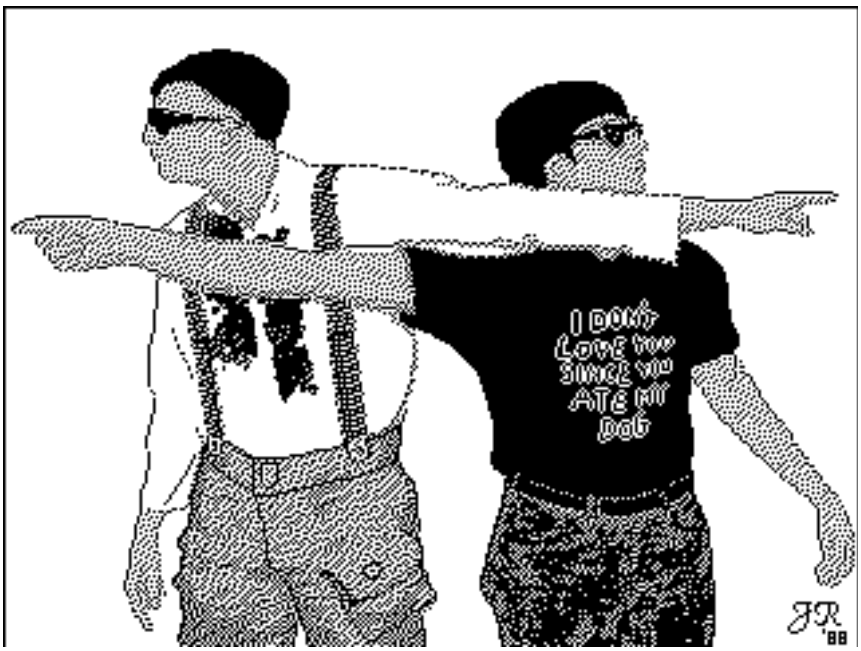
Vision Lab 0.67

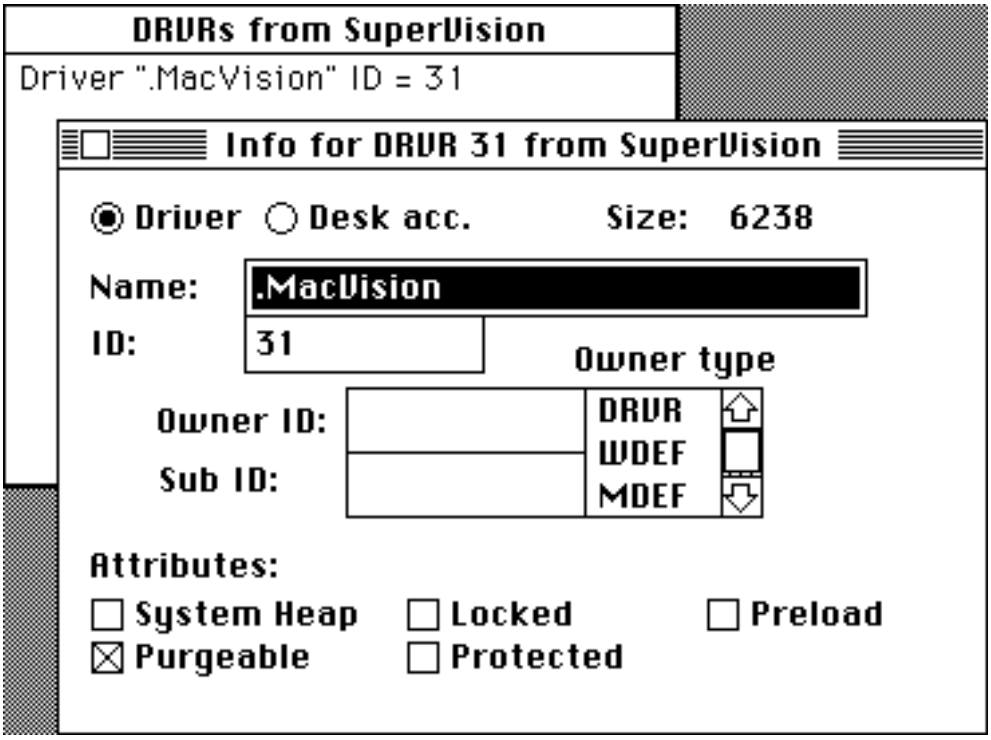


What is Vision Lab?

