

Dr. HALO IItm User's Guide

TO BE SOLD W/M-2 MOUSE ONLY

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CHAPTER 1

CHAPTER 1

I. AN INTRODUCTION TO DR. HALO II

Dr. HALO II is a graphics package that enables users to create sophisticated professional quality images and charts using the IBM Personal Computer and compatibles, including the Texas Instrument Professional. Dr. HALO II operates with most of the graphics cards available for the IBM Personal Computer and displays and prints images in high resolution monochrome and color.

Dr. HALO II is operated using a pointing device, which can be a mouse, digitizer, joystick, trackball, lightpen, keyboard arrow keys, or touch pad. The pointing device causes a cross-hair cursor, which resembles a plus sign, to move across the screen. The cursor performs two functions. It points to an icon for selection of drawing functions. It also acts as a pointing device on the display screen for drawing, cutting and pasting, and rubberstamping.

The Dr. HALO II program includes all of the tools required for creating sophisticated graphics. The commands are implemented using descriptive pictures called "icons," each of which represents a different function. They are displayed in a menu on the left side and bottom of the display screen. The user selects a function by moving the cursor to the icon representing that function, and clicking a button on his pointing device.

The Dr. HALO II icon menu includes Pencil, Paintcan, Airbrush, and Scissors Icons to enable users to draw, paint, move, cut and paste, and rubberstamp images. It can also create filled and unfilled circles, ellipses, and boxes. In addition, the user is provided with a choice of colors, patterns, symbols, line widths, type faces, airbrush densities, and image scaling features.

One of Dr. HALO II's most powerful features is its capability to manipulate text. Dr. HALO II provides a variety of professional type styles. Users can also select the size, color, line width, and type path for type faces. The characters can be filled, unfilled, underlined, or drawn with dropshadowing to give labels and titles depth and impact.

Some of the advanced functions of Dr. HALO II are:

- . Virtual Page - the ability to use the display screen as a working window into a page that is larger than the actual screen size.
- . Text Composition - the ability to directly input text files in a selected font, style, and size.
- . Image Scaling - the capability to interactively shrink or enlarge portions of the display.

- . Curve Fitting - the capability to automatically draw a curved line between plotted points.
- . Menu Switching - the option to move the icon menu from the left and bottom of the screen, to the right and top, or to remove it from the screen altogether.
- . Fat Bit Editing - the ability to magnify portions of an image and edit individual pixels.
- . Symbol Creation - The capability to create symbols to be used as hatch styles or logos and to store them in a symbol library for future use.
- . Image Rotation - the ability to rotate images in 90 degree increments and to flip images to create mirror images.
- . Non-Destructive Image Movement - the ability to move a portion of an image around the screen without destroying the screen area through which it passes.
- . Snap Grids - the capability to place an invisible grid on the screen for "lining up" charts and graphs.
- . Image Grabber - a supplemental program that allows users to "capture" graphics created by other graphics packages, including Lotus 1-2-3, Supercalc, Autocad, Energraphics, and other computer-aided design and business packages. Dr. HALO II can then be used to enhance these captured images.
- . Show Program - another supplemental program that allows a series of Dr. HALO II images to be organized into a slide show presentation, or a series of images to be queued for batch printing.

II. DR. HALO II HARDWARE AND SOFTWARE REQUIREMENTS

Personal Computer

An IBM PC, XT, AT, or compatible with two disk drives.

IBM 3270 PC with two disk drives and All Points Addressable Graphics Card.

Texas Instruments Professional Computer with two disk drives.

Memory

256K bytes of memory

Operating System

IBM PC DOS, Release 2.0 or later; MS DOS, Release 2.0 or later

Graphic Display Card

See Table 1. for the list of Dr. HALO II supported Graphic Display Cards and their corresponding filenames (see Appendix C Table 1 for a list of supported graphics card display modes).

Pointing Device

See Table 2. for the list of Dr. HALO II supported pointing devices.

Printer

See Table 3. for the list of Dr. HALO II supported printers with their corresponding filenames (see Appendix C Table 2 for a list of printer page sizes and number of colors).

TABLE 1 -- DR. HALO II GRAPHICS DISPLAY CARDS

DEVICE	FILENAME

Graphics Display Cards	
Amdek MAI	HALOAMDE.DEV
Conographics 40	HALOCONO.DEV
Hercules Monochrome Graphics	HALOHERC.DEV
IBM Color Display Adapter	HALOIBM.DEV
IBM Enhanced Graphics Adapter	HALOIBME.DEV
IBM 3270 PC	HALO3270.DEV
Sigma Designs Color 400	HALOSIGM.DEV
STB Graphix Plus II	HALOSTB.DEV
Tecmar Graphics Master	HALOTECM.DEV
Texas Instruments Professional	HALOTEX.DEV
Quadram Quadscreen*	HALOQUAD.DEV
Quadram Quadcolor II*	HALOQDCL.DEV
Scion PC 640*	HALOSCIO.DEV
Number Nine Revolution**	HALONINE.DEV
AT&T Display Enhancement Board***	HALODEBA.DEV

Two additional graphics device driver files may be needed to run Dr. HALO II:

HALOIBMG.DEV -- generic device driver used for modes 0 and 1 on the IBM Enhanced, Sigma Color 400, and AT&T DEB boards.

HALOVRI.DEV -- Virtual Raster Interface driver used with the Virtual Page.

* These drivers are available upon request on a supplemental disk. Contact Media Cybernetics.

** The Number Nine drivers for graphics modes 1-4 are available upon request on a supplemental disk. Contact Media Cybernetics.

*** Mode 6 of the AT&T DEB board allows you to display graphics on your indigenous board in 640x 400 resolution and uses the device driver, HALOINDA.DEV.

TABLE 2 -- DR. HALO II SUPPORTED POINTING DEVICES

DEVICE	FILENAME
Pointing Devices (1)	
FTG Light Pen (2)	HALOFGTI.COM
IBM Compatible Joy Stick	HALOJOYI.COM
Honeywell Micro Lynx	
Trackball	HALOLYNI.COM
Keyboard	HALOKBDx.COM
Microsoft Mouse (3)	MOUSE.COM
Mouse Systems Mouse	HALOMSMx.COM
Pencept Penpad	HALOPPDI.COM
Summagraphics Bit Pad One	
Tablet (4)	HALOBPOx.COM
Summagraphics MM Series	
Tablet	HALOSDTI.COM
Summagraphics Mouse (5)	HALOSUMx.COM
Houston Instrument HIPAD	
Digitizer	HALOHIPI.COM
GTCO Large Pad Digitizer	HALOGTCI.COM
IMSI Mouse	KSGMS.COM
Logitech Mouse	LOGIMOUS.COM
M-2 Mouse/MICROSOFT Mode	(6) MOUSE.COM
M-2 Mouse/PC MOUSE Mode	(7) HALOMSMx.COM

(1) Certain pointing device driver file names end with a lowercase x. This indicates that a different driver must be used with computers other than the IBM PC. To create the proper filename for your driver, SETUP will replace the "x" with an "I" for IBM, "T" for Texas Instruments, and "3" for IBM 3270. Note that Texas Instruments only supports pointing devices that end in "TI".

(2) The user must run the FTG driver (LPINTFRC.COM) and perform any necessary calibration before using the HALOFTGI driver.

(3) The drivers for the Microsoft, M-2 Mouse/MICROSOFT Mode, IMSI and Logitech Mice are supplied with the mice and are not include with Dr. HALO II.

(4) The driver for the Bit Pad One expects the following data format:

9600 baud
7 data bits
1 stop bit
odd parity
continuous stream in 5 byte binary low
resolution format.

(5) Some versions of the Summagraphics Mouse emulate the Mouse Systems Mouse and use the Mouse Systems driver.

(6) Press any one of the button in the mouse and turn on the computer at the same time will activate the Micro-soft mode When you run setup, on Pointing Device pick #3 for Microsoft Mouse. In this mode, you have the pointer driver on your M-2 and Dr.Hallo II master disk already.

(7) If you do not press any button to start your computer, Mouse System will be activated. In this mode when you run setup, on Pointing Device pick #1 for Mouse System Mouse.

TABLE 3 -- DR. HALO II SUPPORTED PRINTERS

Printer	Driver Name
Act II Inkjet Color Printer	HALOACT2.PRN
Quadram Quadjet Color Inkjet Printer	HALOQUAD.PRN
Apple Imagewriter Printer	HALOIMWR.PRN
Corona Laser Printer	HALOCRNA.PRN
Diablo 150 Inkjet Color Printer	HALODBLO.PRN
Epson MX,RX, or FX Series Printers (also Okidata and Gemini)	HALOEPSN.PRN
Hewlett Packard Thinkjet Printer	HALOTJET.PRN
Hewlett Packard Laserjet Printer	HALOLASR.PRN
IDS Prism Color Printer	HALOPRSM.PRN
Polaroid Palette	HALOPAL.PRN
Epson JX printer	HALOEPJX.PRN
Toshiba P1351 and 351 printers	HALOTOSH.PRN

CHAPTER 2

CHAPTER 2

I. HOW TO INSTALL DR. HALO II

We recommend that you make a working copy in order to protect the integrity of your distribution diskettes. Dr. HALO II comes on two diskettes. The first disk contains the Dr. HALO II program, the SETUP program, the GRAB utility, and the fonts. The second diskette contains graphics card drivers, printer drivers, pointing device drivers and the SHOW program.

Installing Dr. HALO II on a Floppy Disk.

1. Make sure that you have booted your system using DOS. Do not attempt to boot from the Dr. HALO II distribution diskette.
2. Format an empty disk using the DOS command

A> format b:

DOS will prompt you to place a blank disk in your second disk drive.

It is important that there are no other programs stored on this disk, since Dr. HALO II will require most of the space.

3. Replace the PC-DOS disk in drive A with the Dr. HALO II Master Disk and type

A> copy *.* b:

4. Replace the Dr. HALO II Master Disk in drive A with the Dr. HALO II Device Driver Disk.
5. Consult the Table of Device Driver Files for the names of the device driver files for your graphics card, pointing device, and printer. Copy these driver files to your working file in disk drive B.

A> copy [graphics card driver filename(s) b:

A> copy [pointer driver filename] b:

A> copy [printer driver filename] b:

1) For certain graphics cards you will need to copy more than one file (see Chapter 1 Table 1).

2) For certain combinations of drivers you will run out of disk space; the only files you can delete are the font files.

Installing Dr. HALO II On A Hard Disk.

To create a working copy of Dr. HALO II on a hard disk drive, you should first create a subdirectory on your hard disk to hold the Dr. HALO II files.

Before creating the subdirectory, you may wish to review your DOS manual, paying particular attention to the following subjects:

- . pathnames
- . the prompt command
- . the md (mkdir) command
- . the cd (chdir) command

We are now ready to create the Dr. HALO II subdirectory.

1. Change the DOS command prompt to indicate your current working directory:

```
C> prompt $p$g
```

This instruction will modify the DOS command prompt to "C:\>", which indicates that the path of the current working directory is the root directory.

2. Create a subdirectory called "drhalo" and move into it, making it the current working directory:

```
C:\> md drhalo  
C:\> cd drhalo
```

3. Insert the Dr. HALO II Master Disk into disk drive A and

You are now ready to install the Dr. HALO II files on your hard disk. Since adequate space is available on the hard disk, it is not necessary to select the filenames of the device driver files for your particular hardware configuration.

First place the Dr. HALO II Master Disk in disk drive A, and issue the following DOS command:

```
C:\drhalo>copy a:*.*
```

Replace the Master Disk in drive A with the Dr. HALO II Device Driver disk and repeat the copy to complete the installation procedure:

```
C:\drhalo>copy a:*.*
```

Configuring Dr. HALO II

Once you have a working copy of Dr. HALO II installed on either a floppy or a hard disk, you will need to describe your hardware configuration so that Dr. HALO II knows which graphics card, pointing device, and printer you are using. You will run the SETUP program (which you should already have copied onto your Dr. HALO II working disk) to setup your configuration. The SETUP program will prompt you for the parameters that are required to tailor Dr. HALO II to your environment.

To run the SETUP program type:

SETUP

If you want to interrupt the SETUP program or begin again, you can halt execution by typing "Ctrl C". To restart SETUP, simply type "SETUP" at the DOS prompt.

The SETUP Program will provide the following prompts to guide you through the configuration process.

Graphics Card. The screen will display a table of graphics display cards that are supported by Dr. HALO II. Enter the number corresponding to the graphics card in your system.

Mode? For those graphics cards which support more than one mode, you will be prompted for the display resolution of Dr. HALO II.

Color Monitor? [y or n] If you have a color monitor connected to your graphics card type y. Otherwise type n. This prompt will only appear for certain graphics cards.

Virtual Page? [y or n] This allows you to use Dr. HALO II image editing capabilities on an area larger than your physical display screen. Complete details on the operation of Virtual Page are provided in Chapter III Section IV. Note this is an advanced feature, beginners should answer "n".

Undo Function? [y or n] The undo function allows you to remove the most recent changes from a Dr. HALO II picture and can be used to correct mistakes. The function should be included in the configuration if your system contains enough memory. See Chapter IV Section V for more information on the UNDO function. Undo is automatically activated when the virtual page is selected.

Pointing Device. The screen will display a list of the supported pointing devices. Enter the number corresponding to the device you intend to use.

Communications Port. This prompt will appear for many of the supported pointing devices. It asks you to specify which of the two available communications ports you are using for your pointing device.

You may also be prompted to supply additional data relating to your pointing device, such as maximum x and y ranges (for digitizers), joystick sensitivity, and other device-dependent information. Consult the manual for your pointing device for this information.

Printer. The screen will display a list of the supported printers. Enter the number that corresponds to your printer, or 0 for no printer. The Okidata and Gemini printers are included on this list. These printers emulate the Epson printers, but selection options have been modified to improve their performance as Epson compatibles.

The following options allow you to define certain characteristics of your hard copy output:

Default Configuration. [y or n] If you select this option, Dr. HALO II will set up the hardcopy output parameters. A "no" response will cause the following prompts to appear:

Normal Orientation? [y or n] This option selects the direction for printing your image. The y (default) value selects a horizontal print direction. The n response causes an image to be printed in a vertical direction.

Black/White Reversal? [y or n] If you have selected the default configuration, Dr. HALO II will automatically reverse screen background color black to printer background color white, and screen color white to printer color black. If you prefer to print the black as black and white as white, enter n to this prompt.

X Scale Factor

Y Scale Factor Dr. HALO II allows you to increase the size of your printed output relative to your screen size by using pixel replication. The X Scale factor controls the screen horizontal size of the image while the Y Scale factor controls the screen vertical. You may enter a whole number equal to or greater than 1. If the default configuration was selected, Dr. HALO II uses a value of 1 for both scale factors if the size of your display screen is greater than 320 pixels horizontally and 200 pixels vertically. The Dr. HALO II default is 2 for horizontal screen sizes of 320 and vertical screen sizes of 200. Dr. HALO II will refuse to print an image if the scale factor settings make the resultant print larger than the printer page.

Dithering? [y or n] This prompt will appear only for black and white printers. Dithering is a technique used to produce gray tones and can be used only if at least one of the scale factors is set greater than 1. Use of dithering will slow down the print process.

The SETUP program creates two files on your working disk. The first file contains the configuration information and is named HALO.CNF. The second file contains the program for loading the

pointing device driver and is named INIT.BAT.

After all the setup questions have been answered, the configuration routine is completed and the DOS prompt will appear. The configuration routine must be re-executed any time a change is made in the hardware components of your computer system, or if you wish to change any configuration parameter (such as display mode). If you have not made any changes to your hardware since the last time you used Dr. HALO II, you do not need to rerun the SETUP program.

RUNNING DR. HALO II

To run Dr. HALO II you must load your pointing device driver and then execute the Dr. HALO II program.

1. To load your pointing device driver enter the following command at the DOS prompt:

A> init

2. To run Dr. HALO II, type:

A> drhalo

When the Dr. HALO II program has been loaded, a message displaying the graphics device as specified in HALO.CNF will appear. You will be prompted to type any key to proceed, or Ctrl X to exit. The Dr. HALO II screen and main icon menus will appear on your display.

II. DR. HALO II ERROR MESSAGES

ERROR CONDITION

SOLUTION

RUNTIME:

Dr. HALO II "hangs up" or
screen is scrambled.

Re-run SETUP Program to
insure that the graphics
card specified in HALO.CNF
corresponds to the card
in your system.

Make sure that the working
copy includes the correct
graphics device driver file.

Error Message: Additional
Memory Needed:
xxxkb

Reduce the size of your
virtual page.

Error Message: Insufficient
Memory Needed for Dr. HALO II

Remove non-essential
memory-resident programs
(such as print spoolers.
etc.)

Error Message: UNDO not possible

Increase the memory in
your machine.

Error Message: Locator not
initialized.

Be sure that you typed
INIT to load the pointing
device driver before
attempting to run
Dr. HALO II.

Review SETUP to insure that
correct pointing device is
specified.

Check your working copy
for the right pointing
device driver.

Check the pointing device
connection on your com-
puter. Check that the
pointing device is powered
up.

Cannot reach entire screen
screen with digitizer cursor

Rerun SETUP and enter right
size for digitizer.

III. HOW TO USE YOUR POINTING DEVICE

All of the drawing and editing functions of Dr. HALO II are controlled with a pointing device. These pointing devices include: mice, digitizers, joysticks, touch pads, light pens and keyboard cursor keys.

Your pointing device controls:

- 1) movement of the cursor across the screen;
- 2) icon selection;
- 3) performance of an icon's function.

Moving a pointing device (or pressing the keyboard cursor keys) causes the cursor to move across the screen. If the cursor is on an icon, ("pointing" to an icon) pressing a button on the pointing device selects this icon. If the cursor is in the drawing area of the screen, pressing a button on the pointing device performs the function associated the icon selected.

Dr. HALO II uses two buttons to make selections and execute functions. For each pointing device supported by Dr. HALO II, there will be two buttons designated to perform these tasks. These two buttons will be referred to as the "left button" and the "right button" throughout this manual.

The left button is used to select functions. When you move the cursor onto an icon and press the left button, that function is selected.

The left button also executes functions. For example, if you move the cursor onto the pencil icon and press the left button, you will have selected the freehand drawing function. Then, if you move the cursor across the drawing area of the screen while holding down the left button you will be drawing.

The right button is used to bring up the pop-up menus and to adjust the size of things. For example, if you move the cursor onto the circle icon and press the right button, you will see the pop-up menu for this icon. Then you can choose from the circle and ellipse functions shown. If you select the ellipse icon, then hold down the right button and move your pointing device, you will adjust the size of the ellipse prior to placing it on the screen.

This ability to change the size of things is called rubberbanding and is used throughout Dr. HALO II.

As you run the SETUP program, you will be asked which of the supported pointing devices you intend to use, and you may be asked questions regarding the particular characteristics of your pointing device. Dr. HALO II was, in general, designed to use your pointing device as it was delivered to you from the factory, but in some cases you may need to consult the manual that was supplied by the manufacturer to set up your pointing device in a configuration that Dr. HALO II expects.

HOW TO OPERATE YOUR POINTING DEVICE WITH DR. HALO II

KEYBOARD

The keyboard uses the numeric keypad to move the cursor. Note that the keypad supports eight directions of movement; up, down, left, right, and diagonals.

If you press the ALT key and one of the direction keys, the cursor will jump 16 pixels in that direction. Depending on what computer you are using, different keys become the left and right buttons.

Computer	Left	Right
IBM PC	left shift	backslash
IBM 3270	left shift	alt
TI Professional	left shift	alt

When the keyboard is used as a pointing device, normal text entry functions are disabled. To switch back and forth between pointing and text entry, use the escape key.

JOYSTICK

Most joysticks have two buttons and these will be referred to in the descriptions that follow as the left and right buttons. When you move the joystick, the cursor should move accordingly.

IMPORTANT! When you start Dr. HALO II, it expects the joystick to be in a centered position. If it is not, you may experience inability to move the cursor over the full area of the screen.

Note: If your joystick seems too sensitive, set the range to 255 instead of 0 when prompted in the SETUP program.

TOUCH PAD

Like joysticks, most touch pads have two buttons. The stylus moves the cursor. When drawing, be sure to keep the stylus in firm contact with the touch surface.

LIGHT PEN

The cursor will follow the light pen around on the screen. Pressing the pen point acts as the left button and the ALT key acts as the right.

