Date: November 22, 1988
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To: Engineering Library

Subject: Color Cutter 1.1 (Draft 0.4)

Color Cutter is a general purpose screen capture program that allows the user to copy a rectangular portion of the screen and save it to the clipboard or as a resource within a file. Anything that can be displayed on a Macintosh screen, whether on a single screen or on multiple screens, can be captured. Color Cutter works with color screens as well as black and white screens and supports the new 32-bit Quickdraw. Color Cutter is installed as a desk accessory and may be used on the Mac Plus, Mac SE and the Mac II computers.

Color Cutter is based on ideas from the IconMaker program originally written by Steve Fine. The program's interface was redesigned to include new features for creating color Quickdraw based objects. The changes were implemented by Cris Rys, a summer-hire during 1988. The desk accessory with its resources takes up 21K of code; the code itself is approximately 17K; twice the size of the original IconMaker. The resource types that Color Cutter can create may be one of the following types:

- iconic (i.e., ICON, ICN#, cicn, SICN)
- patterns (i.e., ppat, ppt#, PAT, PAT#)
- picture (i.e., PICT)
- cursors (i.e., CURS, crsr)
- pixel maps (i.e., pxmp)

The resource types that are in lowercase are the color Quickdraw equivalents for the standard black and white resources. Color Cutter will generate a mask automatically for the iconic and cursor type resources. For a description of the resource types, refer to Inside Macintosh. Depending upon the intended use and type of the new resource, other programs such as ResEdit or MPW may be needed to use the resource with an application.

How to use Color Cutter

When Color Cutter is started, the cursor will be replaced with the outline of a selection rectangle. The size of the selection rectangle will be the size of an icon, 32 x 32 pixels, but may be changed by the user by pressing certain keys on the keyboard. The user can move the selection rectangle on the screen, or between different screens, to position the rectangle over the area of the screen to be captured. When the desired portion of the screen is underneath the selection rectangle, pressing the mouse button will capture the image. A dialog box will appear that allows the captured image to be saved.

While the selection rectangle is visible the user may change the size of the rectangle by pressing any of the following keys:

C..... sets the rectangle to be the size of a cursor (i.e., 16 x 16 pixels)

I..... sets the rectangle to be the normal size of an icon (i.e., 32 x 32 pixels). Color icons are not subject to the 32 x 32 pixel limitation of black and white icons therefore color icons can be any size.

P..... sets the rectangle to be the normal size of a pattern (i.e., 8 x 8 pixels). Repeatedly pressing 'P' steps through power of 2 sized rectangles, (e.g., 2…4…8…16…32… pixels) starting at 8 x 8 pixels. This is useful when defining color patterns which are not subject to the 8 x 8 pixel limitation of black and white patterns.

S..... sets the rectangle to be the size of the screen where the selection rectangle is currently located. The upper-left hand corner of the rectangle is used to determine which screen the selection rectangle is on. This feature is useful in a multi-screen environment where one screen is larger than the other and the desire is to grab something from the larger screen that is the size of the smaller screen.

Other sizes for the selection rectangle may be pre-defined by changing Color Cutter's ***CCut resource*** with ResEdit. The CCut resource is described later in the ***Advance Uses*** section.

The ***arrow keys*** may be used to increase or decrease the size of the selection rectangle by 1 pixel. The ***+ (plus) or - (minus) key***s increase or decrease the size of the selection rectangle proportionally thus maintaining whatever is the current aspect ratio of the rectangle. The shift key may be used to modify the behavior of the arrow keys and +/- keys to be 8 pixels instead of 1 pixel. Once the user has selected an area of the screen and has pressed the mouse button, Color Cutter looks to see if the user drags the mouse before releasing the mouse button. Dragging the mouse allows an arbitrary sized area to be quickly selected.

Other keys may be pressed while the selection rectangle is visible to do the following:

command - S..... performs an automatic capture of the entire screen where the selection rectangle is currently located. This feature is similar to the 'S' feature from above but does not require the user to position the selection rectangle or press the mouse button.

H or ?..... brings up a help dialog that summarizes the keys that may be pressed.

Esc..... removes the selection rectangle and cancels Color Cutter.

Option..... Color Cutter will attempt to create the most efficient pixmap for the captured image. This is important for color objects because it reduces the overhead for the object's color table. If the user had selected an area that had only 4 colors, the color table would be compressed to include only those colors. The object's pixmap would only be 2 bits deep. For some specialized applications the compaction of the color table may not be desired. By using the ***option key*** when the mouse button is pressed, the compaction feature may be temporarily turned off for the current image. To turn off compaction permanently whenever Color Cutter is used, the ***CCut resource*** may be changed using ResEdit. The CCut resource is described later in the ***Advance Uses*** section.