Vision Lab was previously called SuperVision. With its name change comes support of GIF™ files and color. With it you can store gray level information from the MacVision™ digitizer, load files created with Thunder Scan™, or load pictures created in other programs. Vision Lab is presently a free unsupported program so use it at your own risk. Comments are welcome at the E-mail addresses found in the about box. Please note that Vision Lab 0.65 is still in a highly experimental state and is open to any suggestions for changes.

How do I get it to work?

Vision Lab is a two computer program. Some of it will only work on the Macintosh and some of it will only work on the Macintosh II. In order for any functions that use the MacVision™ hardware to work you must have the MacVision™ DA installed in Vision Lab itself. To do this first go into ResEdit. Then open the MacVision™ Font/DA mover file and select and copy the MacVision™ DRVR resource. You can now close the MacVision™ Font/DA mover file and open the Vision Lab application with ResEdit. Finally paste the DRVR into Vision Lab and rename it as follows: (just add a period in front of the name) Also click on the **Driver** radio button.



MacVision™ 1.4 seems to work well with the SE. If any of you find that it works with the Mac II please let me know (I don't have the power adapter to check it myself).

 Menu:

About Vision Lab…

Standard application information. On the Mac II it is a bit more colorful.

File Menu:

Open GIF™… ⌘ O

Opens a GIF file. For multiple image GIF files you can stop loading images at any point by holding down the Command and period (.) keys.

Open PICT File…

Opens a MacDraw type PICT file. On Macintoshes without color the PICTs will be loaded as black and white 1 bit deep images regardless of what color images they may have contained. (Note that type 2 PICT images will not load on old Macintoshes without system 4.1 or greater)

Open PICT Resource…

Similar to **Open PICT File…** but instead opens a PICT resource in a resource file. (You cannot open PICT resources in busy resource files)

Open MacPaint™ Document…

See the section on MacPaint™ Preferences to learn how MacPaint™ documents can be opened.

Open PixelPaint™ Document…

Opens a file created by PixelPaint™. PixelPaint™ images can take up a lot of memory so do not be too surprised if you have trouble loading files on machines with 1 megabyte of memory or less.

Open Thunder Scan™ Scan Image…

Opens a Thunder Scan™ scan document as gray level image.

Open Thunder Scan™ GrayMapFile…

Opens a Thunder Scan™ GrayMapFile as a 4 bit gray level image. Note that this command assumes the GrayMapFile was created with version 4.0 of the Thunder Scan™ software and that the postscript header has been removed.

Record MacVision™

Only works on Macintosh with MacVision™ installed. Instead of scanning the image to the screen this function records the data coming in from the MacVision™ hardware to a PixMap in memory.

Save As GIF™…

Saves the image in the front most window as a GIF file. For non-Mac II uses you must hold down the option key to save the raw pixel data as a GIF file.

Save As PICT File…

Saves the selected portion of the PixMap or the BitMap in a MacDraw type PICT file. Of course you will only be able to save a portion of the PixMap if you are using a Mac II.

Save As EPSF…

Saves the selected portion of the PixMap (using gray levels only mapped by the GrayMap) as EPSF. The selected picture is also saved within a resource of the EPSF file. For example: If you import the EPSF file created into Ready, Set, Go! you will see the selected picture on the screen (either the BitMap or the PixMap depending on what you had selected when you saved the file) and when you print the file on a LaserWriter the halftoned imaged will come from the PixMap gray levels mapped by the GrayMap.

Save As MacPaint™…

Saves the BitMap image as a MacPaint™ file. Note that MacPaint™ files cannot be larger than 576 pixels across and 720 pixels down. So if your image is larger than this only a portion of the image will be saved.