MOUSE

For mice with more than two buttons, the two leftmost buttons are

used (except Logitech Logimouse and IMSI/Kraft Mouse which use the far left and the far right buttons instead).

Note that some mice need to be initialized before they will function. Consult your mouse manual for instructions.

DIGITIZER

Dr. HALO II was designed to work with most digitizers that support either a Summagraphic Bit Pad One emulation mode or a GTCO high res packed binary mode. To use the Bit Pad One emulation mode, the digitizer must be configured in the following manner:

9600 baud, 7 data bits, 1 stop bit, odd parity
continuous stream, 75 points/sec, low res packed binary

To use the GTCO emulation mode, the digitizer must be configured in the following manner:

9600 baud, 7 data bits, 1 stop bit, odd parity
continuous stream, high res packed binary

For a stylus, pressing the pen point acts as the left button and the ALT key acts as the right. On a five button cursor, the two leftmost buttons will act as the left and right buttons. If you are using a cursor with more than five buttons, you will need to experiment with the cursor to determine which act as the right and left buttons for Dr. HALO II. It may also be necessary to set the X and Y resolution of your pad when prompted in the SETUP program.

If you have a Summagraphics MM series, Houston Instrument HIPAD series or Pencept Penpad, then do not try to emulate one of the above digitizers. Drivers for each of these digitizers are supplied and available from the SETUP program.

TRACKBALL

To use the trackball as a pointing device the following steps are needed:

1. Hold down the CTRL, ALT, and right shift keys to configure the trackball.
2. Follow the trackball's instructions for setting the left, middle, and right buttons to be the left shift, backslash, and z keys respectively.
3. Hold down the CTRL, ALT, and right shift to leave the configurations mode.

Since the trackball sends only a single signal when a button is pushed, the buttons act as toggles; press a button once to indicate button down, press again to indicate button up.

CHAPTER

3

CHAPTER 3

DR. HALO II TUTORIALS

The following tutorial exercises are supplied as examples of how to use Dr. HALC .. The tutorials cover:

Getting Started

A Cut and Paste Example

Use of the Frame Grabber with Lotus 1-2-3

Mixing Text and Graphics on the Virtual Page

All tutorials assume that the SETUP program has already been run, and the pointing device driver has been installed. It is also assumed that you are using an IBM color card running in mode 0, 320 X 200, 4 colors.

I. Getting Started. Using the Line Draw, Paint, Erase, Disk, and Clear Screen Icon.

When you first enter Dr. HALO II, you will see the icon menus along the left and bottom of your screen. The Pencil, or Line Draw Icon will be highlighted, indicating that it is the current active function. Notice that the Pencil is also in the current active function box in the lower left hand corner.

Move your pointing device. Notice that a cursor appears on the screen, and that it moves as you move your pointing device.

Move the pointing device with the left button held down. You will be drawing a line.

Move the cursor to the Color Icons on the top line of the icon menus at the bottom of the screen. Place it over a box that is not white (the color you were drawing with). Click the left button. Notice that the Current Color Icon in the bottom left corner of the screen changes to this new color.

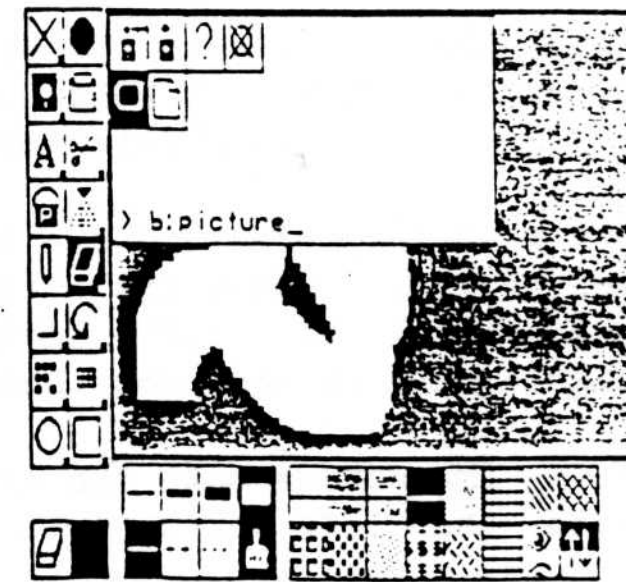
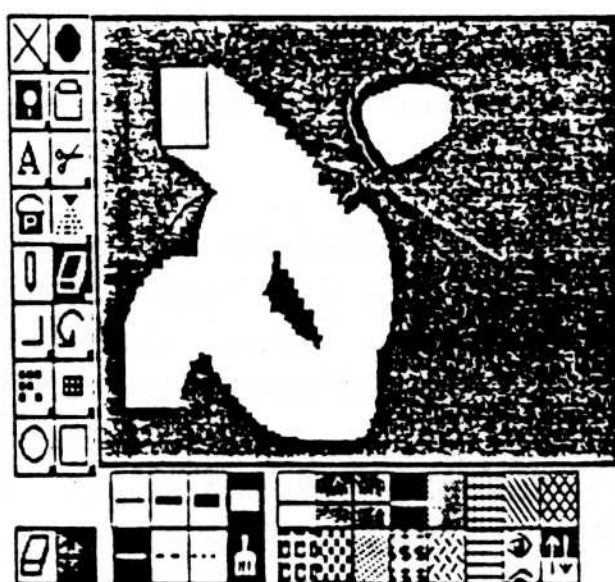
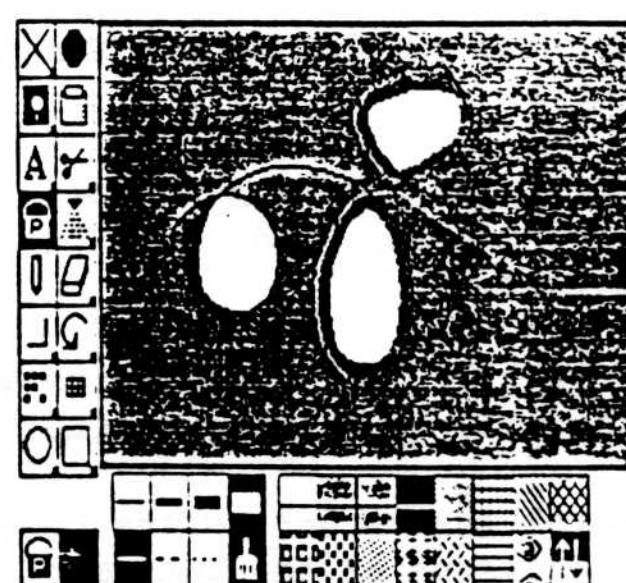
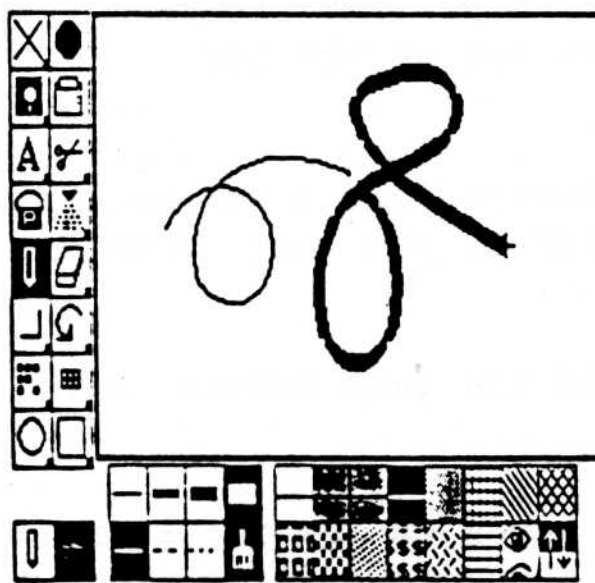
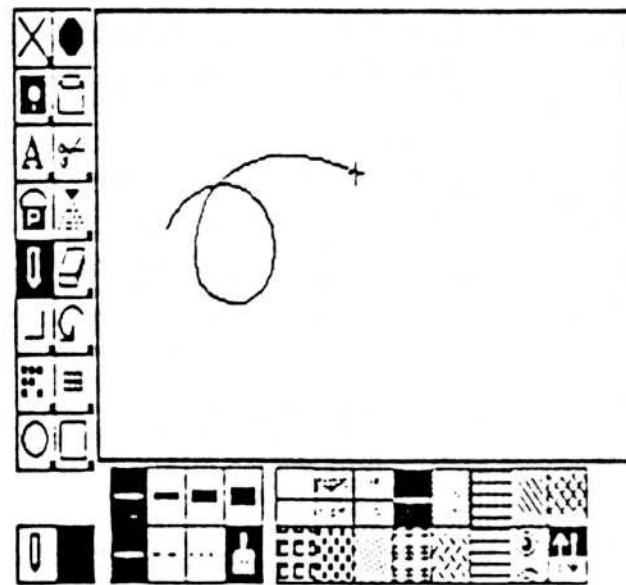
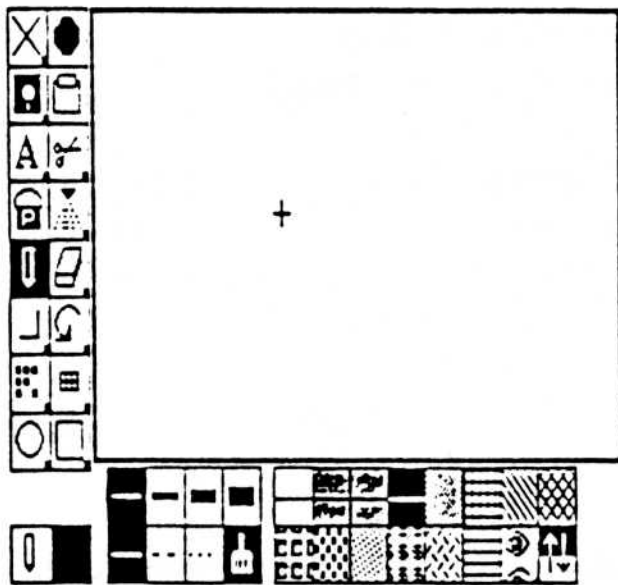
Move the cursor onto the drawing area. Now move it again with the left button held down. Notice that you are drawing a line in the newly selected color.

Now move the cursor to the Line width Icons at the bottom of the screen. Move the cursor over the fat line width box and click the left button. Notice that the box is highlighted to show you that it is the current line width.

Move the cursor onto the drawing area. Now move it again with the left button held down. Notice that you are now drawing a fat line.

Select another color from the Color Icons. Then move the cursor over the Paint Can Icon, and click the left button.

Tutorial 1



This selects the paint, or area fill, function. Move the cursor onto the drawing area and click the left button. Notice that the bounded area around your cursor is filled with the color you selected.

Move the cursor over the Eraser Icon and click the left button. Now move the cursor onto the drawing area. Move your pointing device with the right button held down to change the size of the rubberband box that is displayed. Move the rubberband box with the left button held down to erase part of your picture.

Insert a blank disk in drive B.

Move the cursor over the Disk Icon, and click the left button. Notice that a menu "pops-up" in the upper left corner of the drawing area. On the bottom line of the pop-up menu is the filename, "picture".

Hit the backspace key several times to erase "picture", then type:

b:picture

Move the cursor over the Icon in the pop-up menu that has an arrow pointing down to a Diskette and click the left button. This will save your screen as the file, PICTURE. Notice that as the screen is being saved the icon menus are removed, and that once the save has been done, the menus appear again.

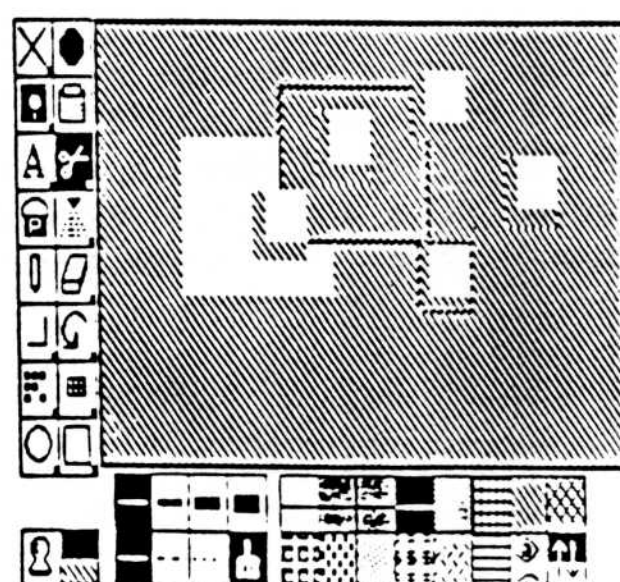
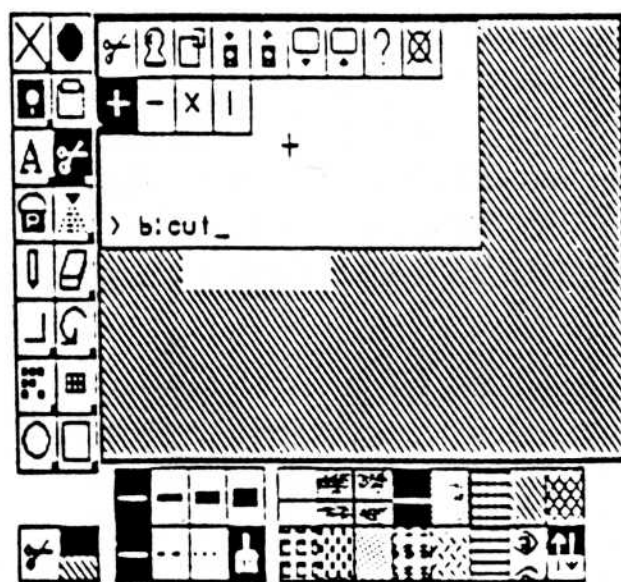
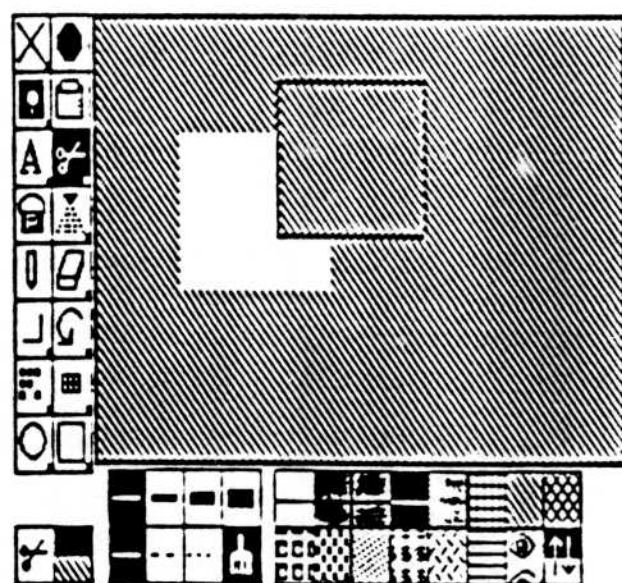
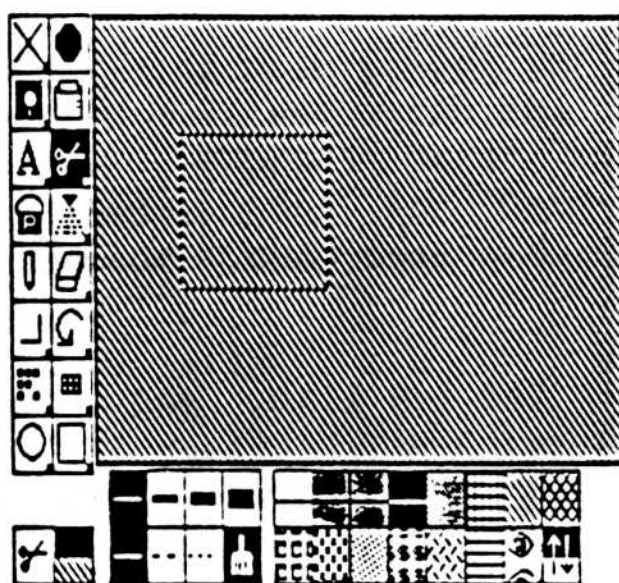
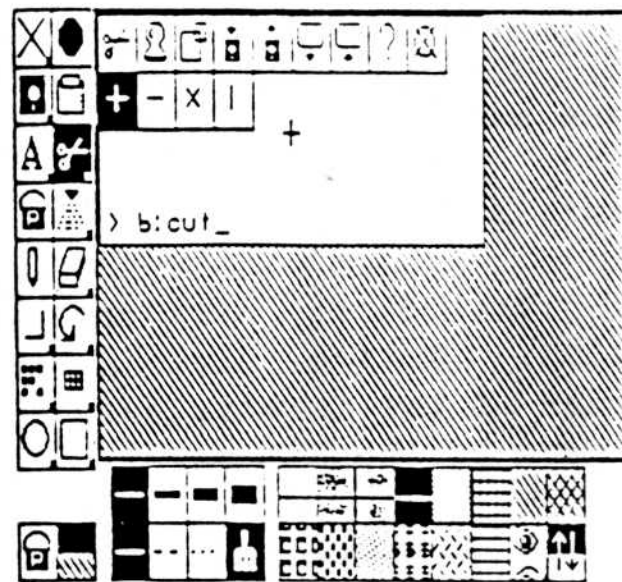
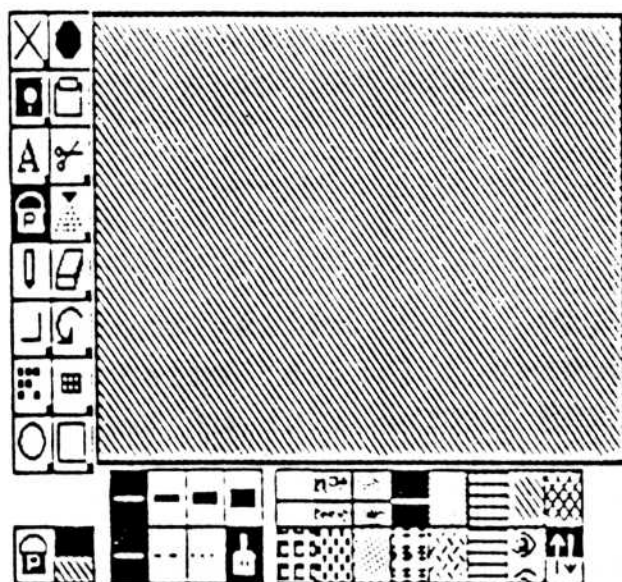
Move the cursor over the X Icon on the top line, and click the left button. The following message will appear:

Clear Screen?
left = YES right = NO

Click the left button to clear the screen.

Move the cursor over the Disk Icon and click the left button. The filename on the bottom line of the pop-up menu should still be "picture". Move the cursor to the Icon on the top line of the pop-up menu that has an arrow pointing upward from a Diskette and click the left button. The image that you previously created and saved will be displayed on the screen.

Tutorial 2



II. Tutorial 2: Using Cut and Paste

Move the cursor to a Hatch Pattern Icon on the bottom line of the icon menu at the screen bottom, and click the left button. This makes the hatch pattern the current fill color. Notice that the bottom half of the Current Color Icon in the lower left corner is now filled with this hatch pattern.

Move the cursor over the Paint Can Icon and click the left button. Move the cursor onto the drawing area, and click the left button. The entire drawing area should fill with the selected hatch pattern.

Move the cursor to the Scissors (Cut and Paste) Icon, and click the right button. This brings up a pop-up menu in the upper left corner of the drawing area.

The bottom line of the pop-up menu will have the filename, cut, displayed.

Hit the backspace key several times to erase "cut", then type:

```
b:picture
```

Move the cursor over the icon with an arrow pointing down to a diskette, and click the left button. The pop-up menu will disappear and a box will appear on your screen.

Move the box by moving your pointing device. Notice that you can change the size and shape of the box by moving the pointing device with the right button held down.

Click the left button. This will store the area inside the box as a cut file with the filename, cut.

Move the cursor to the X Icon and clear the screen as described in the first tutorial.

Move the cursor over the Scissors Icon and click the right button to bring up the pop-up menu. The bottom line of the pop-up menu should still have the filename, CUT. Move the cursor over the icon with an arrow pointing up from a diskette and click the left button.

A box will appear on the display area. The box represents the size of the saved cut file. Move the box around the screen by moving the pointing device. Click the left button to place the cut file image of your hatch pattern on the screen.

