

260-5281

LUMENA 2000

VERSION: 01.06.00 MODEL 2000

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TANDY®

Cat. No. 26-5281

LUMENA® 2000

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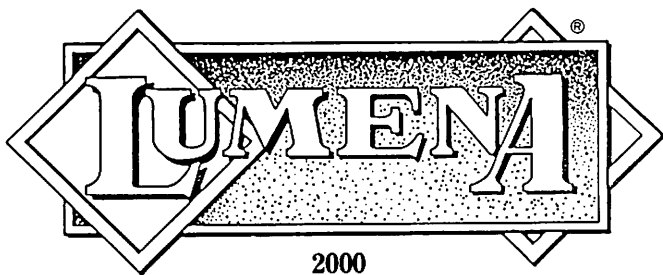
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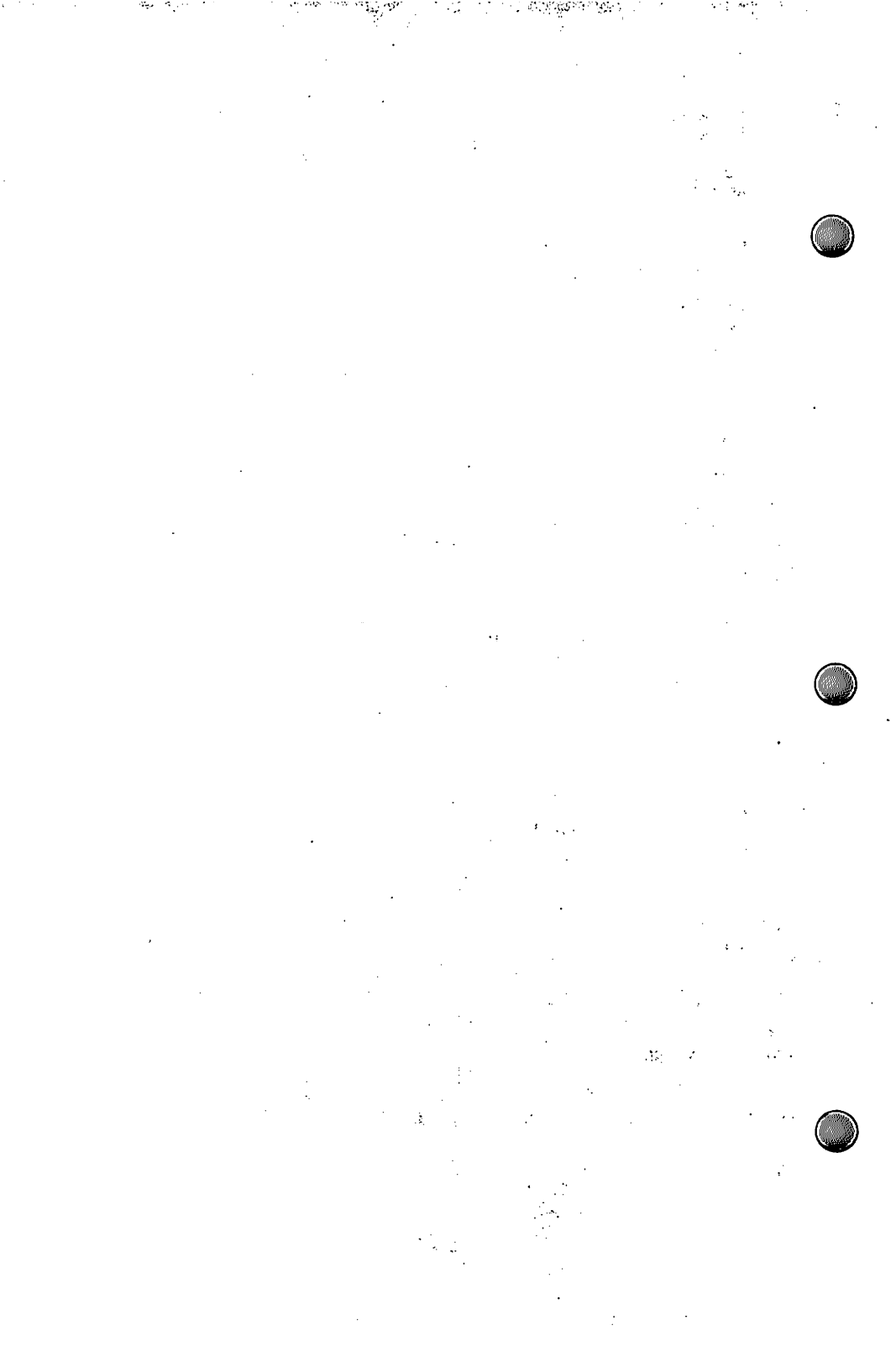
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Hardware Required

Tandy 2000 with keyboard
 256K to 512K memory
 hard disk (preferred) or floppy disk drives
 RGB monitor
 digitizing pen and tablet (preferred) or mouse

CGP 220 printer (optional) allows printing Lumena images.

With 512K memory, all menus and functions are available. With 256K memory, the CELLS MENUS and ANIMATION MENUS are not available.

Refer to Appendix A for appropriate switch settings for digitizing tablets.

Contents of this Package

Lumena system disk with images
 Lumena User's Manual

Running Lumena from a Hard Disk

To install Lumena on a hard disk:

1. Insert the Lumena disk into drive A.
2. Go to drive C (the hard disk) by typing
 C:<return>
3. Create a Lumena directory by typing
 md\ lumena<return>
4. Enter the new Lumena by typing
 cd\ lumena
5. Go to drive A by typing
 A:<return>
6. Copy Lumena to the new directory by typing
 Install<return>
7. Remove the Lumena disk from drive A and store the disk in a safe place.

To run Lumena from a hard disk:

1. Type
 lumena<return>

Running Lumena from a Floppy Disk

If you will be running Lumena from floppy disks, first make a backup copy.

To make a backup copy of Lumena:

1. Boot the system using the MS-DOS system disk.
2. Put the Lumena disk in drive A.
3. Put an empty, formatted disk in drive B.
4. Go to drive A by typing
a:<return>
5. Copy all Lumena files by typing
copy *.* b:<return>
6. When copying is complete, remove the disk from drive B, label it, put a write-protect tab on, and store the disk in a safe place.

To run Lumena from floppy disks:

1. Put the Lumena system disk in drive A and the image disk in drive B.
2. Go to drive A by typing
a:<return>
3. Load Lumena by typing
lumena<return>

The Lumena disk must always be in drive A while Lumena is running. The disk in drive B is for storing pictures created on Lumena.

To make your Lumena disk bootable:

Follow this procedure only once.

1. Remove the write-protect tab from the Lumena disk, and put the disk in drive B.
2. Put the MS-DOS system disk in drive A.
3. If you have not already done so, start up the Tandy 2000.
4. At the A prompt, type
copydos<return>

COPYDOS copies the MS-DOS files to your Lumena disk, making it a bootable disk.

To Begin Drawing

When Lumena is loaded, a message appears on the monitor, "Please press pen device to continue." Press the digitizing pen anywhere on the tablet (or press the right button of the mouse). You will immediately see the menu and palette drawn across the bottom of the screen. To draw, press the pen while moving it on the tablet (or press the right button while moving the mouse).

To call up the menu and palette, glide the pen (or mouse) without pressing, so that the cursor passes just below the bottom of the screen. The menu will appear and remain onscreen as long as the cursor is in that area. When you move the cursor up into the image area, the menu disappears.

To call up a menu that has several basic drawing devices, press PENS in the menu. When the PENS MENU appears, press the desired drawing mode, such as BRUSH. Move the cursor into the image area and press down while drawing.

To change drawing color, press a color in the palette.

Explanations of Lumena Commands

For on-screen explanation of any command, press the D (documentation) in the area to the left of the palette; then press the command for which you want information. The explanation appears on the screen, while your picture is temporarily stored. When you finish reading, press the pen (or the right button of the mouse) to restore your image.

For detailed information on a specific command, see the appropriate page in the manual. For an overview of Lumena, see the GENERAL INFORMATION section of the manual. For guidance through some of the basic commands and menus, see the TUTORIAL.

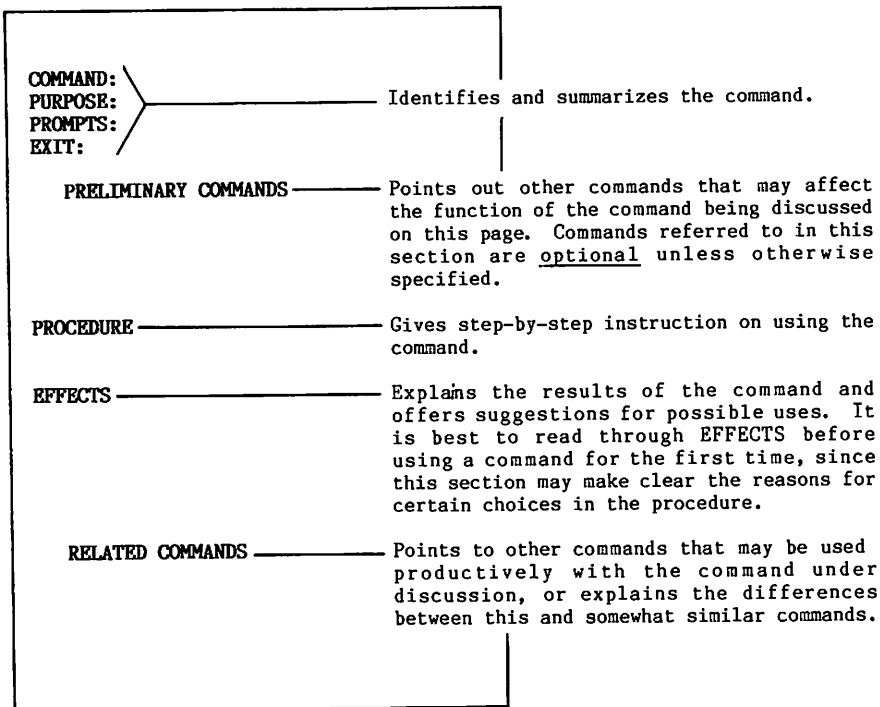
Arrangement of the Manual

GENERAL INFORMATION (Section 2) contains basic information on Lumena. (If you are using a mouse, be sure to read under the heading "Mouse".)

The TUTORIAL gives step-by-step instructions through several commands, to familiarize you with the arrangement of Lumena and introduce some of its possibilities. Certain menus, having commands that are interdependent, have their own tutorials.

The major part of the manual is a reference to commands in Lumena--Keyboard Commands (Section 4), General Menu Commands (Section 5), and individual commands arranged by menu (Sections 6-14).

For each command:



Appendix A gives hardware information.

Appendix X, Trouble Shooting, lists some problems you may encounter and offers suggestions for solving them.

Appendix Z is a glossary of terms you may encounter in using Lumena.

GENERAL INFORMATION

RUNNING LUMENA FROM A HARD DISK

To install Lumena on a hard disk, follow instructions that accompany the disk. Pictures may be saved on the hard disk or on floppy disks.

RUNNING LUMENA FROM A FLOPPY DISK

If you are running Lumena from a floppy disk, the Lumena system disk must be in drive A at all times. The system disk contains Lumena command, menu and documentation files--that is, all information necessary to run Lumena.

Pictures created through Lumena should be saved on a separate disk, located in drive B.

Floppy disks are magnetic storage media and must be handled with some care to preserve the data stored on them. Keep disks away from magnetic fields, including the digitizing tablet, the RGB monitor, airport x-ray devices and telephones. Store disks in their envelopes to protect them from dirt, and keep them away from extreme heat or cold. Do not bend disks, touch their exposed surfaces, or write on disk labels except with a felt-tipped pen.

DIGITIZING PEN AND TABLET

The digitizing pen and tablet are electronic devices used together to draw on the screen, manipulate onscreen images, and initiate saving and loading functions.

For Lumena to run properly, the digitizing tablet must be properly configured. Refer to Appendix A for switch settings.

How the Pen and Tablet Are Used

When touched to the tablet, the digitizing pen brings a spot of light, the cursor, to the screen of the color monitor. All movement of the pen on the tablet is indicated by a cursor in the corresponding area of the screen.

There are three gestures for using the pen and tablet:

Use brief pressure--pressing down on the pen and immediately releasing pressure--to initiate a command, select a color or locate a point onscreen.

Use sustained pressure--keeping the pen depressed while moving it--to draw onscreen or change the mode and size in the Status Box.

Use a gliding motion--keeping the pen in contact with the tablet but not depressed--to move the cursor to another point on the screen without making a mark. It is always better to glide the pen to another place than to lift it off the tablet. Gliding is also the gesture for bringing a menu to the screen, removing a menu, and canceling a pending menu command.

General Care

Keep magnets and disks away from the digitizing tablet. The cord connecting the pen and tablet should be free from excessive tangling and strain. Do not put sharp, rough or heavy objects on the tablet, since scars in the tablet's surface will interfere with the smooth movement of your pen.

If the cursor moves erratically or if extraneous data appear onscreen, press the tablet's reset button or unplug and replug the tablet's power cord.

MOUSE

The mouse is an alternative device for drawing and manipulating images. It can be used with Lumena, but it does not allow as much ease of movement as the digitizing pen and the results may not be as satisfactory.

How the Mouse is Used

The right button of the mouse is used for drawing onscreen and for selecting commands, colors and points. When Lumena is loaded, for example, a message onscreen directs you to "Press pen device to continue"; you should press the right button. To draw, glide the mouse while pressing the right button. To select a color or a command, position the cursor and press briefly on the right button.

Pressing the left button brings the cursor to the center of the screen. This button also briefly breaks connection; thus, if you have set one corner of a box and want to reposition it, press the left button to break the connection, then press the right button to select another point.

To move the cursor on the screen without drawing, simply glide the mouse. If you lift the mouse up and move it, the cursor will stay in position.

Terminology

Because the digitizing pen and tablet are the preferred means of input, this manual and the onscreen documentation use that terminology. If you are using a mouse:

"pressing briefly on the pen"	means	pressing briefly on the right button of the mouse;
"retaining pressure on the pen"	means	retaining pressure on the right button of the mouse;
"gliding the pen" or "keeping the pen in contact with the tablet"	means	gliding the mouse with the cursor visible;
"lifting the pen off the tablet"	means	pressing the left button of the mouse.

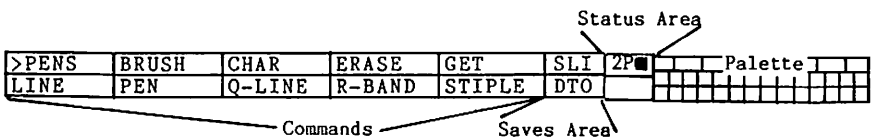
LOADING LUMENA

Go to the directory in which Lumena has been installed (according to directions that accompanied the Lumena disk) and type lumena and a carriage return.

When the program is loaded, a message appears at the bottom of the screen, "Press pen device to continue." Press the pen briefly on the tablet. You will see the menu appear across the bottom of the screen. This signals that Lumena is ready for use. Put the pen on the tablet and press down while drawing.

If your system has 512K memory, you will have access to the full Lumena. If your system has 256K memory, you will have access to all Lumena features except the menus governing the cell buffer (described in section 9 in this manual).

THE MENU



A menu consists of Commands, the Saves Area, the Status Area, and the Palette.

Calling Up a Menu

To bring the current menu to the screen, put the digitizing pen down in the middle of the tablet and glide it toward the bottom. When the cursor goes off the bottom of the screen, the menu will appear onscreen.

To keep the menu onscreen once it appears, keep the pen in contact with the tablet with the cursor in the menu area.

Removing a Menu

To remove a menu from the screen, move the cursor up from the menu into the image area, keeping the digitizing pen in contact with the tablet. Images done on the lower part of the screen will return to the screen whenever the menu is not visible.

Selecting Another Menu

MAIN	DRAW	PALET	PRINT	CELLS
COMAND	TOOLS	XFORM	FONTS	ANIM

The MAIN MENU is the first to appear whenever Lumena is loaded. It lists other available menus. Some of these are, like MAIN, menus of menus. A chart in the preceding section of this manual shows the menu structure of Lumena.

To select another menu, press the appropriate box. The selected menu will come to the screen.

The Menu Label

The Menu Label, the upper left box, identifies the current menu.

Menu Label

previous menu

PENS	BRUSH	CHAR	ERASE	GET
LINE	PEN	Q-LINE	R-BAND	STIPLE

Pressing with the cursor in the Menu Label of any menu will bring to the screen the parent menu of the current one. For example, pressing the Menu Label of the PENS menu calls up the DRAW MENU. Pressing the Menu Label of DRAW calls up the MAIN MENU.

Previous Menu

To return the previous menu to the screen, press the angle bracket in the Menu Label. This allows you to quickly alternate between two menus without having to go through the parent menu(s).

COMMANDS

In addition to general menu commands, which are common to all menus, each menu has up to nine commands. All commands are described in detail in this manual.

Initiating a Command

Press briefly on the command. A beep sounds and the command is highlighted in red, indicating the command has been activated.

Exiting a Command

See directions under the specific command. For many commands, no exit procedure is necessary; the command simply completes execution and returns you to your last drawing mode.

Canceling a Command

Glide the pen to the right side of the tablet until the beep sounds. CANCEL exits a pending menu command before the command executes. To stop a command once it has begun executing, press the ESCape key.

Explanation of a Command

For documentation on any command in the menu, press D in the SAVES AREA, then press the command in which you are interested. Your picture will be temporarily stored, while information on the selected command appears on the screen. To bring your picture back to the screen, press briefly on the pen.

STATUS AREA

The STATUS AREA identifies the current drawing mode and color (upper box) and gives prompts for using certain commands (lower box).



Status Box

The Status Box identifies the size, drawing mode and color that are active when the cursor is in the image area, the pen is depressed and no command is pending. In the illustration above, the size is 2, the active mode is Pen, and the current color is shown to the right of the P.

All modes of the PENS MENU are accessible through the Status Box of any menu, provided no command is pending. See GENERAL MENU COMMANDS, in this manual, for directions on how to CHANGE MODE, CHANGE SIZE and CHANGE COLOR.

Prompt Box

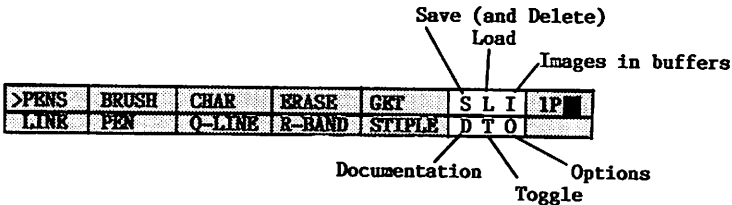
In the Prompt Box appear prompts that facilitate the execution of certain menu commands. Individual prompts are explained under the commands where they are relevant.

A message in this box indicates that a command is pending and must be either completed or canceled before another command can be initiated.

Clearing the Screen

Put the cursor in the Prompt Box and press once on the pen; when the word "ZAP" appears, press again. The screen will fill with background color. (To abort the ZAP command--and prevent the screen from clearing once "ZAP" has appeared as a prompt--press anywhere except in the Prompt Box.)

SAVES AREA



Saving an Image on Disk

To name a file, press the N key and type a name of up to six characters. Then press the S command in the Saves Area. The menu of filenames appears, with the name you just typed appearing in the upper left box. Press inside that box.

The entire image onscreen is saved in a .PIC file and its associated color map (palette) is saved in a .MAP file of the same name. That is, a picture saved under the name GOOD will create a file called GOOD.PIC and a file called GOOD.MAP. When you load an image, the .MAP file will automatically be loaded as well, so that a picture will always appear with the palette it had when you created it.

Since the palette (or map) is stored separately from the image, it can also be loaded separately. This is done through LOAD in the PALET MENU.

Loading an Image from Disk

Press the L command in the Saves Area. The menu of filenames appears, with names of the image files currently on disk. If there are more files than will fit in the menu, pressing MORE will bring the next set of filenames to the menu. Press the name of the file to be loaded.

Deleting an Image

To delete an image file through Lumena, press the S command in the Saves Area. When the menu of filenames appears, press DELE. Then press the name of the file to be deleted.

Other Commands in the Saves Area

I allows manipulating images in buffers. O offers various options for drawing onscreen. For details on these commands, see the individual command pages in this manual, under GENERAL MENU COMMANDS.

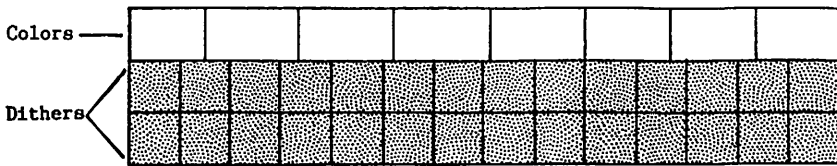
The D (documentation) command is discussed above, in the section "Explanation of a Command."

The T command affects colors in the palette and is discussed below in the section "COLOR."

Menu of Filenames

Whenever a save or load command is pressed, the menu of filenames appears. The names of the files displayed are appropriate to the menu.

The S and L commands in the Saves Area of any menu display names of image files. The save and load commands in the PALET MENU display names of color map files; in the CELLS MENU, cell files.

COLOR**Palette Arrangement**Colors

The top row of the palette contains the eight basic colors--black, blue, green, cyan, red, magenta, yellow, and white. These colors can be anywhere in the top line, their positions being rearranged through X-COL (exchange colors) or COPY command in the PALET MENU. Whenever you exchange colors, the change will occur both in the palette and wherever the two colors appear in the image.

These eight colors can appear in two intensities. To change from one intensity to the other, press T (Toggle) in the menu, then press the color to be toggled. The lightening or darkening of the color will occur in the palette and wherever that color appears in the image.

Dithers

The middle and bottom rows contain 14 dithers. A dither consists of two colors in a checkerboard arrangement. Because the pixels are so small, the eye usually reads a dither as a solid color.

The dithers greatly expand the palette since they appear as unique colors. However, they are composed of the eight colors in the top row. Thus, any change you make in the top row also appears in the dithers. If you toggle from blue to dark blue, all dithers that contained blue will now contain dark blue.

Any of the dithers can appear anywhere in the bottom two lines of the palette. They can be moved through the X-DITH (exchange dithers) command in the PALET MENU. (Exchanged dithers, unlike exchanged colors, appear only in the palette. There is no change in the image onscreen.)

Current Color

The current drawing color or dither appears in the Status Box. It is also identified by name at the top of the screen whenever the menu is visible on the screen.

Default Palette

The default palette is the one that comes to the screen whenever Lumena is loaded.

If you would like a differently arranged palette to appear upon entering Lumena, make the changes and then save the palette (using SAVE in the PALET MENU) under the name DFAULT. Your saved palette will appear on the disk directory as DFAULT.MAP. If this file is subsequently deleted from the disk, Lumena will resume loading with its own default palette.

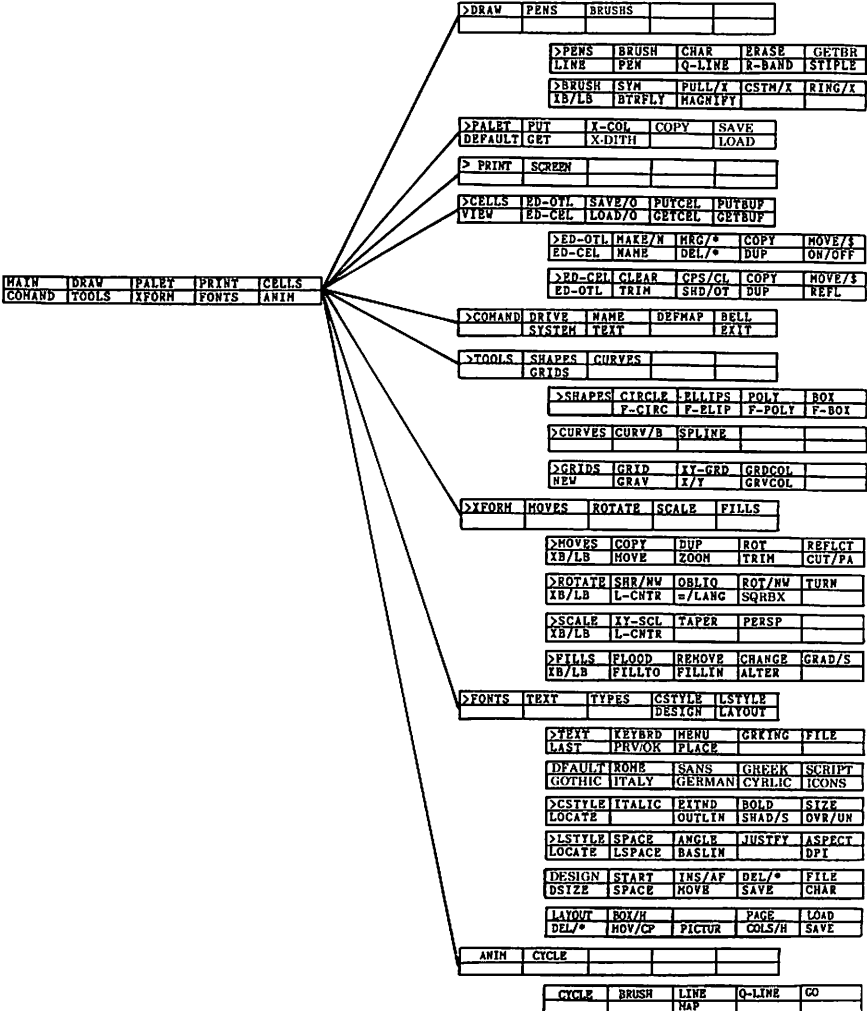
Pressing the D key (for Default palette) calls up Lumena's own default palette (regardless of whether or not there is a file called dfaul.map).

Colors Used by Lumena

The last position in the top row, which appears as white in the default palette, is used for the menu, cursor and certain other functions. The fifth position, red, is used as a highlight, to show that a command is active.

If you change the colors in these positions, the corresponding Lumena functions will also change color. If you make either of these positions black, the functions will be impossible to read. (Should this happen, simply call back Lumena's default palette by pressing D on the keyboard.)

MENUS IN LUMENA



To run Lumena, the hardware must be properly configured. For help in setting up your system, refer to instructions that accompany the hardware and to Appendix A in this manual. The Tutorial assumes that the equipment is already properly set up and that this is your first experience using Lumena.

NOTE: If you are using a mouse with your system, read the subsection entitled "MOUSE" in the GENERAL INFORMATION section of this manual before proceeding with this tutorial.

BOOTING THE COMPUTER

Be sure that the computer is turned on and that the digitizing pen and tablet are connected.

If necessary, boot the computer according to directions in your computer manual.

LOADING LUMENA

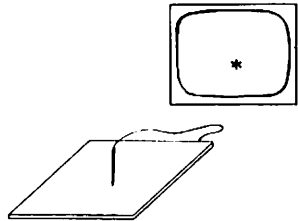
Go to the drive or directory in which Lumena is located and type lumena and a carriage return.

When Lumena is loaded, a message appears at the bottom of the screen, "Press pen device to continue." Press the pen briefly on the tablet.

When the menu appears at the bottom of the screen, you can immediately begin drawing. Put the pen anywhere on the tablet and press down while drawing.

THE CURSOR

Touching (but not pressing) the digitizing pen to the center of the tablet will bring a spot of light, the cursor, to the center of the screen. The cursor allows you to orient yourself onscreen before actually drawing. The cursor is represented by * in this manual.



(If you **cannot** see a cursor when you glide the pen on the tablet and if a line does not draw when you press the pen while moving it, check that cables and power cords are properly and firmly connected. Be sure the tablet and monitor are turned on.)

In general, the digitizing pen should be kept in contact with the tablet. Pressing firmly on the pen (when the cursor is not in the menu) activates the current drawing mode—in this case, Pen. Releasing pressure allows you to move to another area of the screen without making a line. It is always better to glide the pen to its new position than to lift it off the tablet.

CALLING UP A MENU

Glide the pen toward the bottom of the tablet. When the cursor goes off the bottom of the screen, the current menu will appear. Since Lumena has just been loaded, the MAIN MENU will come to the screen.

MAIN	DRAW	PALET	PRINT	CELLS
COMAND	TOOLS	XFORM	FONTS	ANIM

This is the initial menu, which offers access to other menus in the system. The upper left box, MAIN, is the menu label; the other boxes show other menus available.

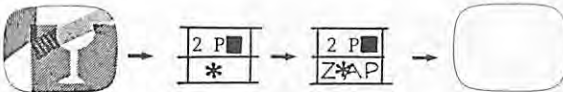
Gliding the pen up from the menu into the image area causes the menu to disappear from the screen. This allows you to use the area under the menu for drawing. If you glide the pen down on the tablet until the cursor goes off the bottom of the screen, the menu will return.

To keep the menu visible, keep the digitizing pen in contact with the tablet, with the cursor in the menu area.

CLEARING THE SCREEN

The Prompt Box can be used at any time to clear the screen. Put the cursor there and press twice on the pen.

MAIN	DRAW	PALET	PRINT	CELLS	S L I	2 P ■	Status Box
COMAND	TOOLS	XFORM	FONTS	ANIM	D T O		

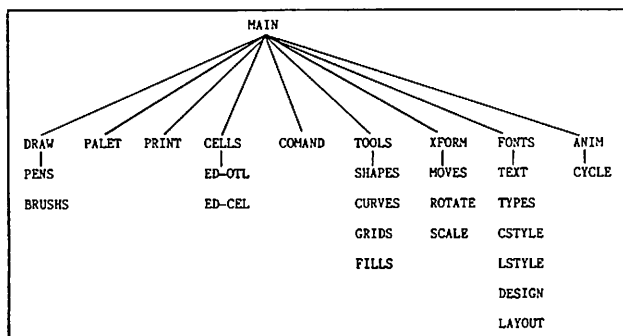


CHANGING COLOR

The current drawing color is shown in the Status Box. To change the current color, put the cursor over the desired color in the palette and press down. A soft beep will sound, indicating that a command has been carried out. Glide the pen up into the image area and try drawing with the new color.

MENU ARRANGEMENT

All menus can be accessed from the MAIN MENU. As you can see from the diagram, several are, like MAIN, menus that give access to more menus.



CHANGING MENUS

For freehand drawing tools, move the cursor into the box marked DRAW and press down briefly on the pen.

This brings to the screen the DRAW MENU. This menu has PENS and BRUSHES, both of which are menus of commands.

Press in the box marked PENS.

MAIN	DRAW	PALET	PRINT	CELLS
COMAND	TOOLS	XFORM	FONTS	ANIM

>DRAW	PENS	BRUSHS		

The PENS MENU will appear, accompanied by a beep. The Menu Label reads PENS; the other boxes name commands in the menu.

BASIC DRAWING MODES

The PENS MENU contains the basic drawing modes.

Menu Label

>PENS	BRUSH	CHAR	ERASE	GET
LINE	PEN	Q-LINE	R-BAND	STIPLE

Move the cursor into the box labeled BRUSH and press down briefly on the pen. The word BRUSH will appear in red, indicating that the brush mode is active. Move the cursor into the image area and try drawing in Brush.

Notice that Brush deposits a rounded color patch, while the Pen patch is rectangular. Another difference is that if you move the digitizing pen very quickly, Brush will deposit a "dotted" line, whereas a Pen line will always be continuous--though it may be squared off, as the computer tries to catch up with the quick movement of the digitizing pen.

CHANGING BRUSH SIZE

Above the Prompt Box is the Status Box. It contains three elements: a number indicating size or width of the drawing mode being used, the initial letter of the current drawing mode, and an indication of the current color.

>PENS	BRUSH	CHAR	ERASE	GET	S I I 4	E
LINE	PEN	Q-LINE	R-BAND	STIPLE	D T O	

Drawing Mode
Size Color

To change the size of the brush line, put the cursor over the size number and press down. A caret (^) appears below the number, indicating that size is being changed. Retaining pressure, move the pen slowly right or left to increase or decrease brush size. Release pressure when you reach the size you want.

In all drawing modes, 1 is the smallest size and 8 is the largest, but the area covered by each number varies according to the mode. To get a feel for the difference, compare lines drawn by 2 Brush, 2 Pen and 2 Stiple. (You will have to set the size for each of these drawing modes, but once you set it, that size is retained by that mode until you change it.)

The first position in the Status Box indicates size in all drawing modes except CHAR, character. If you press CHAR, the Status Box may read "aC". Pressing with the pen in the image area will deposit the letter "a". You can now draw with a brush that has the shape of the letter "a". To change

the character in the left of the Status Box, press down on the pen and move it left or right. All the letters of the alphabet will appear in upper and lower case, as well as numerals and other characters commonly found on the keyboard. When the desired character appears, release pressure.

Since characters go by quickly, you must move the pen rather slowly to select one. If you happen to release pressure on the pen before reaching the character you want, press again over the character in the Status Box and the run of characters will continue from where it left off.

ERASING

ERASE lets you remove from the image selected pixels of a chosen color. To appreciate this command, first draw on the screen with several colors, making the colors interweave and overlap.

Press the ERASE command. Then put the cursor over a color in the image and press down on the pen. Keeping the pen depressed, move it freely. Only the color initially under the cursor when you pressed down will be erased; all other colors will be unaffected. To erase a different color, release pressure on the pen, move the cursor to the new color and press down.

The size of ERASE, like that of the other drawing modes, can be changed through the Status Box. The ERASE command, in effect, draws background color over a selected color with a selected pen size.

To erase the entire screen, press twice in the Prompt Box.

STIPLE

STIPLE deposits a random spray of dots. Size 1 gives a rather small spray while size 8 is large enough to almost fill the screen. Trying out several sizes will give you a feel for the range.

Stiple , size 1



Stiple, size 8



The STIPLE spray is composed of the last four colors selected as the current color. Selecting the same color four times will give a STIPLE spray of only one color. You can choose the colors either before or after pressing STIPLE.

DRAWING STRAIGHT LINES

The LINE command draws a straight line between two given end points. Press LINE and move the cursor into the image area. Press down briefly on the pen to mark the beginning of the line; then, gliding the pen on the tablet, move the cursor some distance away and press again.

After the second point is pressed, a line will join the two points. Glide the pen to a third position and press down, and a line will join the previous endpoint with the new point. To begin a new run of line segments, move the cursor down into the menu, then back into the image area.



Line



R-BAND (rubber band) works much the same as LINE. After selecting the first point, glide the pen around on the tablet and notice how a temporary line connects the initial point and the cursor (with a rubberband-like motion). Be sure to keep the pen in contact with the tablet, as lifting the pen up breaks the connection with the previous point. To set the line, press down on the pen.

