

Graphics Master

**REFERENCE
MANUAL**

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OVERVIEW

INTRODUCTION

Welcome to Graphics Master, the advanced software program that allows you to create high-resolution graphics for your home, business, school, or club. You can draw graphs, charts, cartoons - in fact, almost any visual representation you need - with ease and precision.

Using a few simple commands, Graphics Master creates and stores your drawing for later viewing or printing. In a matter of minutes, Graphics Master can transform the casual doodler into a polished graphics artist.

EQUIPMENT

With Graphics Master, you can use either a black and white or color monitor. When using a color monitor, you can select a wide spectrum of colors and change them as you work.

Although your computer keyboard will work as a control device, you may find other control devices quicker and more versatile. Any of the following control devices can be used with Graphics Master:

Apple

Wico Joyport; Sirius Joyport; Apple Graphics Tablet; Koala Pad; Keyboard; Joystick (Normal); Joystick (3.5 MHZ 6502 card); Chalkboard; Apple Mouse

Commodore 64

Keyboard; Joystick; Wico Trackball; Koala Pad (Port 2)

IBM

Keyboard; Joystick; Microsoft Mouse

With a simple set of commands, you can send a Graphics Master picture directly to your printer. Graphics Master is designed to work with the following printers:

Apple

Epson MX-80/100 and FX-80/100; Gemini X-10/15; NEC 8023A; C.Itoh 8510 and Prowriter; Imagewriter or Scribe; Diablo C-150 (B/W or Color)

Graphics Master works with the following printer interface cards for Apple computers: Apple Parallel card; Grappler card; //e Serial port; Super Serial card

Commodore 64

Commodore 1525; Commodore MPS801; Epson MX-80/100 and Epson FX-80/100 with Cardco + G interface; Okidata 92 with Cardco + G interface.

IBM

Epson MX-80/100 and FX-80/100; IBM Graphics Printer; Gemini 10X/15X; NEC 8023A; C.Itoh 8510; Toshiba P1340

Note: To use your printer, you must first go to the printer selection menu from the Graphic Master main menu and choose your printer.

INSTALLATION

You can use your Graphics Master disk just as it comes from the package. However, it is never a good idea to run your original disk. Make a working copy of the original Graphics Master disk. Use the working copy for everyday use and put the original disk away for safekeeping.

SCREENS

From its main menu, Graphics Master offers two screens with drawing options: DRAW OR REVISE PICTURES or CREATE OR REVISE CHARACTER SETS. Use the first option to create pictures, the second to create new letters, numbers, and symbols.

When you select the PICTURES option, you reach a screen with these elements: Drawing board, Icons.

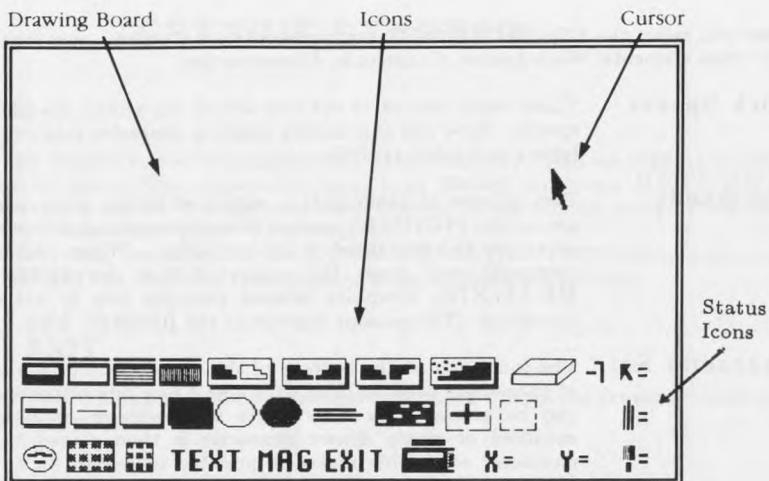
Drawing board - This is the entire upper portion of the screen, initially blank, on which graphics are drawn.

Icons - These are the symbols and commands, arranged in three rows at the bottom of the screen. There are two types of icons:

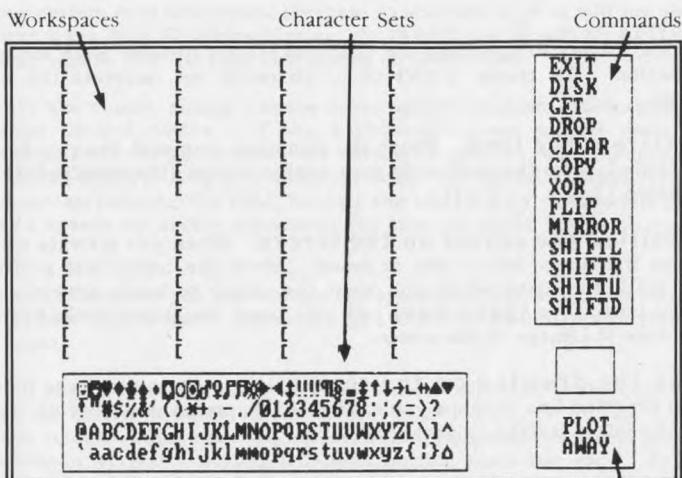
Command Icons - When activated, these icons allow you to draw lines or shapes, change colors or fill regions with patterns and perform other functions.

