default condition on the main Printer Menu. This is also a toggle.

SERIAL PRINTERS - NULLS/HANDSHAKING

Some serial printers need null characters sent to them after carriage returns. You can activate sending nulls by pressing "n" and giving a new number. Try a number between two and twenty for TRS232 boxes, a larger number (under 255) for RS232 boards.

If you want handshaking to be the normal condition, press "h". You'll get a display "ETX ACK" - this is a protocol used by many serial printers. This applies only to the RS232 board.

UNDERLINING

If your printer can't underline by the normal backspace method, you may be able to get underlining by one of two other methods: "by code" or "two pass". You can only underline "by code" if your printer understands a code as instructions to underline. Check your printer manual for control codes for underlining. You can only get "two-pass" underlining if your printer can do a carriage return without a line feed. The print head prints the line, then returns to the beginning of the line and adds any underlining. Press "t", to change to one of these methods. Press "u" to enter the codes for turning on underlining "by code" and "e" to enter the codes to stop underlining. If your printer takes two or three starting and two or three stopping codes, enter these one after the other.

OVERSTRIKE/DARK

Overstriking is a way of getting darker type. It can be used to make a bold face effect on printers that can make an overstrike. Actually, any set of codes that cause your printer to do something can be placed here. They will be sent to the printer when you use the "dark" and "dark off" commands in your text. Enter the codes for your printer, then get the effect in text by using the command ">dark".

You also need the code to stop overstriking. Enter that in the item "end dark". Then use the command "dark off" in text.

PRINTGEN PRINTER CUSTOMIZATION

EMPHASIZED

Emphasized type is available on many printers; it is yet another way to get darker, bolder type. Enter the codes here for your printer. Then activate this feature in your text with the command ">emph".

You will also need the command to turn off emphasized type. Enter that code in the item "cancel emphasize codes." This is then activated with ">emph off".

USER COMMANDS

Lazy Writer offers three user commands that can be used for miscellaneous printer features, or can be left blank if you don't need them. If your printer can do something not covered by the other items on the menu, use these. For example, if your printer can make italic type, you could enter the codes for that into one of the user commands. You would then activate that feature by the command ">cmd1". You could cancel italic with ">cmd1 off". Each "cmd" command has an "off" which will take up to four codes. It is logical to use the "off" commands to cancel the effect created by the corresponding "cmd" commands, but they could be used for some unrelated function instead.

BACKSPACE CHARACTERS

Most printers backspace with the codes "95" (for the underscore) and "8" (to move the print head back). You could change the underscore character to a double underscore or some other code, if needed. Some printers need to be told how far to go back. In this case, enter a number after the "8" that will work for a particular typeface.

SPECIAL TYPE FACES

Many dot matrix printers today offer a choice of typefaces, usually called pica, elite, proportional, and compressed (or condensed). You can get these special typefaces in your text with simple printer commands if you enter the correct codes here, into PRINTGEN. Look up the correct codes for your printer and enter them into the appropriate items on the menu. Once this is done, you can invoke these type faces in your print-out by using these printer commands:

>pica >elite >prop >comp

Note that you can invoke a proportional spacing typeface, but using it will not produce justified text. The "title" command will not center titles correctly over proportional type. Your text will print proportionally, but you'll have a ragged right. Either avoid using "title", or try to achieve centered titles with "left" and "right" commands.

On a daisy wheel printer, the codes needed will produce the proper pitch for a particular typeface. Pica is ten characters per inch, elite

PRINTGEN PRINTER CUSTOMIZATION

is twelve characters per inch, plus you could produce fifteen character per inch as compressed. See the examples at the back of this section.

SUPER/SUBSCRIPTS

In order to get super/subscripts with the commands ">sub" and ">su", you must enter the right codes here. You need the codes to "move up" and "move back" the print head or platen with a daisy wheel printer. In dot matrix printers, a subscript or superscript is just a smaller typeface. In that case, enter the codes to turn it on and off. The codes needed will be in your printer manual.

DOUBLE-WIDE

To get double-wide on underlined material by using the command ">doub", enter the correct codes here. This will allow you to use double-wide as an alternative to underlining.

SPECIAL SITUATIONS

"INITIALIZATION CODES TO PRINTER" lets you enter codes you want to always be sent to the printer when you go to the Printer Menu. For example, if you always want to print in letter quality mode, you could enter the codes for that here.

"LINE END CODES FOR DOUBLE-PASS" applies only to printers that need these extra codes. The Radio Shack LP8, for example, has no switch setting which allows a carriage return only. However, it does have a tab feature which allows the print head to tab to zero. By using these "tab to zero" codes, some printers can utilize the two-pass method for underlining and bold face.

"END OF PRINT RESET CODES" can be used to set up a condition you want when the printer finishes printing. For example, it could be used to sound a buzzer when text is finished. Or it could be used to reset the printer to draft quality mode.

"TOP OF PAGE CODES" reset the printer to a "top of page" condition. This does not apply to most printers.

"OVERSTRIKE OR SPECIAL CHARACTER" lets you enter numbers to overprint one character with another, as needed in slashed zeros. The first code is for the character you want acted on. If you enter "0 (ASCII zero) first, this means you want to act on the zero. The second code is what you want printed - enter another zero. The third code is the backspace. The fourth code is the / (slash mark). The same technique can be used to put accent marks over characters, as in foreign alphabets. Another use is to get special characters on daisy wheel printers. For example, you might make the first code an @. The second and third codes would be 27 and 84 (escape T). On a Juki daisy wheel, this would produce a character that is on the print wheel, but doesn't have a code (an example is a copyright symbol). So every time you put an @ in text, the printer would print the other character.

PRINTGEN PRINTER CUSTOMIZATION

Use the item, "CHANGE NAME OF DRIVER", when you want a new name at the top of the Printer Menu to reflect your custom driver. To use this feature, press "c"; a line will appear. Now enter the words you want. For example, "Okidata Custom Driver". Now when you go to the Printer Menu to print text, instead of the words "Parallel Driver", the new words will be there instead.

The item, "CARRIAGE RETURN", lets you substitute something for the standard "13". For example, if your printer can do a half line feed, you could enter the code for that here and get half line feeds (or full line feeds with a ">d2" command or a line and a half with ">d3").

"LINEFEED FOR ADDITIONAL LINES" is for use if your printer needs a code other than "10" for line feeds. In some cases, you may need to substitute a "13".

You would only need "BAUD RATE FOR TRS-232" if you were using a serial printer connected to your computer with a TRS-232 device. If you are using this device, this item will let you set the baud rate.

DUMP PRINTGEN MENUS INTO TEXT BUFFER

In order to more easily view and print your PRINTGEN menus, you can press "d" and the contents of the menus will remain in memory and be there when you return to Edit. The menu text will append to the end of anything you have in memory. The numbers will be in whatever form (hex or decimal) they were in when you did the dump. Printing out the menus will give you a record of the codes you've used.

Here are the content of Pl/CMD as revealed by PRINTGEN for the EPSON LQ-1500 driver (QL1500/DRV). This was printed in "elite" and letter quality modes. "cmd 2" was used with the set command to produce italics on underlining. This is printed at eight line per inch.

PRINTGEN contents for (Epson LQ-1500)

Menu No. 1

<d> - down linefeed OFF
Could be set on if dip switches on the printer have been set for no automatic linefeed after CR.

<s> - software formfeed OFF
Could be set to on to use Lazy Writer's intern software formfeed.

<n> - nulls or delay after cr 2
Not applicable to LQ-1500

<h> - handshake OFF
Not applicable to LQ-1500

<t> - underline method by code

<u> - underline codes	27,	45,	49,
<e> - end underline codes	27,	45,	48,
<o> - overstrike/dark cmd	27,	71,	
<l> - light/end dark	27,	72,	
<m> - more menu items			

<BREAK> = Return to EDIT <q> = quit - no changes

Menu No. 2

<e> - emphasized type codes	27,	69,	
<c> - cancel emphasize codes	27,	70,	
<l> - user command 1 (cmd1) <i>Puts printer in letter quality mode</i>	27,	120,	49,
 - user command 1 off <i>Puts printer in draft quality mode</i>	27,	120,	48,
<2> - user command 2 (cmd2) <i>Puts printer into italic mode</i>	27,	52,	
<o2> - user command 2 off <i>Takes printer out of italic mode</i>	27,	53,	
<3> - user command 3 (cmd3) <i>Not assigned but could be used for other special features</i>			
<o3> - user command 3 off <i>Not assigned</i>			
 - backspace characters	95,	8,	

Menu No. 3

<s> - standard pica type	27,	33,	
<os> - standard off	27,	33,	1,
<p> - proportional	27,	112,	49,
<op> - proportional off	27,	112,	48,
<e> - elite	27,	77,	
<oe> - elite off	27,	80,	
<c> - compressed/condensed	15,		
<oc> - compresses/condensed off	18,		

Epson LQ-1500

Menu No. 4

- <u> - move up, superscript 27, 83, 48,
- <ou> - move back, end superscript 27, 84,
- <d> - move down, subscript 27, 83, 49,
- <od> - move back, end subscript 27, 77,
- <w> - doublewide starting code 14,
- <ow> - normal, return from doublewide 20,
- <i> - initialization codes to printer 27, 120, 49,
Put printer in letter quality mode at start of printing.
- <l> - line end codes for doublepass 13,
*By setting dip switches and setting PRINTGEN items differently,
the LQ-1500 can be made to bold and underline on with two passes.*

Menu No. 5

- <e> - end of print reset codes 7,
*Sounds printer buzzer after end of text. Could be used to reset
printer or set print to draft mode for use with other software.*
- <p> - top of page code
Not used for the LQ-1500
- <o> = overstrike or special character 48, 48, 8, 47,
*This combination of codes slashes zeros. No codes here will give
unslashed 0s*
- <c> = change name of driver
- <r> = carriage return 13,
- <l> = linefeed for additional lines 10,
- <d> = dump PRINTGEN menus into text buffer

September 14, 1985

printed with JUKI6100

=====

This was printed on the Juki 6100 with the wheel provided by the company. For some reason, this wheel would not print the <> until we discovered which character codes caused these characters to be printed and used the "def" command to produced the <>. The "def" command is only in the 80 character screen versions (Model 4, Max-80).

Using the Model I/III version of Lazy Writer, you could use " followed by the code that is needed for the "<" and then " followed by the code for the ">", but this would have to be done each time you needed to use them.

PRINTGEN contents for Juki 6100

Menu No. 1

- <d> - down linefeed OFF
Can be set to ON if DIP switch 1 is set to the off position.
This would allow two-pass method of underline/boldface.
- <s> - software formfeed OFF
Could be set to ON to use Lazy Writer's software formfeed.
Printer has hardware formfeed.
- <n> - nulls or delay after cr 2
Not applicable to parallel printer.
- <h> - handshake OFF
Not applicable to parallel printer.
- <t> - underline method by code
Two pass method (see <d> item) or backspace method can be used
instead of "by code" with this printer.
- <u> - underline codes 27, 69,
<e> - end underline codes 27, 82,
<o> - overstrike/dark cmd 27, 79,
This code produces bold when "dark" command is used.
- <l> - light/end dark 27, 38,
This cancels printer produced bold (double strike).
- <m> - more menu items
<BREAK> = Return to EDIT <q> = quit - no changes

JUKI6100

Menu No. 2

<e>	- emphasize type codes	27,	87,	
	This produces shadow print.			
<c>	- cancel emphasize codes	27,	38,	
	Cancels shadow print.			
<l>	- user command 1 (cmd1)	27,	51,	
	Used to turn on graphics.			
	- user command 1 off	27,	52,	
	Turns off graphics.			
<2>	- user command 2 (cmd2)	27,	30,	6,
	Puts the printer into 8 line per inch mode.			
<o2>	- user command 2 off	27,	30,	8,
	Puts printer into 6 lines per inch mode.			
<3>	- user command 3 (cmd3)			
	We didn't assign this to anything.			
<o3>	- user command 3 off			
	- backspace characters	95,	8,	

Menu No. 3

<s>	- standard pica type	27,	31,	13,
<os>	- standard off	27,	31,	11,
<p>	- proportional	27,	80,	
<op>	- proportional off	27,	81,	
<e>	- elite	27,	31,	11,
<oe>	- elite off	27,	31,	13,
<c>	- compressed/condensed	27,	31,	9,
<oc>	- compresses/condensed off	27,	31,	13,

JUKI6100

Menu No. 4

- <u> - move up, superscript 27, 68,
- <ou> - move back, end superscript 27, 85,
- <d> - move down, subscript 27, 85,
- <od> - move back, end subscript 27, 68,
- <w> - doublewide starting code 27, 31, 25,
 Of course there is no doublewide mode for a daisy wheel printer, but this code will spread the 10 cpi pica type out to double the space and can be used with the auto doublewide feature of Lazy Writer as a special effect.
- <ow> - normal, return from doublewide 27, 31, 13,
 Reset printer to normal pica character spacing
- <i> - initialization codes to printer
 could be used to put printer into favorite mode or typeface.
- <l> - line end codes for doublepass 13,

Menu No. 5

- <e> - end of print reset codes 7,
 sounds bell.
- <p> - top of page code
- <o> = overstrike or special character 48, 48, 8, 47,
 This set of codes detects a Ø, prints a Ø, then sends a backspace, and prints a /.
 This slot could be used to equate a character available on the keyboard with ESCAPE (27) plus a character to produce a special character.
- <c> = change name of driver
- <r> = carriage return 13,
- <l> = linefeed for additional lines 10,
- <d> = dump PRINTGEN menus into text buffer

SIX: PRINTER DRIVERS

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2. RS232/CMD.....	1
3. PARDRV/CMD.....	1
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ASSEMBLER LISTINGS OF DRIVER CODE	



PRINTER DRIVERS

A printer driver is the part of Lazy Writer that makes your printer print. Different drivers are needed for parallel and serial printers. Lazy Writer comes ready to use with a parallel printer.

THESE ARE THE PRINTER DRIVERS ON YOUR LAZY WRITER DISK:

1. **TRS232/CMD SERIAL DRIVER** - a driver that works with Small System Software's TRS232 device and a serial printer. If you are using this device, you must copy this file to the file name P1/CMD. This driver comes set up to issue a down linefeed after every carriage return and assumes your printer likes 300 baud operation and does not require a software formfeed. This type of driver does not handshake and so you cannot use a baud rate faster than your printer can print, unless you can send the printer enough null characters to make up the difference. The driver as you receive it sends two nulls after each carriage return. With the PRINTGEN PRINTER CUSTOMIZATION option from UTILITY/CLW, you can change the number of nulls, baud rate, down linefeed status, and default condition of the software formfeed switch, as well as the method of underlining and boldface. Drivers of this type use software timing and will not work without modification if a clock speedup mod is active. This driver is supplied only with the Model I version.
2. **RS232/CMD SERIAL DRIVER** - If you are going to run your serial printer from the RS232 board, copy this file to P1/CMD. This driver reads the sense switches on your RS232 board to set up baud rate, parity etc or reads SETCOM from your DOS. See the manual supplied with your RS232 board for details. This driver assumes your printer requires a down linefeed after carriage returns and requires a delay after each carriage return and cannot use handshaking. It sets no software formfeed as the default condition. Any of those conditions can be changed by running the PRINTGEN PRINTER CUSTOMIZATION program. The handshake method which can be activated by the PRINTGEN PRINTER CUSTOMIZATION program is the one in which the driver sends a "EXT" control code when it has completed a line and waits for a "ACK" control code back from the printer when the printer is ready for more.
3. **PARDRV/CMD PARALLEL DRIVER** - This driver and "P1/CMD" are the same when you receive your copy of Lazy Writer. There is no need to copy "PARDRV/CMD" to "P1/CMD" unless you have been using a serial driver and now wish to restore the parallel driver. The "PARDRV/CMD" and "P1/CMD" contain a driver that works with parallel printers only. It is assumed that the printer does not require a down linefeed after a carriage return and that the software formfeed default condition should be off. There is no need to set handshaking or baud rate for this kind of printer since all that is done by the hardware. This driver assumes your printer can use the backspace method of underlining.

PRINTER DRIVERS

4. **SYSDRV/CMD (SERIAL OR PARALLEL)** - This driver directs output through the DOS printer routines. Copying SYSDRV/CMD to P1/CMD will direct output through the operating system. Any filters, special drivers, etc. that work through DOS should then affect Lazy Writer. This is a way to get DOS spoolers to work and so on. You could also use this with a serial driver intended for use with BASIC; you would have to set up the DOS commands to print with a serial printer. However FORMS commands in DOS may be in conflict with Lazy Writer's own efforts. It's up to the user to make sure that FORMS are off and to understand which program is doing what.
5. **CUSTOM PRINTER DRIVERS** - Your Lazy Writer disk also contains a number of special drivers customized for specific printers. These drivers are the standard P1/CMD with the correct codes added via the PRINTGEN PRINTER CUSTOMIZATION program. They are on your disk with various file names, but all end in "/DRV". If you have one of the printers these are for, you will gain additional power by using the customized driver. The driver file would have to be copied over to P1/CMD to become the active driver. For instance, if you have an Okidata 92 printer, you could use the printer driver called OKIDAT92/DRV. Copy it from DOS, using this command:

COPY OKIDAT92/DRV:1 TO P1/CMD:0 <ENTER>

This assumes you have the master Lazy Writer disk in drive #1 and your working copy in drive #0. If you have a version of Lazy Writer that came with a "Welcome" program, this was done for you when you made your working disk. However, note that you can copy over the appropriate driver any time you get a new printer or if you use more than one printer.

ALL CUSTOM DRIVERS ARE FOR USE WITH PARALLEL PRINTERS. IF YOU HAVE A SERIAL PRINTER, USE ONE OF THE TWO SERIAL DRIVERS AND CUSTOMIZE IT YOURSELF WITH THE PRINTGEN PRINTER CUSTOMIZATION PROGRAM.

PRINTER DRIVERS

NOTE ON WRITING YOUR OWN DRIVER - If you are a skilled assembly language programmer, you can write your own driver for Lazy Writer. The printer Device Control Block inside Lazy Writer needs to be loaded by the routine with the address at which Lazy Writer will find the driver and a number of status bytes need to be set. On the following page, you'll find assembler listings of the parallel drivers which should tell you what's needed from your own driver. They differ in the eighty character versions. Study the examples. There is a small area in low memory that Lazy Writer drivers load into. If your driver will not fit here, then put it in high memory and protect high memory by running the "SIZE" item from UTILITY/CLW or have your program set DOS TOPMEM. (Note: Lazy Writer reads TOPMEM only when the program is first loaded in the Max-80 and TRSDOS 6 versions, so set it before entering Lazy Writer. You could try copying SYSDRV/CMD to P1/CMD, then use your own driver to pick up the Device Control Block.

Lazy Writer will load anything named P1/CMD and acts just like the DOS "CMD" loader except that if the record lead byte (the 0100) is a 30H, Lazy Writer will stop loading code and execute, then continue loading after control returns to the core program. This is a way of loading a preamble that sets things up for larger programs. Any straight code created with EDTASM type assemblers should load with no problem.

Programmers with incredible amounts of ambition should note that Lazy Writer will load anything called LPNT/CMD when "CLEAR"+p or "F3" is pressed. LPNT/CMD is responsible for the whole job of formatting text, interpreting text commands and sending it to the print driver.

