

**UNPROTECTED**

Backups may be made using standard copying procedures.

**COMPATIBLE**

Any version of Apple II®  
DOS 3.3 and ProDOS™



# • TRIPLE-DUMP •

APPLE®SCREEN-PRINTING PROGRAM  
by MARK SIMONSEN and ROB RENSTROM

**1: HI-RES & DOUBLE HI-RES:**

Dot-for-dot reproductions of your hi-res pictures may be printed "as is" or enhanced with special effects, including cropping and rotating. Print new 560-pixel DOUBLE HI-RES pictures too.

**2: LO-RES & DOUBLE LO-RES:**

Triple-Dump converts lo-res colors into shades of grey, making those previously "unprintable" pictures printable.

**3: 40 & 80-COLUMN TEXT:**

Text screen dumps are easy with Triple-Dump. You can even insert the routines from the disk into your programs.

**PLUS:**

**PRINT ANY SCREEN IMAGE:**

Triple-Dump will transfer *anything* from your Apple's screen to your dot-matrix (graphics-capable) printer.

**HARD COPY MADE EASY:**

Simply run the programs on the enclosed disk, OR add Triple-Dump's print routines to your Applesoft programs. A simple "Call" command will then transfer the screen to your printer.

**FREE PEEKS & POKES CHART:**

Apple's "Peeks, Pokes, Pointers and Calls" on one 11x17 poster. An indispensable Apple® programming tool.

## GIANT BANNERS

**BONUS BANNER MAKER:** Triple-Dump's Banner Printer lets you put *any* printer to work making GIANT SIGNS (8" high characters) for the home or office. Just type the words you want (no length limit) and let your printer print the signs!

# TRIPLE-DUMP COMPATIBILITY

Triple-Dump is compatible with the following printers and interfaces and any Apple®II, II+, IIe or IIfx. For a possibly more up-to-date printout, run the PRINTERS program on the Triple-Dump disk. If your dot-matrix graphics-capable printer or interface is not listed, Triple-Dump might work if you tell it you have one of the more universal set-ups, like an EPSON MX-80 printer with an APPLE PARALLEL, or GRAPPLER interface. Please contact us if you have a problem, or if you know something about compatibility that we don't know. We appreciate your input.

## PRINTERS

ANADAX DP-9000	IDS PRISM 80 <sup>1</sup>
ANADAX DP-9500	IDS PRISM 132 <sup>1</sup>
ANADAX DP-9001	LEGEND 1385
ANADAX DP-9501	MALIBU 200
APPLE DOT MATRIX (DMP)	MANNESMANN TALLY 160
APPLE IMAGEWRITER	MANNESMANN TALLY 180
APPLE IMAGEWRITER II <sup>1</sup>	MANNESMANN TALLY SPIRIT-80 <sup>2</sup>
APPLE SCRIBE <sup>1</sup>	NEC PC-8023
BLUE CHIP M120/10 <sup>2</sup>	NEC PC-8025
BROTHER M-1009	OKIDATA MICROLINE 82A
C. ITOH PROWRITER	OKIDATA MICROLINE 83A
C. ITOH PROWRITER II	OKIDATA MICROLINE 84
C. ITOH 7500	OKIDATA MICROLINE 92
C. ITOH 8510	OKIDATA MICROLINE 93
CENTRONICS 739	OKIDATA MICROLINE 192
DATASOUTH 180	OKIDATA MICROLINE 193
EPSON AP-80	PANASONIC KX-P1090
EPSON FX-80	PANASONIC KX-P1091
EPSON FX-85	PANASONIC KX-P1092
EPSON JX-80 <sup>1</sup>	SEIKOSHA
EPSON LQ-800	SMITH CORONA D100
EPSON LQ-1000	SMITH CORONA D200
EPSON LQ-1500	SMITH CORONA D300
EPSON LX-80	STAR DELTA 10
EPSON MX-80 with Grafix	STAR DELTA 15
EPSON MX-100	STAR GEMINI 10
EPSON RX-80	STAR GEMINI 15
GORILLA BANANA	STAR RADIX 10
HP THINKJET	STAR RADIX 15
IDS MICROPRISM <sup>1</sup>	TRANSTAR 315
IDS PAPER TIGER 440	TRS-80 DMP-105
IDS PAPER TIGER 445	TRS-80 DMP-400
IDS PAPER TIGER 460	
IDS PAPER TIGER 560	

<sup>1</sup>monochrome dump only

<sup>2</sup>requires 8-bit interface

<sup>3</sup>DOS 3.3 only

## INTERFACES

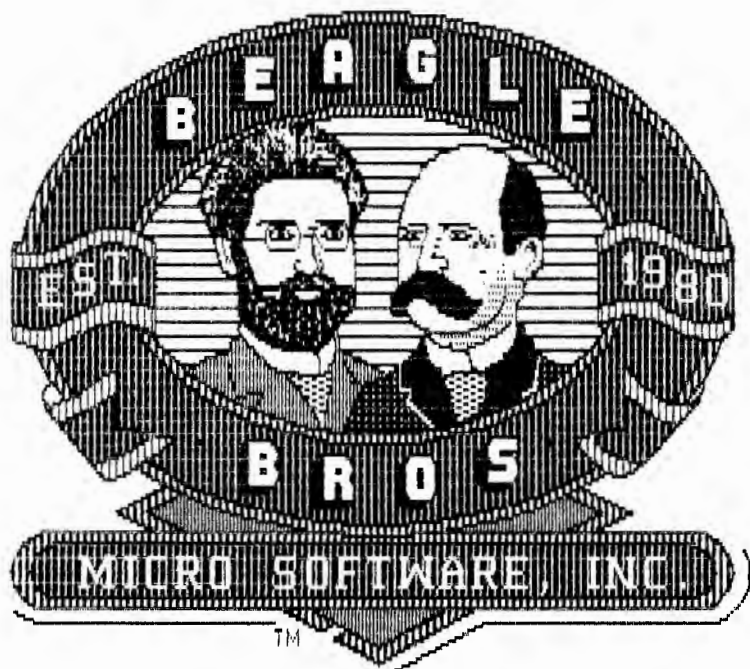
APPLE IIc SERIAL PORT	MICROTEK SV-622C
APPLE III SERIAL PORT <sup>3</sup>	MOUNTAIN PARALLEL
APPLE CENTRONICS PARALLEL	MOUNTAIN SERIAL
APPLE COMMUNICATIONS	MPC AP-80
APPLE FIRMWARE	MPC AP-GRAPH
APPLE PARALLEL	MPC AP-SIO
APPLE SERIAL	MPC GRAPHWRITER
APPLE SUPER SERIAL	OMNIGRAPH
APRICORN PARALLEL	ORANGE
APRICORN SERIAL	PKASO
CCS 7710A SERIAL	PKASO/U
CCS 7720 PARALLEL	PRETTY PRINT
CCS 7728 PARALLEL	PRINTER PRO
DISPATCHER	PRINTERFACE
DUAL COMM PLUS	PRINTERMATE
DUMPLING 64	PRINTMAX
DUMPLING GX	QUADRAM-APIC
EPSON APL	SPIES NICEPRINT SUPER-MX
FINGERPRINT	SSM-AIO-II PARALLEL
FINGERPRINT+ PARALLEL	SSM-AIO-II SERIAL
FINGERPRINT+ SERIAL	SSM-AP10
FRANKLIN DUAL PORT	SSM-APPIC
GRAFSTAR	SSM-ASIO
GRAPHICARD	TEXPRINT PRINT-IT!
GRAPPLER	TRANSTAR PICS
GRAPPLER+	TYMAC
GRAPPLER SERIAL	VERSACARD PARALLEL
K-T PARALLEL	VERSACARD SERIAL
MBI VIP	VIDEX PSIO PARALLEL
MICROBUFFER II	VIDEX PSIO SERIAL
MICROSYSTEMS MSE1022 PARALLEL	VIDEX UNIPRINT
MICROTEK RV-611C	WIZARD IPI
	WIZARD-BPO

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# TRIPLE-DUMP

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**RUN NOTES** to possibly see changes to this manual.

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# Before You Start

## IDENTIFY YOUR PRINTER AND PRINTER INTERFACE

Look at the TRIPLE-DUMP COMPATIBILITY list on the inside front cover of this manual to be sure your printer and interface are supported.

## FOR MORE PRINTERS, RUN PRINTERS

If your printer or interface is not listed on the compatibility list, maybe it has been added to the Triple-Dump disks since the chart was printed. There is a program on the Triple-Dump disks called "PRINTERS" that lets you print an up-to-the-minute list of hardware that is currently supported. To print this list, put the appropriate (ProDOS or DOS 3.3) Triple-Dump disk in your drive, label-side-up, turn on your printer and type:

### RUN PRINTERS

(The PRINTERS program assumes your printer is connected to peripheral slot 1; if you don't know, it undoubtedly is. To change the slot number, change the first line of the program.)

## UNLISTED PRINTER?

If your printer or interface is not listed on the compatibility list or in the PRINTERS program (and you are certain you have a *graphics-capable\* dot-matrix\** printer), pretend you have one of the most universal setups—an EPSON MX-80 or EPSON FX-80 printer and/or an APPLE PARALLEL or GRAPPLER interface, and try to print a hi-res picture. If these and other substitute names don't work, write or phone Beagle Bros immediately, and we'll do our best to help. We appreciate any input you can supply on Triple-Dump's compatibility with the myriad of printers and interfaces out there. Thanks.