Status Icons - These icons, on the right side of the icon rows, display the currently active icons and the location of the cursor.

Cursor - This is the large arrow on the screen. Move it with your control device (or keyboard **arrow keys** or the **A** and **Z** keys). Each time the cursor touches an icon, it highlights that symbol in inverse video. To activate the icon highlighted by the cursor, press your control button (or **space bar**). On the IBM you can activate the NUM LOCK and use the numeric keypad to move the cursor much faster.



The Drawing Screen



The Character Set Screen

When you select the **CHARACTER SET** option from the main menu, you reach a screen with these elements: Work spaces, Commands, Character Set.

Work Spaces These eight sectors at the top left of the screen are your working spaces. Here you can modify existing character sets or create new letters and other symbols.

Commands This column of commands is activated in the same way as icons are on the **PICTURES** screen. When a command is touched by the cursor, it is highlighted in inverse video. When you highlight a command and press the control button (or **space bar** or **RETURN**), Graphics Master prompts you to carry out the command. (The prompt appears in the **prompt box**.)

Character Set The four rows at the bottom of the screen contain the current set of characters used to label drawings. Any one of these characters can be placed in a work space and redrawn or deleted. The modified or newly drawn character is then placed back in the character set. This makes it possible to design an entirely new alphabet, symbol, or logo for use in a picture.

ICONS

Icons are the key to operating the Graphics Master system. Each icon performs a different function. To create a picture or character set, activate the appropriate command icon.

1. **Activate the icon.** Touch the command icon with the cursor. When the icon is highlighted, press the button on your control device (the **space bar** if you are using a keyboard.)

2. **Position the cursor on the screen.** When you activate certain icons, you transform the cursor into a pen or eraser. Move the cursor into position on the screen. To mark the place where you want the cursor to begin drawing, press your control device button (or **space bar**). At that point the cursor works like a pen that is moved to draw the image on the screen.

3. **Fix the drawing on the screen.** As soon as you have finished using the cursor to draw the line or shape you have selected, press the control device button or space bar. The image is fixed on the screen.

HELP

If you need information about the draw icons, press the **Question Mark** key (?) at any point to display a help screen. This screen has short explanations of all icon functions. Press the **Escape key** or the **Run/Stop key** to erase the help screen.

GETTING STARTED

LOADING

Load the Graphics Master program into your computer. (On an IBM hard disk, you will need to access the proper directory, type **menu** and press **RETURN**). After the program is loaded, a menu asks what control device you are using. Press the correct number or letter **on your keyboard**.

From the main menu select the **DRAW OR REVISE PICTURES** option by **moving the cursor** to it and then pressing your control device button.

HOW TO EXIT

To leave the Graphics Master program, simply **EXIT** from the drawing board and **QUIT** the main menu.

CONTROLS AND CURSORS

When using a control device other than your computer keyboard, install it and be sure that your system runs the system program to activate it. You will use your control device in three ways with Graphics Master: to **move** the cursor, to **activate** icons and commands, and to **fix** the resulting images on the screen.

To move the cursor, simply use the movement mechanism (stick, wheel, etc.) on your particular control device. If the keyboard is your control device, use the **directional arrow keys** to move the cursor. Apple II+ and Commodore 64 use the **directional arrow keys** for sideways cursor movement and the **A** and **Z** keys for up and down movement. On IBM, holding the **shift key** down while pressing the **arrow keys** speeds up cursor movement (or turn on **NUM LOCK** to speed up the cursor).

On Apple computers you can change the speed at which the cursor moves. From the main Graphics Master menu, select the **Set cursor speed** option and designate the desired speed.

You will often be asked to **activate** an icon, a command or the cursor. You will also be asked to **mark** a point on the screen as you draw, or to **fix** a part of the drawing to the screen. These instructions mean that you must press your control device button (fire button, activator button, left-hand button, space bar, etc.). To **activate** always means to press the button when a particular icon or command is highlighted or when the cursor is positioned where you want to begin drawing. To **activate** using the keyboard as your control device, simply press the **space bar**.

EXPLORING THE ICONS

Some Graphics Master icons **draw** a picture, **change** a picture or **color** a picture. Others (the status icons) **display** the current command icon, cursor position and color choice. A few icons take you to other screens for special operations, such as saving a picture on disk. The icons are the keys to operating the program. The more icons you learn to use, the more you can draw.

All the icons that appear on the drawing board are pictured, named and defined. A detailed discussion of each icon follows:

DRAWING BOARD ICONS

Upper Row:



PEN POT ICON - controls color of lines and shapes.

