

M	M	OOO	DDDD	EEEE	LL	PPPP	A	333	000	000
MM	MM	O O	D D	E	LL	P P	A A	3 3	0 0	0 0
M M M	O O	D D	EEEE	LL	PPPP	A A	***	33	0 0	0 0
M M	O O	D D	E	LL	P	AAAAA		3 3	0 0	0 0
M M	OOO	DDDD	EEEE	LLLLLL	P	A A		333	000	000

* * *	*	* * *	*****	* * *	* * *	* * *	* * *	*	*	*
* * *	*	* * *	*	* * *	* * *	* * *	*	* * *	* * *	*
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t	mmmm
ttttt	m m m
t	m m m
t t	m m m
t	m m m

DDDD	II	SSSSS	PPPP	LL	A	Y Y
D D	II	S	P P	LL	A A	Y Y
D D	II	SSSSS	PPPP	LL	A A	Y
D D	II	S	P	LL	AAAAA	Y
DDDD	II	SSSSS	P	LLLLL	A A	Y

CCC	OOO	N N	SSSSS	OOO	LL	EEEE
C C	O O	NN N	S	O O	LL	E
C C	O O	NN N	SSSSS	O O	LL	EEEE
C C	O O	NN N	S	O O	LL	E
CCC	OOO	N N	SSSSS	OOO	LLLLL	EEEE

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*  SUPERSCAN tm Display Console Owner's Manual  *
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CHAPTER I

INTRODUCTION - UNIT OPERATION/TEST

1.1 OPERATING MANUAL USE

See chapter 5 for a complete description of all features and controls available to the SUPERSCAN user. To acquaint you with these features, Chapters 2, 3 and 4 offer programming tutorials and examples from beginner to advanced. This Chapter serves as a general introduction to the SUPERSCAN display console and presents valuable information pertaining to its use. IN ORDER TO FULLY UTILIZE YOUR NEW SUPERSCAN DISPLAY CONSOLE, IT IS STRONGLY RECOMMENDED THAT YOU TAKE THE TIME NECESSARY TO REVIEW THIS OPERATING MANUAL.

The SUPERSCAN display console provides you with a unique and exciting way to capture and hold the attention of your customers or patrons. The words on the display can APPEAR and DISAPPEAR; SCROLL UP and/or DOWN; WINK ... TRAVEL from side to side ... REVERSE letters, words, or lines out of a background; DISSOLVE; DISPLAY SPECIAL GRAPHIC CHARACTERS that you create; and even ANIMATE those graphics effects. You control the speed of all aspects of your message and you are only limited by your imagination in the creation of spectacular effects that will get ATTENTION !

1.2 GETTING ACQUAINTED - INITIAL START UP

Before your first use of the SUPERSCAN display you should examine the unit for any signs of visible shipping damage. During your examination you will note the KEYBOARD located on the TOP of the SUPERSCAN unit. This keyboard is used for user programming and will be discussed in great detail in the following sections of this manual. On the REAR of the cabinet you will find the POWER SWITCH, various INPUT and OUTPUT CONNECTORS, and the unit's Safety Fuse. Located UNDER the Keyboard Cover is a simplified instruction sheet that describes how to enter a basic traveling message into the display console.

Located on the UNDERSIDE of the SUPERSCAN cabinet is the opening that accommodates the Custom Message Module that you receive free of charge when you purchase a Model PA-300 SUPERSCAN display console. This opening is constructed to FIRMLY HOLD the Custom Message Module. The plug on the Module itself will only connect ONE WAY - DO NOT FORCE the Module when inserting - REMEMBER TO TURN OFF POWER WHEN INSERTING/REMOVING Custom Message Modules.

Make sure that the Power Switch on the REAR of the cabinet is OFF. Then plug in the Power Cord. Now turn the Power Switch ON, and observe the display. You should see the message [ONE MOMENT PLEASE] appear on the display screen. If you do not have a Custom Message Program Module installed at the time, your sign will then display the message [I'M READY TO GO]. This message signifies that your SUPERSCAN is operating properly and is ready to accept Keyboard program entry, input from a tape cassette, or an input signal from a PIANOCORDER reproducing system.

NOTE: If the Custom Message Module is installed, the [ONE MOMENT PLEASE] message will be displayed constantly during the time the Custom Message is being automatically loaded into memory. You can still program a Keyboard Entry Message (without removing module) during this time if you wish . . . BY ENTERING THE EDIT MODE YOU WILL CANCEL INPUT OF THE CUSTOM MESSAGE.

1.3 TESTING / USING SUPERSCAN CASSETTE TAPE INPUT

The SUPERSCAN cassette storage system provides a long term method of saving the programs that you create for your SUPERSCAN display. It also provides you with protection in case of power loss. With it, you can create a library of tapes that can be used to program the SUPERSCAN display at any time.

 * NOTE: IF POWER IS TURNED OFF OR LOST FOR ANY REASON, ANY PROGRAM IN *
 * MEMORY EXCEPT THE PROGRAM CONTAINED IN YOUR CUSTOM MESSAGE MODULE *
 * WILL BE LOST. TO PROTECT YOURSELF, USE THE TAPE STORAGE CAPABILITY ! *
 * *****

Enclosed with your SUPERSCAN is a Test Tape that can be is used to check the cassette input/output function. Find the side of the cassette marked STANDARD CASSETTE TEST - put the cassette into your cassette recorder - CONNECT THE CABLE PROVIDED BETWEEN "INPUT B" OF THE SUPERSCAN CONSOLE AND THE RECORDER'S AUDIO OUTPUT JACK - TURN VOLUME AND TONE CONTROL TO MAXIMUM - REWIND THE CASSETTE AND PUSH THE CASSETTE RECORDER PLAY BUTTON. NOTE: DO NOT CONNECT WIRES TO BOTH INPUT A AND INPUT B AT THE SAME TIME -- MAKE SURE THAT YOUR TAPE RECORDER IS PLACED AT LEAST TWO TO THREE FEET FROM THE SUPERSCAN DISPLAY

Observe the SUPERSCAN unit -- the display should show the message: [LOADING A MESSAGE] while data from the cassette is received (unless you used MAKE TAPE Mode to record the tape). When "LOADING A MESSAGE" goes OFF -- STOP THE CASSETTE RECORDER WHEN THE MESSAGE APPEARS -- the message should now "run".

USE THE SAME METHOD WHEN ENTERING DATA FROM CASSETTE TAPES THAT YOU MAKE TO STORE YOUR OWN PROGRAMS. If you choose to record more than one message on a cassette you will, of course, not fully rewind the tape - but will rather cue the tape to the beginning of the program that you wish to enter. WE RECOMMEND THAT YOU USE A DIFFERENT CASSETTE TO STORE EACH INDIVIDUAL PROGRAM TO PREVENT LOSS OF MULTIPLE PROGRAMS SHOULD A CASSETTE BE INADVERTENTLY DAMAGED.

NOTE: The recording on SIDE TWO of your Cassette Test Tape will ONLY work in conjunction with the PIANOCORDER Reproducing System. If you will be using the SUPERSCAN unit with the PIANOCORDER System you should repeat this test using the INPUT A connector.

1.4 CUSTOM MESSAGE PROGRAM MODULE

The Custom Message Program Module is used to permanently enter a program into the SUPERSCAN computer memory. When installed, this program is automatically used any time power is turned on. Using special commands (described later in this manual) you can even INCLUDE this message in custom programs that you create . . . providing, that the length of the Total Program does not exceed 2700 Characters in length. The Custom Program Module can be REPROGRAMMED at any time by our factory, or you can purchase additional Modules to create a library of Custom Messages. Instructions for specification of your initial Custom Program Module are included with your Warranty Registration Card. To purchase additional Modules call 1-800-438-7023 (in North Carolina call 1-704-437-7135).

>>>> NOTE: PROGRAM MODULES MUST ONLY BE INSTALLED/REMOVED WITH POWER OFF <<<<

1.5 SAVING A MESSAGE ON CASSETTE

There are two options available to the user of the SUPERSCAN display console for writing a message onto cassette tape. In the first, a message in memory is output (recorded) onto tape for the purpose of using the message later to "reload" the SUPERSCAN computer memory (instead of having to input the message over and over by the keyboard). The message is output in a format that can be used/recorded by almost any standard, portable, monaural cassette player. In the second option, a special format is used to make a recording that, when played back through the SUPERSCAN display, will cause it to operate IMMEDIATELY as the message is sent to the unit. This message DOES NOT become stored in the system memory. This type of message allows you to make a tape with a sequence of messages that will play one after another thereby letting you record/use longer messages than could be stored in the SUPERSCAN memory (useful for meetings, education, etc.). The first type of Recording is called SAVE MSG. - the second is called MAKE TAPE.

A portion of the SAVE MSG. recording is used to store ANY GRAPHICS characters that are used in the message OR are already in memory from input of a previous SAVE MSG. You can use this feature to advantage by loading a message into the SUPERSCAN that already includes GRAPHICS that you wish to include in a NEW message. You ERASE THE TEXT in the memory - replace it with the new - and use the "old" GRAPHICS characters and any new ones that you may add. GRAPHICS MEMORY is not erased by any keyboard command - only by power being removed from the unit or by input of a SAVE MSG. recording (even one that does NOT use any GRAPHICS).

1.5.1 COMPUTER COMMANDS FOR CASSETTE STORAGE

Connect the cable provided with your unit BETWEEN the Cassette Recorder MIC Input Jack and the Jack marked OUTPUT on the rear of the Display. Use the * Key to place the SUPERSCAN unit into the EDIT mode - Depress the Key marked CTRL. While holding the CTRL Key down press the "Q" Key, and then release both keys. The SUPERSCAN display will show the output MENU:

[MAKE TAPE / SAVE MSG.]

You will note that the "M" and the "S" are flashing. RECORD A VOICE CUE THAT WILL IDENTIFY THE RECORDING BEFORE YOU HOOK UP THE RECORDER TO THE SUPERSCAN DISPLAY - THIS WILL HELP YOU FIND/REMEMBER WHAT YOU PUT ONTO TAPE, ETC. Start your tape recorder, wait a few seconds to insure that the cassette leader has passed the tape recorder's magnetic head assembly. Then press the "M" Key if you wish to use the MAKE TAPE FEATURE, or press the "S" Key if you wish to use the SAVE MSG. FEATURE.

The screen will go OFF and the unit will function automatically. When the cassette OUTPUT has been completed the SUPERSCAN screen will return to the EDIT mode. You will hear a CONTINUOUS TONE during the time that the output to tape occurs unless the KEY ENTRY SIGNAL has been switched OFF. TURN OFF THE RECORDER WHEN THE SIGNAL STOPS AND/OR SCREEN DISPLAY APPEARS.

NOTE: If you wish to make additional programs you may repeat the sequence described in this section. You SHOULD make a SAVE MSG. backup copy of any MAKE TAPE message that you record.

1.6 MESSAGE LENGTH

The SUPERSCAN console can store and display messages of up to 2700 CHARACTERS in it's MEMORY. By using the SUPERSCAN'S unique "BLOCK REPEAT" command, messages with lengths equivalent to 1,000,000 (or MORE) characters can be created. This command is described in Chapters 4 and 5 in this manual. CHARACTERS may be letters of the alphabet (upper or lower case), symbols, or COMMANDS to the SUPERSCAN computer. Typically, you can expect to easily program messages in excess of 200 words.

The Custom Message Module can be ordered in message lengths nearly equal to the capacity of the full SUPERSCAN memory. If you plan to INCLUDE the CUSTOM MESSAGE in programs that you write, and/or if you will be using the SUPERSCAN console with a PIANOCORDER reproducing system the Custom Message will provide better service in shorter program lengths. Lengths of 25 - 50 words are best for this purpose. The "BLOCK REPEAT" command CAN be used in a Module.

When storing or loading messages the SUPERSCAN display operates at a rate of approximately 35 characters per second. If a full 2700 character program is being transferred into or out of memory it will take nearly one and one-half minutes. It will take the same period for the Custom Program Message to be loaded into the SUPERSCAN computer when power is applied or when you instruct the SUPERSCAN computer to load the Custom Program Message into one of your own programs as described in the section on advanced programming.

1.7 TECHNICAL ASSISTANCE / SERVICE

In the event that you require service for your SUPERSCAN display, or if you need technical information regarding operation and/or programming of the SUPERSCAN display console . . . call 1-800-438-7023 (1-704-437-7135 in North Carolina). Prior to calling, check to make sure that you have followed ALL instructions in this manual regarding operation of the SUPERSCAN display.