To draw lines that are exactly horizontal or vertical, use Q-LINE. This command quantizes the designated endpoints to 90 degrees before drawing a line. As with LINE and R-BAND, each time the pen is pressed, a line connects the new point with the previous point. To break a run of line segments, move the cursor into the menu.



Q-line



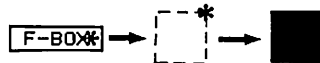
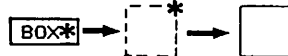
RECTANGLES AND CIRCLES

Move the cursor to the middle of the Menu Label--the upper left box--and press down. This returns to the screen the DRAW MENU. Now press DRAW to call up the MAIN MENU. Press TOOLS, then press SHAPES.

>SHAPES	CIRCLE	ELLIPS	POLY	BOX
	F-CIRC	F-ELIP	F-POLY	F-BOX

Commands in the SHAPES MENU draw simple geometric figures.


Press the BOX command. The prompt asks for two points ("2P"), the diagonal corners of the box. Move the cursor into the image area and press down briefly for one corner of the rectangle. Keeping the pen in contact with the tablet, glide it around. A temporary box connects the first corner with the cursor as you move the pen. To actually draw the box, press down briefly for the second corner.



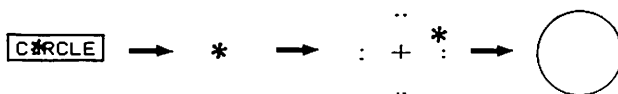
The method just used for drawing a box is followed in many Lumena commands that require delineating an area of the image that you want to change. In all cases, it is necessary to keep the pen in contact with the tablet, gliding it from the first point pressed to the second point. (But if you



change your mind about the first point, lift the pen off the tablet; the first point is then lost and you can choose it again.)

 F-BOX draws a rectangle that is filled with color, rather than outlined. It works the same as BOX.

Press the CIRCLE command. The prompt asks for the center ("CTR") of the circle. Move the cursor into the image area and press down. The prompt now asks for the radius ("RAD"). Put the cursor a short distance from the point chosen for the center and press down again. The command will draw a circle using your second point as the radius.



The width of the line used by CIRCLE is the size last selected for PEN. To make thinner or thicker circles, return to the PENS MENU, press PEN and change its size in the Status Box. Then return to the SHAPE MENU and try CIRCLE again.

F-CIRC gives a circle filled with color. Try making several boxes and circles of different sizes and colors. Leave several figures on the screen when you move on to the next section.

 **FILLING ENCLOSED AREAS**

Move the cursor into the menu label (the upper left box, marked SHAPES) and press down to call up the TOOLS MENU. Then press its menu label (marked TOOLS) to get back to the MAIN MENU. Then press the box marked XFORM. When the XFORM MENU appears onscreen, press the box marked FILLS.

Commands in the FILLS MENU enable you to fill enclosed areas with a selected color. For variety, select as the current color a color not now on the screen. Then press FILLIN.

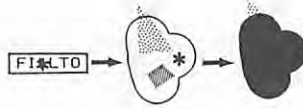
>FILLS	FLOOD	REMOVE	CHANGE	GRAD/S
XB/LB	FILLTO	FILLIN	ALTER	

Move the cursor into an enclosed area, such as a circle, and press down briefly on the pen. The current color will fill the enclosure until it is stopped by another color.

FILLIN covers any color, not only background. If you have made a solid-color box with the F-BOX command, press down with the cursor in that box and it will also fill with the current color. It is not necessary to press the FILLIN command again since "in" still appears in the Status Box. This command is like a drawing mode, in that it remains active until you select another mode.



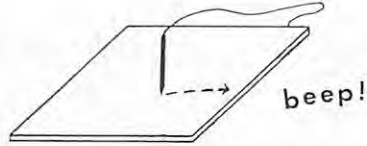
For comparison, FILLTO fills only an enclosure of the current color. It covers all colors within the enclosure (not just the color under the cursor when you pressed) and stops only when it comes to a boundary of the fill color.



If you use FILLIN and FILLTO to fill freehand figures, be sure the shapes are completely closed or the filling color will "leak out" and fill the next larger enclosure--possibly the entire screen. If such leaking does occur, press the ESCape key to stop the command.

CANCELING A COMMAND

A prompt in the Prompt Box indicates that a command is pending. To cancel a pending menu command, glide the digitizing pen to the right side of the tablet.



CHANGING MODE AND COLOR THROUGH THE STATUS BOX

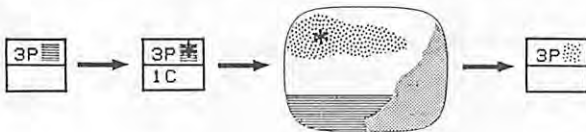
If no command is pending (as indicated by a blank Prompt Box), the mode indicated in the Status Box will be active. This is the drawing mode you last used and you can continue to use it now.

You can change drawing modes through the Status Box of any menu. The procedure for changing modes is like that used earlier for changing size. Position the cursor on the letter in the middle of the Status Box and press down. A caret will appear under the letter. Retaining pressure, move the pen left or right. Initials of all the drawing modes of the PENS MENU will appear in succession--Brush, Character, Erase, Getbrush, Line, Pen, Rubberband, Quantized line, Stipple.

When the initial of the desired drawing mode appears, release pressure on the pen.

This procedure can be followed whenever no command is pending--that is, when there is no message in the Prompt Box.

The Status Box can also be used to choose a drawing color from the image. Press the color indication in the Status Box. The prompt asks for one color ("1C"). Put the cursor over a color in the image and press briefly on the pen. The color touched becomes the current color.



This procedure--rather than simply selecting a color from the palette--is useful when you want to match a particular color already in the image.

SPECIAL BRUSHES

Return to MAIN by pressing the Menu Label (the upper left box of the menu). Then press DRAW. When the DRAW MENU appears, press BRUSHS.

>BRUSHS	SYM	PULL/X	CSTM/X	RING/X
XB/LB	BTRFLY	MAGNIFY		

The BRUSHS MENU offers various special-effects brushes.

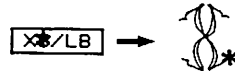
Before going on, clear the screen, if necessary, by pressing twice in the Prompt Box.

The SYM command allows you to draw in 4-way symmetry. Press SYM. The prompt asks for two points ("2P") to define the screen area that will be active. Press down briefly for the first point, then glide the pen around, keeping it in contact with the tablet. As you glide the pen, a rubberbanding box will have one corner attached to the first point and its diagonal corner following the cursor. Press down for the second point.

The area you've just defined will be surrounded by a box. All drawing done in this box will appear in symmetry, and the pen will not be active when the cursor is outside this box.



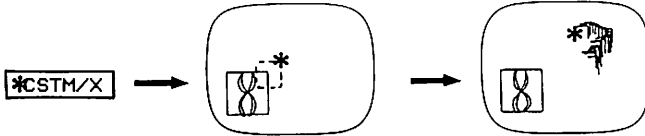
To remove the delineating box from the screen, press on XB in the XB/LB command box.



SYM is still active in the designated area, even though the box is not visible. It will remain active until you exit SYM by changing the mode in the Status Box (notice there is now an "s" in the Status Box) or by selecting another command.

Leaving an image on the screen, press the left side of the box marked CSTM/X. The prompt asks for two points to define the image area to be used as a "custom brush." Choose a small part of the image, if possible an area with more than one color, and press down for the two corners of the box.

This boxed image will now be deposited each time you press the pen on the tablet. You can also draw with it and get a continuous line of overlapping images.



You can even ZAP the image, and the custom brush will still be active. It remains the active drawing mode until you choose another mode.

(If you press over the X in the CSTM/X command box, you have a brush that gives texture and color changes as it crosses other colors. For details, see the CSTM/X command page in this manual.)

SAVING IMAGES ON DISK

To the left of the Status Area is the Saves Area, containing six single-letter commands. S and L are for saving and loading images on disk.

>BRUSHS	SYM	PULL/X	CSTM/X	RING/X	SLI
XB/LB	BTRFLY	MAGNIFY			DTO

For this experiment, save whatever happens to be onscreen. (If you have recently ZAPped and have a blank screen, quickly draw something.)

To name the file under which the image will be saved, type N followed by a name of up to six characters. For example,

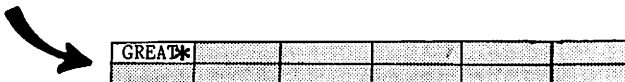
GREAT

Then press carriage return.

To save the image onscreen, press S. The menu will be replaced by a menu of filenames. The name you typed will appear in the upper left box.

Press the name you just typed.

>PENS	BRUSH	CHAR	ERASE	GET	* L I
LINE	PEN	O-LINE	R-BAND	STIPLE	D T O



picture is saved

The menu disappears from the screen and the digitizing pen and tablet are inactive while the computer is saving the image. When the menu returns, the image is saved and the pen and tablet are again ready for use.

Although the image is now saved on disk, it also remains on the screen and you can continue to work on this picture. However, any changes you make will **not** appear in the image on disk unless you save the image again after making the changes.

LOADING IMAGES

Clear the screen by pressing twice in the Prompt Box.

To bring the saved image back to the screen, Press L. The menu of filenames will appear. This time the filename you typed will appear twice--in the upper left box (because it is the name last typed in) and in another box in the menu (because it is a name of a picture already on disk).

If there are other pictures saved on disk, their names will also appear in the menu. If there are more pictures than can be named in one menu, pressing MORE will call up the next set of names.

>MAIN	DRAW	PALET	EXTRA		S * I 2P														
COMAND	TOOLS	XFORM	FONTS	ANIM	D T O														

GREAT	CHAIR	SEA *	CHEKER	HEART	MORE														
GLOBE	GREAT																		

picture appears onscreen

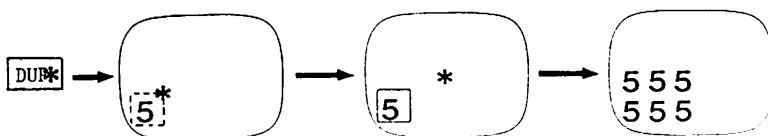
MOVING IMAGES ONSCREEN

Clear the screen by pressing twice in the Prompt Box. Press the Menu Label to call up the MAIN MENU. Press XFORM. When the XFORM MENU appears, press MOVES.

>MOVES	COPY	DUP	ROT	REFLCT
XB/LB	MOVE	ZOOM	TRIM	CUT/PA

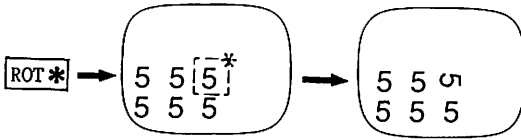
Commands in the MOVES MENU enable you to replicate and rearrange onscreen images. Using the Pen or Brush mode, make a small figure, say the number 5, in the lower left corner of the screen.

Then press DUP. The prompt asks for three points. For the first two, select diagonal corners so that your 5 is enclosed in a box. For the third point, which designates the screen area for duplication, put the cursor in the middle of the screen and press down on the pen.

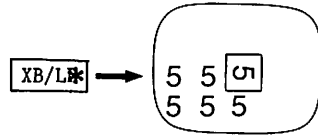


The command will make duplicates of the 5 from its present position toward the right and top of the screen until it reaches the limit set by the third point. In this case, the duplicated image will fill the lower left quarter of the screen.

Press ROT, for Rotate. The prompt asks for two points, diagonal corners defining the image to be rotated. Press down for the first corner and glide the pen diagonally. Since a rotated image must have the same number of pixels horizontally as vertically, the box that follows the cursor as you select the second corner will be approximately square. Move the pen diagonally to enlarge or reduce the size of the box. Pressing down for the second point will cause the image to rotate 90 degrees clockwise.



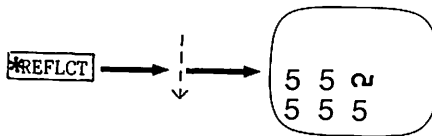
Leaving the rotated image onscreen, press LB (for Last Box) in the XB/LB command box.



This makes visible the last box used and activates it for the next command.

This means that whatever command you next select will not ask for 2P to define a screen area but will use the box shown.

Now press REFLCT. The prompt "H?V" asks whether to reflect horizontally or vertically. To turn the image upside down, press anywhere on the tablet and stroke briefly up or down; to mirror the image left to right, press anywhere and stroke sideways.



ON-LINE DOC

Information on using any of the menu commands is always available from any menu (as well as from this manual). To call up documentation on a command, press the D command in the Saves Area of the menu. Then press the command for which you want information.

>PENS	BRUSH	CHAR	ERASE	GET.	S L I	IP													
LINE	PEN	Q-LINE	R-BAND	STIPL	D T O														

Documentation

An explanation of the command will appear on the screen.

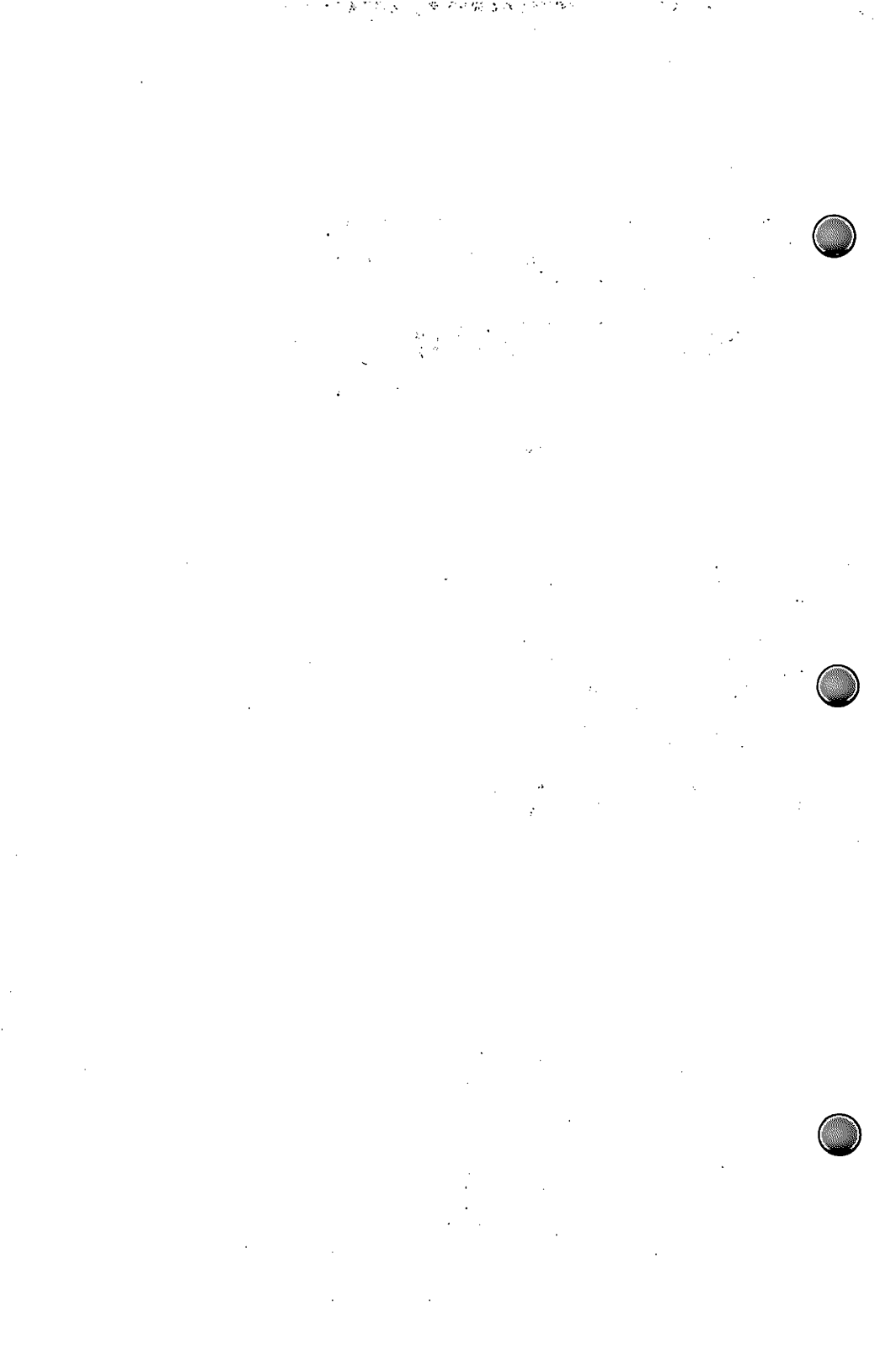
EXPLORING

You now have some experience with the techniques for using Lumena and some idea of the system's possibilities. Explore more manipulations by using other commands.

Before going further, it would be a good idea to glance through the following sections of the manual, to acquaint yourself with the information there:

GENERAL INFORMATION
 KEYBOARD COMMANDS
 GENERAL MENU COMMANDS
 the APPENDICES

For directions on using a specific command, refer to the the on-line doc or to the individual command page in this manual.



KEYBOARD COMMANDS

B Turn BELL on or off.
C List CELL files.
D Get DEFAULT map.
ESC ESCAPE a command or a text screen.
F Change FILE disk drive.
H Display HELP list of prompts.
K Display KEYBOARD commands.
L LIST all files on current disk.
M List MAP files on disk.
N Write NAME into filenames menu.
P List PICTURE files.
S Change SYSTEM disk drive.
T TYPE text onto screen.
^X Exit Lumena.

Keyboard commands are a convenience, but a keyboard is not really necessary for Lumena. Picture, map and cell files are listed in the onscreen menu whenever a Save or Load command is given. Other commands may be given through the COMAND MENU.

COMMAND: B (bell)

PURPOSE: Turn bell on or off.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press B.

EFFECT

This command alternately enables or disables the bell which can accompany the selection of colors and points and the initiation and completion of commands.

COMMAND: C (cell files)

PURPOSE: List cell files on the current file disk.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press C.

EFFECT

A list of cell files on the current disk appears on the screen.

RELATED COMMANDS

L, P, M (KEYBOARD COMMANDS)

The L command lists all files on the current disk. The P command lists only picture files. The M command lists only color maps.

COMMAND: D (default)

PURPOSE: Bring to the screen Lumena's default map.

PROMPTS: none

EXIT: none needed



PROCEDURE

1. Press D.

EFFECT

Lumena's default map replaces the map onscreen.

RELATED COMMANDS

A map saved under the name DFAULT will come up whenever Lumena is loaded. However, the D command will always bring to the screen Lumena's original default map, regardless of whether or not there is a map called DFAULT.



ESC (escape)

PURPOSE: Halt an executing menu command; return to the graphics screen.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press ESCape.

EFFECT

An executing command stops before completion.



COMMAND: F (file disk drive)

PURPOSE: Change the disk drive used for storing picture and color map files.

PROMPTS: New File drive [x]

EXIT: Enter the letter of the new storage disk drive, or press carriage return to keep the drive shown in brackets.

PROCEDURE

1. Press F.

A message appears at the top of the screen: "New file drive", followed by a letter in square brackets.

2. Type the letter of the new drive for storing files, or press Return to select the drive in brackets.

EFFECTS

This command sets the drive for saving picture and cell files. It allows you to save these files on a disk other than the one on which Lumena documentation and menu files are stored.

RELATED COMMANDS

L, P, M, C (KEYBOARD COMMANDS)

The disk drive set by F is the drive that is read by the L, P, M and C commands. You can, therefore, use F followed by L to read any drive. (Be sure to return to the appropriate disk before saving or loading picture or cell files.)

S (KEYBOARD COMMANDS)

To change the disk drive from which the system reads Lumena documentation and menu files, use the S Keyboard Command.

COMMAND: H (help)

PURPOSE: Display a help list of prompts.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press H.

EFFECTS

The list of prompts appears on the screen.

COMMAND: K (keyboard commands)

PURPOSE: Display the list of keyboard commands.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press K.

EFFECTS

A list of keyboard commands appears on the screen.

COMMAND: L (list)

PURPOSE: List all files on the current disk.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press L.

EFFECT

A list of all files on the current file disk appears on the screen.

RELATED COMMANDS

F (KEYBOARD COMMANDS)

Use the F command to change the current file disk drive.

4-8

COMMAND: M (map files)

PURPOSE: List map files on the current disk.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press M.

EFFECTS

A list of all the map files on the current disk appears on the screen.

COMMAND: N (name)

PURPOSE: Write a filename into the filenames menu, in preparation for saving.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Type N.
2. Type a name of up to six characters, and press carriage return.

EFFECTS

The last name typed into the filenames menu appears in the upper left box whenever that menu is called up through a save or load command.

RELATED COMMANDS

L, P, M, C (KEYBOARD COMMANDS)

Press L, P, M or C to list files on disk. It is sometimes helpful to list files on disk before naming new files, since a file saved under a name already used would replace (destroy) the previous file.

4-10

COMMAND: P (picture files)

PURPOSE: List picture files on the current disk.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press P.

EFFECTS

A list of all picture files on the current disk appears on the screen

COMMAND: S (system disk drive)

PURPOSE: Change the disk drive in which Lumena command, menu and documentation files are to be found.

PROMPTS: New System drive [x]

EXIT: Enter the letter of the new system disk drive, or press Return to keep the drive shown in brackets.

PROCEDURE

1. Press S.
The message appears at the top of the screen: "New System drive", followed by the current system disk drive in square brackets.
2. Type the letter of the new system disk drive, or press Return to select the drive in brackets.

Lumena command, menu and documentation files must be on the same disk.

EFFECT

The designated drive is where the system reads Lumena command, menu and documentation files.

Note that, even though Lumena command, documentation and menu files are on the disk in the current drive, this command can be used to direct the system to look for them on another disk--for example, on a hard disk.

RELATED COMMANDS

F (KEYBOARD COMMANDS)

The S command governs only the drive where Lumena system files are sought. It does not affect where pictures, maps and cell files are stored. Use the F command to set the drive for saving files through Lumena.

COMMAND: T (type)

PURPOSE: Display characters typed from the keyboard.

PROMPTS: none

EXIT: Press ESCape on the keyboard.

PROCEDURE

1. Position the cursor where the typed characters should begin and, keeping the digitizing pen in contact with the tablet, press T on the keyboard.
2. Type text.
3. To exit the type mode and return to the graphics mode, press the ESCape key on the keyboard.

EFFECTS

Text typed from the keyboard begins at the cursor position. The cursor remains onscreen, marking your place as you type. (The digitizing pen is inactive while Lumena is in the type mode.) A carriage return brings the cursor to the next line of type, beginning directly below the starting point.

In the type mode:

^W moves the cursor up

^X moves the cursor down

^A moves the cursor left

^D moves the cursor right

("^W" means pressing the W key while holding down the Control key.)

Typed characters appear in the current color. To change the current color, return to the graphics mode, select another color, and enter the type mode again.

The DELETE key moves the cursor left and deletes a character by depositing a block of the color that is under the cursor.

NOTE: All other keyboard commands and menu commands are inaccessible while Lumena is in the type mode. To return to the graphics mode and gain access to other commands, press the ESCape key on the keyboard.

T, cont.

RELATED COMMANDS

WRITE (O Menu Command)

It might be desirable to have isolated characters of a text appear in different colors--say, an occasional yellow word in a passage of red type. Rather than changing the current color as you type, which necessitates leaving the type mode and reentering, use the WRITE option after the text is completed.

To do this, first type the entire text in red and exit the type mode. Then press O for the menu of options, and press WRITE, selecting red as the color to be written over. You may now choose any color from the palette and selectively recolor words in the text.

CHAR (PENS MENU)

For depositing characters in a brush mode, use CHAR in the PENS MENU.

MOVES, ROTATE, SCALE MENUS

Characters in the type mode appear in only one size but their dimensions and orientation can be altered through commands in the MOVES, ROTAT and SCALE MENUS.

4-14

COMMAND: ^X

PURPOSE: Exit Lumena.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press X while holding down the "control" key.

EFFECT

Lumena is exited.

GENERAL MENU COMMANDS

CANCEL	Cancel pending menu command.
CHANGE COLOR	Change current drawing color.
CHANGE MODE	Change current drawing mode.
CHANGE SIZE	Change width of current pen or brush.
D	Call up onscreen explanation of a command.
I	Call Image from buffer.
L	Load an image from disk.
O	Select options for drawing.
PARENT MENU	Call to the screen the parent menu of the current one.
PREVIOUS MENU	Return to the screen the previous menu.
S	Save an image to disk.
T	Toggle a color (alter intensities).
ZAP	Clear the screen.

GENERAL MENU COMMANDS are commands that can be given from any menu.

COMMAND: CANCEL

PURPOSE: Cancel a pending menu command.

PROMPTS: none

EXIT: none needed


PROCEDURE

1. Glide the digitizing pen to the right side of the tablet until the beep sounds.

EFFECTS

The bell sounds and the prompt disappears from the Prompt Box, indicating that the pending menu command has been canceled and exited.

This command can be used at any time to cancel a pending menu command.

COMMAND: CHANGE COLOR

PURPOSE: Change the current color to a selected color.

PROMPTS: 1C (1 color)

EXIT: none needed

PROCEDURE


1. Press the desired color in the palette.

OR

1. Press the color patch in the Status Box.
The prompt asks for 1 color.
2. Press the desired color in the image.

EFFECTS

The selected color becomes the current drawing color and is so indicated in the Status Box.



The second method--choosing the color from the image--is preferable when you want to use a particular color already in the image.

RELATED COMMANDS**FILLS MENU**

Use commands in the FILLS MENU to change one color to another in a selected area of the image.

COMMAND: CHANGE DRAWING MODE

PURPOSE: Change the active mode for drawing on the screen.

PROMPTS: ↑(Arrow)

EXIT: Release pressure on the pen.

PROCEDURE

The letter in the middle of the Status Box is the initial of the current drawing mode.

To change to another mode:

1. Put the cursor over this letter and press down on the pen.
An arrow (↑) under the letter indicates that the drawing mode is being changed.
2. Keeping the pen firmly depressed, move it slowly to the left.
The initials of all the drawing modes in the PENS MENU will appear in sequence.
3. When the initial of the desired mode appears, release pressure.

EFFECT

The selected drawing mode will be active when the cursor is in the image area, the pen is depressed and no command is pending.

Whenever a drawing mode is called up it will have the size it last used.

RELATED COMMANDS

various brushes

Drawing modes from menus other than the PENS MEN are indicated in the Status Box by lower-case letters; however, only the modes of the PENS MENU can be called up through the Status Box.

COMMAND: CHANGE PEN SIZE

PURPOSE: Change the size of the current drawing mode.

PROMPTS: ↑ (Arrow)

EXIT: Release pressure on the pen.

PROCEDURE

1. Put the cursor over the size number in the left of the Status Box and press down on the pen.
An arrow (↑) under the number indicates that size is being changed.
2. Keeping the pen firmly depressed, move it to the left to decrease size or to the right to increase size. Sizes vary from 1 to 8.
3. When the desired size appears, release pressure.

EFFECTS

The drawing mode indicated in the Status Box will be active in the selected size.

For all drawing modes, size 1 is the smallest and size 8 is the largest. However, the measured size for each number is not the same in all modes. 8 Brush, for example, covers a broader area of the screen than 8 Pen.

RELATED COMMANDS

CHAR (PENS MENU)

When C is the active mode in the Status Box, the leftmost position in the Status Box indicates the character to be deposited, rather than size. To change characters, follow directions for changing size.

If the character next to C in the Status Box is the name of a cell, the image in that cell will be deposited whenever the pen is pressed. (See CELLS MENU.)

COMMAND: D (documentation)

PURPOSE: Call up an explanation of a command.

PROMPTS: DOC

EXIT: none needed

PROCEDURE

1. Press D in the menu.
"DOC" appears in the Prompt Box.
2. Press the command for which you want information.
Information on the command appears onscreen.

EFFECTS

Information on the selected command appears on the screen of the monochrome monitor.

COMMAND: I (image)

PURPOSE: Call to the screen an image stored in the buffer.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press I in the menu.
A menu appears onscreen:

STORE	FETCH	OVER	UNDER	THRU
SWAP	XOR	H/V	REF-HV	CELLS

2. Press one of the boxes.

EFFECTS

The buffer image is loaded to the screen or the onscreen image is stored in the buffer.

STORE stores the onscreen image in the buffer.

FETCH brings the buffer image to the screen.

OVER brings in the buffer image without background color (so the buffer image will appear to be on top of the image previously onscreen).

UNDER brings in the buffer image only on background color (so the image from the buffer appears to be under the image previously onscreen).

THRU brings in the image only through the current color.

SWAP exchanges the onscreen image with the buffer image.

XOR produces color changes as the buffer image loads over the onscreen image.

H/V allows you bring in the buffer image reflected horizontally or vertically. (Choose by pressing over either the H or the V.)

REF-HV brings the image in reflected both horizontally and vertically.

CELLS identifies the buffer being accessed. If you have more than one additional buffer, pressing this box will access them in sequence.

If this box is labeled CELLS, it is the cell buffer that is being accessed. This is the same buffer used by commands in the CELLS MENU.

Note: CELLS requires 512K of memory to operate. If your system has 256K of memory, CELLS will not appear in the menu, and the I command will access a buffer which is used by other parts of the Lumena program. The I command can be used to store an image and then immediately call it to the screen in one of the ways described above. But storing through this command ought not to be considered long-term, since the buffer may be overwritten when you use certain other commands.

5-8

COMMAND: L (load)

PURPOSE: Load to the screen an image from a disk file.

PROMPTS: LOD

EXIT: none needed



PROCEDURE

1. Press L in the menu.

The menu of filenames appears, showing the names of picture files on disk. If there are more picture files than can be shown in one menu, pressing **MORE** will bring the next series of filenames to this menu.

2. Press the name of the file to be loaded.

EFFECTS

The selected picture is loaded to the screen.

(This command merely displays a saved image; it does not in any sense move the image from the disk to the screen. Even though you make changes on an image you have brought to the screen, the image on disk remains in its original state. To store the changes on disk, save the changed image under the same name.)



COMMAND: O (options)

PURPOSE: Select an option for the drawing modes.

PROMPTS: 2C (2 colors) [PROTCT and WRITE]

EXIT: Press RESET in the menu of options.

PROCEDURE

1. Press O.

The menu of options is displayed.

>RESET	PROTCT	WRITE	XOR	
EXIT	MARK1	MARK2	X1/X2	

2. Press one of the options.

For PROTCT or WRITE, the prompt will ask for 2 colors to define the range of colors to be protected or written over.

3. For PROTCT or WRITE, select 2 colors from the palette or from the image. (Selecting from the palette allows you to see which colors fall within the range.) To protect or write on only one color, press that color twice.

EFFECTS

The selected option is active for PEN, BRUSH, LINE, R-BAND and Q-LINE in the PENS MENU.

PROTCT masks out a selected range of colors and lets you write on all others.

WRITE lets you write on a selected range of colors.

XOR sets the drawing mode to change color and add texture when a color crosses other colors.

MARK 1 is used to temporarily mark a point onscreen. Press MARK 1, then press a point onscreen. The point is marked with a cross. Each press of the command allows you to either set a new mark or, by pressing the command box again, to remove the mark last set.

MARK 2 works like MARK 1, allowing you to set a separate mark.

X1 alternately removes or restores the next-to-last mark set by MARK 1.

X2 alternately removes or restores the next-to-last mark set by MARK 2.

RESET cancels any options selected, returning the default settings.

EXIT exits this menu.

The highlighted O signals that an option is active. When the menu of options appears, the active option is highlighted. To cancel an option and return to the default drawing mode, press RESET.

COMMAND: PARENT MENU:

PURPOSE: Call to the screen the parent menu of the current menu.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press inside the menu label (the upper left name on any menu).

EFFECTS

The parent of the current menu comes to the screen. For example, if you are in the PENS MENU, pressing the menu label calls up the DRAW MENU; pressing the menu label of the DRAW MENU calls up the MAIN MENU.

COMMAND: PREVIOUS MENU

PURPOSE: Return to the screen the previous menu.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press the angle bracket in the menu label (the upper left name on any menu).

EFFECTS

The previously used menu returns to the screen. This command allows you to quickly alternate between two menus without going through the parent menu.

COMMAND: S (save)

PURPOSE: Save an image into a disk file.
OR
Delete an image file from disk.

PROMPTS: SAV

EXIT: none needed

PRELIMINARY COMMANDS

N (KEYBOARD COMMANDS)

To name the file under which an image will be saved, type N, then type a name of up to six characters and a carriage return.

PROCEDURE

To save an image:

1. Press S.

The menu of filenames appears, with the most recently typed name in the upper left box. If there are more picture files on disk than can be shown in one menu, pressing **MORE** will bring the next series of filenames to this menu.

2. Press the name under which the image should be saved.

To delete an image file:

1. Press S.

The menu of filenames appears, with the most recently typed name in the upper left box. If there are more picture files on disk than can be shown in one menu, pressing **MORE** will bring the next series of filenames to this menu.

2. When the name of the file to be deleted is visible in the menu, press **DELE**.

3. Press the name of the file to be deleted.

EFFECTS

The image is saved in a .PIC file and its palette is saved in a .MAP file.
or

An image and its palette are deleted from disk.

COMMAND: T (toggle)

PURPOSE: Change the intensity of a selected color from light to dark or dark to light.

PROMPTS: 1C

EXIT: none needed

PROCEDURE

1. Press T in the menu.
The prompt box will ask for one color.
2. Press a color in the top row of the palette.

EFFECTS

The color you press changes intensity from light to dark or dark to light.

COMMAND: ZAP

PURPOSE: Clear the screen.

PROMPTS: ZAP

EXIT: none needed

NOTE: To abort the command once ZAP has appeared in the Prompt Box--and prevent the screen from clearing--press anywhere except in the Prompt Box.