To change colors, touch the desired Pen Pot with the cursor and press your control device button. Your pen color choice is then displayed in the Pen Color status icon on the right side, middle row.

The first Pen Pot on the left is neutral (screen color). Activate it before erasing the drawing board screen.

If you are not using a color monitor, only the first two Pen Pots are active. Whenever you draw on the initial drawing screen, be sure you have selected the *second* Pen Pot. Otherwise your drawing will not show up on the drawing board.

Apple computers use six Pen Pots. The colors (from left to right) are black (neutral-same as screen), white, green, purple, orange and blue.

Commodore 64 computers use four Pen Pots. The pot colors can be changed by activating the four Palette icons in the lower row.

IBM computers use four Pen Pots. The pot colors can be changed by activating the Palette icon or the B/W-Color icon.



REVERSE FILL ICON - reverses every color (including black and white)



MIRROR ICON - switches everything left to right



FLIP ICON - turns everything upside down

With these commands, you can place a rectangle around any portion of a picture and, with a single press of your control device button, change everything within the region defined by the rectangle.

To activate any one of these three icons, touch the icon with the cursor and press the control device button. Position the cursor on the drawing board so that it touches one corner of the region you want to change. Activate this corner point by pressing your control device button. As you move the cursor in any direction across the region, the rectangular frame expands.

When you are satisfied with the size, shape, and position of your frame, press the control device button. Graphics Master immediately executes the specific icon command.

Graphics Master carries out these commands on *everything within the frame*. Be sure to carefully define the exact region you want to alter with these icons.



FILL ICON - fills any completely enclosed area in a picture with a color or textured pattern.

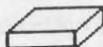
To activate the **Fill** icon, touch it with the cursor and press your control device button. A grid of color/pattern square overlays the screen. On Apple computers, you can choose from 128 colors or patterns. On Commodore 64 computers, you can choose from 122 colors or patterns. IBM computers have a grid of 42 colors or patterns.

To select a color or pattern for your drawing, use the cursor to touch the grid square you want. Press your control device button. The grid vanishes. Position the cursor on the area of your drawing that you want to fill and press again. Graphics Master fills that portion with the color or pattern you selected. To fill another area, repeat these steps from the beginning.

Your current color or pattern choice is registered on the Fill color icon (with the exception of Commodore computers.)

To erase a color or pattern choice immediately after execution, activate the **Undo** icon. If you have changed icons since filling in the color or pattern you want to erase, you cannot use the **Undo** icon. Use the **Magnify** icon or **Move Copy** icon to erase a color or pattern from a drawing.

Remember: The **Fill** icon fills everything within an unbroken outline. If there is the slightest break in the outline, the color or pattern will find it and "flood out".



ERASE ICON - clears the entire screen.



UNDO ICON - erases everything created during the current icon command only.

These icons are your primary erasing tools. To erase the entire screen, activate the first **Pen Pot Icon**. (The eraser actually paints over the entire screen with the current pen color. To clear the screen, your pen must be a background color or the same color as the screen.) When the pen color is set, activate the **Erase** icon. The entire picture disappears.

To cancel everything you did in the current command mode, activate the **Undo** icon. Suppose you draw three circles, a square, two lines, and two more circles. The **Undo** icon will erase only the last two circles. If you draw six lines and want to erase only one, you cannot use the **Undo** icon; it will erase all six lines if they were drawn during the current icon mode.

If you activate the **Undo** icon twice instead of once, it "undoes the undo." In other words, it restores what it just erased.

Neither icon allows you to go into a picture and erase portions drawn before the last command. To edit a picture by removing (or changing) internal features, use the **Magnify** icon or the **Move Copy** icon.

Status Icons:

	MODE ICON
	PEN COLOR ICON
	COLOR FILL ICON

These status icons are located on the right edge of the screen. They display the current icon and color choices.

The **Mode** icon displays the currently active icon.

The **Pen Color** icon indicates the color you have chosen.

The **Color Fill** icon records the color or pattern last selected to fill an area of the picture. (The Commodore 64 computer does not use this icon.)

Middle Row:

	LINE ICON
	THIN LINE ICON (Apple only)
	FREEHAND ICON

The **Line** icon draws continuous line segments in all directions using the cursor as a pen. Mark the start of the line by pressing your control device. Move the cursor to the exact point at which you want the line segment to end and press again. You can draw as many connected segments as you want, pressing the control device button at the end of each segment to fix it in place on the screen. To end the continuous line, press the *release* button (not the activate button) on your control device. If you do not have a release button, move the cursor to the **Line** icon and reactivate it or select another icon.

The **Thin Line** icon is an option only on Apple computers. It works exactly like the **Line** icon but will only operate in black and white.

The **Freehand** icon allows you to leave a trail as you move the cursor with a mouse or joystick. Simply activate the icon, mark your starting point on the drawing board by pressing the control device button, and begin drawing. The freehand pen is perfect for drawing curves and spirals. You can end the line anywhere by pressing your control device button.

