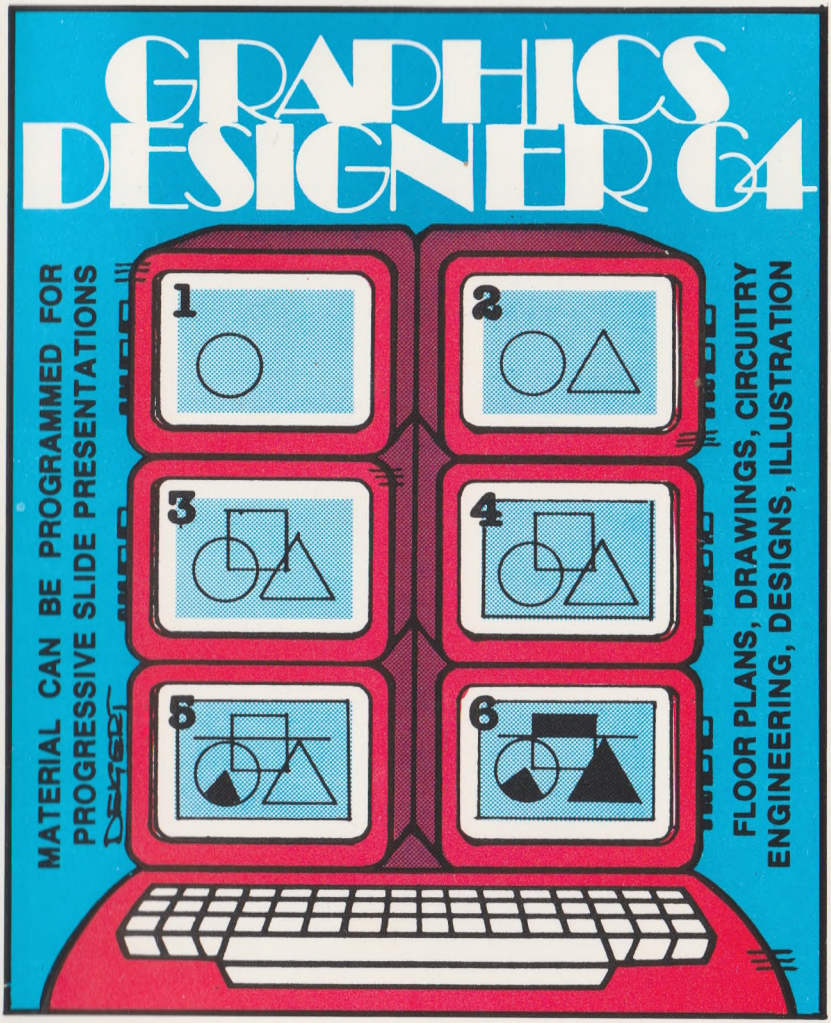

YOU CAN COUNT ON

Abacus Software

GRAPHICS DESIGNER 64

BY James Bachmann,
Ken French &
Louis Wallace

Graphics design aid and slide show maker
for the Commodore 64

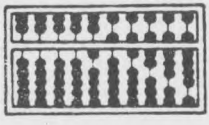

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TABLE OF CONTENTS

INTRODUCTION.....1

DISTRIBUTION DISKETTE.....2

USING GRAPHICS DESIGNER 64.....3

INSTRUCTIONS MENU.....5

MENU A.....6

MENU B.....12

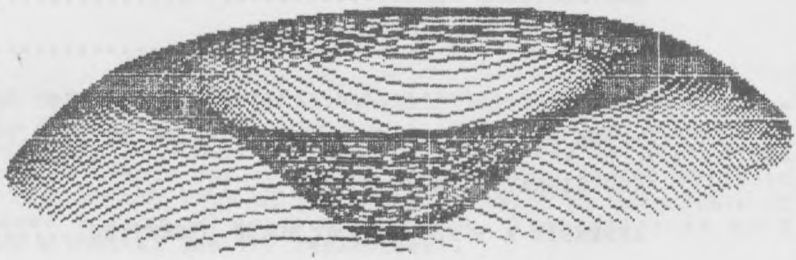
SLIDE SHOW.....15

ADDITIONAL CAPABILITIES.....17

APPENDIX A - FORMATTING PLANK DISKETTES.....18

APPENDIX B - PRINTER INTERFACE SUPPORT.....19

GRAPHICS DESIGNER 64



By James Bachmann
Ken French &
Louis Wallace

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INTRODUCTION

GRAPHICS DESIGNER 64 is a completely menu-driven graphics editor for the Commodore 64. It allows anyone to sit down and immediately begin to create high resolution or low resolution picutres. These pictures can be saved to disk or tape, recalled and edited, or reproduced on your printer. You can use **GRAPHICS DESIGNER 64** for many applications - architectural design, engineering graphics, graphic arts, games and artistic expression. Additionally, you can create a slideshow so that you can display these pictures. So you can use **GRAPHICS DESIGNER 64** as a very powerful aid in a lecture, discussion or as a constantly changing window advertisement. You can create as many different slide presentations as you can the pictures themselves.

DISTRIBUTION DISKETTE

In order to protect the copyright of this program, interlocks have been incorporated to prevent LISTing, PEEKing, SAVEing and LOADing while **GRAPHICS DESIGNER 64** is in the computer memory. Any attempts to do so are ignored by the computer.

The distribution diskette cannot be duplicated by standard computer equipment.

If the distribution diskette becomes completely unreadable, return it to ABACUS Software along with your purchase receipt for replacment at a nominal charge of $5.00 plus postage.

The distribution diskette contains many files. The ones that you need be concerned with are:

GDCBM	GRAPHICS DESIGNER 64 for 1515 or 1525 printers
GDEPS	GRAPHICS DESIGNER 64 for Epson or Gemini printers
GDOKI	GRAPHICS DESIGNER 64 for Okidata printers