PROCEDURE

1. Press in the Prompt Box.
The word "ZAP" appears as a prompt.
2. Press again in the Prompt Box.

EFFECTS

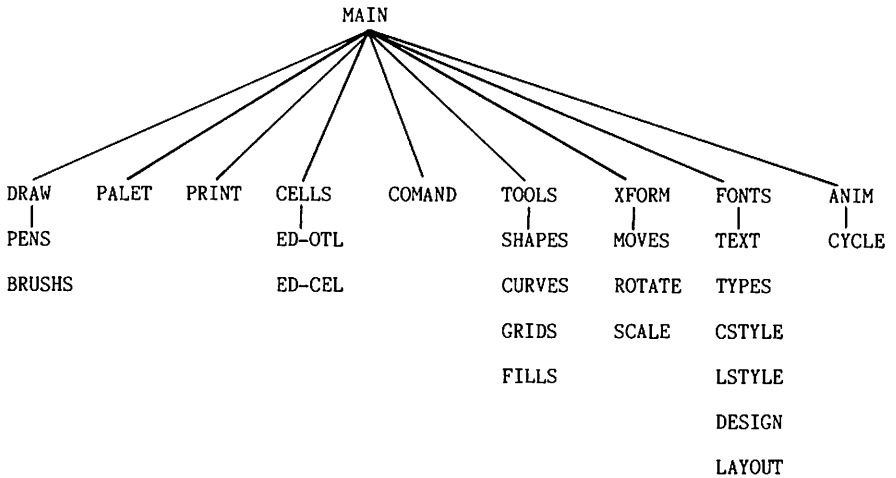
The screen fills with background color.

MAIN MENU

MAIN	DRAW	PALET	PRINT	CELLS
COMAND	TOOLS	XFORM	FONTS	ANIM

The MAIN MENU gives access to all other Lumena menus.

The menu structure of Lumena is shown below.

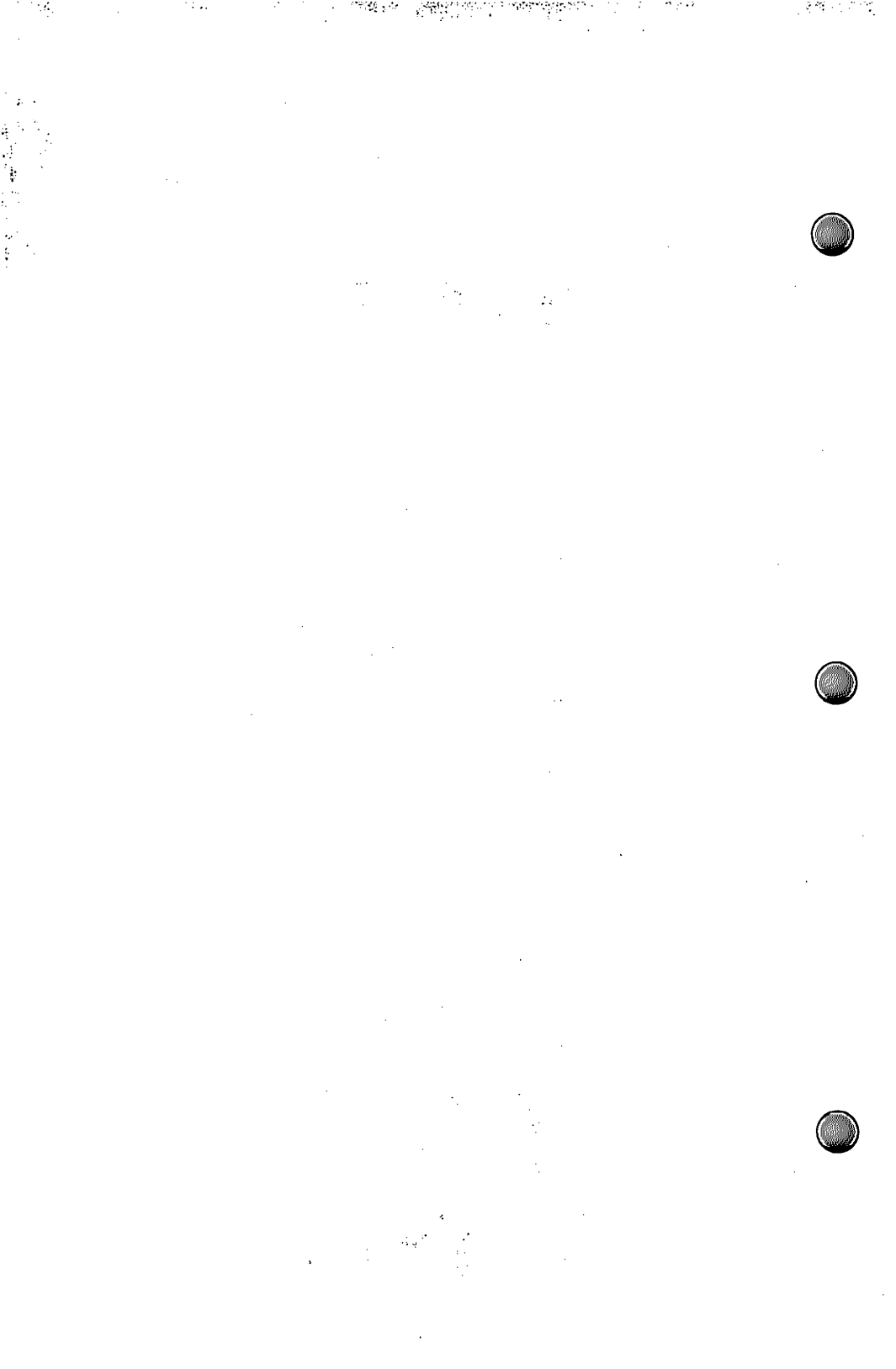




DRAW MENU

>DRAW	PENS	BRUSHS		

The DRAW MENU has menus of commands for freehand drawing onscreen.



PENS MENU

PENS	BRUSH	CHAR	ERASE	GET
LINE	PEN	Q-LINE	R-BAND	STIPPLE

The PENS MENU is used to select the action of the digitizing pen to draw on the screen. The drawing mode selected will be active whenever the cursor is in the image area (not in the menu) and the digitizing pen is pressed down, provided no command is pending.

Items from this menu can be selected at any time through the Status Box of any menu, as well as from command boxes in this menu. To select a mode through the Status Box, position the cursor on the initial of the current drawing mode and press down on the pen. Keeping the pen depressed, move it slowly to the left. Initials of all the drawing modes of the PENS MENU will appear. To select a mode, release pressure on the pen.

Whenever a drawing mode is selected, either from this menu or through the Status Box of any menu, it will appear in the size last selected for it. Thus it is easy to alternate between drawing modes of different sizes by changing only the mode. All PENS modes (except CHAR) range in size from 1 through 8, 1 being the smallest and 8 the largest. However, the measured size for a number is not the same in all modes. 8 Brush, for example, covers a broader area of the screen than 8 Pen. The size range in each drawing mode is appropriate to the work that would be done in that mode.

COMMAND: BRUSH

PURPOSE: Deposit a patch of the current color in a brush mode.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press BRUSH. Move the cursor into the image area and press down to draw.

EFFECTS

The BRUSH command allows drawing a smooth, continuous line whenever the cursor is in the image area, the pen is depressed and no command is pending. Moving the digitizing pen quickly gives a dotted line.

With background color as the current color, BRUSH can be used to erase.

RELATED COMMANDS

PEN (PENS MENU)

The main differences between PEN and BRUSH are these:

PEN deposits a rectangular block of color, while BRUSH deposits a rounded patch.

If you move the digitizing pen quickly, a BRUSH line will be broken or dotted, whereas a PEN line will always be continuous.

BRUSH MENU

For various special brushes, including a custom brush, see the BRUSH MENU.

CELLS MENU

Images stored in cells can also be used as brushes. See discussion on opening pages of the CELLS MENU.

COMMAND: CHAR (character)

PURPOSE: Deposit characters in a brush mode.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press CHAR. Move the cursor into the image area and press down while drawing.

The character to be deposited is shown in the Status Box: "aC" indicates the drawing mode is Character and the character to be deposited is "a".

To change the character to be deposited, put the cursor over the current character in the Status Box and press down on the pen. A caret (^) under the character indicates that it is being changed. Retaining pressure, move the pen to the left until the desired character appears. (Since the characters go by quickly, move the pen very slowly to select a character.) Upper- and lower-case letters appear, as well as numbers and other characters commonly found on the keyboard. To select a character, release pressure on the pen.

EFFECTS

CHAR can be used as a brush mode. Moving the pen slowly deposits a line of overlapping characters, while moving quickly leaves a line of characters with spaces between.

It can also be used as a "rubber stamp". To deposit one character, press down and quickly release pressure on the pen.

RELATED COMMANDS

T (KEYBOARD COMMANDS)

To type from the keyboard onto the screen, use the T mode. This method is more suitable for long texts or when legibility is essential. CHAR is handy for special effects and offers greater flexibility of movement than the type mode.

MOVES, ROTAT, SHEAR and SCALE MENUS

Characters in CHAR appear in only one size. Their dimensions and orientation can be altered through commands in the MOVES, ROTAT, SHEAR and SCALE MENUS.

CELLS MENU

When an image is stored in a named cell, CHAR will deposit that image rather than a character. See CELLS MENU for details.

COMMAND: ERASE

PURPOSE Erase pixels of a selected color.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press ERASE.
2. Position the cursor on any color in the image and press down. Keeping the pen depressed, move it freely over the image. Only the color initially under the cursor will be replaced with background color.

To change the color to be erased, release pressure on the pen, move the cursor to a new color to be erased, and press down again. (Note that the current color is not relevant for the ERASE command. Whatever color is under the cursor when the pen is depressed will be "erased", or replaced with background color.)

To change erase size, put the cursor over the size number in the Status Box, press down on the pen, and move it slowly to the left until the desired size number appears.

EFFECTS

ERASE works by replacing a selected color with background color. Thus, if a yellow line has been drawn "over" a blue area, erasing the yellow will not reveal the blue again but will yield the background color.

RELATED COMMANDS

BRUSH (PENS MENU)

For erasing all color from an area, use BRUSH in the PENS MENU, with background color as the current color.

REMOVE (FILLS MENU)

To remove a color from a selected rectangular area of the screen, or from the entire screen, use REMOVE in the FILLS MENU.

COMMAND: GET

PURPOSE: Get, in a drawing mode, the image in the buffer.

PROMPTS: none

EXIT: Press another command.

PRELIMINARY COMMANDS

I (GENERAL MENU COMMANDS)

The GET brush assumes that there is an image in the buffer. To store an image in the buffer, use the I menu command, pressing STORE or SWAP.

PROCEDURE

1. Press GET. Move the cursor into the image area and press down to draw.

EFFECTS

Wherever you draw, the image in the buffer will be revealed according to the option selected.

This command can be used to "erase" changes in the image. For this use, use the I menu command to store the image in the buffer from time to time while you are working on it. Then if any of the changes prove unsatisfactory, use GETbrush to draw over them; the picture in the buffer will replace the image wherever you draw.

If the working screen is blank, the picture in the buffer will dramatically appear as you draw with GETbrush.

RELATED COMMANDS

I (General Menu Commands)

Use the I menu command to call the full buffer image to the screen in a variety of ways.

COMMAND: LINE

PURPOSE: Draw a line in the current color between given end points.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press LINE.
2. Position the cursor where the line should begin and press briefly on the pen.
3. Glide the pen to the end point and press briefly again.

A line will draw to connect the two points.

Glide the pen to the next point and press, and a line will connect the end point of the previous line with the new point.

To discard a line without setting it, or to terminate a run of line segments, move the cursor into the menu area. The next time the pen is pressed in the image area, a new run of line segments will begin.

Change line width by putting the cursor over the size number in the Status Box, pressing down on the pen, and moving the pen left or right until the desired size is reached.

EFFECTS

A line of the current color connects the last two points selected.

RELATED COMMANDS

R-BAND, Q-LINE (PENS MENU)

R-BAND is similar to LINE, except that it displays each line in a temporary mode before drawing. Q-LINE draws lines that are exactly horizontal or vertical.

COMMAND: PEN

PURPOSE: Deposit a patch of the current color in a pen mode.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press PEN. Move into the image area and press while drawing.

EFFECTS

The PEN mode allows drawing a continuous line as long as the cursor is in the image area, the pen is depressed and no command is pending. It is ideal for freehand drawing since it offers the greatest freedom of movement along with the finest line size. Although a PEN line is always continuous, very rapid movement of the digitizing pen will result in a squared off rather than a smooth line, as the computer tries to catch up with the stylus movement.

Change pen size by positioning the cursor over the size number in the Status Box, pressing down on the digitizing pen and moving it left or right until the desired size appears.

RELATED COMMANDS**BRUSH (PENS MENU)**

The main differences between PEN and BRUSH are these:

PEN deposits a rectangular block of color, while BRUSH deposits an rounded patch.

If you move the digitizing pen quickly, a BRUSH line will be dotted, whereas a PEN line will always be continuous.

COMMAND: Q-LINE (quantized line)

PURPOSE: Draw a horizontal or vertical line of the current color.
This command quantizes endpoints to 90 degrees.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press Q-LINE.
2. Position the cursor where the line should begin and press down briefly on the pen.
3. Glide the pen to the approximate end point for the line and press down.
Q-LINE will quantize the position of the endpoint to 90 degrees and draw a horizontal or vertical line.

To discard a line without setting it, or to terminate a run of line segments, move the cursor into the menu area. The next time the pen is pressed in the image area, a new run of line segments will begin.

Change line width by positioning the cursor over the size number in the Status Box, pressing down on the pen, and moving the pen slowly left or right until the desired size appears.

EFFECTS

This command always draws lines that are exactly horizontal or vertical.

As with LINE, the end point of the last line becomes the beginning point of the next line segment unless the run is broken.

RELATED COMMANDS

GRID, GRAV (GRIDS MENU)

For help in making vertical or horizontal alignments of elements in an image, use GRID or GRAV in the GRIDS MENU. Lines displayed by those commands act as guides and can be removed without the harming the image. Use Q-LINE only to draw lines that are meant to be part of the image.

COMMAND: R-BAND (rubber-band line)

PURPOSE: Draw a line of the current color, displaying each new line segment in a temporary mode before drawing.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press R-BAND.
2. Position the cursor where the line should begin and press down briefly on the pen. Keeping the pen in contact with the tablet, move it around.
A temporary line connects the initial point with the cursor.
3. To set the line, press down briefly on the pen. As you glide the pen to the next point, a temporary line connects the cursor with the previous point.

To discard a line without setting it, or to terminate a run of line segments, move the cursor into the menu area. (Lifting the pen off the tablet also breaks a run of line segments.) The next time the pen is pressed in the image area, a new run of rubber-band line segments will begin.

Change line width by putting the cursor over the size number in the Status Box, pressing down on the pen, and moving the pen left until the desired size number appears.

EFFECTS

This command gets its name from the action of the temporary line, which appears to be a rubber band with one end tacked down at the last-selected point and the other end at the cursor. As with LINE, the end point of the last line becomes the beginning point of the next line, until the run of line segments is broken.

Note that the size, or width, of the temporary line is always the same; the size of the actual rubber-band line will not be apparent until the line is set.

COMMAND: STIPLE

PURPOSE Deposit a random spray of up to four colors.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press STIPLE. Move the cursor into the image area and press down while drawing.

EFFECTS

The spray size ranges from only a few pixels in diameter (number 1) to large enough to cover almost the entire screen (number 8).

STIPLE color is determined by the last four color selections. The selections can be made either before or after STIPLE is pressed. If four different colors are chosen, an equal mix of those four colors will be deposited. If one color is selected four times, only that color will be deposited.

Moving the pen quickly deposits a less dense spray than moving it slowly. If the STIPLE is to cover only one color, it is also possible to create a less dense spray by mixing that background color with the chosen STIPLE colors.

BRUSHES MENU

>BRUSHS	SYM	PULL/X	CSTM/X	RING/X
XB/LB	BTRFLY	MAGNIFY		

The BRUSHES MENU contains various special brushes.

Commands with an X, such as RING/X, can be used either as regular brushes or as texture brushes. Pressing over the left part of the command activates a brush that colors in the usual way, the current color replacing any color it crosses. Pressing over the X activates a special brush: when used over background color, it gives a speckled texture in the current color; when used over another color, it produces texture in a third color.

COMMAND: SYM (symmetry brush)

PURPOSE: Enable drawing in four-way symmetry.

PROMPT: 2P (2 points)

EXIT: Select another command.

PROCEDURE

1. Press SYM.
2. Press two diagonal points to define the area for drawing. Move the cursor into the defined area and press while drawing.

EFFECTS

All drawing done inside the selected area appears in four-way symmetry. The pen is not active when the cursor is outside that area.

RELATED COMMANDS

XB (BRUSHES MENU)

To remove the delineating box from the screen, press XB in the XB/LB command box. (The area selected for SYM is still active, even though the box is not visible.)

CHANGE COLOR, CHANGE SIZE (Status Box)

Change the current color and brush size at any time, without leaving SYM.

COMMAND: PULL/X

PURPOSE: Deposit in a brush mode the color(s) under the cursor when the pen is depressed.

OR

Deposit in a textural brush mode the color under the cursor, which changes as it crosses other colors.

PROMPTS: none

EXIT: Select another command.

PROCEDURE

1. Press PULL. Then put the cursor over any color in the image, press down and draw.

OR

1. Press X. Then put the cursor over any color in the image, press down and draw.

EFFECTS

The color deposited by PULL or PULL/X is initialized each time the pen is pressed over a color, and that brush color lasts only until pressure on the pen is released. (This means: 1. the current color is not relevant; 2. if you press the pen with the cursor over background color, there will be no apparent effect.)

Pressing PULL in the left side of the command box gives a brush that colors in the usual manner.

Pressing with the cursor over the X activates a textured brush that allows background color to show through. Crossing a color other than background produces a third color.

Used with a stroking motion, this brush is good for pulling adjacent colors into each other or softening hard edges. Size 1 picks up one pixel of color. Larger sizes may be used to draw out several adjacent colors.

COMMAND: CSTM/X (custom brush)

PURPOSE: Create a custom brush or a custom rubber stamp from an onscreen image.

PROMPT: 2P (2 points)

EXIT: Select another command.

PROCEDURE

1. Press CSTM or X.
2. Select diagonal corners to define the image to be repeated.
A box briefly surrounds the image.
Move into the image area and press down to stamp or draw.

EFFECTS

The selected image appears, according to the selected option, each time the pen is pressed.

Used as a brush, this command will yield a continuous line of overlapping images. A CSTM brush works best when the image is small. Speed and direction of pen movement affect the appearance of a CSTM brush line.

If you selected X, the custom brush will appear in a textural mode that gives color changes as it crosses colors onscreen.

You may ZAP the screen without destroying the custom brush. The brush is active until you select another command or leave the menu. If you use another command and then want to return to a custom brush, you will have to press CSTM/X again and reselect the area for the brush.

RELATED COMMANDS

CELLS MENU

Images stored in cells can be brought to the screen as brushes at any time. See the opening pages of the CELLS MENU.

COMMAND: RING/X

PURPOSE: Deposit a ring of the current color in a brush mode.
OR

Activate a textured ring-shaped brush that changes color when it crosses other colors.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press RING.

OR

1. Press X.

EFFECTS

Pressing the left side of the RING command activates a brush that deposits color in the usual way, the current color covering any color it crosses.

Pressing with the cursor over X activates a textured brush, that allows background color to show through. Crossing a color other than background produces a third color. (See note on first page of this menu.)

COMMAND: XB/LB

PURPOSE: Remove from the screen or restore to the screen the last box used for delineating a screen area.
or
Reactivate for the next command the last box used.

PROMPT: LB (last box)

EXIT: none needed

Note: To cancel LB--so the last box is **not** reactivated for the next command--press LB in the Prompt Box or glide the pen to the right side of the tablet.

PROCEDURE

To make the last box visible or invisible:

1. Press XB.

OR

To make the last box active again:

1. Press LB.

EFFECTS

XB removes the previous delineating box from the screen. Press again, and the box reappears. A box restored through XB acts only as a visual reminder.

LB reactivates for the next command the screen area last used. This allows you to enact further commands in the exact same screen area previously used.

The LB command is active as long as "LB" appears in the Prompt Box. That is, if you press LB and then press XB, the box will disappear from the screen but the prompt will remain, indicating that the next command will be carried out in that area of the screen.

To remove a delineating box from the screen, use XB before creating another box. If another box is created, the box already onscreen becomes part of the image. That is, XB and LB affect only the box most recently created.

RELATED COMMANDS

REMOVE (FILLS MENU)

A box that has inadvertently become part of the image can be removed with REMOVE. (However, if the box was drawn over other colors, a negative of the box will remain, since REMOVE works by applying background color over the color being removed.)

COMMAND: BTRFLY (butterfly)



PURPOSE: Draw with a whimsical brush that radiates lines from a chosen point.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

1. Press BTRFLY.
2. Press a point onscreen that will be the center point, then move the pen freely to draw.

To draw with a new center point, glide down to the menu; then move up again into the image and press another point.

EFFECTS

The command draws lines that radiate from a chosen center point.



COMMAND: MAGNIFY

PURPOSE: Enlarge a portion of the screen for working on individual pixels.

PROMPTS: 2P (2 points); MAG

EXIT: Press in the Prompt Box.

PROCEDURE

1. Press MAGNIFY.
2. Press 2 diagonal corners to define the image area to be enlarged.
The box defined by the points always retains the same dimensions as the screen. As you move the cursor to set the second point, the box snaps to the sizes available for enlargement. When the second point is pressed, the enclosed area is enlarged to fill the screen, and MAG appears in the Prompt Box.
3. To exit and return to normal resolution, press in the Prompt Box. (To return to normal resolution without keeping changes you have made in MAG, cancel by gliding the pen to the right side of the tablet.)

EFFECTS

The selected area is enlarged to fill the screen.

This command allows you to change individual pixels easily. No other commands or drawing modes are possible while this command is active.

To return to the full image, retaining changes made in this command, press in the Prompt Box.

To recall the full image without keeping changes made in this command, cancel by gliding the pen to the right side of the tablet.

PALET MENU

PALET	PUT	X-COL	SAVE	COPY
DEFAULT	GET	X-DITH	LOAD	

The PALET MENU contains commands for changing colors and dithers in the palette, and for saving palettes independently from images.

Colors

The top row of the palette contains the eight basic colors. X-COL (exchange colors) and COPY are used to rearrange these colors.

Each color in the image is associated with the palette position from which it came. If the color in that position is changed through X-COL or COPY, anything drawn in that color will also be changed.

Dithers

A dither consists of two colors in a checkerboard arrangement.

Dithers appear in the middle and bottom rows of the palette. Though they may look like solid colors, all the dithers are actually composed of the eight colors that appear in the top row. (If you draw something with a dithered color and then enlarge it using MAGNIFY in the BRUSHS MENU, you will see two distinct colors in the dither.)

Since a dither is made up of two colors from the top row, if you change any colors (through X-COL or COPY), the dithers that use those colors will also be changed.

COMMAND: PUT

PURPOSE: Put the current palette in temporary storage.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press PUT.

EFFECTS

The current palette is temporarily stored. You can now change colors or rearrange dithers in the palette, knowing you will be able to get back the previous palette by pressing GET.

The palette remains in storage until you replace it (through another PUT command) or load a picture from disk (in which case Lumena stores the palette previously onscreen) or exit Lumena or reboot your computer.

RELATED COMMANDS

L (GENERAL MENU COMMANDS)

Whenever you load an image to the screen through the L menu command, the palette that was onscreen is put into the storage area so that the loaded image can appear with its original palette. Thus, the L command carries an automatic PUT command.

GET (PALET MENU or other menus)

Use GET to load the palette stored through PUT.

SAVE (PALET MENU)

Use SAVE to save colormap files on disk.

COMMAND: X-COL (exchange colors)

PURPOSE: Exchange two colors.

PROMPTS: 2C (2 colors)

EXIT: none needed

PROCEDURE

1. Press X-COL.
2. Press the 2 colors that should be exchanged.

EFFECTS

The two colors selected exchange places in the palette and in the image. This command works only for colors in the top row of the palette.

When this command is used, the selected colors change places in the top row of the palette; in dithers that included the replaced colors; and in the image, wherever the replaced colors appeared either as colors or as components in dithers. Thus, if blue and red are exchanged, all red on the screen becomes blue and all blue becomes red.

RELATED COMMANDS

X-DITH (PALET MENU)

To exchange dithers, in the middle and bottom rows of the palette, use X-DITH.

COMMAND: SAVE

PURPOSE: Save the current palette to a .MAP file on disk.

PROMPT: SAV

EXIT: none needed

PRELIMINARY COMMANDS

N (KEYBOARD COMMANDS)

To name a file before saving, use the N command.

PROCEDURE

1. Press SAVE.

The menu of filenames is displayed and "SAV" appears in the Prompt Box.

2. Press the name under which the file is to be saved.

EFFECTS

The palette onscreen is saved in a .MAP file. Previous contents of the file, if any, will be lost.

It is also handy for saving alternative palettes for an image. In such a case, use the S menu command to save the picture with its current map; then change the colors and save the new palette through SAVE in this menu.

A map saved under DFAULT will come to the screen whenever Lumena is loaded.

RELATED COMMANDS

M (KEYBOARD COMMAND)

Press M for a list of .MAP files on disk.

S (General Menu Commands)

The S menu command saves the current palette along with the image. Use SAVE in the PALET MENU only to save a map you will want to call up independently of an image.

COMMAND: COPY

PURPOSE: Copy a color into another position in the top line of the palette.

PROMPTS: 2C (2 colors)

EXIT: none needed

PROCEDURE

1. Press COPY.
2. Press the color to be copied, then press the position into which it should be copied.

EFFECTS

The first color pressed is copied into the position selected. The color formerly in that position is replaced by the copied color in the top row of the palette, in the dithers that included the replaced color, and in the image onscreen. Thus, if blue is copied into red's position, all red on the screen is changed to blue.

This command can be used only on colors in the top row. If you attempt to COPY dithers rather than colors, no change will occur.

COPY allows you to have two shades of a color in the palette at the same time. If you copy blue, for example, one position can be Blue and the other can be toggled to Dark Blue (through the T menu command).

COMMAND: DEFAULT

PURPOSE: Bring to the screen Lumena's default palette.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press DEFAULT.

EFFECTS

The default palette comes to the screen. This is the palette as it appears when Lumena is loaded.

This command is used if you have rearranged colors using X-COL and want to get back Lumena's original palette. If there is an image onscreen that was made with a rearranged palette, this command will change the colors in the image.

COMMAND: GET

PURPOSE: Load the palette stored through PUT.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press GET.

EFFECTS

The palette in temporary storage loads onto the screen, replacing the current palette.

RELATED COMMANDS

PUT (PALET MENU)

Use PUT to put a palette in temporary storage.

G (KEYBOARD COMMANDS)

Pressing the G key gets Lumena's default palette to the screen.

COMMAND: X-DITH (exchange dithers)

PURPOSE: Exchange two dithers.

PROMPTS: 2C (2 colors)

EXIT: none needed

PROCEDURE

1. Press X-DITH.
2. Press the two dithers to be exchanged.

EFFECTS

The two dithers exchange places in the palette. One use of this command is to arrange a sequence of dithers for the GRAD/S command in the XFORM/FILLS MENU.

NOTE: Unlike the X-COL command, X-DITH causes a change only in the palette, not in the image. See the first page of this menu for further discussion.

COMMAND: LOAD

PURPOSE: Load a palette from a disk file.

PROMPT: LOD

EXIT: none needed

PROCEDURE

1. Press LOAD.

The menu changes to display the menu of filenames and "LOD" appears in the Prompt Box. If there are more .MAP files on disk than can be displayed in one menu, pressing **MORE** will display the next series of names.

2. Press the name of the file to be loaded.

EFFECTS

The selected palette appears onscreen. The palette previously onscreen is lost unless it was saved before the new one was loaded.

RELATED COMMANDS

L (GENERAL MENU COMMANDS)

To load a saved image along with its palette, use the L menu command.

M (KEYBOARD COMMANDS)

Press the M key to list .MAP files on disk.



A cell is a defined area of the cell buffer. The cell buffer can be thought of as a separate screen used for storing images. Images stored in cells can be manipulated and used in various ways.

The Related Cells Menus

CELLS	ED-OTL	SAVE/O	PUTCEL	PUTBUF
VIEW	ED-CEL	LOAD/O	GETCEL	GETBUF

ED-OTL	MAKE/N	MRC/*	COPY	MOVE/S
ED-CEL	NAME	DPL/*	DUP	ON/OFF

ED-CEL	CLEAR	CPS/CL	COPY	MOVE/S
ED-OTL	TRIM	SHD/OT	DUP	REFLECT

The CELLS MENU is primarily for transferring images between the cell buffer and the working screen and for storing cell information and images on disk.

The ED-OTL (edit outline) MENU allows you to edit cell outlines. That is, you can create, name, rearrange and delete them.

The ED-CEL MENU (edit cell) allows you to edit complete cells--images and outlines--as units. Images within cells can be copied, duplicated, shadowed, moved, reflected.

Using the Cells Menus

The cells menus contain commands for manipulating images. The procedures are similar to those used throughout Lumena. However, because the images are stored on an additional screen, and because commands in these menus are interrelated, it is advisable to become familiar with the other basic Lumena commands, particularly in the XFORM MENU, before using the cells menus.

Generally, in using the cells menus, first create the image through any Lumena drawing commands.

Then use the PUTCEL command to put individual images or PUTBUF to put the entire screen image into the cell buffer. Once images are in the buffer, use the submenus, ED-OTL and ED-CEL, to manipulate them.

When you enter either ED-OTL or ED-CEL, the image onscreen goes temporarily into the cell buffer, and the image from the cell buffer appears onscreen. You can use any of the commands in the current menu and can move between these two menus to work on the picture. You can also do freehand drawing in any of the modes accessible through the Status Box. When you exit either of these menus, by pressing the Menu Label, the picture you have been working on returns to the cell buffer, and the image originally on the working screen reappears.

On the following pages:

An overview section points out some uses of the cell buffer.
A brief tutorial gives step-by-step instructions in achieving certain effects.
Individual commands are described in detail.

Note: The CELLS MENU requires 512K of memory to operate. If your system has 256K of memory CELLS will not appear in the menu.

The cell buffer screen is the same screen accessed through the I Menu Command (if, when I is pressed, the menu that appears has the word CELLS in the lower right box). Any image stored through the I command will be stored in the cell buffer, replacing the image already there. (See the I command, under GENERAL MENU COMMANDS, for details.) To avoid confusion, it is best not to use the I command while the ED-OTL or ED-CEL MENU is onscreen.



SOME USES OF THE CELL BUFFER

★ Custom Brushes

Design brushes of any shape and number of colors, and hold them for ready access in the Cell Buffer. The entire contents of the buffer can be stored on disk as a single file, so all brushes may be stored together.



Pattern Design

After making one unit of a design, create adjoining copies of it by using DUP in the ED-CEL MENU. Then reorient individual cells horizontally or vertically, using REFLCT, to try out different arrangements. Several cells can be merged together, through MRG/*, and accessed as a single cell.



Shadows


Images can be given shadows through SHD/OT in the ED-CEL MENU.



Parts of a Whole

Cells can be used to bring to the screen parts of a larger image. The cells may overlap. Each cell contains whatever image falls within its boundaries, but the outlines of its own cell or of other cells do not appear on the screen when the cell images are brought to the working screen.

VALUE OF NAMING CELLS

It is not necessary to name a cell. Any image can be stored in a cell and retrieved from the buffer, whether or not the cell has a name. 


However, naming a cell lets you bring it to the screen from any menu at a press of the pen and to use the cell image as a brush. What the cell is named determines the properties of the image brought to the screen.

(See NAME in the ED-OTL MENU for the procedure for naming cells and using named cells as brushes.)

★ a = brush

Cells named with lower-case letters do not carry background and can be used as brushes. (The effect is the same as from a brush created with CSTM in the BRUSH MENU).

A = movable

Cells named with upper-case letters can appear to move over background color, if the cell image is surrounded by background color. 

Upper-case cells can be used for rearranging elements onscreen--in planning the placement of furniture in a room or preparing a display ad, for example--since the components can be easily positioned.

1 = texture and color changes

Cells named with numbers give texture and color changes when the images cross colors onscreen.

A BRIEF TUTORIAL ON CELLS

The cell buffer can be thought of as a separate screen for both storing and manipulating images.

A full-screen image can be stored directly, from any menu, through the I command. Through this same command, a full-screen image can be retrieved from the cell buffer in several ways for a variety of effects. For details, see the I command, in the GENERAL MENU COMMANDS section of this manual.

CELLS	ED-OTL	SAVE/O	PUTCEL	PUTBUF
VIEW	ED-CEL	LOAD/O	GETCEL	GETBUF

ED-OTL	MAKE/N	MRG/*	COPY	MOVE/\$
ED-CEL	NAME	DEL/*	DUP	ON/OFF

ED-CEL	CLEAR	CPS/CL	COPY	MOVE/\$
ED-OTL	TRIM	SHD/OT	DUP	REFLECT

Commands in the three cells menus--CELLS, ED-OTL (edit outlines) and ED-CEL (edit cells)--involve storing and retrieving images smaller than the full screen, using stored images as brushes, or manipulating images as indicated on the preceding pages.

Because many of the commands in these menus are interdependent, this tutorial outlines some basic procedures. It is not intended to explain the full potential of the cells menus nor to introduce all the commands. Its purpose is to explain the steps in producing certain effects and to help you become familiar with how the commands interact.

(This tutorial assumes you are already familiar with the basic Lumena commands and procedures; commands not in the cells menus will not be discussed in detail here.)

Making and Naming Cells

1. Make several small images onscreen--things that have an orientation, like numbers or stick figures, are good for this introduction.

CELLS	ED-OTL	SAVE/O	PUTCEL	PUTBUF
VIEW	ED-CEL	LOAD/O	GETCEL	GETBUF

2. Go to the CELLS MENU. Press PUTBUF.
This puts your entire screen into the cell buffer.
3. ZAP the screen.
4. Go to the ED-OTL (edit outlines) MENU.

Calling this menu to the screen also calls the cell buffer image to the screen. You should, therefore, be looking at the screen of images you drew and stored in the buffer (with PUTBUF) before ZAPPING.

ED-OTL	MAKE/N	MRG/*	COPY	MOVE/\$
ED-CEL	NAME	DEL/*	DUP	ON/OFF

5. Press the left side of the MAKE/N command.

You can now put boxes (cells) around images by setting diagonal corners. Make at least half a dozen cells, allowing some cells to overlap others.

The MAKE command is active until you bring up the menu.

6. Press NAME, then press inside each cell.

When you press NAME, the mode C appears in the Status Box, and each cell you press is named with a character.

You can change this character as you would change a brush size. Name a few cells with lower-case characters, a few with upper-case characters and a few with numbers. Each time you press inside a cell, the character in the box advances. If a cell already has a name, pressing it again will delete the old name and give it a new one.