The **Freehand** icon will not work on the Apple if you are using the keyboard as a control device.



HOLLOW RECTANGLE ICON - produces the outline of a rectangle in the current pen color.



FILLED RECTANGLE ICON - produces a solid rectangle filled with the current pen color.

Activate either of these two icons and position the cursor on the screen to mark one corner of the rectangle. Press the control device button to mark the corner. The cursor is now a pen. As you move the cursor across the drawing board, the rectangle takes shape. When the size, shape and location are drawn to your satisfaction, press the control device button. Graphics Master fixes the finished rectangle on the screen exactly as you outlined it.



HOLLOW CIRCLE ICON - produces an outline in the current pen color.



FILLED CIRCLE ICON - produces a solid circle filled with the current pen color.

Activate the icon and position the cursor at the center point of the circle you propose to draw. Mark the center of the circle by pressing the control device button. The cursor now functions as a pen. To draw the circle, move the cursor. As the cursor moves, the flashing outline of the circle expands. The cursor controls the radius of the circle.

When the circle is exactly as you want it, press your control device button. Graphics Master fixes the circle in place on the screen.



DOT ICON - places single dots anywhere on the drawing board.

Activate the icon by touching it with the cursor. Press your control device button. You are now ready to place dots anywhere in your drawing.

Position the cursor where you want a dot to appear. Each time you press your control device button, a dot is created. You can draw a dot at every pixel. (A pixel is the smallest area that can be marked on a computer screen.)

On a color monitor, the pen color of the dots can be changed at any time.



MOVE COPY ICON - enables you to copy any portion of the drawing board and move that copy to a new position.

Activate the icon and position the cursor on the drawing board.

The copying frame is a rectangle drawn with the cursor. Everything enclosed in the rectangle is copied and moved. To place a frame around the area to be copied, press the button on your control device and move the cursor across the region. Graphics Master sketches the rectangle.

When everything you want to copy and move is enclosed within this flashing rectangle, press your control device button again. The cursor is deactivated as a pen.

Move the cursor to the place at which you want to insert the copy. The cursor marks the **upper left hand corner** of the copy frame. When the cursor is positioned, press your control button.

Graphics Master takes everything within the Move Copy frame and pastes it over the region just marked. Both the original and the new copy remain on the screen.

After marking a region to copy and putting it in the Move Copy frame, you can load another picture and then copy that region into the new picture. Included on your Graphics Master distribution disk are **.PIC** files with a variety of images that you may want to copy into drawings that you are creating.

The **Move Copy** icon can also work as an eraser:

Copy a blank space on the screen.

Move the cursor from the blank copying frame to the upper left hand corner of the area you want to erase.

Press the control device button. The blank copy frame overwrites the area on the screen.

Lower Row:



PALETTE ICON



BACKGROUND ICON



B/W-COLOR ICON

These icons determine colors for IBM and Commodore 64 computers.

The **Commodore 64** has four **Palette** icons on the left side of the lower icon row. Each time you activate a **Palette**, you change the color available in the corresponding **Pen Pot** directly above. You can activate each **Palette** repeatedly, cycling through the available colors by continuing to press your control device button.

The **IBM** has one **Palette** icon. Each time you activate it, you switch between the color groups possible in the **Pen Pots**. Each time you activate the **Background** icon, the screen shifts to another shade or color from the spectrum of background (screen) colors. The **B/W-Color** icon acts as a switch. When activated, this icon determines whether the monitor displays in color or black and white.

MAG

MAGNIFY ICON

Activating the **Magnify** icon creates a window on the drawing board. The portion of the picture you see in the window is magnified to allow highly detailed drawing, editing and erasing. The changes you make in this window are immediately reflected on the actual drawing.

Touch the icon with the cursor and press your control device button. The **Magnify** window overlays part of the screen.

Move the cursor onto the drawing board. Note that the cursor is transformed into a tiny dotted window called the **Marker**. As you move the marker across the screen, a close-up of the area it traverses appears in the magnifying window.

Place the marker on the area of the picture that you want to magnify.

When this area appears in the magnifying window, press your control device button. The regular control cursor reappears.

Move your cursor into the magnifying window. The cursor will now act as a pen and eraser.

Each time you press your control device button in a blank space, it creates one small square. Each time you press your control device button with the cursor positioned on a square already drawn, it erases that square. (Each square in the magnifying window corresponds to one pixel on the screen.)

To draw a new line or to color an area, position the cursor and press the control device button. Keep moving the cursor and pressing until the new drawing is complete. All changes will be reflected in the actual picture.

To erase a segment inside the window, position the cursor on the segment and press the control device button. Keep moving the cursor and pressing until the area is completely erased. Your erasure will be reflected in the actual picture.

Note: With some control devices, such as a mouse, you can erase even faster by holding down the activate button and moving the cursor like a chalkboard eraser.