\*More information and definitions on page 4

# KNOW WHAT KIND OF PICTURE YOU ARE GOING TO DUMP

The sample pictures shown here are included on your Triple-Dump disks.



## HI-RES GRAPHICS

6 colors, 280 x 192 pixels (dots)

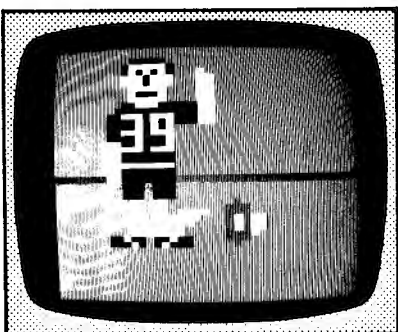
Sample shown: PIC.HIRES



## DOUBLE HI-RES GRAPHICS

16 colors, 560 x 192 pixels (dots)

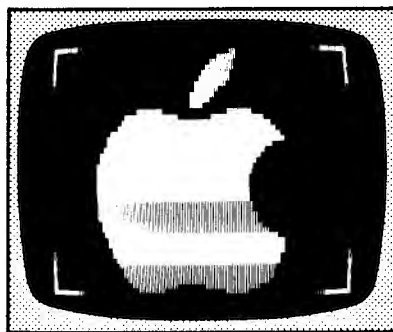
Shown: PIC.DHIRES/PIC.DHIRES.AUX



## LO-RES GRAPHICS

16 colors, 40 x 48 blocks

Sample shown: PIC.LORES



## DOUBLE LO-RES GRAPHICS

16 colors, 80 x 48 blocks

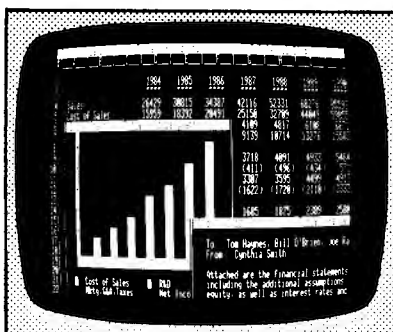
Sample shown: PIC.DLORES



## 40-COLUMN TEXT

40 columns x 24 lines

Sample shown: PIC.40COLUMNS



## 80-COLUMN TEXT

80 columns x 24 lines

Sample shown: PIC.80COLUMNS

# Introduction

## HARD COPY MADE EASY

TRIPLE-DUMP's job is to print on paper ("dump", that is) the various images that you see on your Apple's screen, using your dot-matrix printer. You may dump three—no, make that *six*—kinds of images:

- |                   |                   |
|-------------------|-------------------|
| 1. Normal Hi-Res  | 4. Double Hi-Res  |
| 2. Normal Lo-Res  | 5. Double Lo-Res  |
| 3. 40-Column Text | 6. 80-Column Text |



You may dump these images in two ways. Both will produce the same results:


1. Run our TRIPLE.DUMP program (see page 8). It lets you load your screen images from disk, crop them, select special effects, and then print them on paper (no programming knowledge required).
2. Add our dump routines to your Applesoft programs (see page 20—requires a certain amount of Applesoft programming experience).

## SAVE YOUR IMAGES ON DISK

In most cases, Triple-Dump wants your screen images stored on disk in standard Apple format. If you don't know how to save images on disk, see page 28 of this manual.

## ABOUT PRINTERS AND INTERFACES

Triple-Dump works with **DOT-MATRIX PRINTERS**. This means a printer's characters are made of dots  ABCDEFGHIJKLM. Triple-Dump will not transfer images to "letter quality" or "daisy wheel" printers  ABCDEFGHIJ (although Triple-Dump's BIGBANNER program will work with *any* printer.)

Besides being of the dot-matrix variety, your printer must also be **GRAPHICS CAPABLE** (most printers *are*; yours probably is too). This means your printer's dots can be arranged in a variety of patterns  instead of just alphanumeric characters.

At the Apple end of the cable connected to your printer is a piece of hardware called an **INTERFACE** (or "interface card"). Interfaces, like printers, are produced by an endless list of manufacturers, each with its own set of standards. A given printer will respond differently according to the interface it is connected to.

On Apples with removable lids, you can read the interface name on the card that the printer cable is connected to. If you have an Apple IIc, you don't need to look—you have an "Apple IIc" interface.

# About the Disks

## TWO VERSIONS: ProDOS™ and DOS 3.3

There are two disks included with Triple-Dump—a two-sided ProDOS disk and a two-sided DOS 3.3 disk. All Triple-Dump instructions apply to both disks—they both work the same.

Which DOS (Disk Operating System) you use is up to you—it depends on which DOS was being used when your screen images were saved. If one of the Triple-Dump disks gives you an “I/O Error” message or some other kind of nonsense, the disk probably doesn’t comply with the DOS you have most-recently booted. Either switch disks or boot the appropriate DOS.

If you don’t know which DOS (3.3 or ProDOS) has most-recently been booted, type “CAT”. If you see a disk catalog on the screen, you’re probably using ProDOS. If you get a “?Syntax Error” message, you’re probably using DOS 3.3 (or haven’t booted any DOS).

## SIDE 2 WON’T BOOT

The backs of the two Triple-Dump disks are unbootable. Boot the front side first (label-up) to use the programs on either side. You may also use the Triple-Dump disks without booting them if you first boot any standard disk like the *DOS 3.3 System Master* disk, the *ProDOS User’s Disk*, or the system disk that came with your Apple.

### REMEMBER, TO USE SIDE 2, YOU:

1. Boot Side 1 first.
2. Press “Q” to Quit the Startup program.
3. Turn the disk over and insert it in your drive.
4. Type “CATALOG” to see what’s on Side 2.

## BACK IT UP

Make a backup of your disks and store them in a safe place, away from prying magnetic fields. Triple-Dump, like all Beagle Bros software, is UNLOCKED (inspectable and changeable) and UNPROTECTED (copyable), making it more valuable to our customers (that’s you).

Please don’t give copies of our disks away. Every illegal copy you see is a vote FOR copy-protection and AGAINST friendly software that you can learn from. You support us and we’ll support you.



# The Disk Catalogs

## MAIN PROGRAMS

---

STARTUP: *The title program that runs TRIPLE.DUMP*

TRIPLE.DUMP: *You can RUN this to print pictures.*

TRIPLE.BAS: *The main program that is used by TRIPLE.DUMP*

TRIPLE.OBJ1, etc.: *Machine language routines used by TRIPLE.DUMP*

TRIPLE.INFO: *Info for TRIPLE.DUMP about your printer and interface*

PRINTER.INFO: *The current printer and interface drivers*

PRINTER.LIST: *Used by the PRINTERS and TRIPLE.DUMP programs*

P.DRIVERS: *Data for all supported printers*

INTERFACE.LIST: *Used by the PRINTERS and TRIPLE.DUMP programs*

I.DRIVERS: *Data for all supported interfaces*

PRINTERS: *RUN PRINTERS for an up-to-date list of supported hardware.*

DUMP.HIRES, etc.: *Routines that print the six kinds of images*

DUMP: *A combination of all the "DUMP." files*

BIGBANNER: *Prints giant-letter banners on any printer*

NOTES: *RUN NOTES to see any changes or comments about this manual*

## SAMPLE PROGRAMS

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PRINT.HIRES, PRINT.LORES, etc.: *Print the six types of Apple images*

IMPRINT.DEMO: *Shows how you can add text to hi-res pictures*

## UTILITIES

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FLIP.HIRES, FLIP.DBLHIRES, etc.: *Turn pictures upside-down*

HIRES.TEXT: *Converts text to hi-res—used by IMPRINT.DEMO*

DBLHIRES.TEXT: *Converts text to double hi-res*

HIRES.FONT: *Used by the two files above (DOS Tool Kit™ fonts also work)*

SAVE.80: *Saves and loads 80-column text and double lo-res*

SAVE.HIRES: *A program that saves hi-res screens*

SAVE.DBLHIRES: *A program that saves double hi-res screens*

PACK.HIRES: *Compresses hi-res pictures so they occupy less disk space*

TRANSFER: *Copies your printer and interface files to side 2*

RELOCATE: *Lets you move DUMP routines (for advanced programmers)*

## PICTURES (file names begin with "PIC.")

---

*Hi-res pictures are 33- or 34-sector (DOS 3.3) or 17-block (ProDOS) files*

*Double hi-res pix are two 34-sector or 17-block files (one ends in ".AUX")*

*Lo-res pictures and 40-column text images are 5 or 6-sector or 3-block files*

*Double lo-res pix and 80-column text images are 9-sector or 5-block files*



## **BOOT SIDE 1, THEN CATALOG**

Remember, you cannot boot the back of the Triple-Dump disks. Boot either disk with its label-side up. Press Q to quit the Startup program and type "CATALOG" (DOS 3.3 or 80-column ProDOS) or "CAT" (40-column ProDOS only). You will see the catalog for the front side of the disk. Turn the disk over to catalog the back (just type "CAT" or "CATALOG" again).

## **USE APPLE'S COPY OR FILE-TRANSFER PROGRAMS**

Any standard copy program will copy Triple-Dump. You may want to use one of Apple's file transfer programs (like DOS 3.3's *FID* or the *ProDOS Utilities* disk) to back-up only selected files.