The NAME command is also active until you bring up the menu, so if you change the character in the Status Box, press NAME again to continue naming cells.

7. Press the menu label.

This exits the cell buffer, and you should now be looking at the (blank) working screen.

Looking at the Cell Buffer

1. To look at images and cells in the buffer--perhaps to check on the name a particular image has--press VIEW in the CELLS MENU.

VIEW only displays the cell buffer screen, it does not allow you to do anything to the images.

CELLS	ED-OTL	SAVE/O	PUTCEL	PUTBUF
VIEW	ED-CEL	LOAD/O	GETCEL	GETBUF

2. To exit and return to the working screen, press the pen anywhere on the tablet.

Using Cells as Brushes

1. Go to the FILLS MENU (through XFORM MENU) and FLOOD the screen with any color. (This is just for this experiment, to help you see the difference between the brushes.)

FILLS	FLOOD	REMOVE	CHANGE	GRAD/S
XB/LB	FILLTO	FILLIN	ALTER	MIX/BX

2. Bring the mode letter C to the Status Box.

Normally, the C mode lets you use a character as a brush. If the character is the name of a cell, however, the cell image will be the brush.

3. Change the letter in front of the C to one of the characters you gave as a name to a cell.

4. Then try drawing.

You should find that:

Lower-case cells do not carry background (color 0) and can be used as brushes.

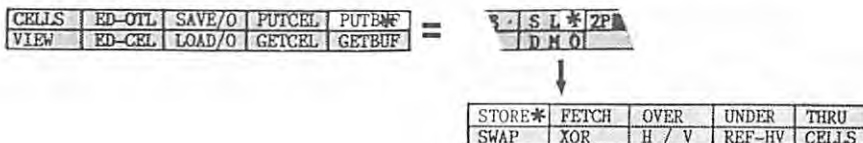
Upper-case cells do carry background.

Number cells change color as they cross other colors in the image.

The Cell Buffer and the I Menu Command

If you press the I Menu Command, a menu appears with commands for accessing a storage buffer. The lower right box in this menu names the buffer being accessed. If this box says CELLS, this menu affects the cell buffer, the same screen affected by the cells menus.

Therefore, pressing I and then STORE has the same effect as pressing PUTBUF in the CELLS MENU. And pressing I and then FETCH has the same effect as pressing GETBUF in the CELLS MENU.



(If your system has an additional memory module, you will have access to two more storage buffers through the I command. In that case, pressing the lower right box of the I menu calls up, in sequence, the names "CELLS", "HOLD 1" and "HOLD 2". HOLD 1 and HOLD 2 are separate screens, having nothing to do with the cell buffer screen or the cells menus.)

Patterns

1. Press ED-CEL (edit cells).

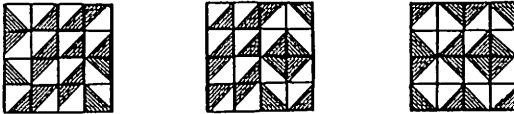
This menu, like ED-OTL, calls up the cell buffer screen. Notice that ED-OTL appears below the menu label (and, in the ED-OTL menu, ED-CEL appears below the menu label), making it easy to go back and forth between these two menus.

ED-CEL	CLEAR	CPS/CL	COPY	MOVE/\$
ED-OTL	TRIM	SHD/OT	DUP	REFLECT

2. Press DUP. This command works much like DUP in the MOVE MENU: press inside the cell you want to duplicate, then set a point to the right and/or above the cell.

The defined area is filled with duplicate images and cells, though the duplicates do not carry the cell name, if any.

3. Press REFLCT. The prompt H?V appears. If you press in any cell and stroke horizontally or vertically, the image will reflect in that direction.

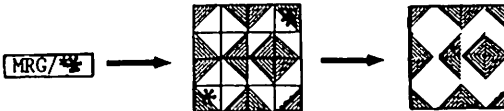


This command lets you see the effect of the same design module in various orientations. Like other commands in this menu, REFLCT is active until you bring up the menu.

4. If you then want to remove the outlines of the individual cells, go to the ED-OTL MENU.

ED-OTL	MAKE/N	MRG/*	COPY	MOVE/\$
ED-CEL	NAME	DEL/*	DUP	ON/OFF

Press the * of the MRG/* command. The prompt CLR appears, indicating that the inside cell outlines will be cleared away. Press two cells at diagonal extremes, such as the upper left and lower right.



The entire block of pattern should now appear as a single cell.

Transferring Cells Between Working Screen and Cell Buffer

1. If you are still looking at the cell buffer screen, return to the working screen by pressing the menu label.

CELLS	ED-OTL	SAVE/O	PUTCEL	PUTBUF
VIEW	ED-CEL	LOAD/O	GETCEL	GETBUF

2. To bring to the working screen any cell, whether named or unnamed, go to the CELLS MENU and press GETCEL.
The cell buffer screen appears.
Press inside any cell.
The working screen then reappears, and an outline of the selected cell replaces the cursor.
Position the cell and press down to set it.
3. To put an image from the working screen into the cell buffer, press PUTCEL. Press diagonal corners to define the image.
The cell buffer screen then appears, and an outline of the cell you've just created replaces the cursor.
Position the cell and press down to set it.
The working screen image then returns.

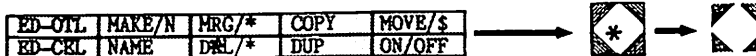
Deleting Cells

1. To clear an image from a cell, but not the cell outline, use CLEAR in the ED-CEL MENU. Press CLEAR, then press inside each cell to be cleared.

The command is active until you bring up the menu.



2. For deleting cell outlines, use DEL/* in the ED-OTL MENU. To delete individual cells, press DEL, then press inside each cell to be deleted. To delete all cell outlines in the buffer, press on the * in the DEL/* command, then press OK? in the Prompt Box.



Saving Cells on Disk

1. To save cells and their images, press the left side of the SAVE/O command in the CELLS MENU.

Note that SAVE in the SAVE/O command saves images in the cell buffer, not the image visible on the working screen. This command saves the images in a .PIC file and the cell information in a .CEL file.

To save only cell information (locations and names of cells) but not images, press the O in the SAVE/O command.

CELLS	ED-OTL	SAVE/O	PUTCEL	PUTBUF
VIEW	ED-CEL	LOAD/O	GETCEL	GETBUF


2. To load cells from a disk file, use LOAD/O in the CELLS MENU. Note that this command loads to the cell buffer screen, not to the working screen.

Creating Animation Cells

This section explains a command that is useful if you have the Animation Package and want to create hand-drawn images with minor variations between the images--for example, a face with mouth and eye movements. This command is most useful for line drawings, rather than filled color images.

1. Draw the original picture. Put it into the cell buffer by using PUTCEL in the CELLS MENU.
2. Use DUP in the ED-OTL MENU to make as many copies of the cell outlines as you will need.

3. Go to the ED-CEL MENU and press CPS in the CPS/CL command. Press inside the original cell, then press down in each duplicated cell.
CPS (copy shadow) makes a one-color (or "shadow") copy of an image into a cell of exactly the same size as the original. You can now "trace" the original image, making variations in each cell.
4. After you have drawn with other colors, clear away the shadow color by pressing the CL side of the CPS/CL command, then pressing inside each cell to be cleared.
CL erases only the color used by the CPS command.
5. Go to the CHAIN MENU of the Animation Package and create the animation event.



CELLS	ED-OTL	SAVE/O	PUTCEL	PUTBUF
VIEW	ED-CEL	LOAD/O	GETCEL	GETBUF

The CELLS MENU has commands for transferring images between the working screen and the cell buffer and for saving and loading cell information on disk. To manipulate cells, use the ED-OTL and ED-CEL menus, which are accessible through this menu.

NOTE: The CELLS MENU requires 512K of memory to operate. If your system has 256K of memory, CELLS will not appear in the menu.

COMMAND: SAVE/O (save/save outlines)

PURPOSE: Save cell images and outlines to a disk file.
OR
Save cell outlines to a disk file.

PROMPTS: SAV

EXIT: none needed

PROCEDURE

1. To name the file, type N and a name of up to six characters, followed by a carriage return.

To save images and cell information in the cell buffer:

2. Press SAVE.
The menu of filenames appears.
3. Press the appropriate filename.

OR

To save only cell information:

2. Press O.
The menu of filenames appears.
3. Press the appropriate filename.

EFFECTS

The contents of the cell buffer is saved to disk.

If SAVE is pressed, the image is saved in a .PIC file and cell information is saved in a .CEL file. In most cases, this is the appropriate command.

OR

If O is pressed, only cell information is saved, in a .CEL file. Cell information includes sizes, names and locations of cells currently in the cell buffer.

RELATED COMMANDS

LOAD/O (CELLS MENU)

Use LOAD in this menu to load images and cell information into the cell buffer. Use O to load only cell information.

L (Menu Command)

Use L to load to the working screen (rather than to the cell buffer) an image saved through this menu.

COMMAND: PUTCEL

PURPOSE: Copy an image from the working screen into the cell buffer.

PROMPTS: 3P (3 points)

EXIT: none needed

PRELIMINARY COMMANDS

C (Status Box)

To specify the name for the cell being put into the buffer, call up C in the Status Box and choose a character. (See NAME in the ED-OTL MENU for the significance of different names.)

PROCEDURE

1. Press PUTCEL.
2. Press two diagonal corners to define the image to be copied.
The cell buffer screen appears, and a box the size of the defined area follows the cursor.
3. Position the cell and press down. (To put the cell in the same position on the cell buffer screen that it occupies on the working screen, glide the pen into the menu, then press down.)

EFFECTS

The selected image is copied to the cell buffer as a named cell, and you are returned to the working screen.

COMMAND: PUTBUF

PURPOSE: Copy into the cell buffer the contents of the working screen.

PROMPTS: OK?

EXIT: none needed

PROCEDURE

1. Press PUTBUF.
The prompt asks "OK?" because the images in the buffer will be replaced by the contents of the working screen.
2. Press "OK?" in the Prompt Box.

EFFECTS

The working screen is copied into the cell buffer. Images previously in the cell buffer are lost, though the cell outlines remain.

RELATED COMMANDS

STORE (I Menu Command)

Pressing PUTBUF has the same effect as pressing the I Menu Command and then pressing STORE, if the menu called up by the I command has "CELLS" in the lower right box.

COMMAND: VIEW

PURPOSE: View the contents of the cell buffer.

PROMPTS: 1P (1 point)

EXIT: Press anywhere on the tablet to return to the working screen.

PROCEDURE

1. Press VIEW.

EFFECTS

The cell and image contents of the cell buffer appear onscreen. Whereas the ED-CEL and ED-OTL menus show cell outlines only against background color, VIEW makes outlines visible against any color.

This command does not allow you to change the contents of the cell buffer.

COMMAND: LOAD/O (load/load outlines)

PURPOSE: Load images and cell information from disk into the cell buffer.
OR
Load cell outlines from disk into the cell buffer.

PROMPTS: LOD

EXIT: none needed

PROCEDURE

To load images and cell information saved through SAVE in this menu:

1. Press LOAD.
The menu of file names appears.
2. Press the file to be loaded.

OR

To load only cell information:

1. Press O.
The menu of file names appears.
2. Press the file to be loaded.

EFFECTS

If LOAD was pressed, images and cell information are loaded to the cell buffer.

OR

If O was pressed, only cell information (outlines, names and locations of cells) is loaded to the cell buffer.

Notice that this command loads to the cell buffer, not the working screen, and that this command does not display the cell buffer. To view the contents of the buffer after loading, press VIEW. To work with the cell buffer contents, enter the ED-OTL or ED-CEL MENU.

COMMAND: GETCEL

PURPOSE: Copy a cell image in the buffer to the working screen.

PROMPTS: 2P (2 points)

EXIT: none needed

PROCEDURE

1. Press GETCEL.
The cell buffer is displayed.
2. Press inside the cell to be brought to the working screen.
The working screen is then displayed, with the selected cell following the cursor.
3. Position the cell and press down to set it. (To put the cell in the same position on the working screen that it occupies in the buffer, glide the pen into the menu, then press down.)

EFFECTS

The image in the selected cell is copied to the working screen.

RELATED COMMANDS

NAME (ED-OTL MENU)

Cells can also be brought to the screen as brushes. For details, see the NAME command in the ED-OTL MENU.

COMMAND: GETBUF

PURPOSE: Copy onto the working screen all images in the cell buffer.

PROMPT: OK?

EXIT: none needed

PROCEDURE

1. Press GETBUF.
The prompt asks "OK?" as a warning, because the onscreen image will be lost when replaced by the image from the buffer.
2. Press "OK?" in the Prompt Box.

EFFECTS

Image contents of the cell buffer are copied onto the working screen. Previous contents of the working screen are lost.

RELATED COMMANDS

FETCH (I Menu Command)

Pressing GETBUF has the same effect as pressing the I Menu Command and then pressing FETCH, if the menu called up by the I command has "CELLS" in the lower right box.

SWAP (I Menu Command)

To exchange images between the cell buffer and the working screen, use SWAP in the I Menu Command, being sure "CELLS" is in the lower right box of the menu called up by the I command.

ED-OTL MENU

ED-OTL	MAKE/N	MRG/*	COPY	MOVE/\$
ED-CEL	NAME	DEL/*	DUP	ON/OFF

The ED-OTL (edit outlines) MENU has commands for creating and editing cell outlines.

When either ED-OTL or ED-CEL is pressed from the CELLS MENU, the image onscreen is stored in the cell buffer, and the image from the cell buffer is brought to the working screen. You may go freely back and forth between the ED-OTL and ED-CEL menus, editing cells and images in cells.

When you exit either menu, by pressing the menu label, the image you were working on is sent to the cell buffer, and the image that was onscreen when you entered these menus reappears on the working screen.

COMMAND: MAKE/N (make/name)

PURPOSE: Make a cell.
OR
Make a named cell.

PROMPT: MAK

EXIT: Bring up the menu.

PROCEDURE

To make a cell:

1. Press MAKE.
2. Select diagonal corners to define the image to be enclosed in a cell.
Make as many cells as you wish. The command is active until you bring up the menu.

To make a named cell:

1. Press N.
C appears in the Status Box, preceded by a character. This character is the name for the next cell pressed, unless you choose a different name, as described in step 2.
2. To select a name for a cell, press the character in the Status Box and move the pen left or right. All the characters and symbols from the keyboard will appear in succession. To select a character, release pressure on the pen.
3. Select diagonal corners for the cell.
A cell appears with the selected name, and the character in the Status Box advances in preparation for naming the next cell. The command is active until you bring up the menu.

EFFECTS

The selected image is enclosed in a cell.

If N was pressed, the image is enclosed in a named cell. If the name given the new cell already exists in the buffer, the name will be dropped from the earlier cell, so that two cells do not carry the same name.

Named cells can be called to the working screen from the Status Box of any menu and can be used as brushes.

To use a cell image as a brush, bring the mode letter C to the Status Box, then press the character to the left of the C and move the pen to call up the name of a particular cell. The image in the cell is now your brush.

Cells named with lower-case letters do not carry background color and can be used as custom brushes. These work like CSTM in the BRUSHS MENU, but you can save a number of brushes in the cell buffer and call them from the Status Box.

MAKE/N, cont.

Cells named with upper-case letters carry background. If the image is drawn on background color (color 0), and if the cell is large enough to include background color all around the image, the image will appear to move as you draw. (The background color in the cell is, in effect, erasing the other colors in the cell image as you draw.) If the image leaves a trail as you draw, delete the current cell and make a larger cell around the image.

Cells named with numbers give texture and change color as they cross other colors in the image. The effect is like that of the X brushes in the BRUSHS MENU.

See opening pages of the CELLS MENU for further discussion.

Brushes in the cell buffer can be saved to disk through the CELLS MENU.

RELATED COMMANDS**NAME (ED-OTL MENU)**

Use NAME to name or rename existing cells.

C (Status Box/PENS MENU)

C in the Status Box stands for either Character (a drawing mode in the PENS MENU) or Cell. If there is no cell currently in the buffer with a given name, the character itself will be deposited; if there is a cell in the buffer with that name, the image in that cell will be deposited each time the pen is pressed.

VIEW (CELLS MENU)

In the ED-OTL and ED-CEL MENUS, cell outlines are visible only over background color. (This allows you to cross cell outlines when drawing.) To view the cell buffer with all cells and images visible, including cells drawn over imaging, use VIEW in the CELLS MENU.

COMMAND: MRG/* (merge)

PURPOSE: Merge two cells.

OR

Merge several cells and clear away outlines of cells falling within the new cell.

PROMPTS: MRG (merge); CLR (clear)

EXIT: Bring up the menu.

PROCEDURE

To merge two cells:

1. Press MRG.
MRG appears in the Prompt Box.
2. Press inside the two cells to be merged.

OR

To merge several cells:

1. Press over the *.
CLR appears in the Prompt Box.
2. Press inside the two outermost cells of those to be merged.

EFFECTS

If MRG was pressed, two selected cells are merged, with the new cell taking the name of the first cell pressed.

OR

If CLR was pressed, two selected cells are merged and all cell outlines falling wholly within the new cell are deleted. The new cell takes the name of the first cell pressed.

The * opt^r of MRG is useful for joining together a set of duplicated cells, making them a single cell.



COMMAND: COPY

PURPOSE: Copy a cell outline.

PROMPTS: CPY (copy)


EXIT: Bring up the menu.

PROCEDURE

1. Press COPY.
2. Press inside the cell to be copied.
A temporary cell will follow the cursor as you glide the pen.
3. Position the cell and press down to copy it.

The command is active until you bring up the menu. For each copy, press the cell to be copied, then position the copy and press down.

EFFECTS



The selected cell is copied in the chosen location. (The image is not copied.) A copied cell does not carry the name of the original.

This command is useful for creating cells of the same size to carry different images, as for animation.

RELATED COMMANDS

DUP (ED-OTL MENU)

Use DUP to make multiple, contiguous copies of a cell outline.

COMMAND: MOVE/\$ (move/shift)

PURPOSE: Move or shift cell outlines.

PROMPTS: MOV

EXIT: Bring up the menu.

PROCEDURE

To move a cell outline:

1. Press MOVE.
2. Press inside the cell to be moved.
The selected cell will follow the movement of the pen.
3. Position the cell and press down to set it.
The command is active until you bring up the menu.

OR

To shift a cell outline a few pixels:

1. Press inside the cell to be shifted.
 2. Press near a side or a corner inside the cell, to indicate the direction toward which the cell should shift.
The cell shifts one pixel in the chosen direction, horizontally, vertically or diagonally.
- To shift a cell several pixels, press repeatedly in the chosen direction.
The command is active until you bring up the menu.

EFFECTS

The selected cell outline is moved or shifted, with the image remaining in its original screen location.

SHIFT is useful for centering or otherwise changing the orientation of an image within a cell.

RELATED COMMANDS

MOVE/\$ (ED-CEL MENU)

To move a cell image along with its outline, use MOVE/\$ in the ED-CEL MENU.

COMMAND: NAME

PURPOSE: Name a cell.

PROMPT: NAM

EXIT: Bring up the menu.

PROCEDURE

1. Press NAME.

C appears in the Status Box, preceded by a character. This character is the name for the next cell pressed, unless you choose a different name, as described in step 2.

2. To select a name for a cell, press the character in the Status Box and move the pen left or right. All the characters and symbols from the keyboard will appear in succession. To select a character, release pressure on the pen.
3. Press inside each cell to be named.

As a cell is pressed, the character in the Status Box advances, in preparation for naming the next cell. The command is active until you bring up the menu.

EFFECTS

As each cell is pressed, it is labeled in the lower left corner with the character in the Status Box; that character then advances by one in preparation for naming the next cell.

If the cell you press already has a name, the new name will replace it. If another cell is already named with the character in the Status Box, the cell you press will get that name and the name will be removed from the other cell (so that two cells in the buffer do not have the same name).

Named cells can be called to the working screen from the Status Box of any menu and can be used as brushes.

To use a cell image as a brush, bring the mode letter C to the Status Box, then press the character to the left of the C and move the pen to call up the name of a particular cell. The image in the cell is now your brush.

Cells named with lower-case letters do not carry background color and can be used as custom brushes. These work like CSTM in the BRUSHS MENU, but you can save a number of brushes in the cell buffer and call them from the Status Box.

Cells named with upper-case letters carry background. If the image is drawn on background color (color 0), and if the cell is large enough to include background color all around the image, the image will appear to move as you draw. (The background color in the cell is, in effect, erasing

NAME, cont.

the other colors in the cell image as you draw.) If the image leaves a trail as you draw, delete the current cell and make a larger cell around the image.

Cells named with numbers give texture and change color as they cross other colors in the image. The effect is like that of the X brushes in the BRUSHS MENU.

See opening pages of the CELLS MENU for further discussion.

Brushes in the cell buffer can be saved to disk through the CELLS MENU.

RELATED COMMANDS

MAKE/N (ED-OTL MENU)

The N in the MAKE/N command is used for making a cell which will automatically be given a name. The NAME command is for naming or renaming existing cells.

C (Status Box/PENS MENU)

C in the Status Box stands for either Character (a drawing mode in the PENS MENU) or Cell. If there is no cell currently in the buffer with a given name, the character itself will be deposited; if there is a cell in the buffer with that name, the image in that cell will be deposited each time the pen is pressed.

VIEW (CELLS MENU)

In the ED-OTL and ED-CEL MENUS, cell outlines are visible only over background color. (This allows you to cross cell outlines when drawing.) To view the cell buffer with all cells and images visible, including cells drawn over imaging, use VIEW in the CELLS MENU.

COMMAND: DEL/* (delete)

PURPOSE: Delete a cell outline.

OR

Delete all cell outlines in the buffer.

PROMPT: DEL (delete); OK?

EXIT: Bring up the menu.

PROCEDURE

To delete cells selectively:

1. Press DEL.
2. Press inside each cell to be deleted.

The command is active until you bring up the menu.

OR

To delete all cells in the buffer:

1. Press over the *.
2. Press "OK?" in the Prompt Box.

EFFECTS

If DEL was selected, each cell is deleted as it is pressed.

OR

If * was selected, all cells are cleared from the buffer.

These commands delete only cell information (outlines, names) in the buffer. They do not affect images within the cells.

RELATED COMMANDS

CLEAR (ED-CEL MENU)

To clear images from individual cells, use CLEAR in the ED-CEL MENU before deleting cell outlines.

ZAP (while in ED-CEL or ED-OTL MENU)

To clear all imaging from the buffer, use ZAP while in the ED-OTL or ED-CEL MENUS. When you exit either of these menus, the blank screen will be put into the cell buffer.

NOTE: ZAP does not delete cell outlines from the buffer (although it makes them disappear). Only DEL/* deletes cell outlines.

COMMAND: DUP (duplicate)

PURPOSE: Duplicate a cell repeatedly to fill a defined area.

PROMPT: DUP

EXIT: Bring up the menu.

PROCEDURE

1. Press DUP.
2. Press inside the cell to be duplicated, then glide the pen toward the top and right of the screen.
As you glide the pen, a box attached to the lower left corner of the cell follows the cursor, showing the screen area that will be covered by the duplicate cells.
3. Press down to duplicate the cell.

EFFECTS

Duplicates of the selected cell outline fill the designated screen area. (The image within the cells is not duplicated.)

Duplicated cells do not carry the name of the original.

COMMAND: ON/OFF

PURPOSE: Make cell outlines visible or invisible.

PROMPTS: none

EXIT: Press the alternative in the ON/OFF command.

PROCEDURE

1. Press ON to make cell outlines visible.

OR

1. Press OFF to make cell outlines invisible.

EFFECTS

When you enter this menu, cell outlines are visible. Use this command to toggle visibility off or on.

This command in no way changes the contents of the cell buffer. To actually remove cells from the buffer, use the DEL/* command in this menu.

Note that, in this menu, cells are visible only over background color. Thus, if cells are created over a full-screen image, for example, they cannot be seen even when visibility is ON. To view cells drawn over all colors, use VIEW in the CELLS MENU.



ED-CEL MENU

ED-CEL	CLEAR	CPS/CL	COPY	MOVE/\$
ED-OTL	TRIM	SHD/OT	DUP	REFLCT

The ED-CEL (edit cells) MENU has commands for creating and editing complete cells, including images and cell outlines.

When either ED-OTL or ED-CEL is pressed from the CELLS MENU, the image onscreen is stored in the cell buffer, and the image from the cell buffer is brought to the working screen. You may go freely back and forth between the ED-OTL and ED-CEL menus, editing cells and images in cells.

When you exit either menu, by pressing the menu label, the image you were working on is sent to the cell buffer, and the image that was onscreen when you entered these menus reappears on the working screen.

COMMAND: CLEAR

PURPOSE: Clear imaging from a cell outline.

PROMPTS: CLR (clear)

EXIT: Bring up the menu.

PROCEDURE

1. Press CLEAR.
2. Press inside each cell to be cleared.
The command is active until you bring up the menu.

EFFECTS

All imaging is cleared from each cell pressed.

RELATED COMMANDS

DEL/* (ED-OTL MENU)

To delete cell outlines, use DEL/* in the ED-OTL MENU.

COMMAND: CPS/CL (copy shadow/clear)

PURPOSE: Make a "shadow" copy (a one-color copy) of the image in a cell.
OR
Clear a "shadow" copy from a cell.

PROMPTS: CPY (copy); or, CLR (clear)

EXIT: Bring up the menu.

PRELIMINARY COMMANDS

COPY, DUP (ED-OTL MENU)

A shadow copy can be made only in a cell the same size as the original. To create empty cells of the appropriate size, use COPY or DUP in the ED-OTL MENU.

PROCEDURE

To make a shadow copy:

1. Press CPS.
2. Press inside the cell to be copied.
3. Press inside the cell in which a copy should be made.

For each copy, press inside the original, then inside the cell that should receive the shadow copy.

The command is active until you bring up the menu.

OR

To clear a shadow copy from a cell:

1. Press CL.
 2. Press inside the cell to be cleared.
- The command is active until you bring up the menu.

EFFECTS

CPS makes a one-color copy of the image in the original cell. The color used for the shadow copy is palette color 248. This is a medium grey in Lumena's default map, but you can change it through the COLOR or PALET MENU. The shadow copy appears only on background color (color 0), so the receiving cell should be empty.

CL clears color 248 from the selected cell. This color should not be used for imaging in the cell.

This command is useful for creating animation cells or for other purposes that require modifications of an image. A shadow copy serves as an underlay that can be traced or varied, then cleared away.

COMMAND: COPY

PURPOSE: Copy a cell, including image and outlines.

PROMPTS: none

EXIT: Bring up the menu.

PROCEDURE

1. Press COPY.
2. Press inside the cell to be copied.
An outline of the selected cell follows the movement of the pen.
3. Press down to make the copy.

For each copy, press inside the cell to be copied, position the outline and press down to copy. The command is active until you bring up the menu.

EFFECTS

The selected cell and its image are copied in the chosen location.

COMMAND: MOVE/\$ (move/shift)

PURPOSE: Move a cell and its contents to a selected location.

OR

Shift a cell and its contents one pixel in a selected direction.

PROMPTS: MOV (move); MSH (move shift)

EXIT: Bring up the menu.

PROCEDURE

To move a cell and its image some distance:

1. Press MOVE.
2. Press inside the cell to be moved.
A temporary cell follows the movement of the pen.
3. Select the new location for the cell and press down.

For each move, press inside the cell to be moved, position the outline and press down. The command is active until you bring up the menu.

OR

To shift a cell and its contents one pixel:

1. Press over the \$.
2. Press inside the cell to be shifted.
3. Press near a side or a corner of the cell, to indicate the direction toward which the cell should shift.

The cell shifts one pixel in the chosen direction, horizontally, vertically or diagonally.

To shift a cell several pixels, use the command repeatedly; for each shift, press first within the cell to select it, then press near a side or corner to indicate direction. The command is active until you bring up the menu.

EFFECTS

The selected cell, both outlines and image, is moved to the chosen location or shifted in the chosen direction.

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COMMAND: TRIM

PURPOSE: Trim away all imaging outside cells.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press TRIM.

EFFECTS

When TRIM is pressed, the image temporarily disappears, then returns with all imaging outside the cells trimmed away.

COMMAND: SHD/OT (shadow/outline)

PURPOSE: Shadow a cell image.
OR
Outline a cell image.

PROMPTS: SHD (shadow); OTL (outline)

EXIT: Bring up the menu.

PROCEDURE

To create a drop shadow:

1. Select a color for the shadow.
2. Press SHD.
3. Press inside the cell to be shadowed.
An outline of the cell follows the cursor.
4. Position the outline cell where the shadow should appear and press down.

For each shadow, press inside the cell, position the cell outline and press down. The command is active until you bring up the menu.

OR

To create an outline:

1. Select a color for the outline.
2. Press OT.
3. Press inside the cell to be outlined.
An outline of the cell follows the movement of the pen.
4. Position the outline cell so it is slightly offset from the original and press down.

For each outline, press inside the cell, position the cell outline and press down. The command is active until you bring up the menu.

EFFECTS

SHD creates a drop shadow in the current color. The shadow appears only on background color.

OT creates four copies of the original, appearing as corners of a rectangle centered on the original cell. If the OT cell outline is only slightly offset from the original, the effect will be an outline of the original. If it is greatly offset, four complete copies will appear. The outline or copies are in the current color and appear only on background color.

To change SHD or OT color, select a new color as current color, then press the command again.

COMMAND: DUP (duplicate)

PURPOSE: Duplicate a cell and its image to fill a defined area of the screen.

PROMPTS: none

EXIT: Bring up the menu.

PROCEDURE

1. Press DUP.
2. Press inside the cell to be duplicated.
As you glide the pen toward the top and right of the screen, a box shows the area that will be covered by the duplicate cells.
3. Press down to make the duplicates.

EFFECTS

Duplicates of the cell and its image fill the defined area. Duplicate cells do not carry the name of the original.

COMMAND: REFLECT (reflect)

PURPOSE: Reflect a cell top to bottom or left to right.

PROMPT: H?V (horizontally or vertically?)

EXIT: Bring up the menu.

PROCEDURE

1. Press REFLECT.
2. Press down in the cell you want to reflect and, keeping the pen depressed,
 - stroke sideways to reflect horizontally, or
 - stroke up or down to reflect vertically.When you release pressure, the cell will reflect.

The command is active until you bring up the menu.

EFFECTS

Each selected cell is reflected sideways or upside down in its same space.

COMAND MENU

>COMAND	DRIVE	NAME	DEFMAP	BELL
	SYSTEM	TEXT		EXIT

The COMAND MENU carries commands which can also be given from the keyboard.

COMMAND: DRIVE

PURPOSE: Change disk drive for storing files.

PROMPTS: New file drive [x]

EXIT: Enter the letter of the new file disk drive, or press carriage return to keep the drive shown in brackets.

PROCEDURE

1. Press DRIVE.
A typecase replaces the menu onscreen.
2. Press the letter of the new drive for storing files, or press CR to select the drive in brackets.

EFFECTS

This command sets the drive for saving and loading pictures, color maps, cells or other files created through Lumena.

(DRIVE has the same function as the F Keyboard Command.)

COMMAND: NAME

PURPOSE: Write a name into the filenames menu, in preparation for saving.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press NAME.
A typecase replaces the menu onscreen.
2. Press up to six characters for the name, then press CR.

EFFECTS

The last name entered as a filename appears in the upper left box of the filenames menu whenever that menu is called up through a save or load command.

(This command has the same function as the N Keyboard Command.)

COMMAND: DEFMAP (default map)

PURPOSE: Call Lumena's default palette to the screen.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press DEFMAP.

EFFECTS

Lumena's default map replaces the current map onscreen.

(This command has the same function as the G Keyboard Command.)

COMMAND: BELL

PURPOSE: Turn the bell on or off.

PROMPTS: none

EXIT: Press BELL again.

PROCEDURE

1. Press BELL.

EFFECTS

This command alternately enables or disables the bell that can accompany the selection of colors and points and the completion of commands.

(This command has the same function as the B Keyboard Command.)

COMMAND: SYSTEM

PURPOSE: Change the disk drive in which Lumena command, menu and documentation files are to be found.

PROMPTS: New system drive [x]

EXIT: Enter the letter of the new system disk drive, or press Return to keep the drive shown in brackets.

PROCEDURE

1. Press SYSTEM.

A typecase replaces the menu onscreen.

2. Press the letter of the new system disk drive, or press CR to keep the drive shown in brackets.

(Lumena command, menu and documentation files must be on the same disk.)

EFFECTS

The designated drive is where the system reads Lumena command, menu and documentation files.

(This command has the same function as the S Keyboard Command)

COMMAND: TEXT

PURPOSE: Put text onto the screen.

PROMPTS: LOC (location)

EXIT: Press EX in the typecase.

PROCEDURE

1. Press TEXT.
LOC appears in the Prompt Box.
2. Press the location where text should begin.
A cursor appears onscreen to mark your place, and a typecase replaces the menu.
3. Press each character to appear onscreen.
XTR changes the top line to a set of symbols. Pressing again returns upper-case letters.
NUM changes the bottom line to numbers. Pressing again returns lower-case letters.
SP gives a character space.
CR gives a carriage return.
BS gives a backspace.
EX exits the TEXT command.
4. Exit by pressing EX in the typecase.

EFFECTS

Text appears in the current color as you press characters in the typecase.

(This command has the same function as the T Keyboard Command.)



COMMAND: EXIT

PURPOSE: Exit Lumena.

PROMPTS: none

EXIT: none needed

PROCEDURE

1. Press EXIT.

EFFECTS

Lumena exits to the disk operating system.

(This command has the same function as the ^X Keyboard Command.)



TOOLS MENU

>TOOLS	SHAPES	CURVES		
	GRIDS			

The TOOLS MENU has menus of commands that assist in drawing and arranging images.

The SHAPES MENU allows drawing geometric shapes. The CURVES MENU has commands for drawing curves. The GRIDS MENU has commands that help in arranging images onscreen.



SHAPES MENU



SHAPES	CIRCLE	ELLIPS	POLY	BOX
	F-CIRC	F-ELIP	F-POLY	F-BOX

The SHAPES MENU contains commands for easily constructing geometric figures, either in outline or as filled shapes.

COMMAND: CIRCLE

PURPOSE: Outline a circle in the current color.

PROMPTS: CTR (center); RAD (radius)

EXIT: none needed

PRELIMINARY COMMANDS

PEN (PENS MENU)

To change the width of line used to draw the circle, change the size of PEN in the Status Box.