1.8 USER PROGRAMMING / KEY ENTRY SIGNAL

The SUPERSCAN computer is equipped with an Audible Alert Device that will provide the user with means of determining when the computer accepts Keyboard entry of individual characters OR WHEN OUTPUT TO TAPE OCCURS. This feature CAN be turned ON or OFF by means of a special keyboard command. To disable this feature, press the key marked CTRL and hold it down while pressing the "H" Key. To turn the KEY ENTRY SIGNAL on simply use the same command procedure again. The function will switch back and forth with each CTRL H command entered.

YOU ARE NOW READY TO PROCEED WITH USER PROGRAMMING OF THE SUPERSCAN DISPLAY CONSOLE. This will be covered in three sections that will take you from basic message programming to advanced programming of the SUPERSCAN. While basic programming of the SUPERSCAN is very simple, by learning advanced techniques you will be able to fully utilize the unique features that will bring all of your messages to life.

CHAPTER II

BASIC PROGRAMMING

2.1 PROGRAMMING CONTROL LOCATION

Using the "Key" provided, open the Keyboard Cover on the top of the display. Look at the KEYBOARD. Locate the BLACK Special Function Keys: BACKSPACE; ESC (ESCAPE); CTRL (CONTROL); SHIFT; LOCK; LINEFEED; DELETE; RETURN; and * (STAR). Please take a moment and study the location of these keys as you will be using them often while programming. The Letters, Symbols, and the black Space bar have the same basic functions as the keys of a regular typewriter. At the REAR of the cabinet you will find the Power Switch and the Input/Output Jacks which are used during Tape Cassette Storage operations.

2.2 SPECIAL FUNCTION KEY OPERATION

In this section the basic functions of the BLACK Special Function Keys that you located in part 2.1 will be described. These keys are used in editing programs and will be described and demonstrated as you proceed through this section. On the SUPERSCAN screen during editing/message writing, you will see the Flashing UNDERSCORE LINE that is used to identify the place in the message that is affected by keyboard commands. This "Line" will also cause the character that it is positioned under to flash on and off. It is called the CURSOR.

- BACKSPACE - Backspace Key. This key when depressed will move the CURSOR BACK one space.
- LINEFEED - Linefeed Key. This key when depressed will move the CURSOR FORWARD one space. In effect "LINEFEED" is the opposite of "BACKSPACE".
- DELETE - Delete Key. This key when depressed will remove the character indicated by the CURSOR. It will also remove a space or special edit character.
- CTRL - Control Key. When PRESSED, AND HELD DOWN WHILE PRESSING ANOTHER KEY ON THE KEYBOARD, this key will call into play one of the special CTRL features available to the user.
- CTRL A - Insert space. This command is used to insert a space just before the CURSOR when in the EDIT mode.
- CTRL B - Clear memory. This command is used at the beginning of an EDIT session during which the user plans to create a new programmed message. Does not clear GRAPHICS memory.
- SHIFT - Shift Key. This key serves the same function as if it were on a normal typewriter. It switches from upper to lower case on the keyboard.
- LOCK - Shift Lock Key. When pressed, this key "locks" the ALPHABET SECTION of the keyboard into upper case. When pressed again it will "unlock" the shift function to allow lower case letters to be typed. NOTE: NUMBERS AND SYMBOLS ARE NOT "LOCKED" BY THIS COMMAND. . . TO TYPE THESE YOU MUST USE THE SHIFT KEY.

2.2 (cont.) SPECIAL FUNCTION KEY OPERATION

- ESC - Escape Key. This Key is used to modify the function of various Keys when these Keys are pressed immediately after the Escape Key has been depressed.
- RETURN - Return Key. This Key is used to move the program cursor to the beginning of your program.
- * - Star. This Key is used to command the computer to go into and out of the EDIT mode.

NOTE: The message will "start" at the point "marked" by the CURSOR position at the time that the * Key is pressed to go out of EDIT. The * Key will position the cursor at the point that it occupied when the EDIT was terminated. This feature allows you to view/test a message part without running the entire message from the beginning.

2.3 BASIC TRAVELING MESSAGE

Press the * (STAR) Key. This action places you into the EDIT mode and is also used to terminate the EDIT session and display a programmed message.

Press the CTRL Key - hold it - and press the letter B Key. This command clears any message that may be in the SUPERSCAN memory and readies the screen for your message. The flashing underline symbol indicates the position in the message that will be affected by keyboard command. This symbol is called the CURSOR. It can be moved through your message using various commands.

NOTE: At the beginning of a message the CURSOR will move to the center of the display from the left and then will remain stationary - after which the text will appear to move about the CURSOR's position. When the CURSOR is placed on a letter BOTH the letter and the CURSOR will alternately flash.

Type the following exercise just as you would on a standard typewriter (don't be concerned with any mistakes that you make):

I'm a SUPERSCAN display console advertising system

After your message is typed, press the CTRL Key and the letter E Key simultaneously. A symbol (consisting of a "/" with two dots above the left side of the "/") will appear on your screen. Press the Key with the * (star) symbol. You should now see the message appear on the screen and travel off the screen to the left, again and again.

Congratulations! You have just programmed your first message.

Press the * (STAR) Key again. You are in the EDIT mode again and your text should be readable, with the blinking CURSOR at the end of the message. You should experiment with the use of the LINEFEED and BACKSPACE Keys at this time. Try using the RETURN Key to put the cursor back to the beginning of the message. You will use these Keys in the next section which will provide instruction on the basic editing commands used to correct a typical program message.

2.4 BASIC MESSAGE EDITING PROCEDURES

2.4.1 INPUT MESSAGE

NOTE: ANY TIME you see the symbol CTRL followed by a letter in this manual it means that you should press the CTRL Key AND HOLD IT DOWN while you press the second key.

Key in the command CTRL B. The command CTRL B clears any message in the display unit memory and readies the unit to accept a new message.

Now, let's type in a message with mistakes. That's right, we want to make mistakes so that you can learn how to correct or 'edit' the text you want to write. The CURSOR should be at the far left of a blank screen. If it is not, press CTRL B again.

Type in the following message:

i am laerning howto EDIT my my new SUPRSCAN display console

Press CTRL E (ALWAYS end every message with CTRL E). If the control command has been entered properly you will see the CTRL E EDIT symbol ('/' with two dots above the left side of the '/') appear. CTRL E is the command that marks the end of your message. If it is not put at the end of your message, your message will not repeat and you will have to go back into the EDIT mode and insert this command. If you have made your own mistakes, don't worry you can correct them as we go along.

Press * (STAR) and watch your mistake filled message travel across the screen in the DISPLAY mode.

2.4.2 EDIT COMMAND LISTING / DESCRIPTION

The following commands will be used to edit the practice message that we have just created:

LINEFEED:	moves the CURSOR one space forward.
BACKSPACE:	will move the CURSOR one space backward.
DELETE:	removes the letter, character or blank space at the CURSOR'S location.
RETURN:	will cause the CURSOR to move immediately to the beginning of the message.
ESC:	this key MUST be used together with the following commands AS SHOWN BELOW. FIRST the ESC Key is pressed (NOT held) THEN press the second key in the sequence as shown below :
ESC then LINEFEED:	places the CURSOR 15 spaces to the RIGHT
ESC then BACKSPACE:	places the CURSOR 15 spaces to the LEFT
ESC then RETURN:	places the CURSOR at the END of the message
CTRL A:	this command is used to INSERT A SPACE at the point just BEFORE the CURSOR position.

2.4.3 CORRECTING SAMPLE MESSAGE

Your message now looks like this:

i am laerning howto EDIT my my new SUPRSCAN display console.

First, press * (STAR) to put your SUPRSCAN into the EDIT mode.

1. The CURSOR will be positioned at the end of the message - press RETURN to move the CURSOR to the beginning of the message. It will cause the first letter of your message (the "i") to flash.
2. To capitalize the letter "i", press SHIFT - hold it - and then press the letter "I" (the "i" will be replaced with an upper case "I").

NOTE! this method "OVER-TYPING" is the simplest way to correct a letter or character. It could also have been done by deleting the letter (DELETE Key) and/or adding a space, using the CTRL A command, and then adding the desired letter.

Second, press LINEFEED (the CURSOR will move one space right each time you press this key) as necessary to move the cursor.

1. Move CURSOR to the "e" in the misspelled word "laerning".
2. Type the letter "a"; the screen should now display "laarning".

Third, press BACKSPACE (The CURSOR will move one space LEFT each time you press this command) as necessary to move the CURSOR.

1. Place the CURSOR on the FIRST "a" in "laarning".
2. Press the letter "e" to over type the incorrect "a"; the screen should now show the correct spelling of the word "learning".

Fourth, press LINEFEED as necessary to move the CURSOR.

1. Move the CURSOR to the position directly under the "t" in "howto". A SPACE is needed BETWEEN these two words.
2. Press CTRL A (this command opens or places a SPACE immediately in front of the character indicated by the CURSOR).
3. Now the display screen should show "how to" and the CURSOR is positioned at the blank space you inserted.

Fifth, press LINEFEED again as necessary to move the CURSOR.

1. Move the CURSOR until the "E" in EDIT flashes.
2. You will change the capital letters in this word to lower case letters by simply over-typing the whole word.
3. Type "edit" exactly where the upper case letters are on the screen.
4. The space after the "t" should be flashing showing your current position when you are done.

Sixth, press LINEFEED to move the CURSOR.

1. Move the CURSOR to the 'm' in the second 'my'.
2. To remove the extra 'my' in your sentence, press DELETE and the 'm' will disappear.
3. Now repeat the same command to remove the 'y'.
4. You still have too many spaces between the words 'my new'.
5. Press DELETE until only one space remains between the two words.

Seventh, press LINEFEED to move the CURSOR.

1. Move the CURSOR to the 'R' in the word 'SUPRSCAN'.
2. Remember ... the CTRL A command ADDS a SPACE immediately BEFORE the flashing CURSOR.
3. Press CTRL A to add a space between the 'P' and the 'R'.
4. Press SHIFT and type the letter 'E' to complete the word 'SUPERSCAN'.

Eighth, press LINEFEED to move the CURSOR.

1. Move the CURSOR to the 'd' in 'display'.
2. Press SHIFT and press the letter 'D'. An upper case 'D' will appear in it's place.

Ninth, use the same procedure as in step 8 above to correct the 'c' in 'console' and thereby finish your first editing session.

Finally, press * (STAR), to put your SUPERSCAN unit into the DISPLAY mode. Your corrected message should now travel across the screen. If you still find errors in your text, simply press the * (STAR) to re-enter the EDIT mode and use the commands that you have learned in this section. IF THERE ARE NO FURTHER ERRORS YOU CAN SIT BACK AND ADMIRE YOUR WORK ! ! !

One more thing, a computer, even a small one, can make some people a little nervous. Operating this keyboard and it's controls is no harder than learning how to operate a microwave oven after you have used a conventional oven. The microwave has different types of buttons and switches and is capable of turning out time-saving, delicious meals in a fraction of the time your old oven could. It just takes a little time and study to learn how to operate.

You can make mistakes with your SUPERSCAN Display Console, (and as long as you do not throw it on the floor) there is no way you can damage the computer by just programming it. So relax, play with your SUPERSCAN. It can be as entertaining for the owner as for the observer!

CHAPTER III

INTERMEDIATE LEVEL PROGRAMMING

3.1 INTRODUCTION TO INTERMEDIATE LEVEL PROGRAMMING

In this section you will learn to create eye-catching effects with your SUPERSCAN Display Console. Each command that you learn will add to your ability as a SUPERSCAN Programmer. You will be able to experiment with each new command as it is discussed. In all cases, the basic commands that you learned in Chapter II will be used extensively. All SUPERSCAN messages start with text typed in exactly as you did in Chapter II. Intermediate level programming will simply involve additional control commands that will allow you to add special effects ANYWHERE in your message that you wish. You will also be exposed to commands that allow you to control the speed of your message display.

As we proceed you will see that each special command that you learn will have a special symbol that will identify where you have placed these commands in your program. This allows you to always see exactly what commands you have used in creating special effects. These commands will NOT show up in the message that appears on the screen in the DISPLAY mode only in the EDIT mode will these symbols be visible.

NOTE: Remember you must ALWAYS terminate a message with CTRL E. (This command signals the SUPERSCAN to recycle the message.) This is true even if not specifically noted in your instructions.

3.2 TRAVEL SPEED CONTROL

3.2.1 PREPARATION

First, put your SUPERSCAN console into the EDIT mode Press *. Then, press CTRL B to remove any previous message that may be in the unit.