## **WHICH SIDE IS WHICH?**

Since we keep re-arranging the Triple-Dump disks, we won't guarantee which files are on which side. All you have to do is type "PR#1" and catalog each side of the disk onto your printer. Then you'll have a permanent record. "PR#0" or control-Reset will disconnect your printer.

If you're one of those who frowns upon using two-sided disks, copy the back of the disk onto the front of a blank disk, and your frowns will go away.

## **PAGE 40**

That's where the index is that tells you where to read about each Triple-Dump program and file.

# Using Triple-Dump

These instructions deal with the TRIPLE.DUMP program itself. TRIPLE.DUMP is user-friendly and requires absolutely no programming knowledge.\* If you are a programmer and want to dump pictures from your Applesoft programs, see page 20.

## FIRST, BOOT SIDE 1

To boot the Triple-Dump disk (DOS 3.3 or ProDOS—see page 5), insert it in your main disk drive, label-side up, and turn on your Apple. This will run the program called "STARTUP", which will print a title screen.



*Press ESC if you want to skip our tricky title.*

Press "R" to select the "RUN TRIPLE-DUMP" option, and the TRIPLE.DUMP program will be loaded. Press "Q" to quit the Startup program and use one of the other programs on the Triple-Dump disk.

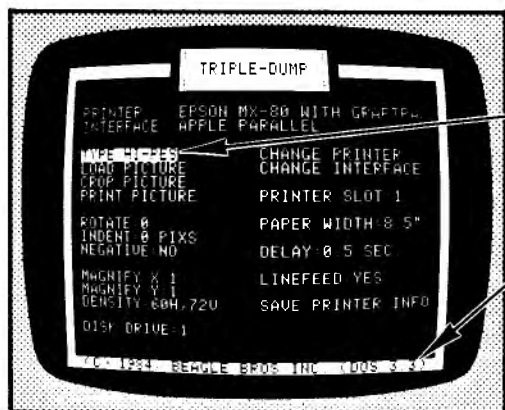
**Advanced Programmer's Note:** If you want to skip STARTUP and save some time, you may run TRIPLE.DUMP directly by typing:

**RUN TRIPLE.DUMP**

\*If your picture exists only in an Applesoft program that *draws* it (file type-A or BAS in your disk catalog), you will need to save the picture itself as a binary file first (type-B or BIN) before Triple-Dump can print it. See page 28.

# The Options Menu

After a short (?) period of disk-whirring and program loading, you will be presented with Triple-Dump's Options Menu with its special effects and printer options:



*This is the cursor.*

*“DOS 3.3” or  
“PRODOS”,  
depending on which  
version of Triple-  
Dump you are using.*

You select an option for change or execution by pressing the Arrow keys to move the cursor (an inverse bar) around on the screen. Other keys also affect this menu. Here they are:

**ARROWS & TAB ...** Move the cursor (represented by inverse characters) to the printer or special effects option that you want to change or execute.

**RETURN .....** Selects the option at the cursor for change or execution, or toggles from one value to another.

**SPACE BAR .....** Lets you view the current picture in memory, according to which picture TYPE has been selected.

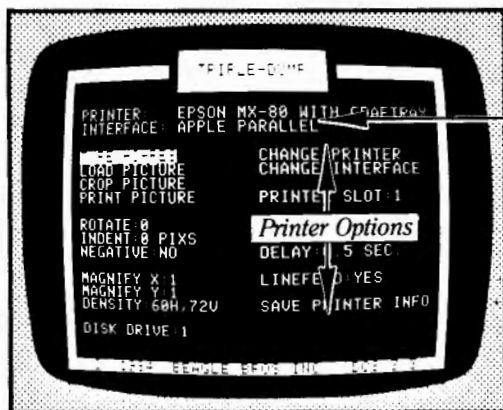
**L .....** Sends a line feed to your printer (scrolls it one line).

**F .....** Sends a form feed to your printer (scrolls it one page).

**ESC .....** Quits the program (type “RUN TRIPLE.DUMP” if you want to re-start the program).  
Pressing ESC from other parts of the program usually returns you to the options menu.

## Triple-Dump Printer Options

**IMPORTANT:** THE FIRST TIME YOU USE TRIPLE-DUMP, YOU WILL PROBABLY NEED TO CHANGE SOME OF THE PRINTER OPTIONS DISPLAYED IN THE RIGHT COLUMN OF THE OPTIONS MENU:



*Current Printer  
and Interface*

*Remember, you move  
the cursor to an option  
with the ARROW KEYS.  
Press RETURN to  
execute or change that  
option.*

After making printer changes, use the SAVE PRINTER INFO option to write them onto your Triple-Dump disk. Then the next time you boot the disk, your changes will be in effect.

### **CHANGE PRINTER** (Use SAVE PRINTER INFO to save on disk)

The printer that is currently being supported is shown at the top of the menu. If this is not your printer, move the cursor to "CHANGE PRINTER" and press the Return key. You will soon see a scrollable list of printers on the screen. Use the Arrow keys to move through the list and find your printer's name. Press Return and the appropriate printer file will be loaded into memory. See "Unlisted Printer?" on page 2 if you can't find a file for your printer.

### **CHANGE INTERFACE** (Use SAVE PRINTER INFO to save on disk)

This option lets you change the interface listed at the top of the menu. It works just like CHANGE PRINTER above.

### **PRINTER SLOT** (Use SAVE PRINTER INFO to save on disk)

Pressing the Return key will toggle from 1 through 7. Note: 99% of all printers are connected to slot 1. If you don't know your slot, it is undoubtedly slot 1.

## **PAPER WIDTH** (Use SAVE PRINTER INFO to save on disk)

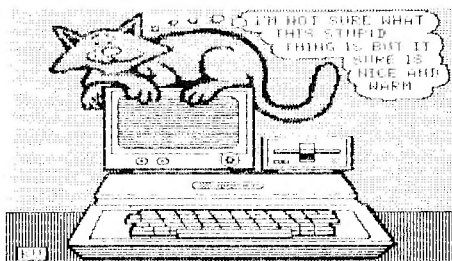
To change the paper width, move the cursor to "PAPER WIDTH" and press Return repeatedly until you see an inch amount that you like. You may be sorry if you select a paper width wider than you have in your printer.

## **DELAY** (Use SAVE PRINTER INFO to save on disk)

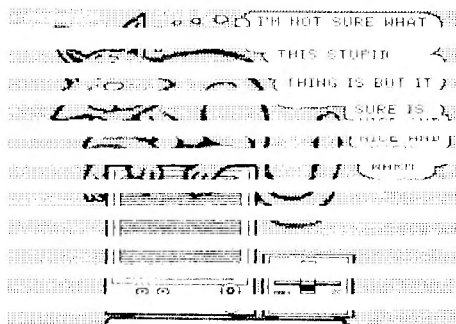
You'll probably never need to change this option. It lets you select the time your printer will delay each time it finishes printing a horizontal section of a picture. Theoretically, the delay allows your printer's print head to cool down—half a second (.5) is usually safe (consult your printer manual). If your printer produces "staggered" pictures with vertical alignment problems, try increasing the delay.

## **LINEFEED** (Use SAVE PRINTER INFO to save on disk)

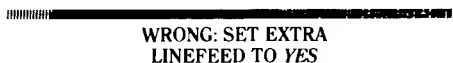
Some printers do an automatic linefeed (one-line paper scroll) when the print head reaches the end of a line. If your printouts fail to scroll after each line is printed, change this option to YES. If your pictures "double space" with gaps after each line, change to NO. If you *only* can get pictures like the two wrong samples below, try turning your printer off and back on again.



RIGHT



WRONG: SET EXTRA  
LINEFEED TO NO



WRONG: SET EXTRA  
LINEFEED TO YES

## **SAVE PRINTER INFO**

To save all of the printer information in the right column of the menu, move the cursor to "SAVE PRINTER INFO" and press Return. The next time you use Triple-Dump, this information will be in effect.

If you want to save information for more than one printer/interface combination, do so on backup copies of the Triple-Dump disk.

# Triple-Dump Menu Options

## **TYPE**

Moving the cursor to "TYPE" and pressing Return will switch between the six possible types of images that will be loaded, cropped or printed:

- |                    |                            |
|--------------------|----------------------------|
| 1. Hi-Res Pictures | 4. Double Hi-Res Pictures* |
| 2. Lo-Res Pictures | 5. Double Lo-Res Pictures* |
| 3. 40-Column Text  | 6. 80-Column Text**        |

\* Requires Apple IIc or 128K IIe

\*\* Requires Apple IIc or IIe 80-column card

The TYPE option won't indicate options that your Apple isn't equipped for, hardware-wise. If you don't have an 80-column card, for example, then the 80-COLUMN TEXT option will be skipped.

Pressing the SPACE BAR will display the currently loaded picture of the TYPE selected. If you haven't loaded a picture of that type, you'll see some kind of garbage (sometimes interesting—depending on your tastes).