PROCEDURE

1. Press CIRCLE.
2. Press the center for the circle or, to choose the center point last used, press in the Prompt Box.
3. Press onscreen to call up four sets of dots representing the radius. The dots move toward or away from the center as you glide the pen.
4. Press down to set the radius.

EFFECTS

The command outlines a circle in the current color and last-selected pen size.

If the circle is located so that it cannot be completed onscreen, the outline will run along the edge of the screen, joining the ends of the arc.

COMMAND: ELLIPS

PURPOSE: Outline an ellipse in the current color.

PROMPTS: CTR (center); END; OK?

EXIT: none needed

PRELIMINARY COMMANDS**PEN (PENS MENU)**

To change the width of line used to draw the circle, change the size of PEN in the Status Box.

PROCEDURE

1. Press ELLIPS.
2. Press the center for the ellipse or, to choose the center point last used, press in the Prompt Box.
3. Glide the pen from the center point and press the point of the ellipse that will be furthest from the center.

An ellipse will be drawn in a temporary mode, with points nearest to and furthest from the center highlighted.

4. To change the dimensions or the orientation of the ellipse, press with the cursor over one of the highlighted points, glide the pen to the new location for that point, and press again on the pen.

The ellipse will redraw according to the new dimensions.

To move the ellipse to another location on the screen, press with the cursor on the center point, move the cursor to where you want the center to be, and press again.

The same ellipse will redraw in the new location.

You may change the location and dimensions any number of times before pressing "OK?".

5. To actually draw the ellipse, press "OK?" in the Prompt Box.

To discard an ellipse without drawing it, cancel the command by gliding the pen to the right side of the tablet. This may be done any time before you press "OK?".

EFFECTS

The command draws an ellipse in the current color and the last-selected PEN size.

If the ellipse is located so that it cannot be completed onscreen, the outline will run along the edge of the screen, joining the ends of the arc.

COMMAND: POLY (polygon)

PURPOSE: Draw a polygon.

PROMPTS: CTR (center); PT (point); SID (sides); OK?

EXIT: none needed

PRELIMINARY COMMANDS

PEN (PENS MENU)

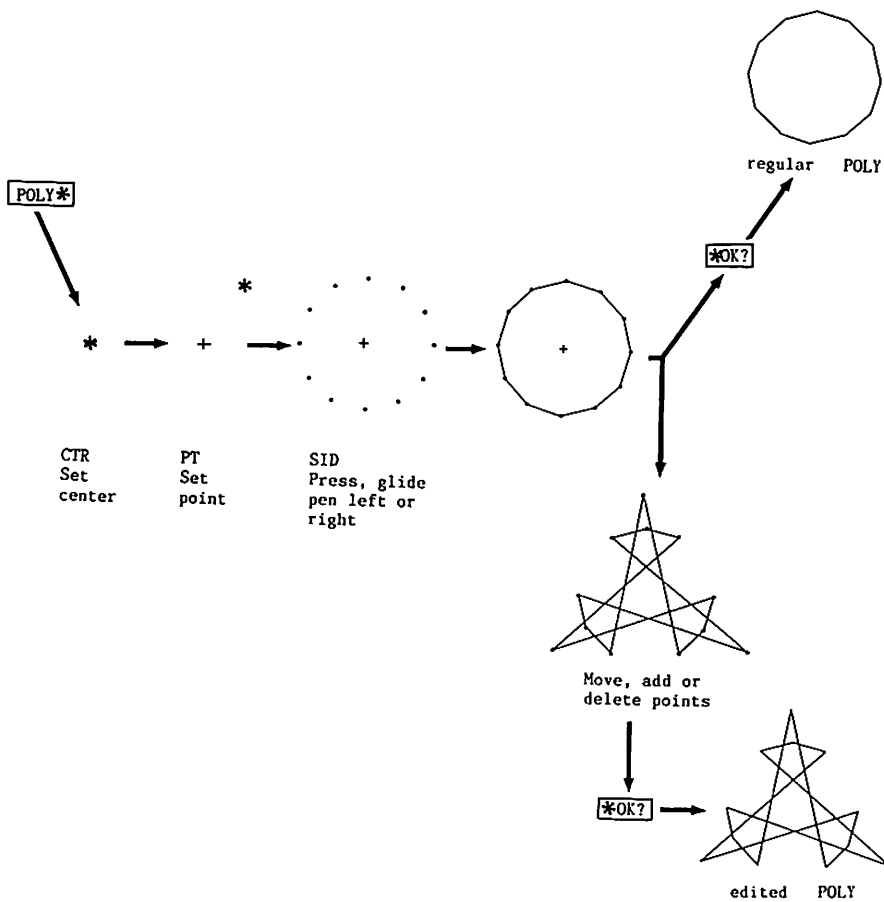
To change the width of line used to draw the circle, change the size of PEN in the Status Box.

PROCEDURE

1. Press POLY.
2. Press a center for the polygon, or press in the Prompt Box to select the center last used.
3. Press a point for a vertex of the polygon.
A polygon appears in a temporary mode.
4. To change the number of sides, press the pen anywhere on the tablet and move it left to decrease or right to increase the number of sides. From 3 to 20 sides are possible. Press down to set the number of sides.
The polygon redraws in the temporary mode.
5. To add a vertex, press anywhere along a side of the polygon. (Up to 20 vertices are possible.)
A highlighted point indicates a new vertex.
To delete a vertex, press a highlighted point and lift the pen from the tablet.
The highlighted point disappears, and a line connects the two adjacent vertices.
To move a vertex, press a highlighted point, glide the pen to the new position, and press down to set it.
The vertex is moved and the polygon redrawn.
Vertices can be added, deleted or moved any number of times while the polygon is in this temporary mode.
6. To draw the polygon, press OK? in the Prompt Box.

EFFECTS

The command draws a polygon in the current color and the last-selected PEN size. The polygon may be regular or it may be distorted. From 3 to 20 vertices are possible.



COMMAND: BOX

PURPOSE: Outline a rectangle of the current color.

PROMPTS: 2P (2 points)

EXIT: none needed

PRELIMINARY COMMANDS

PEN (PENS MENU)

To change the width of line used to draw the circle, change the size of PEN in the Status Box.

PROCEDURE

1. Press BOX.
2. Press two points to define the diagonal corners of the box, keeping the pen in contact with the tablet while moving from the first to the second point.

To reposition a box after locating the first corner but before locating the second corner, move the cursor into the menu. Then move back into the image area and set the first corner again.

EFFECTS

A rectangle is outlined in the current color.

COMMAND: F-CIRC (filled circle)

PURPOSE: Draw a circle filled with the current color.

PROMPTS: CTR (center); RAD (radius)

EXIT: none needed

PROCEDURE

1. Press F-CIRC.
2. Press the center for the circle. (To use the center point last selected, press in the Prompt Box.)
3. Glide the pen away from the center and press down for the radius.

EFFECTS

The command draws a circle and fills it with the current color.

COMMAND: F-ELIP (filled ellipse)

PURPOSE: Draw an ellipse filled with the current color.

PROMPTS: CTR (center); END; OK?

EXIT: none needed



PROCEDURE

1. Press F-ELIP.
2. Press the center for the ellipse or, to choose the center point last used, press in the Prompt Box.
3. Glide the pen from the center point and press the point of the ellipse that will be furthest from the center.

An ellipse will be drawn in a temporary mode, with the points nearest to and furthest from the center highlighted.

4. To change the dimensions or the orientation of the ellipse, press with the cursor over one of the highlighted points, glide the pen to the new location for that point, and press again on the pen.

The ellipse will redraw according to the new dimensions.

To move the ellipse to another location on the screen, press on the center point, relocate the center and press again on the pen.

The same ellipse will redraw in the new location.

You can change the dimensions or location any number of times before pressing "OK?".

5. To actually draw the ellipse, press "OK?" in the Prompt Box.

To discard an ellipse without drawing it, cancel the command by gliding the pen to the right side of the tablet. This may be done any time before you press "OK?".



EFFECTS

The command draws an ellipse filled with the current color.



COMMAND: F-POLY (filled polygon)

PURPOSE: Draw a filled polygon.

PROMPTS: CTR (center); PT (point); SID (sides); OK?

EXIT: none needed.

PROCEDURE

1. Press F-POLY.
2. Press a center for the polygon, or press in the Prompt Box to select the center last used.
3. Press a point for a vertex of the polygon.
A polygon appears in a temporary mode.
4. To change the number of sides, press the pen anywhere on the tablet and move it left to decrease or right to increase the number of sides. From 3 to 20 sides are possible. Press down to set the number of sides.
The polygon redraws in the temporary mode.
5. To add a vertex, press anywhere along a side of the polygon. (Up to 20 vertices are possible.)
A highlighted point indicates a new vertex.
To delete a vertex, press a highlighted point and lift the pen from the tablet.
The highlighted point disappears, and a line connects the two adjacent vertices.
To move a vertex, press a highlighted point, glide the pen to the new position, and press down to set it.
The vertex is moved and the polygon redrawn.
Vertices can be added, deleted or moved any number of times while the polygon is in this temporary mode.
6. To draw the polygon, press OK? in the Prompt Box.

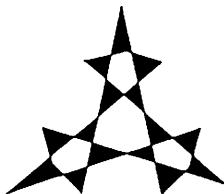
EFFECTS

The command draws a polygon of from 3 to 20 sides.

A regular polygon will be filled in the usual way. An extremely distorted polygon, with sides crossing each other, may not have all sections filled. Those left unfilled can be filled with FILLTO in the FILLS MENU.



regular F-POLY



edited F-POLY

11-12

COMMAND: F-BOX (filled box)

PURPOSE: Make a rectangle filled with the current color.

PROMPT: 2P (2 points)

EXIT: none needed

PROCEDURE

1. Press F-BOX.
2. Press two points to define the diagonal corners of the box, keeping the pen in contact with the tablet while moving from the first to the second point.

To reposition a box after locating the first corner but before locating the second corner, move the cursor into the menu. Then move back into the image area and set the first corner again.

EFFECTS

A rectangle filled with the current color appears.

CURVES MENU

CURVES	CURV/B	SPLINE		

The CURVES MENU has commands for drawing smooth curves.

COMMAND: CURV/B (curve/big curve)

PURPOSE: Draw a curve.

PROMPTS: 4P (4 points); OK?

EXIT: none needed

PRELIMINARY COMMANDS

PEN (PENS MENU)

To change the width of line used to draw the circle, change the size of PEN in the Status Box.

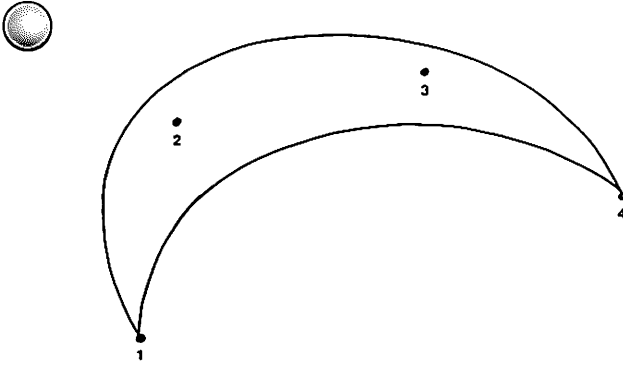
PROCEDURE

1. Press CURV.
OR
1. Press B.
2. Press 4 points in the image area. (Or, to use the 4 points last used by this command, press in the Prompt Box.)
The points are highlighted and a temporary line is drawn connecting the two end points; its curve is guided by the two middle points, though it does not pass through them.
3. To change the curve, press any point, move the cursor to another location and press again.
The temporary curve will be redrawn. Any of the points can be reset any number of times while the curve is in this temporary mode.
4. To actually draw the curve, press OK? in the Prompt Box.

EFFECTS

A curve is drawn in the current color and the last-selected Pen size.

Initiating the command by pressing the B produces a bigger curve, one that can reach nearer the edges of the screen.



Both curves above were drawn from the same four points-- the smaller curve drawn using CURV, the larger one using the B of the command.

CURV and B draw the same basic curve--a line that connects the first and fourth points and is guided by the middle two points. The curve drawn by B is bigger because it doubles the distance of the two middle points from the center of the screen.

The difference between CURV/B and SPLINE is that:

CURV/B draws a "Bezier curve", connecting the first to the fourth point and being guided by the positions of the middle two points

whereas

SPLINE draws a "natural" curve, with the line passing through all selected points.

COMMAND: SPLINE

PURPOSE: Draw a curve that passes through selected points.

PROMPTS: PT (point); OK?

EXIT: Press OK? in the Prompt Box.



PROCEDURE

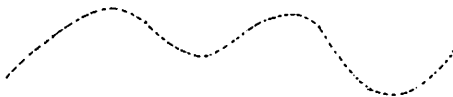
1. Press SPLINE.
2. Press up to 20 points in the image area.
When you lift the pen from the tablet, a temporary curve is drawn that passes through all the points, and the points are highlighted.
3. To change points, press the pen anywhere on the tablet.
The curve now appears in an editing mode, with the points being connected by straight lines.
To move a point, press the point and relocate it.
To add a point, press on the line where you want to add it.
To delete a point, press the point, then lift the pen from the tablet.

You can make any number of changes. If you press in an area not on the lines or points, the curve will reappear for viewing; pressing again returns it to the editing mode.

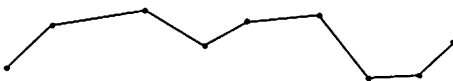
4. To actually draw the spline, press in the Prompt Box.

EFFECTS

A curved line is drawn passing through all the points selected onscreen. In order to remain smooth rather than angled, the line may have to pass far beyond a point, possibly even going offscreen, before turning toward the next point.

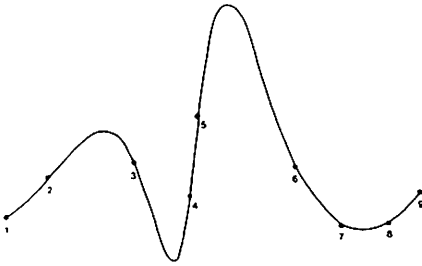
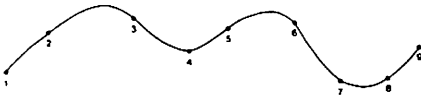


Viewing Mode



Editing Mode

Once points are onscreen, you can toggle between the viewing mode and the editing mode by pressing anywhere except on the line. In the editing mode, the line shows where you can add or delete points; in the viewing mode, the line shows the true shape of the drawn spline.



SPLINE draws a line that passes through all selected points. In order to remain smooth rather than angled, the line may have to pass far beyond a point (possibly going offscreen) before moving toward the next point.

The three splines shown have all points except #5 in the same relative positions. Notice how the entire character of the spline is changed by repositioning just the one point.

SPLINE draws a smooth curve if the points change direction along either the X or the Y axis, but not both. In Example 3, point 5 is positioned backward along both axes, causing two sharp angles as the curve juts backward and then forward again.



GRIDS MENU

GRIDS	GRID	XY-GRD	GRDCOL	
NEW	GRAV	X / Y	GRVCOL	

The GRIDS MENU has commands that help in arranging images on the screen.

Grids and gravity lines appear as underlays, covering only background color. These lines do not harm the drawn image, either when the lines are displayed or when they are removed, as long as the color of the lines is not used in the drawn image. Use GRDCOL to select the color of grid lines and GRVCOL to select the color of gravity lines.

COMMAND: GRID

PURPOSE: Display or remove the grid.

PROMPTS: none

EXIT: Press GRID again.

PRELIMINARY COMMANDS

GRDCOL (GRIDS MENU)

Use GRDCOL to select a color for the grid. If no color is selected, the cursor color will be used.

NEW (GRIDS MENU)

Press NEW before pressing GRID if you want to set a new grid size.

PROCEDURE

1. Press GRID.

To set a new grid size:

1. Press NEW.
2. Press GRID.

The prompt asks for 2 points.

3. Press two diagonal corners to define the grid size.

EFFECTS

The grid is alternately displayed or removed each time GRID is pressed.

Once you set a grid size, using NEW and then GRID, that is the size displayed by the grid command until you change grid size or until you exit Lumena.

RELATED COMMANDS

XY-GRID (GRIDS MENU)

GRID and XY-GRID are independent, in that the size set for each is retained until another size is chosen for that grid. However, only one grid can be displayed at a time. If a grid is onscreen, pressing either of these commands will remove it.

COMMAND: XY-GRD

PURPOSE: Display a grid according to the dimensions last set through the X/Y command; or remove the grid.

PROMPTS: none

EXIT: Press XY-GRD again.

PRELIMINARY COMMANDS

X/Y (GRIDS MENU)

Use X/Y to change the dimensions for this grid.

PROCEDURE

1. Press XY-GRD.

EFFECTS

A grid is displayed according to the dimensions set by X/Y. If the grid is already displayed, pressing XY-GRD will remove it.

RELATED COMMANDS

GRID (GRIDS MENU)

GRID and XY-GRID are independent, in that the size set for each is retained until another size is chosen for that grid. However, only one grid can be displayed at a time. If a grid is onscreen, pressing either of these commands will remove it.

various commands in XFORM MENU

Be sure to remove the grid before saving an image and before using commands in the XFORM MENUS, as these commands incorporate grid lines as a permanent part of the image.

11-22

COMMAND: GRDCOL (grid color)

PURPOSE: Choose a color for the grid.

PROMPTS: 1C (1 color)

EXIT: none needed

PROCEDURE

1. Press GRDCOL.
The prompt asks for 1 color.
2. Press a color.

EFFECTS

The selected color will be used for displaying the grid, either through GRID or XY-GRD, until another color is selected.

If a grid is onscreen when this command is pressed, the grid will be removed and then redrawn in the new color.

COMMAND: NEW

PURPOSE: Signal the next GRID or GRAV command to set new grid size or gravity lines.

PROMPTS: NEW

EXIT: Press either GRID or GRAV.

PROCEDURE

1. Press NEW.

EFFECTS

NEW is considered a prefix. It has no independent effect, but it affects a subsequent GRID or GRAV command.

If NEW is followed by GRID, you will be able to set a new grid size. If NEW is followed by GRAV, you will be able to set new gravity lines.

COMMAND: GRAV (gravity)

PURPOSE: Display and activate gravity fields or remove and deactivate gravity fields.

PROMPTS: none

EXIT: Press GRAV again.

PRELIMINARY COMMANDS

NEW (GRIDS MENU)

Press NEW before pressing GRAV if you want to set new ;gravity fields.

GRVCOL (GRIDS MENU)

Use GRVCOL to select a color for the gravity lines. If no color is selected, the cursor color will be used.

PROCEDURE

1. Press GRAV.

To set new gravity fields:

1. Press NEW.
2. Press GRAV.

A horizontal line and a vertical line appear on the screen in a temporary mode, crossing at the position of the cursor. The crossing point follows the cursor, allowing you to position the gravity lines.

3. Position the lines and press down to set them.

EFFECTS

The gravity fields are alternately activated and deactivated each time the command is pressed.

A line marks the center of the gravity field. If the cursor is put down close to the line but not quite on it, the cursor will jump onto the line--that is, to the center of the field. Gravity lines make it easy to align elements in the image, such as characters deposited by CHAR.

Once you set gravity fields, using NEW and then GRAV, these same fields will be used by the GRAV command until you change them or until you exit Lumena.

COMMAND: X/Y (resolution brush--X and Y dimensions)

PURPOSE: Select the width or height of a brush.

PROMPTS: none

EXIT: Press another command.

PROCEDURE

To set the width of the brush:

1. Press the X.
X appears as the mode indication in the Status Box.
2. Position the cursor on the size number in the Status Box and press down. Retaining pressure, move the pen left until the desired size number appears, then release pressure.
3. Press again on the X in the X/Y command box to set the selected size as the width of the brush.

To set the height of the brush, follow the same procedure as above, pressing the Y in the X/Y command box.

EFFECTS

Color will be deposited according to the selected width and height until the size or drawing mode is changed.

Using this brush is like drawing in a selected screen resolution. Color patches are rectangular and do not overlap; they can appear only adjacent to each other.

11-26

COMMAND: GRVCOL (gravity color)

PURPOSE: Choose a color for the gravity lines.

PROMPTS: 1C (1 color)

EXIT: none needed

PROCEDURE

1. Press GRVCOL.
The prompt asks for 1 color.
2. Press a color.

EFFECTS

The selected color will be used for gravity lines, displayed through the GRAV command.

XFORM MENU

XFORM	MOVES	ROTATE	SCALE	FILLS

The XFORM MENU gives access to menus of commands for transforming two-dimensional images.

The MOVES, ROTATE and SCALE menus are for spatial manipulations. The FILLS MENU is for color changes.



MOVES MENU

MOVES	COPY	DUP	ROT	REFLCT
XB/LB	MOVE	ZOOM	TRIM	CUT/PA

The MOVES MENU contains commands for rearranging and replicating portions of the image.

RELATED MENUS

ROTAT MENU
SCALE MENU

The SCALE MENU allows free rescaling of images (whereas ZOOM in this menu will double or halve a dimension). The ROTAT MENU allows rotation of images according to a selected angle (whereas ROT in this menu rotates 90 degrees). The advantage of the MOVES MENU is that images rotated or enlarged through these commands can be returned to their original dimensions with no distortion.

COMMAND: COPY

PURPOSE: Copy an image to another area of the screen, leaving the original image in position.

PROMPTS: 3P (3 points)

EXIT: none needed

PROCEDURE

To make a copy that looks exactly like the original:

1. Press COPY in the left side of the command box.
2. Press two diagonal corners to define the image to be copied.
A box surrounds the image, and the outline of the box follows the cursor.
3. Position the box outline and press down to copy the image.

EFFECTS

The image is copied in the selected location. option.

RELATED COMMANDS

CSTM (BRUSHS MENU)
CSTM (custom brush) is similar to COPY, but it makes a copy of the selected image each time you depress the pen, without your having to reinitiate the command. COPY allows for more precise placement, while CSTM can be used in a brush mode.

MOVE (MOVES MENU)
MOVE moves an image to another area of the screen, leaving only background color at the original location.

COMMAND: DUP (duplicate)

PURPOSE: Duplicate an image repeatedly to fill a defined area of the screen.

PROMPTS: 3P (3 points)

EXIT: none needed

PROCEDURE

1. Press DUP.
The prompt asks for three points.
2. Press two diagonal points to define the image to be duplicated.
A box surrounds the image.
3. For the third point, press the upper right corner of the screen area to be filled with the duplicated image.

To relocate the first corner of the box before the second corner has been selected, move the cursor into the menu or lift the pen off the tablet. Then move back into the image and set the first point again.

EFFECTS

Duplication begins at the current position of the defined image and works toward the right and toward the top of the screen, repeating the image as often as necessary to fill the screen area designated.

DUP makes only complete images. An image begun inside the designated area will not be cut off, even if it must go beyond the boundary set by the third point.

DUP carries all colors except background, so an image drawn on background appears to be "on top of" other colors it crosses when duplicating.

RELATED COMMANDS

MOVE (MOVES MENU)

To duplicate an image in an area of the screen below or to the left of where it already exists, first MOVE the image to the lower left corner of the area where duplication should begin. Then use DUP.

COMMAND: ROT (rotate)

PURPOSE: Rotate a selected image 90 degrees clockwise.

PROMPTS: 2P (2 points)

EXIT: none needed

PROCEDURE

1. Press ROT.
The prompt asks for two points.
2. Press two corners to define the image to be rotated.
As you glide the pen to set the second point, the box attaching the cursor to the first corner will remain square, so the image will have the same number of pixels horizontally as vertically. Move the pen diagonally to enlarge or reduce the size of the box.

EFFECTS

The defined image rotates 90 degrees clockwise.

To rotate an image 180 degrees, press ROT and select the two diagonal points. When the first rotation is complete, press LB (last box), then press ROT again. For a 270-degree rotation, press LB and ROT once more.

RELATED COMMANDS

ROT/NW, TURN (ROTATE MENU)
Use ROT/NW and TURN in the ROTATE MENU for rotating an image other than 90 degrees, either clockwise or counterclockwise.

COMMAND: REFLECT

PURPOSE: Reflect an image horizontally or vertically.

PROMPTS: 2P (2 points); H?V (horizontal or vertical?)

EXIT: none needed

PROCEDURE

1. Press REFLECT.
The prompt asks for two points.
2. Press two diagonal corners to define the image to be reflected.
3. Press the pen anywhere on the tablet and, keeping it depressed, stroke horizontally or vertically.

EFFECTS

The defined image is reflected horizontally or vertically, according to the stroke of the pen.

COMMAND: XB/LB

PURPOSE: Remove from the screen or restore to the screen the last box used for delineating a screen area.
or
Reactivate for the next command the last box used.

PROMPT: LB (last box)

EXIT: none needed

Note: To cancel LB--so the last box is not reactivated for the next command--press LB in the Prompt Box or glide the pen to the right side of the tablet.

PROCEDURE

To make the last box visible or invisible:

1. Press XB.

OR

To make the last box active again:

1. Press LB.

EFFECTS

XB removes the previous delineating box from the screen. Press again, and the box reappears. A box restored through XB acts only as a visual reminder.

LB reactivates for the next command the screen area last used. This allows you to enact further commands in the exact same screen area previously used.

The LB command is active as long as "LB" appears in the Prompt Box. That is, if you press LB and then press XB, the box will disappear from the screen but the prompt will remain, indicating that the next command will be carried out in that area of the screen.

To remove a delineating box from the screen, use XB before creating another box. If another box is created, the box already onscreen becomes part of the image. That is, XB and LB affect only the box most recently created.

RELATED COMMANDS

REMOVE (FILLS MENU)

A box that has inadvertently become part of the image can be removed with REMOVE. (However, if the box was drawn over other colors, a negative of the box will remain, since REMOVE works by applying background color over the color being removed.)

COMMAND: MOVE

PURPOSE: Move an image to another area of the screen, leaving only background color at the original site.

PROMPTS: 3P (3 points)

EXIT: none needed

PROCEDURE

1. Press MOVE.
The prompt asks for three points.
2. Press two diagonal points to define the image to be moved.
A box encloses the image and an outline of the box follows the cursor as you glide the pen.
3. Position the box, and press down to move the image.

To relocate the first corner of the box before the second corner has been selected, move the cursor into the menu or lift the pen from the tablet. Then move back into the image area and set the first point again.

To reposition the delineating box before moving the image, cancel the command by gliding the pen to the right side of the tablet. Then initiate the command again.

EFFECTS

MOVE carries all colors except background, so an image drawn on background color can be put "on top of" other colors.

RELATED COMMANDS

COPY (MOVES MENU)

COPY is similar to MOVE except that it leaves the original image in position.

COMMAND: ZOOM

PURPOSE: Double or halve an image vertically, horizontally, or in both directions.

PROMPTS: 3P (3 points)

EXIT: none needed

PROCEDURE

1. Press ZOOM.
The prompt asks for three points.
2. Press two diagonal corners to define the image to be zoomed.
A box surrounds the image. As you glide the pen for the third point, a temporary box indicates in advance the dimensions of the zoomed image.
3. Press down to zoom the image.

EFFECTS

The size of the image will be doubled or halved, horizontally, vertically or in both directions, according to the dimensions shown when you pressed for the third point.

All changes occur in relation to the right and top of the screen; the lower left corner of the image always retains the same position.

RELATED COMMANDS

XY-SCL (SCALE MENU)
To freely adjust the scale of an image, use XY-SCL in the SCALE MENU.

COMMAND: TRIM

PURPOSE: Return to background color the screen area outside a selected image area.

PROMPT: 2P (2 points); OK?

EXIT: none needed

PROCEDURE

1. Press TRIM.
The prompt asks for two points.
2. Press two diagonal corners to define the image to be kept.
The image is surrounded with a box.
3. Press "OK?" in the Prompt Box.

To reposition the first corner before setting the second, move the cursor into the menu. Then move back into the image area and set the first point again.

To cancel the command any time before pressing "OK?", glide the pen to the right side of the tablet.

EFFECTS

All colors outside the designated area are trimmed away, leaving the selected image against a field of background color.

COMMAND: CUT/PA (cut/paste)

PURPOSE: Cut (select out) an irregularly shaped area of the image.
Paste (copy) the selected image area to another place.

PROMPTS: 2P (2 points); OK?

EXIT: none needed

PROCEDURE

To select out an image:

1. Press CUT.
2. Press 2 diagonal corners of a box to enclose the area from which the irregular image will be selected.
A box surrounds the area, and the drawing mode and current color change temporarily to those needed for this command.
3. Draw a line exactly around the image to be cut out, being sure that your outline has no gaps.
4. Press OK? in the Prompt Box.
The box will be temporarily filled with white, except for the area that you outlined. Then the white will wipe away and the original image will return.

Your selected image can now be "pasted" anywhere.

To "paste" (or copy) an image selected through CUT:

1. Press PA.
A temporary box the size of the one you made for CUT now surrounds the cursor. Your selected image is located in this box as it was in the original one.
2. Position the box and press down to deposit the image.

EFFECTS

An irregularly shaped element can be copied from one place to another in an image or from one image to another. An image selected through CUT can be deposited through PA any number of times, whether or not the original is onscreen.

CUT/PA, cont.



RELATED COMMANDS

S (GENERAL MENU COMMANDS)

CUT/PA is meant for immediate use. If you cut out an element that you will want in the future, deposit it on background color and save it on disk.





ROTATE MENU

ROTATE	SHR/NW	OBLIQ	ROT/NW	TURN
XB/LB	L-CNTR	=/LANG	SQRBOX	

The ROTATE MENU contains commands for rotating images to a selected angle either clockwise or counterclockwise and for shearing images.

COMMAND: SHR/NW (shear/no wrap)

PURPOSE: Shear an image horizontally or vertically.

PROMPTS: 2P (2 points); H?V (horizontally or vertically?); CTR (center)

EXIT: none needed

PRELIMINARY COMMANDS

LB, L-CNTR, SQRBOX (ROTATE MENU)
LB reactivates the last box used. L-CNTR reactivates the last center. SQRBOX limits the defined area to a square. These are prefix commands that, if used, must be pressed before SHR/NW is pressed.

PROCEDURE

1. Press over SHR.
OR
1. Press over NW.
2. Press two diagonal corners to define the image to be sheared, keeping the pen in contact with the tablet between the first and second corner.
The prompt (H?V) asks whether you want to shear the image horizontally or vertically.
3. To shear horizontally, press anywhere on the tablet, move the pen sideways, and release pressure; to shear vertically, press and move the pen up or down, then release pressure.
A horizontal or vertical line appears and follows the cursor. The prompt (CTR) asks for the center of the shear.
4. Move the cursor to the proposed center for shearing and press down. (To locate the exact center of the defined area, press anywhere in the menu.)
The center line remains in place and a flashing line appears which pivots on the center point while following the cursor. Use this line to set the angle for shearing.
5. Press down to shear the image.

A sheared image uses only the area occupied by the original image. If you initiated the command by pressing SHR, portions of the image clipped off in the move will be "wrapped around" the image to fill the space. If you began by pressing NW, no wrap-around will occur.

To relocate the first corner of the box before selecting the second corner, move the cursor into the menu. Then return to the image and reselect the first corner.

To reselect horizontal or vertical, or to choose a different center, cancel the command by gliding the pen to the right side of the tablet. Then initiate SHR/NW again.

SHR/NW, cont.

EFFECTS

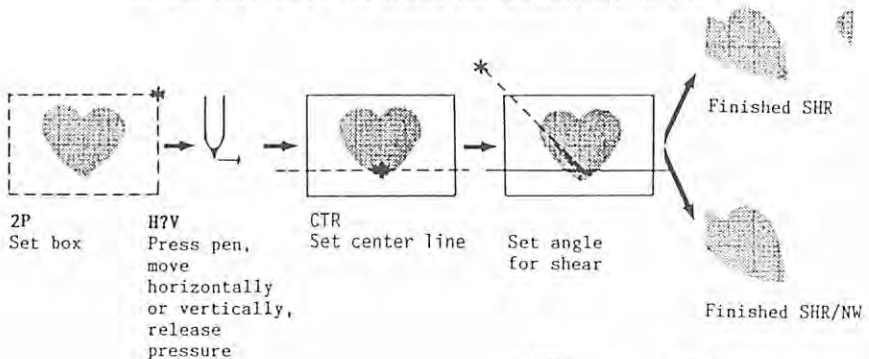
The image will shift according to the selected angle of shear. Pixels on the center line remain in place; lines of pixels on one side of the center line move in the opposite direction of those on the other side.

If you pressed SHR to initiate the command, portions of the image clipped off in shearing will be wrapped around to fill the original space. If you pressed NW, no wrap-around will occur.

RELATED COMMANDS

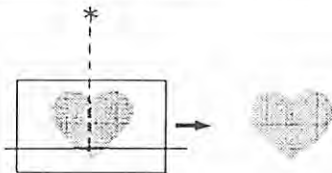
OBLIQ (ROTATE MENU)

OBLIQ (oblique) is similar to SHR/NW, except that it allows a sheared image to extend beyond its original screen area.



SHR wraps around portions of the image that would fall outside the area defined by the box.

NW (no wrap) cuts off the image that falls outside the defined area.



The more the shear line approaches the center line, the more the image will slant. If the shear line is set perpendicular to the center line, the finished image will look exactly like the original.

XFORM / ROTATE MENU

COMMAND: OBLIQ (oblique)

PURPOSE: Tilt (or shear) an image horizontally or vertically.

PROMPTS: 2P (2 points); H?V (horizontal or vertical?); CTR (center)

EXIT: none needed

PRELIMINARY COMMANDS

LB, L-CNTR, SQRBOX (ROTATE MENU)
LB reactivates the last box used. L-CNTR reactivates the last center. SQRBX limits the defined area to a square. These commands are prefixes that, if used, must be pressed before OBLIQ is pressed.

PROCEDURE

1. Press OBLIQ.
2. Press two diagonal corners to define the image to be tilted.
The prompt (H?V) asks whether you want to tilt the image by shearing it vertically or horizontally.
3. To shear horizontally, press anywhere on the tablet, move the pen sideways, and release pressure; to shear vertically, press and move the pen up and down, then release pressure.
A horizontal or vertical line appears and follows the cursor. The prompt (CTR) asks for the center of the shear.
4. Move the cursor to the proposed center for shearing and press down. (To choose the exact center of the defined area, press anywhere in the menu.)
A tilting box then pivots on the center line, following the cursor as you glide the pen, showing in advance the shape of the tilted image.
5. Press down to tilt the image.