Type in the message :

SUPERSCAN can travel at different speeds

At the end of the message ... press the CTRL E command. The CTRL E edit symbol ("/" with two dots above the left side of the "/") will appear on the screen at the end of your message.

Press *. Your message should appear on the screen and should be traveling from right to left across the screen in a smooth motion.

3.2.2 CHANGING THE SPEED

Press * to return to EDIT mode. Now we will proceed to demonstrate the CTRL Y command that is used to vary the speed of your messages.

When you use/press the CTRL Y command, you should see the symbol [Y]. This command sets the rate at which letters or characters are passed to the screen for display. The letter or character following CTRL Y determines this rate. There are 35 different speed settings. The fastest speed is CTRL Y 1. The slowest speed is CTRL Y Z. The number order is the sequence 1 through 9 and then the letters A through Z. The SUPERSCAN will ALWAYS begin displaying messages at the rate of CTRL Y 5 if you do not command it otherwise.

NOTE! YOU MUST ALWAYS RESET THE SPEED WITH A CTRL Y 5 COMMAND IF YOU WISH TO RETURN TO THE "NORMAL" SPEED FROM A SPECIAL SPEED SETTING.

The CURSOR should be flashing at the center of the screen under the CTRL E edit symbol at the end of the message. Press RETURN to move the CURSOR to the front of the message under the "S" in SUPERSCAN.

Press CTRL A two times. This will insert the two spaces necessary for your speed command. Then type CTRL Y 1 (this is the FASTEST speed). Now, press RETURN, then * ... and watch your message speed across the screen.

Press * to return to the EDIT mode. (Flashing CURSOR is under the [Y] symbol) Move the CURSOR (use LINEFEED command) to a position under the number "1". Change the number 1 to a number 9. Then press RETURN, then * and note the difference in speed.

Go ahead and experiment with the timing by changing the character following the CTRL Y to a few different values.

NOTE! WHEN IN THE TRAVEL MODE - Speeds slower than CTRL Y 6 will be very "jerky" and should only be used when this type of effect is required. Speeds faster than CTRL Y 4 may cause data or characters to display improperly when the message section that is "speeded up" is longer than 60 characters in length. IT IS NOT RECOMMENDED THAT SPEEDS OTHER THAN 4,5, OR 6 BE USED IN THE TRAVEL MODE UNLESS SPECIAL EFFECTS ARE REQUIRED. It has been determined that reading messages traveling faster than speed value 4 is difficult for many people.

3.3 SCROLLING EFFECTS

The SCROLLING mode is used to cause words or characters to enter the screen from the top or bottom of the display screen rather than from the right of the screen as they do in the TRAVEL mode. This feature is used on groups of characters or on words that are less than or equal to 18 characters (including spaces) in length. Words on the screen can be made to go off the screen or to appear using this display effect.

3.3.1 PREPARATION

Press * to return to the EDIT mode, then press CTRL B to clear the screen.

Press LINEFEED three times to give you some space for inserting message commands and to center your message on the screen. If you were inserting this command into an existing message, you could use a series of CTRL A commands to center your message on the screen and to provide space for other commands that you may wish to add.

Type in : HI I'M SUPERSCAN

End your message with the CTRL E command.

3.3.2 SCROLLING COMMANDS

Press RETURN (this will move the CURSOR to the far left of your screen). In the space BEFORE the first word insert the commands: CTRL R then CTRL T. After the message you will insert commands for the SCROLL effect.

NOTE: The command CTRL R (it's edit symbol which is a "BACKWARDS R" should appear) CLEARS and RESETS the screen for the next command. CTRL T ("T" over a dot symbol will appear) sets the SCREEN DISPLAY to an INVISIBLE state.

Press ESC RETURN (escape return) to place the CURSOR at the end of the message.

Press the CTRL A command two times to insert two spaces in front of the CTRL E edit symbol.

Press CTRL U (up arrow edit symbol will appear) then CTRL D (down arrow symbol will appear) to command the message to SCROLL UP onto the screen and then to SCROLL DOWN off the screen. (MAKE SURE THAT YOU HAVE NOT OVER-TYPED THE CTRL E COMMAND THAT ENDS THE MESSAGE.)

Press * and your message will scroll up into your screen and down out of the screen over and over. If your message does not SCROLL, go back to the EDIT mode (*) and go through the steps again to make sure that you entered all commands correctly and in the order and positions listed.

3.4 DISSOLVE EFFECTS

The DISSOLVE EFFECT uses selective control of the 6 x 7 dot matrix (6 columns and 7 rows) of Light Emitting Diodes (LEDs) which are used to display all of the individual character segments of your SUPERSCAN message. By "telling" vertical columns to go off (or on) in sequence from left to right (or from right to left) a unique effect is created. This command acts on a group of characters from 1 to 18 individual characters in length. In preparation for entry of this command you must use commands that clear the 18 character SUPERSCAN display and, if your message is to appear from "nowhere", you will have to also enter the message into an "invisible" portion of the display's memory. Like the SCROLLING commands, the DISSOLVE commands work on the characters to their immediate left in the message.

3.4.1 PREPARATION

Press *. Then, press CTRL B.

Type CTRL S (S over a dot symbol will appear on screen). This command tells the SUPERSCAN that the text FOLLOWING should be INVISIBLE until another command is given to make it become visible on the screen.

3.4.2 DISSOLVE COMMAND USE

Now type this message :

I AM CONFUSED !

Type CTRL M (right arrow symbol) this command will make the text enter the screen by "materializing simultaneously" all letters in the preceding group FROM THE RIGHT in a manner similiar to viewing vertical venetian blinds on end as they slowly (or quickly!) open. The text MUST be equal to or less than 18 characters.

NOTE: The letters can then be made to disappear IN THE SAME DIRECTION as they appeared by entering another CTRL M command. If you want the text to stay on a little longer use a CTRL L command to make the message stay an extra 2 seconds.

Type CTRL J (left arrow symbol). This command will cause the text to exit/de-materialize in the same fashion as described in the CTRL M command above. In other words, your message will dissolve right before your eyes ! As put forth in the note above, you can use this command to cause text to appear as well as to disappear - - - only the direction of the effect is different.

Type CTRL E to end your message. Press * to go into the DISPLAY mode. If for any reason your message does not DISSOLVE in or out, go back into the EDIT mode and go through the steps again to make sure all commands have been entered properly.

PROGRAMMING HINT: If you enter a 'CTRL' command and do not see the proper Edit Symbol appear it means that the computer Keyboard did not properly "see" your entry. Using the edit commands that you have used in the section on Basic Message Programming, you can simply remove the incorrect command or character symbol and replace it with the correct one.

3.5 THE 'WINK' COMMAND

The 'WINK' command, as it's name suggests, is used to cause portions of a message to "wink" on or off as the message is displayed. This command can be used for single letters, single words, or even for complete sentences or groups of words. If you wish, your whole message can wink on and off as it displays. This is a simple command to use and it can be inserted almost anywhere in a message. Unlike commands like DISSOLVE, no special formatting of your message or display screen is required. This command can be used easily with other commands to provide a "combination effect."

3.5.1 PREPARATION AND USE OF 'WINK' COMMAND

Press * Then press CTRL B to clear the display.

Type CTRL W (W over a dot symbol) this command causes the letters or characters following, and up to the next CTRL W symbol, to flash on and off at one second intervals.

Next, type the message :

MARANTZ Piano Company

Type CTRL W again, and end the message with the CTRL E command.

Press * for DISPLAY and watch your message "wink" as it travels across the screen.

3.6 TO FLASH A MESSAGE ON THE SCREEN

This feature makes use of the SUPERSCAN console's ability to store an "invisible" message in it's memory and to then make the message appear as if from nowhere. This feature is used in many of the effects in the SUPERSCAN "bag of tricks".

3.6.1 PREPARATION AND USE OF 'FLASH ON' CAPABILITY

Press * to enter the EDIT mode, and then press CTRL B to clear the display.

Type CTRL R (backwards R edit symbol) to reset the screen display.

Type CTRL T (T over a dot edit symbol) to set the screen to an invisible state.

Now, type the message :

WE WELCOME YOU

Type CTRL V (V over a dot edit symbol). This command tells the SUPERSCAN computer to make the letters of the message visible immediately. Then end the message as usual with the CTRL E command.

Type the * command and watch your message FLASH on and then travel to the left off the screen over and over.

3.6.2 USE OF "FLASH OFF" CAPABILITY

NOTE: If you still have the above message programmed into the SUPERSCAN console in section 3.6.1 please refer to "A" below. If you are starting from the beginning to program a message, please see "B" below.

- - A - -

Press * to return to the EDIT mode.

The screen should be showing the character commands for the section 3.6.1 above. To instruct the SUPERSCAN display to FLASH OFF this same message after the message has flashed on, proceed with the following steps:

The flashing CURSOR should be positioned under the CTRL E edit symbol. If not, press the LINEFEED key until you have moved the CURSOR to a position under the end of message symbol OR press the ESC key then the RETURN key and you will automatically go to the end of your message.

Press the CTRL A command two times to create a space for your "new" edit commands. After you have done this, the CURSOR should be flashing next to the last character of the message.

Now, type CTRL L (CTRL L has a "double" left arrow edit symbol) this command causes a two (2) second delay before the next command is executed by the SUPERSCAN computer. Next type the CTRL T command (T over a dot edit symbol) which sets the screen immediately to an "invisible" state.

The CTRL E, end symbol should already be on the screen. Just press the * command to display your work ! The message phrase will FLASH onto the screen all at once, remain briefly, and will disappear from the screen all at once.

- - B - -

To create a message on the SUPERSCAN screen that will FLASH OFF when displaying a message line of 18 characters or less :

Press * to go into the EDIT mode; then press the CTRL B command to clear the screen. Then, type in the message :

WE WELCOME YOU

Immediately after the message, type the CTRL L (double left arrow edit symbol) command which will cause a two (2) second delay before the next command is executed by the SUPERSCAN computer.

Type the CTRL T (T over a dot edit symbol) command which will cause the display to go immediately to an invisible state.

Type CTRL E to end the message. Press * to DISPLAY your message. The letters will appear one by one on the screen, pause for 2 seconds and then the entire phrase will disappear all at once.

3.6.3 TO FLASH A MESSAGE OFF AND ON

This version of the FLASH command uses a series of commands to cause a message to flash a number of times before continuing on with the rest of the message.

Press * to return to the Edit mode and CTRL B to clear the screen. The CURSOR is at the far left of the screen.

NOTE: To get the on/off flashing effect you must alternate the the CTRL T and CTRL V commands several times, OR you can use a "BLOCK REPEAT" command pair to cause the CTRL T and CTRL V commands to repeat the required number of times. The BLOCK REPEAT command is described in Chapters 4 and 5.

Type the message : HAPPY BIRTHDAY . . . then, type CTRL T, then CTRL V, then CTRL T, then CTRL V, then CTRL T, then CTRL V, and end by typing the CTRL E command.

Press * to go to the DISPLAY mode. Your message should FLASH boldly on and off three times (quickly) before finally TRAVELING off the screen and repeating the sequence again and again.

NOTE: Before you erase the above message, try putting CTRL L commands between each PAIR of CTRL T and CTRL V commands. This will greatly slow down the flash rate. Special effects can also be slowed down or speeded up using the CTRL Y command. To try this command in this message, place the CTRL Y command sequence just before the CTRL T, CTRL V sequence. Experiment using different CTRL Y speeds.

3.7 TO HIGHLIGHT WORDS OR PHRASES

The HIGHLIGHT feature allows you to command letters, text, or graphics characters to be displayed by "reversing" the way that the LED DISPLAY MATRIX will illuminate. Instead of lights being used to outline your letters ALL of the lights that would normally NOT be used to outline your characters are illuminated. This gives the effect of printing "black" (or dark) letters on a bright red background . . . rather than bright red letters on a dark background as is normally done with the SUPERSCAN display console.

3.7.1 PREPARATION AND USE OF THE HIGHLIGHT FEATURE

Press * to go into EDIT mode then CTRL B to clear the screen.

Type CTRL I (diamond with a dot in the middle is the edit symbol for CTRL I) this command is used to tell the SUPERSCAN computer to highlight all characters that follow the command UNTIL another CTRL I command is seen in the program. It can be used to emphasize a prominent word or character in your message or for any other purpose that you may wish. It is usually best to put a SPACE between the CTRL I command and any text before or after the CTRL I command.

Type the message :

HIGHLIGHTS WORDS

Then type CTRL I, and end with the CTRL E command.

Press * to go into the Display mode to view your highlighted message. The chapter on advanced programming will describe additional highlight commands that are available for your use.