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 (313) 581-2896

MEMO September 14, 1985

printed with Epson LQ-1500

```

00001
00002 ;*****
00003 ;*
00004 ;* P1/CMD driver for MOD I,III *
00005 ;* conditional assembly for *
00006 ;* different versions *
00007 ;*
00008 ;*****
00009
0001 00010 Y EQU 1
0000 00011 N EQU 0
00012
0001 00013 MOD1 EQU Y
0000 00014 MOD3 EQU N
0000 00015 TRS2321 EQU N
0000 00016 RS232_MOD3 EQU N
0000 00017 RS232_MOD1 EQU N
0000 00018 SYSDRV EQU N
52A0 00019 OUT EQU 52A0H ;Address in Lazy Writer core
00020
52A0 00021 ORG OUT ;PRINTER address vector
52A0 D67C 00022 DEFW START ;DRIVER ADDRESS
00023
00024 ;*****
00025 ;*
00026 ;* Small data table *
00027 ;* ORGed to core *
00028 ;*
00029 ;*****
5233 00030 ORG 5233H ;PLACE NUMBER OF NULLS
5233 01 00031 DEFB 1 ;PRINTER TYPE- set high bit
00032 ; for SOFTWARE FORMFEED
00033 ; 0 bit for LINEFEEDS
5234 02 00034 NULLS DEFB 2 ;2 FOR 300 BAUD - TRS232
5235 DE00 00035 BAUD DEFW 0DEH ;BAUD RATE - TRS232 ONLY
5237 00 00036 HAND DEFB 0 ;PRINTER TYPE - RS232
00037 ; HANDSHAKE NON-ZERO
5238 00 00038 DEFB 0 ;UNDERLINE FLAG
00039 ;bit 7 ON - UNDERLINE BY CODE
00040 ; bit 1 = TWO PASS UNDERLINING

```

Model 1 Driver

```

00041 ;*****
00042 ;*   These bytes not currently used   *
00043 ;*****
5239 0E 00044      DEFB      14          ;START UNDERLINE CHAR
523A 00 00045      DEFB      0          ;END UNDERLINE CHAR
00046
00047 ;**** Pointer to the message in P1/CMD ****
00048
523B C07C 00049      DEFW      TB1          ;PRINTER MESSAGE
00050
00051
00052 ;*****
00053 ;*   These bytes not currently used   *
00054 ;*****
523D 14 00055      DEFB      20
523E 00 00056      DEFB      0
00057
64C0 00058 OVERLAY EQU      64C0H      ;This section overlays table
00059                      ;in LPNT/CMD when loaded
64C0 00060      ORG      OVERLAY
00061
64C0 00 00001 @DARK  DEFB      0,0,0,0,0
64C5 00 00002 @LIGHT DEFB      0,0,0,0,0
64CA 00 00003 @EMPH  DEFB      0,0,0,0,0
64CF 00 00004 @EMPHOF DEFB      0,0,0,0,0
64D4 00 00005 @OVERSTRIKE DEFB      0,0,0,0,0
64D9 00 00006 @DBWD  DEFB      0,0,0,0,0
64DE 00 00007 @DBOF  DEFB      0,0,0,0,0
64E3 00 00008 @UNDER DEFB      0,0,0,0,0
64E8 00 00009 @UNDEROF DEFB      0,0,0,0,0
64ED 00 00010 @PICA  DEFB      0,0,0,0,0
64F2 00 00011 @PICAOF DEFB      0,0,0,0,0
64F7 00 00012 @ELITE DEFB      0,0,0,0,0
64FC 00 00013 @ELITEOF DEFB      0,0,0,0,0
6501 00 00014 @PROP  DEFB      0,0,0,0,0
6506 00 00015 @PROPOF DEFB      0,0,0,0,0
6508 00 00016 @CONDEN DEFB      0,0,0,0,0
6510 00 00017 @CONOFF DEFB      0,0,0,0,0
6515 00 00018 @CMD1  DEFB      0,0,0,0,0
651A 00 00019 @CMD1OF DEFB      0,0,0,0,0
651F 00 00020 @CMD2  DEFB      0,0,0,0,0
6524 00 00021 @CMD2OF DEFB      0,0,0,0,0
6529 00 00022 @CMD3  DEFB      0,0,0,0,0
652E 00 00023 @CMD3OF DEFB      0,0,0,0,0
6533 00 00024 @SUPER DEFB      0,0,0,0,0
6538 00 00025 @SUPEROF DEFB      0,0,0,0,0
653D 00 00026 @SUBSCRIPT DEFB      0,0,0,0,0
6542 00 00027 @SUBSCRIPTOF DEFB      0,0,0,0,0
6547 00 00028 @INIT  DEFB      0,0,0,0,0
00029

```


Model I Driver

```

654C 02      00030 @BACKX  DEFB  2
              00031 UNDERCHAR  ;*** UNDERLINE CHARACTER - @BACK
654D 5F      00032 @BACK  DEFB  95
654E 08      00033 @BACK2  DEFB  8,0,0,0
6552 00      00034 @PICADOT  DEFB  0
6553 0000    00035 @PICADPI  DEFW  0
6555 00      00036 @ELITEDOT  DEFB  0
6556 0000    00037 @ELITEDPI  DEFW  0
6558 00      00038 @PROPDOT  DEFB  0
6559 0000    00039 @PROPDPI  DEFW  0
655B 00      00040 @CONDDOT  DEFB  0
655C 0000    00041 @CONDPI   DEFW  0
655E 00      00042 @ASSIGN   DEFB  0,0,0,0,0
6563 00      00043 @ASSIGNOF  DEFB  0,0,0,0,0
6568 01      00044 @LINEEND  DEFB  1,13,0,0,0,0,0,0,0
6571 00      00045 @PAGETOP  DEFB  0,0,0,0,0
6576 01      00046 @CARRIAGE  DEFB  1,13,0,0,0
657B 01      00047 @LINEFEED  DEFB  1,10,0,0,0
6580 00      00048 @ENDCODE   DEFB  0,0,0,0,0
6585 00      00049 @MASTER   DEFB  0
0001         00050 OVERLAY2   DEFS  1
              00063
7CC0         00064          ORG  7CC0H          ;ROUTINE BEGINS
7CC0 70      00065 TB1      DEFW  'PARALLEL DRIVER READY'
7CD5 00      00066          DEFB  0
              00067
              00068
00069 ;:oooooooooooooooooooooooooooo
00084 ;:oooooooooooooooooooooooooooo
00085 ;:oooooooooooooooooooooooooooo
00087
7CD6 F5      00088 START    PUSH  AF
7CD7 E5      00089          PUSH  HL
7CD8 3A4038  00090 PRINT    LD     A,(14400)      ;CHECK FOR BREAK KEY
7CD8 FE04    00091          CP     4
7CDD 2807    00092          JR     Z,CONT          ; GO IF PRESSED IF PRESSED
7CDF 3AE837  00093          LD     A,(37E8H)      ;CHECK PRINTER
7CE2 CB7F    00094          BIT    7,A
7CE4 20F2    00095          JR     NZ,PRINT       ;LOOP IF NOT READY
7CE6 79      00096 CONT     LD     A,C
7CE7 32E837  00097          LD     (37E8H),A      ;BYTE TO PRINTER
7CEA E1      00098 EXT      POP    HL            ;GO BACK HOME
7CEB F1      00099          POP    AF
7CEC C9      00100          RET
              00101
              00102
              00103

```

Model I Driver

```
00104
00105
00106 GOX      ;***** itilization *****
00107
00108 ;000000000000000000000000
00109
00110
00111 ;***** This code adjust a jump vector to insure P1/CMD
00112 ;***** is only loaded once
00113
7CED E1      00114      POP      HL
7CEE 22D052  00115      LD      (52CFH+1),HL
7CF1 E9      00116      JP      (HL)
00117
7CF2 CFS2    00118 SVX     DEFW    52CFH
7CED         00119      END      GOX
```

No errors.

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MEMO September 14, 1985

printed with Epson LQ-1500

```

00001 ;*****
00002 ;*
00003 ;*   MODEL 4 driver   *
00004 ;*   (c) 1985       *
00005 ;*
00006 ;*****
00007
0001  00008 Y   EQU   1
0000  00009 N   EQU   0
00010
0000  00011 SYSDRV EQU   N
0000  00012 RS232_MOD4 EQU   N
00013
54CD  00014      ORG   54CDH      ;PRINTER vector address
54CD  9E84  00015      DEFW  START      ;DRIVER address
00016
00017 ;***** Small data area in core *****
00018
5233  00019      ORG   5233H
5233  01    00020      DEFB  1          ;PRINTER TYPE- set high bit
00021          ;for software formfeed
00022          ;zero bit for linefeed
5234  02    00023 NULLS  DEFB  2          ;2 FOR 300 BAUD - TRS232
5235  DE00  00024      DEFW  0DEH      ;BAUD RATE - TRS232 ONLY
5237  00    00025 HAND   DEFB  0          ;PRINTER TYPE - RS232
00026          ; HANDSHAKE NON-ZERO
5238  00    00027      DEFB  0          ;UNDERLINE FLAG
00028          ;bit 7 ON - UNDERLINE BY CODE
00029          ; bit 1 = TWO PASS UNDERLINING
00030 ;***** Next two byte not currently used *****
00031
5239  0E    00032      DEFB  14          ;START UNDERLINE CHAR
523A  00    00033      DEFB  0          ;END UNDERLINE CHAR
00034 ;*** pointer to message in P1/MCD *****
00035
523B  8884  00036      DEFW  TB1          ;PRINTER MESSAGE
00037
00038 ;*** Next two bytes not currently used *****
00039
523D  14    00040      DEFB  20
523E  00    00041      DEFB  0
00042
00043

```

Model "4+3" Driver

```

00044 ;*****
00045 ;*
00046 ;*      Overlays data area in LPNT/CMD
00047 ;*
00048 ;*****
00049
6A60      00050 OVERLAY EQU      6A60H
523F 00      00001 @DARK  DEFB      0,0,0,0,0
5244 00      00002 @LIGHT DEFB      0,0,0,0,0
5249 00      00003 @EMPH  DEFB      0,0,0,0,0
524E 00      00004 @EMPHOF DEFB      0,0,0,0,0
5253 00      00005 @OVERSTRIKE DEFB      0,0,0,0,0
5258 00      00006 @DBWD  DEFB      0,0,0,0,0
525D 00      00007 @DBOF  DEFB      0,0,0,0,0
5262 00      00008 @UNDER DEFB      0,0,0,0,0
5267 00      00009 @UNDEROF DEFB      0,0,0,0,0
526C 00      00010 @PICA  DEFB      0,0,0,0,0
5271 00      00011 @PICAOF DEFB      0,0,0,0,0
5276 00      00012 @ELITE DEFB      0,0,0,0,0
527B 00      00013 @ELITEOF DEFB      0,0,0,0,0
5280 00      00014 @PROP  DEFB      0,0,0,0,0
5285 00      00015 @PROPOF DEFB      0,0,0,0,0
528A 00      00016 @CONDEN DEFB      0,0,0,0,0
528F 00      00017 @CONOFF DEFB      0,0,0,0,0
5294 00      00018 @CMD1  DEFB      0,0,0,0,0
5299 00      00019 @CMD1OF DEFB      0,0,0,0,0
529E 00      00020 @CMD2  DEFB      0,0,0,0,0
52A3 00      00021 @CMD2OF DEFB      0,0,0,0,0
52A8 00      00022 @CMD3  DEFB      0,0,0,0,0
52AD 00      00023 @CMD3OF DEFB      0,0,0,0,0
52B2 00      00024 @SUPER DEFB      0,0,0,0,0
52B7 00      00025 @SUPEROF DEFB      0,0,0,0,0
52BC 00      00026 @SUBSCRPT DEFB      0,0,0,0,0
52C1 00      00027 @SUBSCRPTOF DEFB      0,0,0,0,0
52C6 00      00028 @INIT  DEFB      0,0,0,0,0
00029
52CB 02      00030 @BACKX DEFB      2
00031 UNDERCHAR      ;*** UNDERLINE CHARACTER - @BACK
52CC 5F      00032 @BACK DEFB      95
52CD 08      00033 @BACK2 DEFB      8,0,0,0
52D1 00      00034 @PICADOT DEFB      0
52D2 0000    00035 @PICADPI DEFW      0
52D4 00      00036 @ELITEDOT DEFB      0
52D5 0000    00037 @ELITEDPI DEFW      0
52D7 00      00038 @PROPDOT DEFB      0
52D8 0000    00039 @PROPDPI DEFW      0
52DA 00      00040 @CONDDOT DEFB      0
52DB 0000    00041 @CONDPI DEFW      0
52DD 00      00042 @ASSIGN DEFB      0,0,0,0,0
52E2 00      00043 @ASSIGNOF DEFB      0,0,0,0,0

```

Model "4+3" Driver

```

52E7 01      00044 @LINEEND      DEFB      1,13,0,0,0,0,0,0,0
52F0 00      00045 @PAGETOP      DEFB      0,0,0,0,0
52F5 0D      00046 @CARRIAGE     DEFB      13,0,0,0,0
52FA 0A      00047 @LINEFEED     DEFB      10,0,0,0,0
52FF 00      00048 @ENDCODE      DEFB      0,0,0,0,0
5304 00      00049 @MASTER      DEFB      0
0001         00050 OVERLAY2      DEFS      1
          00052
8488         00053      ORG      8500H-120      ;ROUTINE BEGINS
8488 50      00054 TB1      DEFM      'Parallel Driver Ready'
849D 00      00055      DEFB      0
          00056
          00057 ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
          00072 ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
          00073 ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
849E F5      00075 START      PUSH      AF
849F E5      00076      PUSH      HL
84A0 3A4038  00077 PRINT      LD      A,(14400)      ;CHECK FOR BREAK KEY
84A3 FE04    00078      CP      4
84A5 2806    00079      JR      Z,CONT      ; GO IF PRESSED IF PRESSED
84A7 DBF8    00080      IN      A,(0F8H)      ;CHECK PRINTER
84A9 CB7F    00081      BIT      7,A
84AB 20F3    00082      JR      NZ,PRINT      ;LOOP IF NOT READY
84AD 79      00083 CONT      LD      A,C
84AE D3F8    00084      OUT      (0F8H),A      ;BYTE TO PRINTER
          00085
84B0 E1      00086 EXT      POP      HL      ;GO BACK HOME
84B1 F1      00087      POP      AF
84B2 C9      00088      RET
          00089
          00091 ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
          00092
          00093 ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
          00183 ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
          00184
          00185 ;***** Insure that P1/CMD will only load once *****
          00186 GOX      ;*****
          00187
          00188 ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
          00192 ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
          00193
84B3 E1      00194      POP      HL
84B4 22D052  00195      LD      (52CFH+1),HL
84B7 E9      00196      JP      (HL)
          00197
84B3         00198      END      GOX      ;NO ENTRY POINT

```

No errors.

Model I Driver

```
00104
00105
00106 GOX      ;***** itilization *****
00107
00108 ;@000000000000000000000000
00109
00110
00111 ;***** This code adjust a jump vector to insure P1/CMD
00112 ;***** is only loaded once
00113
7CED E1      00114      POP      HL
7CEE 22D052   00115      LD      (52CFH+1),HL
7CF1 E9      00116      JP      (HL)
00117
7CF2 CF52    00118 SVX      DEFW    52CFH
7CED         00119      END      GOX
```

No errors.

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 13349 Michigan Avenue
 Dearborn, Mi. 48126
 (313) 581-2896

MEMO September 14, 1985

printed with Epson LQ-1500

```

00001 ;*****
00002 ;*   MODEL 4 TRSDOS 6 version   *
00003 ;*   Printer driver           *
00004 ;*   (c) 1985                 *
00005 ;*                           *
00006 ;*****
00007
0001  00008 Y      EQU      1
0000  00009 N      EQU      0
00010
0000  00011 SYSDRV EQU      N
00012
00013
00014
5200  00015 OVERLAY EQU      5200H
3901  00016 LINKER EQU      3901H      ;LINKX VECTOR
00017
00018
00019 ;*** Overlays small data area in core ***
00020
3AFE  00021      ORG      3AFEH      ;PRINTER TYPE ADDRESS
3AFE 9E6F 00022      DEFW     START    ;DRIVER ADDRESS
3878  00023      ORG      3800H+120  ;PLACE NUMBER OF NULLS
3878 01  00024      DEFB     1        ;PRINTER TYPE - set high
00025      ; bit for SOFTWARE FORMFEED
00026      ; zero bit for linefeeds
3879 02  00027 NULLS  DEFB     2        ;2 FOR 300 BAUD - TRS232
387A DE00 00028      DEFW     ODEH     ;BAUD RATE - TRS232 ONLY
387C 00  00029 HAND  DEFB     0        ;PRINTER TYPE - RS232
00030      ; HANDSHAKE NON-ZERO
387D 00  00031      DEFB     0        ;UNDERLINE FLAG
00032      ;bit 7 ON - UNDERLINE BY CODE
00033      ; bit 1 = TWO PASS UNDERLINING
00034 ;*** Next two bytes not currently used ***
00035
387E 0E  00036      DEFB     14        ;START UNDERLINE CHAR
387F 00  00037      DEFB     0        ;END UNDERLINE CHAR
00038
00039 ;*** Pointer to message in P1/CMD *****
00040
3880 886F 00041      DEFW     TB1        ;PRINTER MESSAGE
00042
00043 ;**** Next two bytes not currently used ****

```


Model 4 TRSDOS 6 Driver

```

5299 0000 00039 @PROPDPI      DEFW  0
529B 00    00040 @CONDDOT    DEFB  0
529C 0000 00041 @CONDPI      DEFW  0
529E 00    00042 @ASSIGN      DEFB  0,0,0,0,0
52A3 00    00043 @ASSIGNOF    DEFB  0,0,0,0,0
52A8 01    00044 @LINEEND     DEFB  1,13,0,0,0,0,0,0,0
52B1 00    00045 @PAGETOP     DEFB  0,0,0,0,0
52B6 0D    00046 @CARRIAGE     DEFB  13,0,0,0,0
52B8 0A    00047 @LINEFEED     DEFB  10,0,0,0,0
52C0 00    00048 @ENDCODE      DEFB  0,0,0,0,0
52C5 00    00049 @MASTER      DEFB  0
0001      00050 OVERLAY2      DEFS  1
6F88      00057      ORG      7000H-120      ;ROUTINE BEGINS
                                00058
6F88 50    00059 TB1      DEFM  'Parallel Driver Ready'
6F9D 00    00060      DEFB  0
                                00061
                                00062 ;*****
00078 ;*****
00079
00080 ;*****
00082
6F9E F5    00083 START    PUSH    AF
6F9F E5    00084      PUSH    HL
                                00085
00086 PRINT ;*****;CHECK FOR BREAK KEY
6FA0 DBF8 00087      IN      A,(0F8H)      ;CHECK PRINTER
6FA2 CB7F 00088      BIT      7,A
6FA4 20FA 00089      JR      NZ,PRINT      ;LOOP IF NOT READY
                                00090
6FA6 79    00091 CONT     LD      A,C
6FA7 D3F8 00092      OUT     (0F8H),A      ;BYTE TO PRINTER
                                00093
6FA9 E1    00094 EXT      POP      HL      ;GO BACK HOME
6FAA F1    00095      POP      AF
6FAB C9    00096      RET
                                00097
00099 ;*****
00100
00101
00102 ;**** Insure driver only loads once ****
00103
6FAC E1    00104 GOX      POP      HL
6FAD 220139 00105      LD      (LINKER),HL
6FBD E9    00106      JP      (HL)
                                00107
6FAC      00108      END      GOX      ;NO ENTRY POINT

```

No errors.