To relocate the first corner of the box before selecting the second corner, move the cursor into the menu. Then return to the image and reselect the first corner.

To reselect horizontal or vertical, or to choose a different center, cancel the command by gliding the pen to the right side of the tablet. Then initiate OBLIQ again.

EFFECTS

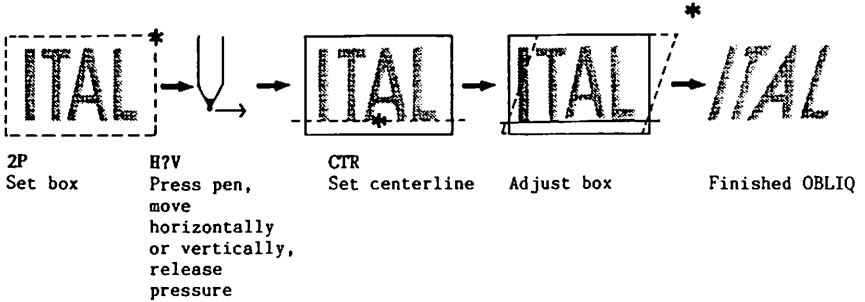
Lines of pixels on one side of the center line move in the opposite direction from those on the other side. The effect is that the image appears to tilt.

OBLIQ, cont.

RELATED COMMANDS

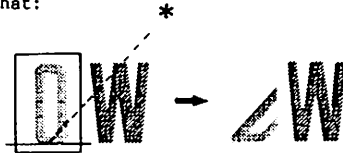
SHR/NW (ROTATE MENU)

SHR/NW (shear/no wrap) is similar to OBLIQ, except that in SHR/NW the sheared image is confined to its original screen area.



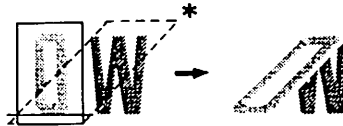
The difference between SHR and OBLIQ is that:

SHR stays within the defined screen area



whereas

OBLIQ uses whatever space is necessary and overwrites images previously onscreen.



COMMAND: ROT/NW (rotate/rotate no wrap)

PURPOSE: Rotate an image clockwise or counterclockwise within its original screen area.

PROMPTS: 2P (2 points); CTR (center); 2P (2 points)

EXIT: none needed

PRELIMINARY COMMANDS

LB, L-CNTR, SQRBOX, =/LANG (ROTATE MENU)

LB reactivates the last box used. L-CNTR reactivates the last center. SQRBX limits the defined area to a square. =/LANG reactivates the last angle used. These are prefix commands which, if used, must be pressed before ROT/NW is pressed.

PROCEDURE

1. Press ROT.
OR
1. Press NW.
2. Press two diagonal corners to define the image area to be rotated, keeping the pen in contact with the tablet between the first and second corner.
The prompt asks for the center ("CTR") and a cross appears which follows the cursor.
3. Move the cross to the center of the proposed rotation and press down. (To locate the exact center of the defined area, press down anywhere in the menu. You may, however, use a center point completely outside the defined image area.)
A vertical line appears crossing the center point.
4. Press down once more and a flashing line appears with one end attached to the center point, the other following the cursor. Use this line to set the angle of rotation, which may vary from 90 degrees to -90 degrees. Moving the cursor some distance from the center point will give you better control of this line.
5. Position the line and press down to rotate the image.

A rotated image uses only the area occupied by the original image. If you initiated the command by pressing ROT, the portions of the image clipped off in the move will be "wrapped around" the image to fill the space. If you began by pressing NW, no wrap-around will occur.

To relocate the first corner of the box before selecting the second corner, move the cursor into the menu. Then return to the image and reselect the first corner.

To choose a different center, cancel the command by gliding the pen to the right side of the tablet. Then initiate ROT/NW again.

ROT/NW, cont.

EFFECTS

The image will rotate according to the selected angle.

If you pressed ROT to initiate the command, portions of the image clipped off in rotating will be wrapped around to fill the original space. If you pressed NW, no wrap-around will occur.

RELATED COMMANDS

TURN (ROTATE MENU)

ROT/NW is similar to TURN. However, a TURNed image may extend beyond its original screen area, while a ROTated image may not. Also, an image can TURN only around its own center, but it can ROTate around any center point you select.

ROT (MOVES MENU)

ROT in the MOVES MENU rotates a square image area 90 degrees clockwise.

COMMAND: TURN

PURPOSE: Rotate an image clockwise or counterclockwise.

PROMPTS: 2P (2 points); 2P (2 points)

EXIT: none needed

PRELIMINARY COMMANDS

LB, SQRBOX, =/LANG (ROTATE MENU)
LB reactivates the last box used. SQRBX limits the defined area to a square. =/LANG reactivates the last angle used. These are prefix commands that, if used, must be pressed before TURN is pressed.

PROCEDURE

1. Press TURN.
2. Press two diagonal corners to define the image to be turned.
A box encloses the area. A vertical line crosses the center of the selected area, and the prompt asks for two points.
3. Press down briefly and a flashing line appears with one end attached to the center point, the other following the cursor. Use this line to set the angle of rotation. Moving the cursor some distance from the center point will give you better control of this line.
A box, which varies in size as you move the cursor, shows the screen area that will be needed to turn the image. The angle of rotation ranges from 90 degrees to -90 degrees.
4. Position the line to set the angle for rotation and press down to rotate the image.

To relocate the first corner of the box before selecting the second corner, move the cursor into the menu. Then return to the image and reselect the first corner.

EFFECTS

The image will rotate according to the selected angle.

A image rotated with TURN extends beyond its original screen area. The command uses the rectangular area behind the TURNed image to make the change, and this larger area remains as the "last box."

If TURN is used, any work previously in the area used to rotate the image is lost.

TURN, cont.



RELATED COMMANDS

ROT/NW (ROTATE MENU)

ROT/NW is similar to TURN. However, a TURNed image may extend beyond its original screen area, while a ROTated image may not. Also, an image can TURN only around its own center, but it can ROTate around any centerpoint you select.

COMMAND: XB/LB

PURPOSE: Remove from the screen or restore to the screen the last box used for delineating a screen area.

or

Reactivate for the next command the last box used.

PROMPT: LB (last box)

EXIT: none needed

Note: To cancel LB—so the last box is not reactivated for the next command—press LB in the Prompt Box or glide the pen to the right side of the tablet.

PROCEDURE

To make the last box visible or invisible:

1. Press XB.

OR

To make the last box active again:

1. Press LB.

EFFECTS

XB removes the previous delineating box from the screen. Press again, and the box reappears. A box restored through XB acts only as a visual reminder.

LB reactivates for the next command the screen area last used. This allows you to enact further commands in the exact same screen area previously used.

The LB command is active as long as "LB" appears in the Prompt Box. That is, if you press LB and then press XB, the box will disappear from the screen but the prompt will remain, indicating that the next command will be carried out in that area of the screen.

To remove a delineating box from the screen, use XB before creating another box. If another box is created, the box already onscreen becomes part of the image. That is, XB and LB affect only the box most recently created.

RELATED COMMANDS

REMOVE (FILLS MENU)

A box that has inadvertently become part of the image can be removed with REMOVE. (However, if the box was drawn over other colors, a negative of the box will remain, since REMOVE works by applying background color over the color being removed.)

COMMAND: L-CNTR (last center)

PURPOSE: Reactivate the center point last used.

PROMPTS: none

EXIT: Initiate the next command, or cancel L-CNTR by gliding the pen to the right side of the tablet.

PROCEDURE

1. Press L-CNTR.

L-CNTR is a prefix and must be pressed before you initiate the command that will use it.

EFFECTS

L-CNTR puts a temporary mark at the last center point used and activates it for the next command. (A command that follows L-CNTR will not ask for the CTR since the point is already selected; it will proceed to the next prompt or to execution.)

COMMAND: =/LANG (last angle)

PURPOSE: Select for the next command the rotation angle last used.

PROMPTS: none

EXIT: Initiate the next command, or cancel =/LANG by gliding the pen to the right side of the tablet.

PROCEDURE

1. Press over LANG.
OR
1. Press over =.

LANG reactivates the last angle used.

= activates the opposite of the last angle. (That is, if the last angle was 50 degrees, pressing = will make the next angle -50 degrees; if the previous angle was -50 degrees, the next angle after = will be positive.)

=/LANG is a prefix for ROT/NW or TURN, and it must be pressed before you initiate the command that will use it.

EFFECTS

If you pressed in LANG, the next command will use the same angle previously used. If you pressed =, the next command will use an angle with the opposite sign of the previous angle. (A command that follows =/LANG will not give the line that allows you to set the angle since the angle was preselected; it will proceed to execution.)

COMMAND: SQRBX (square box)

PURPOSE: Limit the defined area of the next command to a square.

PROMPTS: none

EXIT: Initiate the next command or cancel SQRBX by gliding the pen to the right side of the tablet.

PROCEDURE

1. Press SQRBX.

SQRBX is a prefix and must be pressed before you initiate the command that will use it.

EFFECTS

In the next command for altering an image, the defined area will be limited to a square. As you select corners to define the image, the box following the cursor will always have the same number of pixels horizontally as vertically.



SCALE MENU

SCALE	XY-SCL	TAPER	PERSP	
XB/LB	L-CNTR			

The SCALE MENU has commands for rescaling and tapering images. It permits 3D manipulations by allowing you to put an image into perspective according to a centerline and vanishing point selected by you.

COMMAND: XY-SCL (scale)

PURPOSE: Enlarge or reduce the scale of an image horizontally, vertically or in both directions.

PROMPTS: 2P (2 points); VTX (vertex)

EXIT: none needed

PRELIMINARY COMMANDS

LB (SCALE MENU)

LB reactivates the last box used. This is a prefix command which, if used, must be pressed before XY-SCL is pressed.

PROCEDURE

1. Press XY-SCL.
2. Press two diagonal corners to define the image to be rescaled.
The prompt "VTX" asks for a vertex, or corner.
3. Put the cursor near a corner of the box and press briefly.
As you glide the pen, the corner you pressed will follow the cursor, while the opposite corner remains stationary.
4. Set the box to the desired size and press down.

EFFECTS

The image will be enlarged or reduced according to the selected size. The rectangular screen area occupied by the rescaled image will be retained as the "Last Box". Once an image has been greatly rescaled, it cannot be scaled to the original image without modifications.

RELATED COMMANDS

ZOOM (MOVES MENU)

ZOOM in the MOVES MENU allows you to double or to halve the image size in either direction, whereas XY-SCL lets you adjust scale freely. An image enlarged with ZOOM can be returned to its original size with no distortion; for an image enlarged with XY-SCL, this is not possible.

COMMAND: TAPER

PURPOSE: Taper an image horizontally or vertically.

PROMPTS: 2P (2 points); H?V (horizontal or vertical?); CTR (center); VTX (vertex)

EXIT: none needed

PRELIMINARY COMMANDS

LB, L-CNTR (SCALE MENU)
LB reactivates the last box used. L-CNTR reactivates the last center. These are prefix commands which, if used, must be pressed before TAPER is pressed.

PROCEDURE

1. Press TAPER.
2. Press two diagonal corners to define the image to be tapered.
The prompt "H?V" asks whether you want to use a horizontal center line of convergence or a vertical one.
3. For a horizontal center line, press down anywhere on the tablet and move the pen sideways, then release pressure; for a vertical center line, press and move up or down, then release pressure.
A horizontal or vertical line, the center line, follows the cursor.
4. Position this center line and press down. (The center may be put outside the defined image.)
The prompt asks for a vertex (VTX) or corner.
5. Put the cursor near a corner of the box and press down.
A rubberbanding box appears with two adjacent corners following the cursor, while the opposite corners remain attached.
6. Adjust the box to the desired dimensions and press down to taper the image.

To make any changes before step 6--reselect horizontal or vertical, reposition the center line of convergence, or rechoose a vertex--cancel the command by gliding the pen to the right side of the tablet. Then initiate TAPER again.

EFFECTS

The image will taper according to the selected size.

If the tapered image is larger than the original, the command will use the larger rectangular screen area to make the change and will destroy any imaging already there.

TAPER, cont.

The rectangular screen area occupied by the tapered image will be retained as the "Last Box."

RELATED COMMANDS

TAPER (SCALE MENU)

PERSpective is somewhat similar to TAPER, but they are not the same. TAPER primarily increases or reduces the relative number of pixels in each line perpendicular to the center line; PERSpective uses a formula that changes the relative number of pixels throughout the image, so that the wider side of the image appears closer to the viewer.

COMMAND: PERSP (perspective)

PURPOSE: Put an image into horizontal or vertical perspective.

PROMPTS: 2P (2 points); H?V (horizontal or vertical?); CTR (center); VTX (vertex)

EXIT: none needed

PRELIMINARY COMMANDS

LB, L-CNTR (SCALE MENU)

LB reactivates the last box used. L-CNTR reactivates the last center. These are prefix commands which, if used, must be pressed before XY-SCL is pressed.

PROCEDURE

1. Press PERSP.
2. Press two diagonal corners defining the image to be put into perspective.
The prompt "H?V" asks whether you want to use a horizontal center line of convergence or a vertical one.
3. For a horizontal center line, press down anywhere on the tablet and move the pen sideways, then release pressure; for a vertical center line, press and move the pen up or down, then release pressure.
A horizontal or vertical line appears and follows the cursor.
4. Position this center line and press down. (The center line may be put outside the defined image area.)
The prompt asks for a vertex, or corner.
5. Put the cursor near a corner of the box and press down.
A rubberbanding box appears with two adjacent corners following the cursor as you move the pen, while the opposite corners remain attached. The flashing dot along the center line represents the vanishing point.
6. Adjust the box to the desired dimensions and press down to put the image in perspective.

To make any changes before step 6--reselect horizontal or vertical, reposition the center line of convergence, or rechoose a vertex--cancel the command by gliding the pen to the right side of the tablet. Then initiate PERSP again.

EFFECTS

The image will be put into perspective according to the selected size.

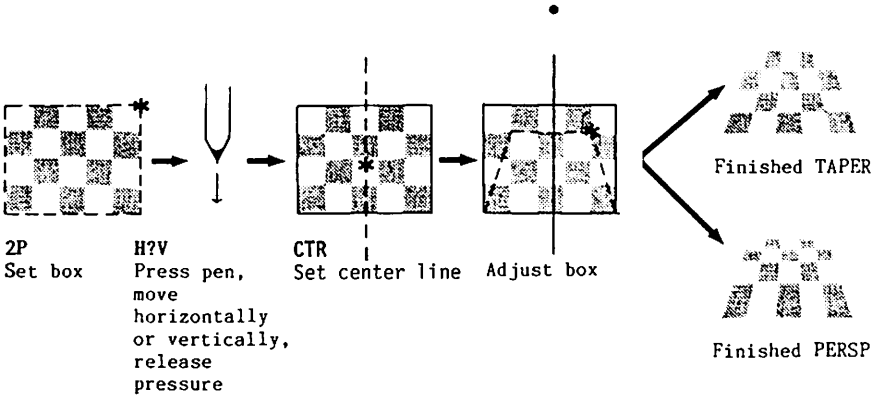
The rectangular screen area occupied by the changed image will be retained as the "Last Box."

PERSP, cont.

RELATED COMMANDS

TAPER (SCALE MENU)

PERSpective is somewhat similar to TAPER, but they are not the same. TAPER primarily increases or reduces the relative number of pixels in each line perpendicular to the centerline; PERSP uses a formula that changes the relative number of pixels throughout the image, so that the wider side of the image appears closer to the viewer.



COMMAND: XB/LB

PURPOSE: Remove from the screen or restore to the screen the last box used for delineating a screen area.

or
Reactivate for the next command the last box used.

PROMPT: LB (last box)

EXIT: none needed

Note: To cancel LB--so the last box is **not** reactivated for the next command--press LB in the Prompt Box or glide the pen to the right side of the tablet.

PROCEDURE

To make the last box visible or invisible:

1. Press XB.

OR

To make the last box active again:

1. Press LB.

EFFECTS

XB removes the previous delineating box from the screen. Press again, and the box reappears. A box restored through XB acts only as a visual reminder.

LB reactivates for the next command the screen area last used. This allows you to enact further commands in the exact same screen area previously used.

The LB command is active as long as "LB" appears in the Prompt Box. That is, if you press LB and then press XB, the box will disappear from the screen but the prompt will remain, indicating that the next command will be carried out in that area of the screen.

To remove a delineating box from the screen, use XB before creating another box. If another box is created, the box already onscreen becomes part of the image. That is, XB and LB affect only the box most recently created.

RELATED COMMANDS

REMOVE (FILLS MENU)

A box that has inadvertently become part of the image can be removed with REMOVE. (However, if the box was drawn over other colors, a negative of the box will remain, since REMOVE works by applying background color over the color being removed.)

COMMAND: L-CNTR (last center)

PURPOSE: Reactivate for the next command the center point last used.

PROMPTS: none

EXIT: Initiate the next command, or cancel L-CNTR by gliding the pen to the right side of the tablet.

PROCEDURE

1. Press L-CNTR.

L-CNTR is a prefix and must be pressed before you initiate the command that will use it.

EFFECTS

L-CNTR marks the last center point used and activates it for the next (A command that follows L-CNTR will not ask for the CTR since the point is already selected; it will proceed to the next prompt or to execution.)

FILLS MENU

FILLS	FLOOD	REMOVE	CHANGE	GRAD/S
XB/LB	FILLTO	FILLIN	ALTER	MIX/BX

The FILLS MENU contains commands for changing a color in a designated part of the image or in the entire image.

COMMAND: FLOOD

PURPOSE: Fill the screen with a selected color.

PROMPTS: 1C (1 color)

EXIT: none needed

PROCEDURE

1. Press FLOOD.
2. Press the color you want to fill the screen.

EFFECTS

The image area of the screen fills with the current color, covering all other colors.

RELATED COMMANDS

X (KEYBOARD COMMANDS)
COLORS MENU

FLOOD fills the screen, but the flood color does not become the background color. ERASE and ZAP, for example, will replace the flood color with background color. And brush modes that do not carry background color will carry a flood color. To change the background color between black and grey, use the X key. To remap the background to any other color, change color 0, using commands in the COLORS MENU.

COMMAND: REMOVE

PURPOSE: Remove a color from the screen in a selected area.

PROMPTS: 1C (1 color); 2P (2 points)

EXIT: none needed

PROCEDURE

1. Press REMOVE.
2. Press the color to be removed, selecting the color either from the palette or from the image.
3. Press two diagonal corners to define the image area where the color should be removed.

EFFECTS

This command removes a color in a selected area by replacing it with background color.

RELATED COMMANDS

ERASE, BRUSH (PENS MENU)

To remove color pixels selectively from the image, use ERASE in the PENS MENU. To remove all colors, using a brush mode, use BRUSH in the PENS MENU, with background color as the current color.

F-BOX (SHAPES MENU)

To remove all colors from a rectangular area of the screen, use F-BOX with background color as the current color.

TRIM (MOVES MENU)

To remove all colors surrounding a selected area of the image, use TRIM in the MOVES MENU.

12-40

COMMAND: CHANGE

PURPOSE: Change one color to another in a selected area of the image.

PR MPTS: 2C (2 colors); 2P (2 points)

EXIT: none needed

PROCEDURE

1. Press CHANGE.
2. Press the color to be replaced.
3. Press the color that should take its place.
4. Press two diagonal corners to define the image area where the color change should take place. (To designate the entire screen as the area for change, press in the Prompt Box.)

EFFECTS

The selected color replaces another color in a designated area of the image.

COMMAND: GRAD/S (gradation/steps)

PURPOSE: Fill a selected color area with a given range of colors that gradually blend from one color to the next.

OR

Fill a selected color area with a given range of colors that are spread out in equal steps horizontally or vertically.

PROMPTS: 3C (3 colors); 2P (2 points); H?V (horizontal or vertical?); OK?

EXIT: none needed

PROCEDURE

1. Press GRAD.

OR

1. Press S.

The prompt asks for three colors.

2. Press two colors to define the range of palette colors that will be used in the spread. (In a vertical spread, the first color selected will be at the bottom; in a horizontal spread, the first color will be at the left.)

3. Press the color which should be covered, or replaced, by the range of colors. Choose the colors from the palette or from the image.

The prompt asks for 2 points.

4. Press two diagonal corners to define the area in which color gradation or stepping is to occur.

The prompt "H?V" asks whether the color spread should occur horizontally or vertically.

5. Press down anywhere on the tablet and, retaining pressure, move the pen sideways for horizontal spreading or move up or down for vertical spreading.

A horizontal or vertical line then crosses the box.

6. Press "OK?" in the Prompt Box.

To cancel the command at any time before pressing "OK?", glide the pen to the right side of the tablet.

EFFECTS

The selected area fills with the chosen range of colors. If GRAD was pressed, each color blends into the next; if S was pressed, the colors are in distinct steps.

Horizontal spreading occurs from left to right; vertical spreading occurs from bottom to top. The color chosen first will be the bottom or leftmost end of the range.

COMMAND: XB/LB

PURPOSE: Remove from the screen or restore to the screen the last box used for delineating a screen area.

or

Reactivate for the next command the last box used.

PROMPT: LB (last box)

EXIT: none needed

Note: To cancel LB--so the last box is not reactivated for the next command--press LB in the Prompt Box or glide the pen to the right side of the tablet.

PROCEDURE

To make the last box visible or invisible:

1. Press XB.

OR

To make the last box active again:

1. Press LB.

EFFECTS

XB removes the previous delineating box from the screen. Press again, and the box reappears. A box restored through XB acts only as a visual reminder.

LB reactivates for the next command the screen area last used. This allows you to enact further commands in the exact same screen area previously used.

The LB command is active as long as "LB" appears in the Prompt Box. That is, if you press LB and then press XB, the box will disappear from the screen but the prompt will remain, indicating that the next command will be carried out in that area of the screen.

To remove a delineating box from the screen, use XB before creating another box. If another box is created, the box already onscreen becomes part of the image. That is, XB and LB affect only the box most recently created.

RELATED COMMANDS

REMOVE (FILLS MENU)

A box that has inadvertently become part of the image can be removed with REMOVE. (However, if the box was drawn over other colors, a negative of the box will remain, since REMOVE works by applying background color over the color being removed.)

COMMAND: FILLTO

PURPOSE: Fill an area enclosed by the current color with the current color.

PROMPT: none

EXIT: Press another command.

PROCEDURE

1. Press FILLTO.
The Status Box shows "to" as the current mode.
2. Press inside each area you want to fill.

To stop a FILLTO command in progress, press ESCape.

EFFECTS

FILLTO covers all colors until it comes to a border of the current color.

If the cursor is put in an area not enclosed by the current color, the command will have no effect. FILLTO is like a drawing mode, being active until you choose another command.

RELATED COMMANDS

FILLIN (FILLS MENU)

Although FILLIN and FILLTO are similar, FILLIN fills any enclosure, whereas FILLTO fills only an enclosure of the current color. FILLIN covers only the color under the cursor when the pen was depressed, whereas FILLTO covers all colors within the enclosure.

COMMAND: FILLIN

PURPOSE: Fill an enclosed area with the current color.

PROMPT: none

EXIT: Press another command.

PROCEDURE

1. Press FILLIN.
The Status Box gives "in" as the current mode.
2. Press inside each area you want to fill.

To stop a FILLIN command in progress, press the ESCape key on the keyboard.

EFFECTS

FILLIN fills an enclosed area with the current color. It covers only the color initially under the cursor and is stopped by other colors. Thus, all other colors within the enclosure will remain.

An "enclosed area" means an area of one color bordered on all sides by another color or several other colors. The border might be a line, patches of colors, or the background against which a patch of color stands. If the enclosure is not complete, however, the FILLIN color will leak out through the hole and proceed to fill the next larger area. (If this begins to happen, you can stop it by pressing ESCape.)

This command is like a drawing mode, being active until you select another command.

RELATED COMMANDS

CHANGE (FILLS MENU)

WRITE or PROTCT in O (General Menu Commands)

For filling lines that are not continuous, or for filling numerous areas with the same color, CHANGE or the WRITE or PROTCT option may be more efficient commands.

FILLTO (FILLS MENU)

Although FILLIN and FILLTO are similar, FILLIN fills any enclosure, whereas FILLTO fills only an enclosure of the current color. FILLIN covers only the color under the cursor when the pen was depressed, whereas FILLTO covers all colors within the enclosure.

COMMAND: ALTER

PURPOSE: Change a range of colors to one color.

PROMPTS: 3C (3 colors); 2P (2 points)

EXIT: none needed

PROCEDURE

1. Press ALTER.

The prompt asks for 3 colors.

2. Press the first and last color in the range to be changed, then press the color to which the range should be changed.

3. Press two diagonal points to define the area in which the change should occur.

EFFECTS

All colors in the defined area that fall within the range selected are changed to a chosen color.

This command is handy for recoloring areas colored with GRAD/S.

RELATED COMMANDS

STIPLE (PENS MENU)

Use STIPLE to deposit in a drawing mode a mixture of up to four colors.



MENUS IN FONTS

>FONTS	TEXT	TYPES	CSTYLE	LSTYLE
			DESIGN	LAYOUT

>TEXT	KEYBRD	MENU	GRKING	FILE
LAST	PRV/OK	PLACE		

* >FILE 1 FILE 2 FILE 3 FILE 4 FILE 4
 FILE 5 FILE 6 FILE 7 FILE 8 MORE?

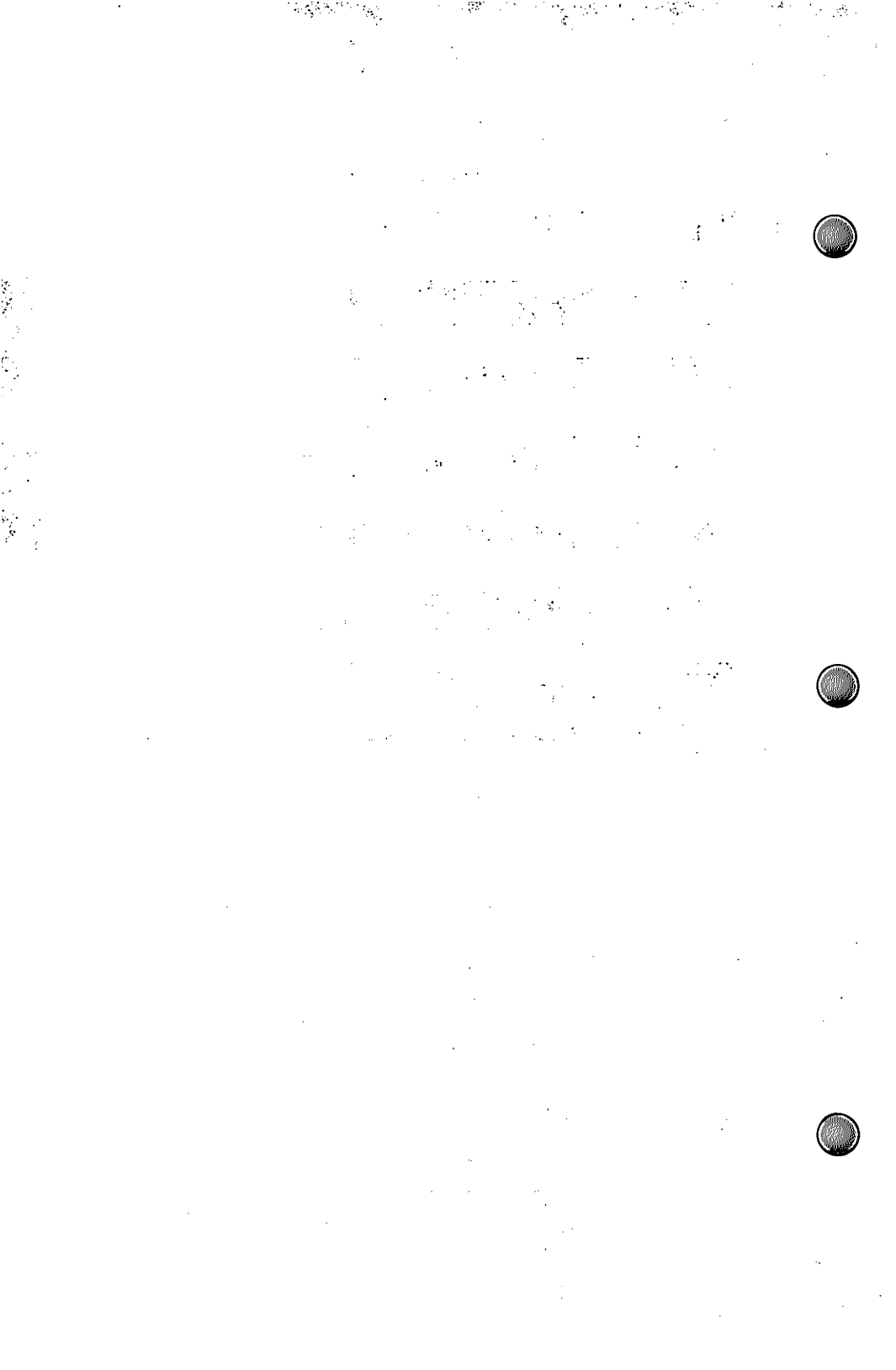
>CSTYLE	ITALIC	EXTND	BOLD	SIZE
LOCATE		OUTLIN	SHAD/S	OVR/UN

>LSTYLE	SPACE	ANGLE	JUSTFY	ASPECT
LOCATE	LSPACE	BASLIN		DPI

>DESIGN	START	INS/AF	DEL/*	FILE
DSIZE	SPACE	MOVE	SAVE	CHAR

>LAYOUT	BOX/H		PAGE	LOAD
DEL/*	MOV/CP	PICTUR	COLS/H	SAVE

* An example of the filenames menu that appears onscreen when the TYPES MENU is selected.



GENERAL INFORMATION

The FONTS MENU contains menus used to place text onscreen. Text can appear in a variety of typefaces. It is placed onscreen through any of three sources: the system keyboard, the menu typecase, or a disk file. As you become more familiar with Fonts, you will find the most convenient source for each project.

The Style Menus provide a selection of style options. These options can be changed at any time, even after the text has been entered. They also can be used on the characters designed and edited within a font library.

As in Lumena, text and images can be printed from the screen to paper through the PRINT MENU.

The following outline of menus in Fonts briefly describes their functions.

The TEXT MENU provides the menus for entering text characters on the screen, whether from the keyboard, a menu typecase that appears onscreen, or from a disk file.

The TYPES MENU is used to select a typeface from the fonts available on your system.

The CSTYLE (character style) MENU contains size and style options, such as italics, extended or boldface, that affect the selected typeface. Shadows and outlines for text are also available through this menu.

The LSTYLE (Line Style) MENU offers features that affect line direction, line and character spacing, and the base line angle. Commands in this menu can be used to place text that runs from right to left.

The LAYOUT MENU is used primarily to design page layouts. This menu is unnecessary for most video text placement.

The DESIGN MENU is used to design and edit characters in the font library.



A BRIEF TUTORIAL ON FONTS

>FONTS	TEXT	TYPES	CSTYLE	LSTYLE
			DESIGN	LAYOUT

The FONTS MENU contains the menus necessary for putting text onscreen in a variety of typefaces, styles and sizes. Layouts can be designed, with areas defined for text or pictures. Commands within this menu allow you to design your own characters or edit those in the font libraries supplied with Lumena. Text and images from the screen can be printed on paper through the PRINT MENU.

Because many of the commands in these menus are interdependent, this tutorial outlines some of the basic procedures. It is not intended to explain the full potential of the FONTS MENU, nor to introduce all the commands. Its purpose is to explain the steps in producing certain effects and to help you become familiar with how the commands interact.

This tutorial assumes you are already familiar with the basic Lumena commands and procedures; commands not in the FONTS MENU will not be discussed in detail here.

Placing Text Onscreen

Text is placed onscreen using the TEXT MENU. Text can be entered from the keyboard, a disk file, or the menu typecase. Single characters may also be placed individually from the menu typecase.

1. To place text onscreen, go to the FONTS MENU. Press TEXT.

>TEXT	KEYBRD	MENU	GRKING	FILE
LAST	PREV/OK	PLACE		

2. Press KEYBRD.
The prompt LOC (location) appears.
3. Press the pen in the position where text should begin.
The menu and cursor disappear, and the only the keyboard is active.
4. Enter your text from the keyboard.
The text appears on the top of the screen in a composing mode, which allows you to make corrections or revisions. When enough characters are typed to fill a line onscreen, that line of text is fully drawn in.
5. Press ESC to finish drawing in the text and exit the command.
Your text will then be fully drawn, appearing in the default mode, ROME regular, size 30. This size represents characters that are 30 pixels high.

Typeface Options

1. To select a typeface, press TYPES in the FONTS MENU.

A menu of filenames appear onscreen, listing the typefaces contained on the disk. (The menu below is an example of the filenames menu that appears onscreen when the TYPES MENU is pressed.)

DEFAULT	ROME	SCRIPT	GOTHIC	SANS
GREEK	ITALY	GERMAN	CYRLIC	ICONS

2. Press SCRIPT.

When you have made the selection, the FONTS MENU returns to the screen. The current font library is indicated on the top of the screen.

3. Return to the TEXT MENU and enter text as described in the previous section.

The text will appear onscreen in SCRIPT in the current color and the default size, 30. Experiment with the other typefaces.

4. Leave a few characters on the screen for comparison with the other typefaces.
5. Return to the TYPES MENU.
6. Press ROME.

Subsequent characters will appear in Rome style.

Character Style Options

The CSTYLE MENU (character style) is used to select the size and style characteristics for your text. If no selections are made, text will appear in the default size, 30.

CSTYLE	ITALIC	EXTND	BOLD	SIZE
LOCATE		OUTLIN	SHAD/S	OVR/UN

To change character size:

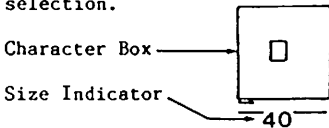
1. Press CSTYLE in the FONTS MENU.

A temporary character box is displayed onscreen. The character box and the style guides help to visualize the option chosen. The size or values of the characteristics are given in the Style Option Display, located at the top of the screen.

2. Press SIZE.

3. Press briefly anywhere on the tablet, then glide the pen to the left to decrease the size and to the right to increase it.

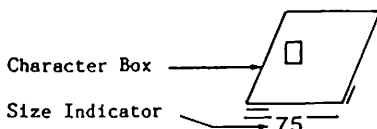
The character box changes size with the moves of the pen. The size number is indicated below the box to help you with precise selection.