3.8 GRAPHICS MODE

In this section you will learn to create your own GRAPHIC pictures to add to the eye-catching effects of the SUPERSCAN display console. You will be able to "draw" characters on the SUPERSCAN display screen, store these characters in memory, and place them into your messages to make them even more interesting. To identify your special graphics characters you will assign each of them a "code" name. These GRAPHICS CODE NAMES are SINGLE character elements that can be ANY of the letters (upper or lower case), numbers, or keyboard symbols on the SUPERSCAN keyboard EXCEPT THE CTRL @ KEY. GRAPHICS CHARACTERS ARE MADE BY LIGHTING INDIVIDUAL LIGHTS IN A 6 COLUMN BY 7 ROW MATRIX. Complex characters are created by using any number of these individual Matrix Blocks. YOU CAN CREATE UP TO 127 DIFFERENT CHARACTERS IN A PARTICULAR MESSAGE.

3.8.1 PREPARATION

Type * to put your SUPERSCAN into the EDIT mode.

Type CTRL B to clear the SUPERSCAN memory.

3.8.2 GRAPHICS CHARACTER CREATION

Type CTRL K to enter into the GRAPHICS mode. The screen will show :

[GRAPH > <]

NOTE: For each picture you "draw", you MUST assign a code. You may use letters of the alphabet or any symbol on SUPERSCAN'S keyboard. Remember to WRITE DOWN the codes for your graphics so that you can edit them at a later date. THE SUPERSCAN COMPUTER WILL NOT DISPLAY THESE CODE NAMES IN THE PROGRAMMED MESSAGE THAT YOU CREATE.

No CURSOR will be flashing. Type 'a', this Code 'a' will appear next to the word "GRAPH" along with a small flashing light. This light is the GRAPHICS CURSOR.

NOTE: 'a' is the code name for the GRAPHICS CHARACTER that you will be creating.

Your graphics editing (or drawing) may now begin. The following commands are available for use in the GRAPHICS EDIT mode :

C (Copy) Any character already on the keyboard may be copied into the graphics file that you use to build or draw your GRAPHICS character. To make it simpler for you to "draw" your graphics character you may wish to start with an existing character or symbol and modify it. If you push the DELETE Key after you press the C Key you will turn all the lights ON. If you push the SPACE Key after the C you will turn all lights OFF.

NOTE: By pressing the following key commands you can move the small flashing CURSOR used to DRAW your picture.

D (Down) This moves the flashing CURSOR DOWN ONE ROW. The GRAPHICS CURSOR will go off the screen and reappear at the top when it is moved DOWN from the bottom row position.

E (Exit) This command ends your GRAPHICS edit session and stores the character that you have made in the GRAPHICS memory and returns you to the EDIT mode.

L (Left) This command moves the flashing GRAPHICS CURSOR LEFT ONE COLUMN. The GRAPHICS CURSOR will leave the screen and reappear on the RIGHT after it is moved LEFT from the leftmost column.

- R (Right) This command moves the GRAPHICS CURSOR RIGHT ONE COLUMN. The GRAPHICS CURSOR will leave the screen and reappear on the LEFT after it is moved RIGHT from the rightmost column.
- U (Up) This command moves the flashing GRAPHICS CURSOR UP ONE ROW. The GRAPHICS CURSOR will leave the screen and reappear on the BOTTOM after it is moved UP from the topmost row.
- Ø (Off) This command turns OFF the LIGHT marked by the GRAPHICS CURSOR position. This command is used to erase any unwanted light that may be turned on in the character that is being drawn between the > < symbol on the SUPERSCAN display screen.
- 1 (On) This command turns ON the LIGHT marked by the GRAPHICS CURSOR position. This command is the one used to "draw" your GRAPHICS picture in the area marked by the > < symbol that is visible on the SUPERSCAN display screen.

NOTE: Your GRAPHICS CHARACTER will be "drawn" in two areas of the screen so that you can easily see the position of the flashing GRAPHICS CURSOR in your character display area.

Using any command order that you wish, "create" the graphics character shown below (which we have called "a") on your SUPERSCAN display console :

```

Character "a" ----->
      - - * * - -
      - * - - * -
      - * - - - *
      - - * - - -
      - - - * - -
      - - - - * -
      - - - - - *

```

After you have entered the graphics character into the screen display, you type "E" to leave the GRAPHICS EDITOR mode. REMEMBER TO WRITE DOWN THE LETTER CODE FOR EACH GRAPHICS CHARACTER. Before putting this graphics character into a test message let's create the character shown below, and name this new character "b" :

```

Character "b" ----->
      - * * - - -
      * - - * - -
      - - - * - -
      - - * - - -
      - * - - - -
      * - - - - -
      - - - - - -

```

Now that you have created two graphics characters we will use them in a message to demonstrate how easily these unique characters can be added to a programmed message.

3.8.3 USE OF GRAPHICS CHARACTERS IN A MESSAGE

If you have followed instructions properly you will now be in the EDIT mode, and your CURSOR will be positioned at the far left of the display.

Type the message :

Don't you just LOVE how Graphics can enhance a message !

Move your CURSOR to the beginning of the word "LOVE", and use the CTRL A command to insert three (3) spaces before and after the word "LOVE" in the message.

Position your CURSOR just after the space following the "t" in "just".

Type CTRL G. This is the command that is used to enter a graphics character into a message. It is always typed JUST BEFORE your code symbol for the GRAPHICS CHARACTER that you wish to insert. Then type "a" to enter the "a" GRAPHICS CHARACTER into your message. You will see the character appear in your message. Type CTRL G, then the "b" code symbol. This will enter the other half of the two part graphics character that we have created . . . does it look familiar ? ? ?

Using the same sequence of commands move the CURSOR to just after the word "LOVE", and insert the GRAPHICS characters "a" and "b" again.

To Jazz up the message just a bit more use CTRL A to make spaces for CTRL W ("WINK" commands) that you should position around each of the two GRAPHICS characters that you have inserted.

Finally, place a CTRL E command at the end of your message . . . and type the * command to place the SUPERSCAN console into the DISPLAY mode for viewing your message with GRAPHICS.

3.8.4 "DRAFTING" GRAPHICS CHARACTERS

The following page is designed as an aid to the SUPERSCAN programmer. It's function is to make it easier for you to "draw" GRAPHICS CHARACTERS for the SUPERSCAN display. We suggest that you COPY the page and use it to help you to document your graphics characters. You can use the CASSETTE data storage capability of the SUPERSCAN display console to keep a permanent file of characters that you plan to use often. Each time you create a cassette record of a SUPERSCAN program any graphics characters used in that program will be saved. We recommend that you keep a cassette file with only graphics characters and enter this file into the SUPERSCAN console before your editing session begins. USE COPIES OF THE GRAPHICS DRAFTING AID TO SHOW YOUR ASSIGNED CODES IN THE LINES PROVIDED.

NOTE: THE CTRL B COMMAND DOES NOT ERASE THE GRAPHICS FILE THAT IS ENTERED IN THIS WAY. THE SUPERSCAN MEMORY WILL RETAIN THE GRAPHICS CHARACTERS UNLESS THEY ARE OVERWRITTEN BY ANOTHER CASSETTE MESSAGE OR UNLESS POWER IS TURNED OFF.

3.9

SUPERSCAN GRAPHICS CHARACTER DRAFTING AID

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Chapter IV

ADVANCED PROGRAMMING TECHNIQUES

In this section you will learn to connect a sequence of commands or to add additional commands to existing messages so as to fully utilize the capability of your SUPERSCAN Display Console. In order to get the best results from an advertisement, it is necessary that it be seen AND understood. The SUPERSCAN display can and will provide you with a tool that can fulfill both of these key needs. It will allow you to transmit maximum information to your customers in such a way that they will respond without the negative impressions that can be created by some point of purchase displays.

The "basic" traveling message does not always provide the impact necessary to truly highlight a presentation or to provide enough entertainment potential to make a customer look at a message more than once. If the message IS entertaining . . . it will be READ more than once and with much greater impact. You use a HEADLINE in your print ads in the same way as you will use the special effects capability of the SUPERSCAN display. YOUR creative ability will determine how and where you will utilize special effects in your messages.

This section of the Owner's Manual will allow you to experiment with the previously mentioned commands plus several new ones. You will do this by creating a basic traveling message and then embellishing this message just as you will with your own messages in the future. The Chapter after this will provide you with detailed information on all of the many commands available to you. You will be able to use all of these commands and the special effects that they create by using the techniques that you learn in this Chapter.

----->==IMPORTANT NOTE==IMPORTANT NOTE==<-----

To enhance the readability of text in this section, CTRL COMMANDS will be written in the following manner: The symbol [^] is be used to signify use of the CTRL (Control) Key. For example ^A, ^B, ^C, etc. mean that the CTRL Key is held down while the "letter" Key indicated is pressed. Spaces will be shown by the symbol [_]. All other characters will be shown just as they should be typed on the keyboard of the SUPERSCAN display. Text/Commands MAY be spaced by the symbol [;] where this will help readability - it IS NOT part of the message. Text will be shown exactly as it should be entered. REMEMBER THAT CTRL COMMANDS ARE SHOWN IN THE DISPLAY AS EDIT SYMBOLS. THESE SYMBOLS ARE LISTED NEXT TO EACH COMMAND IN CHAPTER V, SECTION 5.4. MEMORIZE THEM !

4.1 PREPARATION - TRAVELING MESSAGE CREATION

The following message should be programmed into the SUPERSCAN display by carefully following each step. Take special care to make sure that all letters and commands are correctly entered (including spaces where indicated). Use the text editing commands that you have learned so far to correct any errors that are made as you go along. WHERE EDITING COMMANDS ARE NECESSARY THEY WILL BE DESCRIBED IN GENERAL TERMS AS TO THE EFFECT REQUIRED AND THE COMMAND TO BE USED. FOR EXAMPLE: "Insert six spaces with the ^A command just before the "a" in always".

1. Put your SUPERSCAN console into the EDIT mode Press * then ^B.
2. Type in the message :

`I_am_SUPERSCAN!!__making_you_LAUGH_&_GIGGLE___when_I_WINK_and_WIGGLE___I'm
a_FLASHY_ITEM!_^E`
3. Press *. The message should travel across the screen. In the next section we'll "jazz it up", just a little.

4.2 CENTERING A PHRASE - TO APPEAR AS IF "TYPED IN"

The CTRL X command demonstrated in this section can be very versatile. When this TWO CHARACTER command is placed in a message it causes text following to "print" in a screen position specified by the second character of the command. For additional information refer to the CTRL X command description in Chapter V.

1. Go into EDIT mode and use ^A to open two spaces in front of the "I" at the start of the message. Type ^X | 7 to cause message to appear 8 spaces from the left of the display screen edge.
2. Move CURSOR with LINEFEED to the "S" in SUPERSCAN and use ^A to insert 6 spaces. Type ^L | ^R | ^X4 | ^Y1 ---- This will cause a 2 second delay after the phrase, reset the screen, start the first letter of the next word to appear 5 spaces from the left, and run following text and effects at a faster than normal speed.
3. Press RETURN, then * (this moves the CURSOR to the beginning of the message so that you can view from the "start" rather than from the point marked by the CURSOR's position). Your message should begin with "I am" centered on the screen. It will disappear, and the remainder of the message will travel routinely, but at the fastest rate, across the screen.
4. If this looks OK . . . proceed to the next section. Your message now will look like this :

```
^X7I_am_^L^R^X4^Y1SUPERSCAN!!__making_you_LAUGH_&_GIGGLE___when_I_WINK_and
_WIGGLE___I'm a_FLASHY_ITEM!_^E
```

4.3 COMBINATION DISSOLVING EFFECTS

1. Go into the EDIT mode. Using the dissolve commands you will cause the word SUPERSCAN to dissolve right, then left, then right, etc. ending with a command to reset the screen and another to reset the speed from the Y1 speed previously programmed.
2. After the last exclamation point in SUPERSCAN, use ^A to insert eleven spaces. Type the following commands in this space: ^M | ^J | ^M | ^J | ^M ^J | ^M | ^J | ^R | ^Y4
3. Use ^A to insert two spaces after the "u" in "you". Type ^L | _ in this area.
4. Press RETURN then * to go into the Display mode and view the message from the start - the word SUPERSCAN should "move" in a "flashy" manner then disappear and be replaced by the words "making you" which will appear and hold on the screen for 2 seconds. The remainder of the message will "travel" as before. The edited message should now be:

```
^X7I_am_^L^R^X4^Y1SUPERSCAN!!^M^J^M^J^M^J^M^J^R^Y4 _making_you^L__LAUGH_&_
GIGGLE___when_I_WINK_and _WIGGLE___I'm a_FLASHY_ITEM!_^E
```

4.4 SCROLLING UP AND DOWN

1. Continuing with the original message, you will now learn to animate words with the SCROLLING commands so that the word "GIGGLE" will make the people watching "giggle"!
2. Go into the EDIT mode, and use LINEFEED to move the CURSOR to the space after the ^L that was inserted after the words "making you".
3. Type ^R before the word "laugh". This command clears and resets the screen and cause the words "making you" to DISAPPEAR.
4. Move the CURSOR to the Space just after the "&" and use ^A to insert a space at this point. Type ^L command into the space that you have made at this point.
5. Move the CURSOR and insert 8 spaces immediately after the word "GIGGLE". Type the following command at this point: ^X8 (the 6 remaining spaces will "print" at the first through sixth screen positions).
6. These commands (with the three spaces already in the message) print out "GIGGLE" after "LAUGH &" have been on the screen for two seconds and then causes the first 7 characters currently on the screen ("LAUGH &") to be WIPED OUT, leaving only the word "GIGGLE".