SAVEAPIC	utility to save your own hires picture making it compatible with GRAPHICS DESIGNER 64
SSDEMO	demonstration slide show file (accessed from the **SLIDE SHOW** option

All other files are parts of the **GRAPHICS DESIGNER 64** program, instructions or sample pictures. You should **NEVER** remove the write protect tab from the distribution diskette.

USING GRAPHICS DESIGNER 64

1. Format a blank diskette if you are planning to save your completed graphics designs for later use. If you are not familiar with formatting a blank diskette, then see APPENDIX A for details.

2. Carefully insert the **GRAPHICS DESIGNER 64** distribution diskette into the disk drive and close the door.

3. a. If you are using no printer or are using a COMMODORE 1515 or 1525E printer type:

   LOAD "GDCBM",8 <RETURN>

   When the computer responds with **READY.**, type **RUN** and press <RETURN>. Now go to step 4.

   b. If you have an EPSON MX-series, FX-series or RX-series or a GEMINI 10, 10X or 15 printer type:

   LOAD "GDEPS",8 <RETURN>

   When the computer responds with **READY.**, type **RUN** and press <RETURN>. Now go to step 3.d.

   c. If you have an OKIDATA Microline Model 82A with OKIGRAPH kit, 83A with OKIGRAPH kit, 84 STEP 2, 92 or 93 then type:

   LOAD "GDOKI",8 <RETURN>

   When the computer responds with **READY.**, type **RUN** and press <RETURN>. Now go to step 3.d.

   d. The computer prompts you to enter a:

   SECONDARY ADDRESS NUMBER (0-255)

   If your printer interface does not need or respond to secondary addresses with the printer OPEN command, then press <RETURN>. If a secondary address is needed to configure the interface, then key in the number followed by <RETURN>. See APPENDIX B for more information.

   The next prompt is:

   ASCII TRANSLATE (Y/N)?

   If your interface does not change the 8 bit codes of the computer in any way, then press **N**

(no). If your interface translates Commodore ASCII to standard ASCII, then answer Y and **GRAPHICS DESIGNER 64** pre-translates the graphic data so your interface printer properly.

After pressing **Y** or N, the reminder **DON'T FORGET TO SET INTERFACE SWITCHES** is displayed for users with manually switched printer interfaces.

4. The screen will display a title and ask you if you if you want to use:

EDITOR OR SLIDE SHOW.