If you run out of room in the magnifying window, you can use the cursor to scroll left, right, up, down or diagonally to another part of the picture. Position the cursor so it touches any side or corner of the magnifying window frame in the direction of the cursor. The marker located on the actual picture moves in tandem with the shifting region in the magnifying window.

X = Y = X, Y COORDINATES ICONS - register the exact location of the cursor.

The **X, Y coordinates** are part of an invisible graph on your computer screen. The **X** coordinate tells you how many pixels you are from the left side of the screen. The **Y** coordinate tells you how many pixels you are from the top of the screen. With this **X, Y** axis system, you can jot down where a particular line or shape began, its exact size and location, and later position the cursor on the point at which you will begin drawing.

TEXT TEXT ICON - allows you to place captions, labels, numbers, symbols or explanations on your picture.

Touch the **TEXT** command with the cursor and press your control device button. The picture icons are replaced at the bottom of the screen by the text icons. Your picture remains, ready for captions. You can also load other character sets from the **.chr** files contained on the Graphics Master distribution disk.

If you want to change the color of the labels, you can set the color of your text in the same way as you set the drawing color (by activating the Pen Pot icons.)

Decide where you want the first character of your text to appear on the screen. The **text cursor** is at the upper left hand corner of the screen. To reposition it, use the normal cursor as a kind of magnet. Place the cursor at the point where the text will begin and press your control device button. The text cursor will follow. Each time you need to reposition the text cursor, use the regular cursor as a marking and attracting device. The text cursor will follow the regular cursor anywhere on the drawing screen.

You are now ready to add text to your picture. By activating the designated icons, you can place letters, numbers and other symbols wherever you need them.

There are two ways to place characters and symbols on the screen:

1. To type directly from the computer keyboard, activate the **KEYBOARD** icon (the **TYPE** icon on Apple computers). Whatever you type on the keyboard will go directly to the location of the text cursor. On IBM, you can freely move the text cursor around the screen by using the **arrow keys**. On Apple and Commodore, the **arrow keys** move the text cursor horizontally. (To erase incorrect characters, use the **backspace key** on IBM or the **arrow keys** on Apple and Commodore, and type the correct character directly over the mistake. The **space bar** also works as an eraser—*don't try to jump over or push characters with the space bar.*) **Note:** To free the cursor from this icon, press the **Escape key** on IBM and the **Run/Stop key** on Commodore, or press the activate button on your control device.
2. You can transfer symbols from the **character set scroll** (located between the arrows in the top icon row) directly to the text cursor on the screen. Touch any of the **Arrow** icons with the regular cursor. Each time you press the control device button, the row of symbols between the arrows scrolls into a new position, giving you new character options. To place any of these letters, numbers or symbols on the drawing board, touch the character with the cursor and press the control device button. The character you activate will be immediately transmitted to the screen. The full character set presented on the character set scroll gives you a greater variety of characters than can be accessed from the keyboard.

The following icons also affect the text you put on the screen:

BACK: Causes the text cursor on the screen to back up one space without erasing or moving a character in its path.

SKIP: Causes the text cursor on the screen to move ahead one space without erasing or moving a character in its path.

RETURN: Issues a carriage return. The text cursor returns to its starting position and drops down one line.

NORMAL: Causes all text placed on the screen to appear as it does on the keyboard or in the character scroll.

INVERSE: Causes all text placed on the screen to appear in inverse video (highlighted in blocks of the current pen color.)

Thick/Thin Icon: A switch between thick and thin text characters. Located on the bottom row to the left of the **KEYBOARD** icon on IBM computers. The default (automatic) setting is for thick characters that occupy a space measuring 8 pixels by 8 pixels. If you activate the icon and press the control device button once, the text characters will be only half as wide (4 x 8 pixels.)

8 x 8, 8 x 16, 16 x 8, 16 x 16: On Apple computers, any of these icons can be activated at any time to change the size of the next character. The moment you activate, the text cursor on the screen changes to the exact size the character will occupy. This enables you to judge the various sizes possible. The 8 x 8 size is normal keyboard size. The 8 x 16 is the same width, but twice as tall. The 16 x 8 command produces normal height, extra wide characters. The 16 x 16 size is twice as high and wide as normal. You can mix character sizes in the same line or item of text on the Apple system.

X= Y=: On Apple and Commodore 64 computers, the **X,Y coordinates** function exactly as they do on the drawing board screen, recording the exact position of the regular cursor (not the text cursor.)

Pen Color Icon: Displays the current text color, which can be changed at any point during text entry.

Scroll Arrow Icons: IBM and Commodore computers have one double arrow and one single arrow on each side of the character set scroll. When you activate the double arrow on either side, the character set scrolls faster than when you activate the single arrow. Apple computers use a long arrow and a short arrow on either side. When you activate the long arrow, the character set scrolls faster than when you activate the short arrow.

EXIT: Returns to the drawing board.