4.4 (cont.) SCROLLING UP AND DOWN

7. Now, to make "GIGGLE" giggle you will use the ^A command to insert 20 spaces just before the "w" in "when". Then type the following command sequence in this space: ^P | ^U | ^D | ^U | ^D | ^U | ^D | ^U | ^D | ^U | ^D | ^U | ^D | ^U | ^D | ^L | ^R | ^N (These commands tell the computer to scroll up then down alternately a single row at a time. The effect is a rapid "jiggling" motion. Refer to Chapter V for an explanation of the CTRL F AND CTRL N commands - it is the use of these commands that cause the SCROLLING commands to operate as multi-action commands that operate a "line at a time" per command rather than as complete "on screen" or "off screen" effects. CTRL F makes the computer operate in multi-action mode and CTRL N causes it to operate normally.)
8. Use RETURN and then the * command to view the message. In addition to the previous effects you will see the new effects that you have just added. After the word "GIGGLE" you will see the rest of the message travel as before. The complete message that you should have at this point is shown below:

```
^X7I_am_^L^R^X4^Y1SUPERSCAN!!^M^J^M^J^M^J^M^J^R^Y4__making_you^L^R__LAUGH_&
^L_GIGGLE^X0_____^P^U^D^U^D^U^D^U^D^U^D^U^D^U^D^U^D^U^D^L^R^Nwhen_I_WINK
_and_WIGGLE___I'm_a_FLASHY_ITEM!_^E
```

4.5 ADDING WINK

1. To add to our message, we will now blink words with the WINK command.
2. Go into the EDIT mode, and use LINEFEED to move the CURSOR to the space just before the word WINK.
3. Use ^A to insert three spaces at this point and type in the following commands in the space you made before the word WINK: ^W | ^Y2
4. Use LINEFEED to move the CURSOR to the "a" in the word "and". Using the ^A command, insert two spaces at this point and type in the following commands: ^W | ^L
5. Now move the CURSOR to the space just before the word "WIGGLE" and insert a space with the ^A command and insert ^L in this space. (The commands in this and the previous step tell the computer to blink the word in-between the two ^W commands, hold for two seconds, and then cause the next word to come in 6 letters from the left at a fast speed and hold for an additional 2 seconds.)
6. Use the RETURN then the * command to view the message and watch the added animation of your words. After the word "and" the rest of the message will travel as before. The complete message that you should have at this point is shown below:

```
^X7I_am_^L^R^X4^Y1SUPERSCAN!!^M^J^M^J^M^J^M^J^R^Y4__making_you^L^R__LAUGH_&
^L_GIGGLE^X0_____^P^U^D^U^D^U^D^U^D^U^D^U^D^U^D^U^D^U^D^L^R^Nwhen_I_^Y2^W
WINK_^W^Land_^LWIGGLE___I'm_a_FLASHY_ITEM!_^E
```


4.7 (cont.) HIGHLIGHT, WINK, AND FLASHING EFFECTS COMBINED

7. Type the following commands after the "!" in "FLASHY_ITEM!"; --- !^L!
^Y4 ! ^W ! ^F ! ^O ! ^F ! ^O ! ^F ! ^O ! ^F ! ^O ! ^F ! ^O ! ^F ! ^O ! ^F
! ^O ! ^F ! ^E [These commands reset the speed to a slower timing (Y4).
Positioning the last text on the screen after the 19 spaces gives room for
the current message "I'm a" to clear off the screen before the next text
appears. The alternating HIGHLIGHT command (^O) and NORMAL SCREEN command
(^F), along with the WINK command (^W) cause a wild flashing effect. See
Chapter V for details on the CTRL O and CTRL F commands - HIGHLIGHTING is
a process where ALL lights that would be normally OFF are turned ON and
the lights that would normally be ON are turned OFF.]
8. Use the commands RETURN and then * to view YOUR newly animated message.
The completed message is shown here:

^X7I_am_!L^R^X4^Y1SUPERSCAN!!^M^J^M^J^M^J^M^J^R^Y4__making_you!L^R__LAUGH_&
^L_GIGGLE^X0_____^F^U^D^U^D^U^D^U^D^U^D^U^D^U^D^U^D^U^D^L^R^nwhen_I_^Y2^W
WINK_^W^Land_^L^R^X6^Y2WIGGLE^J^M^U^D^J^M^U^D^J^M^U^D^J^M^U^D^J^M^U^D^L___^R
^X5^Y4I'm_a_____^Y3^W^LFLASHY_ITEM!___^L^Y4^W^F^Q^F^Q^F^Q^F^Q^F^Q
^F^Q^F^Q^F^Q^F^Q^F^Q

The message that you typed in and edited to add special effects shows one of the best methods for creating a Special Effects Message on the SUPERSCAN display console. It is easy to add any number of special effects (even very complicated ones) providing that each effect is treated individually, rather than trying to determine all of the commands that will be used before the message has been created. By observing your Message as it Travels, you will very often get a "feel" for exactly which special effect you might want to use to highlight a Key point and/or break up a section that might otherwise be boring or plain. Messages do not need to be complicated or involved to provide very effective displays of information. A typical message would not necessarily have as many effects as our test message does . . . nor, would it be necessary that the effects follow one another as quickly as did those in this example.

4.8 THE BLOCK REPEAT COMMAND - CTRL [AND CTRL]

You will note that some of the special effects that were used in your message required that you repeat a series of commands a number of times to get the proper effect on the SUPERSCAN display. The next part of this Chapter will introduce you to one of the most 'powerful' of the SUPERSCAN programming commands -- BLOCK REPEAT. We will use this command to replace a series of commands in the message with a shorter and more flexible command series. We will also demonstrate how 'nesting' BLOCK REPEAT commands can create entirely new variations for your special effects and simplify your programming.

Your program presently looks like this:

[illegible]

It is many characters longer than is necessary. We will use the BLOCK REPEAT command to replace each series of commands that have been repeated to give the multiple action effects used in the message. In addition to saving memory space, you will find that your programs will be easier to understand and edit when you use this powerful command in your programming.

4.8.1 REPLACING ^M^J COMMAND SERIES IN MESSAGE

We will replace the command series ^M^J^M^J^M^J^M^J used to cause the word "SUPERSCAN" to dissolve on and off with a new command series ^[4^M^J^]. (Starting at the first ^M command after "SUPERSCAN" - Over-type the old series of commands with the new, and use the DELETE key to remove the last three commands in the old series.)

You have saved three characters of memory AND YET with ONLY the five characters in the new series you can repeat the two commands in the dissolve effect up to 35 times! You can even repeat the effect many, many more times by putting the new series of commands inside of a second pair of BLOCK REPEAT commands - or even a third, fourth, or fifth pair. If you had used 5 pairs, the effect would repeat up to 52,521,875 times before the message would proceed to display the next words!

4.8.2 REPLACING ^U^D COMMAND SERIES IN MESSAGE

Now replace the command series ^U^D^U^D^U^D^U^D^U^D^U^D^U^D that was used to make the word "GIGGLE" move rapidly up and down with the new command series ^[B^U^D^] using the same method as described in Step 1 above. We have saved 11 characters in this case. Also, the "jiggle" in "GIGGLE" could have been repeated many times more if desired. Our message now will look a bit shorter:

[illegible]

4.8 (cont.) THE BLOCK REPEAT COMMAND - CTRL [AND CTRL]

4.8.3 REPLACING ^J^M^U^D COMMAND SERIES IN MESSAGE

To complete our condensation of the message we will replace the series of commands ^J^M^U^D^J^M^U^D^J^M^U^D^J^M^U^D^J^M^U^D after the word "WIGGLE" with the new series ^[5^J^M^U^D^], (13 characters saved) Then replace the command series ^F^O^F^O^F^O^F^O^F^O^F^O^F^O^F^O after "FLASHY ITEM" (leave the last ^F in the message) with the new series ^[7^F^O^] to save another 9 characters. The result is a simpler message:

```

^X7I_am_^L^R^X4^Y1SUPERSCAN!!^[4^M^J^J^R^Y4__making_you^L^R__LAUGH_&^L_
GIGGLE^X0_____^P^[8^U^D^J]^L^R^Nwhen_I_^Y2^WWINK_^W^L^and_^L^R^X6^Y2_
WIGGLE^[5^J^M^U^D^J]^L_____^R^X5^Y4I'm_a_____^Y3^W^LFLASHY_ITEM!
____^L^Y4^W^[7^F^Q^J]^F^E

```

4.8.4 "NESTED" BLOCK REPEAT COMMANDS

The BLOCK REPEAT command becomes most versatile when it is used with other BLOCK REPEAT commands to make effects that would be difficult or impossible to create without this command.

The SUPERSCAN computer "reads" the message from left to right and notes the position of the first CTRL [command that it comes to and uses the "number" following the character to determine how many times the message between this character and it's corresponding CTRL] command. Look at the diagram below, which illustrates a group of 4 "nested" BLOCK REPEAT commands in a form that might appear in a message:

```

^ [ 2AAA_ ^ [ 4BBBBBBBBBBBBBBBBBBB_ ^ [ 2CCCCCCCCC_ ^ [ 5DDDD_ ^ ] ccccccc_ ^ ] bbbbbb_ ^ ] aaa_ ^ ]
[ The outermost "block" of text - will repeat two times before ending ]
    [Second "block" of message will repeat this text four times]
        [Third "block" - repeats twice]
            [5 times]
1         2         3         4         5         6         7         8

```

The diagram shows the pairs of BLOCK REPEAT commands in our fictional message. They are labeled A through D. The message will start at point 1 and will proceed to point 5. It will then display the portion between 4 and 5 FIVE times; then go to point 6 and repeat the section between points 3 and 6 (including more 'D' messages) TWO times before proceeding to point 7. The message between points 2 and 7 will then display FOUR times (including more message 'C' portions and message 'D' portions each time the 'C' message is repeated) before it in turn goes on to point 8. When point 8 is reached the whole sequence will repeat 2 times before the message proceeds to whatever follows the last of the BLOCK REPEAT pairs in this "nested" group. When done, section 'D' will have "played" 80 times, 'C' 16 times, 'B' 8 times, and 'A' two times!