Press E to use the **EDITOR.** As the rest of the EDITOR is loaded into the computer a copyright notice and title are displayed on the screen. When loading is completed (after about a minute and a half) a picture will display shortly followed by the **INSTRUCTIONS MENU.**

Press S to use the **SLIDE SHOW.** In this case, the SLIDE SHOW is loaded into the computer. You should turn to the section entitled **SLIDE SHOW** for more information.

INSTRUCTIONS MENU

The **INSTRUCTIONS MENU** contains several categories of information about the operation of **GRAPHICS DESIGNER 64.** You can look at the instructions by simply touching the number for that category. You should spend a few minutes reading each of the instruction screens.

Here's the **INSTRUCTIONS MENU**:

INSTRUCTIONS

1. GENERAL INFORMATION
2. HIRES INSTRUCTIONS#1
3. HIRES INSTRUCTIONS#2
4. USING GRAPHICS IN HIRES
5. LORES INSTRUCTIONS
6. SLIDESHOW INSTRUCTIONS
7. USING YOUR PICTURES

PRESS **F1** TO VIEW HIRES SCREEN
PRESS **F3** TO VIEW LORES SCREEN
INSTRUCTIONS ERASE THE LORES SCREEN

Press the <RETURN> key to go to **MENU A.**

MENU A - high resolution options

MENU A contains all of the high resolution drawing options. There are ten options in all (numbered 0 thru 9), and each is accessed by simply touching the number key for that option. Each option asks you one or more questions about how and where you want to draw. Answer these questions and **GRAPHICS DESIGNER 64** will draw the corresponding object on the screen.

MENU A looks like this:

MENU A

0. LIGHT PEN
1. DRAW A LINE
2. DRAW A BOX
3. DRAW A CIRCLE
4. DRAW AN OVAL
5. DRAW A TRIANGLE
6. JOYSTICK DRAW/ERASE
7. DRAW BY CURSOR
8. TEXT GRAPHICS
9. FILL AN AREA

PRESS **F1** TO VIEW HIRES SCREEN
PRESS **F3** TO VIEW LORES SCREEN
PRESS I FOR INSTRUCTIONS
PRESS RETURN TO SEE MENU B

With most of these options, you can specify coordinates in either of two ways:

JOYSTICK OR POINTS

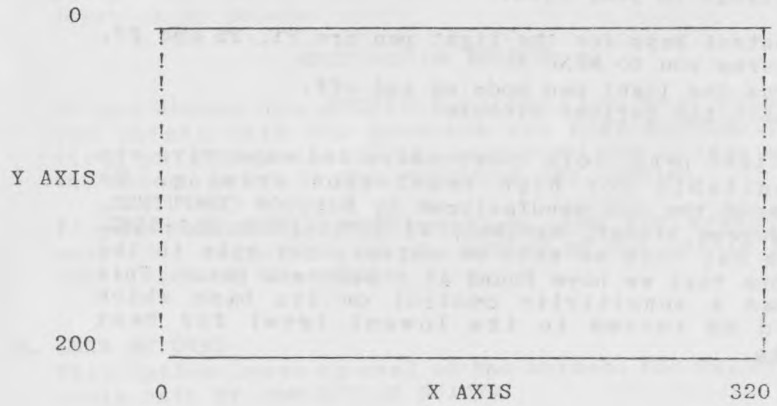
If you choose **JOYSTICK**, the high resolution screen is displayed. A blinking pixel appears at the center of the screen. Use the joystick handle to move the blinking pixel to the desired location of a coordinate and then press the FIRE BUTTON. You can control the speed at which the blinking pixel moves, by pressing a number key 1-9, where 1 is the slowest and 9 is the fastest.

If you choose **POINT**, you are asked to enter the X and Y value for each coordinate. Press the <RETURN> key after entering each X or Y value. After all values are entered, you are asked:

CONTINUE OR RETURN TO MENU

If all points are correct, then press C to draw the object. Otherwise press R to return to the menu without drawing the object.

The screen coordinates are as follows:



CONTROL KEYS
Other keys have special meaning when using the options under MENU A.

1 thru 9 - change speed of the joystick when in joystick mode. 1 is slowest and 9 is fastest
F1 - switch between the menu pages and the high resolution screen
F5 - change the background color of the high resolution screen
F8 - erase the entire high resolution screen (except when using the light pen and **F7** erases the screen).
CTRL + Color key
or
C= + Color key - Changes the color of the drawing color.