The characters in the character set scroll can be changed (actually redrawn) on another screen; moreover, a number of different character sets can be entered into the scrolling window from the Graphics Master directory. (See Chapter 2, Character Sets.)



DISK ICON - Accesses disk functions.

Use the **Disk** icon when you want to save a picture on disk or retrieve a drawing or character set already on disk. To specify the drive on which you want to save, choose the **Select drive** option on the main menu. Graphics Master will save your pictures on the drive selected and will give you directories from the disk in that drive.

Note: Make this selection **before you begin drawing.**

HOW TO SAVE A PICTURE

To preserve the pictures you create, touch the **Disk** icon with the cursor and press the control device button. This takes you to the Disk Directory screen.

IBM and Commodore 64:

When the Disk Directory screen appears, move the cursor across the bottom of the screen and activate the **SAVE** icon. A flashing cursor will prompt you to type a picture title from the keyboard.

As you type, you will see the title appear after the **FILE NAME>** prompt. (Use the **Backspace key** on IBM or the **arrow keys** on Commodore to correct typing errors.) Press **RETURN** when your title is typed. On IBM, Graphics Master will then ask if you are saving a **PICTURE** or **CHARACTER** set. Activate the appropriate answer. Graphics Master will now file your picture under its title.

Apple:

When the Disk Directory menu appears, activate the **Save a picture** option. Type the title of your picture. (Use the **arrow keys** to correct typing errors.) When your title is complete, press **RETURN**. Graphics Master will now save your picture under this title.

HOW TO RETRIEVE A PICTURE

IBM and Commodore 64:

Activate the **DIRECTORY** command on the Disk Directory screen (on IBM, activate the **DIRECTORY** part of **DIRECTORY/ALL**). The directory of picture files will appear. To view a picture, move the cursor to a picture title on the screen and activate it. The title will be printed immediately on the **FILE NAME>** line below. (**Note:** Picture files are identified by the **.PIC** extension after the title.) Activate the **LOAD** icon and press **RETURN** to accept the displayed file name. When Graphics Master has finished loading the picture, it will display **LOADED** (on IBM) or **OK** (on Commodore). Activate the **EXIT** command to view the picture on the drawing board.

Apple:

Activate the **Catalog a disk** option on the Disk Directory menu. The complete directory of files will appear. Picture files are identified by the **.PIC** extension after the title. Note the exact title of the picture you want to retrieve and **EXIT** to the Disk Directory menu. Select the **Load a picture** option, type the title of the picture and press **RETURN**. When the picture is loaded, press **RETURN** again. Activate the **EXIT** command to view the picture on the drawing board.

Note: The picture you retrieved remains stored on disk. If you erase it from the drawing board screen, there will still be a copy stored on disk.

HOW TO DELETE A PICTURE (from the disk)

IBM and Commodore 64:

Activate the **DIRECTORY** command (on IBM, activate the **DIRECTORY** part of **DIRECTORY/ALL**). Move the cursor to the title of the picture you want to delete and activate it. The name will appear on the **FILE NAME>** line below. Activate the **DELETE** icon.

Press **RETURN** to accept the name of the file to be deleted. Graphics Master will ask if you are sure that file is to be deleted. Highlight your response (yes or no) and press your control device button. Graphics Master will delete the picture from the disk.

Apple:

Activate the **Catalog a disk** option. Note the exact title of the picture you want to delete. Return to the menu and activate the **Delete a file** option. Type the title of the file to be deleted and press **RETURN**. Graphics Master will ask if you are sure that file is to be deleted. Type the first letter of your response (yes or no). Graphics Master will delete the picture from the disk.



PRINTER ICON

When using IBM or Apple, you must tell Graphics Master what printer is being used before you can send an image from the screen to the printer. If you are planning to print, do this step **before drawing**.

On IBM computers, if you have properly installed your present printer (see pages 2 and 3) you can now activate the **Printer** icon.

On Apple computers, activate the **Select printer** option on the main menu. This takes you to three consecutive menus:

- * From the **Select printer card slot** menu, activate the slot number occupied by that printer card .
- * From the **Select printer** menu, activate the name of the printer you are using.
- * From the **Select printer interface card** menu, activate the interface card you are using.

You are now ready to print. Graphics Master will send everything on the drawing board (except the icons) to the printer. Turn on your printer and activate the **Printer** icon.

Remember: What you see on the screen is exactly what will be printed. If there is a white circle on a dark screen, the printer will produce a white circle on a dark background. If you want lines on the screen to be dark when you print, you must make some adjustments before printing (such as using the **Reverse Fill** icon to make the screen light and the lines dark).

REMOVING THE ICONS FROM THE SCREEN

If you want to take a photograph of a screen that shows a drawing you have created, you may want to remove the icons from the bottom of the screen. Load the picture you want to photograph and return to the drawing screen. The icons will disappear from the bottom of the screen. After you have taken your photograph, press **S** again.

CHARACTER SETS

Graphics Master allows you to modify existing characters for picture captions and text. You can also create new characters, logos and other symbols. You can even design your own alphabet, logos or other symbols.