Again select the pop-up menu of the Cut and Paste Icon.

Select the first Icon from the pop-up menu, the Scissors.

A rubberband box will appear on the screen. Enclose the hatch pattern area with the rubberband box and click the left button. Notice that a box remains drawn at this position.

Move the cursor box to another position on the screen. Click the left button again. The first area is "cut" and "pasted" into the second area.

Again select the pop-up menu of the Cut and Paste Icon. Select the second Icon from the pop-up menu, the Rubberstamp.

Again enclose the hatch area with the rubberband box and click the left button.

Move the box to another area on the screen and click the left button again. Notice that a copy of the original area appears at the second location, but the original remains intact.

Move the box to a third screen location. Click the left button again. A third copy of the area will appear.

III. Tutorial 3: Using the GRAB program with Lotus 1-2-3

Before running Dr. HALO II, (while still in DOS and with Dr. HALO II in the current disk drive) type the following:

```
grab 1,0000
```

Run 1-2-3. Create a graph on the screen of your IBM color monitor.

Hold the ALT button down and hit the PrtSc button. Notice that your disk light will light to indicate that the screen image is being saved to disk.

Exit Lotus 1-2-3.

After running SETUP and installing your pointing device driver, run Dr. HALO II.

Move the cursor over the Disk Icon and click the left button. A pop-up menu for the Disk Icon will be displayed in the upper left corner of the drawing area.

Use the backspace key to erase the filename, "picture" from the bottom line of the pop-up menu, and type in halo0000.

Move the cursor to the Icon in the top line of the pop-up menu with an arrow pointing upward from Disk, and click the left button.

Your Lotus 1-2-3 Image will appear on the screen.

Move the cursor to the Letter A (Text) Icon, and click the left button.

A box with a text cursor in the lower left corner will appear on your screen. Type in the following:

```
Enhanced by Dr. HALO II
```

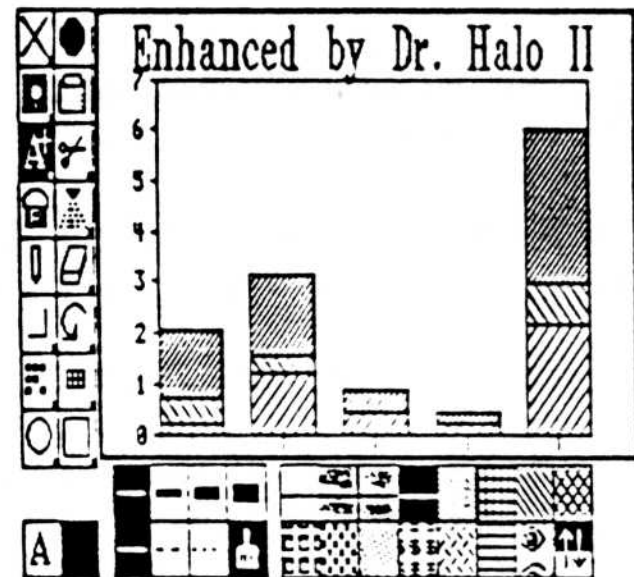
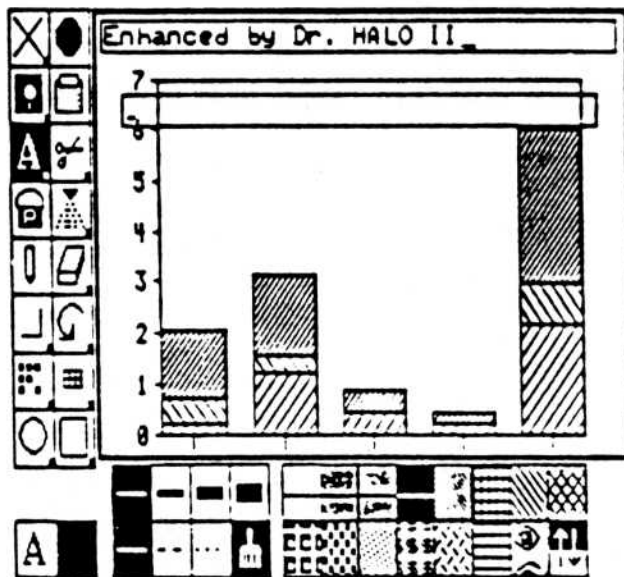
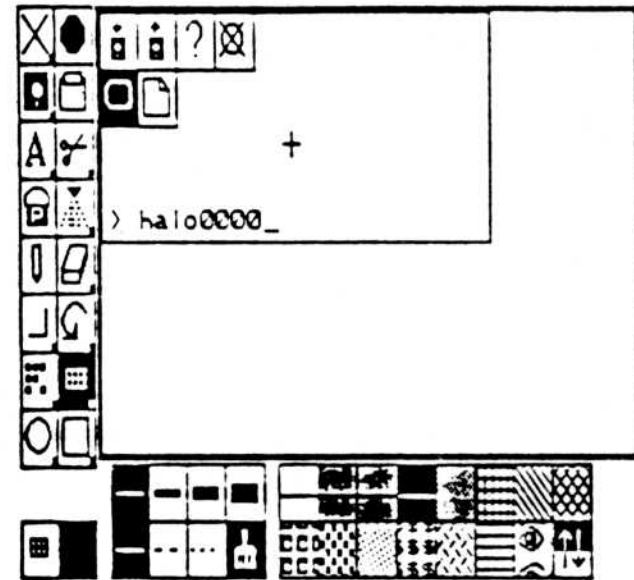
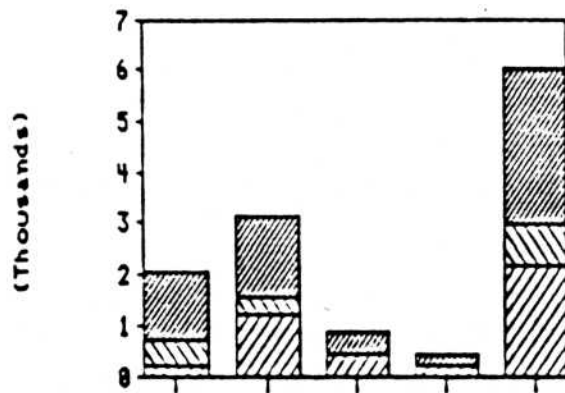
As you type, your characters are displayed in a box at the top of the drawing area. The size of the display box will increase to represent the size of the text that you have typed.

You can position the text by moving the pointing device.

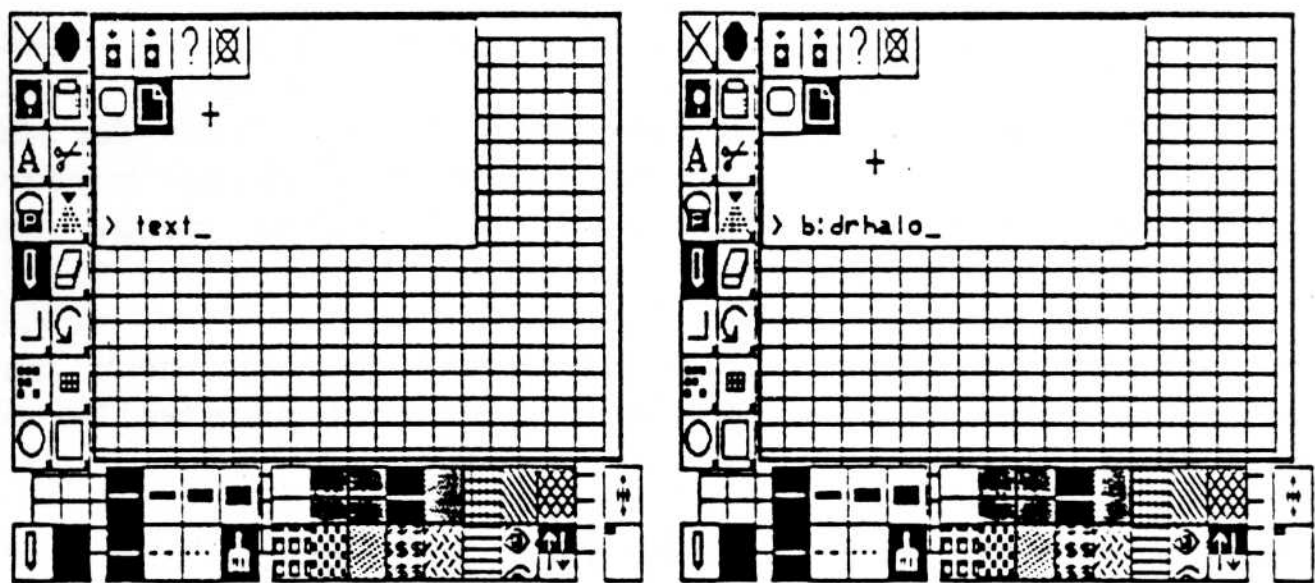
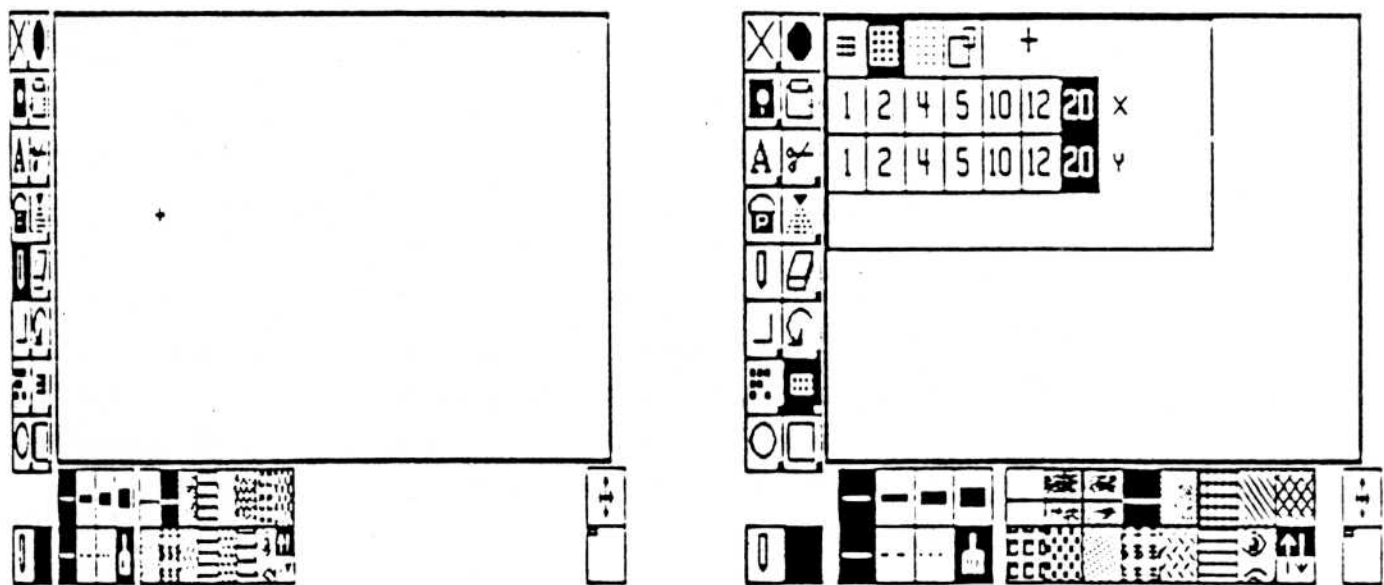
You can change the size of the text by moving the pointing device with the right button held down.

Click the left button to place the text over your Lotus graph.

Tutorial 3



Tutorial 4



V. Tutorial 4: Using the Virtual Page with Dr. HALO II

Take a word processing file that is approximately one page in length, and rename it with the suffix, .TXT. Copy this file to the work disk in your B drive. If you do not have such a file, create one with a word processor, text editor, or by copying directly from the keyboard to a file. Note: this file must be an ASCII file

Re-run SETUP. This time, specify mode 1 of your IBM card, 640 x 200, 2 color. When prompted for virtual page, answer yes. Then enter a page size of X = 960, Y = 720. (This is the size of an Epson printer page. You must have at least 384K RAM in your computer to run this example.) Specify an Epson printer, with the normal defaults. (You must have an Epson printer to finish this example by printing it.)

Execute Dr. HALO II. Notice the two new icons in the lower right hand corner of your screen. These are the Virtual Page Icons.

Move the cursor over the Grid Icon, and click the right button to bring up the pop-up menu. Select the second Icon, Full Screen Visible Grid. Select the 20 grid sizes for the X and Y dimensions by moving the cursor over those numbers in the second and third line of the pop-up menu, and clicking the left button.

Move the cursor off of the icons in the pop-up menu and click the left button. The entire virtual page will now have a 20 x 20 grid over it.

Move the cursor over the Disk Icon and click the left button to bring up the pop-up menu.

Select the Text File Icon from the second line of the pop-up menu by moving the cursor over it and clicking the left button.

Hit the backspace key to erase the word, "text" from the bottom line of the pop-up menu, and enter the name of your word processing file preceded by the disk drive identification b:. Remember, the suffix, .TXT is assumed, you do not have to type it in.

Move the cursor to the icon in the top line of the menu with the arrow pointing up from disk, and click the left button. This will bring up a box representing the text file on the display window.

Move the cursor to the Virtual Page Representation Icon in the lower right corner of the screen, and click the right button. This will bring up a full screen mock-up of the virtual page. The text file will still be represented by a

rubberband box with a text cursor in it.

Move the text box around the virtual page by moving your pointing device. Since the default text size is scalable, you can change the size of your text box by moving the pointing device with the right button held down.

Click the left button to place the text on the virtual page.

The message:

Please wait. Loading xxx characters.

will appear.

When the translation is complete, a mock-up of the text will appear on the virtual page.

Hit the space bar to return to the display window. Move the cursor over the Scissors Icon and click the right button to bring up the Cut and Paste pop-up menu.

The bottom line of the pop-up menu should still have the filename, CUT. Hit the backspace key several times to erase "CUT", then enter: b:cut. Remember, this is the name of the cut file that you created during tutorial 2 above. Move the cursor over the icon with the arrow pointing upward from disk in the top line of the pop-up menu, and click the left button. This will bring up a box representing the cut file image.

Move the cursor to the Virtual Page Representation Icon in the lower right corner of the screen, and click the right button. This will bring up the full screen mock-up of the virtual page.

You can move the box representing your cut file image around the virtual page by moving your pointing device. Place the partial screen image on the virtual page by clicking the left button.

Notice that the colors of the cut file image are different when placed on the virtual page. This is because the cut was created in 4 color mode, and now you are working in 2 color mode. The colors are translated modulo #2; that is, colors 0 and 2 (black and magenta) become color 0 (black), while colors 1 and 3 (cyan and white) become color 1 (white).

Hit the space bar to return to the window editing mode. Move the cursor to the Printer Icon, and click the left button. The following message will appear:

Print Screen?
left = YES right = NO

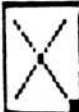




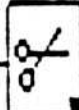

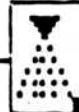




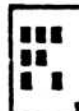
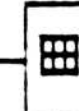
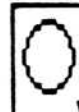

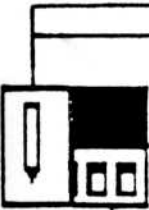


Click the left button to output the virtual page display to your Epson printer.

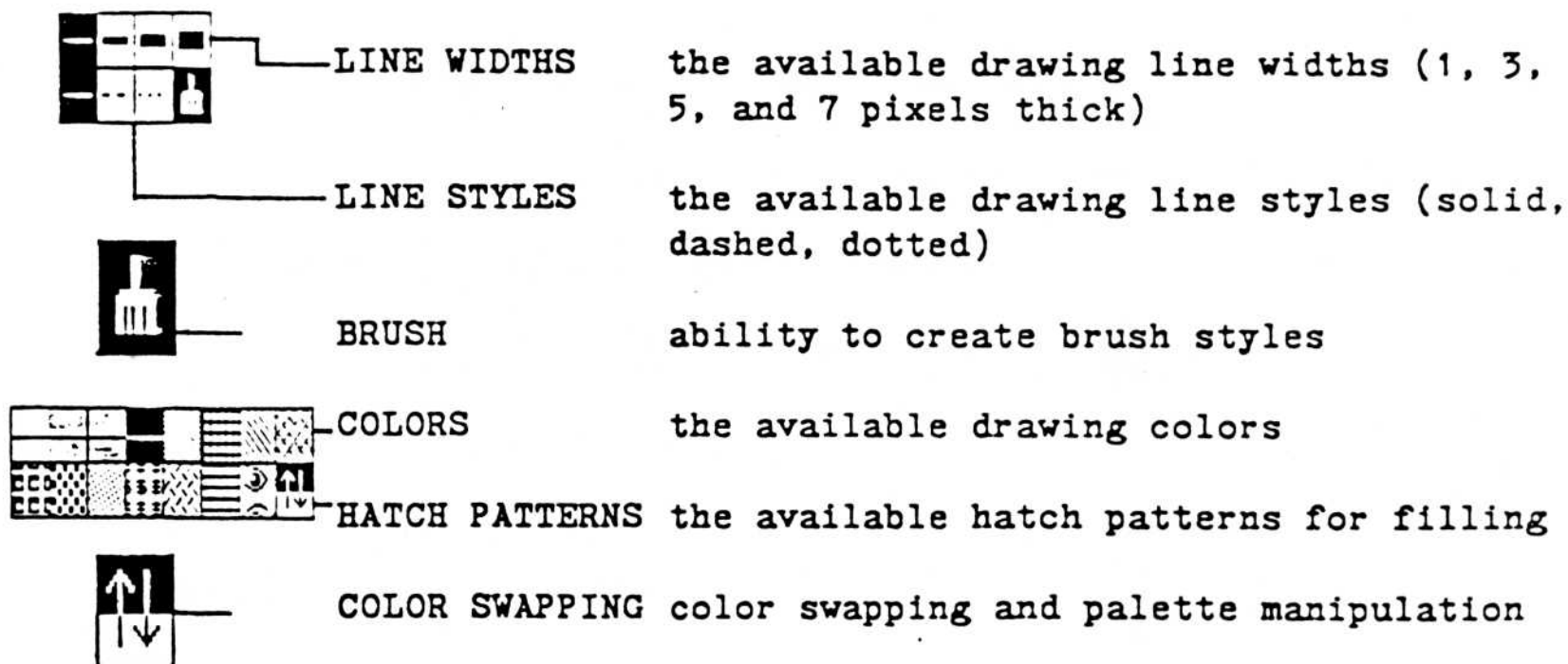
CHAPTER

4

CHAPTER 4 THE DR. HALO II COMMANDS

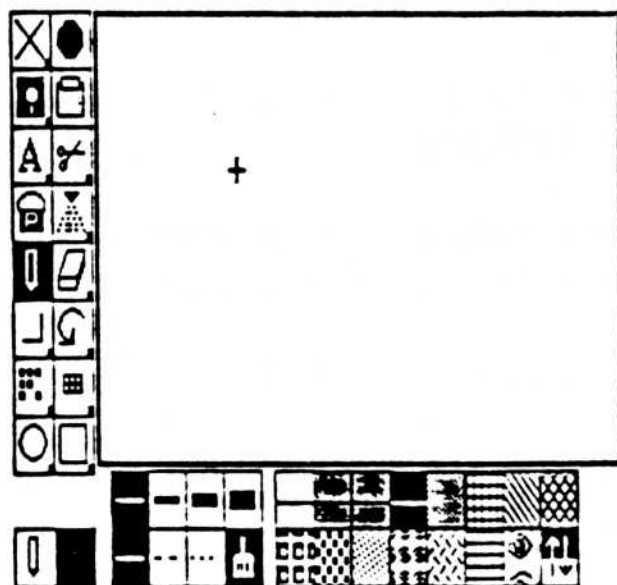
I. AN OVERVIEW OF THE DR. HALO II ICONS

	CLEAR SCREEN	clears screen, removes icon display
	EXIT	exits Dr. HALO II and return to DOS
	DISKETTE	stores and retrieves picture and text files to and from disk
	PRINT	outputs the screen image to the assigned printer
	TEXT	selects type font and places text on the screen
	SCISSORS	cut and paste, rubberstamp, scaling
	PAINT CAN	fills an area with a selected color or hatch pattern
	AIRBRUSH	spray paints on the screen
	PENCIL	draws freehand solid and dotted lines
	ERASE	erases selected areas of the screen
	STRAIGHT AND CURVED LINES	draws straight lines, creates polygons, curve fitting
	ROTATE	rotates images in 90 degree increments and creates mirror images
	FAT BIT EDIT	edits images at the pixel level
	GRID	creates visible or invisible grid lines on the screen
	CIRCLES	draws hollow and filled circles and ellipses
	RECTANGLES	draws hollow, filled, and three dimensional rectangles
	UNDO	erases the most recently made changes on the screen
	CURRENT FUNCTION	the current active function is displayed here
	CURRENT COLOR AND HATCH PATTERN	the top half of the icon displays the current drawing color; the bottom half, the current hatch pattern



Selection of a function icon causes that icon to be highlighted. The icon is also placed in the current function icon box. Selection of a color or hatch pattern causes that color or hatch pattern to be placed in the upper or lower half of the current color icon. The current line style, line width and brush style are also highlighted.