4. Press the pen to set the size to about 40.

To italicize the text:

5. Press ITALIC.
6. Press briefly anywhere on the tablet, then glide the pen left or right. The character box tilts in the direction of the cursor to show how the character will tilt.
7. Press down to set the degree of tilt to about 75. (Pressing ITL in the Prompt Box gives you the default mode "regular," or not italicized.)



Fonts

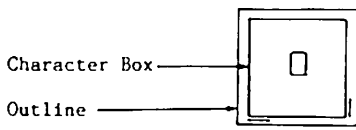
8. Go to the TEXT MENU to draw in the text.

To create outlines and shadows:

1. ZAP the screen. (Note that you cannot ZAP from the CSTYLE MENU.)
2. To cancel italics, return to the CSTYLE MENU and press ITALIC.
3. Press ITL in the prompt box. Italic mode is canceled and subsequent text appears in "regular" mode.

To outline:

4. Press OUTLIN.
5. Press anywhere on the tablet. A style indicator appears to display the width of the outline.

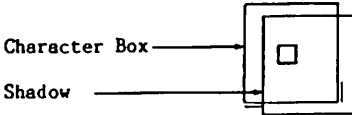


ABC

6. Glide the pen until the desired width appears. A narrow outline will give you best results.
7. Press down to set the width of the outline. The prompt IC appears in the Prompt Box.
8. Press in the palette to select a color for the outline.
9. Continue with the next section, or return to the TEXT MENU to enter the text.

To create drop shadows:

1. Press SHAD in the SHAD/S command.
A style indicator appears to display the size and direction of the shadow.
2. Glide the pen to locate the shadow as indicated. Press the pen.



Shad

- The prompt IC appears in the Prompt Box.
3. Press in the palette to select a color for the shadow.
 4. Return to the TEXT MENU to draw in the text.
You may now choose a color for the character.

Line Style Options

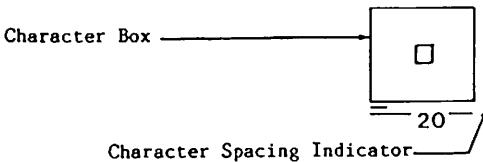
The LSTYLE (line style) MENU provides options specific to lines of text: character spacing, text leading, baseline, and angle.

ZAP the screen from the TEXT MENU.

LSTYLE	SPACE	ANGLE	JUSTFY	ASPECT
LOCATE	LSPACE	BASLIN		DPI

To change the space between characters:

1. Return to the FONTS MENU and press the LSTYLE MENU.
A character box appears onscreen.
2. To change the space between characters, press SPACE.
A character spacing indicator appears.



Fonts
F o n

3. Press anywhere on the tablet.
The spacing indicator to the right of the character box moves to indicate the amount of space between characters. Gliding the pen to the right increases the space, and to the left decreases the space.
4. Press the pen to set the amount of space between characters.
5. Go to the TEXT MENU to draw in the text.
Experiment with different widths, leaving text onscreen for comparison.

Entering Text from the Menu Typeface

The menu typecase appears at the bottom of the screen when you are using the MENU and PLACE commands in the TEXT MENU. The characters in the typecase resemble the selected typeface, but they may be difficult to read because they have been reduced to fit the menu area. Pressing AC (alternate character set) displays the characters in a more readable form. Characters chosen from either display will be drawn onscreen in the current typeface.

@ABCDEFGHIJKLMNPORSTUVWXYZ [/] ^	XTR	SP	BS
abcdefghijklmnopqrstuvwxyz (1)	NUM	CR	AC

XTR (extra)--Press XTR to view more characters in the typecase.
(Some typefaces have extra characters, others do not.)

SP (space)--Press SP to enter a blank space.

BS (backspace)--Press BS to backspace.

NUM (number)--Press NUM to display numbers in the typecase.

CR (carriage return)--Press CR to draw in the text you have entered and begin another line of text.

AC (alternate character set)--Press AC to display the IBM character set to assist with character selection.

To enter text from the menu typecase:

1. Press MENU in the TEXT MENU.

>TEXT.	KEYBRD	MENU	GRKING	FILE
LAST	PRV/OK	PLACE		

2. Press briefly on the tablet to indicate a starting point for the text.
The typecase appears on the bottom of the screen.
3. Press the pen briefly on each character.
The text appears at the top of the screen in a composing mode, which allows you to make corrections or revisions. When enough characters are selected to fill a line onscreen, that line of text is fully drawn in.
4. Press EX in the prompt box to finish drawing in the text and exit the command.
Text appears onscreen at the chosen location in the typeface, size, style, and color selected.

Redrawing Text

The LAST command (TEXT MENU) redraws the last-entered block of text. This allows you to change style characteristics, erase the previously written text, and redraw the text with the new characteristics.

To redraw the last-entered text:

1. Enter text as described above.
2. Change style characteristics in the CSTYLE MENU.
3. Return to the TEXT MENU to ZAP the screen. (Text previously placed in the "last" location must be erased, as the redrawn copy will overwrite it.)
4. Press LAST.

>TEXT	KEYBRD	MENU	GRKING	FILE
LAST	PRV/OK	PLACE		

The prompt LOC (location) appears.

5. Press the pen in the position where text should begin.
The last-entered text will be redrawn with the new style characteristics.

NOTE: If words are divided at the end of the line, you can change the justification by entering the LSTYLE MENU, pressing JUSTIFY, and then pressing JUS in the the Prompt Box. Text will then be left and right margin justified, and the lines will break between words.

Using the Preview Mode

It is often helpful to preview the characters before drawing them in.

To draw in text in a preview mode:

1. Press PRV (in PRV/OK) in the TEXT MENU.

>TEXT	KEYBRD	MENU	GRKING	FILE
LAST	PRV/OK	PLACE		

2. Press KEYBRD.
The prompt LOC (location) appears.
3. Press the pen down where text is to begin.
4. Enter text from the keyboard. For this exercise, enter more text than can fit on one line.
Text appears in a temporary mode rather than fully drawn, allowing for corrections and revisions. Each character is represented by a box of its exact size with a simple form of the character inside.
5. Press escape to draw in the remaining characters on the following line.

```

e n t e r   t e x t   f r o m   k e
y b o a r d
  
```

6. Go to the CSTYLE MENU to reduce the size of the characters.
7. Press SIZE and decrease character size as described above.

8. Return to the TEXT MENU and press LAST.

>TEXT	KEYBRD	MENU	GRKING	FILE
LAST	PRV/OK	PLACE		

The prompt LOC (location) appears.

9. Press the pen briefly to select the starting point for text.
The last-entered text appears onscreen in the preview mode in the selected size.

enter text from keyboard

10. Press OK in the PRV/OK command to draw in the characters.
The characters are drawn in in the type and style selected.

enter text from keyboard

(To exit the command without drawing the text, press PREV (in PREV/OK).)

Designing Page Layouts

The LAYOUT MENU is used in designing page layouts with areas defined for text and pictures. Boxes, columns, and picture symbols within the layout can be repositioned and copied. It is not necessary to use this menu when placing text onscreen in ordinary circumstances. Its use is intended for specific layout requirements.

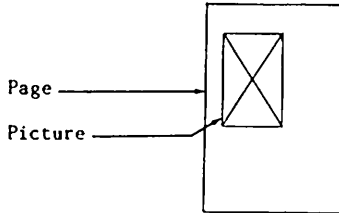
To create a layout:

1. Enter the LAYOUT MENU, and press PAGE.

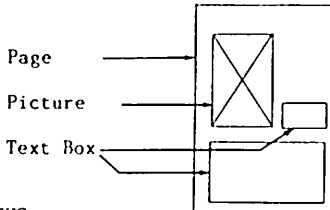
>LAYOUT	BOX/H		PAGE	LOAD
DEL/*	MOV/CP	PICTUR	COLS/H	SAVE

- The prompt SIZ appears in the Prompt Box, and the page size is indicated onscreen.
- Press the pen down briefly, then glide until the proper page size appears.
 - Press the pen down to select the page size.
The prompt 2P appears.
 - Press down to select the first corner of the page.
A temporary "page" appears.
 - Glide the pen until the desired size box appears, and press down to draw in the page.
A page appears, proportioned according to the page size selected, and the prompt JUS appears in the Prompt Box.

6. Press in the Prompt Box to justify the left and right margins.
7. To define a picture, press PICTUR.
The prompt 2P appears.
8. Press near the upper left corner of the page to set the first corner of the picture.
A temporary box appears, which changes in size as you move the pen.
9. Glide the pen until the correct size box appears and press down to draw in the picture symbol. Select a picture size as indicated below, leaving some space to the right of the picture for a caption.
A picture box appears on the page.



10. To create a box for text, press BOX (in BOX/H).
The prompt 2P appears.
11. Press down to select the first corner of the box.
A temporary box appears, which changes in size as you move the pen.
12. Glide the pen to change box size, and press down to select a box to fill the bottom half of the page.



The prompt JUS appears.

13. Press JUS in the Prompt Box.
The text will be left and right margin justified.
14. Repeat steps 10-13 to create a smaller box for a caption as shown above.

NOTE: The layout you have created will disappear when you leave the LAYOUT MENU, but will reappear when you reenter LAYOUT.

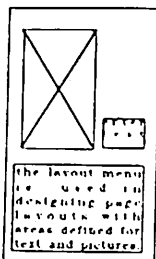
To enter text in the layout:

1. Select character and line style characteristics using the CSTYLE and LSTYLE MENUS.
2. Enter the TEXT MENU.
The layout disappears.
3. Press KEYBRD.
The layout reappears and the prompt LOC (location) appears.
4. Press inside either of the boxes. (Note that Lumena does not allow you to put text on a PAGE except in a BOX.)

5. Enter text from the keyboard as described in the tutorial above. (It is helpful to enter text in the layout first in the preview mode as described above.)

The text is drawn in, with right and left margins justified, in the style chosen. Text in a layout box always begins in the upper left corner of the box.

6. Repeat steps 3-5 to enter text in the second box.
7. Return to the LAYOUT MENU to view layout and text.



To erase all the text onscreen, return to the FONTS MENU and ZAP. The layout will reappear when you enter LAYOUT. To erase only portions of the text, use F-BOX in the SHAPES MENU, with black as the current color, or use a Brush with black as the current color.

Saving Layouts

To save a layout on disk, press SAVE in the LAYOUT MENU. All layout information, including boxes, columns, and picture symbols is saved in a disk file with the extension .LYT (eg BOXES.LYT).

Images and text must be saved through the S command. (See more information in the General Menu Command section of this manual.) Note that the S command will not work in the LSTYLE, CSTYLE, or LAYOUT MENUS. This is to prevent you from inadvertently saving layout or character boxes as part of the image.



TEXT MENU

TEXT	KEYBRD	MENU	GRKING	FILE
LAST	PRV/OK	PLACE		

The TEXT MENU is used to put type on the screen from the keyboard, a disk file, or the menu typecase.

If the chosen location for text is outside a layout box, text will begin at that point. If the designated place for text is inside a box created through the LAYOUT MENU, text will begin at the upper left corner of the box (or, in a horizontal box, at lower left).

The characters in the typecase that appear onscreen resemble the selected typeface, but as they have been reduced and condensed to fit the menu area, they may be difficult to read. To assist in the selection of characters, press AC (alternate character set) in the Status Box to display the character set. This typecase assists only with the selection of characters. Subsequent text appears in the typeface selected through the TYPES MENU.

The Status Area contains the commands BS (backspace) and SP (space bar). Press XTR to view more characters in the typecase. Numbers can be viewed by pressing NUM.

When more text is typed than can be displayed in a box, an additional 256 undisplayed characters can be held in the buffer.

After typing in the text, you can change the type size or leading through the CSTYLE or LSTYLE MENUS, then use the LAST command to redraw the text.

The PRV/OK command allows text to be placed onscreen in a temporary mode. This command also assists the LAST command to redraw blocks of text in the preview mode. Corrections and revisions are possible before permanently committing the text to the screen.

COMMAND: KEYBRD (keyboard)

PURPOSE: Allow typing text from the keyboard.

PROMPTS: LOC (location)

EXIT: Press ESCape key.

PROCEDURE

1. Press KEYBRD.
The prompt LOC appears.
2. Press inside the box where subsequent text should appear.
OR
Press a point outside a box where text should begin.
3. Enter text from the keyboard.
4. Press ESC to exit.

EFFECTS

Text entered from keyboard will appear in the designated place, in the selected typeface, the size and style. If no type and style selections were made, text will appear in the default mode: Rome, size 30.

If the point pressed is outside a layout box, text will begin at that point. Carriage returns work as on a typewriter, with subsequent lines of text beginning below the starting point.

If the designated place for text is inside a box created through the LAYOUT MENU, text will begin at the upper left corner of the box (or, in a horizontal box, at lower left). In justified text, carriage returns are treated as spaces; in centered text, a carriage return signals a new line.

COMMAND: MENU

PURPOSE: Enter text from the menu typecase onscreen.

PROMPTS: LOC (location)

EXIT: Press EX in the typecase, or press ESC on the keyboard.

PROCEDURE

1. Press MENU.
2. Press inside the box where subsequent text should appear.
OR
Press a point outside the box where text should begin.
A typecase appears at the bottom of the screen.
3. Enter text by pressing on each character.
The text first appears onscreen in a composing mode.
4. To draw in the text, press CR (carriage return). To draw in the text and exit the keyboard, press EX in the typecase.

EFFECTS

As each character is selected, text appears in the designated place, in the selected typeface, size and style. If no type and style selections were made, text will appear in the default mode: Rome, size 30.

The characters in the onscreen typecase resemble the selected typeface, but as they have been reduced and condensed to fit the menu area, they may be difficult to read. To assist in the selection of characters, press AC (alternate character set) in the Status Box to display the character set. This typecase assists only with the selection of characters. Subsequent text appears in the typeface selected through the TYPES MENU.

The Status Area contains the commands BS (backspace) and SP (space bar). Press XTR to view more characters in the typecase. Numbers can be viewed by pressing NUM.

If the point pressed is outside a layout box, text will begin at that point. Carriage returns work as on a typewriter, with subsequent lines of text beginning below the starting point.

If the designated place for text is inside a box created through the LAYOUT MENU, text will begin at the upper left corner of the box (or, in a horizontal box, at lower left). In justified text, carriage returns are treated as spaces; in centered text, a carriage return signals a new line.

COMMAND: GRKING (greeking)

PURPOSE: Fill an area with preview text boxes to assist in rough layout.

PROMPTS: LOC (location)

EXIT: none needed

PROCEDURE

1. Press GRKING.
2. Press inside the layout box where subsequent text should appear.

EFFECTS

Preview text boxes fill the designated area.

NOTE: The GRKING command can be used only inside a layout box, otherwise it has no effect.

COMMAND: FILE

PURPOSE: Print text from a disk file.

PROMPTS: LOC (location)

EXIT: none needed

PRELIMINARY COMMANDS

Text files can be created through almost any editor or word processor and should not have format control characters in them. To be accessed through this menu, files must have a name of six or fewer characters and the extension .TXT (for example: WORDS.TXT)

PROCEDURE

1. Press FILE.
The filenames menu appears.
2. Press the name of the text file required.
3. Press inside the box where subsequent text should appear.
OR
Press a point outside a box where text should begin.

EFFECTS

Text from the disk file appears in the designated place, in the typeface selected through TYPES MENU and in the style selected through CSTYLE MENU. If no type and style selections were made, text will appear in the default mode: Rome, size 30.

If the designated place for text was inside a box created through the LAYOUT MENU, text will begin at upper left corner of the box (or, in a horizontal box, at lower left). In justified text, carriage returns are treated as spaces; in centered text, a carriage return signals a new line.

When a file contains more text than can be displayed in a box, up to 256 undisplayed characters can be held in a buffer. You can change the type size or leading, then use the LAST command to redraw the text.

If the point pressed was outside a box, text will begin at that point, with line separations appearing as they do in the file.

COMMAND: LAST

PURPOSE: Redraw the last entered block of text after changing the characteristics.

PROMPTS: LOC (location)

EXIT: none needed

PRELIMINARY COMMAND

PREV/OK (TEXT MENU)

Use PREV to redraw text in the preview mode in the LAST location, allowing for corrections and revisions. It is impossible to correct text permanently drawn over an image. Text previously placed in the "LAST" location must be erased, as the redrawn copy will overwrite. Press OK to draw in the text permanently onscreen.

PROCEDURE

This command is useful for viewing the same text in a different size, style or color. To redraw the last entered block of text after the required changes in size, style and color have been made through the CSTYLE and LSTYLE MENUS:

1. Press LAST.
The prompt LOC appears.
2. Press inside the box where text should be redrawn.

EFFECTS

The block of text most recently entered through KEYBRD, MENU or FILE is redrawn in the selected location.

COMMAND: PLACE

PURPOSE: Place single characters by hand.

PROMPTS: none

EXIT: Press EX in the typecase, or press ESC on the keyboard.

PROCEDURE

1. Press PLACE.
The typecase appears at the bottom of the screen.
2. Press a character.
A representation of the character in a box of its exact size appears at the tip of the cursor.
3. Press the pen to place the character anywhere on the screen.

EFFECTS

Single characters can be placed by hand in any location. Note however, that PLACE always uses the characteristics set for the full screen, regardless of whether the character is placed inside or out of a layout box.

The typecase contains a representation of the typeface selected. However, since the font library has been reduced and condensed to fit the menu, it may be difficult to read. Press AC (alternate character set) to display the character set. This typecase will assist in character selection only. Subsequent text will appear in the typeface selected.

Each character selected appears at tip of the cursor, which is always centered on the baseline of the letter. Pressing down on the pen causes the character to be drawn. Since the cursor is on the baseline, positioning can be accurate even for characters with descenders.

The GRAV command in the GRIDS MENU can assist in the precise alignment of character baselines.

TYPES MENU

DFAULT	ROME	SANS	GREEK	SCRIPT
GOTHIC	ITALY	GERMAN	CYRLIC	ICONS

The TYPES MENU displays the names of font libraries available on your system. Pressing any typeface box selects that type for subsequent text drawn on the screen. Text typeface can be changed to meet your requirements.

The above filenames menu of typefaces is an example. Menus will vary according to the font library or disk being used.

COMMAND: MORE

PURPOSE: Display names of additional fonts available.

PROMPTS: none

EXIT: none needed

PROCEDURE

To display names of additional font libraries on the same disk:

1. Press MORE

To display names of fonts on another disk:

1. Insert the new disk in your file disk drive (selected through the F command).
2. Press MORE

EFFECTS

Names of additional font libraries are displayed.

NOTE: Once a font is selected, the disk containing that library must remain in place until you are through selecting characters from that font.

CSTYLE MENU

CSTYLE	ITALIC	EXTND	BOLD	SIZE
LOCATE		OUTLIN	SHAD/S	OVR/UN

The CSTYLE MENU allows selection of style options for the text typeface. The commands in this menu allow for a variety of style manipulations; whether it is for a single character or word, or a complete page of text.

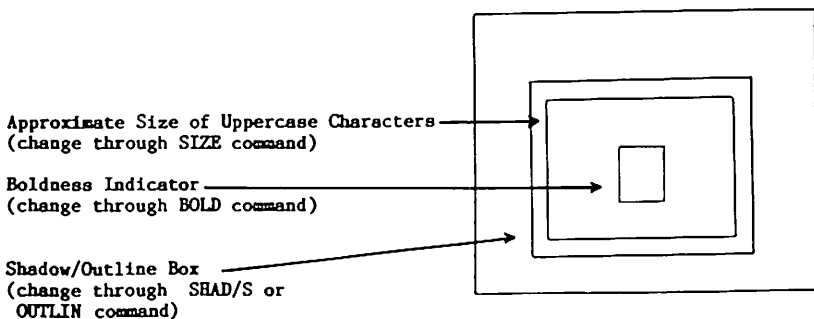
If no type or style options are selected, Lumena uses its default font ROME, and a size of 30 dots. No style options are included in the default mode.

The style characteristics for a layout page (created through the LAYOUT MENU) can be selected for each box at one time, before entering text.

Not all typefaces lend themselves well to all options. For example, the BOLD command has no effect on high-resolution typefaces. A "bold" effect can be added to these characters through the extended style of the EXTND command. A bold font library can be provided for high-resolution typefaces.

It is important to remember that ZAP cannot be used in the CSTYLE MENU (or LSTYLE or LAYOUT MENUS, either). Zap confuses the Character Box, and it will remain onscreen even after another menu has been selected. Be sure to relocate to the FONTS MENU menu before using ZAP to clear the screen.

A temporary Character Box is displayed whenever the CSTYLE or LSTYLE MENU is onscreen. The following diagram illustrates the onscreen guides that appear with the Character Box:



Parts of the Character Box will spin, tilt, expand or move, responding to the selected style option command. This provides a strong visual indication of how your text will appear.

The size or value of each option selected is displayed at the top of the monitor. The style option prompts and their corresponding commands are displayed in the default mode below:

SZ	30	IT	EX	100	BL	100	OL	OV
SIZE		ITALIC	EXTND		BOLD		OUTLIN	OVR/UN

Therefore, subsequent text will appear in size 30, regular width, medium boldface. Any shadow or outline appears in the "overwrite" default mode, unless UN (underline) is selected.

If SHAD/S is selected, the prompt SHD is displayed in place of OL (OUTLIN).

COMMAND: ITALIC

PURPOSE: Italicize subsequent text, or cancel ITALIC.

PROMPTS: ITL

EXIT: none needed

PROCEDURE

To italicize subsequent text:

1. Press ITALIC.
The prompt ITL appears.
2. Press anywhere on the tablet.
The Character Box tilts toward the cursor as you move the pen, showing how the characters will tilt.
3. Press down to set the degree of tilt.

To cancel italics:

1. Press ITALIC.
2. Press ITL in the Prompt Box.

EFFECTS

Subsequent text is italicized.

If ITALIC was canceled, subsequent text is in "regular" mode.

COMMAND: EXTND (extended)

PURPOSE: Extend or condense subsequent text; or cancel EXTND.

PROMPTS: EXT

EXIT: none needed

PROCEDURE

To extend or condense subsequent text:

1. Press EXTND.
The prompt EXT appears.
2. Press anywhere on the tablet.
The Character Box appears with one side following the left and right moves of the cursor, showing the width as you stretch or squeeze a standard character.
3. Press down to set the width of character extension.

To cancel EXTND:

1. Press EXTND.
2. Press EXT in the Prompt Box.

EFFECTS

Subsequent text is extended or condensed as selected.

If EXTND was canceled, subsequent text appears in the "standard" mode.

COMMAND: BOLD

PURPOSE: Display subsequent text in boldface; or cancel BOLD.

PROMPTS: BLD

EXIT: none needed

PROCEDURE

1. Press BOLD.
The prompt BLD appears.
2. Press anywhere on the tablet.
The Character Box, displayed in all style menus, contains a small rectangle that indicates the pen size used to draw characters; larger pens increase the boldface. The rectangle changes size with the movements of the pen.
3. Press down to set the width of boldface.

To cancel BOLD:

1. Press BOLD.
2. Press BLD in the Prompt Box..

EFFECTS

Subsequent text appears in boldface.

If BOLD was canceled, subsequent text appears in "medium" mode.

RELATED COMMAND

EXTND (CSTYLE MENU)

Not all typefaces lend themselves to the BOLD option. This command has no effect on typefaces of high resolution. Lumena may approximate boldface by replicating dots or scaling characters unequally. To add a "bold" effect to these typefaces, use EXTND.

COMMAND: SIZE

PURPOSE: Select the size for subsequent text.

PROMPTS: SIZ

EXIT: none needed

PROCEDURE

1. Press SIZE.
The prompt SIZ appears.
2. Press anywhere on the tablet.
The Character Box changes size, increasing and decreasing with the movements of the pen. Press down to set the desired size.

OR

2. Press SIZ in the Prompt Box to select the default size.

EFFECTS

Subsequent text appears in the size selected.

If the default size was selected, subsequent text will appear in size 30, regardless of typeface, or style options.

Size is usually measured in vertical pixels, or dots on the screen. Within scaled page layouts (see LAYOUT MENU), the Fonts Package attempts to scale characters to typographical "points". In this case, the size selected will be in "points" instead of pixels.

COMMAND: LOCATE

PURPOSE: Select the layout box to be affected by subsequent style commands.

PROMPTS: LOC (location)

EXIT: none needed

PROCEDURE

1. Press LOCATE.
All layout boxes appear, as well as the prompt LOC.
2. Press inside the box or area where the style characteristics are to be changed. Pressing in the Prompt Box chooses the entire screen as the location.

EFFECTS

Subsequent text in each box, page or column has its own typeface, character size, color and style options as selected.

If the layout contains several boxes, use the LOCATE command in each box before changing the characteristics. This command displays the current layout box to be affected by subsequent style commands.

COMMAND: OUTLIN (outline)

PURPOSE: Add outline detail to subsequent text characters, or to cancel OUTLIN.

PROMPTS: OUT; 1C (1 color)

EXIT: none needed

PRELIMINARY COMMANDS

OVR/UN (CSTYLE MENU)

Press OVR to select "overwrite" shadows and outlines, or press UN for "underline" shadows and outlines. If this command is not used, outlines will appear in the default mode, OVR.

The mode selected and the prompt OL is displayed on the top of the monitor.

PROCEDURE

To outline text characters:

1. Press OUTLIN.
The prompt OUT appears, and the Outline Box surrounds the Character Box.
2. Glide the pen back and forth.
The Outline Box expands and decreases in four increments to display the depth of the outline.
3. Press the pen to select the depth of the outline.
The prompt 1C appears.
4. Select the color required for the outline.

To cancel outline:

1. Press OUTLIN.
2. Press OUT in the Prompt Box.

EFFECTS

Subsequent text is outlined after it is drawn onscreen. Or, outlining is canceled.

COMMAND: SHAD/S (shadow/solid shadow)

PURPOSE: Select the style, direction and color of character drop shadows; or cancel drop shadows.

PROMPTS: SHD; 1C (1 color)

EXIT: none needed

PRELIMINARY COMMAND

OVR/UN (CSTYLE MENU)

Press OVR to select "overwrite" shadows and outlines, or, press UN for "underwrite" shadows or outlines. If this command is not used, shadows will appear in the default mode, OVR.

The selected mode is displayed on the top of the monitor.

PROCEDURE

To select a single drop shadow or solid shadow:

1. Press SHAD to select a single drop shadow.
or
Press S to select a solid block shadow.
The prompt SHD appears, and a Shadow Box surrounds the Character Box and follows the movements of the pen to allow positioning of the shadow.
2. Press down to select the distance and direction of the shadow.
The prompt 1C appears.
3. Select the color required for the shadow.

To cancel SHAD/S:

1. Press SHAD, or press S.
2. Press SHD in the Prompt Box.

EFFECTS

Subsequent text casts a drop shadow (displayed as separate from the character), or a block shadow (displayed as an extension of the character) after it is drawn. Or, shadows are canceled.

COMMAND: OVR/UN (overwrite/underwrite)

PURPOSE: Change the characteristics of shadows and outlines.

PROMPT: none

EXIT: none needed

PROCEDURE

1. Press OVR to select shadows and outlines cast over the background color and behind the character.
OR
1. Press UN to select shadows and outlines cast only on the background color.

EFFECTS

Subsequent shadows and outlines appear in the selected mode.

NOTE:

In the Overwrite mode (which is the default mode), shadows and outlines are cast over the background color behind the character. It is possible to overwrite parts of surrounding characters.

In the UN (underwrite) mode, shadows and outlines are cast on the background color only, and will not affect the surrounding characters.

LSTYLE MENU

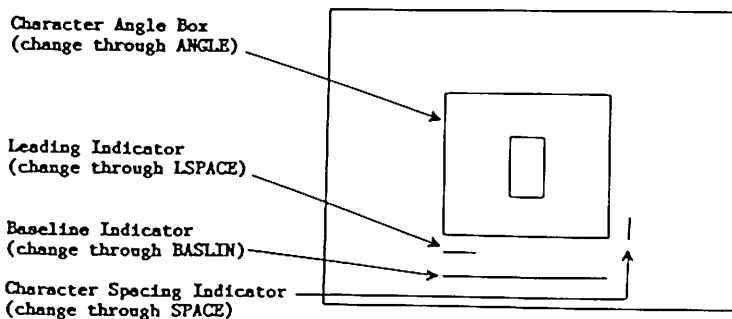
LSTYLE	SPACE	ANGLE	JUSTFY	ASPECT
LOCATE	LSPACE	BASLIN		DPI

The LSTYLE (Line Style) MENU allows the selection of options specific to the lines of text. Character spacing and text leading (space between lines), as well as the baseline (starting point) and angle for text are determined through this menu.

The proportions of text characters can be manipulated to meet the aspect ratio of your screen. Since many monitors differ in aspect ratios, the default aspect is set as the median for the most common types of monitors. If you have selected an aspect ratio other than the default mode, it must be reset each time you enter Lumena, in order to maintain the adjusted ratio.

NOTE: It is important to remember that ZAP is not to be used in the LSTYLE MENU (or the CSTYLE and LAYOUT MENU either) as it confuses the Character Box. Be sure to relocate to the FONTS MENU before using ZAP.

The following diagram illustrates the temporary Character Box and the onscreen command guides which appear onscreen with the LSTYLE MENU.



The size of each option is displayed on the top of the monitor. The following outline describes the onscreen guides and their related commands:

```

      SP   LED   AN   BA   AS   JUS
       / \ / \ / \ / \ / \
    SPAC LSPAC ANGL BASLIN ASPECT JUSTFY
  
```

COMMAND: SPACE

PURPOSE: Adjust the amount of space between characters, or cancel the adjusted space.

PROMPTS: SPC

EXIT: none needed.

PROCEDURE

To adjust the amount of space between characters:

1. Press SPACE.
2. Press anywhere on the tablet.
The Sp cing Indicator to the right of the Character Box moves to indicate the width of space between characters. Gliding the pen to the right increases the space, and to the left decreases the space. The amount of space is indicated in the Style Option Display at the top of the monitor.
3. Press down to set the amount of space between characters.

To cancel the adjusted space between characters:

1. Press SPACE.
2. Press SPC in the Prompt Box.

EFFECTS

Fonts characters are spaced proportionally, with each character spaced according to individual height and width. The SPACE command adds or subtracts space between characters, while retaining the correct proportions.

When the command is used to decrease space, the Spacing Indicator appears inside the Character Box and the characters will then overwrite.

COMMAND: ANGLE

PURPOSE: Manipulate the angle of subsequent characters, or cancel ANGLE.

PROMPTS: ANG

EXIT: none needed

PROCEDURE

To manipulate the character angle:

1. Press ANGLE.
2. Press anywhere on the tablet.
The Character Angle Box tilts on its lower left corner, moving clockwise as you glide the pen left, and counterclockwise as you glide right.
The degree of the angle is displayed onscreen and in the Style Option Display at the top of the monitor.
3. Press down to set the degree of the angle.

To cancel ANGLE:

1. Press ANGLE.
2. Press ANG in the Prompt Box.

EFFECTS

Subsequent characters appear at the selected angle. Or, if ANGLE was canceled, characters appear in the default mode, "regular".

RELATED COMMANDS

BASLIN (LSTYLE MENU)

The ANGLE command tilts only the characters, without tilting lines of text. Use the BASLIN command in the LSTYLE MENU to change the angle of a line of text.

COMMAND: JUSTFY

PURPOSE: Change the justification of text within a layout box, area, page or column.

PROMPTS: JUS

EXIT: none needed.

PROCEDURE

1. Press JUSTFY.
The prompt JUS appears.
2. To justify, or align, the text at left or right, press on the left or right side of the box. To center each line of text, press in the center of the box. To fill the box with text justified left and right, press inside the Prompt Box.

EFFECTS

Subsequent text appears within the layout box justified as selected.

COMMAND: ASPECT

PURPOSE: Adjust the proportions of text characters to meet the aspect ratio of your screen.

PROMPTS: ASP

EXIT: none needed

PROCEDURE

1. Press ASPECT.
2. Press anywhere on the tablet and move the pen left or right.
A temporary diamond-shaped box appears, changing proportions as you move the pen. When the diamond resembles a square standing on its corner, the aspect is correct.
3. Press down to set the correct aspect ratio.

EFFECTS

The default aspect ratio has been set to meet the standards of the most commonly used monitors. Since many monitors differ in aspect ratios, the ASPECT command allows you to adjust the proportions of text characters to meet the aspect ratio of your screen. If you require an adjusted aspect ratio, be sure to reset the ratio each time you enter Lumena.

COMMAND: LOCATE

PURPOSE: Select the layout box to be affected by subsequent style commands.

PROMPTS: LOC (location); 2P (2 points)

EXIT: none needed

PROCEDURE

1. Press LOCATE.
All the layout boxes appear, as well as the prompt LOC.
2. Press inside the box where the style characteristics are to be changed.
Pressing in the Prompt Box chooses the entire screen as the location.

EFFECTS

Each box, page or column created with the LAYOUT MENU has its own typeface, character size and style options, as selected.

If the layout includes several boxes, use the LOCATE command in each box before changing the characteristics. This command displays the current layout box to be affected by subsequent style commands.

COMMAND: LSPACE

PURPOSE: Adjust the amount of space allowed between lines of text, or cancel the adjusted amount of space.

PROMPTS: LED (leading)

EXIT: none needed.

PROCEDURE

1. Press LSPACE.
2. Press anywhere on the tablet.
The Leading Indicator moves below the Character Box, indicating the amount of space between lines (the leading). Gliding the pen to the right increases the leading, and it is decreased with moves to the left. The amount of leading is indicated on the Style Option Display at the top of the monitor.
3. Press down to set the required amount of space between lines.

To cancel LSPACE and select the default spacing:

1. Press LSPACE.
2. Press LED in the Prompt Box.

EFFECTS

Subsequent lines of text are spaced according to the selected distance.

NOTE:

The default or standard spacing is 1-1/2 times the height of the character box.

COMMAND: BASLIN

PURPOSE: Adjust the starting point and base line angle for subsequent text;
or cancel BASLIN;
or place text that appears right to left

PROMPTS: BAS, ANG, LED

EXIT: Glide the pen to the right side of the tablet.

PROCEDURE

A. To select a base line and starting point:

1. Press BASLIN.
The prompt BAS appears.
2. Press the selected position for the starting point.
A temporary rubber band base line appears and follows the moves of the pen.
3. Press down to set the direction and angle of the starting point.