All drawing is done on a special character sets screen. Simply activate the **CREATE OR REVISE CHARACTER SETS** option on the main menu.

The **character sets** screen contains eight work spaces where you can modify existing characters or draw new ones. The character commands are listed in the column to the right of the work spaces. Each command is activated just as any other icon in the Graphics Master system. Below the command column is an instruction box where written prompts (directions) appear when you activate a command. Under the work spaces are the letters, numbers and symbols of the currently active character set, arranged in four rows.

MODIFYING A CHARACTER

To change the appearance of an existing character, activate the **GET** command by touching it with the cursor and pressing the control device button (or space bar.) The instruction box will prompt you to get a letter. Move the cursor to the character set and activate the character you want to modify. The instruction box will prompt you to place the letter in a work space. Simply position the cursor in one of the eight work spaces and press your control device button. The character selected will appear in the work space in magnified form.

Press your control device button to exit the **GET** mode. The instruction **PLOT AWAY** appears. (*Note:* On the Commodore, you must position the cursor on the **GET** prompt and press your control device button to exit **GET** mode. The **PLOT AWAY** prompt will not reappear.) You can now do detailed drawing or erasing within the work space, using the cursor as a pen or eraser. When the cursor is positioned and activated on any part of a character within the work space, it will erase the pixel space it occupies. When the cursor is positioned and activated on any blank (background color) area within the work space, it will add one pixel drawn in the current pen color. By positioning the cursor and pressing the control device button, you can add to or subtract from the existing character until it is the exact shape you want. (The work spaces are like the magnifying window icon used when modifying portions of a picture.)

To place the modified character back into the active character set, activate the **DROP** command. The prompt box will ask what letter you want to move. Position the cursor in the work space where you were working and press the control device button. The prompt box will ask you to place the letter back in the character set. Move the cursor to the desired location in the character set at the bottom of the screen. The **DROP** command replaces a letter in the character set with one from a work space. (If you don't want to replace any of the characters, you can activate an empty spot in the character set.)

By using these and other commands, you can replace any or all of the existing characters. When you work on a picture and decide to add text, the text screen will contain your newly modified characters in its character scroll. When you exit the system, however, all modified or newly drawn characters from the previous session will vanish unless you **save** the character set on disk using the **DISK** command. Any time you create or modify a character that you will want to use in future drawing sessions, **be sure to save it.**

CHARACTER COMMANDS

The key to the character sets screen is the command system. The character commands are activated like picture icons and sometimes perform the same operations.

GET moves a character from the character set to a work space. When you activate the **GET** command, you are prompted to get a character. Activate one of the characters in the character set below. You are prompted to place the character in a work space. Position the cursor in a work space and press the control device button. (*Note:* On the Commodore, you must position the cursor on the **GET** prompt and press your control device button to exit **GET** mode. The **PLOT AWAY** prompt will not reappear). You can now use the cursor as a pen and eraser. Each time you activate the cursor, you either fill or erase one pixel.

NOTE: On the Commodore 64 only, for the following commands you must select the command again to cancel it, or select a different command.

DROP moves a character from a work space to the character set. When you activate the **DROP** command, you are asked which character in a work space will be placed in the character set. Position the cursor in that character's work space and activate it. You are then prompted to place the character in the character set. Position the cursor where you want to place the character from the work space and press the control device button. If the cursor is positioned on a character, Graphics Master will *replace* the existing character in the character set with the character from the work space. If the cursor is positioned on a blank space at the end of the set, the character will be added to the set.

COPY copies a character from one work space to another work space. When you activate the **COPY** command, you are asked which character will be copied. Position the cursor in the work space of the character you want to copy and activate it. You are then prompted to place a copy of that character in another work space. Position the cursor in another work space and activate it. Graphics Master creates a copy of the character in the work space selected.

CLEAR erases everything within a selected work space. When you activate the **CLEAR** command, you are asked which character will be cleared. Position the cursor in the work space you want to erase and activate it. Everything in that work space is deleted. You can repeat this operation in other work spaces without reactivating the command.

XOR changes everything within a work space to an inverse image. You can create an inverse video effect with the **XOR** command. (On a color screen, the foreground and background colors are reversed.) When you activate this command, you are asked to designate a character in a work space. Position the cursor in the work space where you want to create an inverse video effect and activate it. Graphics Master will reverse the image in the work space like a photographic negative.

FLIP turns everything within a work space upside down. When you activate the **FLIP** command, you are asked which character will be flipped. Position the cursor in the work space where you want to flip a character and activate it. Graphics Master will flip everything over.

MIRROR reverses everything within the work space from left to right, creating a mirror image of the character. When you activate the **MIRROR** command, you are asked which character will be mirrored. Position the cursor in that character's work space and activate it. Graphics Master creates a mirror image.