AlphaBit Communications Inc.
 13349 Michigan Avenue
 Dearborn, Mi. 48126
 (313) 581-2896

MEMO September 14, 1985

printed with Epson LQ-1500

```

00001 ;*****
00002 ;*
00003 ;* MAX-80 driver *
00004 ;* (c) 1985 *
00005 ;*
00006 ;*****
00007
0001 00008 Y EQU 1
0000 00009 N EQU 0
00010
0000 00011 SYSDRV EQU N
5200 00012 OVERLAY EQU 5200H
00013
00014 ;**** Set driver vector address ***
00015
08FE 00016 ORG 0BFEH ;PRINTER vector address
08FE 9E6F 00017 DEFW START ;DRIVER ADDRESS
00018
00019 ;**** Small data area in core ****
00020
0964 00021 ORG 900H+100 ;PLACE NUMBER OF NULLS
0964 01 00022 DEFB 1 ;PRINTER TYPE - set high
00023 ; bit for SOFTWARE FORMFEED
00024 ; zero bit for linefeeds
0965 02 00025 NULLS DEFB 2 ;2 FOR 300 BAUD - TRS232
0966 DE00 00026 DEFW 0DEH ;BAUD RATE - TRS232 ONLY
0968 00 00027 HAND DEFB 0 ;PRINTER TYPE - RS232
00028 ; Handshake non-zero
0969 00 00029 DEFB 0 ;UNDERLINE FLAG
00030 ;bit 7 ON - UNDERLINE BY CODE
00031 ;bit 0 = doublewide
00032 ; bit 1 = TWO PASS UNDERLINING
00033 ;**** next to bytes not currently used ****
00034
096A 0E 00035 DEFB 14 ;START UNDERLINE CHAR
096B 00 00036 DEFB 0 ;END UNDERLINE CHAR
00037
00038 ;**** points to printer message in P1/CHD ****
00039
096C 886F 00040 DEFW TB1 ;PRINTER MESSAGE
00041
00042 ;**** Next two bytes not used
00043

```

MAX-80 Driver

```

096E 0F      00044      DEFB      15
096F 00      00045      DEFB      0
00046
00047 ;*****
00048 ;*                               *
00049 ;*      Overlay area in LPNT/CMD      *
00050 ;*                               *
00051 ;*****
00052
5200      00053      ORG      OVERLAY
5200 00      00001 @DARK  DEFB      0,0,0,0,0
5205 00      00002 @LIGHT DEFB      0,0,0,0,0
520A 00      00003 @EMPH  DEFB      0,0,0,0,0
520F 00      00004 @EMPHOF DEFB      0,0,0,0,0
5214 00      00005 @OVERSTRIKE DEFB      0,0,0,0,0
5219 00      00006 @DBWD  DEFB      0,0,0,0,0
521E 00      00007 @DBOF  DEFB      0,0,0,0,0
5223 00      00008 @UNDER DEFB      0,0,0,0,0
5228 00      00009 @UNDEROF DEFB      0,0,0,0,0
522D 00      00010 @PICA  DEFB      0,0,0,0,0
5232 00      00011 @PICAOF DEFB      0,0,0,0,0
5237 00      00012 @ELITE DEFB      0,0,0,0,0
523C 00      00013 @ELITEOF DEFB      0,0,0,0,0
5241 00      00014 @PROP  DEFB      0,0,0,0,0
5246 00      00015 @PROPOF DEFB      0,0,0,0,0
524B 00      00016 @CONDEN DEFB      0,0,0,0,0
5250 00      00017 @CONOFF DEFB      0,0,0,0,0
5255 00      00018 @CMD1  DEFB      0,0,0,0,0
525A 00      00019 @CMD1OF DEFB      0,0,0,0,0
525F 00      00020 @CMD2  DEFB      0,0,0,0,0
5264 00      00021 @CMD2OF DEFB      0,0,0,0,0
5269 00      00022 @CMD3  DEFB      0,0,0,0,0
526E 00      00023 @CMD3OF DEFB      0,0,0,0,0
5273 00      00024 @SUPER DEFB      0,0,0,0,0
5278 00      00025 @SUPEROF DEFB      0,0,0,0,0
527D 00      00026 @SUBSCRPT DEFB      0,0,0,0,0
5282 00      00027 @SUBSCRPTOF DEFB      0,0,0,0,0
5287 00      00028 @INIT  DEFB      0,0,0,0,0
00029
528C 02      00030 @BACKX  DEFB      2
00031 UNDERCHAR      ;*** UNDERLINE CHARACTER - @BACK
528D 5F      00032 @BACK  DEFB      95
528E 08      00033 @BACK2 DEFB      8,0,0,0
5292 00      00034 @PICADOT DEFB      0
5293 0000      00035 @PICADPI DEFW      0
5295 00      00036 @ELITEDOT DEFB      0
5296 0000      00037 @ELITEDPI DEFW      0
5298 00      00038 @PROPDOT DEFB      0
5299 0000      00039 @PROPDPI DEFW      0
529B 00      00040 @CONDDOT DEFB      0

```

MAX-80 Driver

```

529C 0000      00041 @CONDPI      DEFW      0
529E 00        00042 @ASSIGN      DEFB      0,0,0,0,0
52A3 00        00043 @ASSIGNOF     DEFB      0,0,0,0,0
52A8 01        00044 @LINEEND     DEFB      1,13,0,0,0,0,0,0,0
52B1 00        00045 @PAGETOP     DEFB      0,0,0,0,0
52B6 0D        00046 @CARRIAGE     DEFB      13,0,0,0,0
52B8 0A        00047 @LINEFEED    DEFB      10,0,0,0,0
52C0 00        00048 @ENDCODE      DEFB      0,0,0,0,0
52C5 00        00049 @MASTER      DEFB      0
0001          00050 OVERLAY2      DEFS      1
          00055
6F88          00056      ORG      7000H-120      ;ROUTINE BEGINS
6F88 50        00057 TBI          DEFW      'Parallel Driver Ready'
6F9D 00        00058      DEFB      0
          00059
          00060 ;00000000000000000000000000000000
          00075 ;00000000000000000000000000000000
          00076 ;00000000000000000000000000000000
          00078
6F9E F5        00079 START      PUSH      AF
6F9F E5        00080          PUSH      HL
6FA0 3A4038    00081 PRINT      LD        A,(14400)      ;CHECK FOR BREAK KEY
6FA3 FE04      00082          CP        4
6FA5 2807      00083          JR        Z,CONT          ; GO IF PRESSED IF PRESSED
6FA7 3AE837    00084          LD        A,(37E8H)        ;CHECK PRINTER
6FAA C87F      00085          BIT      7,A
6FAC 20F2      00086          JR        NZ,PRINT        ;LOOP IF NOT READY
          00087
6FAE 79        00088 CONT      LD        A,C
6FAF 32E837    00089          LD        (37E8H),A        ;BYTE TO PRINTER
6FB2 E1        00090 EXT      POP        HL            ;GO BACK HOME
6FB3 F1        00091          POP        AF
6FB4 C9        00092          RET
          00094 ;00000000000000000000000000000000
          00095
          00096 ;***** Insure driver only loads once *****
          00097
          00098
6FB5 E1        00099 GOX      POP        HL
6FB6 22010A    00100          LD        (0A00H+1),HL
6FB9 E9        00101          JP        (HL)
          00102
6FB5          00103          END      GOX            ;NO ENTRY POINT

```

No errors.

SEVEN:

PRINTING YOUR TEXT

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APPENDIX



PRINTING YOUR TEXT

The end result of word processing is some kind of printed copy. The computer is a convenient way to get your document exactly the way you want it in content and form. You fix the content through the various editing commands, but you set the form through printer commands. There are two kinds of printer commands: those in text and those on the menu. Mainly, these do the same things, but provide two different ways to do it.

To print your text, you need to get to the printer program, which is a separate file in Lazy Writer (this saves memory space). You must have your Lazy Writer disk in your disk drive each time you print text (unless you have loaded it into the second 64K via a DOS MEMDISK function). The printer program within Lazy Writer is loaded each time you press the F3 key or "CLEAR" and "p" in Text Entry or Edit. Any commands you have in your text (such as "center") will supercede the "default" values listed on the Printer Menu. Once your printer is running, you will see the numbers listed change to the ones being executed per your instructions.

THE FOLLOWING IS A SUMMARY OF THE STEPS THAT WILL GET YOUR TEXT FROM DISPLAY SCREEN TO PAPER:

1. In Edit, press F3 or "CLEAR" and "p" to get to the Printer Menu from your text.
2. Check the values shown on the top of the menu and make any changes you may want by pressing the key indicated; this will either be an "on-off" switch or you'll type in a new value and hit "ENTER". (Text commands override menu commands)
3. Make sure your printer is turned on.
4. Check the instructions on the bottom of the menu. If you want the entire document printed, press "ENTER".
5. If you have the "stop at page end" item "on" (this is the default value), your printer will stop when it has completed one page and your screen will display a mini-menu of options. If you want to continue printing, press the "c" key. Do this until your whole document is printed. You can disable the "stop at end of page" any time you have the main menu on the screen by pressing "s", which works as an "off-on" switch for this feature.
6. When your text is all printed (as many copies as you specified via the main menu), Lazy writer will display "Done" and the mini-menu, OR will return to Edit, depending on which default you've set (by using the CHANGE LAZY WRITER option from UTILITY/CLW).

PRINTING YOUR TEXT

PRINTER MENU

1. PRINTER MENU When you're typing in a simple letter or document, especially one you may not use again, you can set all printer commands from the menu. It is best to use either all text commands or all menu commands to better keep track of what you are doing. The value of text commands is apparent if you have saved a letter or document you will be using often. With text commands, every time you print this document, you will get the same results. Menu commands have to be set each time you print your document. One advantage to menu commands is that you can stop the printer in the middle of printing something and change a menu command; you can't change text commands while the printer is going and text commands will always override menu commands.

You will notice that some of the menu items duplicate commands you can put in text. This gives you another way to get the results you want and, in some cases, a more convenient way. For example, you may decide you want a double-spaced version of your document so you can proof read it, but you'll later want it printed single spaced. Use the "down line feed" menu item (write in "2" for double spacing); this is more convenient than inserting a ">d2" printer command that you later have to remember to remove.

PRINTER MENU

PRESS KEY TO CHANGE		Parallel driver ready	
<l>eft marg.	6	<r>ight marg.	78
<w>idth of text	72	<n>o of lines	54
<p>age width	84	<d>own line feeds	1
<P>AGE LINES (CAP P.)	66	<j>ustify	on
<u>pper case	off	<s>top at page end	on
<o>utput print cmds	off	Page No.	1
<c>opies	1	down arrow=software ff	off

<ENTER> = resume or start printing text
a = <a>ll - print all text
t = <t>o cursor - print text from start to cursor
f = <f>rom a page no. to end
e = <e>dit - return to EDIT
s = <S>ave print image to disk (CAP S)
* = Go to Disk Operating System (DOS)
M = margin - left and right both changed

The top items work by pressing the letter keys indicated. To set right margin, for example, press "r". When you press the key for the item you want to change, type in the new value; this will replace the old one on the screen.

PRINTING YOUR TEXT

1.1 MENU MARGIN COMMANDS You should study the effects of setting margin commands from the menu. If you reset "l" (left margin), this will change the width and the left margin. Resetting "r" (right margin) also changes width and the right margin, and resetting "w" (width) changes the width and the right margin. You can experiment with these by typing in different values; you'll see the other items change on the screen, showing you the effect. Some work as "off" - "on" and these will display whether they are "off" or "on". To get justified text, for example, press "j" and see the words "on" displayed. To turn off this feature, press "j" again and see "off" displayed.

1.2 SOFTWARE FORMFEED A form feed is the action of the printer in going from the end of one page to the beginning of the next page. Many printers, like the Epsoms, produce form feeds automatically when Lazy Writer sends a form feed code to the printer. Other printers, including most sold by Radio Shack, require form feeds to be done in software. To accommodate this type of printer, Lazy Writer has a software form feed feature, activated from the main printer menu. To produce software form feeds, press the down arrow (this works as an off-on switch). Then enter after "P" (PAGE LINES) the number of lines from the top of one page to the top of the next page (default value is 66). Pressing the up arrow will reset the value to 66 or whatever value you have used and reset "top of form". All other printer commands will work normally with the software form feed.

The software form feed works by counting the number of line feed commands Lazy Writer sends to the printer. Normally, printers space six lines per inch. That means a standard 11 inch sheet consists of 66 lines. But if your printer can be set for different vertical spacing, you would need to recalculate the number of lines from the top of one sheet to the top of the next (the "PAGE LINES" item).

You would need to change "PAGE LINES" if you changed the number of lines per inch, but also if you are using paper longer or shorter than 11 inches. In this case, use the software formfeed to override a hardware formfeed. For example, if you're printing on label stock, you can set up the Printer Menu so each label is a piece of paper. Turn on the software formfeed and set "P(AGE LINES)" to 6 or 7 (whatever works) and set "number of lines" to 4 or 5 to accommodate the number of lines in your addresses. The same principle will work in printing on paper that is longer than standard size.

While "PAGE LINES" is the number of lines from the start of one page to the start of the next, "number of lines" is the number of text lines you want printed on each page. Keep in mind that the "number of lines" must be less than the "PAGE LINES". You cannot print more lines of text than exist on your paper. If you should set "number of lines" to too large a number, some printers will wrap your text or put line feeds where you don't want them. This will totally throw off the line count. If you don't want any paging (because you're printing on roll paper, or want to print over the cracks in fanfold paper), you can set "number of lines" to zero (same effect as ">N0").

PRINTING YOUR TEXT

Since Lazy Writer is counting the lines in figuring "PAGE LINES" and "number of lines", it must know about all line feeds and carriage returns. If you generate a line feed/carriage return by embedding a code ("`*>10*`" for a line feed and "`*>13*`" for carriage return), this would not be figured into the count and would result in incorrect pagination.

1.3 PRINTING PRINTER COMMANDS Lazy Writer offers you the unique ability to print your printer commands. Use the "o" command from the printer menu. This is a good teaching device and will give you a paper copy that includes your commands, which can be helpful if you are doing something complicated. See the example we've included of the "Children's Art" flyer. Notice that using "o" executes then prints the commands; that is why some appear as upper case. This feature will not print header or Footer material or commands embedded in sentences. Another way to get printer commands to print is to underline them, so they print underlined or bold face. This is a method we've used in some places in this manual to get examples to print. However, once you underline or bold a printer command, it is no longer a command and will not execute.

1.4 PAGE WIDTH Page width refers to the actual width of the paper you're printing on measured in characters or the space available on the paper, from where the print head begins printing. Margin commands are figured from page width, so if you do not enter the correct page width, any title and centering commands you have in text will be off. Be sure you haven't used a "center" command that is wider than your page width. If your page is going to be put in a binder and you want extra space on the left for the binder holes, use the "absolute margin" ("a") text command in combination with an adjusted page width to create the offset. This can be used only as a text command, not from the Printer Menu. The absolute margin command causes the print head to begin the number of characters over you've told it - ">a8" would cause the print head to move 8 characters before printing each line. It moves the text before figuring any normal margin commands. See the section on "Text Commands".

On the Printer Menu, the page width is set to a default value of 84, about the standard typing paper width, figuring from 10 characters per inch. The number system used here is the same as standard typewriters use and is based on number of characters. The numbers run from left to right, low to high. Character size can vary a bit from one printer to another, and so can spacing between characters. You may have to experiment a bit to get a good average "page width" for your printer. You also need to adjust for compressed or double-wide type on dot matrix printers and for varying type sizes on daisy wheel printers. Daisy wheels usually come in 10, 12, or 15 characters per inch (c.p.i.) type. Your printer may have a switch that lets you change from 10 to 12 c.p.i. with the same daisy wheel, so of course, your margins will look different at each of these settings.

PRINTING YOUR TEXT

You can test current page width by typing in a series of numbers: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, 1, 2, 3, 4 etc, then setting a left margin of 0 and a right margin of whatever you think is the extreme right. Set the print head at the edge of the paper. Now print the numbers. The number of digits that fit from edge to edge is your page width. On some printers the print head does not rest where it starts printing; it will move to the right before it begins printing. With this kind of printer, adjust the paper so the printer will begin printing at the edge of the paper.

Remember that if your printer only prints 80 characters accross and you give it a left margin of 10 and a width of 80, your right margin would be 90. Your printer cannot handle a right margin of 90 and will malfunction. It may wrap the text around to the next line, making a poor appearance and throwing off Lazy Writer's line count.

1.5 SPECIAL TYPE SIZES If you haven't customized your copy of Lazy Writer for automatic double-wide or other special size type, you can still get it if you alter the page width. Double-wide requires that page width be cut in half, while compressed type means increasing the effective page width. When using these special kinds of print in part of your text, don't forget to change page width again when going back to regular size type. The codes needed to produce the special print can be given as a decimal number after the text command symbol ">". Give the new page width first, then the code number. For example, a command for a double-wide headline on the Epson FX-80 looks like this: ">p42/title 35/14". The "page width" of 42 is half the normal width of 84; "title 35" tells Lazy Writer to use a text width of 35 in figuring how to center the words that follow; the number "14" is the decimal number that activates double-wide type on the Epson printers.

2. MENU BOTTOM The items on the bottom of the screen give you a variety of options. If you want to print your whole document, press "ENTER". You can, however, print to wherever you placed the cursor, or from any page to the end of your document (see the section below). You can return to Edit if you decided not to print your material.

when you are actually printing, the bottom part of the menu vanishes from the screen and is replaced with your text, which scrolls down the screen as it is printed. You will see your document on the screen in the same format as it will appear on paper (keeping in mind the difference in width between the screen and the paper and the fact that the screen will show "wrapped around" copy).

TO STOP THE PRINTER WHILE IT IS GOING, PRESS "ENTER".

On most versions of Lazy Writer, press "ENTER" and hold it down until the printer stops. On the TRSDOS 6 version, press "ENTER" and wait for the printer to stop. The printer will finish the current line, then stop. Hitting "BREAK" will also stop the printer, but pressing "BREAK" is a bail-out procedure - you may lose some text if you try to resume printing. The "BREAK" key will get you out of an endless loop

PRINTING YOUR TEXT

condition you can get in with parallel printers and should be used only in that situation. Normally, to stop the printer, press "ENTER".

When you stop printing, you'll get the mini-menu on the screen. If you return to Edit, you can't resume printing on the next line and preserve correct pagination. You CAN reprint the last page and go on from there. If you do not go back to Edit, you can change an item on the Printer Menu by pressing "r" for "reset", changing the item, then resume printing by pressing "ENTER". For instance, if you forgot to shut off "Stop at End of Page", you can press "ENTER" to stop printing, change that item on the Printe Menu, then hit "ENTER" to resume printing.

2.1 PRINTING FROM CURSOR - REPAGING If you want to begin printing at some point other than the beginning of text, leave the cursor where you want to start and press "f" ("SHIFT" "f"). Printing will begin at that point and paging will begin from the cursor position. This means printing with this option will repage your text.

2.2 PRINTING FROM THE TOP OF A PAGE Using this option, your text will begin printing from the page number you specify. Press "f", then enter the page number you want to begin with. Lazy Writer will "read" your text up to the specified page number, then begin printing, preserving your page numbering. Any embedded printer commands occurring before printing begins that invoke special modes such as compressed type will not be sent to the printer. However, any command sent by customized key-word text commands (such as ">elite", ">compressed", etc.) will be sent.

2.3 FORMATTED SAVE The "S" (capital "S") command works only from the printer menu, not from Edit, and is different from the regular "save" from Edit. See section 9.1 on "FORMATTED SAVE" for more information on this feature.

2.4 EXIT TO DOS Press "*" to exit to DOS. If you do this, you'll have to reload Lazy Writer again. This feature works the same from the Printer Menu as it does from Edit.

2.5 MARGIN The "M" (capital "M") margin command works just like the margin text command - it changes the left and right margin; the width stays the same.

3. NOT ON MENU There are three functions available from the Printer Menu that are not on the menu because of limitations of space on the screen. However, these functions will work from the Printer Menu.

3.1 GO TO DIRECTORY Pressing "CLEAR" and "BREAK" will take you to the Directory; this works just like it does from Edit.

3.2 ISSUE FORM FEED You can get a form feed from your printer if you press "CLEAR" down arrow.

PRINTING YOUR TEXT

3.3 RESET TOP OF FORM pressing up arrow resets Top of Form for software formfeed.

4. MINI-MENU When one page of type has printed, you'll get a mini-menu on the top of the screen (unless you've set "stop at end of page" to "off"). This gives you a choice of:

- (e)dit
- (c)ont
- (r)eset

Pressing "e" will return you to Edit. Press "c" or "ENTER" and the printer will continue printing from where it left off. Press "r" if you want to change something on the menu or start at the beginning. When you press "r", you'll get the Printer Menu back. Change any item you want, then press "ENTER" to continue or press "a" to print from the beginning of text.

5. STOP COMMAND You can also have the printer stop and print a remark on the screen while the mini-menu is displayed. You might want a remark to warn you to "change print wheels here", for example. To get this, use this command in text:

```
>stop/'change print wheels here
```

The '(apostrophe) precedes a non-printing remark. You can only do this at the paragraph break, not as an embedded command in the middle of a line. If you use ">stop" as an embedded command, the rest of the line will print before the printer stops. However, some printers have internal "stop" commands. If you embed the proper printer command in a line, the printer will stop when it encounters the code. This would allow you to change daisy wheels in the middle of a line. The next part of this chapter deals with text commands.

PRINTING YOUR TEXT

TEXT COMMANDS

6. TEXT COMMANDS Text commands offer more flexibility than menu commands, and there are more of them. The basic way you put a command in text is by using ">" followed by a character, sometimes followed by a number. Here is a sample command:

>title 75

When entering commands in text, you can put two commands on one line by using "/" or ":" or ";" or "," between commands. If you do this, you only need to use the ">" the first time. Here is a sample of a multiple command:

	>left 5/right 75/d2	OR	>left 5:right 75:d2
OR	>left 5:right 75;d2	OR	>left 5,right 75,d2

Printer commands normally begin with a new paragraph or down line feed. In Text Entry, you can press "ENTER" to produce the needed down line feed. In "insert", use the down arrow. If you simply insert a printer command where you currently have a down line feed, remember that this will, in effect, remove that down line feed. Insert another one, or get in the habit of always starting with a down line feed when inserting a printer command.

A valid text command must:

- 1) Be on the first space on its own line.
- 2) Begin with ">".
- 3) contain the proper command character(s).
- 4) terminate with "ENTER" or down arrow or "*".

6.1 EMBEDDED COMMANDS For special purposes, you can put printer commands right in the middle of text. Here are some of the reasons to embed commands:

- 1) To get BOLD FACE and UNDERLINING in the same paragraph.
- 2) To CHANGE THE MARGIN in the middle of a paragraph.
- 3) Making SUPERSCRIPTS and SUBSCRIPTS.

NOTE ON USING HYPHENATION AND SUPER/SUBSCRIPTS TOGETHER: If you're going to hyphenate in a section using superscripts or subscripts, place the number in text, then do the hyphenation, then go back and put in the embedded printer command, or use FORMATTER to hyphenate.

To put the command into text, put an asterisk ("*") before and after the command. Here is a sample paragraph containing an embedded command:

PRINTING YOUR TEXT

Lazy Writer was one of the first word processors to use `*>b4*` embedded commands. With this ability, the word processor can tell the printer to do something special, as it prints a line of text. For example, in this paragraph, the words "embedded commands" would print in bold face, because of the command enclosed in asterisks just before those words. These words would be underlined on the screen, so the printer would read the "bold" command, then perform that task (bolding) on the underlined words it encounters.