## **TRIPLE-DUMP PRINTS PICTURES, NOT PROGRAMS**

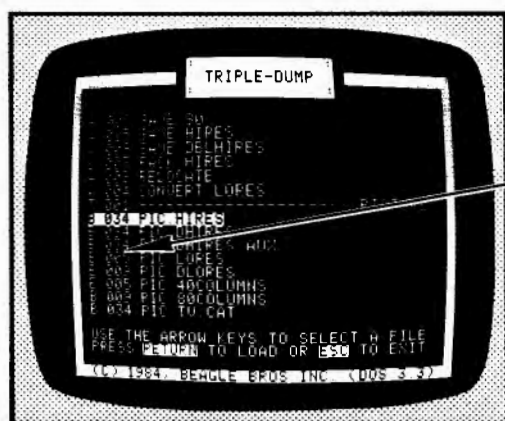
We repeat: Triple-Dump prints SCREEN IMAGES THAT HAVE BEEN SAVED ON DISK as binary files (see next page). Pictures created by other programs will have to be saved on disk before Triple-Dump can print them. See pages 28-32 for information about saving pictures on disk.

## **LOAD PICTURE**

Moving the cursor to "LOAD PICTURE" and pressing Return will read the catalog of the disk in the drive or prefix indicated by the DRIVE option. Use the Arrow keys to move the cursor to the image name you want to load, and press Return. If you can't find the image you want, be sure you have moved the cursor through all of the file names. Press ESC if you want to look at another disk or switch drives (see DISK DRIVE, page 18).

### **WRONG TYPES WON'T LOAD**

A text or graphic image won't load if it's not a binary file (DOS 3.3 "B" or ProDOS "BIN"). Applesoft programs (DOS 3.3 "A" or ProDOS "BAS") will not load (see above). A picture file won't load if its size (number of sectors or blocks; see next page) doesn't match the standard for the TYPE you have selected. Sorry, no "packed" pictures (compressed to save disk space) are allowed. You'll need to unpack them before printing.



*Sector or block numbers  
appear on the same line  
as the file name.*

#### STANDARD FILE SIZES:

HI-RES: 33 or 34 sectors (DOS 3.3) or 17 blocks (ProDOS)

DOUBLE HI-RES: Two separate hi-res pictures (one ending in ".AUX")

40-COLUMN TEXT: 5 or 6 sectors (DOS 3.3) or 3 blocks (ProDOS)

LO-RES: Same as 40-Column Text

80-COLUMN TEXT: 9 sectors (DOS 3.3) or 5 blocks (ProDOS)

DOUBLE LO-RES: Same as 80-column Text

See "Saving and Loading Screen Images" on page 28 for information about dealing with different types of files.

#### DOUBLE HI-RES NOTES

Triple-Dump expects double hi-res pictures to be stored on disk in standard (Beagle Graphics) two-file format; a main-memory file and an auxiliary memory file (like the sample picture, PIC.DHIRES/PIC.DHIRES.AUX). If you have a non-standard double hi-res picture to print, you can pre-load it before running Triple-Dump (the picture will stay in memory and appear on the screen when you press the space bar), or you can use the SAVE.DBLHIRES utility to convert its files.

#### TEXT/LO-RES FILES

Lo-res pictures and text screens **MUST** be saved using the methods described on pages 28-32. Otherwise, Triple-Dump will not consider them as pictures.



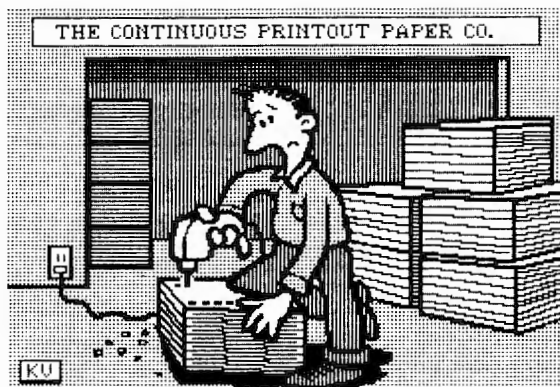
# Special Effects Options

## CROP PICTURE

Moving the cursor to "CROP PICTURE" and pressing Return will expose the picture in memory that matches the current TYPE. You may then trim or "crop" the picture to indicate which portion of the screen you want printed on paper. You will see a flashing rectangle superimposed on the image.\* The following keys are in control while a picture is being cropped:

- |                     |   |
|---------------------|---|
| L, R, T and B       | Select Left, Right, Top and Bottom, indicating which side of the rectangle you want to move.  |
| LEFT & RIGHT ARROWS | Move one of the four sides of the cropping rectangle <i>one</i> pixel, block or character. The side that moves is determined by pressing L, R, T and B (see above). |
| COMMA and PERIOD    | (< and > unshifted) Jump one of the four sides of the cropping rectangle <i>several</i> pixels, blocks or characters.   |
| ESC                 | Returns to the original cropping rectangle.   |
| RETURN              | Returns to the options menu.  |

\*The printed image will *include* the area under the flashing rectangle.



NORMAL



CROPPED & ENLARGED



CROPPED

## INDENT

To change indentation—the distance from the left edge of your printer paper to the printed image—move the cursor to “INDENT”, press Return and type a number, 0-9999. The number will designate the number of *pixels* (dots) if the TYPE is Hi-Res, or *blocks* if Lo-Res, or *characters* if the TYPE is Text. The number of pixels-per-inch will vary with the selected DENSITY and with different printers—experiment to learn more.

Some printers let you adjust your paper from left to right. This will also, of course, affect the indentation. Indentation is not magnified by the MAGNIFY X and Y options.

## ROTATE (applies to graphics only, not text)

Pressing Return will toggle between 0°, 90°, 180° and 270° counter-clockwise print rotation. The image on the screen will not rotate. This option will not work with text-screen text. \*



0° ROTATION



90° ROTATION



180° ROTATION



270° ROTATION

\* By using one of the IMPRINT utilities (run the IMPRINT.DEMO program), you can convert text screens into hi-res or double hi-res images that *can* be magnified, rotated, and so on.



Rotating a picture (example at left) will sometimes improve picture proportions. These two pictures were both printed at the same density settings.

## Special Effects Options (continued)

### **NEGATIVE** (applies to graphics only, not text)

Moving the cursor to “NEGATIVE” and pressing Return will toggle between YES and NO. NO means that the white areas on the screen will appear white in your printed picture. YES means white will print as black, and vice versa.

You will usually want to use YES for outline drawings and graphs and NO for other pictures.



NEGATIVE: NO



NEGATIVE: YES

### **MAGNIFY X** (applies to graphics only, not text)

Moving the cursor to "MAGNIFY X" and pressing Return lets you select the left-to-right (horizontal) magnification of hi-res and lo-res pictures (not text), 1-255. A magnification greater than 1 will simply repeat each horizontal dot the number of times specified, thus "stretching" the picture. If you have rotated a picture sideways (90° or 270°), then "X" will be vertical on paper, although still left-to-right on the image itself.

See Magnification Notes below.

### **MAGNIFY Y** (applies to graphics only, not text)

Similar to MAGNIFY X (above). Applies to top-to-bottom (vertical) magnification of hi-res and lo-res pictures (not text), 1-255. If you have rotated a picture sideways (90° or 270°), then "Y" will be horizontal on paper, although still top-to-bottom on the image itself.

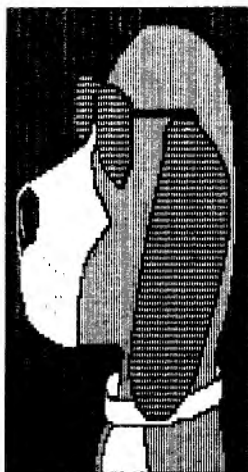
### **MAGNIFICATION NOTES**

More than about a 3-times horizontal magnification will not fit on most printers (depending on your printer's available densities) unless a picture has been cropped. Triple-Dump will warn you when you try to print an image that won't fit on your paper.

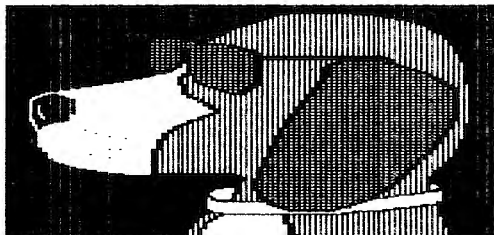
Printers vary widely in their ability to reproduce shapes accurately (such as circles; see sample on page 15). You will need to experiment with magnification and density for best results. And if acceptable, try rotating your picture sideways (90°) for better proportions.

### **DOUBLE-RES NOTE**

For a more normal appearance when dumping double-res pictures, use a Y magnification twice that of X. Or adjust the density.



X MAGNIFICATION: 1  
Y MAGNIFICATION: 2



X MAGNIFICATION: 2  
Y MAGNIFICATION: 1

## Special Effects Options (continued)

### **DENSITY** (applies to graphics only, not text)

Moving the cursor to "DENSITY" and pressing Return will toggle between the density options that the selected printer allows (many printers only allow one density). The numbers preceding the H and V are the horizontal and vertical density in dots per inch. A bigger value means a denser (and therefore smaller) picture. Note: Most printers only have one vertical density.

#### DOUBLE-RES NOTE

For a more normal appearance when dumping double-res pictures, try an X density approximately twice that of Y. Or adjust the magnification.



Different densities have different effects—some good, some bad. Experiment with your printer.

### **DISK DRIVE** (DOS 3.3 only)

Moving the cursor to "DISK DRIVE" (DOS 3.3) and pressing Return will toggle between drive 1 and drive 2. This determines where the LOAD PICTURE option will look for disk files.