When you enter Dr. HALO II, the pencil icon is selected, with white (or the rightmost displayed color) as the current drawing color and hatch pattern. Line width is set to single width line, line style is set to solid line, and the brush is turned on.



A small square in the lower right corner of a function icon indicates that the icon has a pop-up menu. Selection of the icon with the right button will cause the pop-up menu to appear in the upper left corner of the drawing area. Selection of the icon with the left button will cause the function represented by the left-most icon in the pop-up menu to be active.

To select a function from a pop-up menu, move the cursor to the icon in the pop-up menu and click either button. To exit from a pop-up menu with multiple option lines, or to escape from a pop-up menu without making a selection, move the cursor so that it is not on top of any pop-up icons and click either button.

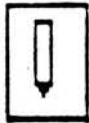
Several pop-up menus have the "?" as an icon (or "*" in the Text Icon). Selection of the question mark icon will bring up a directory display of all relevant files in the pop-up window. When in the diskette icon only .PIC files will be displayed; when in the cut and paste icon only .CUT files; when in the text icon only .FON files; when in the fat bit edit icon only .SYM files.

To select an entry from the directory display, move the cursor over the entry name and click either button. The line will appear highlighted. Then move the cursor over the box that says GO and click either button. The pop-up menu will re-appear on the screen with the selected entry name as the filename on the bottom line. Then Selection of the pop-up icon with an up arrow (meaning retrieve) will cause the file to be loaded.

When there are too many entries in a directory to be displayed at one time, you can click the up and down arrows on the top and bottom of the GO icon with either button to access additional screens. The word TOP will appear at the top of the right hand column when you have accessed the first entry display window; the abbreviation BOT will appear at the bottom of the column when you have reached the last display window.

The "?" icon respects the pathname as given in the filename on the bottom line of the pop-up menu. To get a directory of disk C, type C: on the bottom line and click the "?" icon. To get a directory of the entries in the DRHAL0 subdirectory on disk C, type C:\DRHAL0\ and click the "?" icon.

II. THE DR. HALO II DRAWING TOOLS



PENCIL

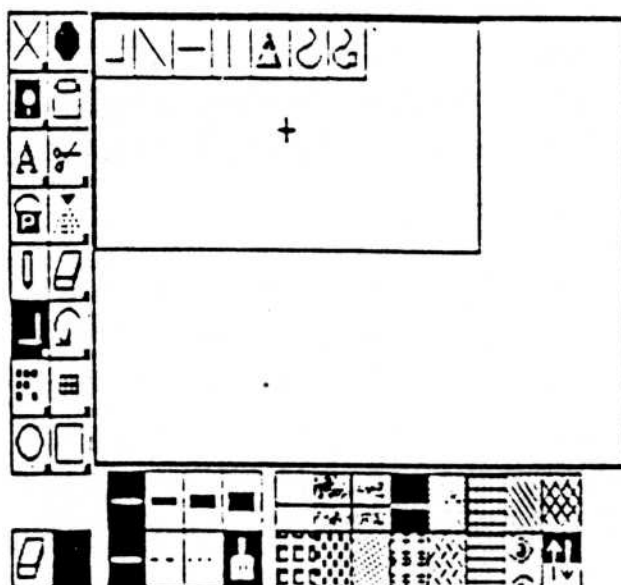
This icon allows you to draw freehand lines.

1. When you first enter Dr. HALO II this function will be active. The Pencil Icon will be highlighted, and also displayed as the Current Function Icon.
2. The Pencil Icon operates under control of the line style, line width, and color selection options. Refer to Chapter 4, Section VI and for detailed instruction on how to select line styles, line widths, and drawing colors.
3. Hold down the left button as you move your pointing device to draw a solid line.
4. Holding down the right button while moving your pointing device allows you to draw dotted lines.



STRAIGHT AND CURVED LINES

This icon and its options allow you to draw straight and curved lines.



The default option of this drawing tool allows you to create a polygon one side at a time. Move the cursor to the desired location and click the left button to define first endpoint of a line. As you move the pointing device you will see a rubberband line beginning at that first point. When you have the line where you want it, click the left button again. This will set the second point defining the first line. The process repeats with a second rubberband line. Complete the figure by moving to additional points and clicking the left button. End the polygon by clicking the right button or by moving the cursor off the drawing area.



This option allows you to draw straight lines whose length and angles can be altered. Move the cursor to the desired starting point, click the right button. As you move the pointing device, a rubberband line will appear beginning at that point. Click the left button to place the line on the screen.



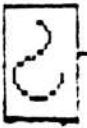
This option allows you to draw a horizontal line of any length on the screen. Moving the pointing device will move the line around the screen. Moving the pointing device with the right button held down will change the length of the horizontal line. Click the left button to place the line on the screen.



This option allows you to draw a vertical line of any length on the screen. Moving the pointing device allows you to move the vertical line around the screen. Moving the pointing device with the right button held down will change the length of the vertical line. Click the left button to place the line on the screen.



This function allows you to create a filled polygon. Create the polygon as described under the first option above. Clicking the right button will cause the polygon to be filled in the current hatch pattern.



This option performs curve fitting for a polygon. First, define the outline of the polygon as in the first option above. When you click the right button Dr. HALO II will erase the straight line polygon and draw a smooth-curved figure through the selected points.



This option allows you to "drag" a curve by one of its points. First, create a curved line as in the option described above. Click the left button and a small square will appear at the first point of the curve. The square will advance along the points of the curve with each additional click of the left button.

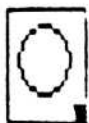
To modify the outline of the curve, position the cursor square at the point where you want to change the figure. Use the pointing device to move the selected point of the curve. The curve will redraw as you move. When you have the point where you want it, click the right button.

To exit this option, click the left button to move the square along the points of the curve until you reach the endpoint and the square disappears. Then click the right button.

All of the options for this icon operate under control of the Line Style and Line Width Selection Icons. The currently selected line width determines the width of your lines. The line style determines the style of the border of your final polygons. While in the process of being drawn, sides of a polygon will appear as single width solid line.

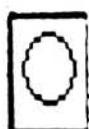
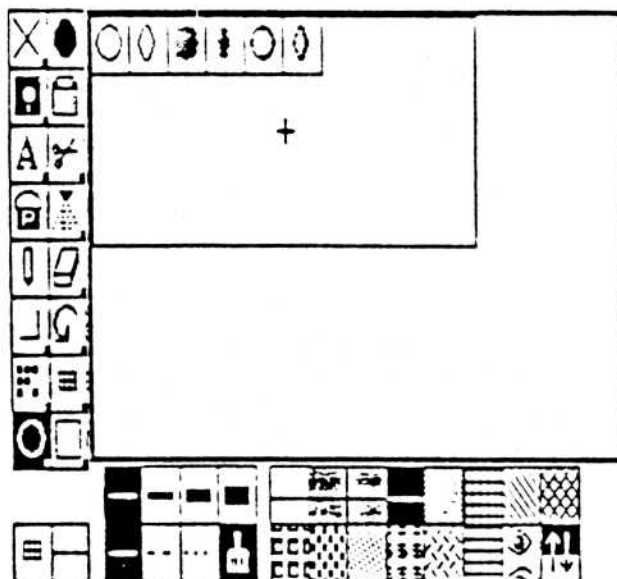
The line, vertical line, and horizontal line functions also operate under control of the Brush. If the Brush is on, holding the left button down as you move your pointing device will draw continuous lines (using the line as a paintbrush). If the Brush is off, holding the left button down will prevent display of your line until it is released.

If you want to make a correction or erase a partially completed polygon, simply move the cursor off the screen and the figure will disappear. If you have already placed the figure on the screen by clicking the right button, you must use Erase or Undo to remove it.



HOLLOW AND FILLED CIRCLES AND ELLIPSES

This icon allows you to create hollow and filled circles and ellipses and filled circles and ellipses with borders.



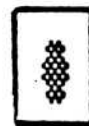
Draw circle



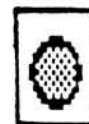
Draw ellipse



Draw filled circle



Draw filled ellipse



Draw filled circle with border



Draw filled ellipse with border

When you select any of these options, your cursor will become a circle or ellipse. You can move the circle or ellipse around the drawing area by moving your pointing device device.

You can rubberband or change the size of the circle or ellipse by moving the pointing device with the right button held down. You can adjust the radius of your circle, and both the radius and aspect ratio, of your ellipse.

To place a circle or ellipse on the screen, click the left button.

When moving the circle or ellipse around the screen, or when sizing with the right button, the circle or ellipse is displayed in a single width solid line. When the left button is clicked, the circle or ellipse is drawn.

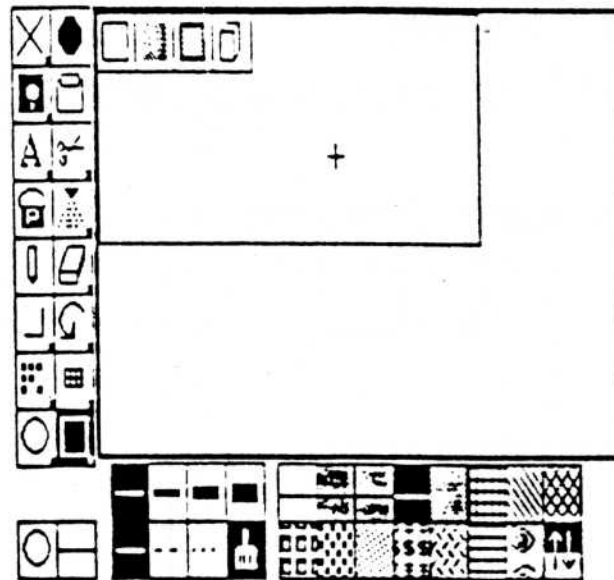
Circles and ellipses are drawn in the current line width. Filled circles and ellipses are filled with the current hatch pattern. Filled circles and ellipses with borders are filled in the current hatch pattern and their borders drawn in the current line width.

If the Brush is on, you can draw continuous circles or ellipses by holding the left button down. If the Brush is off, holding the left button down will cause the display to disappear until released.

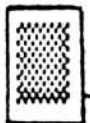


HOLLOW, FILLED, AND THREE-DIMENSIONAL RECTANGLES

This icon allows you to create hollow, filled, and three-dimensional rectangles.



Draw rectangle



Draw filled rectangle



Draw filled rectangle with border



This option allows you to draw a three dimensional bar. Size and place the first rectangle on the screen by clicking the left button. Then, keeping the size the same, place the second rectangle (usually at an angle from one of the corners of the first rectangle) on the screen by clicking the left button again. Dr. HALO II will create a three dimensional rectangle by connecting lines between the corners of these two rectangles.

When you select the rectangle option the cursor will be displayed as a single width, solid line, rectangle.

You can move the rectangle around the screen by moving the pointing device. You can change both the height and width of the rectangle by moving the pointing device with the right button held down.

Clicking the left button causes the rectangle to be drawn on the screen. Rectangles are drawn in the current line style and line width. Filled rectangles are filled with the current hatch pattern. Filled rectangles with borders and three dimensional rectangles are filled with the current hatch pattern and the borders are drawn in the current line style and line width.

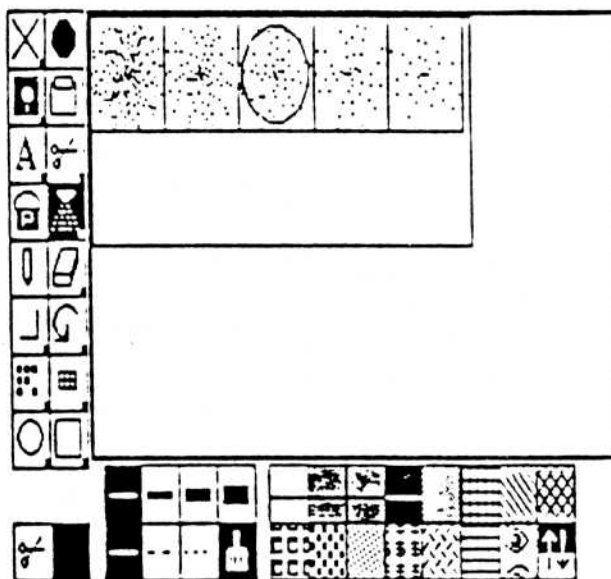
If the Brush is on, you can draw continuous rectangles by holding the left button down as you move your pointing device. If the Brush is off, holding the left button down will prevent the cursor from appearing until it is released.



AIRBRUSH

This icon allows you to sprayspaint on your screen using a variety of airbrush densities and colors.

The pop-up menu for this icon provides a choice of five airbrush densities.



1. When you select this icon your cursor will become a circle on the pop-up menu. You can adjust its size by moving the pointing device with the right button held down.
2. Next, move the cursor to the density you want and click the left button. The pop-up menu will then disappear and you will not be able to change the size or the density of your airbrush without returning to the pop-up menu.
3. The airbrush will paint in the color displayed in the Current Color Icon. You can change this color at any time by moving the cursor to a color icon and clicking the left button. You are never allowed to use black as an airbrush color.
4. The airbrush operates in two painting modes, the matte mode and the exclusive/or mode.

The matte mode is invoked by holding down the left button while you are painting. In the matte (also called the overlay mode) Dr. HALO II paints only the dots in the airbrush pattern onto the screen. If you continue to paint over an area, the dots will appear to become closer until the area approaches a solid color in appearance.

If you hold down the right button while you are painting with the airbrush, you will be painting in the exclusive/or mode. If you paint over one color with a second color, the dots in the airbrush will combine with the dots on the screen (according to the exclusive/or formula) to form a third color. If you airbrush the same area twice with the same color, the pixels which overlap become black.

If the Brush icon is turned on, you will be able to draw continuous images. If Brush is turned off, you can paint only one spray at a time.



PAINT CAN

This icon allows you to fill an area with a selected hatch pattern or color.

1. Paint Can uses the hatch pattern displayed in the lower half of the Current Color Icon for filling areas. Select the desired hatch pattern or solid fill color by moving the cursor to the icon and clicking the left button.
2. Select the Paint Can Icon by clicking with either button.
3. To fill a closed figure, position the cursor inside the area and click either button. It is important that areas to be filled have solid borders. Otherwise, the fill pattern will "spill" into the image.
4. It is not advisable to attempt to paint pattern over pattern. In most cases, Dr. HALO II will refuse to execute the request or will do so very slowly and possibly incompletely.

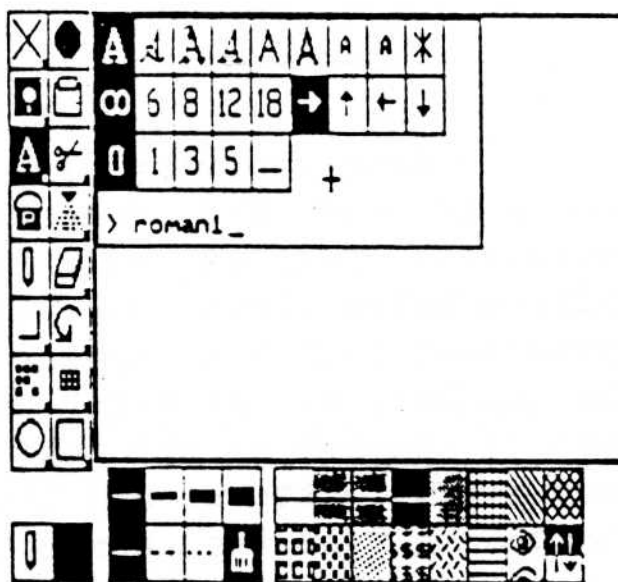


CREATE TEXT

This icon allows you to add titles, labels, and other text to your Dr. HALO II images.

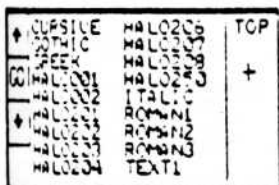
The Create Text Icon operates under the control of the Line Style and Line Width Selection Icons. In general, the line style selected for text should be a solid line to produce readable text. The line width selection controls the width of the line used to create the text for most fonts. Text will be printed in the current color (and hatch pattern for filled font styles) as shown in the Current Color Icon.






The default option of the Create Text Icon is the most recently selected combination of font type, character size, and other options for this icon. When you select the pop-up menu for create text, you have the ability to change the text option.



1. Selecting A Font Style





Use the the top line of the pop-up menu to select a font style. The letter A drawn in seven commonly used fonts are the icons for selecting these type fonts. The "*" calls a directory which lists all 21 fonts available in Dr. HALO II. To select a font, move the cursor to the icon in the pop-up menu or to the name in the directory list and click either button. The icon will be highlighted and the name of the font will be displayed on the bottom line of the pop-up menu. (Remember, if you are using the keyboard as your pointing device, you must hit the ESC key to put the keyboard into text entry mode and then hit ESC again to return the keyboard to pointing device status.) The default font style is Roman 1.







2. Selecting The Type Size.

The first five numerical icons in the second line control the size of the text that you will display or print. Fonts that have the designation "FnXm" (where n and m stand for the character width and height in pixels, respectively) are fixed in size and cannot use the sizing option. Other fonts can be sized using the 6, 8, 12, and 18 numerical icons. These numbers correspond to the height of the letter. The first icon in this line is the mathematical symbol for infinity and lets you adjust the size of the text by using a rubberband box to represent the character size. It is the default option of this line.


3. Selecting Print Direction.

The last four icons on the second line of the menu represent the four directions for displaying and printing your text. The default is horizontal, left to right.

4. Dropshadowing.

Dropshadowing adds dimension and depth to your text. The numbers 0, 1, 3, and 5 on the third line of the menu represent the depth of the dropshadowing in pixels. Contrasting colors should be used for dropshadowing. If dropshadowing is selected, the text will first be drawn the number of pixels below the cursor line you requested. This dropshadowed text will appear in the color displayed in the top half of the Color Swapping Icon. Then, the text is redrawn at the text cursor position in the current hatch pattern and line color as specified in the bottom half of the current color icon. The default is no dropshadowing.



5. Underlining

Selecting the "-" will cause your text to be automatically underlined. The default is no underlining.

When you have completed the selection of your options, move your cursor off of the icons within the pop-up menu and click either button, exiting the menu. Your cursor will now take the shape of a box. The size of the box on the screen is equal to the size of a text character and its position represents the location of the first character of your text.

You can move the text location by moving the text box around the screen with your pointing device. If you have selected an "infinite" sized font, you can also modify the size and shape of your text character by rubberbanding the text box. To rubberband the text box move your pointing device with the right button held down.

If you are using the keyboard as a pointing device, you must hit the ESC key to switch from the pointing mode to the text mode before entering your text. To return the keyboard to pointing mode after you have entered your text, hit the ESC key again.

The text is temporarily displayed in a box at the top of the screen as it is entered. The size of your text box cursor will also expand to show the size and location of the entered text. You can move and size (if infinite size was selected) your text even as you enter it. Click the left button or hit a carriage return to place your text on the screen.