Notice that text commands and embedded commands really have the same format. A text command begins and ends with a carriage return (new line); an embedded command begins and ends with `"*"` (an asterisk). Inside, they are the same.

You can put multiple commands in an embedded command, but can only have 100 characters between the asterisks. However, you can put one embedded command right after another. A carriage return (in place of the asterisk) would also terminate an embedded command.

Remember that using embedded commands will throw off your "video width" display and any hyphenation you may want; so if you're using the "video width" feature, do your hyphenation first, then insert any printer commands. Or, use the FORMATTER to hyphenate.

6.2 LAZY WRITER TEXT COMMANDS

' - Place the `"'"` before NON-PRINTING COMMENTS. Lazy Writer will recognize everything after this symbol as non-printing until it comes to a line feed or an `"*"` (asterisk). This command can only be used as the last printer command or on a line by itself (for example, `">center 70/a10/'food vendor list, revised 7/85"`). A comment can be as long as you like but can't include a carriage return or an asterisk. You can have one comment follow another if you want.

-----MARGINS COMMANDS-----

MARGIN COMMANDS CAN BE "HARD" OR "SOFT".

"Hard" margin commands are those that set the outer margin, like the "center" command. "Soft" margin commands are those that work from a "hard" margin, like "indent". You should not use "indent" without having first set an outer margin for it to indent from. If you want to begin your text with an indent, you can use something like this `">center 70/indent 10"`. The advantage of having "hard" and "soft" commands is that the soft command can be relative - it figures from the last hard command. You do not have to constantly recompute everything

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yourself. If you shut off an indent with ">indent off", the old margin is restored.

>p - (PAGE WIDTH) - This works just like the menu item, but allows you to enter a page width in text. If your printer can vary the size or spacing of characters, this command can be used to give the correct page width in characters for the new spacing. You also need ">p" if you're using a double-wide title and you are not set up for automatic double-wide. You will need to cut page width in half to center your double-wide title. EXAMPLE: ">p42/t35" - this would cut page width in half.

>len or >P - (PAGE LENGTH) - Followed by a number, capital "P" sets the number of lines from the top of one page to the top of the next. This is used only with the software form feed; if your printer does not require software form feeds, you won't use this command, except in combination with the "vertical" command. EXAMPLE: ">P66/N59/v2"

>N - (NUMBER OF LINES) - This works like the menu item. Used in text, it enables you to set the number of lines per page you want in your printed document. Do not use this command in the middle of a page - only at the beginning of your text, or at the beginning of a page. The "N" command resets the line count, changing both the number of lines per page and the current line count. To reset the count for the remaining number of lines or for the next page, use ">tex" or ">remain". EXAMPLE: ">N45"

>tex - (TEXT LINES) - Followed by a number, this command changes the line count for the next page. The lines on the current page will not change. It does the same thing as "Number of lines", but takes effect on the next page. EXAMPLE: ">tex 45"

>remain - (REMAINING LINES) - Followed by a number, this command changes the remaining line count for the current page. It alters only the remaining count on the current page; subsequent pages will be printed at the old lines per page number. This command would enable you to have one page with a different number of lines. EXAMPLE: ">remain 6"

>w - (WIDTH) - Followed by a number, this determines the number of characters between the left and right margins; used by itself, it alters the width of the text and affects the right margin, but not the left. EXAMPLE: ">w50"

>a - (ABSOLUTE MARGIN) - Followed by a number, this moves the text to the right the number of characters you indicate. It's purpose is to offset all text on the page to the right to allow extra room for binding. To work properly, you must also adjust "page width" (">p") to reduce the effective paper width. Doing this will allow title commands to still center titles over the text and all indents to work normally. For example, a command of ">a7" will move all text 7 characters to the right. Use this command at the beginning of

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your text or inside a header/footer. Used inside a header/footer, it offsets the entire block of text, not just the header/footer material. See the section on Headers/Footers. EXAMPLE: ">p77/a7"

- >l - (LEFT) - Followed by a number, this sets the left margin from the page edge; it also recomputes the width of your text so the right margin will stay the same. EXAMPLE: ">left 8"
- >r - (RIGHT)- Followed by a number, this sets your right margin; this command will recompute the width of your text, keeping the left margin the same. EXAMPLE: ">r 70"
- >m - (MARGIN) - Followed by a number, this moves your whole block of text to the right; it will move your text the number of spaces you tell it and leave the width the same. Note that this can cause your text to move right off the page, so it is mainly useful with short lines of text, such as the closing of a letter or date at the top. Right and left margin both change by the same amount. EXAMPLE: ">left 5/right 60/m10"
- >c - (CENTER) - The "c" followed by a number will center your text, producing a width that is the number of spaces you tell it. The center command will work only when you've told Lazy Writer the correct width of the paper you're using (with ">p "). This command overrides other margin commands and is best used when exact margins (or off-center margins) are not needed. Center can be thought of as a "width" command that adjusts both right and left margins. You can use ">center off" to terminate "soft" commands like ">indent" and ">Reverse indent" and restore the previous "hard" margin value. EXAMPLE: ">center 65"
- >t - (TITLE) - This centers a line of text, rather than a block of text. Like the ">center" command, it only works when you've supplied the right information on page width. If you've spaced over on the screen when typing your title, these leading spaces will be ignored. This command centers each line until you terminate it. If the line you're centering is longer than your text width, it will break the line and center it as more than one line. You can put a number after "title" to represent the text width, or the line will center with the default width. Title commands must be terminated with the "x" command or some other margin command. "Center 0" will restore the previous margin command. Indent commands or reverse indent commands will not terminate "title". You can also terminate "title" with ">title off". EXAMPLE: ">title 70"
- >i - (INDENT) - Followed by a number, "i" will indent the left margin the number of spaces you tell it, counting from the edge of the text; it recomputes the width, so your right margin will stay the same. The "i" command computes from the last regular margin command. You can have one block of text indented 10, then indent the next one 15 and both will be computed from the last regular margin, so that the second block (">i15") will be indented 5 more spaces than the first (">i10"). (The second "indent" is not computed

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from the first "indent") You could, of course, simply change the left margin with the ">left" command to create an indent. Then you would have to know what the left margin was and add the number of characters of the indent to the value of the left margin. With ">indent", you don't have to know the actual value of the left margin, just how many characters you want to indent. You will have to restore the original margin by putting the command back in text after the block you want indented or you can use ">indent 0" or "indent off". EXAMPLE: ">center 65/indent 20"

>R or >rev (REVERSE INDENT) - The capital "R" command produces a reverse indent, also known as a "hanging indent". This means that the second line of each paragraph and all subsequent lines will be indented the number of characters you tell it. For example, ">R3" would indent the second line three characters from the beginning of the first line. The ">indent" command can be used with the reverse indent (">indent 5/R3"), especially useful with numbered or bulleted points. The "R" command must be terminated with a hard margin command or "R off". See the "EXAMPLES" at the back of this section for some sample uses of reverse indents. EXAMPLE: ">center 75/R3"

>x - This terminates the title command and restores previous margin values to the paragraphs after it. Title is also terminated by any hard margin command. Small "x" or capital "X" also terminates header/footers. >title off terminates the title command only. "x" also terminates any indents, or reverse indents. EXAMPLE: ">x"

-----SPECIAL APPEARANCE-----

>d - (DOWN LINE FEED) - The "d" produces a down line feed; d2 makes a double space, d3 a triple space, etc. This command is handy if, for instance, you want one paragraph of your text double spaced and the rest single spaced. If you want your entire document double spaced, you can do this from the Printer Menu. If you have double spaced a part of your document, then want to return to single spacing, you must terminate the ">d2" with ">d1". EXAMPLE: ">d2"

>D or >doub - (DOUBLE-WIDE) - The capital "D" will make all underlined characters double-wide. This will only work on a printer capable of making double-wide letters. Turn off double-wide (to switch to bold face or underlining) with ">D off". Note that this command will produce the same result used by itself as with the customized command, ">set". In other words, the command ">doub" does the same thing as ">set doub". EXAMPLE: ">bold off/D"

>f - (FORMFEED) - Using "f" produces a formfeed (ASCII 12) - the printer goes to the next page. If you are using the software formfeed, this command activates it. EXAMPLE: ">formfeed"

>soft - (SOFTWARE FORMFEED) - This command turns on the software formfeed from text. It works like the software formfeed on the

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Printer Menu.

- >j - (JUSTIFY) - This switches from ragged right to justify; terminate justification with ">justify off". Note that on the printer menu justify is the default value; that is, if you provide no instructions to the contrary, your copy will be justified. If you do not want justified copy, you can "turn off" this feature from the Printer Menu or you can use a ">justify off" command at the beginning of your text. You can also mix justified text with unjustified text with the commands, ">justify" and ">justify off".
- >\$ - Putting "\$" in front of a number sends an ASCII character (printable character) to your printer. This is useful with printers that have command sequences that use ASCII. For example, ">\$p" will send the letter "p" to the printer. You cannot send the command separator "/". This command can only be terminated by "*", "/", or a carriage return. So if you plan to follow a "\$" command with more commands on the same line, use "/" to terminate the "\$" command.
- >e - (ESCAPE) - The "e" command sends a decimal 27 escape code to the printer. (Note that ">e/\$d" and ">e/67" and 27/67 all do the same thing) You will normally need another number after "e". EXAMPLE: ">e/14"
- >u - (UPPER) - This will print all upper case, regardless of the case of the text. Terminate this command with ">upper off". EXAMPLE: ">u"
- >b - (BOLD) - This command produces a bold face type; follow it with a number for the number of strikes you want it to make - For example, ">b3" will cause your printer to triple strike the underlined characters. Use this command in connection with the Edit command for underlining - use the "u" key in text to mark the words you want in bold face, then insert the "b" command and your printer will print bold face all the "underlined" characters or words it finds after this marker. (See the Editing section for instructions on underlining.) Terminate "bold face" with "bold 0" or "bold off" to go back to underlining. This command will only work on printers capable of making multiple strikes and only if your copy of Lazy Writer is properly customized.
- >g - (GRAPHIC) - Using this command will cause all subsequent underlined characters to be sent out with the high bit set (ASCII + 128). This may produce graphics on some printers. It will produce italic type on most Epson printers. Its real use, however, is to preserve underlined text in formatted saves. EXAMPLE: ">g"
- >s - (STOP) - This will stop the printer; this is handy if you have material at the end of a file that you don't want to print, or you are printing a small amount of material and don't want the printer to feed up to the next sheet of paper. If you use this command, you'll get the mini-menu and can resume printing from this point, if you

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wish. This would give you a chance to change daisy wheels, for instance, then continue printing. EXAMPLE: ">stop"

>spr - (SPREAD) or >S - This command will take the words in a printed line and put enough spaces between them so the last word in the line is flush right. This is useful when you want a headline to be right, but not left, justified. You must leave a space at the start of each line, then put a mandatory space ("SHIFT" SPACE BAK or CTRL "z") between words you don't want separated by more than the usual one space. You can also use this to type lists containing a word, then a number when you want the numbers to have aligned decimals. This will work when you have the same number of digits after the decimal. The words will print at the left margin and the numbers will line up at the right margin; you can combine "S" with an indent command to bring the words and numbers closer together on the paper. Use this command too if you want a header with a key word flush left and a page number flush right. Simply type the word, space, page[mandatory space]#. Remember, this command will put extra spaces between all words not joined by a mandatory space. You must have "justify" set to "on" for this command to work. See the examples at the back of this chapter that were made with this command. Use "S off" to shut off the Spread command. EXAMPLE: ">center 70/S"

>- - Use this command to avoid "widowed lines", single lines on a page by themselves. For example, if you will accept three lines less than the given number of lines per page, use ">-3". This command acts on paragraphs and will result in uneven bottom margins from page to page, since it pulls material that would normally print on one page onto the next page. If you are doing a long document, use the FORMATTER to arrange page breaks.

>chain or >* - The asterisk is used to indicate you want to chain one file to another in printing. Use "*" followed by the name of the next file you want "chained" to the first (for example ">*vendor") or use ">chain filename" (">chain vendor). The name of the file must be on a line by itself, and not used as an embedded command. See more on this under the heading "CHAINING".

>" - The quote mark followed by a character (such as "@") which is then followed by a number representing the decimal code for a special ASCII character will equate your character with the special one. This would let you use such special characters as a registration mark, which may be on your printer, but is not on the keyboard. EXAMPLE: ">"@93" - put this command on a line by itself, then use "@" as a substitute in text for the character you have equated it with. You could also use this to produce a foreign language character that your printer might be able to make. You can then redefine this any time or turn off the equation with ">"@ 0. Be sure to put the character right after the quote mark.

>repe - (REPEAT NUMBER) - Followed by a character (or decimal number) and a number, this repeats a character the number of times

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you tell it. For example, ">repeat & 45" would print "&" 45 times. If you use this as an embedded command on its own line, the characters will conform to the current margin. (not in Model I or III versions)

>line - (LINE) - This command draws a line from margin to margin. It uses the current text margins. You can get a line of any character using this command too, by using ">line" followed by a number or character. For instance, ">line #" would make a line of #. If you put this in an embedded command on its own line, your line will stretch from current left margin to current right margin. Otherwise, it will be the width of current text, but will begin at the extreme left. (Not in Model I or III version)

>def - (DEFINE) - This lets you redefine the meaning of up to five characters. If you write ">def a=B", the "a" will be printed as "B". You can also use a decimal number to stand for something not on the keyboard. If you write "@=125", the "@" will be printed as "†". The bracket character is represented by decimal 125. See the ASCII chart in the Printer Appendix for more of these characters. (Not in Model I or III version)

-----VERTICAL SPACING-----

>v - (VERTICAL) - This command will center longer text vertically on the page. If you have a Footer, you must use a number after "v" indicating the number of lines in the Footer. This command works from "number of lines" (either with ">N" or from the menu) and "Page Lines" (">P"). Position the print head at the very beginning of the page. This command actually takes the Page Lines and subtracts the number of lines and divides by two, which gives you the top and bottom margins and results in centered text. This will not center a short block of text on a page. EXAMPLE: ">N58/P66/v2"

>tm - (TOP MARGIN) - Followed by a number, this sends the number of blank lines you indicate. For example, ">tm6" would send six line feeds at the top of each sheet of paper. These lines will be counted by the software formfeed (Page Lines), but not in the number of text lines to be printed. This means each page will have the same top margin. It can also be used to skip a printed letterhead on company stationery. You can cancel the top margin and return to the default by using the command ">tm off". EXAMPLE: ">tm 6"

>atm - (ABSOLUTE TOP MARGIN) - Followed by a number, this is like Top Margin but the number is not counted in Page Lines or Number of Text Lines. Use this command to roll paper into a printer a page at a time. Text starts printing after the paper rolls. Use this to roll paper into the printer when printing a letter. You can cancel the absolute top margin command by using the command ">atm off". EXAMPLE: ">atm 7"

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>feed - (FEED) - This is the same as ">atm" but stops at end of feed and presents mini-menu. This feeds the sheet into the printer, but does not affect line count. You can cancel the feed command by using the command ">feed off". EXAMPLE: ">feed 7"

>skip - (SKIP) - Followed by a number, this command skips the number of lines you tell it. This can be handy if you need blank spaces in your text to paste in a chart or picture, for instance. It is an alternative to entering blank line feeds into your text. The "skip" command is canceled by a formfeed, so if you give the command ">skip 6" and there are only five more lines left on the page, it will only skip those five. EXAMPLE: ">skip 9" (skips the first nine lines on the paper)

-----CUSTOMIZED COMMANDS-----

NOTE: These commands only work when the codes needed for your printer have been entered into the PRINTGEN/CLW PRINTER CUSTOMIZATION PROGRAM.

>set - followed by another command, it "sets" how text underlined on the screen is to be printed. As an alternative to underlining, you can get bold, italic, double-wide and other options depending on your printer.

>set off - turns off whatever is in "set" and returns to default.

>under - sends code for underlining; use in combination with "set" and other custom commands to get underlining plus something else, such as dark; cannot be used by itself.

THE FOLLOWING COMMANDS WORK BY THEMSELVES OR WITH "SET":

>dark - send codes for dark type; terminate with ">dark off"

>emph - sends code to the printer to activate emphasized type; terminate with ">emph off"

>cmd1 - send code to printer to activate command stored in CMD1

>cmd2 - send code to printer to activate command stored in CMD2

>cmd3 - send code to printer to activate command stored in CMD3

THE FOLLOWING COMMANDS WORK BY THEMSELVES:

>sub - sends subscript code to the printer

>su - send superscript code to printer

>pica - send code to printer to activate pica type

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>elite - send code to printer to activate elite type

>comp or **>cond** - send code to printer to activate compressed (condensed) type

>prop - send code to printer to activate proportional spacing

You can also use ">bold" and ">doub" with "set", even though they are not customized commands.

NOTE: All of the above can be cancelled with "off". For example, leave elite type for the default type size with ">elite off". In using the "cmd" commands, you can terminate them with ">cmd1 off" or ">cmd off1".

-----HEADER/FOOTER-----

>h - (HEADER) - This introduces a header. This can be followed by a number which represents the relative page on which to begin executing the header. See the chapter on how to create headers/footers.

>F - (FOOTER) or **>z** or **>foo** - This introduces a footer. See the section on how to create headers/footers. Also, don't confuse this with "f" (small "f"), which makes a form feed.

>n - (NUMBER) - If used in a header, it must be followed by a number representing the first page number used when the header starts.

>O - (ODD) or **>odd** - Used within a header/footer, this tells the printer to print the header/footer or a portion of it on odd pages only.

>E - (EVEN) or **>even** - Used within a header/footer, this tells the printer to print the header/footer or a portion of it on even pages only.

>X - Capital X terminates a header/footer.

>header off - This eliminates a header; the header will not print on the pages following this command.

>Footer off - This eliminates a Footer; the Footer will not print on the pages following this command.

**** NOTE:** The only text commands that must be upper case are "P" (Page length), "R" (Reverse indent), "L" (Double-wide), "F" (Footer), "N" (Number of lines), and "E" (Even). These commands can be written out and used lower case, but cannot be used as a one-letter lower case command; they have different meanings as lower case. However, the command ">P" is the same as ">len". Also listed as upper case commands are "O" (odd) and "X", the terminator for "title" and

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header/footers. All other commands, which are normally lower case, will also work in upper case. However, do not mix case when writing out a command. Also beware of misspelling a command that depends on more than one character. If you use ">eltie" instead of ">elite", Lazy Writer will read the small "e" as "escape" and send the wrong command to the printer. See the section on "ERROR MESSAGES".

Any command can be written out. Some have to have more than one letter (such as ">spr" for "spread"). Some, as explained above, need the proper case. Most can also be abbreviated. For example, you can enter a left margin command as ">left 10" (instead of ">l 10") or a stop command as ">stop" (instead of ">s"). The reverse indent command could be ">R3" or ">rev 3" or ">reverse 3". It's also ok to leave spaces after ">" or after the first word and the number - "indent 10" or "indent10".

MARGIN COMMANDS IN LAZY WRITER

6.3 USING THE MARGIN COMMANDS The many margin commands in Lazy Writer can give you complete control over the final appearance of your text. The following examples will illustrate how the margin commands work; each section was printed with the value you see in parentheses. Since this manual was printed proportionally with a C. Itoh F10 daisy wheel printer, you would not get the same result typing the same text and using the same commands. proportional spacing is figured at 12 characters per inch rather than the usual ten characters per inch.

-- WITH ">c" COMMAND (>c60) --

The "center" command is the most convenient printer command to use. It figures your left and right margin for you, based on the desired text width. If your "page width" is correct (either the default of 84 or a different value you've entered into text), then your text will be perfectly centered on the page. Note that a title printed with ">c" (as above) begins at the left margin - use the ">title" command to center a title.

-- WITH ">l" COMMAND (>l15) --

The "left" command sets your left margin to the number you've given. If you give no right margin, it will retain the same right margin as the previous command. "Left" is computed from the edge of the paper, based on the page width (">p") command you used.

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-- WITH ">m" COMMAND (>m40) --

The ">m" command moves your text to the right.
Like this.

-- WITH ">t" COMMAND (>t60) --

The ">t" Command
Centers Individual Lines of Type
It Is Great For Titles
Or For Invitations
Or Announcements
Or For Poetry

-- WITH "w" + "l" COMMAND (>l10/w60) --

Here is the "width" command, used with the "left" command. This sets a left margin of 10, while assuring a width of 60.

-- WITH "w" COMMAND BY ITSELF (>w50) --

Here is the "width" command, used by itself. Notice it alters the right margin, compared to the paragraph above, but the left margin set in the previous command remains the same.

-- WITH ">r" + ">l" COMMAND (l10/r85) --

You can, if you want, give your text a right and left command to make precise margins. That's what we've done with this paragraph. This is the method used with old fashioned typewriters, where the only margin control is by setting each margin separately. You can do this with Lazy Writer too if you wish, using both a "left" and a "right" command.