4.8 (cont.) THE BLOCK REPEAT COMMAND - CTRL [AND CTRL]

4.8.5 "NESTED" BLOCK REPEAT COMMAND USE

We will make one additional change to our test message that will illustrate the use of "nested" BLOCK REPEAT commands. This effect will make the "flashy" ending that we had before even more eye-catching. Our present message looks like this:

```
^X7I_am_ ^L^R^X4^Y1SUPERSCAN!!^C4^M^J^J^R^Y4__making_you^L^R__LAUGH_&^L_
GIGGLE^X0_____^P^C8^U^D^J^L^R^Nwhen_I_ ^Y2^WINK_ ^W^Land_ ^L^R^X6^Y2
WIGGLE^C5^J^M^U^D^J^L____^R^X5^Y4I'm_a_____ ^Y3^W^LFLASHY_ITEM!
____^L^Y4^W^C7^F^Q^J^F^E
```

1. Move your CURSOR to the "F" in the word "FLASHY", and insert a ^C3 command between the ^L and the "F". Then move the CURSOR and insert the ^J portion of the command pair between the ^F and the ^E at the end of your message. (This will cause our existing effect to repeat 3 times.)
2. Position the CURSOR at the beginning of the ^C7^F^Q^J series near the end of the message and insert 21 spaces with the ^A command in front of the ^C7. Now type in the following series: ^CA ! ^Y1 ! ^F ! ^Q ! ^Y2 ! ^F ! ^Q ! ^Y4 ! ^J ! ^X3 ! FLASHY. This will provide an accelerating highlight effect, repeated 10 times, after which a non-winking "FLASHY" is typed over the winking word. Because of the existing series of ^F^Q commands in the message this "new" text will highlight in and out quickly.
3. At the end of the ^C7^F^Q^J command series - insert 6 spaces and type in: _ITEM! Then insert 17 spaces between the ^F and ^J commands. In this space type the command series: ^@ ! ^@ ! ^@ ! ^@ ! ^@ ! ^Y1 ! ^CI ! _ ! ^J ! ^CE ! ^U ! ^J ! ^Y4 . This will cause the word "ITEM" to remain on the screen briefly then travel off of the screen while "ROLLING" rapidly. The whole effect will repeat 3 times and because the ^F command and one ^W command are not used with corresponding "off" commands the effect will differ each time. Your message now looks like this:

```
^X7I_am_ ^L^R^X4^Y1SUPERSCAN!!^C4^M^J^J^R^Y4__making_you^L^R__LAUGH_&^L_
GIGGLE^X0_____^P^C8^U^D^J^L^R^Nwhen_I_ ^W^Y2WINK_ ^W^Land_ ^L^R^X6^Y2WIGGLE
^C5^J^M^U^D^J^L____^R^X5^Y4I'm_a_____ ^Y3^W^L^C3FLASHY_ITEM!____^L_
^Y4^W^C1^Y1^F^Q^Y2^F^Q^Y4^J^X2FLASHY^C7^F^Q^J_ITEM!^F^@^@^@^@^@^Y1^C_C^CE^U^J
^Y4^J^E
```

4. Press RETURN and then * to view your new message. As with all of the other SUPERSCAN capabilities you are only limited by your imagination in developing eye-catching effects.

NOTE: USE THE CASSETTE PROGRAM STORAGE CAPABILITY IN THE PROCESS OF MESSAGE CREATION / USE. IT CAN HELP YOU TO STORE TEXT THAT YOU ARE WORKING ON FOR LATER, ALLOWING YOU TO USE YOUR SUPERSCAN DISPLAY FOR OTHER MESSAGES WHILE PRACTICING ADVANCED PROGRAMMING.

NOTE: This Chapter will continue with demonstrations on the use of GRAPHICS CHARACTERS in a message. Prior to starting this, we suggest that you practice the creation of a few messages that use the effects shown above, or others that have been described in earlier sections of this Manual.

4.9 GRAPHICS USE IN PROGRAMS

For this section of the Chapter we will be using a new message to show two effects. As with all other SUPERSCAN Special Effects, GRAPHICS can be used with ANY NUMBER of other effects as desired by the user. Here is the message: I am SUPERSCAN!! the ARTIST! WATCH (graphics/train insert here) CHOO-CHOO-CHOO-choo.....

4.9.1 PREPARATION

1. Go into the EDIT mode (*), and clear the SUPERSCAN memory with ^B.
2. Type in the text shown below:

```
^X7I_am_ ^L^R^X4Y1SUPERSCAN!^M^J^M^J^M^J^M^J^R^Y5_the_ARTIST!___WATCH____
CHOO-CHOO-CHOO-choo.....^E
```

NOTE: See Sections 4.2 and 4.3 above for explanations of the commands already inserted in the message up to the words "the ARTIST!" (These were used in the first part of the Chapter)

3. Press RETURN then * to go into the Display mode and view the message from the start - the words "I am" will appear in the middle of the screen and the word "SUPERSCAN" should "move" in a flashy manner then disappear. The rest of the message will Travel.

4.9.2 WRITING BACKWARDS AND OVER-WRITING

This is a feature in which the SUPERSCAN display inserts letters or characters on the screen in any order. This is done by using the ^X command. The ^X command tells the computer at what position on the screen to place the next letter, or character.

Remember, you are working with 19 spaces (18 visible and one off the screen to the right) on your screen, therefore each letter, character or space MUST have an assigned position.

1. Go into the EDIT mode and use LINEFEED to move the CURSOR to the SPACE just before the "t" in the phrase "the ARTIST!".
2. Use ^A to insert 3 spaces at this point.
3. Type the following commands in this space: ^R | ^Y5
4. Use ^A again to insert 39 spaces here. (You will need three spaces for each letter or space insertion command, and there are 13 letters in the words "the ARTIST!" including the spaces.)

4.9.2 (cont.) WRITING BACKWARDS AND OVER-WRITING

5. To make the words "the ARTIST!" appear in the middle of the screen with the LAST character appearing FIRST, use paper and pencil and print "_the ARTIST!". Next to this write down 0123456789abcdefghi. Now, find the middle letter of "_the ARTIST!" and assign the middle number of screen positions to it. Fill in the remainder of your phrase, including the space before 't'. Each letter of the phrase should now have a number or letter assignment. Example:

```

      _ t h e _ _ A R T I S T !
0 1 2 3 4 5 6 7 8 9 a b c d e f g h i

```

6. Working from right to left you will now assign screen positions for "the ARTIST!". Type the following commands: ^XF! | ^XET | ^XDS | ^XCI | ^XBT | ^XAR | ^X9A | ^X8_ | ^X7_ | ^X6e | ^X5h | ^X4t | ^X3_ | ^L
7. Use the RETURN then * command to view your message from the start. The message should now look like this in the EDIT mode:

```

^X7I_am_^L^R^X4^Y1SUPERSCAN!!^M^J^M^J^M^J^R^Y5^XF!^XET^XDS^XCI^XBT^XAR
^X9A^X8_^X7_^X6e^X5h^X4t^X3_^L__WATCH_____CHOO-CHOO-CHOO-
choo.....^E

```

8. Watching you will notice that after "the ARTIST!" appears on the screen, the word "WATCH" is instantly written over it. This effect is called OVER-WRITING. The ^X3_ command plus the three spaces prior to the word "WATCH", caused "WATCH" to appear in position 6 on the screen. The 19 spaces following just allow the word "WATCH" to Travel off the screen before your Graphics picture appears.

4.9.3 INSERTING GRAPHICS

You will now insert a Graphic Drawing of a TRAIN in to the message. We have used the SUPERSCAN Graphics Aid that was shown in Chapter III to "draw" the picture elements that you will enter into your program with the GRAPHICS EDIT feature. See Chapter III, Section 3.8.2 (GRAPHICS CHARACTER CREATION) for a review of the procedure before doing step 4 below.

1. Return to the EDIT mode.
2. LINEFEED (ESC LINEFEED moves 15 spaces at a time) to the "C" in CHOO-CHOO. Use ^A to insert 19 spaces at this point to allow space for our GRAPHICS picture.
3. Into this space type the following commands: ^Yt | ^Gq | ^Gb | ^Gc | ^Y6 | ^Ge | ^Gf | ^Gg | ... | ^Y6 (These codes will insert your graphic picture using Graphic codes "a,b,c,d,e,f,g". The ^Y commands start the train very slowly then are used to speed it up.)
4. Now use the diagrams on the next page to "enter" the GRAPHICS CHARACTERS that they define into the SUPERSCAN computer memory.

4.9.3 (cont.) INSERTING GRAPHICS

"TRAIN" GRAPHICS CHARACTER DESCRIPTION

* * * * *	* * . . .	* * * *
.	* * . . . *	. . . * *	* * * . . *
. . . * * *	* * * * * *	* * * * *	. . * . . *
. . . * * .	* * * * .	. . * . . *
. . . * * .	* * . . *
. . * * * *	* * * * * *	* * * * * *	* * * * * *	* * * * * *
* * * * .	* * . * * .	. * * . .	. * * . .	* * . . .
"code a"	"code b"	"code c"	"code d"	"code e"
-----	-----	-----	-----	-----
* * * * * *	* * * *
. *
. * * . * *	. * * . *
. * * . * *	. * * . *
. *
* * * * * *	* * * * * *
. * * * *
"code f"	"code g"			
-----	-----	-----	-----	-----

5. Your completed message should look as follows:

```
^X7I_am_^L^R^X4^Y1SUPERSCAN^M^J^M^J^M^J^M^J^R^Y5^XF!^XET^XDS^XCI^XBT
^XAR^X9A^XB_^X7_^X6e^X5h^X4t^X3_^L_WATCH_____^Yt^Ga^Gb
^Gc^Ge^Gf^Gg...^Y6CH00-CH0o-CHoo-choo.....^E,
```

6. Press RETURN then * and watch YOUR art work chug on down the track! Aren't trains fun? Especially when YOU are the ENGINEER ???

4.10 MEMORY PARTITIONING

A special form of the BLOCK REPEAT command can be used to "partition" a SUPERSCAN message. This capability is used when it is necessary to "store" multiple messages in the display memory in a way that allows you to "switch" back and forth between SHORT messages (combined length under 2,700 characters) using the Keyboard - instead of loading each message from a tape cassette.

To partition memory - surround EACH message unit with a BLOCK REPEAT command pair (using CTRL [Ø as the first part). To "SELECT" a message unit - use EDIT commands to place the CURSOR at the BLOCK REPEAT START EDIT SYMBOL that marks the desired section. This portion of the message will repeat over and over until you reenter the EDIT mode and move the CURSOR to "mark" another message unit. DO NOT USE A CTRL E COMMAND TO END INDIVIDUAL MESSAGE SEGMENTS - JUST USE CTRL E AT THE END OF THE LAST PARTITIONED MESSAGE SEGMENT.

NOTE: THIS FEATURE DOES NOT WORK IN "MAKE TAPE" CASSETTE RECORDING. MEMORY PARTITIONING IS NOT USED IN A CUSTOM PROGRAM MODULE MESSAGE.

4.11 SAMPLE PROGRAMS

In this section we will provide a listing of programs that will demonstrate other SUPERSCAN effects that can be incorporated into your own messages. We will not describe every part of these messages, since we hope that you are now familiar with most of the commands/effects that have previously been used in programming examples. Where new or difficult to understand effects are shown, we will explain how/why the effect is accomplished. You may wish to skip ahead to Chapter V and review all of the various CTRL commands and their edit symbols so that you can check the programs after you have entered them into the SUPERSCAN display console.

4.11.1 BEER AD

```
[C3^F^Y1^X^AThis_ ^XATIME^@^@^@^@^@^@^@^@^@^@CE^O^U^F^J^[6^F^J^0^]
^F^V^Y5^@^@^@^@^@^@^@^@^@^@R^XI_have_a_LOWINCOST_^1^Y1^N^C7_^][CE^U^]^Y5
-----^JTHE_PRIME_MINISTER_OF_BEER^E
```



4.11.2 BEER AD DISCUSSION

This brief message uses two levels of BLOCK REPEAT nesting to cause the text and effects up to the words "THE PRIME ..." to repeat three times before the ending line is displayed.

The eye-catching flash effect, used for the words "This TIME", is caused by using the CTRL P command to make the HIGHLIGHT (always a single action command) and SCROLL commands interact so that a "HIGHLIGHT on/off" cycle occurs with the execution of EACH part of the multi-action SCROLL effect. The number of command "cycles" is set to allow the multi-action effects to complete properly. The message is run at a high speed to make the effect more striking. The same procedure is used with the Venetian / Highlight effect that follows.

The ending BARREL ROLL effect is caused by using the command series ^Y1^[?^]^[?^U^] (? is used in command to show the point at which you would enter the number of "repeats" to use) to cause the travel and scroll commands to interlace in such a way that the two effects seem to happen at once. The number of spaces and the number of "rolls" are controlled by the BLOCK REPEAT number in each of the commands (shown as "?" in the previous sentence).

4.11 CHAPTER SUMMARY

This completes the section on advanced programming. The examples in this section were designed to expose you to the types of things that can be done with the SUPERSCAN display console. You are only limited by your imagination. Don't be afraid to EXPERIMENT. Try using various commands and effects together or in sequence to create new effects that can be used in your programming. Make records of the effects that you create so that you can re-use them over and over in future messages without the necessity of re-creation.

The tape storage capability of your SUPERSCAN will make even long and complex programs relatively "easy" to create, since you do not have to re-input a message with the keyboard to use it again (or to correct or modify it). Use it to "back up" even your unfinished programs so that you do not "lose" a program that you have made because of a mistake in keyboard entry or a loss of power while programming (make sure that you have a CTRL E at the END).

STUDY Chapter V. Learn the many commands available to you and become able to recognize the EDIT symbols that show where in the message you have placed these commands. This chapter will be your best reference while you are programming your own messages.

Try entering the EDIT mode after your SUPERSCAN test/demonstration cassette has been used to load in the test program. A study of the commands used in this message will give you additional examples of programming methods/procedures that you can use in your own programs.