MENU A options are explained below:

0. LIGHT PEN
This option allows you to use a light pen for drawing on the hires screen. You must perform a calibration procedure the first time you use the pen. You are then free to draw anything you wish. You cannot change your drawing color or background color when drawing with a light pen because the white background is necessary to allow the light pen to function properly. You should adjust the brightness and

contrast of your television or monitor to the level that gives the best response to the pen and is still comfortable to your eyes.

The control keys for the light pen are **F1, F5** and **F7**.
F1 returns you to MENU A.
F5 turns the light pen mode on and off.
F7 erases the current picture.

Many light pens, both inexpensive and expensive are not suitable for high resolution drawing. We recommend the pen manufactured by MADISON COMPUTERS, 1825 Monroe Street, Madison, WI 53711 (608) 255-5552. Others may work as well or better, but this is the best one that we have found at a moderate price. This pen has a sensitivity control on its base which should be turned to its lowest level for best results.

1. DRAW A LINE

This option draws a line between any two points on the screen. You are given the choice of determining the endpoints by joystick or by points:

JOYSTICK OR POINTS

If you choose the **JOYSTICK** method, you must choose two points with the joystick and FIRE BUTTON. These points represent the two end points of the line.

If you choose the POINT method, you must choose two points by typing in the X1,Y1 and X2,Y2 values.

2. DRAW A BOX

This option draws a box, rectangle or any four-sided shape. You are given the choice of entering the corners by joystick or by points:

JOYSTICK OR POINTS

If you choose the **JOYSTICK** method, you must choose two points with the joystick and FIRE BUTTON. The two points represent the opposite corners of the box.

If you choose POINT method, you are asked to enter four sets of coordinates, each representing the corners of the box. This method allows you to make irregular shaped four-sided polygons in addition to squares and rectangles.

3. DRAW A CIRCLE

This option draws a cirlce on the screen. You are given the choice of entering the parameters by joystick or points:

JOYSTICK OR POINTS

If you choose the **JOYSTICK** method, you must choose two points with the joystick and **FIRE BUTTON.** The first point represents the center of the circle and the second point is the radius of the circle.

If you choose the **POINT** method, you are asked to enter the coordinate of the center of the circle and the radius of the circle.

4. DRAW AN OVAL

This option draws an oval on the screen. You may draw ovals only by specifying points.

First you are asked for the coordinate of the center of the circle.

Next you are asked: **ELONGATION X OR Y?.** Answer X if you want the oval stretched horizontally or Y if you want the oval stretched vertically.

Next you are asked: **OVAL FACTOR(2-10)?.** Enter a number between 2 and 10 if you want the oval stretched a little (2) or a lot (10).

Finally you are asked: **SMALL RADIUS OF OVAL?.** Enter the radius for the oval. If your oval is too large for the screen, an error message is displayed and you are asked again.

5. DRAW A TRIANGLE

This option draws a triangle on the screen. You may draw triangle only by specifying points. You may use the joystick to draw triangles by drawing multiple lines.

You are asked to enter the three endpoints for the triangle.

6. DRAW WITH JOYSTICK

This option lets you use the joystick as a paintbrush. The blinking pixel on the screen shows you the location of the paintbrush. You can vary the speed of the paintbrush by pressing a number key, 1 thru 9, where 1 is slowest and 9 is fastest.

The FIRE BUTTON changes the operation of the joystick. There are three modes: Move, Draw and Erase.

In the Move mode, the joystick moves the paintbrush without leaving any paint.

In the Draw mode, the joystick moves the paintbrush, but leaves a trail of paint.

In the Erase mode, the joystick moves the paintbrush, but erases anything in its path.

Pressing the **FIRE BUTTON** successively changes the mode from Move to Draw and then to Erase mode. You always start in the Move mode. Press the **F1** key to return to the menu.

7. DRAW WITH CURSOR

This options lets you draw using the cursor keys. You can easily draw vertical or horizontal lines by pressing the approriate cursor key. The cursor keys move the blinking pixel in the appropriate direction. The space bar turns on and off the draw mode. Press the **F1** key to return to the menu.