Save As PixelPaint™…

Saves the PixMap image as a PixelPaint™ document. Note that PixelPaint™ files cannot be larger than 1024 pixels across and 1024 pixels down. So if your image is larger than this only a portion of the image will be saved. PixelPaint™ documents take up **a lot** of space so be sure to have plenty of room available if you wish to save images in this format.

Save Selection As PICT Resource…

Saves the selected portion of the PixMap or the BitMap in as a PICT resource. Of course you will only be able to save a portion of the PixMap if you are using a Mac II.

Quit ⌘ Q

Quits the program. It will not ask you to save any changes first!

Edit Menu:

Undo ⌘ Z
Cut ⌘ X
Copy ⌘ C
Paste ⌘ V
Clear

Standard editing functions. Vision Lab only supports Copy.

Select All ⌘ A

Selects the entire image.

Adjust MacVision

Only works with MacVision installed. Produces a histogram based on a small scan size image. Ideally the brightness control moves the histogram left and right and the contrast control expands and shrinks the histogram.

MacVision™ Half Tone

Only works on Macintosh with MacVision installed. Standard MacVision™ scanning. Nothing is recorded by Vision Lab during the scanning process. Useful for adjusting the MacVision™ hardware. (Note that this function will not be available on large or color screens)

PixMap Menu:

Close PixMap

Closes the PixMap window (if you are using a Mac II) and releases both the PixMap and the BitMap from memory.

Invert Image

Inverts the color lookup table

Histogram

Produces a normalized histogram of the PixMap in memory.

Squeeze PixMap

This command does a number of things to the PixMap to try to make it smaller in size. If there are any entries that map to the same color they are squeezed into the same value (good-bye color animation). Gaps in the numerical order of used entries are squeezed out. Also, the color table itself is sorted on red (If I remember right that is the way the Mac II system clut is sorted). If possible this command will also make white the first entry in the color table and black the last of whether they are used in the image or not.

BitMap Menu:

Close BitMap

Closes the BitMap window and releases the BitMap from memory. This command has no effect on the PixMap.

Threshold, Dither, Patterns, Zebra, etc.

These functions create a BitMap approximation of the PixMap in different ways.

Special

PICT Preferences…

Only functions on a Mac II. This command selects how pictures are loaded. If you try to get the clut from the PICT first the PICT will be scanned and the PixMap will be based on the PixMap of greatest depth in the PICT itself. If no PixMap is found in the PICT then the PICT will be loaded in black and white only. Bypassing this “smart clut” feature and selecting different cluts can produce some interesting results.

Thunder Scan™ Preferences…

Lets you choose to load scan images as either 16 or 32 grays.

MacPaint™ Preferences…

Lets you choose what size the MacPaint™ pictures will be. Half-size and Third-size are produced with an “undigitizing” effect, whereas full size simply loads in a MacPaint™ file.

MacVision™ Preferences…

Lets you choose to use either the Modem port or the Printer port; Whether to record 16 or 256 gray levels; Either large or small scan sizes.

Remap Local Color Maps

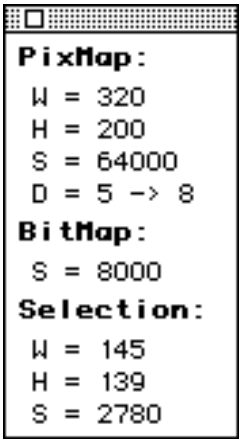
If this option is checked any local color maps found within GIF image files will be remapped. If a global map was present in the GIF file then the local colors will be remapped to the closest matching colors in the global GIF color map. Otherwise remapping depends on the Machine you are using. If you are using a Macintosh II the local colors will be remapped to the closest colors found in the clut selected for loading PICT files and resources. For non-color machines the local GIF colors will be remapped to the closest matching gray values. Note that if the GIF file does not contain a global color map the image will be opened using eight bits of color (or gray levels) regardless of the local image depths. If this option is not checked then the color environment will be replaced by the local color maps for every image loaded. This will probably make the entire image look like a real mess but you will be able to see the individual images in their true colors by using command-period to stop any more images from loading.