CHAPTER V also has a listing of a few selected GRAPHICS characters that we have worked out for you to use in your programs. Make a record of your graphics characters so that you can use these characters again in future messages. While the Cassette Storage Feature will store these characters - their "code names" are not recorded. If you wish to reuse the characters by loading a tape into memory and then erasing the text - you will need to know the "code" for each character to use it in a new message.

We at SUPERSCOPE, Inc. feel that the SUPERSCAN Display Console provides you with the most revolutionary and advanced Point Of Sale advertising product on the market today. We have made every effort to make the product as simple to use as possible, while at the same time, providing you with a truly powerful tool to use in the promotion of your business. We believe that we have been successful in this and hope that you will both enjoy and profit from the use of our product.

* * * GOOD PROGRAMMING ! ! ! * * *

CHAPTER V

SUPERSCAN COMMAND SUMMARY

5.1 EDIT COMMAND LISTING

[*]	Used to enter EDIT mode from DISPLAY mode . . . and, to go from DISPLAY mode to EDIT mode.
LINEFEED	Moves the edit CURSOR RIGHT ONE SPACE.
ESC then LINEFEED	Moves the edit CURSOR RIGHT 15 SPACES.
BACKSPACE	Moves the edit CURSOR LEFT ONE POSITION.
ESC then BACKSPACE	Moves the edit CURSOR LEFT 15 SPACES.
DELETE	Removes the character marked by the CURSOR.
CTRL A	Inserts / opens a space at the CURSOR position.

NOTE: COMMANDS SUCH AS CTRL A ARE MADE BY FIRST PRESSING THE CTRL KEY AND HOLDING IT DOWN WHILE PRESSING THE INDICATED LETTER KEY.

RETURN	Moves CURSOR to the BEGINNING of the message.
ESC then RETURN	Moves the CURSOR to the END of the message.
CTRL Z	This is the SEARCH command. It places the CURSOR on the NEXT occurrence of the key that is typed AFTER this command. (SEARCH FROM START OF MESSAGE TO END)
ESC then CTRL Z	Same as CTRL Z command except that the SEARCH is made from the CURSOR position towards the START.
LOCK	Upper/Lower case SWITCH. (Does not affect numbers.)
CTRL G	The GRAPHICS picture defined for the next key typed (code letter or symbol) is inserted into the message.
CTRL B	CLEARs TEXT MEMORY . . . DOES NOT CLEAR GRAPHICS.
CTRL E	Command to TERMINATE MESSAGE. <u>MUST USE ALWAYS ! ! !</u>
CTRL H	ON/OFF SWITCH for audible Key Entry Signal.

5.2 GRAPHICS COMMANDS

To use a graphics character in a message, type CTRL G followed immediately by the name of the graphics character desired.

To create a graphics character, type the CTRL K command while in the EDIT mode. The character typed next is the character which will be defined as the code representing the graphics character. CREATE your GRAPHICS picture in the workspace provided by using the various GRAPHICS EDITING COMMANDS available. You MUST enter a "code" character before the commands below are effective.

- U Moves flashing GRAPHICS CURSOR UP ONE ROW.
- D Moves flashing GRAPHICS CURSOR DOWN ONE ROW.
- L Moves flashing GRAPHICS CURSOR LEFT ONE COLUMN.
- R Moves flashing GRAPHICS CURSOR RIGHT ONE COLUMN.
- I Turns PICTURE ELEMENT marked by GRAPHICS CURSOR "ON".
- O Turns PICTURE ELEMENT marked by GRAPHICS CURSOR "OFF".
- C "COPIES" the image of the next character typed into the GRAPHICS WORKSPACE. To turn ON ALL lights in workspace, type C then [DELETE]. To CLEAR (all lights off) the WORKSPACE, type C then the [SPACE] key.
- E TERMINATES GRAPHICS EDITING and returns control to the EDIT mode.

5.3 NOTES ON DISPLAY OPERATION

The SUPERSCAN display has the capability of performing a number of special effects in addition to the "basic" Travel Message. It is important to remember that to use these special effects, commands must be given to ready the SUPERSCAN display to properly accept the Special Effects Instructions. In most cases these preparatory commands are involved with clearing the screen of traveling characters; resetting the screen so that the first character of the upcoming text will appear at the proper point on the 18 character display; and setting speeds or delays. All commands that remove or add text to the screen in any way, except by traveling off or on, use characters or words in groups of 18 characters or less. IN THE SCROLL COMMAND SERIES, these groups of 18 characters are placed on one of two "Pages". One is invisible and waits for a command to appear, and one is visible waiting for a command to disappear. IN THE DISSOLVE COMMAND SERIES THERE IS AN ADDITIONAL SET OF PAGES THAT ARE USED.

```

-----
| REMEMBER - - - IF YOU ENTER A COMMAND THAT CAUSES AN INVISIBLE STATE |
| IN A PARTICULAR COMMAND SERIES - - - YOU MUST ENTER A COMMAND IN THE |
| SAME SERIES THAT WILL TELL THE SUPERSCAN DISPLAY TO BECOME VISIBLE |
| AGAIN OR YOU MUST RESET THE SYSTEM SO THAT THE NEXT SERIES OF |
| COMMANDS WILL FUNCTION. |
-----

```

5.4 DISPLAY COMMANDS - EDIT SYMBOLS

NOTE: The user has a plethora of commands available to him which are summarized below. These commands are entered by pressing the CTRL key simultaneously with the lettered key indicated. Most display commands have an edit symbol that appears in the message that you are editing.

EDIT SYMBOLS

- | | | |
|---|--------|-----------------------------|
| CTRL @ - MARKS TIME. When this character is encountered in the message buffer, it causes the system to wait one time period before continuing. The duration is determined by the time set with the CTRL Y parameter, or is five thirty-sixths of a second at the beginning of a message. Each CTRL Y increment of time is one thirty-sixth of a second. | -----> | @ @ @
@ @ @
@ @ @ |
| CTRL B - Causes a COMPLETE RESET of the message display system. Any message in the display memory is ERASED. The GRAPHICS memory is unaffected. There is NO EDIT SYMBOL for this command. | | C C C
C
C
C |
| CTRL C - Includes the display's Custom Message in the User's Message at the current location as marked by the CURSOR. | -----> | C C C
C
C |
| CTRL D - Causes the display window to scroll down one line if in the CTRL P mode, or to scroll down 7 lines if in the CTRL N mode. The rate at which the scrolling occurs is dependent on the speed set using the CTRL Y command prior to the CTRL D. | -----> | D
D
D D D
D D
D |
| CTRL E - Marks the end of the message and signals the display to recycle it. Every message MUST be terminated by this character. | -----> | E E E
E E
E E
E |
| CTRL F - Sets the COMPLETE SCREEN and ALL OF THE FOLLOWING TEXT to NORMAL rather than HIGHLIGHT mode. In order to direct the sign to rapidly flash between normal and highlight mode, set the speed using the CTRL Y command, then follow this with alternating CTRL F and CTRL O commands. | -----> | F
F
F F F |
| CTRL G - Used to call a graphics character. Type this character immediately before the defined graphic wanted. To define a graphic character, see the CTRL K command. | | |

5.4 (cont.) DISPLAY COMMANDS - EDIT SYMBOLS

		EDIT SYMBOL
		- - - - -
CTRL H	- Used to turn ON or OFF the Keyboard Entry Signal ("beep" tone).	
CTRL I	- Switches the following message characters to and from the HIGHLIGHT mode. This control command operates much the same as the CTRL W command. To HIGHLIGHT a single word . . . place a CTRL I command before and after the word.	<pre> I I I I I I I I I ----> I I I </pre>
CTRL J	- Causes the DISSOLVE (Venetian blind) feature to operate from the right. If in CTRL F mode, only one shift is made, though it will automatically shift 6 times to the right in the CTRL N mode. In Dissolve / Venetian mode, each character in the message either appears or disappears a column at a time. When a message is present and a CTRL J command is encountered, the leftmost column of the character suddenly goes blank. If in the CTRL N mode, the characters will continue to disappear a column at a time with column 2 the next to go blank. The rate at which the disappearance occurs is governed by the speed setting of the CTRL Y command. To make the characters reappear issue either another CTRL J command, or a CTRL M (which will cause the characters to appear from the right), or you may issue a CTRL V command, which will make all the text suddenly reappear. Use the CTRL S command to produce a blank screen ready to accept text for materialization. THIS COMMAND IS DESIGNED TO WORK ON LINES OF 18 CHARACTERS OR LESS.	<pre> J J J J J J J J ----> J </pre>
CTRL K	- Allows the user to define a GRAPHICS character by entering the GRAPHICS editor. See section 5.2 above for editor command listing. NO EDIT SYMBOL.	
CTRL L	- When encountered in a message program this command causes a 2 second delay before the character / command following is processed.	<pre> L L L L L L ----> L L L L </pre>
CTRL M	- Causes the Venetian / DISSOLVE feature to shift LEFT. If in CTRL F mode, only one shift is made; though it will automatically shift 7 times to the left in CTRL N mode. See the paragraph on CTRL J above for effect descriptions.	<pre> M M M M M M M ----> M M </pre>

5.4 (cont.) DISPLAY COMMANDS - EDIT SYMBOLS

EDIT SYMBOL

CTRL N - Forces the computer to recognize CTRL D, J, M, and U commands as multiple action control codes. Use this control whenever scrolling or dissolve/venetian effects are to be run to completion. This mode is the DEFAULT and is automatically set whenever the message is repeated.

```

      N   N N
      N N   N
----> N     N
      N     N
           N
           N

```

Example: displaying the message, "MODEST PRICES" by scrolling from bottom to center, holding it for a two seconds, and then shifting venetian right to disappear, send the sequence: (^ will represent the CTRL key)

[^N^Y4^T MODEST PRICES ^U^L^J]

The CTRL Y sets the amount of time in which the preceding CTRL U and CTRL J commands will execute. The CTRL T readies the screen for invisible to visible scrolling. Once centered, the message will display for 2 seconds, then the CTRL J command will be read and the text will disappear in a venetian style.

CTRL O - Sets the COMPLETE SCREEN and ALL of the FOLLOWING TEXT into the HIGHLIGHT mode. Use CTRL F to return to the normal screen. With CTRL O and CTRL F and a setting of the speed using CTRL Y, the screen can be made to flash between HIGHLIGHT and NORMAL modes.

```

      O O O
      O   O
           O
----> O

```

CTRL P - Sets CTRL D, CTRL J, CTRL M, and CTRL U to execute their effects as multi-action functions. In this mode, seven CTRL D characters must be present in the message to cause the display to fully scroll downward, or six CTRL J commands are required to complete a dissolve. The CTRL P mode gives the user full control over how characters appear and disappear on the screen by allowing timing variations and combinations of scrolling and venetian effects.

```

           P   P
      P     P
----> P     P
      P P P P P

```

CTRL Q - Causes the system to display the Cassette Output Menu and enter into the CASSETTE OUTPUT MODE. NO EDIT SYMBOL for this command.