### **PREFIX** (ProDOS only)

Move the cursor to "PREFIX" and press Return to select where the LOAD PICTURE option will look for disk files. Use the arrow keys to select DRIVE 1, DRIVE 2 or DIRECTORY, then press Return. If you select DIRECTORY, you need to type in the pathname for the directory that contains the disk files, then press Return. Here are some pathname examples:

/MOUSEPAINT

/PROBYTER/HOME.MOVIES

/HARD1/BEAGLE.GRAPHICS/SUBDIRECTORY

Notice that each pathname starts with a "/", and each directory level is separated by a "/". Check your Apple manuals if you're confused.

## PRINT PICTURE

Pressing Return with the cursor at "PRINT PICTURE" will print the picture currently in memory, according to the TYPE selected. Press the space bar before printing if you want to double-check which picture will be printed.

The picture being printed will appear on the screen (uncropped) while it is printing. Press the space bar to pause and re-start printing. Press the ESC key if you want to quit before printing is finished.

## PRINTING PROBLEMS

**NO ACTION:** If your computer "hangs" (nothing happens) when you ask it to print, your printer is probably turned off, off-line or disconnected. Or you may have selected the wrong type of PRINTER or INTERFACE, or the wrong SLOT. If turning your printer off and back on doesn't start it printing, you may need to press control-Reset and type "RUN" to regain control.

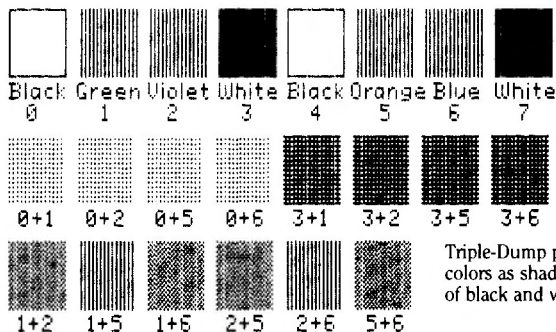
**WRONG PICTURE:** If your printer prints the wrong type of picture (for example, text instead of hi-res), you have the wrong TYPE selected.

**GARBAGE:** If your printer prints non-descript junk, you may have the wrong TYPE selected, or you may not have loaded a picture. Garbage could also indicate the wrong INTERFACE or PRINTER has been selected.

**DISTORTED PICTURES:** If the picture is incomplete, sideways, upside down or negative, change the CROP PICTURE, DENSITY, MAGNIFY, ROTATE and/or NEGATIVE options.

**DOUBLE-SPACED OR OVER-PRINTED PICTURES:** Change the LINEFEED option, or turn your printer off and back on again.

## apple's hi-res colors & mixes



Triple-Dump prints  
colors as shades  
of black and white.

# Printing Pictures from Your Programs

## FIRST OF ALL

This section describes how **PROGRAMMERS** can use the Triple-Dump print routines from within their own programs. If you want to print pictures that have been made with other programs, use the **TRIPLE.DUMP** program. See pages 8-19.

## IMPORTANT

**BEFORE YOU CAN DUMP PICTURES** from your programs, you must have used the **TRIPLE.DUMP** program's **SAVE PRINTER INFO** option to create a custom **PRINTER.INFO** file that contains information about your particular printer/interface combination.

## ALSO IMPORTANT

**WE ASSUME THAT YOU KNOW THE BASICS** about loading, listing and changing Applesoft programs. If not, use the **TRIPLE.DUMP** program to dump pictures (see page 8).

## SAMPLE PROGRAMS

A sample program is worth a thousand words (at least). There are six demo programs on the Triple-Dump disk that load the six different kinds of Apple images and dump them to your printer. **LIST** each one to see how it works.

**PRINT.HIRES** prints a normal hi-res picture.

**PRINT.DBLHIRES** prints a double hi-res picture.\*

**PRINT.LORES** prints a normal lo-res picture.

**PRINT.DBLLORES** prints a double lo-res picture.\*

**PRINT.40COLUMNS** prints a 40-column text screen.

**PRINT.80COLUMNS** prints an 80-column text screen.\*\*

\* Requires Apple IIc or 128K IIe

\*\* Requires Apple IIc or IIe 80-column card

These "PRINT." programs are all listable Applesoft files that may be typed into or appended to *your* Applesoft programs as subroutines (re-numbered, if you want). DOS 3.3 "Append" utilities appear on Beagle Bros' *Utility City* and *Double-Take* disks, as well as on the *DOS 3.3 System Master*. *Double-Take* will also append programs under ProDOS.



## TESTING THE PRINT.HIRES PROGRAM

Follow the steps below for adapting and using the PRINT.HIRES program. The other five "PRINT." programs are adapted similarly:

1. If you haven't already, use the TRIPLE.DUMP program's SAVE PRINTER INFO option to create a custom PRINTER.INFO file for your printer/interface combination.
2. RUN TRANSFER to copy your custom PRINTER.INFO file onto side 2 of the Triple-Dump disk. Note: You can use the FID program (DOS 3.3) or your *System Utilities* disk to copy PRINTER.INFO onto other disks.
3. Type LOAD PRINT.HIRES (or the name of the program you want)
4. Delete line 20 to remove the message and END statement.
5. UNLOCK PRINT.HIRES and then SAVE PRINT.HIRES (or appropriate file name) to re-save the program.
6. Type RUN and watch the program work. If your picture looks like one of the "Wrong" examples on page 11, change the variable LF (see page 22) and go back to step 5.

## HOW THE PROGRAMS WORK

After loading your printer and interface files, each of the sample programs loads one of these four machine language "Dump" files:

DUMP.HIRES is for dumping hi-res and double hi-res images.

DUMP.LORES is for dumping lo-res and double lo-res images.

DUMP.TEXT is for dumping 40 and 80-column text images.

DUMP is for dumping any or all of the above. You may use this version if you have plenty of space in memory.

After the appropriate "DUMP." program is loaded into memory, each of the special effects variables (next page) is poked in. Then the dump function is executed with a CALL. Subsequent Calls will again dump the picture in memory according to the most-recently-Poked special effects.

You might want to LIST some of the "PRINT." demo programs on your printer so you can analyze them better. Load the program, type "PR#1" and "LIST". Type "PR#0" to disconnect your printer.

## Printing Pictures from Your Programs (continued)

### DUMP VARIABLES (for all kinds of dumps)

Each of the sample programs (PRINT.HIRES, PRINT.LORES, etc.) uses a series of strings and variables that control the way an image will be printed:

**NS:** Name of the picture you want to load. Set this variable to null (NS="") if your picture won't need to be loaded (because it's already in memory).

**S:** Printer slot (1 through 7).

**P:** Page to dump from (1 or 2 if hi-res, lo-res or 40-column text). P *must* equal 1 if 80-columns or double-res.

**T:** Top line of cropping (0 through 191 for hi-res and double hi-res, 0 through 47 for lo-res and double lo-res, 0 through 23 for text).

**B:** Bottom line+1 of cropping (1 through 192 for hi-res and double hi-res, 1 through 48 for lo-res and double lo-res, 1 through 24 for text). B must, of course, be greater than T.

**L:** Left margin of cropping (0 through 279 for hi-res, 0 through 559 for double hi-res, 0 through 39 for lo-res and 40-column text, 0 through 79 for double lo-res and 80-column text).

**W:** Width of cropping (1 through 280 for hi-res, 1 through 560 for double hi-res, 1 through 40 for lo-res and 40-column text, 1 through 80 for double lo-res and 80-column text).

**I:** Indentation (0 through ??, depends on printer, cropping, density, etc.). See page 15 for more on indentation.

**SC:** Screen resolution (0 if hi-res, lo-res or 40-column text). SC *must* equal 1 if double-res or 80-column text.

**LF:** Line feed (0 if not needed; 1 if needed). See page 11.

**TY:** Type (0 if hi-res or double hi-res, 1 if lo-res or double lo-res, 2 if text). Only necessary if you are using the all-purpose "DUMP" file.

## GRAPHICS DUMP VARIABLES (not for text dumps)

**R:** Rotation (0 or 1). 0 means no rotation. 1 means 90° counter-clockwise. Use one of the FLIP utilities first if you want 180° or 270° rotation.

**N:** Negative (0 or 1). 0 means no. 1 means yes. See page 16.

**MX:** Magnify X (1 through 255). See page 17.

**MY:** Magnify Y (1 through 255). See page 17.

**DE:** Delay (0 through 255 in 10ths of seconds). See page 11.

**D:** Density (0 through ??). The value of this variable determines which printer density is used. The density is measured by the number of horizontal and vertical dots per inch (dpi). By changing the density you can change the darkness and size of your printed pictures. For example, if a printer has a 60x72 print density, it can print a maximum of 480 dots across an 8-inch page (60 dpi x 8 in. = 480 dots). A density of 120 x 72 would print darker and allow 960 dots across the same page.

Some printers offer many densities, while others only have one. To determine the number of densities for your printer, use this program:

```
1000 P=A-512: REM Address of printer driver
1010 ND=PEEK(P+4)
1020 FOR X=1 TO ND
1030 H(X)=PEEK(P+3+X*2)
1040 V(X)=PEEK(P+4+X*2)
1050 PRINT X, H(X), V(X)
1060 NEXT X
```

This routine will set ND equal to the number of print densities available. The H and V arrays will contain the horizontal and vertical dpi for each density. For example, the following information would be displayed (except for the header) for the Imagewriter:

Density #	Horizontal dpi	Vertical dpi
1	72	72
2	80	72
3	96	72
4	107	72
5	120	72
6	136	72
7	144	72
8	160	72

To select a density, set the Print Density variable (D) to the desired Density Number MINUS ONE. For example, to use a 96x72 density on the Imagewriter, let D=2.