Note that the border of the selection rectangle surrounds the portion of the screen to be captured. This implies that the border is not included as part of the captured image.

The Main Dialog Box

Figure 1 shows the main dialog box that appears after the mouse button has been pressed. A rendition of the captured image is shown in upper left-hand corner of the dialog box. If necessary, the

image is shrunk to fit into that area. When shrunk, different views of the rendition may be seen by clicking at the image. The other views include a centered view and a top left corner view. The size of the captured image, in pixels, will be displayed below the rendition.

The dialog box provides all the standard mechanisms to specify where to save the captured image; either into an existing file or to a new file. The image may also be placed on the clipboard and subsequently pasted into the scrapbook or into an application.

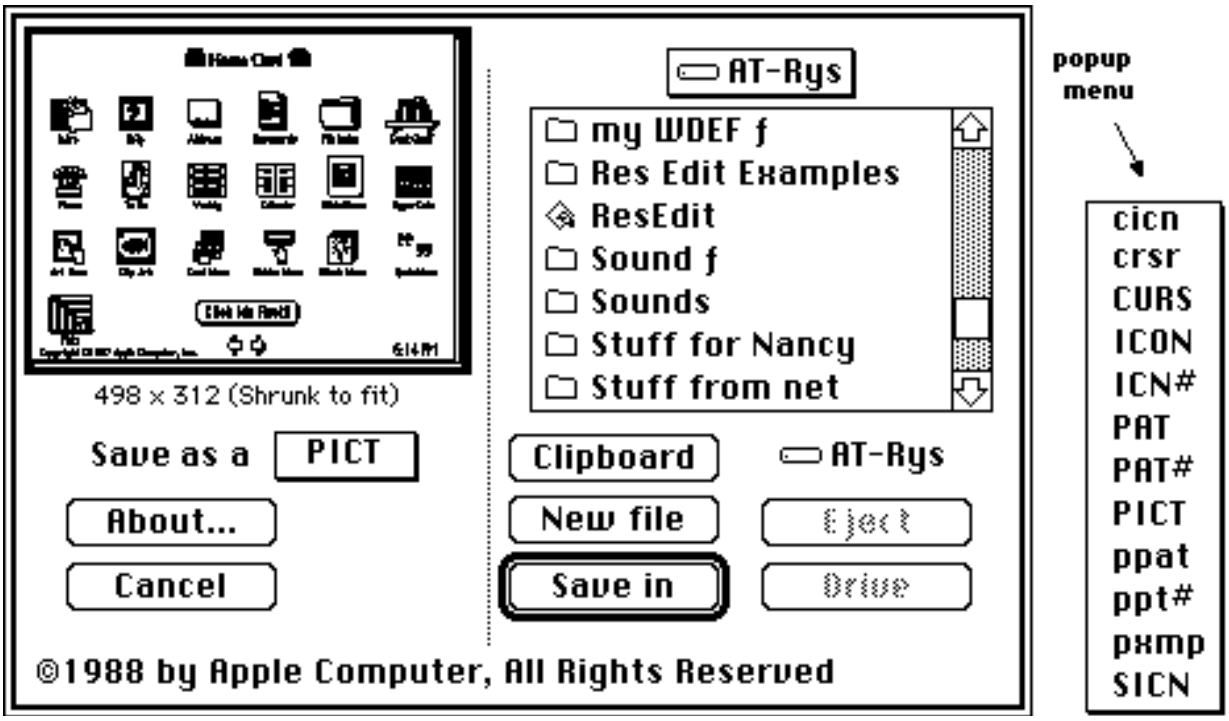

Figure 1 - The Main Dialog Box

The user should always check that the desired resource type is set before saving an image. The different resource types are contained in a popup menu located below the image area of the dialog box. As the user selects different resource types, the image in the rendition will change to best reflect the resource type chosen. For instance, in Figure 1, if an ICON had been chosen, only the black and white 32 x 32 pixel image from the upper left-hand corner of the captured image would be displayed. For iconic and cursor resources Color Cutter will automatically generate a mask for them. The generated mask may not be appropriate in all cases and may have to be adjusted with ResEdit or through the ***Mask Only*** feature in the resource dialog box; the resource dialog box is described later. Color Cutter will remember the selected resource type so that the next time Color Cutter is called the user will not have to set the resource type; unless of course a different resource type is desired. This aids the user when a series of similarly typed resources are being saved. The user may cancel saving the captured image by pressing the Cancel button.