OR

B. To select a base line and starting point to place text right to left:

1. Press BASLIN.
The prompt BAS appears.
2. Press the selected right side starting point.
A temporary rubber band base line appears and follows the moves of the pen. Glide the pen to the left side of the tablet.
3. Press down to set the right to left direction of the base line.
The base line and Character Angle Box are displayed upside down.
4. Press ANGLE to correct the character angle, then press ANG in the Prompt Box.
5. Press LSPACE to correct the carriage return.
6. Press anywhere on the tablet.
Glide the pen to the left until and LSPACE of (negative) -300 appears onscreen.
7. Press down to select the corrected carriage return.
8. Enter text from the keyboard, onscreen typecase or disk file.

To cancel BASLIN and select the default starting point (upper left corner) and angle (zero - horizontal):

1. Press BASLIN.
2. Press BAS in the Prompt Box.

**BASLIN, cont.****EFFECTS**

A. The base line and starting point are adjusted for subsequent text.


Subsequent text placed in layout boxes begins at the selected starting point and follows the angle selected.

If layout boxes are not being used, this command will set only the angle of subsequent text. When text is placed outside a layout box, the pen position is used as the starting point, and the BASLIN starting point is ignored.

This command resets the character angle to match the base line. To tilt characters, set the base line with BASLIN, then change the character angle with ANGLE (LSTYLE MENU).

B. The selected base line and starting point allow text to be placed right to left.

NOTE: This command cannot be used in any layout boxes or columns.



COMMAND: DPI (dots per inch)

PURPOSE: Determine correct margins between columns.

PROMPTS: DPI

EXIT: none needed.

PROCEDURE

1. Press DPI.

The prompt DPI appears.

2. Press anywhere on the tablet.

A square box appears onscreen. Measure the dimensions of the box with a ruler. The box should measure 1" square.

3. To adjust the dimensions of the box to meet the 1" square requirement, glide the pen left and right to increase or decrease the size.
4. Press down to set the 1" square box.

To cancel adjusted margins and select the default size:

1. Press DPI.
2. Press DPI in the Prompt Box.

EFFECTS

The margin size between columns is dependent on the size chosen for the square box.

RELATED COMMAND

COLS/H (LAYOUT MENU)

Use DPI to adjust the dots per inch for margins between columns, before drawing the columns.

DESIGN MENU

>DESIGN	START	INS/AF	DEL/*	FILE
DSIZE	SPACE	MOVE	SAVE	CHAR

The DESIGN MENU allows you to design and edit your own characters in your font libraries.

A character is described through a series of strokes. Each stroke has a starting point, followed by a series of points that are joined together to complete the stroke. The starting point of the stroke is always indicated by a red point. (If the starting point doesn't appear in red, use the G command to call the default map to the screen.)

This menu also can be used to edit or add characters to the low resolution font libraries supplied with the Font Package. Size and style options from the CSTYLE and LSTYLE MENUS can be used with characters completed with the DESIGN MENU.

The following menus are used to edit an existing font library or to create a new font library.

A font library can be brought to the screen for editing, or a new font library created for editing through the FILE command.

The CHAR command allows you to select a character for editing.

Use SAVE in order to save a character to a font library.

The DSIZE command sets the design size for a newly created library.

The SPACE command sets the amount of space necessary for the character being designed.

The START command allows you to start a new character stroke in a character, or to start a new character.

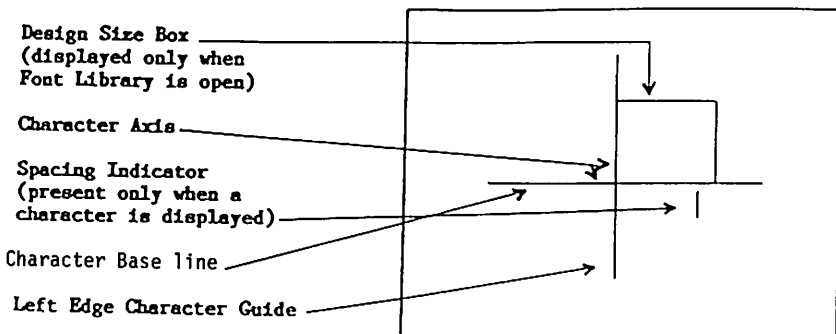
Use INS/AF (insert before/insert after) to insert new points into a character stroke.

Use the MOVE command to reposition points in the character stroke.

To delete some or all the points in a character, use DEL/*.

The character editing commands START, INS/AF, DEL/*, MOVE and SPACE do not make permanent selections. Use SAVE to make permanent changes to character data on disk. Once SAVE is pressed, the file is updated.

The following diagram illustrates the command guides that appear onscreen within the DESIGN MENU.



COMMAND: START

PURPOSE: Start a new character stroke in the character displayed, or start a new character.

PROMPTS: STP (starting point); NEW

EXIT: Press in the Prompt Box, or press ESC on the keyboard.

PRELIMINARY COMMAND

CHAR (DESIGN MENU)

If a character is to be edited, bring it to the screen through the CHAR command.

PROCEDURE

1. Press START.
The prompt STP (starting point) appears.
2. Press the pen on the starting point for a new character stroke.
The prompt NEW appears.
3. Press on the next position through which the character stroke must pass.
A highlighted bold line appears, indicating the effect of the point. Repeat step 2 as often as necessary, pressing successive points to describe the complete path of the character stroke.

EFFECTS

A new character stroke is displayed on a character, or a new character is started.

RELATED COMMAND

SAVE (DESIGN MENU)

Strokes added to a character are not added immediately to the font library file. Use the SAVE command to make your selections permanent.

COMMAND: INS/AF (insert before/insert after)

PURPOSE: Insert points into a displayed character stroke.

PROMPTS: INB (insert before) or INA (insert after); INS (insert)

EXIT: Press in the Prompt Box, or press ESC on the keyboard.

PROCEDURE

1. To insert new point(s) before the last point pressed (towards the red dot starting point), press INS.
The prompt INB appears.
OR
1. To insert new point(s) after the last point pressed (away from the red dot starting point), press AF.
The prompt INA appears.
2. Press on the point in the highlighted stroke where new data is to be inserted.
The prompt INS appears.
3. Press the pen where a new point is to be inserted.
Repeat step 3 as often as necessary to describe the inserted section of the stroke.
4. Press inside the Prompt Box when all the points are inserted.

EFFECTS

This command adds new detail to a character stroke by inserting new data points between the original points, allowing for new character strokes to be added.

RELATED COMMAND

START (DESIGN MENU)

Use START connect the new points and create new character strokes.

COMMAND: DEL/*

PURPOSE: Delete some of or all the points in a character.

PROMPTS: DEL; OK

EXIT: Press in the Prompt Box, or press ESC on the keyboard.

PROCEDURE

To delete single points in a character:

1. Press DEL.
The prompt DEL appears.
2. Press the pen over a point to be deleted from the character.
Repeat this step for each point to be deleted.
3. Press in the Prompt Box, or press ESC when the command has been completed.

To delete an entire character:

1. Press * .
The prompt OK? appears.
2. Press in the Prompt Box to delete the character, or press elsewhere on the tablet to cancel deleting the character.
3. Press in the Prompt Box, or press ESC when the command has been completed.

EFFECTS

The selected points (or character) are deleted.

This command is also used to "clear the board" before loading another character with the CHAR command.

RELATED COMMAND

SAVE (DESIGN MENU)

These deletions are not permanent until the SAVE command is used.

COMMAND: FILE

PURPOSE: Select the font library to be edited, or create a new font library.

PROMPTS: OK?

EXIT: none needed.

PRELIMINARY COMMAND

N KEYBOARD COMMAND

If necessary, use the N command on the system keyboard to write a new name into the filenames menu.

PROCEDURE

To select a font library to be edited:

1. Press FILE.
A complete listing of font libraries appears in the menu.
2. Press inside the box of the library to be edited.

OR

To create a new library to be edited:


1. Press in the upper left box.
The prompt OK? appears.
2. Press OK? in the Prompt Box.
The file will be opened and the DESIGN MENU returns to the screen.

EFFECTS

The selected font library is opened or created.

Subsequent characters designed are stored in the file selected, or in the newly created file.

NOTE: The filename in the upper left box is always assumed to be a new font library name. If that file already exists, this command will destroy the old font library data and re-initialize an empty one.



COMMAND: DSIZE (design size)

PURPOSE: Set the design size of a font library.

PROMPTS: OK?


EXIT: Press in the Prompt Box, or press ESC on the keyboard.

PROCEDURE

1. Press DSIZE.
The Design Size Box appears on the Design Axis, and increases and decreases with the left and right moves of the pen.
2. Press to select the design size.
The prompt OK? appears.
3. Press in the Prompt Box to set the design size.

EFFECTS

A newly created font library is in the size selected.



DSIZE should be used only once on a newly created font library. If it is used on an existing library, the size and appearance of all the characters in that library will be altered.

DSIZE acts as a guide for scaling characters for the CSTYLE and TEXT MENUS.

COMMAND: SPACE

PURPOSE: Set the amount of space for the character being designed.

PROMPT: 1P (1 point)

EXIT: Glide the pen off the right side of the tablet.


PROCEDURE:

1. Press SPACE.
A "ghosted" version of the cursor follows the horizontal and vertical moves of the pen's cursor.
2. Position the ghosted cursor and press the pen to set the required spacing.

EFFECTS

The required amount of space is set for the character to be designed. Selecting space for a character allows you to accommodate various character shapes with the appropriate amount of space.

Characters usually are designed to remain between the left edge guide and the Spacing Indicator, however, loops and descenders can extend beyond this guide.



COMMAND: MOVE

PURPOSE: Reposition points in the strokes of the character onscreen.

PROMPTS: MOV

EXIT: Press in the Prompt Box, or press ESC on the keyboard.

PROCEDURE

1. Press MOVE.

The prompt MOV appears.


2. Press any point of the displayed character, then move the pen to the new position and press down.

The new point is repositioned and the character is redrawn.

Repeat this step as often as necessary.

3. Press in the Prompt Box or press ESC when all the moves are completed.

EFFECTS



The position of points in the character stroke is adjusted, and the character is redrawn.

NOTE: When several points are layered, use MOVE to separate these points, select the required point, then move the others back.

COMMAND: SAVE

PURPOSE: Save a character to a font library.

PROMPT: OK?

EXIT: none needed

PROCEDURE

To store a character in the font library last opened by the FILE command, and in an empty position in the typecase:

1. Press SAVE.

To store a character in the font library last opened by the FILE command, replacing a character in the position last selected by the CHAR command:

1. Press SAVE.

The prompt OK? appears.

2. Press OK? in the Prompt Box.

The previous character in that position is deleted.

EFFECTS


The character displayed is stored in the font library last opened by the file command, and in the position indicated by the last CHAR command.

RELATED COMMANDS

SAVE (DESIGN MENU)

The character edit commands START, INS/AF, DEL/*, MOVE and SPACE do not make permanent selections. Use SAVE to make permanent changes to character data on disk.

Since data remains intact during file and character changes, use SAVE to copy data into a different file or character.



COMMANDS: CHAR

PURPOSE: Select the character to be designed, edited or stored.

PROMPTS: see procedure

EXIT: none needed

PRELIMINARY COMMAND

DEL/* (DESIGN MENU)


Use DEL/ to "clear the board" in order to read in a character to be edited.

PROCEDURE

1. Press CHAR.

The menu is replaced by the character typecase.

2. Press in the typecase to select the character required for editing.
OR



2. Press an empty spot in the typecase in order to design a new character, or to save the newly created character.

EFFECTS

This command reads the character displayed onscreen, or reads in the selected character.



LAYOUT MENU

LAYOUT	BOX/H		PAGE	LOAD
DEL/*	MOV/CP	PICTUR	COLS/H	SAVE

The LYOUT MENU is used in designing complex page layouts to meet exact specifications. Its commands allow for drawing pages to scale, defining columns and boxes for text, and indicating picture positions.

It is not necessary to use this menu when placing text onscreen in ordinary circumstances. This menu assists the artist with specific layout requirements. The following outline describes menus and commands that affect the placing of text in a layout.

Select the typeface required for subsequent text from the TYPES MENU.

The CSTYLE (character style) MENU offers character size and style selection for subsequent text. The LSTYLE (line style) MENU allows the selection of options specific to the lines of text. (It is recommended that you experiment with the individual commands before combining a variety of styles for text.)

The command PREV/OK (TEXT MENU) enters text in a temporary mode. It offers a measure of protection against errors as corrections can be made before permanently committing the text to the screen. This is especially valuable as a time saver during the "getting to know layout" period. This command also assists the LAST command (TEXT MENU), by redrawing the last-entered block of text in the temporary mode after changes in size, color or style have been made.

Use LOCATE (CSTYLE and LSTYLE MENUS) to select individual layout boxes where style options are to be changed before entering text. Be sure to use LOCATE in each box where the characteristics are to be changed.

A layout box, column, page or picture symbol can be repositioned and/or copied with the MOV/CP command.

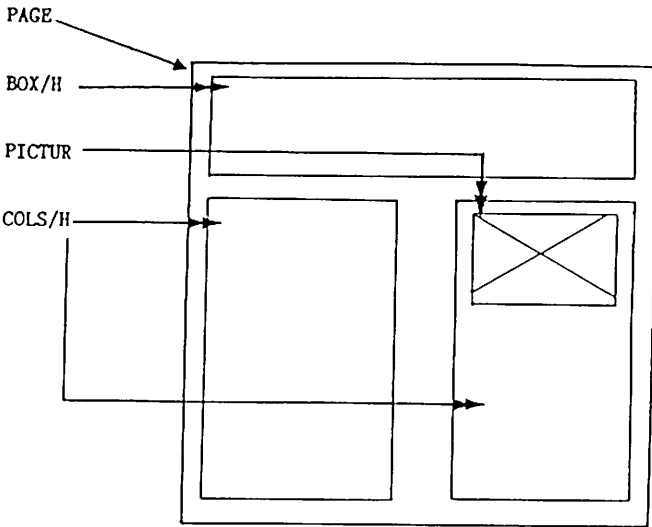
Layouts used frequently can be saved to disk and recalled through SAVE and LOAD (LAYOUT MENU). File names for page layouts (as well as text and image files) must contain six letters or less.

Information entered through the CSTYLE and LSTYLE MENUS is also stored with the physical layout. (However, text and drawings must be saved through the DISK MENU.)

All layout boxes disappear from the screen when another menu is brought to the screen. They reappear when the LAYOUT MENU is reentered.

It is important to remember that ZAP cannot be used in the LAYOUT MENU (or the CSTYLE or LSTYLE MENUS, either), as it confuses the Character Box. Be sure to relocate to the FONTS MENU before using ZAP.

The following diagram illustrates four layout commands:



COMMAND: BOX/H (box/horizontal)

PURPOSE: Define a rectangular area in which to place text.

PROMPTS: 2P (2 points); JUS (justify)

EXIT: none needed

PROCEDURE

1. Press BOX (text runs left to right).
OR
1. Press H for a horizontal box (text runs bottom to top).
2. Press 2 diagonal corners to define the area.
The prompt JUS appears.
3. To justify, or align the text at left or right, press on the left or right side of the box. To center each line of text, press in the center of the box. To fill the box with text justified left and right, press in the Prompt Box.

EFFECTS

The box accepts text according to the format set by this command.

All commands in both the LSTYLE and CSTYLE MENUS can change the style characteristics of text within a layout box.

COMMAND: PAGE

PURPOSE: Define a page size to assist with layout.

PROMPTS: SIZ; 2P

EXIT: none needed

PROCEDURE

1. Press PAGE, then press anywhere on the tablet.
The prompt SIZ appears, and the default page (size 8.5" x 11") is displayed onscreen. The displayed sizes increase with pen moves to the right or the top of the tablet.
2. Press down to select the page size.
The prompt 2P appears.
3. Press two diagonal corners to define the page onscreen.
The prompt JUS appears.
4. To justify, or align the text at left or right, press on the left or right side of the box. To center each line of text, press in the center of the box. To fill the box with text justified left and right, press in the Prompt Box.

To select the default page size, 8.5" x 11":

1. Press PAGE, then press SIZ in the Prompt Box.

EFFECTS

The page, in the size selected, appears onscreen to assist with layout.

Once the page size is selected, this command only allows you to draw a box with the specified proportions.

COMMAND: LOAD

PURPOSE: Load saved page information from a disk file onto the screen.

PROMPTS: LOD

EXIT: none needed.

PROCEDURE

1. Press LOAD.

The menu of filenames appears at the bottom of the screen, showing the names of picture files on disk. If there are more picture files than can be shown in one menu, press MORE to bring the next series of filenames to this menu.

2. Press the name of the file to be loaded.

EFFECTS

All the information saved in the file, including boxes, style options, picture symbols, and columns appears onscreen, replacing the previous layout (if any) onscreen.

COMMAND: DEL/*

PURPOSE: Delete box, column or picture symbols from the layout page.

PROMPTS: DEL; OK?

EXIT: none needed.

PROCEDURE

To delete specific elements within a layout:

1. Press DEL.
2. Press within the box, page, column or picture symbol that is to be deleted from the layout.

To delete all symbols within a layout:

1. Press *.
The prompt OK? appears.
2. Press inside the Prompt Box to complete the command. (Press elsewhere on the tablet to cancel the command.)

EFFECTS

Text and pictures remain intact, with layout lines and symbols deleted from the page.

Use this command to change or eliminate selected elements, while working with the layout. Layout lines and symbols disappear from the screen when you leave this menu, but will reappear when you enter it again.

COMMAND: MOV/CP (move/copy)

PURPOSE: Move and/or copy a layout box or picture symbol.

PROMPTS: MOV, CPY

EXIT: none needed

PROCEDURE

To reposition a layout box or symbol:

1. Press MOV.

The prompt MOV appears.

2. Press inside the box to be moved.

The box then follows the moves of the pen.

3. Press the pen to set the box in its new location. (To keep the box in its original position, glide the pen off the right side of the tablet.)

To copy a layout box or picture symbol:

1. Press CP.

The prompt CPY appears in the Prompt Box.

2. Press inside the box to be copied.

An exact copy of the original box follows the moves of the pen.

3. Press down to position the copy of the original layout box or symbol.

EFFECTS

The physical layout information is repositioned and/or copied.

COMMAND: PICTUR

PURPOSE: Position a picture symbol in the layout.

PROMPTS: 2P (2 points)

EXIT: none needed

PROCEDURE

1. Press PICTUR.
2. Press two diagonal corners to position the picture symbol.

EFFECTS

A box containing crossed diagonals appears in the selected location, indicating a picture in the layout.

The TEXT MENU will not allow text to begin in a picture box.

COMMAND: COLS/H (columns/horizontal)

PURPOSE: Define and display from 1 - 5 columns of exact size.

PROMPTS: LOC (location); 1P (1 point)

EXIT: none needed

PRELIMINARY COMMANDS

DPI (LSTYLE MENU)

Use DPI to adjust the dots per inch for margins between columns.

PROCEDURE

1. Press COLS for vertical columns.
OR
Press H for horizontal columns.
The prompt LOC appears.
2. Press inside the box or page where columns are to appear.
From 1 to 5 columns appear onscreen. The number of columns changes with moves of the pen.
4. Press the pen to select the required number of columns.

EFFECTS

The selected number of columns are displayed onscreen.

Text placed in vertical columns (created through COLS) reads right to left, beginning at the top. Text placed in horizontal columns (created through H) reads bottom to top, beginning at the lower left corner.

Margins between columns are always 2 picas wide. The margins between columns and the edge of the layout box are always 4 picas wide. In scaled pages, columns are drawn to scale, so the margins will appear smaller.

COMMAND: SAVE

PURPOSE: Save current layout information to a disk file.

PROMPTS: SAV

EXIT: none needed

PRELIMINARY COMMANDS

N (KEYBOARD COMMANDS)

Use the N command to type into the filenames menu the name under which the page information will be saved.

PROCEDURE

1. Press SAVE.
The menu of filenames appears at the bottom of the screen.
2. Press the name under which the layout information should be saved.

EFFECTS

All layout information, including boxes, columns, pages and picture symbols is saved in a disk file with the extension .LYT. Information entered from the CSTYLE and LSTYLE MENUS is also stored.

NOTE: This command does not save text or drawings from the layout. Information pertinent to the physical layout only is saved.

RELATED COMMANDS

S (GENERAL MENU COMMANDS)

Use S to save images on disk.

ILLUSTRATIONS OF COMMANDS IN THE CSTYLE MENU

The CSTYLE MENU allows selection of style options for the text typeface. The commands in this menu offer a variety of style manipulations, for a single character, a word, or a complete page of text.

Characters appear in the default mode if no style commands are selected.

Default mode: ROME regular, (size 30)

Time
Arts

ITALIC - Italicize subsequent text.

Fonts Fonts

EXTND (extended) - Extend or condense subsequent text.

E e A a Ee Aa

BOLD - Add boldface to subsequent text.

Aa Aa Ee Ee

OUTLIN (outline) - Outline subsequent text.

ABC ABC

SHAD/S (shadow/solid shadow) - Add a single drop shadow or solid block shadow to subsequent text.

Shad Style

ILLUSTRATIONS OF COMMANDS IN THE LSTYLE MENU

The LSTYLE (line style) MENU allows the selection of options specific to the lines of text. Character spacing and text leading (space between the lines), as well as the baseline and angle for text are determined through this menu.



Characters appear in the default mode if no style commands are selected.

Default mode: ROME regular, (size 30)

Time
Arts

SPACE - Adjust the amount of space between characters.

F o n

Fonts

ANGLE - Manipulate the angle of characters.

text *x e x*



LSPACE (line space) - Adjust the amount of space between lines of text.

Time Time
Arts Arts

BASLIN (baseline) - Adjust the starting point and baseline angle for subsequent text.

text *text* *text*
text *text* *text*
text *text* *text*
text *text* *text*



ANIM MENU

ANIM	CYCLE			

The ANIM MENU gives access to menus for creating animation.

The CYCLE MENU deals with color animation.



CYCLE MENU

CYCLE	BRUSH	LINE	Q-LINE	GO
		MAP		

The CYCLE MENU has commands for producing animation effects through color changes. When a sequence of colors is activated through the GO command, the red, green and blue values of each color are passed to the color in the next position in the palette. Thus, a line drawn with the colors in their palette sequence will appear to move.

In using this menu, the usual order of commands would be:

MAP--to choose the range of colors

BRUSH or LINE or Q-LINE--to draw lines automatically composed of the range of colors selected in MAP

GO--to animate the picture

When a line created through this menu is activated by the GO command, it seems to move in the direction in which drawing took place. A spiral drawn from the outside in will appear to move inward. Two lines drawn in opposite directions from a common point will appear to flow out of that point.

Colors composing the line affect the apparent movement. A BRUSH line composed of many colors moves more slowly when cycled than a line composed of few colors. A line drawn with only two colors will appear to shimmer rather than "move along".

COMMAND: BRUSH

PURPOSE: Enable drawing with a paint color which is composed of a range of colors chosen through the MAP command.

PROMPTS: none

EXIT: Initiate another command.



PRELIMINARY COMMANDS

MAP (CYCLE MENU)

Use MAP to select the range of colors used by BRUSH. (Otherwise BRUSH will use the colors last chosen.)

PROCEDURE

1. Press BRUSH. Then move into the image area and press while drawing.

EFFECTS

In a BRUSH line, all colors in the palette between the two colors chosen through the MAP command appear in succession. A slow movement of the pen gives overlapping patches of the colors. A rapid movement gives the sequential color patches with space between.



RELATED COMMANDS

CHANGE SIZE (Status Box)

Change the size of BRUSH through the Status Box at any time.



COMMAND: LINE

PURPOSE: Draw lines composed of the range of colors selected through MAP.

PROMPTS: none

EXIT: Select another command.

PRELIMINARY COMMANDS

MAP (CYCLE MENU)

Use MAP to select the range of colors used by BRUSH. (Otherwise BRUSH will use the colors last chosen.)

PROCEDURE

1. Press LINE.
2. In the image area, press one point to locate the beginning of the line.
3. Press a second point a short distance from the first, to designate the length of each color in the line.
4. Press a third point to draw the line.

Each subsequent press of the pen in the image area will connect the previous end point with the new point.

To terminate a run of line segments, move the cursor into the menu area. You can then move back into the image area and begin a new run of line segments in a new location and with a new length for each color in the line.

EFFECTS

A line of the selected colors connects the chosen points.

A line of cycle colors draws on only the first color touched. Thus the cycling colors can appear to pass behind objects in the image.

RELATED COMMANDS

To make a cycle line that covers all colors, first create the line with a single color, using the LINE command in the PENS MENU. Then use LINE in the CYCLE MENU to put a series of colors into it.

COMMAND: Q-LINE (quantized line)

PURPOSE: Draw a horizontal or vertical line composed of the range of colors selected through MAP.

PROMPTS: none

EXIT: Select another command.

PRELIMINARY COMMANDS

MAP (CYCLE MENU)

Use MAP to select the range of colors used by BRUSH. (Otherwise BRUSH will use the colors last chosen.)

PROCEDURE

1. Press Q-LINE.
2. In the image area, press one point to locate the beginning of the line.
3. Press a second point a short distance from the first, to designate the length of each color in the line.
4. Press a third point to draw the line.

Each subsequent press of the pen in the image area draws a horizontal or vertical line from the previous endpoint toward the selected point.

To terminate a run of line segments, move the cursor into the menu area. You can then move back into the image area and begin a new run of line segments in a new location and with a new length for each color in the line.

EFFECTS

This command draws lines that are exactly horizontal or vertical.

A line of cycle colors draws on only the first color touched. Thus the cycling colors can appear to pass behind objects in the image.

RELATED COMMANDS

To make a cycle line that covers all colors, first create the line with a single color, using the Q-LINE command in the PENS MENU. Then use LINE in the CYCLE MENU to put a series of colors is into it.

COMMAND: GO

PURPOSE: Actively cycle the range of colors determined under the MAP command.

PROMPTS: none

EXIT: Press anywhere on the tablet to stop cycling.

PRELIMINARY COMMANDS

This command assumes that a map has been selected and that some colors in the map are used in the image onscreen. Otherwise, the GO command will have no apparent effect.

PROCEDURE

1. Select the duration for cycling by setting the number in the Status Box. 1 is shortest, 8 is longest.
2. Press GO.

EFFECTS

All colors on the screen which fall within the ranges chosen through MAP shift to the position on their right in the palette.

COMMAND: MAP

PURPOSE: Select a range of colors to be used by BRUSH, LINE, Q-LINE or GO.

PROMPTS: 2C (2 colors)

EXIT: Initiate another command.

PROCEDURE

1. Press MAP.
2. Press two colors, the first and last in the range of colors to be cycled.

The colors may be chosen from the bottom row of the palette or from the image, but selecting from the palette lets you see exactly which colors fall within the range.

If you want future color cycling to take place against a constant background, do not include background color in your MAP sequence.

EFFECTS

MAP determines the set of colors for a subsequent BRUSH, LINE, Q-LINE or GO command. There is no visible effect until one of those commands is used.

PRINT MENU

PRINT	SCREEN			

The PRINT MENU allows printing an image from the screen to the Radio Shack TRS-80 CGP-220 color ink jet printer.

15-2

COMMAND: SCREEN

PURPOSE: Print an image on the CGP-220 color ink jet printer.

PROMPTS: none

EXIT: none needed

PRELIMINARY COMMANDS

Prepare printer according to the instructions included with the printer. Be sure printer is turned on and that an image is on-screen.

PROCEDURE

1. Press SCREEN.

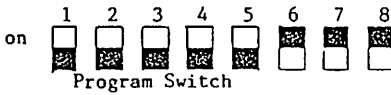
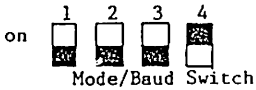
To stop printing before the image is completed, press ESC.

EFFECTS

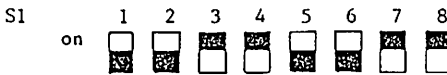
The image on the screen is printed on paper.

To work with Lumena, the digitizing tablet should have low-resolution packed binary format and be Bit Pad 1 compatible, with .005 resolution. Data rate is 9600 baud.

Kurta Series 1 switch settings:



GTCO Digipad 5 switch settings:



GTCO Microdigipad--Digipad 7 has no user-accessible switches, but it can be ordered from the factory with the settings given for the Digipad 5, above.



TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	WHAT TO DO
Lumena won't load	Lumena is not in the drive or directory you are accessing	check directory of current drive
no cursor, no menu	Type mode is active	press ESCape
	digitizing tablet not connected; or tablet needs to be reset	check connections of tablet, pen, power supply; unplug tablet power supply for 10 seconds & replug
	a command is executing, though you can't see it (such as rotating a blank area of screen)	press ESCape
	cursor color was changed to background color	press D key to restore default palette
cursor moves onscreen but will not draw	the current color is background color	check Status Box, change color
	a command is pending	check Prompt Box, cancel command or press ESC
	active mode is Erase	check Status Box, change mode
	active mode is Line, Q-line, etc.	check Status Box, change mode
	SYM is active and cursor is outside defined area	check Status Box, change mode
	WRITE or PROTCT is set to mask out colors you are trying to draw on	check O Menu Command; if WRITE or PROTCT is on, press RESET

PROBLEM	POSSIBLE CAUSE	WHAT TO DO
drawing color is not what appears in Status Box	cycle brush is active ("c" in Status Box)	change drawing mode
erratic lines onscreen, more than one cursor	malfunctioning digitizing pen or tablet	reset or replug tablet, check connections, be sure cords are not knotted
cannot select a new color, change menus, etc.	a command is pending	check Prompt Box, cancel command
image wipes from screen	you are in ED-CEL or ED-OTL MENU, looking at a blank cell buffer screen	press Menu Label to return to working screen
	you used FETCH or SWAP in the I Menu Command, and brought in a blank screen	if SWAP was used, press SWAP again to recall previous image; if FETCH was used, previous image is lost
screen goes blank, no menu & no image	power failure (check power indication lights on hardware)	check power cords, fuse, etc.
command exits before completion	while in a command, you moved cursor offscreen on right, thus canceling command	begin the command again, keeping cursor onscreen
box is lost before second corner is set	pen was lifted off tablet between setting of first and second corners	set first point again and keep pen in contact with tablet to set second point
box is lost after second corner is set	pen not depressed long enough in setting second corner (for large box)	depress pen slightly longer for second corner

BEGINNER'S GLOSSARY
Terms You May Encounter in Using Lumena

BOOT (from "bootstrap"): load the disk operating system

BUFFER: temporary storage device. The CELL BUFFER and the buffers accessed through PUT and GET commands are created in software. The FRAME BUFFER is hardware that acts as a buffer between the computer and the monitor, determining the quality of the video image, or video frame. It acts as memory to the computer and as a video signal to the monitor.

CELL BUFFER. See BUFFER.

CURSOR: spot of light on the graphics screen corresponding to the position of the pen on the digitizing tablet

DEFAULT: state which the system assumes until a specific instruction is given. For example, the default palette in Lumena is the one which comes up when Lumena is loaded.

DIGITIZE: convert an analog measurement of quantity to a numeric value. The DIGITIZING PEN AND TABLET convert the position of the stylus to a set of X and Y coordinates, which are then sent to the computer. The VIDEO DIGITIZER converts brightness of the scene before the camera into shades of grey (or colors). The number of shades depends on the colors available in your system.

DISK: a magnetic storage medium

DISK DRIVE: hardware for accessing disks

DITHERED COLOR: two colors, in a checkerboard arrangement, which are used as a single color.

DOCUMENTATION: explanation of the structure or use of materials. This manual and the onscreen doc constitute the documentation for Lumena.

DOS: disk operating system

EXTENSION (of a filename): optional addition to the end of a filename, consisting of a period and up to three characters. Files saved through Lumena automatically receive an appropriate extension to the name. A picture named GOOD will appear in the directory listing as GOOD.PIC, its color palette as GOOD.MAP, and so forth.

FRAME: one full screen of display information

FRAME BUFFER. See BUFFER.

GRAPHICS SCREEN: screen on which graphics are displayed

HARD DISK: disk installed in the computer

HARDCOPY: computer-generated information in tangible, humanly accessible form (as distinct from the non-tangible form appearing on a screen or the not humanly intelligible form on disk, consisting of arrangements of magnetic particles). Hardcopy of a program is usually a printout on paper. Hardcopy of an image might be film, slide, photograph or image made by a printer attached to the computer.

HARDWARE: the physical computer equipment, such as computer, monitor, digitizing tablet, etc.

LOAD: bring a file stored on disk into the computer's memory

PALETTE: in Lumena, the selection of colors that appears in the menu

PENDING: awaiting conclusion. A Lumena command is pending when it has been initiated but needs further information before it can begin executing.

PERSPECTIVE: technique for representing 3D objects and relationships on a 2D surface

PIXEL: picture element, the smallest unit of information on the graphics screen

PROMPT: a message in the Prompt Box, indicating an active or pending command

QUANTIZE: restrict a variable to a discrete set of values. One's age, for example, is usually quantized to whole numbers. In Lumena, Q-line restricts the orientation of a line to either horizontal or vertical.

RANDOM: in unpredictable order

RGB: red, green and blue, the colors composing all colors of a video image

RGB MONITOR: hardware for displaying computer images

SAVE: store in a disk file. Saving on disk is considered permanent storage, while storing in a buffer is temporary.

SHEARING: a deformation in which parallel planes slide with respect to one another. In Lumena this occurs by relocating adjacent rows of pixels.

SOFTWARE: computer programs

SYSTEM: group of interacting components that form a collective entity. Your imaging system comprises computer, frame buffer, RGB monitor, digitizing pen and tablet, and possibly additional hardware, as well as Lumena software.

SYSTEM DISK: disk on which Lumena command, menu and documentation files are located

SYSTEM DISK DRIVE: disk drive in which the system disk is located

TAPER: become gradually narrower toward one end

TEMPORARY: lasting only for a limited time. A temporary buffer, such as that accessed by the I command, stores information only until Lumena is exited. A temporary mode serves as an aid in carrying out a further step in a command and disappears when that step is accomplished.

VERTEX: point at which sides of an angle intersect; corner

X-AXIS: horizontal reference line in a 2D coordinate system

Y-AXIS: vertical reference line in a 2D coordinate system



LUMENA INDEX

Lumena commands and menus appear in all caps.

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