8. TEXT GRAPHICS

This option transfers the contents of the low resolution screen to the high resolution screen. You can design any picture or pattern on the low resolution screen using the keyboard graphics, text characters, number or whatever and then transfer them instantly to the hight resolution screen.

You can design the low resolution picture in either graphics/uppercase mode or lowercase/uppercase mode and send them to the high resolution screen. This gives you the capability of having both text types on the high resolution screen.

9. FILL AN AREA

This option fills any area you specify. You are given the choice of specifying the area to be filled by joystick or by point:

JOYSTICK OR POINT

If you choose the **JOYSTICK** method, move the blinking pixel inside the area to be filled and press the FIRE BUTTON.

If you choose the POINT method, you are asked to

enter the coordinate of a point inside the area to be filled.

You should be careful to make sure you are filling a closed area. In addition,you should not attempt to fill an open area that are full of many tiny lines, dots or text. Light pen scribbles or text may cause problems with the fill.

MENU B - other options

MENU B contains all of the other drawing options except for the **SLIDE SHOW** feature. There are four options in all (numbered 1 thru 4) and each is accessed by touching the number key for that option.

MENU B looks like this:

MENU B

1. LORES GRAPHIC EDITOR
2. SAVE OR LOAD PICTURE
3. PRINT HIRES PICTURE
4. QUIT

PRESS **F1** TO VIEW HIRES SCREEN
PRESS **F2** TO VIEW LORES SCREEN
PRESS I FOR INSTRUCTIONS
PRESS RETURN FOR MENU B

MENU B options are explained below:

1. LORES GRAPHIC EDITOR
   This option allows you to create any kind of scene using the text characters built into the Commodore 64 keyboard. Use the C= or SHIFT key to display the Commodore graphics characters as needed. You can make pictures, designs and messages. And you make them in full color! Use the cursor control keys to move around the screen, and print any character in any color. When you are satisfied with the results, press <RETURN>.

   You are now at **MENU A** again. The low resolution picture is still in memory. You can view it by pressing the **F7** key. Any time you wish to go back and change it, go to **MENU** B and choose the LORES GRAPHICS EDITOR. Your picture stays in memory until you clear it or load another lores picture into memory. When using the lores editor, color, reverse on/off, and other keyboard modes work normally.

   If you need to place text on the hires screen, first create the text on the lores screen. Then use option 8 on **MENU A** to transfer the lores screen to the hires screen.

NOTE - Any instructions (from the instruction menu) will overlay the lores screen. Therefore make sure that you have saved your lores picture before viewing any instructions.

2. SAVE & LOAD

This option lets you save your pictures to disk or load previously saved pictures back into the computer.
You are asked to enter one of the following:

LOAD SAVE MENU

Enter the letter of your choice. Next you are asked if the picture you want to load is:

HIRES or LORES

Again enter the letter of your choice. Next you are asked to enter the device number to load from or save to:

ENTER DEVICE # ? 8

The default value is 8 (the 1541 Disk Drive). You can save to cassette by changing the defualt to 1. Next enter the name for the picture:

ENTER TITLE

Type the name of your picture and press <RETURN>. If you are replacing a picture then the file name must have the first two characters of **@:**.

You should save your pictures onto a diskette other than the distribution diskette. **DO NOT SAVE PICTURES ONTO THE DISTRIBUTION DISKETTE.** Save the pictures onto your own formatted diskettes (See Appendix A for details). After saving or loading onto your own diskettes, place the **GRAPHICS DESIGNER 64** distribution diskette back into the drive.

Low resolution pictures are saved in full color; hires are saved without any color.

3. PRINT HIRES PICTURE

This option lets you get hardcopy printout of the high resolution screen onto a Commodore VC-1515, VC-1525E, Epson MX, FX or RX series or OKIDATA Microline printers.

If you want a printout of a low resolution screen, first transfer it to a blank hires screen and then

print the high resolution screen.

This option asks you if the printout is to be:

SMALL or LARGE

A small printout is printed horizontally and fills about 1/2 of a page. A large printout is printed vertically and fills the entire page. The screen changes to the hires display as it is printed. When it is finished, **MENU** A is redisplayed.