# Triple-Dump Utilities

(For programmers only. If you simply want to dump pictures, use the TRIPLE.DUMP program, described on pages 8-19.)

## PICTURE FLIPPERS (for graphics only, not text)

These four programs turn any kind of graphics image (not text) upside down (180°):

FLIP.HIRES flips hi-res pictures.

FLIP.DBLHIRES flips double hi-res pictures.

FLIP.LORES flips lo-res pictures.

FLIP.DBLLORES flips double lo-res pictures.

A picture must be pre-flipped with one of these utilities when you want one of the DUMP programs to produce a rotation of 180° or 270° (see variable R on page 23 and ROTATE on page 15). To use a FLIP program, BLOAD it, then CALL 640.

Note: Before a hi-res or double hi-res picture can be flipped, zero-page location 230 must be set at 32 or 64 (POKE 230,32 or POKE 230,64), depending on whether the picture is on hi-res page 1 or 2, respectively (the HGR and HGR2 commands do this automatically). For double hi-res, location 230 must have a value of 32.

This sample program flips the PIC.HIRES picture:

```
10 HGR2: REM CLEAR PAGE 2
20 PRINT CHR$(4);"BLOAD PIC.HIRES,A$4000"
30 PRINT CHR$(4);"BLOAD FLIP.HIRES"
40 CALL 640
50 END
```

35840

IF info at \$8A00, DUMP.HIRES, R at \$8C00 (L = \$800)

POKE 35846, 32 for Page 1  
35846, 64 for Page 2

~~35846,~~

35853 1002 R, X neg

35854 1002 for Y neg

## HI-RES TEXT IMPRINTERS

These two programs "imprint" anything from the text screen onto the hi-res or double hi-res screen, so you can add text to existing pictures, graphs, etc.:

**HIRES.TEXT** transfers 40-column text to the hi-res screen.

**DBLHIRES.TEXT** transfers 80-column text to the double hi-res screen.

You might want to use these utilities so you can add Triple-Dump's special effects (Negative, Magnify, etc.) to your text screen images. **LIST** and **RUN** the **IMPRINT.DEMO** program to see how they work. Notice that each program requires other files to be on the same disk.

## TRANSFER

**RUN TRANSFER** to copy your selected printer and interface files to side 2 of the Triple-Dump disk. You must do this in order to use the sample "PRINT." programs on side 2.

## RELOCATE (for advanced programmers)

**RUN RELOCATE** to create alternate **DUMP** files that may be loaded at locations other than their standard \$6000.

Important: **PRINTER.INFO** *must* always be loaded 512 bytes below the **DUMP** routine. For example, if the **DUMP** routine starts at \$4200, load **PRINTER.INFO** at \$4000.

Suggestion: Move your start of program above hi-res page 1 (\$4000) and load **PRINTER.INFO** and **DUMP** at your program's old location (\$0800):

*Direct-keyboard commands:*

**POKE 103,1: POKE 104,64: POKE 16384,0: NEW**

*Commands in your program:*

**10 PRINT CHR\$(4);"BLOAD DUMP,A\$0A00"**

**20 PRINT CHR\$(4);"BLOAD PRINTER.INFO,A\$0800"**

**30 REM Program starts here...**

To move your program to \$4000 (16384), use a short loader program:

**10 POKE 103,1: POKE 104,64: POKE 16384,0**

**20 PRINT CHR\$(4); "RUN YOURPROGRAM"**

Note that  $64 \times 256 = 16384$  is the new location for your program.

## Triple-Dump Utilities (continued)

### PICTURE PACKER

The PACK.HIRES program will compress a normal hi-res picture's data so it occupies far less disk space when saved. To pack and unpack pictures, you may use program statements similar to those below, or you may enter the commands directly from the keyboard.

#### To Pack a Picture

Sample program:

```
10 HGR: PRINT CHR$(4);"BLOAD PICTURE,A$2000" (load your picture)
20 V=64 (specifies 16384 as the storage location;  $64*256=16384$ )†
30 PRINT CHR$(4);"BLOAD PACK.HIRES" (unless it's already loaded)
40 POKE 0,0: POKE 1,V
50 CALL 24576 (packs the picture)
60 LENGTH=1+PEEK(0)+PEEK(1)*256-V*256 (packed length)
70 PRINT CHR$(4);"BSAVE PICTURE.PAC,A";V*256;"L",LENGTH
```

† Alternate values may be used for 64. YOU must be sure you are not over-writing anything (like your program) at the packed picture location.

#### To Unpack a Picture

Sample program:

```
10 V=64 (specifies 16384 as the storage location;  $64*256=16384$ )†
20 HGR: PRINT CHR$(4);"BLOAD PICTURE.PAC,A";V*256
30 PRINT CHR$(4);"BLOAD PACK.HIRES" (unless it's already loaded)
40 POKE 0,0: POKE 1,V
50 CALL 24579 (unpacks the picture)
```

† Alternate values may be used for 64. YOU must be sure you are not over-writing anything (like your program) at the packed picture location. Zero-page location 230, set by HGR or HGR2, determines where the *unpacked* picture will be located.

## **SCREEN SAVERS**

Screen images may be saved using one of Triple-Dump's "SAVE." utilities—

### **SAVE.80**

This program is used to save and load 80-column text or double lo-res screens. See the sample program on page 31.

### **SAVE.HIRES**

With a hi-res picture in memory, RUN this program to save the picture on disk.

### **SAVE.DBLHIRES**

With a double hi-res picture in memory, RUN this program to save it in the two-file format that Triple-Dump requires.



## **Saving and Loading Screen Images**

Everyone knows how to save an Applesoft program, right? You just type:

**SAVE PROGRAM**

Now when you type "CATALOG" you see that your program is stored on disk under the name "PROGRAM". To get it from disk and use it, you type:

**RUN PROGRAM**

You can type "CATALOG" and see PROGRAM stored as an "A" (DOS 3.3) or "BAS" (ProDOS) file type. (All types of screen images, by the way, are always stored as "B" or "BIN" file types.)

So why aren't pictures and text screens that easy to save and load? Because the Apple's designers didn't get around to it, that's why. On the following pages is a rundown of how to load and save the six kinds of images that Triple-Dump works with.

**In the examples that follow, we are discussing saving and loading screen IMAGES, not PROGRAMS.**

## HI-RES GRAPHICS

First of all, you should know that hi-res pictures may reside and be viewed on two different memory areas or “pages”, called “Page 1” and “Page 2”. Both pages look and work the same, so you can “flip” between them to do animation and other tricks—view one page while changing the other, etc.

The command HGR reveals and then quickly clears Page 1. The command HGR2 does the same for Page 2. See your Peeks & Pokes chart for “Display Switches” that will reveal the pages without clearing the screen. In the examples below, substitute your own unique picture name for “PICNAME”.

### SAVING HI-RES PICTURES

*For a picture on Page 1, type: BSAVE PICNAME,A\$2000,L\$2000*

*For a picture on Page 2, type: BSAVE PICNAME,A\$4000,L\$2000*

### LOADING HI-RES PICTURES

*To load onto Page 1, type HGR and then BLOAD PICNAME,A\$2000*

*To load onto Page 2, type HGR2 and then BLOAD PICNAME,A\$4000*

If you type BLOAD PICNAME with no number, the picture will load onto the page from which it was saved. If you see your drive running but you don't see the picture loading, you are probably looking at the wrong page.

The examples above are direct-keyboard commands. You may also load and save pictures *from your programs*. RUN this program:

10 HGR: HCOLOR=3: HPLOT 0,0 TO 279,159 (*draws on Page 1*)

20 PRINT CHR\$(4);"BSAVE LINEPIC,A\$2000,L\$2000" (*saves Page 1*)

30 HGR2: HCOLOR=1: HPLOT 0,159 TO 279,0 (*draws on Page 2*)

40 PRINT CHR\$(4);"BLOAD LINEPIC,A\$4000" (*loads onto Page 2*)

## DOUBLE HI-RES GRAPHICS

To create 16-color double hi-res graphics, you need an Apple IIc or a 128K IIe. You also need special software like Beagle Bros' BEAGLE GRAPHICS. Beagle Graphics features a drawing program that loads and saves pictures *for you*; you don't have to worry about it. Beagle Graphics also has special &LOAD and &SAVE commands that you can use in your programs. Triple-Dump requires double hi-res pictures to be stored in Beagle Graphics' (and most other brands') two-file format. See Double Hi-Res Notes on page 13.

## Saving and Loading Screen Images (continued)

### 40-COLUMN TEXT and LO-RES GRAPHICS

First off, you should know that 40-column text and lo-res graphics are the same thing. They only *look* different. Type POKE 49238,0. Now alternately type POKE 49232,0 and TEXT and you'll sort of see what we mean. In the examples below, "text" means 40-column text as well as lo-res graphics:

### SAVING LO-RES GRAPHICS

Before you can print a lo-res picture, you must first save it onto a disk. Usually a lo-res image is created by a small program such as:

```
10 REM DRAW LO-RES LINES
20 GR
30 FOR C=0 TO 15
40 COLOR=C
50 VLIN 0,20 AT C
60 NEXT C
```

This sample program draws 15 vertical lines that show the different lo-res colors. Now, to save the picture created by this program, we need to add one additional statement *after* the statements that draw the image. (In your programs, substitute a unique file name for "FILENAME".

```
65 PRINT CHR$(4)"BSAVE FILENAME,A$400,L$400"
```

Once this statement is added, RUN the program to draw the picture and save it onto a disk Triple-Dump can then be used to load and print the picture (see pages 12-19).