If the text is too large to fit on the screen, your text box cursor will temporarily disappear, as well as the text display at the top of the screen. You can re-position your text, delete text characters, or select a smaller text size to make your text fit on the screen.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 Roman 2

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 Roman 3

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 Cursive

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 Cursive Bold

ΑΒΗΔΕΦΓΙΑΚΜΝΟΠΘΧΣΤΥ∞ΩΞΨΖ
αβηδεφγχικλμνοπνρστυ·ωξψξ
1234567890 Greek

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0 Century Med.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0 Roman 1

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0 Century Italic

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0 Italic

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0 Gothic

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 f16x16

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
123456789 f9x14

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 f18x28

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 f12x12

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
123456789 f8x8a

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
123456789 f6x9

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 halo201

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 halo203

ABCDEFGHIJKLMN OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 halo202

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Halo206

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Halo207

ABCDEFGHIJKLMNOPQRSTUVWXYZ

1234567890

Halo208

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Halo205

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Halo204

Greek Mathematical Symbols

! = $\sqrt{}$ % = \uparrow

@ = $\sqrt{}$ ^ = \downarrow

= \rightarrow & = \langle

\$ = \leftarrow * = ϑ


Flow Chart Font (Halo250)


E =  R = 

F =  U = 

G =  C = 

L =  B = 

A = 

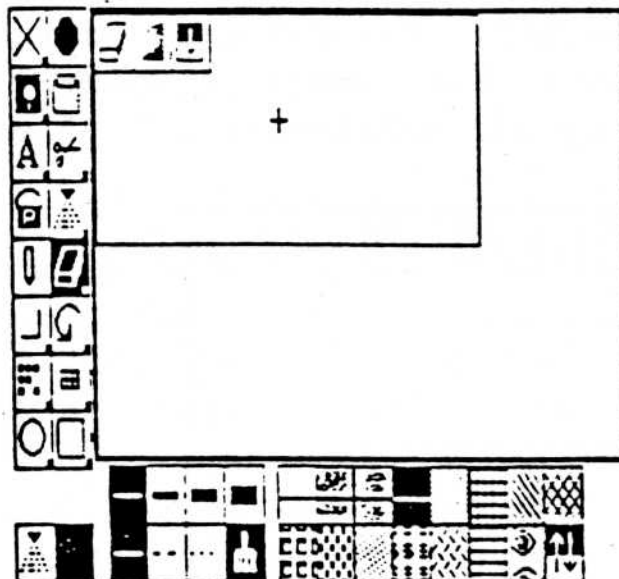
D = 

III. THE DR. HALO II EDITING TOOLS

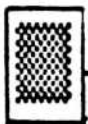


ERASE

This icon allows you to erase portions of images displayed on your screen.



This option allows you to erase to the current background color of the screen. The cursor appears on the screen in the form of a rubberband box. Hold down the right button to change the size of your eraser. Then move the eraser box to the area to be erased and click the left button. The area inside your box will be changed to the background color as defined by the clear screen function (see Chapter 4, Section IV). You can move the eraser with the left button held down for continuous erasure.



This option allows you to erase to the current color. Proceed as in the option above. The area within the eraser box will be changed to the color indicated in the top half of the current color icon.

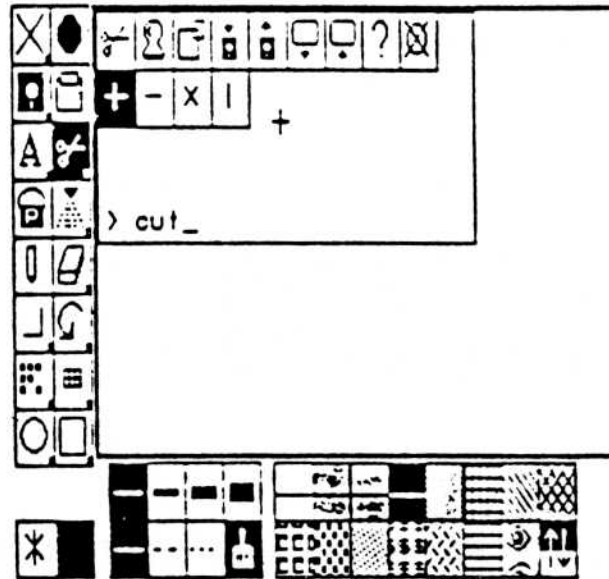


This option allows you to selectively erase or change one color to another. You must place the colors you wish to change in the Color Swapping Icon (See Chapter 4, Section IV). Proceed as in the default option above. When you click the left button, all pixels within the eraser box of the color displayed in the top half of the Color Swapping Icon, will be replaced by pixels of the color displayed in the bottom half of the icon.



CUTTING AND PASTING, RUBBERSTAMPING, AND SCALING IMAGES

This group of icons allows you to move or copy pictures from one part of the screen to another. You can also shrink or enlarge an image and select options for image display. This function includes icons for storing and retrieving cut files.



To use this pop-up menu you must first select options from the second line (and possibly first) before you choose a function from the top line. Once you have selected a function from the top line of the pop-up menu, you will immediately enter that mode and can no longer change display options without returning to the pop-up menu.

Cut And Paste



The Scissors (cut and paste) Icon is the default function. It allows you to "lift" a portion of an image from the screen and place it in another location as if you had cut out a part of the picture and pasted it somewhere else.

1. When you select this option your cursor becomes a rubberband box on the display area. You can move the rubberband box by moving your pointing device and you can change the size of the box by moving the pointing device with the right button held down.
2. Move and size the rubberband box to place it over the portion of the image that you wish to move. Click the left button to lift the area inside the box off the screen. A box representing the area being moved will remain at that screen location.
3. Once you have captured a portion of the image, you can undo your box selection by holding down the right button and moving the pointing device. The original box will disappear from the screen and you can start over.

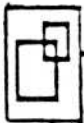
4. After you have captured the desired image, move the rubberband box to the new screen location and click the left button to place the image in this new location.

5. The portion of the screen image that you captured will be moved to the new location. The area under the area you captured will be changed to the current background color.



Rubberstamp

The Rubberstamp Icon enables you to make multiple copies of a portion of the screen image without re-selecting or deleting the original image. Capture the image using the directions in Cut and Paste above. Then move the rubberband box to the new screen location and place the image on the screen by clicking the left button. You can continue to "stamp" the image in as many locations on the screen as you want by repeatedly clicking the left button.



Scaling

The Scaling Icon allows you to enlarge or shrink a portion of the screen image. Move and size the rubberband box to place it over the screen area you want to scale and click the left button to capture it. Move your pointing device with the right button held down to change the size of the rubberband box to the size to which you wish to scale the captured area. Move the rubberband box to the desired location and place the scaled area on the screen by clicking the left button.

Scaling works best with areas drawn in solid colors and thick lines. The scaled result will also look best if the change in aspect ratio from the original area is not drastic.

Using The Brush Icon With Cutting and Pasting and Rubberstamping.

Both the Scissors and Rubberstamp Icons operate under control of the Brush Icon.

Cut and Paste: When the Brush Icon is turned on (the default mode) you can make one discrete cut of a screen area at a time. Cut and Paste operates as described above.

When the Brush Icon is turned off, capture the screen area to cut and paste as described above. Instead of moving the box just by moving the pointing device, hold down the left button and move the pointing device to move your "CUT" non-destructively across the screen.

The image remains visible while it is being moved giving you greater control over the exact placement of the image. Release the left button to place the image on the screen.

Rubberstamp: When the Brush Icon is turned on, you can paint continuously with the image contained in the rubberband box. This is accomplished by moving the pointing device with the left button held down.

If the Brush Icon is turned off, the moving the pointing device with the left button held down causes the image to be dragged non-destructively across the screen. Place the rubberstamped area on the screen by releasing the left button.

Display Modes For Cutting, Pasting, and Rubberstamping.

There are four selectable display modes for determining how the image area cut and pasted, rubberstamped, or scaled will be placed on the screen. They can be selected from the second line of the pop-up menu.



The Plus Icon is the default. It creates a positive (photographic) display of the new image by replacing pixels in the new image area with the pixels from the first image area. You must select this option if you want your image to be reproduced exactly as it was drawn.



The Negative Icon results in a negative reproduction of your image that is similar to a photographic negative. For example, black and white in your original image area are reversed in the new image area.



The X icon results in the execution of the exclusive/or function on the colors of your original image area with the colors in your new image area. This function allows original images to remain visible even when another image is superimposed. (This is how the Dr. HALO II cursor always remains visible.) Exclusive/or combines the color indices of the two colors you are combining and displays the resulting color. You can restore the new image area by executing a second function.



The Or icon represents the overlay, or matte, function and allows you to lift a design from the plain black background of the screen and transfer the design, but not the background, to a new location.

Using The Matte Function To Create An Original Airbrush Icon.

The airbrush function in Dr. HALO II is actually an additional rubberstamping function. You can create your own airbrush by using the Rubberstamp option of the Cut and Paste Icon.

1. Select the Paintbrush Icon.
2. Draw the image that you want to use in your airbrush on a black background.
3. Select the Matte and Rubberstamp Icons from the Cut and Paste pop-up menu.
4. Capture your image in the rubberband box and click the left button. You can now draw across the screen with your new airbrush pattern by holding down the left button.

Storing and Retrieving Images and Screens To And From Disk.

The Cut and Paste Icon includes its own storage, retrieval, and library management functions. They enable you to create a library of your clipboard art.

The icons allow you to save and retrieve a portion of your screen or your entire screen as a "cut" file. A cut file is a device independent storage format for screen image data. Cut files created on one graphics board can be read in on another graphics board as long as the graphics mode has equal or greater resolution than the size of the cut image.



This icon allows you to save a portion of your image to disk as a cut file.

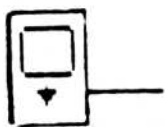
1. Use the backward cursor to delete the bottom line in the menu and type in the filename of your image.
2. Move the cursor to the icon and click either button. The pop-up menu will disappear and a rubberband box will be displayed on the screen.
3. Size and place the rubberband box over the portion of the image that you wish to save. Click the left button to save it to disk.



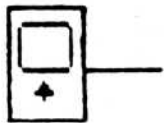
This icon allows you to retrieve a previously saved cut image from disk

1. Type the filename of your image in the bottom line of the pop-up menu.
2. Move the cursor to the icon and click either button.
3. The cut file will be read from disk. The pop-up menu will disappear and a rubberband box representing the size of the cut image will be displayed on the screen.

4. Move the pointing device to position the box on the screen and click the left button to place the cut image on the screen.

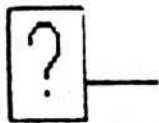


This icon allows you to save the entire screen as a cut file. Type the filename for the full screen cut image on the bottom line of the pop-up menu. Then select this icon by clicking with either button to save the screen to disk.

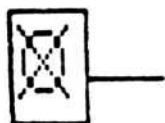
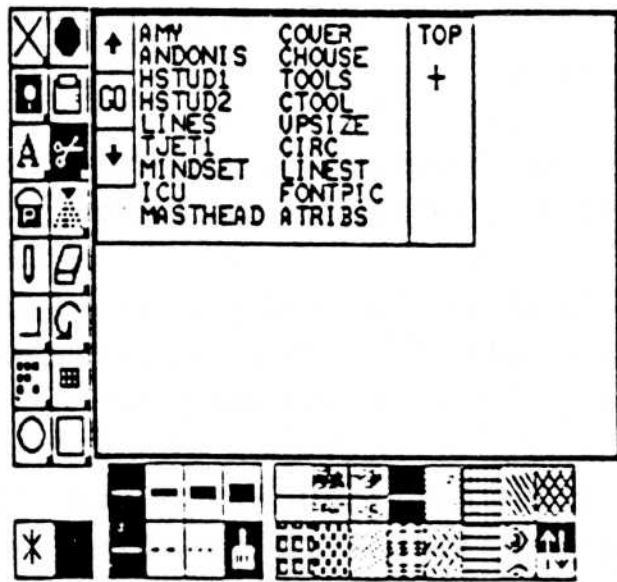


This icon allows you to retrieve a full screen cut image. Type the filename for cut image that you wish to retrieve. Then select this icon by clicking with either button to place the image on the screen.

NOTE: You must use the full screen cut file icons for saving and retrieving a whole screen when you are operating in the virtual page mode. (See Chapter 5)



The Question Mark Icon displays the names of the cut images that are in the current directory. Selecting this icon will bring up the directory display. Select a filename from the directory as outlined in Chapter 4, Section I. The filename will appear on the bottom line of the pop-up menu.

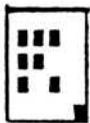


This icon allows you to delete a cut file from the directory. First type in the name of the cut file to delete on the bottom line of the pop-up menu. Selection of the icon will cause the following prompt to appear:

Delete this file?
 left=yes right=no

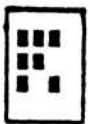
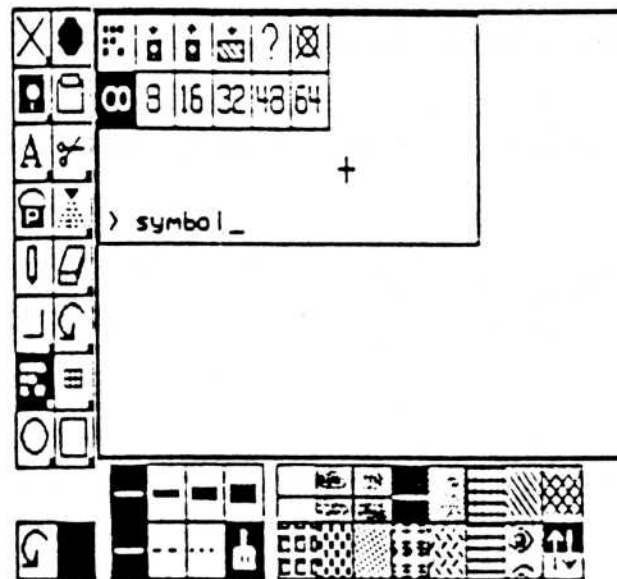
Hit the appropriate button for the desired action.

When you are storing or retrieving cut file images, you may select any of the display modes from the second line of the menu for creating positive, negative, exclusive/or, or matte displays for your images. They will subsequently be stored and retrieved in the selected mode.



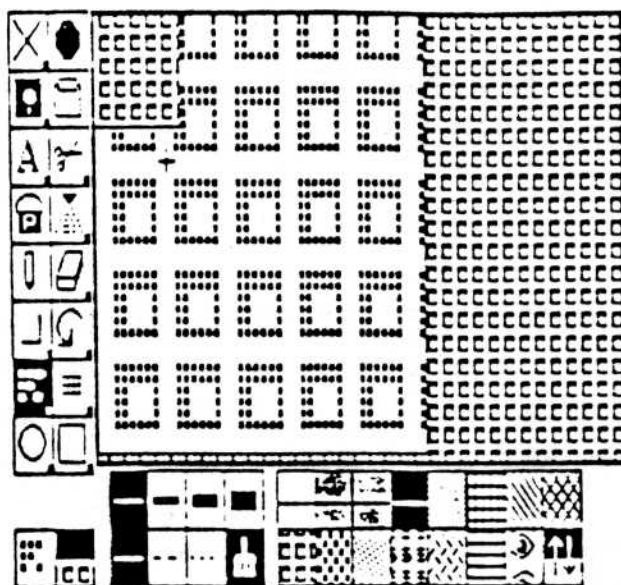
FAT BIT EDIT

This icon allows you to display an area of the screen in detail so that you can edit single pixels. It can be used to create original symbols for use in hatch patterns and to store and retrieve the symbols to and from disk.



The pixel icon allows you to edit an area of your image pixel by pixel.

1. First select the size of the area of your image that you want to edit from the second line of the pop-up menu. Note that you cannot store or use as a hatch pattern symbol any symbols that are larger than 32K bytes.
2. Move to the cursor to pixel icon in the pop-up menu and click either button. This will cause the cursor to appear on the screen as a box in the size that was selected in the menu. If the infinity symbol was selected, you can size the rubberband box by moving the pointing device with the right button held down. You cannot change the size of a fixed box. Move the box over the portion of the image that you want to edit and click the left button.
3. Dr. HALO II will display two views of the selected area in the upper left corner of the screen. The box in the upper left corner displays an actual size picture of the area being edited. Editing changes will be displayed in this box as they are made. The larger box is the actual pixel editing area and displays a magnified picture of the area selected.



4. Editing consists of painting pixels with selected colors:

- . To change a pixel to the background color, move the cursor to the pixel and click the right button.
- . To fill a pixel with the currently selected color, click the left button. You may change your editing color by inserting a new color in the Current Color Icon.

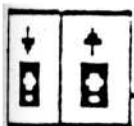
5. When you are through editing, move the cursor to the leftmost box (the true picture box) and click either button to return to the Dr. HALO II main menu.



Using Fat Bit Edit For Palette Selection.

You can use the fat bit edit function in conjunction with the current color icon to select pixel colors from your screen to be the current color and a palette color icon.

1. When the Fat Bit Edit icon has been selected, the current color icon acts as a toggle. In its default mode, the function executes as described above. Moving the cursor to the current color icon and clicking the right button causes the current function icon to be highlighted. Fat Bit Edit now executes in palette selection mode.
2. Move the cursor to a pixel in the fat bit display. Clicking the right button causes the color of that pixel to be the current color (and changes the current color icon accordingly.) Now, moving the cursor to one of the color icons and clicking the right button changes that icon to the current color.
3. This method can be used to build a palette of colors based on the current screen image. This is particularly useful when working with higher color resolution graphics boards.
4. To return to normal fat bit operation, move the cursor to the current color icon and click the right button. The current function icon to its left will no longer be highlighted.



How To Store And Retrieve Edited Symbols.

1. Select the size of the symbol from the second line of the pop-up menu.
2. Now select the Fat Bit Edit Icon from the top line of the pop-up menu and move the cursor box over the portion of the image you want to store as your symbol. If you selected the infinite size, you can also size your symbol box by moving the pointing device with the right button held down. Capture your symbol by clicking the left button.
3. Move the cursor to the upper left corner of the box and click either button to exit Fat Bit Edit.
4. From the Main Menu icons, reselect the Fat Bit Edit Icon with the right button to re-display the pop-up menu.
5. Type in your filename for the symbol on the bottom line of the pop-up menu.
6. Move to the Disk Icon with the arrow pointing downward and click either button.
7. The maximum size of a symbol is 32K. However, the size of the batch pattern icon is 32 pixels. Only a 32 x 32 portion of a larger symbol will be displayed in the hatch pattern icon box.
8. To retrieve a symbol from the symbol file, type the name of the symbol file on the bottom line of the pop-up menu. Then, move your cursor to the Disk Icon with the arrow pointing upward and click the left or right button depending on how you wish to display the symbol.

If you click the left button, the symbol will be stored in the original colors used for its creation.

If you click the right button, the symbol will be stored in black and white only. For symbols created in graphics modes with more than 2 colors, all non-black colors will be saved as white. The colors of symbols saved in this manner can be modified when retrieved by the standard color manipulation functions. This feature also allows you to transfer symbols between different color resolution modes.

A box representing the size of your symbol will appear on the screen. Move the box to the location on the screen where you want to place the symbol and click the left button.

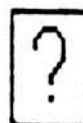


Placing a Hatch Pattern in the Icon Menu

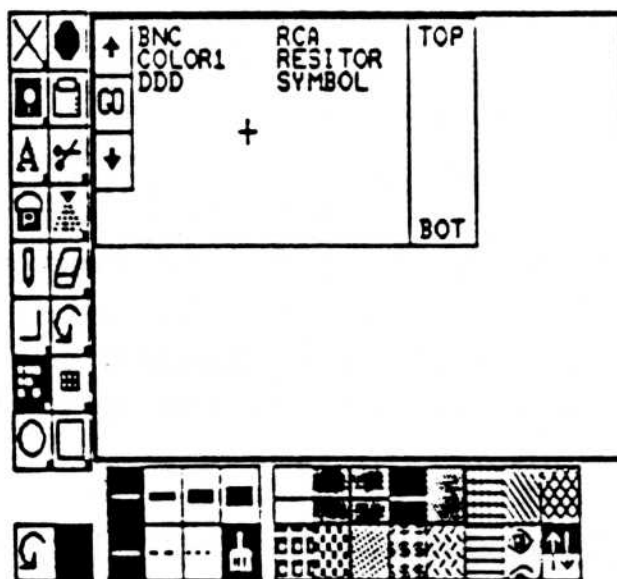
You can place a previously saved symbol into a hatchstyle icon. It will replace the icon that is occupied by the eyeball when you first run Dr. HALO II.

Enter the filename of the symbol you wish to place in this icon on the bottom line of the Fat Bit Icon pop-up menu. Move your cursor to the icon with the arrow pointing down to the hatchstyle. Click either the right or left button to place the symbol in the hatchstyle icon menu. Clicking the left or right button will have the same effect on the coloring of this hatch pattern as in the description for storing and retrieving symbols above.