HERE ARE THE "SOFT" MARGIN COMMANDS. THESE ARE
FIGURED FROM PREVIOUS MARGIN VALUES:

* INDENT

Here is text centered at 60 characters. If you've been printing the body of a report at this width, you may have some subpoints you want indented.

* Here is a subpoint indented eight characters.

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* REVERSE INDENT - MAKING BULLETED POINTS

The Reverse Indent often is just what you need to make your text distinctive. It is very good with numbered or bulleted points and can be combined with a regular indent, as shown below. Be sure to put a mandatory space between the "*" and the start of the sentence following it. This prevents Lazy Writer from adding space here, which would mean your items would not line up.

INDENT 8/R2

- * Use the Reverse Indent like this, to make numbered points stand out and/or line up.
- * Reverse indents can be used in indexes or lists of things to make the text look less confusing.
- * Reverse indents can also give the effect of headings in the margin; usually you need a large indent - see the "RESUME" example at the end of this chapter.

NOTE: The "title" command is also a "soft" margin command. It has to have some previous value to figure from. You may use a ">p" command followed by a "title" command and a number, whereas "indent" and "Reverse indent" need a previous margin command to work. "Title" adjusts the left and right margin for each individual line.

-- ABSOLUTE MARGIN COMMAND FOR OFFSETTING MARGINS --

The absolute margin command (">a") is for use when you want your text offset on the paper, generally because the edge of the paper will have punched holes or be bound. You need to combine this command with the "page" (">p") command to get the result you want. Measure the size of the paper you want to print on (minus the edges where the holes will be). If you're printing at 10 characters per inch, the normal 8 1/2 inch paper will be 85 characters wide (about the default). You can set the "page width" to 75 instead; this will eliminate the part of the paper that will be used for binding. An absolute margin command of ">a10", when you're printing at 10 characters per inch, would mean you'll have a 1 inch offset at the left. If you're printing something that will be reproduced with printing on both sides of the paper, then you'll want the offset only on odd numbered pages. You achieve this by using an "Odd-Even" header, specifying an absolute margin of ">a10" on odd pages and an absolute margin of ">a0" on even pages. Your offset will appear only on odd pages, but you'll see an offset to the right on even pages too if you set your "page width" at 75 (">p75").

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USE OF CUSTOMIZED COMMANDS

7.0 FIRST, CUSTOMIZE FOR YOUR PRINTER Before any of the customized commands can work, you must enter the proper codes for your printer into the PRINTGEN/CLW PRINTER CUSTOMIZATION PROGRAM or use one of the custom drivers provided. Unfortunately, printers all work differently and do not share the same internal codes to produce special effects. Before Lazy Writer can make italic or double-wide characters, it must know which codes your printer needs to produce these special characters. See the chapter on PRINTGEN for more information.

7.1 SET The "set" command allows the user to change what will print when text is underlined on the screen. Normally, this produces underlined copy. However, by using the "set" command, you can produce something else. Underlining is done from Edit or Text Entry. From Edit, place the cursor on the first character to be underlined and press the "u" key. This moves the cursor through the characters to add underlining. To check to see where text is underlined, press the "; " key. Underlined characters will be replaced by a line on the screen. See the EDITING chapter for more information.

Follow "set" with another command to tell Lazy Writer what you want to add to underlining. For example, if you want emphasized type in addition to underlining, use this command:

```
>set emph
```

If you want emphasized only (no underlining), this command would work:

```
>set off/emph/under off
```

The "set off" would turn off any previous commands assigned to underlining and "under off" turns off the underlining. The "emph" will now be applied to underlined material. But note that the command ">emph", when used alone and not in connection with "set", would result in ALL text following it printing emphasized. When "emph" is used with "set", only underlined material prints emphasized. The same is true of all commands discussed here except for "under", which can be used only with "set" - it is not needed without "set". The commands "bold" and "doub" only apply to text underlined on the screen (they never apply to all text following them), so they work the same whether used with or without "set".

These commands can be used with "set", or without "set":

```
>dark      >emph      >cmd3  
>cmd1      >cmd2
```

When used without "set", they apply to ALL the text; when used with "set", they apply only to material underlined on the screen. The "cmd" commands can be whatever you decide. On an Epson printer,

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for instance, one could be italic. If ">cmd1" is italic, you could use this command:

```
>set cmd1
```

After this command appears in text, anything underlined on the screen would print italic. On these commands, you can only assign one at a time to be turned on by "set". To get back to normal underlining, use this command:

```
>set off
```

Text underlined on the screen after this command will revert to the default, presumably underlining. The commands above can't be used in combination with each other; that is, only one can be used at a time. However you can use the following commands together, or use with "dark", "emph", or the "cmd" commands:

```
>under    >bold3    >doub
```

For example, if you want your underlined text to print underlined, bold, and double-wide, use this command:

```
>set bold3/doub/under
```

In the above command, the "under" must COME AFTER the "bold3" command, or the bold command would shut off the underlining command. The following is also a valid command:

```
>set under/emph/doub
```

Note that "emph" can be used in combination with "under" and "doub" (along with "dark" and the "cmd" commands). You can change this by altering the "set" command or cancel all three options by using ">set off".

The "set" commands are cumulative - once something is turned on, it stays on along with anything else you turn on. For instance, if you used ">set doub" early in your text, then later added ">set emph", you would get both double-wide and emphasized after the ">set emph" command. If you do not intend this result, but want only emphasized, use ">set doub off/emph". Be careful not to use a command in "set" that you already have on for your whole text. For instance, if you used "emph" at the beginning of text, do not later use "set emph". Once Lazy Writer encounters underlining, it will stop emphasizing when the underlining ends.

USE IN HEADER/FOOTER - The "set" commands can be used in a header or footer definition and will apply only to the text of the header and footer. You can have one condition apply to the body text and another condition apply to the header or footer text. Here's an example of "set" used in a header:

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```
>h/t75
>set doub
CRAZY CARRY'S CATALOG
>X
```

You would underline the words, "CRAZY CARRY'S CATALOG" on the screen and this would result in these words printing double-wide at the top of each page. You could also have the command ">emph" at the top of your body text to apply only to body text, not to the header.

CONTROL CODES

7.2 CONTROL CODE TO PRINTER Before your printer can shift into any special mode or type size, it must get a command telling it what to do. The command the printer understands is called a control code. Some printer manuals list these codes as hexadecimal numbers or as CHR\$ BASIC codes or as decimal numbers. Lazy Writer can pass control codes directly to the printer, but the codes must be DECIMAL NUMBERS. If your printer manual gives them as hex, use the chart in the Printer Appendix to translate them to decimal. The BASIC CHR\$() contains a decimal number in the parentheses. Use this number without translation (and without the "CHR\$").

In Lazy Writer, use a decimal number by itself (such as ">14") or "#" followed by a number (as in ">#14"). Many printers use escape code 27 along with other codes - for escape code 27, you can simply type "e". You can also use "\$" followed by an ASCII code. For example, to make emphasized printing on the Epson FX-80 printer, the following text commands will work: ">e/69", ">e/\$E", ">27/69".

NOTE: If you have customized your copy of Lazy Writer via the PRINTGEN PRINTER CUSTOMIZATION program, you will not have to use control codes except for functions not covered by PRINTGEN. For example, instead of the commands shown above for emphasized type, you can just use ">emph".

7.3 SUPERSCRIPTS AND SUBSCRIPTS If you have your copy of Lazy Writer customized via PRINTGEN, you need only use the commands ">sub" and ">sub off" (for subscripts) and ">su" and ">su off" (for superscripts). Use these as embedded commands before and after the character to be moved. The command would look like this:

```
H*>sub*2*>sub off*O
```

The result looks like this:

H₂O

The ">sub*" moves the printer to print the "2" down a half line.

PRINTING YOUR TEXT

The `"*>sub off"` moves the printer back.

If you have not customized your copy of Lazy Writer to use the "sub" or "su" commands, you can still get super/subscripts using control codes. Use the control code that will roll the printer a half line before printing the number, then after the number, use the code to roll the printer back. For example, on a C. Itoh F10 printer, `">e/$D"` will produce the half rollback needed - then print the number - then use `">e/$U"` to roll the platen back. The "e" is the escape code, which could also be written "27", the "D" is a command the F10 understands as a half line feed roll back. To use as an embedded command, the first command would look like: `"*>e/$D"`. Once you know the commands for your printer you could also set up an X-key command to instantly insert the printer command for making superscripts and subscripts.

7.4 GRAPHICS Using control codes to your printer, you can make graphics right in your text. You can use either the standard TRS-80 graphics or bit plot graphics, but you can only do what your printer is capable of. Check your printer manual for control codes to make graphic characters. Graphics usually mean sending out A LOT of numbers before you see much of an effect when you print the results. Normally, you enter the codes on a new line; in this case, you can send as many numbers as you want. If you're entering numbers as an embedded command, you are limited to 100 characters between the asterisks. However, you can use one embedded command right after another, so, by doing that, you can send as many numbers as you want. Numbers sent on a line by themselves will not recognize margin commands and will begin printing right at the paper's edge. Embedded commands will print from the place they're embedded, but will not justify with the text. You may also be able to get graphics using the `">g"` command, but this does not involve control codes.

ERROR MESSAGES

8. ERROR MESSAGES If Lazy Writer doesn't recognize a text command, it will print "ERROR" on the screen, along with the command it doesn't recognize. Then the printer will stop. The screen message will tell you if your number is out of range or if it just doesn't recognize your command. Error messages will not catch everything you think is an error. In case you get a result other than what you wanted, it could be because the command you used was valid, but not the correct command.

8.1 WRONG CASE A common error is entering the command in the wrong case. As of version 1.8, Lazy Writer will recognize upper and lower case on commands that are not separate commands in each case. For example, if you start a footer with `">f"`, Lazy Writer will read this as a form feed. But if you enter a "center" command in caps, Lazy Writer will execute it correctly since capital "c" is not being used for anything else.

8.2 NUMBER OUT OF RANGE You will also get an error message and

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the printer will stop if you give a width after "title" or "center" that is bigger than your page width or if you use too big a number after these commands (for example, if you entered "title 1000"). If you use a right margin command that would give a width of zero or larger than page width, you'll also get an error message. If a page width is redefined and other commands are not, you may be out of range, but not get an error message. In this case, "title" will be ignored.

- 8.3 HEADER/FOOTER NOT TERMINATED** Another error message occurs when you fail to terminate a header or footer. Lazy Writer will print a message on the screen when you go to print your text. However, don't depend on this; terminate headers and footers properly.

FILE HANDLING FROM THE PRINTER PROGRAM

- 9.1 FORMATTED SAVE (PRINT IMAGE FILE)** It is possible to save your formatted copy to disk so it will be stored in the exact format as the printer would print it. From the Printer Menu, press capital "S" and see the prompt "File Name Please". Give it a new file name, so you can save this version and retain your unformatted version as well. Then hit "ENTER". You will get the Printer Menu back. Proceed just as if you were printing to paper; press "ENTER" to print the whole file to disk.

CAUTION: you have an open disk file at this point. Do not attempt to use any other Lazy Writer or DOS function until your text is completely written to disk and the file is closed. Returning to Edit will always close the file. When saving a file in this manner, do not attempt to chain files.

You will see your text go by on the bottom of the screen, just as when you print, only the text is going onto disk, not to the printer. This can be useful if you want to print copy without using Lazy Writer. If the DOS you are using has a "print" command, you can use this to print the formatted file without the Lazy Writer program. The justified copy can help you create nice-looking files for listing or to use in a BASIC program. You can load formatted text back into Lazy Writer and do special editing, such as overwriting margin spaces, or putting headlines over narrow columns. Don't forget, the formatted file will have a carriage return at the end of every line. You should view the copy with a larger than normal video width to see how it will look on paper. To preserve the underlining and bold face in your text, use the ">g" text command.

Formatted saves are useful for "spooling", that is, sending material direct from disk to the printer, so your computer can be doing something else. Check your DOS manual for information on spooling.

It isn't possible to do a formatted save with chained files.

- 9.2 LOADING FILES FROM THE PRINTER MENU** If you want to load a file without going back to Edit, you can do this by pressing F1 or "CLEAR" and "BREAK", which loads the Directory and File

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Handler. You can load a new file over the old one in memory. The file will load from the cursor position, so if the cursor is at the top of file, loading a new file will wipe out the old one. If you have a header in memory before the cursor, it will print with the new file. You could also put the cursor at the bottom of file, load a new file, and print both together.

9.3 CHAINING (PRINTING MULTIPLE FILES) It is possible to load and print more than one file automatically. To do this, place the disk (or disks) with the files you want printed in your drives. Now create a "main file", which will contain any header or footer you want continued throughout the printing and the names of the files you are chaining. From Text Entry, enter the names of the files you want printed. Each file name must be preceded by ">" and an asterisk (or the word "chain") and must be on a line by itself. A list of four files you want chain printed would look like this:

```
>*budget
>*vendor
>*report
>*chart
```

You can preserve a header or footer such as page numbering if you've entered the header/footer preceding the list. You can make up one file that is the header/footer, load that into memory, type in the names of the files you want printed, using the format shown above, then go to the Printer Menu and begin printing. The printer will print the header, then your drives will come on and the first file will be loaded, then it will be printed, followed by the other files. Be sure you've left as many line feeds at the end of the file as you want between that and the next one. If you want each file on its own page, you must leave a form feed (">f").

For example, here's another possible main file containing a header:

```
>h/t75
HOW TO PLAN A COMMUNITY EVENT

>x
>chain budget
>chain vendor
>f
>chain report
>f
>chain chart
```

You can also put some text between chained files, but each file to be chained must be small enough to fit in memory with the main file. The main file (such as the one above) is usually very small, so this shouldn't be a problem.

PRINTING YOUR TEXT

There is an alternate syntax for chaining that was used in previous versions of Lazy Writer. With this method, you put the name of a file to be chained at the end of the text of the previous file. If you have a file called CHAPONE to be followed by CHAPTWO, you would load in CHAPONE and at the end of the text, put this command:

```
OK          >*CHAPTWO  
            > chain chaptwo
```

This must be on a line by itself, and be followed by a carriage return. When CHAPONE finishes printing, CHAPTWO will load into memory and print. You can do this with as many subsequent files as you want.

You can make the same heading print at the top of each page by entering a header as a separate text file, plus the name of the first file to print. From that point, the other chain commands can be at the end of previous files, as described above. Any headers or footers contained in the chained files themselves will print only in those files; they will not carry over to the next chained file.

The subsequent files will begin printing on the line just below the last file printed. If you want each file to start on its own sheet of paper, be sure you've put a "form feed" command at the bottom of each file before the chain command.

HEADERS/FOOTERS

Headers and Footers are text that print at the top or bottom of every page automatically from instructions you provide. The most common kind of header/footer is page numbering. Other kinds of header/footer are report titles, chapter headings, author's name and address, or an advertiser's message.

Headers and Footers each work the same, but a header prints at the top of the page and a footer prints at the bottom. Any example given as a header will work as a footer and vice-versa. The only difference is that the words printed in a header are figured into the number of lines on the page (the "n" - "number of lines" item on the main Printer Menu) and those in a footer are not.

Headers/footers are really printer commands and can be combined with other printer commands. You'll understand this better by studying the examples below.

PAGE NUMBERING

If you simply want to print page numbering on the top of each page, you would do so with the following header:

```
>h2/n2      this begins a header on page 2
page #      and begins numbering with page 2;
            numbers will appear at the
>X          left of the page
```

In the above example, "page" is a word you want printed and the "#" is the symbol that tells Lazy Writer to print a page number in a header/footer. The effect is that "page 2" will be printed at the top of the second page and numbering will continue from there. Since you have provided no margin command, printing will begin right where you've written "page #", that is, flush left.

"Page #" can be used in either a header or a footer, but if you're using both, then the numbering should be defined in the header. Use the ">n" to define numbering and use the "#" symbol to show where the number is to be printed.

There are three things to keep in mind with simple page numbering: what page you want numbering to begin on, what number you want to begin with, and where you want the page number to appear.

All headers begin with ">h" (or "H"); if there is no number after "h", the header will begin with current page. This value will usually be "one" since that is the default value when ever the printer program is loaded.

If you want to begin on a page other than the first, put the page number you want the header to begin with after "h" (for example, ">h5"-header begins on page five).

The "n" command is to indicate what number you want printed, beginning with the page you gave after "h". For example "h2/n1" would mean begin printing the header on the second page printed and start numbering with "page one". In this case, if you don't include "n1" you would get a page number "2".

Headers/footers are terminated with ">X" (or "x"). In the examples shown here, we've left an empty line between the last command in the header/footer and the ">X" terminator. The effect of this is to leave a line between the header and the page text below. You will get as many lines between header and text as you leave in this part of the

HEADERS/FOOTERS

header/Footer. It is important to terminate each header/Footer properly, or Lazy Writer will think the text below is still part of the header/Footer.

You will often want text, as well as a page number, printed at the top of each page. You will also want to use printer commands within the header to control appearance.

THE FOLLOWING ARE SOME EXAMPLES OF HEADERS WITH TEXT AND PRINTER COMMANDS:

```
>h2/n2
>title 60
page #
```

>X

This is just like the previous example, except that we've added a "title" command to center the page number on each page.

```
>h/n2/t62
page #
BUDGET REPORT
```

>X

Here we've added text to the basic header. The words "BUDGET REPORT" will be centered under the page number on each page.

```
>h/n2
#
ABOUT OUR EXHIBITORS
```

>X

The effect of this header is to print a page number (without the word "page") at the left side of each page, with the words "ABOUT OUR EXHIBITORS" below. The header begins on the first page and page numbering begins with "2".

```
>h2/n6
>title/bold 4
page #
HISTORY OF VERNOR-SPRINGWELLS:
A COMMUNITY OF THE OLD INDUSTRIAL AGE
>bold off
```

>X

In the above header, we've added a "bold" command to make the page number and the text bold face. It's ok to use a long title like this one. There is no limit on how much you can put in a header, except the length of the page.

HEADERS/FOOTERS

```
>Footer
>bold 3/d2/u/center70/indent 10

#
for all your art supply needs, call mad michael
the discounter for starving artists
remember our toll free number ** 1-800-222-3456 **
>bold off
>X
```

The above Footer will print at the bottom of every page of Mad Michael's catalogue. The text will be bold face, double-spaced, and all upper case.

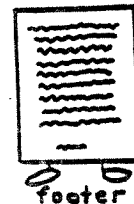
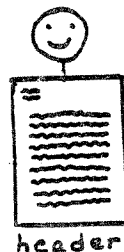
*** NOTE: The lines of type used by a Footer are not included in the page lines count, so a long Footer like this might mean reducing the number of lines per page from the main Printer Menu. Also note the position of the extra linefeed/carriage returns in the Footer above. In a Footer they should be at the top of the Footer to separate the Footer from text.

You can, if you wish, use both a header and a Footer in the same document. You might want the report name printed at the top and the page numbering printed at the bottom. Page numbering is defined in the header. You would do that like this:

```
>header/number 23
>title
ARTIST LIST
```

```
>x
>Footer
>title
page #
```

```
>X
```



If you want a header to stop printing at some point in your text, you can use the command ">header off". New headers and Footers can be created after form feeds. You may want the same Footer, but new key words printed ("Chapter Two" instead of "Chapter One", for example). Define a new Footer after the ">form feed", with the new words; you can continue the numbering by not defining a new "n" value.

```
>form feed
>h/t70
```

```
CHAPTER TWO
```

```
>X
```

OR

```
>formfeed/header/t70
```

```
CHAPTER TWO
```

```
>X
```

NOTE* : If you want to start on the page immediately after the form feed, the header must be right after the formfeed with no lines in between the header and the formfeed.

HEADERS/FOOTERS

When printing most documents, we position the printer exactly where we want the text to start and print, but headers and Footers can be used to position text on the page more precisely. For example if your page length is 66 lines, and your title should start four lines from the top and you want a footer one line after the text. You could do it with this:

```
>h/title 70
```

```
The Sex Life of a Computer  
or  
Interface and the Single Chip
```

```
>X  
>Footer
```

```
Page #  
>X
```

Now you set your printer up starting at the top of the paper. If you want four empty lines at the bottom of the page, subtract four from 66. Also subtract the lines the Footer will use, or two from 62 leaving 60. Sixty is the number to use for the menu item "number of text lines" to get the results you're after.

ODD-EVEN

Lazy Writer also has a provision for printing a header/Footer on odd only or even only pages. Why would you want to do this? Look at the pages of this book. When you have printing on both sides of paper that will go in a binder, you need an offset on the left side on odd pages (starting with page one) and on the right side (beginning with page two) on even pages. You need this offset on the entire page, not just the text of the header/Footer. Look at the page numbering in this book. On odd pages, the numbering is flush right; on even pages it is flush left. You need some way of instructing your printer to produce this result. You do this by way of an "Odd-Even" Footer.

The "a" command (absolute margin) will provide an offset on the left side of the page (needed on odd pages), but not on the right. You can get the offset on the right by use of regular margin commands. If you are going to be using only part of the paper (because you don't want printing too close to the holes), then you use a ">p" (page width) command that reflects the actual width you'll be using. Then, when you use ">a0" for even pages, the printer will use only the portion of the paper you've told it, creating, in effect, an offset on the right.

To create that page numbering flush right on odd pages and flush left on even pages, use a Footer with different margin commands for odd and even pages. You can use the ">m" command to shove the text to the right however many characters you want. Using the same ">center" command that you're using in text will cause printing to start at the left margin. Or, you can use the ">S" command to "spread" the words the way you want. See the second example, below.

HEADERS/FOOTERS

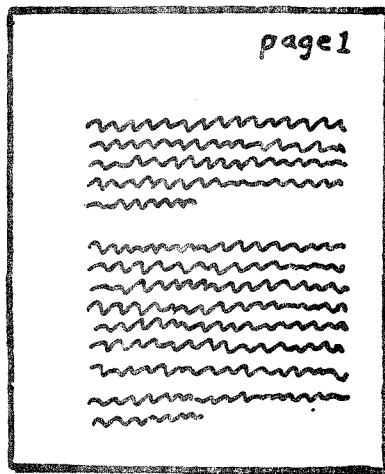
The following header will make odd-even page numbering. The illustration shows the result.