### SAVING 40-COLUMN TEXT

The BSAVE statement above may also be used to save 40-column text screens. Simply add it to your program or type it directly from the keyboard.

## 80-COLUMN TEXT and DOUBLE LO-RES GRAPHICS

80-column text and double lo-res graphics are the same thing. Try typing POKE 49238,0: POKE 49246,0. Now alternately type POKE 49232,0 and TEXT and you'll see. In these examples, "text" means 80-column text as well as double lo-res graphics:

### SAVING 80-COLUMN TEXT OR DOUBLE LO-RES

To save text, get the image on the screen that you want, then execute these lines from a program (so they don't show on the screen):

```
10 REM AN IMAGE IS NOW VISIBLE ON THE SCREEN
20 PRINT CHR$(4);"BLOAD SAVE.80"
30 POKE 0,0: POKE 1,32: CALL 768
40 PRINT CHR$(4);"BSAVE FILENAME,A8192,L1920"
```

These program lines can be added to your programs; re-number them to fit. Also, since line 20 loads the SAVE.80 file, this file must be on the same disk as your program. Use FID or another copy utility to copy the SAVE.80 file from the Triple-Dump disk onto your program disk.

### LOADING 80-COLUMN TEXT OR DOUBLE LO-RES

To load text that has been saved by the method above, execute these lines:

```
10 PRINT CHR$(4);"PR#3" : REM or GR: POKE 49246,0
20 PRINT CHR$(4);"BLOAD TEXTNAME"
30 PRINT CHR$(4);"BLOAD SAVE.80"
40 POKE 0,0: POKE 1,32: CALL 771
```

Advanced Programmers Note: The "POKE 0,0" and "POKE 1,32" determine where the screen will *temporarily* be copied to in memory. In our examples, we are storing at \$2000, or 8192 decimal ( $0 + 32 \times 256$ ).

## Printing Hi-Res Pictures Generated by Other Programs

There are several ways to save, then print hi-res pictures that have been generated by programs other than your own (games, graph generating programs, etc.). Here are a few:

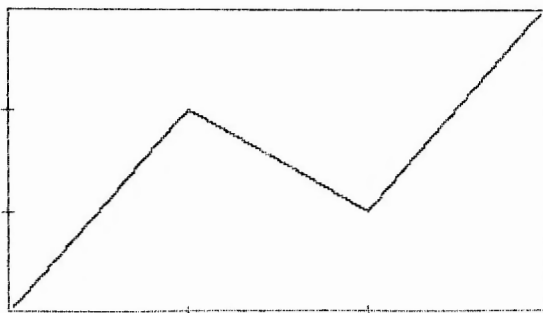
1. If the picture is generated by an unprotected Applesoft program, then you can save the picture on disk using one of the methods on page 29.
2. If the program that created the picture has a SAVE PICTURE, SAVE GRAPH, or similar option, then use it to save the screen on disk. The image should appear in the catalog as a binary file (B or BIN type) and the length should be 33 or 34 sectors (DOS 3.3) or 17 blocks (ProDOS). If the option saves the picture in a different format, Triple-Dump won't handle it, and you must use one of the following methods—
3. If the program that created the picture isn't copy protected, then you should be able to exit after displaying the picture by using QUIT or a similar option (most programs will leave the picture in memory when you quit). To save the picture, type one or both of these commands:

`BSAVE PICNAME,A$2000,L$2000` (for a page 1 picture)

`BSAVE PICNAME,A$4000,L$2000` (for a page 2 picture)

Most programs use hi-res page 1, so the first example will probably work. Substitute a unique file name for "PICNAME".

4. With a picture in memory, try to RUN TRIPLE.DUMP. If this fails, try re-booting the DOS 3.3 Triple-Dump disk (*not* ProDOS). The picture should remain in memory (in most cases). If it does, you can print it.
5. If the program that created the picture is copy protected (a real p-a-i-n), then you must try to boot an unprotected DOS 3.3 "slave" disk (like DOS 3.3 Triple-Dump) while the picture is displayed on the screen. (Booting a ProDOS disk or a 3.3 "master" disk destroys hi-res pictures.) To boot, hold down the CONTROL key while pressing RESET (usually works). You might have to follow by typing "PR#6" (sometimes works).  
If this doesn't work, and you are using an Apple IIe or IIc, hold down the CONTROL key while pressing OPEN-APPLE and RESET (always works). Unfortunately, this method will scramble small portions of the picture.  
The picture will disappear when you boot, but should remain *in memory*. After booting, use one of the BSAVE commands (from option 3, above) to save the picture on your unprotected disk.



```

10 HGR : HCOLOR= 3: REM WHITE
20 HPLLOT 5,5 TO 274,5 TO 274,154
   TO 5,154 TO 5,5: REM BOX
30 HPLLOT 2,55 TO 8,55: HPLLOT 2,1
   05 TO 8,105: HPLLOT 95,152 TO
   95,156: HPLLOT 185,152 TO 185
   ,156: REM HATCH MARKS
40 HPLLOT 8,152 TO 95,55 TO 185,1
   05 TO 271,7: REM ZIGZAG

```

## For Beginners Only

This program draws the picture shown above. Type NEW before typing the program. When finished, type RUN.

To save the program, type **SAVE PROGRAM**. To save the picture, press control-Reset (just so you can see what you're typing) and type **BSAVE PICTURE,A\$2000,L\$2000** (more details on page 29). You can print the picture with Triple-Dump after it's saved on disk. Line drawings like this usually look best with the **NEGATIVE** option set to YES.

## Printing Pictures from MousePaint™

1. Use the **PUT A COPY IN** option from the MousePaint File Menu to save the pictures onto a blank, formatted disk.
2. Boot the ProDOS Triple-Dump disk and press "R" to start Triple-Dump.
3. Once Triple-Dump is loaded, remove the Triple-Dump disk and insert the disk containing the MousePaint pictures into drive 1.
4. Select the **LOAD PICTURE** option from the Triple-Dump menu to see a list of the pictures in drive 1.
5. Choose the picture to load, then select the **PRINT PICTURE** option to print it. You can also use any of the "special effects" options to change the appearance of the picture. Repeat steps 4-5 to print other pictures.

# BIGBANNER

by BERT KERSEY

## GOT PLENTY OF PRINTER PAPER?

BIGBANNER is a program that lets you make large (8"-high character) signs on any printer. To use it, load your printer with 9 miles of continuous-form paper, boot either Triple-Dump disk, press "Q" to quit the Startup program, then flip the disk over and type:

### RUN BIGBANNER

After a brief countdown, you will see a title screen with a flashing cursor where you will type the words for your banner. The program allows up to 200 characters from those shown on the screen (sorry; no lower case). When you have typed the last character of your banner, press Return. If you then want to start over, answer "N" to COPY OK?.

### FORMAT CODE

If you answer "Y" to COPY OK?, you will be asked for something called Format Code (you may skip this option by simply pressing Return). Format code is the character(s) that will be sent to your printer before a banner is printed. For example, on some printers, a control-E (indicated on the screen as an *inverse* E) will make subsequent printing be "emphasized" or bold. On some printers, control-O will make "condensed" type (and shorter banner characters). See your printer manual for your printer's codes.

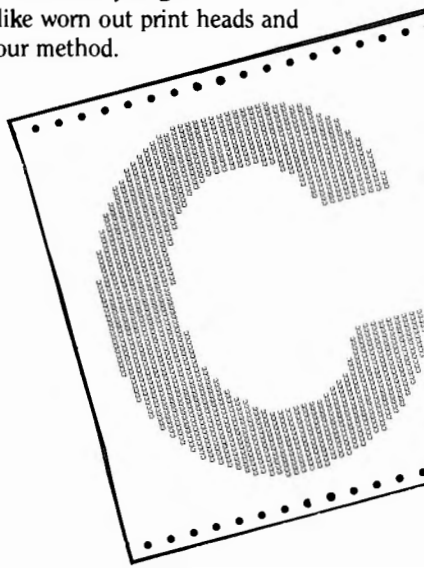
### ALTERNATE PRINTING CHARACTERS

Banner characters are normally made from @'s. If you want each character to be made from *itself* (for example, each "A" made from A's, each "2" from 2's, etc.), enter "=" (equal sign) as the *first character* of format code.

## ADD SOME COLOR

You can color in your signs with juicy felt tip pens to add some graphic punch. Actually, we hate to suggest this because it involves human effort (oh, well, computers can't do everything).

Some other banner programs print solid characters so you get nice black letters. The problem is, you also get side effects like worn out print heads and mutilated printer ribbons. That's why we chose our method.