Symbol files are automatically assigned the suffix .sym.



The Question Mark Icon in the top line of the pop-up menu gives you a directory display of the names of the symbols stored on disk. Selection of a symbol filename from the directory display will cause it to be entered on the bottom line of the pop-up menu.



The last icon on the top line of the pop-up menu allows you to delete files from the symbol directory. First type the name of the file you want to delete on the bottom line of the pop-up menu. Then move the cursor to this icon and click either button. Dr. HALO II displays the following prompt:

Delete File?

left = YES

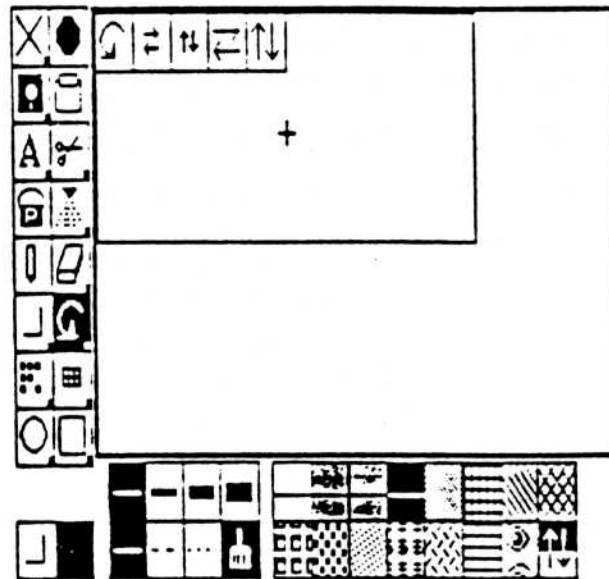
right = NO

Click the appropriate button for the desired action.

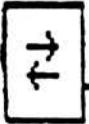


ROTATE

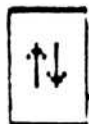
This icon allows you to rotate an image in 90 degree increments, and to create mirror images of screen areas and of the entire screen.



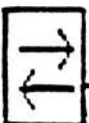
The Rotate Icon allows you to rotate any portion of the screen to the left in 90 degree increments. When you select the Rotate Icon from the pop-up menu, a cursor box will appear on the screen. You can size the box to indicate the area to be rotated by moving the pointing device with the right button held down. The box will always remain square in terms of pixels. Move the pointing device to place the box over the area to rotate. Click the left button to activate the first 90 degree rotation. Continue to click the left button to make the image rotate in additional 90 degree increments.



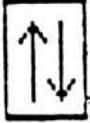
The Small Horizontal Arrows Icon allows you to flip a portion of an image from left to right. Selection of this icon from the pop-up menu will cause a cursor box to appear on the screen. You can size the area to be flipped by moving the pointing device with the right button held down. Click the left button to flip this area. To restore the area, click the left button again.



The Small Vertical Arrows Icon allows you to flip a portion of an image from top to bottom. Execution of this function proceeds as above. Clicking the left button causes the area within the box to be flipped from top to bottom.

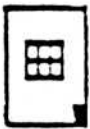


The Horizontal Lines Icon allows you to flip the entire screen from right to left. Selection of this icon from the pop-up menu causes the function to execute. Selection a second time restores the screen.



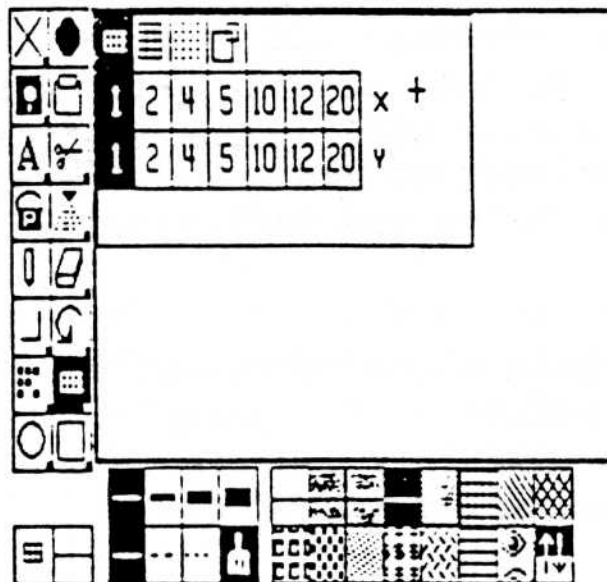
The Vertical Lines Icon allows you to flip the entire screen from top to bottom. Selection of this icon from the pop-up menu causes the function to execute. Selection a second time restores the screen.

Flipping either the entire screen, or a portion of the screen, horizontally takes a significantly longer time than flipping either a portion or the entire screen vertically. This is due to the graphics hardware construction.

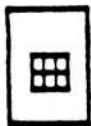


DRAWING VISIBLE AND INVISIBLE GRIDS

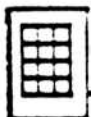
This icon creates visible and invisible grid lines on the screen.



The pop-up menu grid icons create grids in the size specified by the second and third lines of the pop-up menu. The X value is the number of grid lines drawn horizontally; the Y value is the number of grid lines drawn vertically. You must select the grid size before exiting the pop-up menu and thereby executing the grid function.



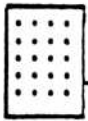
The Variable Sized Visible Grid Icon allows you to place a variable sized box with a grid in it on the screen. First select this icon, and then select the number of grid lines from the second and third lines of the pop-up menu. To execute the function, move the cursor away from the icons in the pop-up menus and click either button. A rubberband box will appear on the screen representing the grid area size. You can change the size of the box by moving the pointing device with the right button held down. Move the box to the screen area where you want to place the grid and click the left button. The number of grid lines drawn in the box will be the numbers selected from the pop-up menu.



The Full Screen Visible Grid Icon creates a visible grid which covers the entire screen display area. Select this icon, and then select the number of grid lines from the second and third lines of the pop-up menu. To execute the function, move the cursor away from the icons in the pop-up menu and click either button.

To draw a box around the screen, select the Full Screen Visible Grid Icon with a grid size of 1 x 1.

The Visible Grid Icons operate under the control of the current color, line style and line width. Grids will be drawn accordingly.



The Full Screen Invisible Grid Icon creates a grid of invisible lines which controls the entire screen display. This invisible grid controls the function of most of the drawing and figure icons; only the intersection points of the grid are valid drawing points. The cursor will appear to "jump" from one grid point to the next as you move the pointing device. This feature helps you to line up graphs and text on the screen.

The X and Y grid sizes represent the number of pixels between grid points. For example, if you specify X = 4, Y = 4, you will only be able to move to points whose coordinates are multiples of 4.

To disable the invisible grid, return to the pop-up menu, select the invisible grid icon with the 1 x 1 grid size options, and click either button.



The Scale Icon takes the upper left one fourth of the screen image and blows it up to a full screen display. Select this icon and move the cursor away from the icons in the pop-up menu. Click either button to blow up the image.

This option allows you to transfer an image that was created on a lower resolution graphics board to a higher resolution graphics board and then enlarge it to fit the entire screen. When you are transferring images between boards and modes using the Full Screen Cut Icon, the lower resolution image will be displayed in the upper left corner of the screen in the higher resolution mode. Use this function to expand the cut image to full screen.

Creating Bar Charts Using The Grid Icon.

Here are a few hints to help you to use the Grid Icon to create quick bar charts:

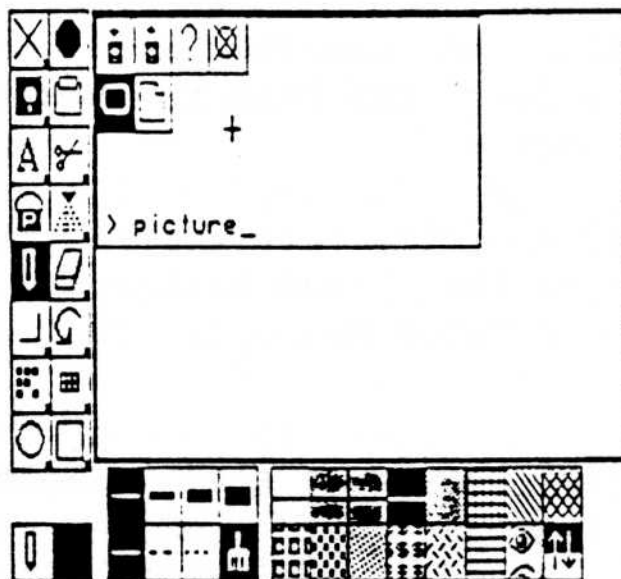
1. Draw either an invisible grid, or a visible grid in a color that you will not be using in your chart. Select one of the higher numbers of horizontal and vertical lines in the pop-up menu to closely space the lines for greater detail.
2. Use the Text Icon functions to write your text and numbers on the screen.
3. Use the Rectangle Icon to draw two dimensional or three dimensional bars, preferably with contrasting color borders; or use the Line Draw Icon to produce a line chart or line fill chart; or use the Line Draw Icon in conjunction with the Paint Can Icon to create line curve or filled curve charts.
4. If you have used a visible grid, you can now remove it by changing its color to the screen background color. Refer to the section on Color Swapping for detailed instructions.
5. Remember to save partial charts to disk to maintain a working copy.



SAVING AND RETRIEVING FILES

This icon allows you to store and retrieve images, to retrieve text files, and to delete files from disk. It also provides directory management capabilities for picture and text files.

There is no default option for this icon; moving the cursor to the Disk Icon and clicking with either button will bring up the pop-up menu. The pop-up menu contains three lines for: naming the file; selecting the picture or text file option; and storing, retrieving, and deleting files, and managing the directories.



> picture_ — The bottom line in the pop-up menu is used to identify the name of the file currently being used. To enter the name, use the backspace key to delete the previous filename, (initially "picture" for image files, or "text" for text files,) and type in your file name. If you selected a filename from the directory it will also appear on this line. The last filename selected is displayed on this line.



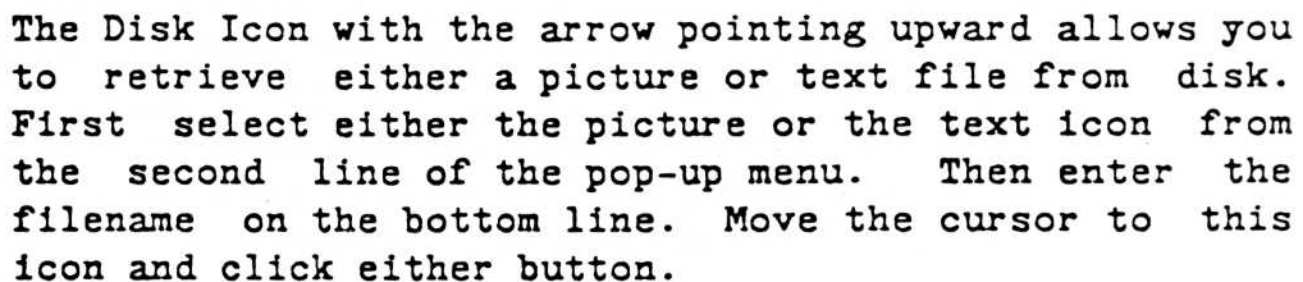
This icon represents a picture file. All images saved and retrieved using this icon are given the filename suffix ".pic".



The page icon represents a text file. Text files with the filename suffix ".txt" can be retrieved using this icon. Text files are created using a word processing program or entered as ASC II files. These files should be limited to a page or less to fit on the Dr. HALO II screen. (Refer to Chapter 3, Section IV, Virtual Page, for instructions on incorporating text with graphics.)



The Disk Icon with the arrow pointing downward allows you to store a full screen image to disk. To store the image, enter the filename, move the cursor to this icon, and click either button.

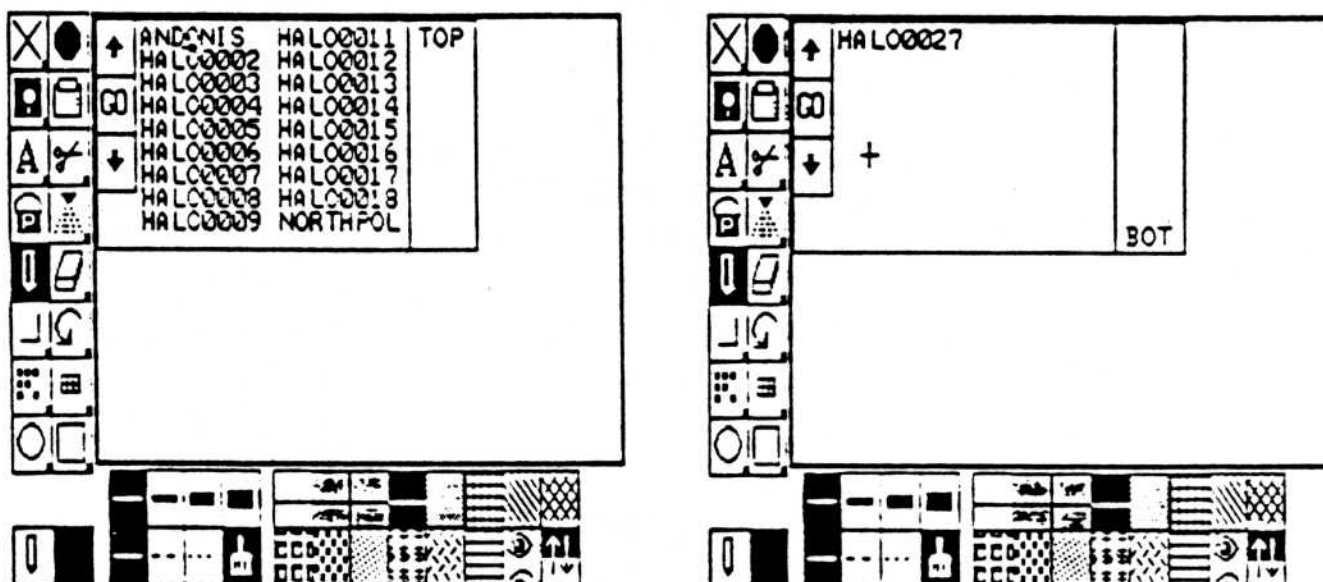


If you are retrieving an image file, the selected image will appear on the screen and the icon menus will overlay the new image. Reading an image file will also reset the current background color to black.

If you are retrieving a text file you must first select the font style and font attributes in which to display your text. A box will appear on the screen representing the size of the text block in the selected font. You may change the location of the text block by moving the pointing device. If you have selected the infinite size for the text font, you may change the size of the text block by moving the pointing device with the right button held down. Click the left button to put the text on the screen.

?

The question mark icon displays the directory for either picture or text files. When the Text Icon has been selected in the second line of the pop-up menu, selection of the Question Mark will display the filenames of the text files in the directory. When the Picture Icon has been selected, the filenames for picture files will be displayed.



Clicking with either button on the arrows to the left of the directory allow you to scroll up and down through the directory. TOP will appear on the top right of the first display page; BOT will appear on the bottom right of the last directory display page. Move the cursor to the desired file name and click either button to select it. Then move the cursor to GO and click either button to place the selected filename on the bottom line of the pop-up menu.



The Delete Icon allows you to delete files from the disk. First select either the Text or Picture Icon from the second line of the pop-up menu. Enter the filename to delete on the bottom line of the menu. Move the cursor to the Delete Icon and click either button. This message will appear:

```
Delete file?  
left = YES  right = NO
```

Click the appropriate button for the desired action.

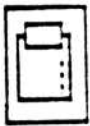
The Disk Icon follows the path specified as part of the filename entered on the bottom line of the pop-up menu. For example, if

D:

were entered on the bottom line of the pop-up menu and you selected the Question Mark Icon, you would get a directory of the D drive. If

D:\drhalo\

were entered on the bottom line, selection of the Question Mark Icon would display the directory of the DRHALO subdirectory on the D drive.



PRINTING A PICTURE

This icon prints the picture displayed on the screen to the selected printer.

There is no pop-up menu of options for this icon. When you select the icon, Dr. HALO II will display the following prompt:

```
Print Screen?  
left = YES      right = NO
```

Click the appropriate button for the desired action.

If you click the left button, the main menu icons will disappear and the screen image will be printed according to the options specified in the SETUP program (see Chapter 2, Section I).

If the final size specified for the printed image exceeds the size of the printer page, there will be an immediate error return and the main menu icons will be displayed.

To interrupt the print function, take the printer off-line or power it down. Dr. HALO II will stop output to the printer and restore the main menu icons to the screen.

If you are in Virtual Page mode, the print icon will print your entire virtual page.

The size, shape, and coloration of the printed representation of your screen image will be determined by the print parameters specified when running the SETUP program. (See Appendix C, Table 2 for information on specific printers). Orientation will determine whether the image is printed horizontally or vertically on the page. X and Y scale factors are the pixel replication factors used to map your screen image onto the printed page.

For color printers, the Red, Green, and Blue values for each screen color index determine in which printer color that index is printed.

For black and white printers, if no dithering is specified, color indices are alternately mapped to black and white. If dithering is specified (the default), the X and Y scale factors determine the number of available shades of grey (or printer "colors") that are available:

$$\text{Shades of grey} = (\text{X scale}) * (\text{Y scale}) + 1$$

The screen color index modulo the number of grey shades determines the grey shade in which that color index is printed.

Remember that if you use either the Epson JX or Toshiba printers, you must allocate additional stack space for printer buffering. This can be done by running Dr. HALO II as follows:

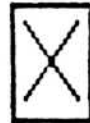
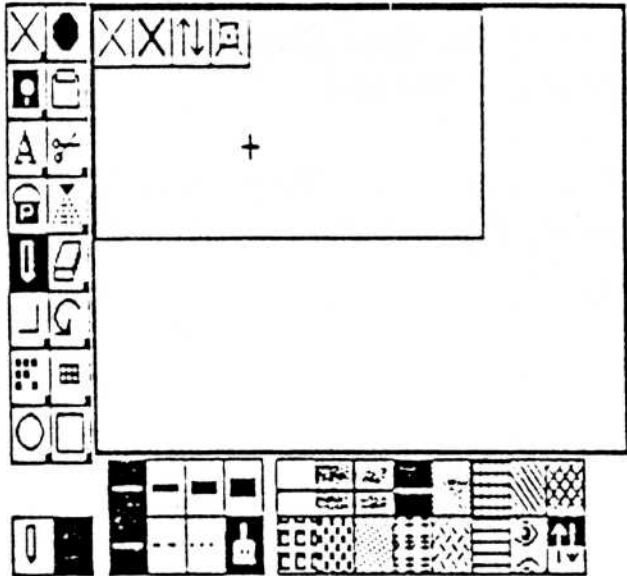
DRHALO =xxxx

,where xxxx =	20000	Epson JX in 7 pass (27 color) mode
	14000	Epson JX in 4 pass (8 color) mode
	13000	Toshiba printer



CLEARING THE SCREEN

This icon allows you to erase the entire image from the screen, to shift the icon menus from the left and bottom to the right and top sides of the screen, and to remove the icon menus from the screen to permit full use of the screen.



This option clears the screen to the background color which is currently in use. It is the default option. The default background color is black.

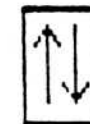


This option clears the screen to the color which is the current color and is displayed in the Current Color Icon. It also sets this color as the current background color. The next time the default clear screen is invoked, the screen will be cleared to this color.

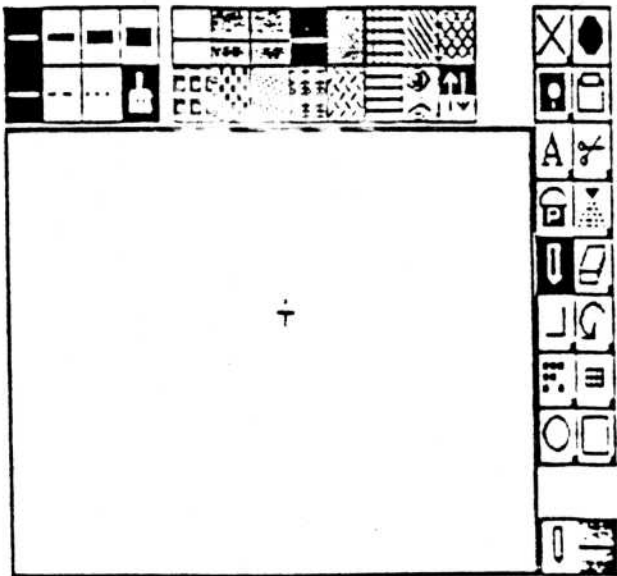
If you choose either of these two icons, Dr. HALO II will display the following prompt:

Clear the Screen?
left = YES right = NO

Click the appropriate button for the desired action.