4. QUIT
This option exits from **GRAPHICS DESIGNER 64.** Using this option resets the computer, so you are given another chance to change your mind.

SLIDE SHOW

The **SLIDE SHOW** is one of the two options when you first begin using **GRAPHICS DESIGNER 64.** You enter the **SLIDE SHOW** by pressing the S key when you see the message:

EDITOR OR SLIDE SHOW

After pressing **S**, the **SLIDE SHOW** program is loaded and displays the following menu:

SLIDE SHOW
(C)1983 J BACHMANN,
K FRENCH, L WALLACE

CREATE A SLIDE SHOW FILE

DISPLAY A SLIDE SHOW

GO TO GRAPHICS DESIGNER

QUIT PROGRAM

The options are explained below:

C **CREATE A SLIDE SHOW FILE**
This option lets you create a slide show file containing picture names and times that each picture is to be displayed. A slide show file may contain up to 20 picture names. You are asked two questions:

ENTER PICTURE NAME?
Type in the name of the picture followed by <RETURN>.

Pressing the <RETURN> key without typing in a name indicates that your list of pictures is complete.

ENTER MINUTES OR K?
Type in the length of time that the picture is to be displayed. You can enter fractions of a minute (e.g. .25 is 15 seconds). If you answer **K**, then you will later use the keyboard to control the slide show.

After all of your picture names and times are entered, **SLIDE SHOW** asks:

PRESS RETURN TO CHECK PICTURES.

Make sure that your diskette containing the pictures is in the disk drive, then press the <RETURN> key. **SLIDE SHOW** checks the names by reading each picture to determine if the name is valid and to determine if the picture is a hires or lores picture.

SLIDE SHOW reports the if the picture is on the diskette. If not, you can reedit the list of pictures by pressing the key.

When you are finished editing the picture names, key in the filename for your slide show file and press the <RETURN> key to save the slide show file to disk.

D **DISPLAY A SLIDE SHOW**
This option lets you display pictures as entered in a previously created slide show file. To display a slide show enter the slide show file name and press the <RETURN> key. This slide show file name is the same name as the one entered in **CREATE A SLIDE SHOW FILE** above.

The distribution diskette contains a sample slide slow file. It is called **SSDEMO** and you can show this file as a demonstration.

G **GO TO THE GRAPHICS EDITOR**
This option lets you immediately go to the **EDITOR** portion of **GRAPHICS DESIGNER 64.**

Q **QUIT PROGRAM**
This option exits the **SLIDE SHOW** and resets the computer.

The function keys **F1**, **F3**, **F5**, and **F7** all have special functions when using the **SLIDE SHOW.**

F1 advances the slide to the next picture on the list, overriding the time you had previously specified.
F3
& changes the pixedl and background color for hires mode.
F5
F7 returns to the **SLIDE SHOW** menu

ADDITIONAL CAPABILITIES

GRAPHICS DESIGNER 64 can also be used to save and edit pictures in high resolution or high resolution plots of mathamatical equations. You can set up a plot from basic, like the sine function from the Commodore 64's Programmers Reference Manual, plot it, and then save it to disk so you can reedit it with **GRAPHICS DESIGNER 64.**

To do so:

You must use the procedures for plotting in hires as given in the Commodore 64 Programmer's Reference Guide, pages 122-127. The hires screen **must** start at 8092 decimal ($2000 hexadecimal).

The form of the equation you use (such as the sine function used as an example in the Programmer's Reference Manual) does not matter, as long as the PASIC language and syntax is correct. Run the BASIC program to create the hires picture.

Next you can load the program called **SAVEAPIC** from the distribution diskette. This program lets you save the hires picture that you just created with your BASIC program. Enter a picture name and the hires picture is saved to disk. This picture is now compatible with other **GRAPHIC DESIGNER 64** pictures and can be used in **SLIDE SHOWS** or printed onto hardcopy or reedited.

APPENDIX A

FORMATTING A BLANK DISKETTE

Before using a diskette, it must be formatted or prepared to accept data. To format a diskette, do the following:

1. Insert a new diskette into the disk drive and close the drive door.

2. Type the following:

   OPEN 15,8,15,"N:diskname,id"

   Note - You may substitute the name of your choosing in place of **diskname** (maximum of 16 characters) and a 2 digit number in place of **id.**

3. The drive will start spinning and in about 30 seconds the drive light will go out. The diskette is now completely formatted and ready to be used for storing pictures or other programs.