SHIFT L, SHIFT R, SHIFT U, SHIFT D moves everything within a work space in the direction indicated (left, right, up or down), one pixel at a time. When you activate any of these commands, you are asked which character will be shifted. Position the cursor in that character's work space. Each time you activate the cursor (by pressing the control device button or space bar) the character moves one pixel in the direction indicated by the command. *Note: Any part of a character that moves out of the work space is erased; when you shift the character back into the work space, the erased portion is gone.*

XOR HI (on Apple) changes the color palettes. Green changes to blue and purple changes to orange. Black and white remain the same.

COLOR, B/W, MIXED (on Apple) change the character colors. Activating the **COLOR** command creates a character set in the selected color; the **B/W** command is used to create high resolution characters (on Apple and Commodore); and activating **MIXED** (available only on Apple) creates red, green and blue character color options.

EXIT returns you to the Graphics Master main menu.

SAVING A CHARACTER SET ON DISK

Any characters that you alter or create and enter in the character set can be used with pictures you create **during the same session**. (These new or altered characters will appear in the character set scroll on the **TEXT** screen where you caption your drawings.) If you want to use any of the characters you created or modified in the future, you must **save the character set** in which they appear on the Graphics Master disk. **If you do not save the character set, it will be lost.**

Saving a character set is just like saving a picture. Simply activate the **DISK** command on the character set screen and **SAVE** the character set under a new title in the Graphics Master directory title.

Apple computers:

1. Activate the **DISK** command when the new or altered characters are all placed in the character set at the bottom of the character set screen.
2. A menu with four options will appear. Activate the **Save a character set** option.
3. Type a title for the new character set from the keyboard. Use the **arrow keys** to correct typing errors. When the title has been entered, press **RETURN**. Graphics Master will automatically add the extension **.CHR** to the file name you have chosen.
4. The character set is now saved on disk. Activate the **EXIT** icon to return to the character set screen.

IBM and Commodore 64 computers:

1. Activate the **DISK** command when the new or altered characters are all placed in the character set at the bottom of the character sets screen.
2. Activate the **SAVE** icon on the file directory screen.
3. Type the title of the new character set from the keyboard. Use the **backspace key** on IBM or the **arrow keys** on Commodore to correct typing errors. Press **RETURN** after the title has been typed. On IBM, activate the **CHARACTER** icon.

Graphics Master will automatically add a **.CHR** extension to the title of your character set.

4. The new character set is now saved on disk and its title is entered in the directory file. Activate the **EXIT** icon to return to the character sets screen.

VIEWING OR DELETING A CHARACTER SET FILE

To replace the current character set with one on disk, you must load it from the directory file screen. The Graphics Master distribution disk contains **.CHR** files with a variety of character sets, that can be loaded and used in your drawings. You can also delete a character set from disk in the same way as you delete a picture.

Apple Computers:

1. To change character sets, activate the **DISK** icon on either the character sets screen or the picture screen.
2. Activate the **Catalog a disk** option on the menu. Remember the exact title of the file you want to retrieve.
3. Return to the menu. Activate the **Load a character** set option. Type the name of the character set as indicated, using the arrow keys to correct typing errors. When your title is typed correctly, press **RETURN**.
4. When the character set is loaded, press **RETURN**. This character set is now active throughout the Graphics Master system for the remainder of the current session. It has replaced whatever character set was previously active. You will find the new character set on the character sets screen and the text screen.

To delete a character set file, activate the **Delete a file** option on the disk menu. Type the name of the character set you want to delete and press **RETURN**. Graphics Master will give you one last chance to change your mind. If you want to delete the file, press **y** (for yes.) The character set is permanently removed from the Graphics Master disk.

Commodore and IBM computers:

1. Activate the **DISK** icon on either the characters set screen or the pictures screen.
2. On Commodore systems, activate the **DIRECTORY** icon. On IBM systems, activate the **DIRECTORY** portion of the **DIRECTORY/ALL** icon. Position the cursor on the title of the character set you want to use and activate it. Its title will appear on the **FILE NAME>** line below.
3. Activate the **LOAD** icon and press **RETURN**.
4. When the character set is loaded, the **LOADED** or **OK** prompt will appear on the screen. Activate the **EXIT** icon.
5. This character set has now replaced the previous character set both on the character set screen and the text screen. You can use the new character set to label pictures during the current session.

To delete a character set from the Graphics Master disk, activate the **DIRECTORY** icon and then activate the title of the character set you want to delete. The title appears on the **FILE NAME>** line. Activate the **DELETE** icon. Press **RETURN** to accept the displayed file name. Graphics Master will give you one last chance to change your mind. If you want to delete the file, press **y** (for yes.) The character set is permanently removed from the Graphics Master disk.

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Graphics Master™

OPERATING INSTRUCTIONS

For COMMODORE:

Turn on the monitor, disk drive, and computer.
Insert the disk in the disk drive with label facing up.
Close the disk drive door.
Type: LOAD *MENU*, 8,1 (Press RETURN).

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