This option shifts the icon menus from the left side and bottom of the screen to the right side and top of the screen. To restore the icons, select this function again.





This option allows you to utilize the entire screen area for drawing by removing the icon menus. You can restore the icons by moving the cursor to the left edge of the screen and clicking the right button.

You also can remove and restore icon menus by pressing the space bar or the tab key.

The Clear Screen Icon functions do not change the current function. The function displayed in the Current Function Icon remains active after a clear screen command.

To edit a full screen image, first select your editing function. Then select the Remove Icons icon from the Clear Screen pop-up menu.



EXITING FROM DR. HALO II

This icon enables you to exit Dr. HALO II and return to DOS.

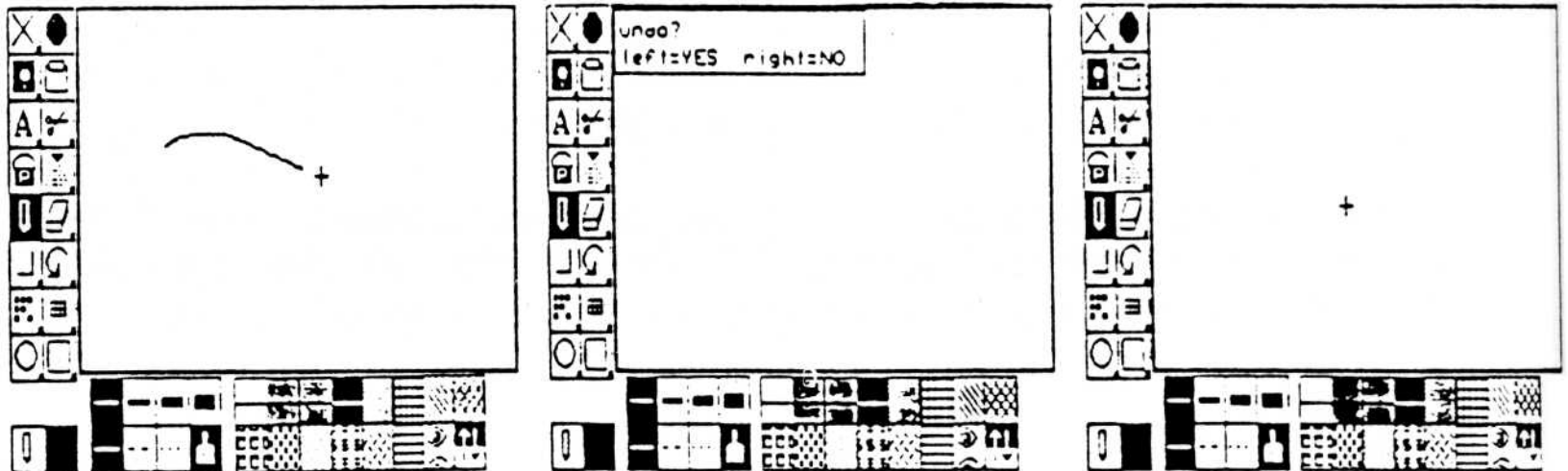
Select the Stop Sign Icon by clicking with either button. Dr. HALO II will display the following prompt:

Exit to DOS?
left = YES right = NO

Click the appropriate button for the desired action. You also can exit to DOS by typing Ctrl X (Remember that if you are using your keyboard as a pointing device, you must first hit ESC).

V. UNDO

The Undo Icon allows you to remove the most recent changes made to the screen.



To activate Undo, move the cursor to the Current Function Icon and click either button. This will cause a pop-up menu to appear which displays the following Undo prompt.

UNDO?
left=yes right=no

Click the appropriate button for the desired action.

When you select a new function icon, the current image on the screen is saved to the Undo buffer (but not to disk). The Undo command restores the image in the Undo buffer to the screen, erasing any changes made since the last save to the Undo buffer.

To force an updating of the Undo buffer you can move the cursor to the icon that you are currently using and click a button. This is a good method for always keeping the last "good" version of a drawing.

Undo only buffers one screen image. If you are creating complex pictures, it is recommended that you save your picture to disk as each stage of development is completed. This will limit the scope of each Undo activity and enable you to use it effectively to erase only mistakes.

Undo requires an amount of memory equal to the display screen size for its buffer. If you do not have enough memory for its implementation, you will get a warning message when Dr. HALO II starts and Undo will be inhibited. If you do not have enough memory to support Undo, clicking the Current Function Icon will do nothing.

The implementation of Undo requires that the entire display screen be saved each time that a function icon is selected. For higher resolution graphics boards, the time delay associated with Undo buffering will be greater. You may wish to disable Undo in such cases.

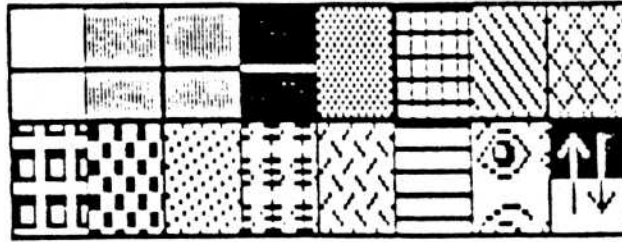
If you have removed your icons from the screen to have use of the whole screen, you can save your current screen to the Undo buffer by typing Ctrl-B. You can invoke the Undo function and restore the Undo buffer to the screen by typing Ctrl-U.

The UNDO buffer is updated whenever:

- 1) The icon menus are toggled on or off or moved from "left and bottom" to "top and right";
- 2) After reading an image;
- 3) After a full screen grid;
- 4) Selection of a new function icon.

VI. SELECTING COLORS AND HATCH PATTERNS

The icons on the left side of the top line of the main menu icon display at the bottom of the screen are used to select solid colors for drawing, painting, and hatch patterns.



Selecting a Color for Drawing and Painting. To select a color for painting or drawing, move the cursor to the desired color icon and click the left button. It does not matter if you point to the upper or lower half of the icon. The selected color for drawing will be displayed in both halves of the Current Color Icon in the lower left corner of the screen.

The top half of the Current Color Icon displays the selected drawing color for the Line Draw Icon and other icon functions which draw lines (such as grid).

The bottom half of the Current Color Icon displays the selected hatch pattern for area filling with the Paint Can Icon and other icons.

Selecting Colors for Hatch Patterns. The upper and lower halves of the solid color icons are used to select foreground and background colors for hatch patterns.

1. To select a foreground color move the cursor to the top half of a solid color icon and click the right button. The foreground colors in all the hatch pattern icons will change to this color.
2. To select a background color, move the cursor to the bottom half of a solid color icon and click the right button. The background colors in all the hatch pattern icons will change to this color.

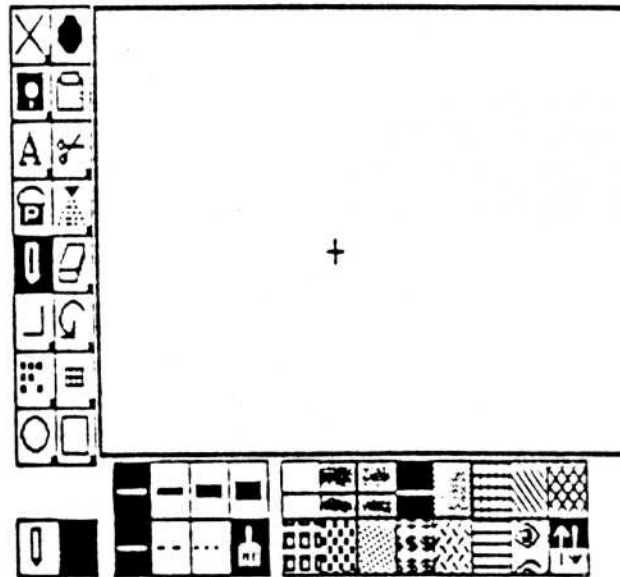
NOTE: A user created hatch pattern retrieved using the right button cannot be changed (See Chapter 4, Section III).

3. To select a hatch pattern as the current fill pattern, move the cursor to the hatch pattern icon and click either button. The hatch pattern will appear in the bottom half of the Current Color Icon.



COLOR SWAPPING

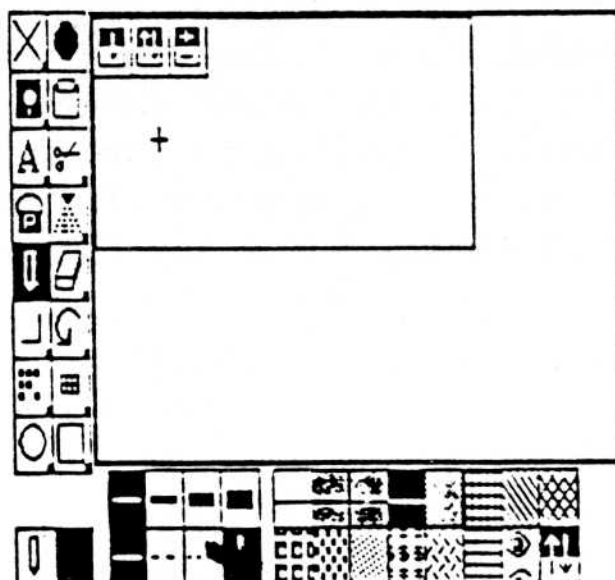
This icon performs several color changing functions, including changing palettes, changing color icons, and switching screen colors. It is located in the lower right corner of the screen. The icon works differently depending on the number of colors available on your graphics card. A summary of its operation with different graphics cards is contained in the following table:



LEFT BUTTON FUNCTION FOR THE COLOR SWAP ICON

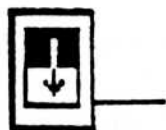
Colors Available For Display	Icon Half Selected	Function
2	Top	Changes Foreground Color
	Bottom	Interchanges Hatch Pattern Colors
4	Top	Changes Palette
	Bottom	Changes Background Color
16	Top	Switches to Alternate 8 Colors
	Bottom	Switches to Alternate 8 Colors
256	Top	Switches To First 8 Colors
	Bottom	Advances to Next 8 Colors

The Color Swapping Icon has a pop-up menu with three options which can be selected by moving the cursor to either half of the icon and clicking the right button.



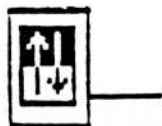
Replace One Color With Another.

1. Select the color to be replaced by moving the cursor into the top half of the solid color icon and clicking the right button. This color will be displayed in the top half of the Color Swapping Icon at the bottom right of the screen.
2. Select the new color by moving the cursor into the bottom half of the solid color icon and clicking the right button. This color will be displayed in the bottom half of the Color Swapping Icon.
3. Move the cursor to the Color Swapping Icon and click the right button to display the pop-up menu. Move the cursor to the Color Replacement Icon and click either button. All pixels on the screen the same color as the top half of the Color Swapping Icon will be replaced with pixels of the color in the bottom half of the Color Swapping Icon.



Interchange Two Different Colors.

1. Select the colors to be interchanged by placing them in the top and bottom halves of the Color Swapping Icon as described above.
2. Select the Color Interchange Icon from the pop-up menu and click either button. The two colors in the Color Swapping Icon will be interchanged on the display screen.



4. If you are using the Polygon Fill, Solid Box, Three Dimensional Box, Solid Circle, or Solid Ellipse Icons, Dr. HALO II will automatically fill these shapes with the hatch pattern displayed in the bottom half of the Current Color Icon.
5. Dr. HALO II also allows you to paint with your own hatch pattern using either a symbol of your own creation, or one retrieved from the symbol library (see Chapter 4, Section III).

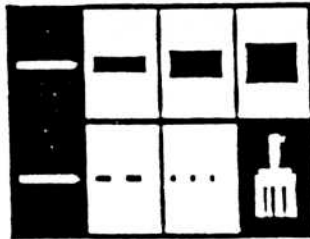
Create a Negative of Your Image.



Select the Negative Image Icon from the pop-up menu to create a negative of your screen display. Each pixel is replaced with a pixel whose color index is determined by subtracting the original color index from the maximum color index for the graphics resolution mode.

SELECTING LINE STYLES AND WIDTHS

The top row of this set of icons allows you to select the width of lines drawn by freehand, straight and curved line functions as well as the width for borders of filled and unfilled images and line width for text. To select a line width, move the cursor to the appropriate icon and click either button.



The icons in the bottom row control the selection of line styles. Lines can be composed of dots, dashes, or solid lines (the default).

The last icon in this row is the Paintbrush, which determines whether drawing actions will be discrete or continuous. The Paintbrush operates with the Circle, Box, Airbrush, Cut and Paste, and Straight and Curved Lines Icons. When Paintbrush is activated (the default), you can draw continuous patterns using any of these icons. If Paintbrush is not selected, only one pattern can be drawn each time you click the left button.

Dr. HALO II highlights the selected Line Style, Line Width, and Paintbrush Icons.

CHAPTER

5

CHAPTER 5

HOW TO USE THE DR. HALO II VIRTUAL PAGE

The Virtual Page feature allows you to create a work space in the memory of your computer that is larger than the display screen of your monitor for output to a printer. Your display screen serves as a window into your virtual page. The virtual page feature can be used to read ASCII text files and merge these files with graphics for output to a printer.

Sizing Your Virtual Page. The size of your virtual page is limited by the amount of memory available in your computer and by resolution of your printer.

Estimating Memory Requirements:

Before you use the Virtual Page feature, you will need to determine how much memory is available in your system for the virtual page. Enter DOS and type the command CHKDSK. Subtract the amount of memory that is used by Dr. HALO II (approximately 228K) from the available memory as reported by CHKDSK to calculate the amount of memory available for a virtual page.

Then calculate the size of your virtual page. The formula for calculating a virtual page size is based on the size of the virtual page and the number of pixels per byte.

$$\begin{array}{r} \text{vpage size in bytes} = \text{X dimension} * \text{Y dimension} \\ \hline \text{pixels per byte} \end{array}$$

where 2 color mode = 8 pixels per byte
 4 color mode = 4 pixels per byte
 16 color mode = 2 pixels per byte
 256 color mode = 1 pixel per byte

For example, the amount of memory required to create a virtual page size of 960 x 720 (the size of an Epson printer page) in two color mode is:

$$\begin{array}{r} 960 \times 720 \\ \hline 8 \end{array} = 86.8K$$

The size of a virtual page should match the page size and resolution of your printer. Appendix C, Table 2 contains the recommended virtual page sizes and color modes for printers that are supported by Dr. HALO II.

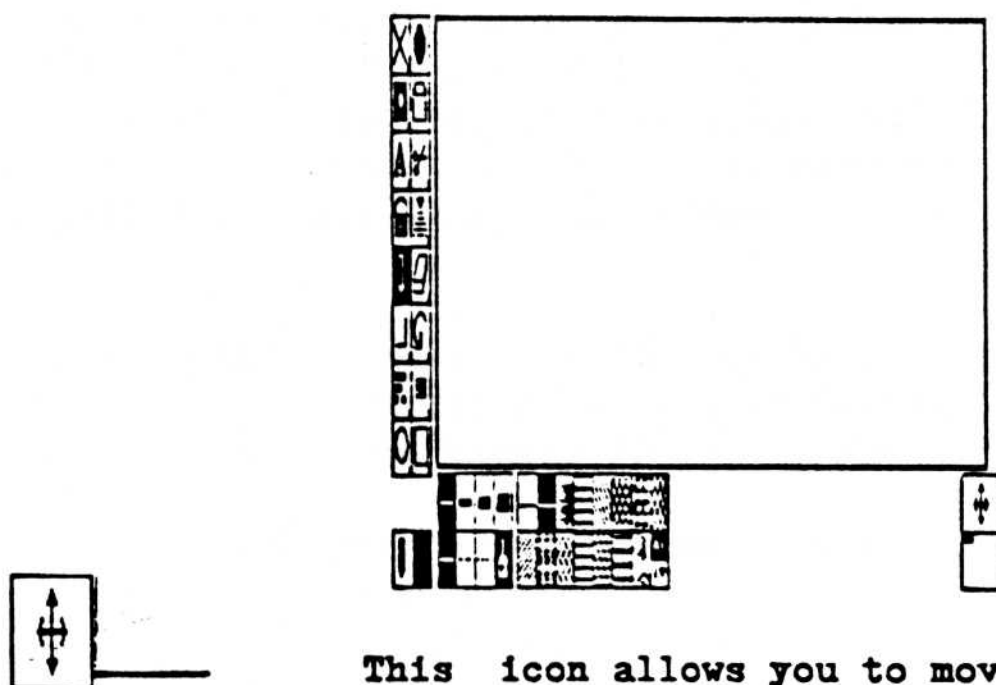
If you select a virtual page size that exceeds the amount of memory available, Dr. Halo II will print out the following

warning message and terminate:

Additional memory needed: xx kb

Setting Up Your Virtual Page. To use the Virtual Page feature, type SETUP after you have completed the CHKDSK task. The SETUP program will prompt you to enter your board and mode selections. Then answer yes to the Virtual Page Prompt. The number of colors for your Virtual Page will be the number of colors of the graphics mode selected. The graphics mode will be the size of the display window into the Virtual Page.

Using the Virtual Page Icons. This is how the Dr. HALO II screen appears in Virtual Page mode. The monitor screen now functions as a window on which you can display a selected area of your Virtual Page. Note that there are now two additional icons in the lower right corner of the screen. These are the Virtual Page Icons.



This icon allows you to move your display window around within the virtual page. It works in conjunction with the display icon below. The display icon represents the position and size of the display window within the virtual page. Moving the cursor on to the point of one of the directional arrows in the icon and clicking the left button will move the display window 64 pixels in that direction. The actual display window will be updated, and the position of the display window in the representational icon below will also reflect the movement. Clicking the right button will cause the window to move all the way in the selected direction (to the top, bottom, right, or left).



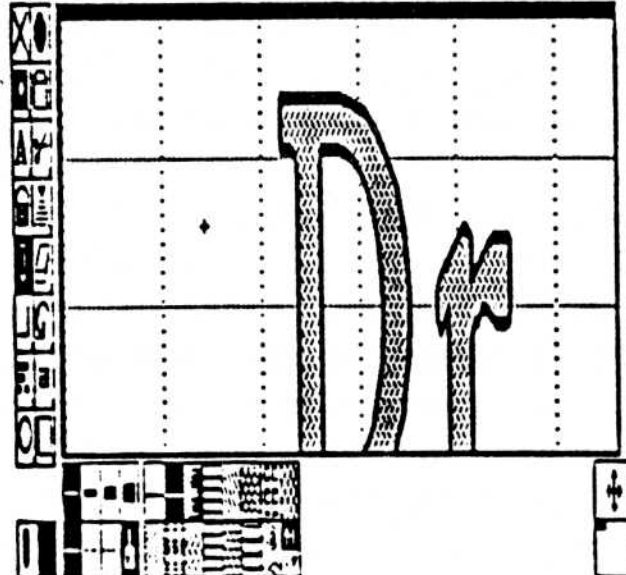
This icon shows what portion of the virtual page you are currently viewing. It consists of an outer box which represents the entire virtual page, and a small box, which represents the size and position within the virtual page of your current display window. The current window box tracks the movement of the scrolling icon to indicate the position of the window through which you are viewing the virtual page.

This icon also provides access to a full screen representation of the virtual page for full virtual page editing (for those functions which support it), or as an alternative method of positioning the display window within the virtual page.

Clicking the left button on this icon will bring up a full screen representation of the virtual page; the small box represents the display window.



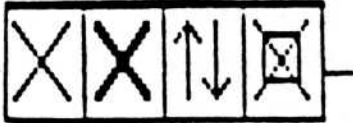
Move the pointing device to position the display window within the virtual page. Click either button to return to the display window editing mode.



Clicking the right button on this icon will have the same effect as described above if the current active function is NOT allowed as a full virtual page editing function. If the current function is an allowable full virtual page editing function (such as cut and paste), clicking the right button brings up the virtual page with the function still enabled. You can then proceed with editing on the full virtual page. To return to the display window editing mode, hit the space bar, the tab key or move the cursor to the left hand edge of the screen and click the right button.