Save Interlaced GIF™ Files

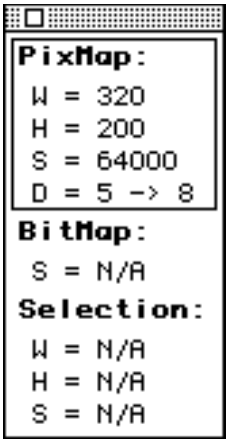
If this menu item is checked the GIF™ files will be saved in the interlaced format.

Show Information

Shows the information window.



The above information window shows that the PixMap is 320 pixels wide and 200 pixels high. It takes up 64000 bytes in memory and only 5 of the 8 bits per pixel are really needed for this image. (Mac II PixMaps can only have depths of 1, 2, 4, or 8) The BitMap takes up 8000 bytes in memory and always has the same dimentions as the PixMap. The selection (in this case on the BitMap) is 145 pixels wide, 139 pixels high, and is 2780 bytes big.
On the Mac II it is very important for the color look up tables to begin with white and end with black. Because GIF™ files can come from other computers that do not have this standard you may see an information window like the one below:



Notice the box around the PixMap description. This means that the color look up table in memory does not conform to Mac II standards. Selecting the Squeeze Option under the PixMap menu **may** fix this problem. It is **very** important to have the color look up table in the standard format if you wish to export this file to other Macintosh file formats. Sometimes the file may not even display correctly with Vision Lab until you try squeezing the PixMap.

Show GrayMap

Shows the graymap window. Use the option key and the mouse to draw straight lines. Use the option key and the mouse to reset the brightness and contrast controls to the center positions. (The graymap is used when doing BitMap operations and also when saving as EPSF)

Some notes about the program:

Holding down the space bar gives you a hand to move images around with. If you are interested in opening images that were converted with GrayView be sure they were saved by GrayView 1.16 or later. Earlier versions of GrayView didn't seem to save things correctly. The PICTs created by this program use 30K CopyBits chunks and will probably not work very well on the 64K ROMs. It's definitely time to upgrade the old machines! The old SuperVision file format was dumped, sorry, but there was no reason to keep it around with GIF. This program needs **a lot** of memory to run! Especially when working with **large** pictures. Don't be surprised if you find that even 1 meg. is not enough.

Where is it all going?:

Well, I don't even know. I am open for suggestions, contracts,… anything. I have many more ideas I would like to add. Most of the selections under the PixMap and BitMap menus are PROC resources. Feel free to try to write your our PROCs following the examples provided. **PLEASE, PLEASE,** inform me of any bugs you find. I know this is not a “release” version but all bugs are not obvious. Tell me about what works and what doesn't on which machines.

Changes from 0.6 to 0.65:

• The Information and GrayMap windows have changed to “HyperCard” type windows and are now floating. • Opening a MacPaint document as full size does not “undigitize” it. • Most of the “Save Selection As…” menu items were changed into options on the save dialogs. • PICT files and resources may now be opened from non-Mac IIs. • You can now open “GIFf” type files directly from the Finder. • The preferences are now saved. (An icon was added to Vision Lab, so if you have an older copy of Vision Lab you will need to rebuild your desktop. To do this hold down the option and command keys when exiting to the Finder.) • PixelPaint files may now be opened and saved with Vision Lab. Wow! Now you can even see PixelPaint files on “regular” Macs! • The about box was “spiffied” up a bit. • PICTs are loaded a little differently. • GIF files can be saved in interlaced format. • You can save BitMaps as MacPaint files. • The information window will inform you about “bad” color tables. • Miscellaneous bug fixes and other changes.

Changes from 0.65 to 0.67:

• Now skips GIF extension blocks. • Local color maps for multiple image GIF files can be remapped. • The color of the Pix window is improved if it is under floating windows. • Easy 'C' routines were added to share.h. (See Easy 'C' Threshold for an example of their use). • Fixed a stupid PICT resource loading bug. • Added a few other slow Easy 'C' dithering options like 2 x 2 Dither and Floyd-Steinberg.

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