5.4 (cont.) DISPLAY COMMANDS - EDIT SYMBOLS

		EDIT SYMBOL
		- - - - -
CTRL R	- CLEARS AND RESETS THE SCREEN. The screen is blanked, VENETIAN and SCROLLING features are set to VISIBLE, the text is set to NORMAL rather than HIGHLIGHT, WINKING toggle is set to a NONWINKING state, and the CURSOR is set to the leftmost position on the screen. Use CTRL R whenever the displayed message must be dissolved by blanking. To set up a travel message following a CTRL R, set the CURSOR position to position 18 (CTRL X I command) and follow with the text to be traveled.	<pre> R R R R R R R R ----> R R R R R R R R R R </pre>
CTRL S	- Initializes the Venetian feature to an INVISIBLE state. A CTRL J or CTRL M will cause the screen to materialize.	<pre> S S S S S S S S ----> S S S S S </pre>
CTRL T	- Initializes the Scroll feature to an INVISIBLE state. A CTRL U or CTRL D will cause any message in the screen to appear by SCROLLING onto the screen.	<pre> T T T T T T ----> T T T T T </pre>
CTRL U	- Causes the message to scroll upward one row if in CTRL P mode, or to scroll up seven rows if in CTRL N mode.	<pre> U U U U ----> U U U U U </pre>
CTRL V	- Causes any partial scrolling or venetian effect to become completely visible and centered. This may be used to center a partial scroll or may be used in conjunction with CTRL S or CTRL T to cause the entire screen to flash.	<pre> V V V V ----> V V </pre>
CTRL W	- SWITCHES the WINK feature ON and OFF. All characters following and up to the next CTRL W will flash on and off in approximately one second intervals.	<pre> W W W W ----> W W W W W W W W </pre>

5.4 (cont.) DISPLAY COMMANDS - EDIT SYMBOLS

EDIT SYMBOL

- - - - -

CTRL X - DUAL FUNCTION COMMAND. Used to position the text (or character) following the command on the screen in a position ranging from the first character on the left to the character on the far right that is just "off" the screen. This is a TWO CHARACTER COMMAND. The character which FOLLOWS the CTRL X will both identify the space in which the following text or character will be placed AND will tell the computer whether or not the following character (or text) is to be affected by commands that may follow which would normally affect all of the text on the screen (such as Travel, Scroll, or Highlight). For example, if you specify that a particular word or character on the screen be "locked" so that it cannot be scrolled off the screen while scrolling other characters on and off you can develop an effect like viewing the tumblers on a "slot machine".

```

      X      X
      X      X
-----> X      X
      X      X
      X      X
           X

```

If you wish to position a character or word in a particular space and want the characters to be affected by other commands that may follow which normally affect the SUPERSCAN screen - use a character ranging from 0-9 or from A to I to specify the screen location from 0 (first position on left) to 18 (space on right just off of the screen as shown in top line of diagram below) where the next character should appear. (You can also position a character "invisibly" and then materialize or scroll it onto the screen with this command.) The screen position numbers are illustrated below (center) - [] represents the visible field:

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																				
[0		1		2		3		4		5		6		7		8		9		A		B		E		D		E		F		G		H		I]
	J		K		L		M		N		O		P		Q		R		S		T		U		V		W		X		Y		Z		[\	

If the characters following the CTRL X command are to be "LOCKED" so that they will not be affected by commands that normally affect the SUPERSCAN screen - use a character ranging from J to Z or the symbol [to specify the screen location from 0 to 18 where the next character should appear. The characters placed on the screen by this command will not be subject to the full screen commands that follow. To take these characters off the screen you must either allow them to TRAVEL off the screen normally; OR enter a CTRL R command into your program just prior to the screen control command that you wish the "locked" characters to be affected by; OR enter TWO CTRL R commands in a row to cause the "locked" characters to immediately disappear from the screen. The screen position numbers for this portion of the CTRL X command are shown above (bottom line of diagram).

5.4 (cont.) DISPLAY COMMANDS - EDIT SYMBOLS

		EDIT SYMBOL
		- - - - -
CTRL Y - Sets the clock rate at which message characters are passed to the screen for display. The character following CTRL Y controls the delay time and will be a number determined from the character sequence "1" to "9" and from "A" to "Z", with "1" yielding the shortest delay and "Z" giving the longest delay. The default speed is 5 and is set whenever the message is repeated.		Y Y
		Y
		Y
	----->	Y
		Y
CTRL [- BLOCK REPEAT START. Part One of a Two Part Command. When combined with it's second part, it makes up one of the most powerful SUPERSCAN commands. It causes commands/text, etc. POSITIONED BETWEEN the TWO COMMAND PARTS to REPEAT a specified number of times before any parts of the message which may follow display. CTRL [MUST be followed by a "counter set" character ranging from "0" to "9" or from "A" to "Z". (A = 10 - Z = 35) ALSO, you MUST insert a "BLOCK REPEAT STOP" command (CTRL]) at the END of the part of the message which is to be repeated. Up to 5 pairs of BLOCK REPEAT command pairs may be "nested" inside of one another. If 0 is used as the "counter set" character, the "marked" block will repeat continually. This allows you to use "MEMORY PARTITIONING". By using the EDIT mode to position the CURSOR ON THE EDIT SYMBOL OF THE BLOCK START COMMAND in a "block" (display always "starts" at the CURSOR position), you can "select" which "block" (a "block" can be a complete message) in a program to display.		[[[[[
		[
		[[[[
	----->	[[
		[[[[[
CTRL] - BLOCK REPEAT STOP. Part Two of a two part command. It is used to "mark" the END of a group of commands (and/or characters/text/etc.) which are to be repeated a specified number of times before proceeding further in a program display message. CTRL] MUST be used with CTRL [("BLOCK REPEAT START").]]]]]
]
]]]]
]]
	----->]]]]]

NOTE: PAIRS OF CTRL [AND CTRL] COMMANDS CAN BE USED INSIDE OF OTHER PAIRS OF "BLOCK REPEAT" COMMAND MARKERS TO MULTIPLY THE EFFECTS OF AN INDIVIDUAL COMMAND OR TO ADD NEW EFFECTS. UP TO 5 OF THESE COMMAND GROUPS CAN BE "NESTED" INSIDE OF EACH OTHER. BY DOING THIS - EFFECTS THAT WOULD BE VERY DIFFICULT TO PROGRAM AND/OR WHICH WOULD USE LARGE AMOUNTS OF MEMORY CAN BE ENTERED WITHOUT DIFFICULTY. EXTREMELY LONG MESSAGES CAN BE CREATED IN THIS WAY. TO DETERMINE HOW MANY COMMAND PAIRS YOU HAVE "NESTED" COUNT THE NUMBER OF CTRL [COMMANDS THAT APPEAR BEFORE YOU SEE THE FIRST CTRL] COMMAND (USE "LINEFEED" TO MOVE THROUGH YOUR MESSAGE). YOU CAN USE ANY NUMBER OF "BLOCK REPEAT" PAIRS IN A MESSAGE - JUST DON'T "NEST" MORE THAN 5 PAIRS.

5.5 SPECIAL EFFECTS LISTING

This section provides the SUPERSCAN user with a quick listing of various, often used, SPECIAL EFFECTS. Following instructions you can insert these command sequences into your programs. These are by no means all of the possibilities open to the user. Combinations of commands can cause most interesting variations, particularly when used with 'BLOCK REPEAT' capability. EXPERIMENT!

NOTE: ALWAYS TERMINATE A MESSAGE WITH A CTRL E COMMAND.

Simple Traveling:

Type in the message text. At end of message type CTRL E.

Full Traveling:

First type CTRL X I, then the message. At end of message type CTRL E.

Scroll OUT a message up or down:

Type CTRL R followed by the text to be scrolled. To make the text scroll up, type CTRL U - to make it scroll down, type CTRL D.

Scroll IN a message up or down:

Type the commands CTRL R then CTRL T followed by the text to be scrolled. Then proceed as above.

Dissolve Out message left or right:

Type CTRL R followed by the text to be dissolved. Type in CTRL M to dissolve to the left, or CTRL J to dissolve to the right.

Dissolve In a message left or right:

First type CTRL R, then CTRL S, then proceed as above.

To flash a message on:

Type CTRL R, CTRL T followed by the message, then type CTRL V.

To flash a message off:

Type CTRL L then CTRL T after the message.

To flash a message off and on:

Alternate between CTRL T and CTRL V several times following the message.

Over-write Text:

Following the text, type CTRL X Ø followed by 19 spaces. A number or letter other than zero following the CTRL X command will allow the specified number of characters to REMAIN on the screen. The remainder of the screen will be wiped. Since there are 19 possible character positions, use 1 thru 9, then "A" through "I" where A = 10 and I = 19.

Instantaneous Over-Write.

Same as above except instead of inserting spaces after the CTRL X and a number, type the new message which is to be written over the old.

5.5 (cont.) SPECIAL EFFECTS LISTING

Writing Backwards

Specify the location on the screen for each character using the CTRL X command. For example, to write the word "SMILE" backwards type: CTRL X B E, CTRL X A L, CTRL X 9 I, CTRL X 8 M, CTRL X 7 S. In this way, you can make the letters of a message appear in any order on the screen.

Adjusting speed of display :

The character following a CTRL Y sets the speed of display operation. The fastest speed is CTRL Y 1, the slowest is CTRL Y Z. The order is 1 thru 9 then A thru Z. The default speed is CTRL Y 5.

To highlight the entire screen:

After the message is entered, type CTRL O. To return to a normal screen, type CTRL F.

To wink words or phrases:

Type CTRL W followed by the text to be winked, followed by another CTRL W.

To highlight words or phrases:

Type CTRL I followed by the text to be highlighted, followed by another CTRL I.

Control scrolling row by row or dissolving column by column:

Prior to issuing either a CTRL D, CTRL U, CTRL J, or CTRL M (scrolling and dissolving commands) type a CTRL P. Now 7 CTRL D's or CTRL U's are required to completely scroll a message or 6 CTRL J's or CTRL M's are required to dissolve a message. To return to normal scrolling or dissolving, type a CTRL N command.

To animate Graphics characters

"Make" a series of figures that will perform the effect that is wanted. Then use the instant overwrite command sequence described on the previous page. By using the CTRL Y command you can vary the speed of the animation effect. (faster speeds are best) The command CTRL X followed by the character position number for the area where you wish the animation to occur is used to position a sequence of figures that will be written into the same spot in a user defined order. For example, CTRL X 7 CTRL G ? (where ? is the code for a Graphics Character element) is followed by CTRL X 7 CTRL G ? and so on till the animation sequence is complete.

5.6 "QUICK" DISPLAY COMMAND SUMMARY

CTRL	DESCRIPTION
@	Wastes time - measured delay. To figure delay per CTRL @: $\text{DELAY TIME (in seconds)} = \text{CTRL Y speed number} \times 1/36$
C	Include custom message in program.
D	Scroll down.
E	Terminate message.
F	Don't display in highlight mode.
I	Highlight / Normal Switch.
J	Dissolve to Right.
L	Delay 2 seconds.
M	Dissolve to Left.
N	Multiple action for scrolling and dissolving.
O	Highlight Entire Screen.
P	Individual action for Scrolling and Dissolving.
R	Reset and Clear the Screen.
S	Set Dissolve text invisible.
T	Set Scroll text to invisible.
U	Scroll Up.
V	Set Dissolve or Scroll text to Visible.
W	Wink Switch.
X	Set next text position in Screen. Next Key is 0-9 or A-I for normal "unlocked" text OR use J - Z, [or \ for "locked" text.
Y	Set Speed of Display. Next Key is 1-9 or A-Z.
[BLOCK REPEAT START. Next Key 1-9 or A-Z; then text, etc. To "partition" memory (multiple message) next Key is 0. To "play" partitioned part - place CURSOR ON edit symbol.
]	BLOCK REPEAT STOP. Used in PAIR with CTRL [. After text.

5.7 SAMPLE GRAPHICS CHARACTER DIAGRAMS

<pre> * ** *** . * * * * * * * * </pre>	<pre> * * * * * * * </pre>	<pre> * * * * * . . . * * * * * * * . . . * * * * * * </pre>	<pre> * . * * * . . . * * . * * * * * * * * * * * * * * . * * * * . </pre>	<pre> * * * * * * * * * * * . * * * * </pre>
<- AIRPLANE (top view) -->		<----- AIRPLANE (side view) ----->		

<pre> . . . * * * . . * . . . * . . * . * * * * * * . . . * * </pre>	<pre> * * * * . . * . . * * . . * * * * * . * . * * * . . </pre>	<pre> * . . . * * . . * * . * * . * . . . * * * * . . . * * </pre>	<pre> * * . . . * * * * * . * . * . * . . * * . * * * . . * * . . . </pre>	<pre> * . . . * . * . * . * . * * . * . . . * . . . </pre>
<----- "SMILEY FACE" ----->		<----- EYE ----->		DIAMOND

<pre> * . . * . . * * * * * </pre>	<pre> . * * * * * . . . * * * * * * * * * * </pre>	<pre> . * * * * * . . . * * * * * * * * * * * </pre>	<pre> * . . . * . . * * . * . * . . . * . . . * </pre>
"LIPS" (can be animated with CTRL X command using graphics characters below)			

<pre> * . . * * * . . . * * * </pre>	<pre> * . . . * . * * * . * * * * * * * * * * * * * * * </pre>	<pre> * . . . * . * * * . * * * * * * * * * * * * * * * </pre>	<pre> * * * * . * . * . . . * . . . * </pre>
To animate "LIPS" use center two characters to OVER-WRITE center of "LIPS" Speed CTRL Y 1.			

<pre> * . * . * . * . * * . . * . . * . * . . * . . . </pre>	<pre> . . * . . . * . * . * . . * . * . * . * * * * * </pre>	<pre> . . * * . * . . * . . * . * . * . * * . * . * * . . * * * </pre>	<pre> * * * * . * * * . . * * * . . * * * . . * * * . . </pre>	<pre> * * . . * . . * * * . . * * * . . * * * . . * * </pre>
HEARTS	SPADES	CLUBS	<----- LARGE LETTER "M"----->	