APPENDIX B

PRINTER / INTERFACE SUPPORT

GRAPHICS DESIGNER 64 supports the Commodore 1515 and 1525E printers if they are connected directly to the Commodore 64 or 1541 disk drive. To support these printers you should load and run **GDCBM** at startup.

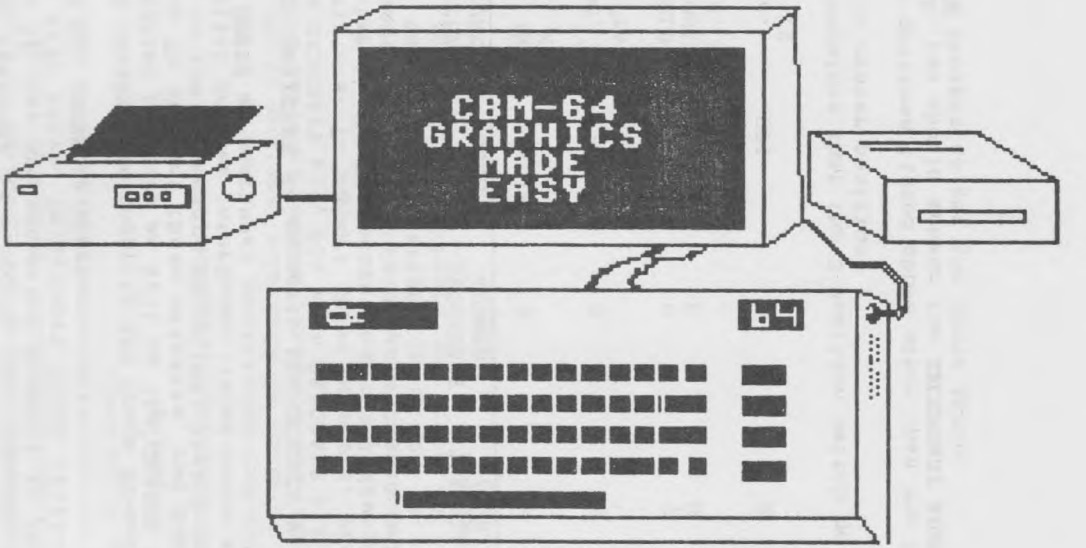
GRAPHICS DESIGNER 64 supports the Epson MX-series, FX-series and RX-series printers as well as the GEMINI 10, 10X and 15 printers. To support these printers, you must connect the printer to the Commodore 64 or 1541 disk drive with one of the parallel printer interfaces listed below and should load and run **GDEPS** at startup.

GRAPHICS DESIGNER 64 supports the OKIDATA Microline models 82A with OKIGRAPH kit, 83A with OKIGRAPH kit, 84 STEP 2, 92 or 93 printers. To support these printers, you must connect the printer to the Commodore 64 or 1541 disk drive with one of the parallel printer interfaces listed below and should load and run **GDOKI** at startup.

------INTERFACE------		SECONDARY	TRANSLATE	SWITCHES
MANUFACTURER	MODEL	ADDRESS	(Y/N)	ON
CARDCO, INC. Wichita, KS.	CARD/?	5	N	
ECX, INC. Walnut Creek, CA	C-6401	0	N	*
MICROWORLD ELECTRONIX Lakewood, CO.	MW-302	0 0	Y N	3,4 3
MSD, Inc. Dallas, TX	CPI	0	N	1,2,5

* requires that the 3 position switch be set to to center position.

With the printers listed above other than the Commodore 1515 and 1525E, you should answer the **SECONDARY ADDRESS** and **ASCII TRANSLATE** prompts as per the above table.


CBM-64
GRAPHICS
MADE
EASY
64

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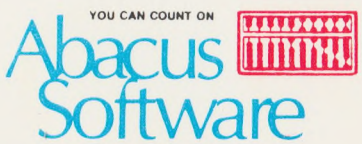

P.O. Box 7211, Grand Rapids, MI 49510 616/241-5510