HOW THE ICONS FUNCTION. IN VIRTUAL PAGE

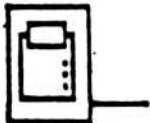
In Virtual Page, most Dr. HALO II icons will allow you to create and edit images only within the current window that is displayed on the screen. However, the Clear Screen, Disk, Printer, Cut and Paste and Grid Icons also allow you to access the entire virtual page to perform additional functions.



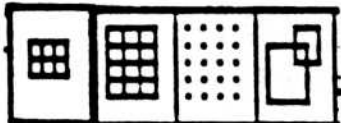
Clear Screen. The default icon clears only the current window. The second icon in the pop-up menu clears the entire virtual page to the current color.



Disk. When you save an image with the Disk Icon in Virtual Page, only the current window is saved as a picture file. The entire Virtual Page can only be saved as a cut file. This is done using the Save Full Screen Icon from the Cut and Paste (Scissors) pop-up menu.

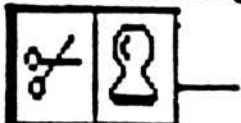


Printer. The Print Screen Icon will print the entire virtual page.

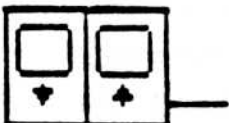


Grid. The Visible Full Screen and Invisible Full Screen Grid Icons from the Grid pop-up menu create grids on the entire virtual page. To create a visible grid on only the current display window, select the Variable Size Grid Icon from the pop-up menu, and set the grid size to the entire screen.

Cutting and Pasting on the Virtual Page.



The Rubberstamp and Cut and Paste functions of the Cut and Paste pop-up menu can operate on the full virtual page. Select the appropriate function from the pop-up menu. Move the cursor to the virtual page representation icon in the lower right corner and click the right button. A representation of the virtual page will be shown full screen with a rubberband box representing the area to be cut and pasted or rubberstamped. You can now perform these functions on the full virtual page.



The Save Full Screen Cut File and Retrieve Full Screen Cut File functions of the Cut and Paste pop-up menu allow you to save and retrieve a full virtual page as a cut file.

The Retrieve Cut File function of the Cut and Paste pop-up menu brings up a box representing the size of the cut file. You can then place the cut image on the display window screen. You can also position the cut image on the full virtual page by moving the cursor to

the full Virtual Page Representation icon and clicking the right button. The virtual page will be displayed full screen with a box representing the cut image. You can move the box by moving the pointing device. Place the cut image on the virtual page by clicking the left button. This can be done repeatedly to place several copies of the cut image in different locations on the virtual page. To return to the window display mode, hit the space bar or move the box to the left hand side of the screen and click the right button.

Placing Text Files on the Virtual Page.

(This is a brief description, for more detail see Chapter 3 Section IV.)

Select the desired font style and size from the Text Icon pop-up menu.

Select the Disk Icon. Select the Text Page Icon from the pop-up menu, and enter the name of your text file, or select the file from the directory listing.

Select the Retrieve from Disk Icon from the top line of the pop-up menu. A rubberband box representing the text file will appear on the screen.

Move the cursor to the full virtual page representation icon and click the right button. A representation of the virtual page will appear full screen with a box with a text cursor in the lower left corner representing the text block.

If you have selected the infinite size for your font, you may change the size of the text block by moving the pointing device with the right button held down. You may position the text block on the virtual page by moving the pointing device.

Click the left button to cause the text to be transferred to the virtual page. The message:

Please wait. Loading xxx characters.

will appear. You can continue to place the same text on the virtual page by moving the text box and clicking the left button.

To return to the window editing mode, hit the space bar or move the box to the left hand side of the screen and click the right button.

You can use the Dr. HALO II virtual page to mix text and graphics for output to a printer by using the text and cut and paste functions as described above. See also Chapter 3, Section 4 for a specific text and graphics application.

RECOMMENDED VIRTUAL PAGE SIZES

The following virtual page sizes correspond to an 8 1/2 X 11 full page display on the given printer. Since the first three color printers use roll paper, the page size was determined by maintaining a 4:3 aspect ratio.

PRINTER	X RANGE	Y RANGE	COLORS	MEMORY	
ACT II	1024	768	2	96K	
	1024	768	4	192K	
	1024	768	16	384K	
Diablo	1024	768	2	96K	
	1024	768	4	192K	
	1024	768	16	384K	
Quadjet	640	480	2	38K	
	640	480	4	75K	
	640	480	16	150K	
IDS Prism	692	882	2	77K	
	692	882	4	153K	
	692	882	16	305K	
Thinkjet	1280	680	2	150K	*
Epson	960	720	2	85K	*
Laserjet	600	825	2	60K	*,**
Imagewriter	640	720	2	57K	*, ***
	960	720	2	85K	
	1280	720	2	113K	
Corona Laser	2048	1024	2	263K	*, ****
Epson JX	576	720	2	52K	***
	576	720	4	104K	
	576	720	16	208K	
	960	720	2	87K	
	960	720	4	173K	
	960	720	16	346K	
	1920	720	2	173K	
	1920	720	4	346K	
Toshiba	1530	1890	2	362K	*

Notes:

- * Output from a virtual page with more than 2 colors to a black and white printer may not produce desired results. Since the virtual page size exactly maps the printer page,

there is no dithering done.

- ** Because of the limited buffer capacity of the Laserjet, a full virtual page is only possible in the 75 dots per inch resolution.
- *** The different modes reflect the different horizontal dot densities available.
- **** The size of the Corona virtual page requires a printer X scale of 1, and Y scale of 3.

DEVICES THAT DO NOT SUPPORT THE DR. HALO II
VIRTUAL PAGE

The Dr. HALO II virtual page feature is not supported on the following graphics boards in these modes:

Amdek MAI in graphics modes > 1

Conographics in graphics modes > 1

Sigma Color 400 in graphics modes > 1

IBM Enhanced Graphics Adapter in graphics modes > 1

AT&T Display Enhancement Board in graphics modes 2,3,4, and 5

Number 9 in modes 1,3.

AT&T Image Capture Board.

AT&T Video Display Adapter in mode 0.

Texas Instruments Professional.

CHAPTER

6

CHAPTER 6

HOW TO USE THE DR. HALO II IMAGE GRABBER

The Dr. HALO II Image Grabber program enables you to capture graphic displays created by other bit mapped graphics packages for editing and enhancement by Dr. HALO II.

The Image Grabber will capture only graphic images such as pictures and charts. It will not operate on IBM text. To use Image Grabber, your personal computer must be equipped with an IBM or a Hercules graphics card.

You must first load the Image Grabber before running the graphics package from which you want to "grab" an image.

To load the Image Grabber program, type

```
GRAB x,yyyy
where x = I IBM
          H Hercules
          L Lotus for Hercules
and yyyy = starting file number.
```

At the next DOS prompt, execute your graphics program and display the image that you want to capture.

Press ALT-PrtSc to capture the image. It will be stored as a Dr. HALO II picture file with the filename HALOyyyy.PIC on the current drive and volume. Each additional screen that is captured will be given a sequential file number (the next filename would be HALOzzzz.PIC, where zzzz = yyyy + 1). The starting file number can be changed by typing GRAB and entering a new starting file number.

Exit to DOS and load Dr. HALO II. You can now retrieve your captured image using the Disk Icon and edit and enhance your picture using any of the tools available in Dr. HALO II.

The Image Grabber program occupies approximately 2K bytes of RAM memory. To clear the Image Grabber from memory, reboot the system.

NOTE: When capturing images from Lotus 1-2-3, use the 1-2-3 entry point, rather than the Lotus entry point. This will avert buffering problems between GRAB and Lotus.

CHAPTER 7

CHAPTER 7

HOW TO USE THE DR. HALO II SLIDE SHOW PROGRAM

The Dr. HALO II SHOW Program allows you to create a slide show for display on your computer or to organize your Dr. HALO II pictures into a batch file for hard copy output.

Building The SHOW Program File.

Hard Disk: If you are running the SHOW program from your Dr. HALO II subdirectory on hard disk, you will have all the files you need to use the SHOW Program in your subdirectory.

Floppy Disk: If you are running SHOW from a floppy disk, you will have to copy the following files onto your disk: the configuration file created with the SETUP Program (HALO.CNF), the SHOW Program (SHOW.EXE), the graphics device driver file (.DEV), the printer driver file if you wish to use the printing facilities (.PRN), and the .PIC files that you want to use in your slide show.

The following example assumes that your working copy of Dr. HALO II is in drive A and a formatted disk is in drive B:

```
A> copy halo.cnf b:
A> copy haloxxxx.dev b:
A> copy haloyyyy.prn b:
A> copy filename.pic b:
```

Put the device drivers distribution disk in drive A and copy the show program to your working disk in drive B:

```
A> copy show.exe b:
```

Consult Chapter 1, Section II for the device names of your video display card and printer.

To run the SHOW Program, type SHOW.

Slide Show Main Menu.

The Main Menu allows you to select options that enable you to input, edit, run, print and output files containing a list of Dr. HALO II images in slide show or batch format. Here is a copy of the Main Menu:

SLIDE SHOW PRESENTATION

```
INPUT    1 - Create a New Slide Show
```

2 - Input Slide Show Data From Disk

EDIT: 3 - Edit Current Slide Show Data

RUN: 4 - Run the Current Slide Show
5 - Continuously Run The Current Slide Show
6 - Display a Single Slide

PRINT: 7 - Print The Current Slide Show
8 - Print a Single Slide

OUTPUT: 9 - Save Slide Show Data on Disk

X - Exit to DOS

Creating and Editing a Slide Show.

The INPUT command allows you retrieve a slide show stored on disk. You must assign a filename to the slide show. Slide shows are assumed to have the suffix .SHO.

The CREATE command allows you to create a slide show presentation. Selecting the CREATE option will bring up the first data page for slide show entry. This is the same as editing an empty slide show.

The EDIT command will bring up the first data page for editing your slide show.

The Data Pages:

There are up to ten Data Pages for use in creating a slide show or batch file which can contain up to 200 slides. You must enter into the Data Pages the information that defines your particular show.

There are three columns for entering information on the data page. Enter the name of the picture in the first column. A filename suffix of .PIC (as created by Dr. HALO II is assumed).

If a picture file is located on a drive or directory other than the current one, the full pathname must be included with the filename. For example:

D:image

will reference the picture IMAGE.PIC on the D drive.

When moving to the next column use the space bar or use the tab key. Do not use the cursor key.

The second column determines the interval for slide display. A "t" indicates that the interval is timed; a

"k" indicates that the slide will be displayed until the next keystroke. An "x" can also be used to temporarily delete a slide from the presentation.

If an interval of "t" has been selected, you must put the time, in seconds, for slide display in the third column. The maximum interval is 300 seconds (5 minutes). The interval begins when the slide is completely displayed.

Use these keys when creating or editing a slide show:

Cursor keys	Use the four cursor keys to move a character position at a time in any of the four directions.
Backspace	Delete a character.
Tab key	Move between columns.
Return	Enter a value and advance to the next column.
Insert	Insert a slide show line.
Delete	Delete a slide show line.
Page Up Page Down	Move between data pages. (On the TI Professional, the F11 and F12 keys perform this function.)
Escape	Return to Main Menu.

The slides will be displayed in the order that they are organized in the slide show.

Displaying a Slide Show.

The two Menu options under RUN allow you to display the current slide show, which has been input, created, or edited as described above.

The third option provides for the display of a single slide. The display is terminated by any keystroke.

When displaying a slide show, the display time of each slide is determined by the information entered into the data page for that slide. Slides with the "t" interval will display for the entered number of seconds. Slides with the "k" interval will be displayed until the next keystroke.

In either case, the following keystroke commands overrule the given slide show parameters:

Home	Returns to the first slide of the show.
End	Advances to the last slide in the show.
Up cursor	Displays the previous slide.
Down cursor	Displays the next slide.
Space Bar	Freezes the slide display counter until the space bar is hit again. Operates only in the timed interval mode.
Escape	Terminate Slide Show and return to main menu.

Printing a Slide Show.

The Show program can also be used to batch print pictures. Pictures will be output to the printer selected and will use the print parameters entered when running the SETUP program.

By selecting Print The Current Slide Show, the picture filenames in the current slide show presentation will be printed in the order entered. Other information in the data page is ignored.

Selecting Print a Single Slide enables you to print a single picture.

Saving a Slide Show.

Save Slide Show Data on Disk will save the current slide show data pages. You will be prompted for a filename. The suffix .SHO is assumed.

APPENDICES

APPENDIX A

SPECIAL CONSIDERATIONS FOR RUNNING DR. HALO II ON CERTAIN GRAPHICS CARDS

The following special instructions apply to executing Dr. HALO II on the Texas Instruments Professional Computer:

1. You must run the EMULATE Program before running the Dr. HALO II SETUP Program.
2. The Virtual Page does not work on the Texas Instruments.
3. Serial printers, including the Hewlett Packard Laserjet and the Apple Imagewriter, are not supported.
4. The Microsoft Mouse must be plugged directly into a communications port. The Microsoft Bus Mouse does not operate with Dr. HALO II on the TI Professional.
5. To use the ALT key as the second button for single button digitizers with the TI Professional Computer, you must depress another key in addition to ALT. This is a result of the use of BIOS for input/output. Bios does not update the status of the ALT key until a real key is read. The ALT key will stay "on" until another key is pressed with the ALT key turned off.
6. In the Show Program, the F11 and F12 function keys operate as the PgUp and PgDn keys.

When executing Dr. HALO II on these graphics boards:

IBM Enhanced Graphics Adapter
Sigma Color 400
TI Professional
AT&T Display Enhancement Board

the matte function in the Scissors and Airbrush Icons uses the logical /or function. This will give somewhat different results from the matte function in Dr. HALO II when you paint colors over colors.

APPENDIX B

INSTRUCTIONS FOR USING THE POLAROID PALETTE

1. The Polaroid Palette is designed to work only with the IBM Color Graphics Card. The standard IBM color resolution mode is 320 x 200 for four color and 640 x 200 for two color operation.
2. When you select the Polaroid Palette in the SETUP Program, you will be asked to specify an appropriate file type. The following codes correspond to the film types:

Code	Film Type
1	Polaroid 669
2	Polaroid Polachrome
3	Ektachrome ASA 64
4	Agfachrome ASA 100
5	Fujichrome ASA 100

3. The Dr. HALO II SETUP Program will ask you to select a communications port for the palette. If you are using a pointing device other than the keyboard, you generally should select port 1 for the pointer and port 2 for the Palette.

If you only have one serial port on your computer, you can run Dr. HALO II with the Palette connected to port 1, and using the keyboard pointing device. Alternatively, you can perform your editing functions in Dr. HALO II using a pointing device connected to port 1. When all editing is done, exit and re-run Dr. HALO II with the Palette connected to port 1, using the keyboard pointing device.

4. When you are ready to take a picture of your screen, select the Printer Icon. The beep is a signal to perform any manual intervention that may be necessary, such as removing the dark slide from the camera if you are using Polaroid 669 film. Enter a keystroke to take the picture. (If you are using the keyboard pointing device, press the ESC key first, and then any key.)
5. When the exposure cycle is completed, Dr. HALO II will beep again. You can now remove your photo from the camera.

APPENDIX C

TABLE 1 -- DR. HALO II GRAPHICS DISPLAY CARDS

Following is a list of the display modes available for each card:

IBM Color Display Adapter:

Mode 0	320 x 200	4 color
1	640 x 200	2 color

Amdek MAI:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
2	320 x 200	16 color
3	640 x 200	2 color
4	320 x 400	16 color
5	640 x 400	4 color
6	640 x 400	2 color

Conographics:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
2	320 x 200	16 color
3	640 x 200	16 color
4	320 x 400	16 color
5	640 x 400	16 color
6	512 x 512	16 color

Tecmar color:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
2	640 x 400	2 color
3	640 x 200	4 color
4	640 x 400	4 color
5	640 x 200	16 color
6	640 x 400	16 color

Tecmar monochrome:

Mode 10	720 x 352	2 color
11	720 x 704	2 color
12	720 x 352	3 color
13	720 x 704	3 color

Quadcolor II:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
2	320 x 200	136 color
3	640 x 200	16 color

IBM 3270 PC:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
2	360 x 350	4 color
3	720 x 350	2 color

STB:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
2	320 x 200	16 color
10	640 x 352	monochrome

IBM Enhanced Graphics Adapter:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
2	320 x 200	16 color
3	640 x 200	16 color
4	640 x 350	16 color
10	640 x 350	4 color (monochrome)

Number 9:

Mode 0	512 x 484	256 color (interlaced)
1	832 x 624	16 color (non-interlaced)
2	512 x 484	256 color (non-interlaced)
3	832 x 624	16 color (interlaced)
4	1024 x 768	256 color (interlaced)

Sigma Color 400:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
3	640 x 400	16 color

Hercules:

Mode 0	720 x 348	monochrome
--------	-----------	------------

Scion PC640:

Mode 0	640 x 480	16 color
--------	-----------	----------

TI Professional:

Mode 0	720 x 300	8 color
--------	-----------	---------

Quadscreen:

Mode 0	968 x 512	monochrome
--------	-----------	------------

AT&T Display Enhancement Board:

Mode 0	320 x 200	4 color
1	640 x 200	2 color
2	640 x 200	8 color
3	640 x 400	8 color
4	640 x 200	16 color
5	640 x 400	16 color
6	640 x 400	2 color

TABLE 2 ADDITIONAL PRINTER INFORMATION

Printer	Page size	Number of colors
ACT II	1024 x ?	125
Quadjet	640 x ?	8
Diablo	1024 x ?	8
Thinkjet	1280 x 960	Black and White
LaserJet	600 x 787 @75 Dots/Inch 800 x 1050 @100 DPI 1200 x 1575 @150 DPI 2400 x 3150 @300 DPI	Black and White
Epson	960 x 720	Black and White
Imagewriter	640 x 720 @ 80 Dots/Inch 960 x 720 @120 DPI 1152 x 720 @144 DPI 1280 x 720 @160 DPI	Black and White
Prism	692 x 840	8 color (with process ribbon) 4 color (with primary ribbon)
Corona	2400 x 3150	Black and White
Epson JX	576 x 720 @72 Dots/Inch 960 x 720 @120 DPI 1920 x 720 @240 DPI	8 color (in 4 pass mode) 27 color (in 7 pass mode)
Toshiba	1530 x 1890	Black and White

Notes on printers:

1. The X scale factor must be set to 1 for the Corona Laser printer.

2. Additional stack space must be allocated for the Epson JX and Toshiba printers for buffer space. This is done by running Dr. HALO II as follows:

DRHALO =xxxx

, where xxxx = 20000 for the Epson JX in 7 pass mode
14000 for the Epson JX in 4 pass mode
13000 for the Toshiba

3. An Okidata printer must be equipped with the "Plug 'N Play" ROMs.

APPENDIX D

USING THE PALETTE ICON WITH THE NUMBER NINE BOARDS.

Dr. HALO II gives you the ability to save and retrieve palettes independent of images when working with the Number Nine Boards. The palette, or look-up table, defines the red, green, and blue values for each color index.

Saving A Palette.

1. When you save an image to disk, the palette for the image is also saved as a separate palette file with the same filename.
2. To save a Palette File without saving an image, move the cursor to the Rainbow Icon on the second line of the disk pop-up menu.
3. Enter the name for the Palette File on the bottom line of the pop-up menu.
4. Move the cursor to the Disk with the Arrow Pointing Down Icon, and click either button to save the palette.
5. All Palette Files automatically have the suffix .pal.

Retrieving a Palette.

1. When an image is read in from disk, if a Palette File for that image exists, it will also be read.
2. Select the Rainbow Icon from the second line of the Disk Icon pop-up menu.
3. Enter the name of the Palette File on the bottom line of the pop-up menu.
4. Move the cursor to the Disk with the Arrow Pointing Up Icon and click either button.
5. The image on the screen will change color to reflect the new palette.

Directory of Palette Files.

1. Select the Rainbow Icon from the second line of the Disk Icon pop-up menu.
2. Move the cursor to the Question Mark Icon on the top line of the pop-up menu, and click either button to bring up the directory of Palette Files.

Deleting a Palette File.

1. Select the Rainbow Icon from the second line of the disk icon pop-up menu.

2. Move the cursor to the Delete Icon on the top line of the pop-up menu, and click either button.

3. The message:

Delete File?
Left = Yes Right = No

will appear. Click the appropriate button for the desired result.