## HOW BIGBANNER WORKS

(For adventurous—or snoopy—programmers only)

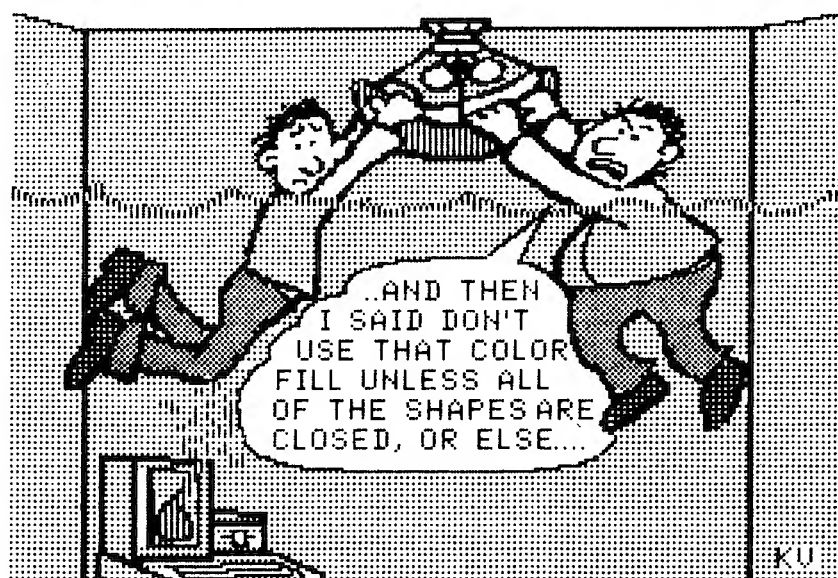
Each banner character is stored as one or more Data statements starting at Line 3300. Each character's data *must* start at the line number of its ASCII value times 100. For example, the data for the character "3" (ASCII 51) starts at Line 5100. List Line 5100—The character after the asterisk, "3" in this case, is simply a reminder of what banner character should print. The data that follows starts 20, 30, 16, 30, 13, 30, 56, 66, 11, 30, etc. This means print *spaces* up to column 20, then @'s until column 30. The next number, 16, is lower, so start over. Print spaces until column 16, @'s until column 30. Start over. Print spaces until column 13, @'s until column 30, spaces until column 56, @'s until column 66. Start over... and so on.

To save program space, repeat-sequences are preceded by an X and a two-digit number. List Line 7300 and you'll see that the character "I" (ASCII 73) is made by printing spaces until column 5 and @'s until column 79, *nine times* (designated by an "X09" before a 5 and a 79).

Want to design your own characters? Good *luck*!

By the way, Line 1010 contains the default "@" printing character; change it if you want.







# Alpha Plot

**STANDARD HI-RES GRAPHICS PROGRAM** by Bert Kersey and Jack Cassidy  
\$39.50, Compatible with any Apple II and DOS 3.3—Includes Apple Tip Book #4



## TYPE A PICTURE

Alpha Plot is a program that lets you draw and label an endless variety of hi-res pictures, charts and graphic displays. It also lets you manipulate, copy, compare and even combine pictures. All hi-res images may be saved to disk, to be retrieved by your Applesoft programs (no royalty fee required if you sell your programs).

With Alpha Plot's easy-to-use keyboard plotting system (paddles/joystick optional, not required), you can quickly create images on the screen, plotting in any hi-res color or reverse (the background opposite at any point).

Color Mixes too. Lines, circles, ellipses and boxes (outlined or filled with color) may be plotted with one or two keystrokes.

## HI-RES TEXT

Alpha Plot lets you type upper and lower case directly onto the hi-res screen in four sizes, from normal to giant (4-times normal size). No extra hardware is required. No Htab or Vtab restrictions either. Type all kinds of color titles and labels *anywhere on the screen*, even SIDEWAYS if you want— an effective feature for graphs.

## TRACEABLE, ERASABLE LINES

Alpha Plot's optional "Rubber-Band" Cursor projects a line between two points so you can make visual adjustments before you draw. "Reverse" lines may also be drawn and then, if you want, be completely erased without disturbing background details.

## TWO PAGES, TWO DRAWINGS

Alpha Plot lets you work on and compare two hi-res drawings at once. The two hi-res pages can be instantly switched, putting Page One's image onto Page Two and vice versa.



*Alpha Plot self-portraits dumped to dot-matrix printer using Triple-Dump*

## IMAGE MANIPULATORS

Two drawings may be superimposed in four different ways (opaque, transparent, etc.). Any rectangular segment of a hi-res drawing can be *moved* to any location on either hi-res screen. You can, for example, center finished images on the screen, or imprint your trade mark or name on all of your hi-res pictures.

An instant Negative of any section of the screen is a useful feature. Hi-res images can even be converted to Lo-Res and back!

## MORE PICTURES PER DISK

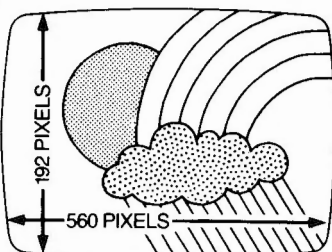
With Alpha Plot's *Scrunch* routine, you can store hi-res images in as little as one-third normal disk space (11 sectors, for example, instead of the normal 34), depending on the complexity of each image.

## HI-RES TIPS

With Alpha Plot, you get a 40-page documentation book, which includes a nice collection of Apple Tips— shape table and animation tricks, a collision graphics demo, and hi-res program listings, all designed to help you make the most of your Apple's amazing graphics capabilities.

# Beagle Graphics

**16-COLOR DOUBLE HI-RES GRAPHICS** by Mark Simonsen  
\$59.95, Compatible with Apple IIc or 128K Apple IIe, DOS 3.3 and ProDOS



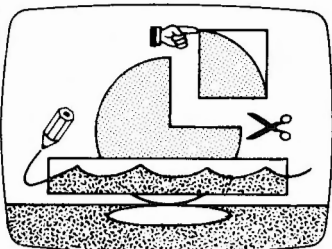
*Twice the resolution of normal Apple graphics.*

## DOUBLE HI-RES FOR THE ARTIST

Beagle Graphics makes the most of the best features of your Apple IIc (or 128K IIe)—16 Hi-Res Colors and a 560 x 192-pixel screen—*twice the resolution* of normal hi-res. All standard hi-res functions, including shape tables, are supported and enhanced.

## MANY WAYS TO DRAW

Beagle Graphics lets you draw or "paint" directly on the double hi-res screen using 16 different paintbrushes. Hi-res ICONS (pencil, scissors, etc.) make drawing and editing pictures a snap.



**FAST ICON-ASSISTED DRAWING WITH "CUT & PASTE" FEATURES**  
*Move or duplicate any image section.*

## CUT & PASTE

Beagle Graphics' "Cut and Paste" feature speeds up screen layouts by letting you move or duplicate any section of an image anywhere on any picture. Plus, any portion of a picture may be inverted or flipped in any direction.

## MOUSE-CONTROL OR...

Beagle Graphics' "Double Plot" drawing program supports keyboard control (no extra hardware required), or the AppleMouse II™, Joystick, KoalaPad™ or Apple Graphics Tablet.

## DOUBLE HI-RES FOR THE PROGRAMMER

Beagle Graphics lets you enhance your Apple-soft programs with new commands that draw fast circles, lines and shapes.

33 new commands are included to give you and your 128K Apple incredible double-resolution graphics power!

## SCRUNCH AND SAVE

Double hi-res picture data may be "compressed" to save disk space. (Most pictures end up taking less than 50% of their original space on the disk.) Plus, any rectangular part of an image may be SAVED and LOADED.

## CONVERT PICTURES & PROGRAMS

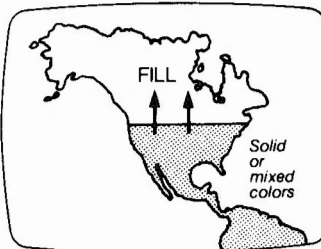
Beagle Graphics lets you convert your existing hi-res programs (including *Apple Mechanic*) so they work in double hi-res. Convert normal hi-res pictures to double hi-res too (half- or full-screen width).

## DOUBLE LO-RES TOO

Beagle Graphics supports double lo-res graphics too, with its 80 x 48-pixel screen.

## CHANGEABLE TYPE STYLES

Add normal or wide type to your double hi-res images in various typestyles, including those from the DOS Toolkit™ disk (included on the Beagle Graphics disk). Redefine any character with Beagle Graphics' character editor, so that any character may be any symbol you like.



**DRAW AND FILL SHAPES FAST!**  
*All draw and fill routines are usable in your Applesoft programs.*

## FILL SHAPES FAST

Beagle Graphics lets you "fill" double hi-res shapes in 16 solid colors. Or choose from over 200 color mixes for a wide range of effects.

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## More Beagle Bros Apple Software

(WHAT'S NEW? Check our ads in A+, Call-A.P.P.L.E., inCider, Nibble and other Apple® magazines.)

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Normal hi-res (6 colors, 280x192 pixels) drawing and typing on both hi-res pages. Compress pictures to 1/3 disk space.
- ☐ **APPLE MECHANIC** (II+, IIe, IIc)† ..... 29.50  
Create hi-res shapes for animation with Applesoft's DRAW & XDRAW commands. Put fancy hi-res type in your programs. List & learn demo programs teach you hi-res programming.
- ☐ **APPLE MECHANIC TYPEFACES**† ..... 20.00  
26 new editable fonts to be used with Apple Mechanic.
- ☐ **BEAGLE GRAPHICS** (IIc or 128K IIe)\* ..... 59.95  
Double hi-res drawing (16 colors, 560x192 pixels) and typing in many types (all editable). Color fill, cut & paste, 200+ color mixes. 33 new commands for using double-res in your programs. Convert normal hi-res pictures and programs to double hi-res, compress pix to 1/3 disk space...
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Make Apple "slide shows". Keyboard controlled or unattended, using your existing hi-res, lo-res and text screens.
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† Supports DOS 3.3 only

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