```
>header
>Odd / absolute margin 10 / margin 70
page #

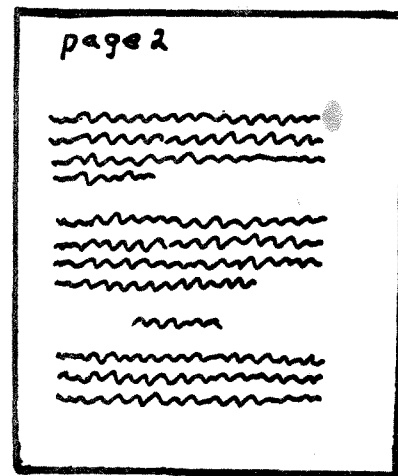
>Even / absolute margin 0/ margin 6
page #

>X
```

ODD PAGE



EVEN PAGE



The following is an example of how we made the headers and Footers in this manual:

```
>h
>t75/b4
>Odd/a10
HEADERS/FOOTERS

>Even/a0
HEADERS/FOOTERS

>X

>F

>Odd/S
Page 8-#
>S off

>Even/c75
Page 8-#

>X
```

HEADERS/FOOTERS

Note that in the above example the ">S" command is used to move the page numbering on odd pages. This requires leaving a space in front of the word "Page" and locking with a mandatory space "Page" and "3-#". This moves the whole thing over to the right for a flush right margin. Also notice that we've used ">S off" to terminate this. If you forget the ">S off", this command will affect the text below and you'll see some strange results. For even pages, we've used the same "center" command that we're using with our main text. The "center" command begins printing at the left margin, so this command will insure that the even pages have flush left page numbering.

In this case, because we're printing with proportional spacing, we've given a ">page 94" above the header/footer commands. This is a bit smaller than the actual page width to allow for the offset created by ">a". With 10 character per inch monospacing, your page width would be about 84, the default. If you were going to use an offset, you might want to try a ">page" command of about 75.

NINE: FORMATTER

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FORMATTER

FORMATTER is a very handy tool if you're writing text that will run more than one page. The purpose of FORMATTER is:

1. to show you where your lines and pages will break when printed out.
2. to provide easy hyphenation at any column width
3. to show you any errors you've made in printer commands before you print
4. to provide you with a word and character count.

The FORMATTER program is called FT on your Lazy Writer disk. This file must be on your disk to use FORMATTER. Just press F2 or "CLEAR" "ENTER" to get to the FORMATTER Menu.

FORMATTER MENU

Word Count	_____
Last Page No.	_____
Bytes	_____
Characters	_____

PRESS <KEY>

- (f)ormat the text
- (e)dit - return to Edit
- (d)eformat file
- (i)ndex - create index file
- (h)yphenate file
- (a)uto hyphenate - for use with "EW" hyphen option.
- (p)age - set cursor to page top
- (n)ext chain file - do next chain file or rest of text
- (r)estore main text

YOU GET TO THIS MENU ANYTIME BY PRESSING F2 OR "CLEAR" AND "ENTER" FROM EITHER EDIT OR FROM THE FORMATTED TEXT

The top items give you some information about your file. The word count is an actual count, counting groups of characters; this will help authors who must provide their editor with a word count. The "last page number" will be incorrect until you've actually formatted your text; until then it will show "1". "Bytes" and "characters" will not be exactly the same, since the "bytes" item also counts control codes, such as line feeds.

You now have the options listed after "PRESS <KEY>". To format your file, press "f". If you press "e" to go back to Edit, your file will return to the screen as before. You don't need to press "d" until you've formatted your file and want to "deformat" it to return it to the way it was before. Normally, you only want to deformat after you've viewed your file formatted. The "i" option is discussed later in this section under the heading, "Index Maker". If you press "h", you'll be given an opportunity to add hyphens to your text. The "a" option is used with

FORMATTER

Electric Webster. This option is discussed later in this section under the heading, "Using Lazy Writer With Electric Webster Auto Hyphenation". The "page" command lets you enter a page number and have the cursor be at that page number when you return to Edit. The other two options have to do with formatting chained files.

Normally, what you'll do at this point is press "f". Your text will then format to the width you've chosen in your margin commands. A prompt on the screen says "file formatting". When it's through formatting, press "e" to go to Edit and view your text in its formatted width. If you've used ">center45", for example, you'll now see your text at this width. You can now scroll through the text and see where the pages will break. The page breaks will be marked with a large bar across the screen. If you want to go right to the page breaks, press CLEAR down arrow. You move back up through your text with CLEAR up arrow. The cursor will go right to the bottom of the preceding page number. You can use all normal cursor movements to get to any part of your text as well.

TO GO TO PAGE BREAKS:

** SCROLLING DOWN, PRESS "CLEAR" DOWN ARROW

** SCROLLING UP, PRESS "CLEAR" UP ARROW

PAGE BREAKS ARE MARKED WITH A LARGE BAR ACROSS THE SCREEN

WHAT FORMATTER DOES

What you will be viewing is your text with each line in the width it will have when it is printed. If you're using a short width, such as 30, your text will appear in that width, using only part of the width of the screen. However, if your text is wider than the screen width of 64 or 80, your text will wrap around to the next line on the screen. You may use the "video width" editing feature with your formatted text to set a wider video width for the screen. This will cause a mark to be printed at the end of each line. The advantage to this is that you will not confuse the place where the line is wrapping around with the actual end of the line. Just set "video width" to the widest text width used or larger. For example, if you know you have nothing wider than 80 characters, you could set video width to 100. Set video width by pressing the "v" key and answering the prompt. More information on video width is in section 15.1 of this manual.

Indented lines will appear in the correct width, but will not be indented on the screen, as they will be when printed. Of course, your text will not be justified on the screen either. If you print the text justified, the lines will be the same as on the screen, but they will be stretched so they line up on the right margin. FORMATTER puts simulated carriage returns into your text at the place where each line will break when printed, so the last character on the screen in each line will be the last character printed on each line, whether you choose to print justified or unjustified.

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Remember, FORMATTER is using the printer commands YOU'VE provided in figuring the width of each line. It is perhaps most obvious if you've used a ">center" or a ">width" command, but this principle is true if you've used a ">left" and ">right" command too. With ">left", ">right", or ">margin", you might not know what the width is; that doesn't matter! FORMATTER knows your text width, and will use it when formatting your text. If you have no printer commands at all in text, then your text will format at the values currently set on the Printer Menu. If you are in doubt about these values, go to the Printer Menu first and check. You may have used CHANGE LAZY WRITER to create custom defaults; then these will be the ones used in formatting.

The text you'll see in formatted form will contain all printer commands you've entered. However, these commands are not counted when figuring the line count. Only text that will print to paper will be counted in determining page breaks. So, you may use any printer commands you usually use, including embedded commands, and these will not "throw off" FORMATTER.

Your entire file will appear on the screen, but header/Footer material will be on the screen only once; but headers and Footers will print on each page and are figured into the line count by FORMATTER. If you plan to add a header later, that will alter your page breaks. Adding a Footer later will not change anything, since the lines of a Footer are not figured into line count. If you know you are going to add a header later and you know how many lines that header will be, you could use an ">N" command that is short the number of lines of the header, then change the ">N" command later. For example, if you plan to do your final printing with 60 lines per page, using a three line header, you could use ">N57" to format your text now, then put in ">N60" after you've added the header.

Although you can view your text at any width from Edit by using the "video width" command, FORMATTER gives you much more capability. With "video width", you'll see your whole text at the one width you've selected. FORMATTER puts your text in the various widths you may have throughout your document. FORMATTER also takes into account any embedded commands; these will appear on the screen in the formatted text, but the line will appear as it will print, minus the embedded command. In other words, that line will look longer on the screen because it has an embedded command, but the last word in the line will be the last word in the line when it prints.

EDITING YOUR FORMATTED TEXT

Your next task is to determine if the page breaks come at appropriate places. If, for instance, you have a title over one section of your text and you see that title is going to print at the bottom of a page, you will surely want to move it to the top of the next page. What you do now is add a line feed before the title so it will be moved down to the next page. Do this by moving the cursor to the line just above the title, now press "i" to get into "insert"; press the down arrow key to add a line. You will not see any effect of this right now - the bar will stay where it

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is. The change you have just made will affect the paging of the rest of your text. At this point, you may want to press F2 (or "CLEAR" "ENTER" on the Model I or III) again to get back to the FORMATTER menu. Now press "f" again to reformat the text, with the change you just made (adding a line feed).

In general, add extra lines at paragraph breaks, if you can. You may also consider breaking a long paragraph into smaller ones as a way to affect page breaks. Simply put the cursor after the period of the sentence you want to be the last in that paragraph, go into "insert" and hit the down arrow key. You've made a new paragraph. Sometimes you may want to move down a line within a paragraph. Here you'll need to do more than insert a line feed at the end of a line. There's already a "soft" carriage return at the end of that line put in by Lazy Writer. If you move the cursor to the space at the end of a line and insert a down line feed by pressing the down arrow, this will make no apparent difference when you reformat. You would need to insert TWO down line feeds to create a new empty line. You can check where you have hard carriage returns by pressing the ";" key. Carriage returns are marked by down arrows on the Model I and by hearts on the Model III.

Use all the normal edit commands to add spaces, delete spaces, or put in forced form feeds (">f"). A forced form feed is another way to make pages break where you want. If, for example, you have a chart of tabbed material on one page, then more text below, you may decide you want that chart to be the last thing on the page. Put a ">f" below the chart to achieve this. The effect will be to have a lot of white space below the chart, and the following text to begin on the next page. Forced form feeds are good mainly in situations like this, where you want one page to contain less text than the others. You can even get pages with nothing on them but a header or Footer by putting ">form feed" at the page break. This will give you one blank page. If you want two blank pages, put a line feed (which you create by going into "insert" and pressing down arrow) after the ">form feed", the put another ">form feed". It would look like this:

>f

>f

It is a good idea to look at your file again in its formatted form each time you do any editing to be sure of the effect your changes made. If you don't like where the pages will break, do some more editing and keep checking until it comes out the way you want. Once you're sure your print-out will be as you choose, go to the menu and press "d". This deformats the file and returns your text to its normal screen appearance. You should also know that inserting and deleting will look a bit different when used with formatted text because of the simulated carriage return at the end of the text. Changes will remain on the same line, but the lines may be altered when you reformat. So, reformat after you've made any insertions or deletions to see what the effect will be.

YOU MUST DEFORMAT YOUR TEXT BEFORE PRINTING.

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You are now ready to print your text, which will print as you saw it on the screen. Just go to the Printer Menu in the normal way (F3 or "CLEAR" "P") and print.

HYPHENATION

Another option you have from the menu is to hyphenate your file. You will mainly want to do this when you're printing in a narrow column, but you may elect to hyphenate every file, if you wish. Press the "h" key and you'll be presented with a prompt:

PLEASE ENTER RANGE (NUMBER OF CHARACTERS SHORT)>>>>

You must now enter a number that represents the number of characters short of a full line. Generally, you'll want to enter a 5 or 6 here. You will be shown the short lines, as well as the longer line below that contains the word you could hyphenate. You will then have the option of adding a hyphen or leaving the lines as they are.

Once you've entered the number, you'll get a new screen that looks like this:

SHORT LINE

first instance that has an

WORD TO HYPHENATE

opportunity to hyphenate to improve text appearance

Now you should decide on the basis of good grammar and appearance whether to hyphenate this word. The cursor can be moved to the left as you select where to place the hyphen. The cursor will not go further right than the last opportunity to hyphenate. When you choose the right spot, place the cursor on the character just after where the hyphen should go, and press the "-" key. If you decide you don't want to hyphenate press ENTER. Now you'll be presented with the next instance; do the same thing and keep going until you're done. You'll be back at the menu.

REMEMBER, TO ADD A HYPHEN, PRESS "-". TO LEAVE TEXT AS IS, PRESS "ENTER".

Once your text is hyphenated, you'll be back at the FORMATTER menu. It is best to press "e" again to check page breaks one more time. Hyphenating can affect line breaks and page breaks. If everything is as you want, go back to the FORMATTER menu and press "d" to reformat the text before printing it. Remember, the hyphens will look odd on the screen because the deformatted screen display and the way the text will look when printed are not the same. If you do some more editing, the hyphens will be in the wrong places, so you'll have to hyphenate the

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text again. When you go to the FORMATTER menu and press "h" again, this will delete all old hyphens including any added from Edit. Only "soft" hyphens will be affected (those added from Edit or from FORMATTER), not "hard" hyphens (those typed in normally from "insert" or Text Entry, such as those in words like "well-being"). You may also delete these hyphens by the regular methods described in the EDITING YOUR TEXT chapter, section 15.3.

You may occasionally get a situation where you want to place a "soft" hyphen where you now have a "hard" hyphen. If you just put in a hyphen with FORMATTER, you'll get two hyphens when you print. What you must do is either add the "soft" hyphen, then go back and delete the "hard" hyphen, or go back to your unformatted file, delete the "hard" hyphen, then go back to FORMATTER and hyphenate, putting in a "soft" hyphen in that spot.

If you want to do another check of how your text will look, use the "video width" feature in Edit. If you're going to print at 80 characters wide, use a video width of 61 to view your text. To do this, press "v", then enter "61" after the prompt. In this example, you'll now see your text on the screen to show a text width of 80 and you'll see the vertical bar on the screen showing each end of line. The hyphens will be in the correct places now. Of course, if you've given a text width of 70, then view your text at a video width of 81, the hyphens will NOT be in the right place; they'll be in place for a width of 70, not 80.

PAGE OPTION

If you select the "(p)age" option on the FORMATTER menu, you'll be prompted to enter a page number. When you return to Edit, the cursor will be at the top of that page. If you're using chained files, the files will be called into memory and formatted to find the page you've indicated. If you return to Edit once the page is found, the correct file will be in memory.

Remember that the program looks for the actual page number, not a relative count. In other words, if your text starts on page 45, don't ask it to find page 2.

ERROR MESSAGES

When your text is being formatted, FORMATTER also looks for any errors you've made in your printer commands. Lazy Writer error messages are discussed in the PRINTING YOUR TEXT chapter, section 8, "ERROR MESSAGES". When you've formatted your file, then pressed "e", the screen will briefly flash the command in error on the screen, then return your unformatted text to the screen with the cursor on the offending command. You should fix the command, then attempt to format your text again. FORMATTER will catch any errors in printer commands that are in your text.

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SAVING YOUR TEXT

It is best to save your text in its deformatted form. However, you may save formatted text, if you wish. If you do that, it will load back into memory in its formatted form. You can then deformat it from the FORMATTER Menu.

One word of caution. Do not confuse formatted text created by FORMATTER with text created by the Formatted Save. Formatted Saves are accomplished from the Printer Menu and are not the same things as formatted text. Formatted Saves have been part of Lazy Writer since before FORMATTER was added, and the confusion of names is unfortunate. What Formatted Save does is write a disk file of text in exactly the same form it would print. This is useful if you want to send a text file to someone who does not have Lazy Writer. He can print it from a DOS print command, and it will print just as it would with Lazy Writer. Formatted Save creates a disk image print file, whereas FORMATTER formats the text according to line and page breaks. With a Formatted Save, you cannot change your text back to its regular appearance, but with text formatted by FORMATTER, it can always be deformatted from the FORMATTER Menu.

WHEN TO USE FORMATTER

FORMATTER works with normal spacing (monospacing) and will not work correctly with proportional spacing. Proportional spacing requires a custom FORMATTER to work with the specific print driver.

FORMATTER counts characters, and works independently of the number of characters per inch (c.p.i.). Many printers can print at more than one c.p.i. The common ones are 10, 12, and 15. If you need to know the characters per inch, you can figure that out from the c.p.i. you're using. If you want a two inch column and you're printing at 10 c.p.i., you'll want a 20 character width. Format with ">c20" or ">w20". Some printers also let you alter the number of lines per inch, or the amount of words you fit vertically on a page. Normal is 6 lines per inch. Adjust for this with the ">N" command. If you're changing from 6 lines per inch to 8 lines per inch, you can add more lines per page and take up the same amount of space.

You do not need to use FORMATTER on every file. If your file is less than a page, you don't need FORMATTER unless you just want to see where lines will break or use the hyphenation feature. Even if your file is longer than a page, you may not care where the pages break, so you won't need to use it. Generally, use FORMATTER when you have a long file and the final appearance is important. Increasingly, people are preparing camera-ready copy with their word processor and having control over the final appearance is crucial. If you're printing a newsletter, a long report, ad copy, a book manuscript with extensive titles and subtitles, scientific or business reports utilizing charts and illustrations, you'll want to use the power of FORMATTER to simplify your task.

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Also be aware that the format-deformat process will remove underlining from the blank space at the end of a line. This has no effect when you print, but it might show up if you later print at a different width and you had extensive underlining. You might see some breaks in the underlining.

CHAINED FILES

You may use chained files with FORMATTER. If you plan for one to begin printing where the previous one left off, you'll need to format them together. If each file is to begin on its own page, that's simpler since the formatting of one should not affect the formatting of the others. Just format each file separately.

Formatting files that are to be printed continuously is a cumbersome process. It takes a while, but is better than the time and waste of paper involved in printing your text to check page breaks. To format chained files, first set up your "main text" file like this:

```
>h/t60  
COMPUTER SEX APPEAL
```

```
>X  
>F
```

```
PAGE #  
>X  
>*chapter1  
>*chapter2
```

The header or Footer goes first, then the file names, preceded by ">*" or ">chain". Now press F2 or "CLEAR" "ENTER" to get the FORMATTER Menu. When you press "f" to format, you'll see the message "Chain File - FILENAME". The first file ("chapter1") will load into memory and format. Once the first file is formatted, you can go to Edit to view it and make any changes you want. You should then go back to the FORMATTER Menu and deformat. Then save your file with the changes you made to disk.

Now go back to the FORMATTER Menu. Press "f" (or "n") to begin the formatting process again. The first file will load and format. When you get the "File Formatted" message, press "n" to load the next file. Now you can press "e" to go back to Edit and view that file, make any changes, go back to the Formatter Menu, deformat, save, etc. Pressing "r" will restore your main text file (the file containing the names of the files to be chained).

HERE'S A SUMMARY OF THE STEPS INVOLVED IN CHAIN FORMATTING:

- 1) Enter your "main text" containing the header and Footer and the list of files to be chained. Save this file to disk in case you need to reload it later.

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- 2) Press F1 or "CLEAR" "BREAK" to go to the FORMATTER Menu.
- 3) Press "f" to format. The first file will load into memory and format. You'll see a prompt that says "CHAIN FILE - FILENAME" and get a message when the file is formatted.
- 4) Press "e" to go to Edit. View your text in its formatted form; make any changes.
- 5) Go back to the FORMATTER Menu. If you've made changes, press "d" to deformat the text. The text will return to the screen, unformatted. Save it to disk. If you haven't made any changes, omit this step. It is important to save the file with the changes, since FORMATTER will have to read through the corrected version in order to correctly format subsequent files. Go back to the FORMATTER Menu again.
- 6) Press "f" or "n". The first file will load and format. Once it is formatted, press "n" to load and format the next file. (Note that in order for you to see the second file, the FORMATTER must read through the first file again.) When you see the message "File Formatted", press "e" to go to Edit. You'll now see your second file in its formatted form. View it and make any changes.
- 7) Go to the FORMATTER Menu again. Press "d" to deformat the file. This will return you to Edit, with your unformatted second file on the screen. Save it to disk if you've made any changes.
- 8) Repeat the process for as many files as you have. Remember, the FORMATTER has to go back to the first file each time and read through all preceding files before getting to the one you want to see. If you make changes and want to check the effects, you need to go back to the beginning and look at each file again.

It is possible to make your changes and save the corrected files without deformatting, but you would have to deformat them before printing. Once you are satisfied with the way the files are formatted, restore your main text to the screen by pressing "r". Or you can just reload it from disk. With that in memory, go to the Printer Menu and you're ready to print.

TRICKS WITH FORMATTER

FOOTNOTES - Once you know where the pages will break, you can add a footnote via a Footer that prints only on that page. Define the Footer at the top of that page, then shut it off at the top of the following page with "Footer off". This works best with fairly short footnotes. If you're using a dot matrix printer capable of compressed type, you can put the control codes into the Footer for the smaller type, enter the Footer contents, then use the code to shut off compressed type, then terminate the Footer with ">X.

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You could also simply insert the material for the Footer at the bottom of that page, reformat to make sure it will print as the last thing on that page.

DOUBLE COLUMN ON A PAGE - If you have a printer capable of rolling back the carriage to the top of the page, you can use FORMATTER to check your page breaks in the column width you need, then use an "N" command to reflect the length of two columns. Let's assume you want two 40 character columns with a length of 50 lines to print side by side on a page. First, check page breaks at a width of 40 and a length of 50 (>w40/N50). When you've got the material arranged as you want it, then add a command at the end of the first page to roll the printer back to the top of the page. Now, change your ">N" command to ">N100. Also change your margin commands so text will begin printing past the center of the page. The effect should be two 40 character columns of 50 lines each printed side by side.

TECHNICAL INFORMATION

For those of you who are programmers and want more information on what's happening when you format your text, the following information should be helpful.

FORMATTER figures the line breaks and changes the space at the end of a line from a 32 to a 11 or if it is a break to an 11 + 128. If the page breaks at a user carriage return (at a paragraph end), then the high bit is set on the 10 or 13 byte that represents the carriage return. So the page break is marked by a decimal code 13 + 128, 10 + 128, or 11 + 128. The 11 code is treated like a carriage return by the Lazy Writer video routine, but the system can find and remove it when deformatting.

INDEX MAKER

If you select the item "(i)ndex file creation" found on the FORMATTER Menu, you will be able to create a list of key words and their page numbers - an index.

However, do not use this item until you have marked the words you want to be in the index from Edit. You can use the FORMATTER as described in the previous pages of the manual and just ignore the Index feature, if you have not prepared your text for indexing.

Use the Index feature when you are creating a document that people will be referring to more than once. The Index Maker will pull key words out of your document and create a file containing the key word and the page it appears on. This can be used to generate a standard index, as you see at the back of the Lazy Writer Manual, or could create a Table of Contents to use in the front of your document. The Index Maker will not always produce an index in finished form, but it is a tool to help you do an index in a lot less time.

First, load into Edit the document for which you want an index. The next step is to mark the words in your text that you want to be in the

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index. Do this by underlining the desired items. In case you already have words underlined in the file which you don't want in the index, do a global removal of underlining by pressing "d" then capital "U". Now, scroll through the file and find the words you want to be in your index. Underline them. The simplest way is probably by placing the cursor on the first character of the word and pressing "u" to move the cursor through the word. You can check which words are actually underlined by pressing ";" in Edit. This will put the underlining on the screen.

If you want more than one word as an index item, be sure you continuously underline the entire word or phrase. For example, if you want to index "graphic blocks", the underlining should be continuous through both words. If there's a break in the underlining between "graphic" and "blocks", these will be indexed as two words.

You could use an X-key to do your underlining for you. Compose the command to "turn on" underlining with CLEAR + "u", space bar or "w" for "move cursor by word", and "turn off" underlining with CLEAR + "u" again. By combining this with the Find feature, you can search for all instances of a word and automatically underline all of them.

You may want to save the text file with the underlining to a new file name, in case you think you might want to redo the index later. Once you have all words you want in the index underlined, you can run the FORMATTER. To get to the FORMATTER, press F2 or "CLEAR" "ENTER". When you get the menu on the screen, select the "Index File Creation" item. You will get another prompt:

Enter Width of Index (6-127)

This lets you control the appearance of your final index. You can have it match your normal margins or print it narrower. For example, if the index is to accompany a document printed at a text width of 50 characters and you want the index to have the same margins, enter 50 in answer to this prompt. An index file with a width of 50 will look like this:

```
insert.....10
TRS-80.....13
graphic blocks.....14
```

The number of dots between the key words and the page number is controlled by the width you select.

Next you will get a prompt to save the newly created index. You will see

Enter File Name

Make up a file name different from your main file. The file you are creating here will contain your index. If your main document is called SALES, you could call the index file SALES/DEX. Or you could simply call it INDEX. Whatever you call it, it is a regular Lazy writer file and you can load it into Lazy Writer to view it. Index files are printed to disk in standard case. Print it normally.

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The index you generate will contain the words and the page they appear on. They will simply be in the order they appeared in your document. For a finished index, you may want to sort them alphabetically and combine identical items. You can use Find to search for identical items and block move them to one location, then combine the page numbers into one item. To sort alphabetically, you could use any BASIC sort program. You could also do it yourself via block moves. Once sorted, you can append the index to the document file and it will print as the last part of your document. If you want it on a page by itself, just leave a form feed (>f) above the index.

To append files, just load the document file, put the cursor at the end of that file, then load the INDEX file. Now save them out by the file name for the document. This way the document and index will print together.

If you will be printing chained files, you can index them together by marking each file for indexing, saving each file to a new name, then leaving a chain list (as described in section 9.4 of this manual) on the screen and running the Formatter. Select the Index feature. The indexer will load in each file and the index will be prepared from the marked items in all files on the chain list.

There is one potential problem you may encounter if you are using a dot matrix printer. If you have words in the middle of paragraphs underlined so they can be printed double-wide, these words (because they're marked with underlining) will show up in your index. You could remove the underlining, but this could throw off the page breaks, since double wide words take up twice as much space as normal words and this affects line breaks which affects page breaks. If you do leave the double-wide words there, be sure you embed a ">D off" right after it to insure that the Formatter doesn't read all the words you underlined for the Index Maker as double-wide. It might be best to let the double-wide words appear in the index, then delete them if you don't want them there.

FORMATTER

USING LAZY WRITER WITH ELECTRIC WEBSTER AUTO HYPHENATION

Electric Webster is a fine spelling checker that works as an extension to Lazy Writer. When you buy Electric Webster, you have the option of getting an automatic hyphenation feature with it. Since many Lazy Writer users also use Electric Webster, we offer you a way to use the Electric Webster hyphenation feature as an alternative to the normal ways Lazy Writer hyphenates.

After you have your working disks made up according to instructions provided by Cornucopia Software, here is how to use the hyphenation feature:

1. When you get the prompt from Electric Webster letting you choose Y/N for hyphenation, press Y for "yes". When you get your text back on the screen, go to the Lazy Writer FORMATTER extension (press F2 or "CLEAR" and "ENTER" from Edit or Text Entry). You will note one item on the menu is "(a)uto hyphenation". Press "a" to use this item. You'll see the prompt "File Formatting" on the bottom of the screen. If you press "e" for Edit to view your text, you will find ampersands (&) left in the text. These have been left there by Electric Webster.
2. Next, go to the FORMATTER menu and press "d" to deformat your file. When you view the deformatted text, you'll find the ampersands are gone, but hyphens are now in the appropriate places. When you print your text, it will have hyphens.

LIMITATIONS

While this works easily and is automatic, there are some limitations to using it. You will have a problem if you edit the text after you've run the auto hyphenation. If you change the text width, for example, you can go back to FORMATTER and reformat to see your page breaks, but running the auto hyphenation again will not put in new hyphens in the correct places. It will remove the hyphens and replace them with space. Similiar mishaps will occur if you add or delete words. You would have to run Electric Webster again and then go back to the FORMATTER and repeat the whole process again if you do any editing.

It is obviously best to go Electric Webster only when you're finished with that text and will not be doing any more editing.

TEN:

PROGRAMMER'S NOTES



PROGRAMMER'S NOTES

by David Welsh

Lazy writer was written by a lazy writer for writers who find writing interesting or necessary but who hate typing and especially for those who hate retyping.

Lazy Writer started as a little word processor to help document other programs I had planned to write. The first 1000 bytes turned out well and I mistakenly thought I could knock out a nice little word processor in a few weeks. A few months later we had a pretty good word processor that just needed a little polishing here and there. About a year and a half after that, we had something that I thought we could go to market with. If I had to do it again, I would have waited a couple of more months. (It might have cut down on free updates.)

Someday, I'm going to write those other programs that Lazy Writer was going to help me document.

Living with Lazy Writer has been a little like getting a monkey for a pet and then finding the thing has grown up to be King Kong.

The main reason that Lazy Writer has grown in capability is that people are constantly confronting me with text. In early 1979, my wife Theresa, who wrote this manual, got involved in organizing a neighborhood art fair and ended up as chairman of the event. This produced a pressing need for letters, flyers, forms, agendas, lists, news releases, radio/TV announcements and a 14 page booklet on the neighborhood. Lazy Writer was our only hope! Theresa has selected some of her art fair material to use as examples in this manual.

Theresa initially wrote most of this manual on a TRS-80 Model 1 without a lower case modification and only one disk drive, but we've since provided her with better equipment. Theresa made the current revisions with a Model 4P that goes between home and office.

This manual was itself prepared using Lazy Writer, Model I, Model III, Model 4P TRS-80s, a Max-80, and Qume Sprint 5 or C. Itoh F10 printer and our proportional printing module using a THESIS WPS daisy wheel.

Other printers and wheels also contributed. Some of the headlines and art were done with a remarkable extension to Lazy Writer written by Don Elmore, LAZYFONT.

Lazy Writer has been on the market for almost five years (as of Fall, 1985) and we've gotten lots of reaction - and help - from users. There have been many revisions to the program...not counting some bug fixes and minor changes to extensions...all aimed at correcting problems and increasing utility. The version we have now is a major upgrade from the original. There are now 80 character versions for the Max-80, Model 4, and the Model III with the Holmes Vid-80 board. We plan an MS-DOS version and a CPM version. There will continue to be revisions to make the program more useful and helpful. Registered Owners are special people and we plan to keep them informed of what we are doing.

PROGRAMMER'S NOTES

Upgrades to the main programs in the Lazy Writer system described in this manual will be provided at reasonable cost. We have added special printer programs that support specific printers with proportional spacing and more are in the works. They are at extra cost, but they are worth it. We have also added extensions for special purpose applications and we'll be adding more. You will be seeing announcements of these in our newsletter. Extensions also cost something, but you only need buy the ones that extend Lazy Writer in the direction you want it to go.

For people who want to write their own extensions to Lazy Writer, we make it easy. (OK, not easy, but possible.) To get things rolling, the pointers to the Lazy Writer buffer are:

START OF BUFFER:

Mod I = 40A4H, Mod3 = 7EFAH Model 4, TRSDOS 6 = 3006H

END OF CURRENT TEXT:

Mod I = 40F9H, Mod3 = 7EFCH, Model 4 TRSDOS 6 = 3004H

CURRENT POSITION:

Mod I = 40A2H, MOD3 = 7EFEH Model 4, TRSDOS 6 = 3002H

The MAX-80, "4+3", and VID-80 version pointers are the same as Model 1.

To load a program into the overlay region that EDIT/CMD occupies, have it ORGed above 64D0H and POP HL twice coming into the program. A RET will reload EDIT/CMD or LPNT/CMD as the case may be. The overlay area ends at 7CC0H on the Model I & III. The overlay area for the Max-80 and Model 4 (TRSDOS 6) versions is 5200H and ends at 7000H.

The overlay area for Model 4 "4+3" 80 character version is 6A80H and ends at 8500H. In the 64 character versions, Lazy Writer uses the TRS-80 cursor location to point to the cursor and expects it to be pointing above the last two screen lines on return. Lazy Writer I/III and "4+3" load code down to 5233H, but use bytes below that for additional tabs in the tab list. The first page on two of memory contains storage locations and jump vectors into the core program. I have always intended to document and publish what's there, but so far haven't found the time. The corresponding area in the Max-80, Multidos special version are at 900H+100D. In the TRSDOS 6 version it's at 3800H+100D. We can't, and I repeat CANNOT debug anyone else's code.

Each copy of Lazy Writer sold has its own serial number. You see your serial number on the initial screen, but it is also buried in the program...in several ways. This is one of our attempts to cut down on software piracy. We plan to support our registered owners, but can't do this if the program is pirated to the extent that we can't make any money. Updates and newsletters cost us money, but we are providing continuing service because we believe in our product and in our customers. Your satisfaction with Lazy Writer is our best advertising.

But don't hurt us by giving the program to your friends. Let them buy their own copy.

PROGRAMMER'S NOTES

Lazy Writer has been out in the field long enough that we hope it's fairly bug-free, but nothing as complex as this program is ever perfect. If you find what you regard as a bug, let us know about it. A good "bug report" should include the exact conditions under which the problem occurred. Bugs can be the result of hardware problems as well as faulty software. If you have a system that reboots all the time or issues constant "disk errors", Lazy Writer will not repair your computer. Some "bugs" are also the result of misunderstanding how the program works.

We've tried to improve the explanations in this manual to reduce "user error", but even the manual can't help you if you don't read it. Theresa uses letters we've gotten from users in rewriting the manual. If there are still areas of misunderstanding, let us know. We'll try to make it clearer in the next manual revision.

Our ability to respond to your letters and phone calls depends on our staffing and fiscal health at any given time. In the last year, we've become parents (after 17 years of marriage). Our daughter's name is Amy Ruth. Amy is not old enough to handle technical questions yet, and her mother's free time has been greatly contracted. So technical help is in the hands of the office staff and myself. The quality of the answers will vary with who's currently available. I try to keep Thursdays free to answer phone questions and work on mail about Lazy Writer and Multidos (which we also sell).

If you should encounter some problem in the editor, try doing a "top of text" cursor move "shift up-arrow". This resets most parameters and may cure your problem. Inspect your text on the disk, save it to disk to be safe, then try to create the problem again. If you can reproduce the problem, please let us know so we can check it out. If it is a bad master disk, we can replace it for you. If it is a bug in the code, we can try to fix it or at least warn users that it exists. Our policy of publishing known and verified bugs has made some people nervous, but has resulted in Lazy Writer's present high degree of reliability.

Some problems are hard to diagnose over the phone, but if you send us a disk containing the text or program you had trouble with, we'll look at it, fix the text and/or program and send it back to you. However, we have been known to lose things and can't be sure how long it will take us to fix the problem. I find I spend most of my time trying to understand the problems that are sent to me.

You have to help me as much as possible. Remember you bought a microcomputer. One reason it's cheaper than a minicomputer is that it didn't come with a data processing staff. You have to make some effort to figure out your machine and how it works. While we have tried to cover all the important points concerning Lazy Writer in this manual, we can not explain everything about computers. I've been asked what's the best data base manager, which hard disk to buy, which printer to buy, what's the best word processor on the IBM PC (answer - ours when we get it there). I get a lot of questions concerning the operations of TRSDOS 6. I'm not an expert on TRSDOS 6; I didn't sell you TRSDOS 6.

PROGRAMMER'S NOTES

You can help by trying to figure out your problem before calling, and by narrowing down the problem as much as possible. If you send me a disk, label it so we know who's it is. It is best to send the working disk, not your master...unless you can't get a working copy because of a defect in the master. Send a copy of the offending text file and maybe a printout showing the problem. Don't send handwritten letters if you can help it. I can't even read my own handwriting.

I want to thank all the people who helped make Lazy Writer a reality, especially my wife, Theresa, who has worked beside me over the years as documenter and chief tester. She has assumed a large burden with only moderate complaints about gross overwork and wretched working conditions. (Actually, her complaints have become less moderate, but she's there when the chips are down.)

Particular thanks goes to Victor and Diane Andrews, former operators of Soft Sector Marketing (now defunct) whose suggestions and advice contributed greatly to the growth of Lazy Writer. Others who helped are Kim Watt, author of Super Utility (reported to be somewhere in Japan), and Vernon Hester, author of MULTIDOS and a good friend. Larry Ashmun, who wrote fantastic games like talking Alien Defense, also contributed programming tips and suggestions (Ashman was writing ROMs for a parking meter firm when we last talked.) Phil Manfield of Cornucopia Software, the author of Electric Webster, has put in many hours making his excellent program compatible with ours and helping Lazy Writer users. Bill Neville has authored several of our best liked optional extensions, LAZYCALC, LAZYDRAW, LAZYDO. Many others have made contributions through the years.

I also want to acknowledge my original partners in ABC Sales, Stevan Davis and Darrell Brayboy.

David Welsh

December 26, 1981....Revised January 31, 1983....October,
1984..September, 1985

SEPTEMBER, 1985
AlphaBit Communications, Inc.

NOTES TO CURRENT LAZY WRITER USERS ABOUT THE UPDATE

There have been some small changes in syntax in this version that will affect current users of Lazy Writer.

The simulated uppercase (the "+" key in EDIT) doesn't work on any 80 character version. This is a holdover from the original Model I version and simply isn't needed. It remains in the Model I/III version.

There is no longer an option to load or save in reverse case from CHANGELW (now called CHANGE LAZY WRITER). The 3.4 version, the version we've been shipping for the last few years, was set to standard case, so we figure most of you are using standard case files. For those of you who still have reversed files; if a file loads with case reversed, hit the "#" in EDIT ("SHIFT" "3") and the case will change to normal. Saving it again will make the changes permanent. If for some reason you NEED reverse case files, the "#" will reverse them for you any time you want.

There is no longer an option to view the text as it is loading. The 3.4 version was shipped with this option off. We don't know of anyone who turned it back on. There may be a slight improvement in the speed with which text loads as a result of this change.

In previous versions, the "c" toggled case back and forth. We've changed this so pressing "c" makes the case of the letter under the cursor change to upper case or remain upper case - it will not make an upper case letter into lower case, as before. Pressing "SHIFT" + "c" (capital C) changes the case of the letter under the cursor to lower case. This change is probably going to cause the most howls from current users, but it makes it easier to make words all upper case. The new function can be used in an X-key with more predictable results by moving the cursor with the "c" key. (See the manual for more details of changes involving these functions.)

You can no longer abort an insert by hitting the BREAK key. (we aborted too many inserts unintended.) Now use CLEAR + BREAK (on Model I/III and "4+3") and SHIFT+F1 on TRSDOS 6.

The down arrow key now produces a 13 (0DH) instead of a 10 (0AH) in Text Entry as well as in insert. "CLEAR" + "down arrow" now produces a 10 for those who need to do it.

The "delete" function has changed a little. Delete by sentence takes just the sentence and sentence terminator. Delete + "/" takes up to but not including the searched for character. That means you can delete up to but not including a comma, for example by pressing "d" then "/" then "," --- nice for getting rid of the rest of a

phrase. If you have X-keys that depend on the old methods, they might have to be re-adjusted.

X-keys can be invoked during an insert or overtype by pressing CLEAR + number as in Text Entry.

The "print from" option on the Printer Menu now works differently. When you hit "f", you'll see a cursor in front of the item "page number". Entering a page number will print from that page. This even works with chained files - you can "print from" page 50 if you want. This made preparation of the new manual much easier for us and we think you'll like it too. By pressing "F" (SHIFT + f), you can still print from the cursor. However, the page will begin at that point - old paging will be lost.

There are many additions to PRINTGEN, LPNT/CMD, and FT. Read the chapters on PRINTING YOUR TEXT and on PRINTGEN and the FORMATTER carefully. These are the most changed. You will want to read all of the manual, however, because some features you may have missed in earlier versions are better documented in this new manual.

Happy Lazy Writing! As always, we're happy to hear your comments on our efforts, even though we can't promise a personal reply.

DAVID AND THERESA WELSH

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PRINTER APPENDIX

**SOME SAMPLES OF HOW TO USE
LAZY WRITER COMMANDS**

This is a test file of text for Lazy Writer
Printed on an Epson LQ-1500

This is a test file of text which we are using to demonstrate some of the new features in 3.5 Lazy Writer. It is printed in the manual by an EPSON LQ-1500. It is on your Lazy Writer disk. Model I owners will find it on the flip side of their disk with the driver programs.

The first line of commands does the following.

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This is a test file of text for Lazy Writer
We can put a different message on even pages

Turns on "pica" or 10 characters per second type. This will have no effect if you have not installed the correct driver to Pl/CMD or used PRINTGEN to setup the proper codes for your printer. It will also have no effect if your printer is already in the "pica" mode.

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This is a test file of text for Lazy Writer
Printed on an Epson LQ-1500

4. "N" set the number of text line to be printed on each page. The command "text" could have been used to do the same thing and is the better of the two commands because it can change the number of lines to be used on the next page without distrubing what's going happening on the current page.

3. "length 15" sets the length of the paper to 15 lines. This

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This is a test file of text for Lazy Writer
We can put a different message on even pages

is going to make for vary small pages, but that's what we want for this demo. Normally, length would be set to 66. This command is only effective if you are using the software formfeed which is why we turn that on with "softset". If your printer has a hardware formfeed, you can still use the software formfeed. For normal paging, the hardware formfeed on most printers is faster, but each printer has different arrangements

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This is a test file of text for Lazy Writer
Printed on an Epson LQ-1500

for changing the page length, so sometimes it's nice to be able to do it with Lazy Writer's software formfeed.

4. "softset" as mentioned above, turns on the software formfeed. "softset" used later in the text would turn it off.

5. "page width" sets the width of the paper to be printed on.

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This is a test file of text for Lazy Writer
We can put a different message on even pages

In this case, we have set less than the normal size paper because we plan to use an absolute margin command.

6. "center 64" computes the left and right margins needed to center 64 character on a page of 70 characters.

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This is a test file of text for Lazy Writer
Printed on an Epson LQ-1500

7. The "tm 6" command will move the paper up 6 lines before printing on each page.

Except for the "pica" command, we have so far not used any printer dependent commands.

Next comes the header and footer. The header definition starts

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This is a test file of text for Lazy Writer
We can put a different message on even pages

with >h or >header and in this case is followed by a /n which indicates a starting page number of nine. The header has an "even" area that only prints on even page numbers and an odd area that only prints on odd pages. The header will only print at the top of a page, so it must be defined before any text to print on the first page.

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This is a test file of text for Lazy Writer
Printed on an Epson LQ-1500

The header ends with the >X and is followed by a footer that also has an odd and even areas. In the odd areas, we have used a spread command and use justify to insure that justification is on so that the spread command will work.

The footer definition ends with an >X as well.

Page 17

This is a test file of text for Lazy Writer
We can put a different message on even pages

Now we are going to play with the indent commands. >indent is a handy command to use because it works relative to an already established margin. We are now going to indent 10. We are also going to turn off these little pages by including a ">length 66,text 45" command. The next page will have 50 lines

This is indented 10 from the margin established by

This is a test file of text for Lazy Writer
Printed on an Epson LQ-1500

center above. If the center command were changed and this text was reprinted, the indent from the new margin would still be 10.

The "indent" command can be canceled with indent off to take the text back to what ever margin prevailed before the margin. As it has been here.

1. This is a reverse indent caused by the command ">reverse 3". This is a nice command for numbered points.

2. Reverse indent can be used with indent. Here we have again indented by 10 but we also have left the automatic reverse indent on. You can see how this works.

3. Now we have used an indent off to cancel the indent but not the reverse indent.

Here we have used left 5 and right 65 to establish new hard margin and cancel the reverse indent. We could have just used reverse off to do that, but we wanted to demonstrate the "left" and "right" commands. Hard margins cancel soft margins. We have also turned off the "tm6" command above this paragraph so you can see how it operates.

Up to this paragraph, we have used pica or 10 c.p.i. type. If you've installed the right Pl/CMD or you have used PRINTGEN to customize for your printer, you should be seeing elite type. On some of our drivers, we have used "elite" to get something that is actually quite different...doublewide condensed. That's because no "elite" typeface is available on these printers. Notice that the margins have shifted. This is because they are figured in characters and there are more characters per inch with "elite" type. If you are using the standard print driver, there are no codes for elite and there will be no change in the typeface.

We have now shut off "elite" and turned on "condensed". With most printers, you just have to use the name of the new typeface. With some printers, you can't use "condensed"

This is a test file of text for Lazy Writer
We can put a different message on even pages

type if you are in the letter quality mode. If you have the right codes in PRINTGEN, and your printer will do condensed in this paragraphed. If not, you may have to take it out of the letter quality mode. The LQ1500 driver initializes the printer to letter quality and "cmd 1 off" has to be used to get condensed. (Else where in this manual are examples of EPSON compressed type.

Here we are back in pica. Now for some underline tests. The word test has been underlined in this paragraph. If your printer can underline and you have it setup right and are using the right driver, you should see underline. If you see characters with underlining after each character, then your printer driver is trying to use the backspace method to underline, but your printer can't backspace. If you see a line with the word "test" in it and a blank line with only underlining, then your driver is set up for the "two pass" method while the printer is not. Some printers have a tab to zero command that you will need to put into your driver with PRINTGEN. Some need to have a "DIP switch thrown on or inside the printer to insure they don't double feed with this method. If something else happens to the word test, or nothing happens; you have the wrong printer codes in the printer driver or your printer can't do it.

By issuing a bold command, we can change underlined words to Lazy Writer bold. The word "bold" in this sentence is underlined and will be bold if your printer can use and, is set up for, the "backspace" or the "two pass" method.

Now we have used a "bold off", followed by "double" command to turn on doublewide when you underline. The "double" command will cause Lazy Writer to send codes to turn on and turn off doublewide whenever there is underlining in text. The word "double" is underlined in this sentence. The "bold" command shuts underlining off but double doesn't. You can get bold, underline and double seperately or together by using the "set" command.

Now we have used ">set under, bold4, double". Not every printer can do all these, but this is how underlining affects text when

This is a test file of text for Lazy Writer
Printed on an Epson LQ-1500

that set command is used.

Note that if you want underlining with bold, you must use "under" in the set command after the bold. Bold shuts off underline.

Above we used the command ">set bold off, under off" to leave only double wide on.

The command "set off" makes underlining underlining again. If you are not sure what's on and what's not, use ">set off," followed by what you want to "set".

The command ">emphasized" use above turns the "emphasized" mode if the codes have been PRINTed into your driver, your printer can do it, and you are not already in a conflicting mode. When used outside of a "set" command, it effects all text after it until you tell it to stop.

This text follows a dark command. We have shut emphasized off with the command ">emphasized off" and turned on "dark" with the command ">dark". The dark command works just like the emphasized command and can be used inside and outside of a ">set" command.

This is an example of the dark command used with set. We shut off the dark command with ">dark" and assigned it to set with "set under off, dark". Now this line is printed with dark because it's underlined. We could have had it underlined, doublewide and bolded if the printer would do that.

Above, we have use ">set off, followed by "cmd 2" in the set command. The result is that whatever codes are assigned to "cmd 2" with PRINTGEN will be sent to the printer when something is underlined. With the LQ-1500 driver, we've assigned "cmd 2" to italic. "cmd 1, cmd 2, and cmd 3 can be assigned to underlining with the set command, or used

This is a test file of text for Lazy Writer
We can put a different message on even pages

outside of set. Aside from doublewide, bold and underlining; only one addition command can be assigned to set. Headers and footers can remember the state of a set command, so you can assign emphasized to the header underlining and dark to underlining in the body of the text without conflict. "dark" and emphasized etc. will not be remembered by a header or footer if used outside of a set command.

ASCII CHART

The ASCII Code stands for "American Standard Code for Information Interchange". The idea behind using the ASCII Code is so that all keyboards will be able to print the same characters. These characters can be printed in the text by inserting "<code>#DEC#</code>", (decimal number) where the characters should be printed.

HEX	DEC	ASCII	HEX	DEC	ASCII	HEX	DEC	ASCII
00H	0	NULL	2BH	43	+ plus	56H	86	v
01	1	SOH	2C	44	, comma	57	87	w
02	2	STX	2D	45	- minus	58	88	x
03	3	ETX	2E	46	. period	59	89	y
04	4	EOT	2F	47	/ slash	5A	90	z
05	5	ENQ	30	48	0 zero	5B	91	[open brkt
06	6	ACK	31	49	1 one	5C	92	\ left slash
07	7	BEL	32	50	2 two	5D	93] close brkt
08	8	BS	33	51	3 three	5E	94	^ circumflex
09	9	HT	34	52	4 four	5F	95	_ underline
0A	10	LF	35	53	5 five	60	96	` grave
0B	11	VT	36	54	6 six	61	97	a
0C	12	FF	37	55	7 seven	62	98	b
0D	13	CR	38	56	8 eight	63	99	c
0E	14	SO	39	57	9 nine	64	100	d
0F	15	SI	3A	58	: colon	65	101	e
10	16	DLE	3B	59	; semicolon	66	102	f
11	17	DC1	3C	60	< less than	67	103	g
12	18	DC2	3D	61	= equals	68	104	h
13	19	DC3	3E	62	> gr than	69	105	i
14	20	DC4	3F	63	? question	6A	106	j
15	21	NAK	40	64	@ at sign	6B	107	k
16	22	SYN	41	65	A	6C	108	l
17	23	ETB	42	66	B	6D	109	m
18	24	CAN	43	67	C	6E	110	n
19	25	EM	44	68	D	6F	111	o
1A	26	SUB	45	69	E	70	112	p
1B	27	ESC	46	70	F	71	113	q
1C	28	FS	47	71	G	72	114	r
1D	29	GS	48	72	H	73	115	s
1E	30	RS	49	73	I	74	116	t
1F	31	US	4A	74	J	75	117	u
20	32	SP space	4B	75	K	76	118	v
21	33	! exclam	4C	76	L	77	119	w
22	34	" quotes	4D	77	M	78	120	x
23	35	# number	4E	78	N	79	121	y
24	36	\$ dollar	4F	79	O	7A	122	z
25	37	% percent	50	80	P	7B	123	(op brace
26	38	& ampersand	51	81	Q	7C	124	vert rule
27	39	' acute	52	82	R	7D	125) cl brace
28	40	(op paren	53	83	S	7E	126	~ overscore
29	41) cl paren	54	84	T	7F	127	DEL
2A	42	* asterisk	55	85	U			

NOTES: In internal use with Lazy Writer upper and lower case are reversed in writing files.

By sending the CLEAR Z code you can get the null signs. The same goes for 00H, 0CH, 0FH, 10H-19H, 1AH-1CH, 1EH, and 1FH. The ampersand sign are used but do not appear in the writing of the text.

07H is the mandatory space code.

09H is the tab code.

0AH, 0BH and 0DH are carriage returns.

1DH is the soft hyphen code in Lazy Writer.

CONTROL CODES

Control codes can be your ticket to great performance from your printer. But, understanding what they are and how to use them is not so easy. Control codes may be listed in your printer manual as decimal or hexadecimal. These numbers, when sent to your printer, give special instructions. They send information, just as when you send text to the printer - it is exactly the same process. Each character has an ASCII code, as you can see from the chart on this page. Other ASCII codes are for functions, rather than characters, like decimal 27 is "escape". ASCII is the American Standard for Information Interchange and the idea was that computer codes be uniform. This worked out ok for the codes that correspond to what's normally on a keyboard, but there are 255 ASCII codes. ASCII codes are fairly uniform between 32 and 127. Smaller or larger numbers are often used for purposes other than the standard. The numbers below 32 were mainly set up for communication and are more likely to be standard on serial printers than on parallel printers. The codes for double-wide type, for example, are usually numbers below 32. The numbers over 127 are likely to be anything and vary widely from printer to another.

You can see some of those codes over 127 by using the Lazy Writer "<code>>g</code>" command, then underlining words. This command turns off underlining and bold face and adds 128 to the ASCII number of the character typed. We have discovered something interesting for owners of MX-80s. If you use the "<code>>g</code>" command in text, then underline (with the "u" command) words in subsequent text, these words will print in italics, as you see here! You may or may not get these results on your machine unless you have Grafrax Plus and DIP switch settings as we have them.

In order to use control codes with Lazy Writer, you need to send decimal (NOT hexadecimal) numbers. If your printer manual gives codes in hex, translate them to decimal. Then, send the decimal codes right after "<code>></code>". For example, if your printer manual says you need ESCAPE U, use <code>>27/85</code>. You could also use <code>>e/85</code> or <code>>e/\$U</code>, or <code>>27/\$U</code>. If you see CHR\$(0BH), try using <code>>11</code>.

USING THE REVERSE INDENT

RESUME

NAME: John Q. Artist
ADDRESS: 1234 Creative Dr.
Detroit, MI 48209

EDUCATION: attended¹ Cass Technical High School, Detroit; B.A.
degree, Wayne State University; private lessons from
Jerome Szabo
SPECIAL SKILLS: proficient in oriental watercolor, sumie (black and
white renderings), and miniature watercolor
INTERESTS: sex, chasing women, booze, going to the track,
smoking weed and organizing protest marches.

>page width 76/absolute margin 10/title 70/bold3
USING THE REVERSE INDENT

RESUME

>left 10

NAME: John Q. Artist
ADDRESS: 1234 Creative Dr.
Detroit, MI 48209

>center 70/R18/b2

EDUCATION: attended*> escape/\$D*1*>escape/\$U* Cass Technical
High School, Detroit; B.A. degree, Wayne State
University; private lessons from Jerome Szabo
>F

1. Sometimes.

>X

SPECIAL SKILLS: proficient in oriental watercolor, sumie (black and
white renderings), and miniature watercolor
INTERESTS: sex, chasing women, booze, going to the track,
smoking weed and organizing protest marches.

ANDASTE 8-4-3
ANDERSON, ARTHUR M. 5-2-2, 5-7-1,
6-1-1, 6-2-1, 6-7-1, 7-1-3, 7-5-2
ANDERSON, JOHN 8-3-3, 8-5-2, 8-5-3
ANDREAS, CAPTAIN 8-3-2
ANDREWS, A.L. 2-2-1
ANDREWS, MATHEWS 4-2-2, 4-4-1,
5-1-2, 5-1-3, 5-5-4, 5-6-2, 7-7-2,
10-9-4
ANGELINE 6-6-2, 8-4-4, 8-5-3,
8-10-2
ANGERS 10-1-4, 10-3-3
ANGLO 7-6-2
ANGOULEME 10-5-1
ANGUS, R. BRUCE 7-8-2, 8-1-2,
10-10-4
ANN ARBOR NO. 4 4-8-3

1. Sometimes.

USING THE >S COMMAND

The ">S" command works by putting spaces between words so that every line ends flush right. All words will spread unless you join them with mandatory spaces (press "SHIFT" space bar to put a mandatory space). If you put a space in front of each line and mandatory spaces between words, you can get the effect we've achieved in the headline below. The header at the top of this page was also made using the ">S", with a mandatory space between "computer" and "handbook" and another mandatory space between "page" and "1". The list of names and numbers below was simply typed normally, and an indent command used to bring the names closer to the numbers on the page.

THE >S COMMAND ONLY WORKS WITH JUSTIFICATION "ON".

DO YOU
HAVE THE LATEST
VERSION OF
LAZY WRITER??

THERESA	\$1,000,586.32
DAVID	\$2,985,543,506.50
SAM	\$45,000.00
GEORGE	\$62.45
MARY	\$325.78
HARRY	\$32.75
SANDY	\$4,361.00

* * * * *

TO: Mike Roe Prosesor

Nov 20, 1981

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                                                                 X
X                                                                 X
X                      HELLO                                     X
X                     LAZY WRITERS                              X
X                                                                 X
X                                                                 X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

TURN THE >S COMMAND OFF WITH ">S OFF".

When used in a header/footer, the ">S" command is automatically shut off when you get back into regular text. However, when used in text, use ">S off" to shut it off. If you don't shut it off, short lines of text will spread accross the page.

AlphaBit Communications, Inc.

Publishers of Software & Books

13349 Michigan Ave.
Dearborn, Michigan 48126
(313) 581-2896

December 10, 1982

Mr. T.R.S. Eighty
100 Main St
Anytown, U.S.A.

Dear Mr. Eighty

We received your letter, asking for information on how to write a business letter using Lazy Writer. Writing business letters with Lazy Writer is pretty simple - just type your text on the screen. The style you see here is called "Block Style, Open Punctuation". It requires only a ">center" command at the very beginning of text. This style letter has all elements flush left.

Remember, your text will center on the page only if you have the proper ">page" command. If you are printing on normal size paper at 10 characters per inch, then the Lazy Writer default of 84 characters wide should work for you. If you are printing at 12 or 15 characters per inch or using a compressed mode on a dot matrix printer, you'll need to reset page width to get your text to center.

Using this "Block Style" is the easiest way to type a letter and is popular in the business world. With this style, you omit commas after the salutation and the closing.

Very Sincerely Yours

ABC SALES

Theresa Welsh
Documentation Editor

AlphaBit Communications, Inc.

Publishers of Software & Books

13349 Michigan Ave.
Dearborn, Michigan 48126
(313) 581-2896

December 20, 1982

Ms. Sandra Smart
The PrettyPrinter Co.
1234 S. Printhead Dr.
Seashore, CA 99999

Dear Ms. Smart,

There are many word processors on the market these days and most of them are capable products. However, our product, Lazy Writer, has some features that are unique in this industry.

Lazy Writer was the first major word processor that allowed sending control codes to printers. While users of other word processors had to be content with straightforward printing of their text, Lazy Writer users could make double-wide and compressed characters (like you see in this paragraph) right in the body of their letter.

Since Lazy Writer also allows the use of bold face and underlining with most printers, a letter typed with Lazy Writer can be printed in a much more distinctive fashion than was possible before. Lazy Writer even allows you to put codes inside a paragraph. This means you can make superscripts and subscripts by giving the right codes to the printer.

This ability to send the printer codes results in another bonus: by sending codes for graphics, you can put any graphic character your printer can make right in your letter or document.

Proportional spacing, as you see here, also adds to the good appearance of a letter. This is printed with the C. Itoh Prowriter and a special proportional spacing printer program that lets you use all Lazy Writer commands.

Sincerely,

ALPHABIT COMMUNICATIONS, INC.

Theresa Welsh
Documentation Editor

PS - This style letter is called "Modified Block, Mixed Punctuation". The date and closing are moved with the command ">m30"; the rest of the text is centered with the command ">center 65".

THIS FLYER WAS PRODUCED WITH LAZY WRITER

CHILDREN'S ART ! ! !

PRESENTING: A great opportunity to display or sell your art work work with
NO FEE.

DISPLAY HEADQUARTERS: Neighborhood City Hall, 7760 W. Vernor
All Art **MUST** be delivered by June 23th and picked up by July 2nd.
(We cannot be responsible for any art left past that date.)

*** Certificates will be awarded ***

RULES:

- * THEME WILL BE "MY NEIGHBORHOOD"
- * ALL WORK MUST BE ORIGINAL
- * ALL ARTISTS MUST BE 18 YEARS OF AGE OR YOUNGER
- * SIZE IS LIMITED TO 11X14 (PLUS FRAME IF DESIRED)
- * FEE: NONE

Fill in the form below or write on 3x5 card and attach to the BACK OF
YOUR ART. If you wish to sell your work place ONLY the price tag on
the front.

NAME _____ ADDRESS _____
SCHOOL _____
IS YOUR WORK FOR SALE? _____ PRICE IF FOR SALE _____

THIS IS HOW THE FLYER WOULD LOOK ON YOUR SCREEN

> bold 4/page width 84/ title 80

CHILDREN'S ART ! ! !

>left 3 / right 80

PRESENTING: A great opportunity to display or sell your art
work work with

>bold 0/title

NO FEE.

>center 70

DISPLAY HEADQUARTERS: Neighborhood City Hall, 7760 W. Vernor

>bold 15

All Art MUST be delivered by June 23th and picked up by July
2nd.

(We cannot be responsible for any art left past that date.)

>bold 0

>t

*** Certificates will be awarded ***

>x

> indent 12 / down linefeed 2 / uppercase

RULES:

- * theme will be "my neighborhood"
- * all work must be original
- * all artists must be 18 years of age or younger
- * size is limited to 11x14 (plus frame if desired)
- * fee: none

>down line feed 1 / uppercase off

> center 70

Fill in the form below or write on 3x5 card and attach to the
BACK OF YOUR ART. If you wish to sell your work place ONLY the
price tag on the front.

--

NAME _____ ADDRESS _____

SCHOOL _____

IS YOUR WORK FOR SALE? _____ PRICE IF FOR SALE _____

THIS VERSION SHOWS THE PRINTER COMMANDS

> bold 4/page width 84/ title 80/'Kids art example revised for second printing
6.18.81

CHILDREN'S ART ! ! !

>left 3 / right 80

PRESENTING: A great opportunity to display or sell your art work work with
>bold 0/title
NO FEE.

>center 70

DISPLAY HEADQUARTERS: Neighborhood City Hall, 7760 W. Vernor

>bold 15

All Art **MUST** be delivered by June 23th and picked up by July 2nd.
(We cannot be responsible for any art left past that date.)

>bold 0

>t

*** Certificates will be awarded ***

>x

> INDENT 12 / DOWN LINEFEED 2 / UPPERCASE

RULES:

- * THEME WILL BE "MY NEIGHBORHOOD"
- * ALL WORK MUST BE ORIGINAL
- * ALL ARTISTS MUST BE 18 YEARS OF AGE OR YOUNGER
- * SIZE IS LIMITED TO 11X14 (PLUS FRAME IF DESIRED)
- * FEE: NONE

>down line feed 1 / uppercase off

> center 70

Fill in the form below or write on 3x5 card and attach to the BACK OF
YOUR ART. If you wish to sell your work place ONLY the price tag on
the front.

NAME _____ ADDRESS _____

SCHOOL _____

IS YOUR WORK FOR SALE? _____ PRICE IF FOR SALE _____