The Resource Dialog Box

If a resource is being saved, a second dialog box will appear that allows the user to set information that is specific to the resource. Figure 2 shows the resource dialog box. Color Cutter will suggest a random ID number for the resource that will not conflict with any existing resources in the chosen file. The user may use the suggested ID number or enter one of their own. If the ID number is already taken by

a resource of the same type in that file, Color Cutter will ask if the user wants to replace the existing resource. The resource dialog box also offers three options to the user:

- ***Mask Only*** - This check box is enabled if the user is saving a cicn, crsr, CURS or ICN# resource. Normally Color Cutter will use the captured image to generate a mask for the new resource and save both the mask and image to the file. However the user may not like the mask Color Cutter generates for colored objects and would want to custom design a mask instead. When checked, this checkbox tells Color Cutter to change only the mask portion of an existing resource using the ***captured image*** as the mask; the data portion of the resource is not changed. This allows to user, with the check box unchecked, to first save a captured image with a Color Cutter generated mask and then go back and capture a different image that will be used as the actual mask for the resource. This esoteric feature gets around the ResEdit's current inability to edit color icons and color cursors.

- ***Use Cursor*** - This check box is enabled if the user is saving a crsr or CURS resource. Checking this box will temporarily change the cursor to be the capture image so that the cursor can be seen before it is saved. A caveat to this feature is that if the ***Mask Only*** feature described above is being used, ***Use Cursor*** will not display the existing cursor with its new mask derived from the captured image. Instead ***Use Cursor*** will only display the captured image as a cursor using a Color Cutter generated mask.

- ***Auto Number*** - This check box is always enabled. Checking this box will cause Color Cutter to suggest resource IDs numbered sequentially starting at the current resource number. Normally Color Cutter suggests random resource IDs. The user may change any of the suggestions made by Color Cutter which will cause the program to start suggesting IDs beginning at that new number. A caveat to this feature is that Color Cutter does not check any of its sequentially suggested ID numbers to see if the resource ID is already in use when it makes the suggestion. The check is not performed until the user OKs the resource dialog box.

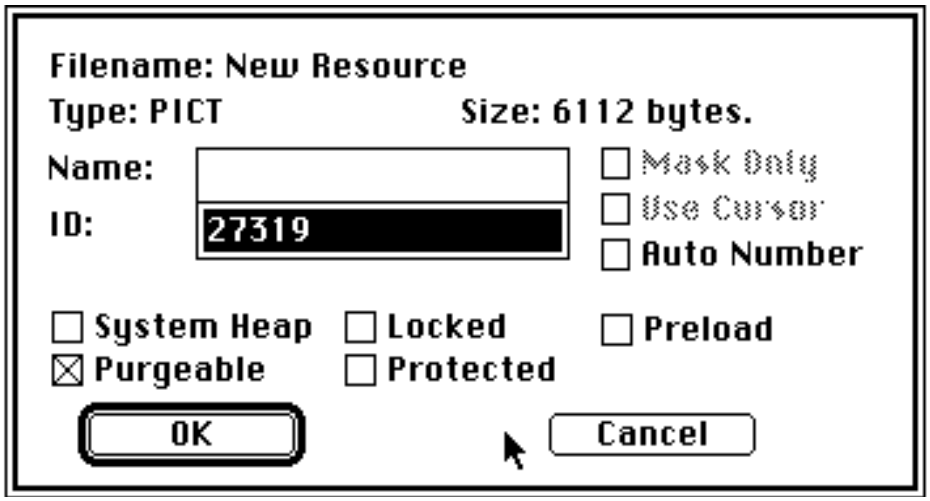

Figure 2 - The Resource Dialog Box

Color Cutter will remember all of the settings in the resource dialog box except the resource name and the resource ID number–which it provides a suggestion for each time. This allows the user to set particular attributes for resources without worrying about them between uses of Color Cutter.

Advanced Uses

In addition to normal features provided by Color Cutter there are advanced features available that may be activated by using ResEdit. ResEdit is used to edit the ***CCut resource*** located in the system file which defines the preferences used by Color Cutter. The user should consult the documentation for ResEdit to learn how to access the CCut information and on how to use ResEdit. The CCut dialog box used by ResEdit appears in Figure 3.

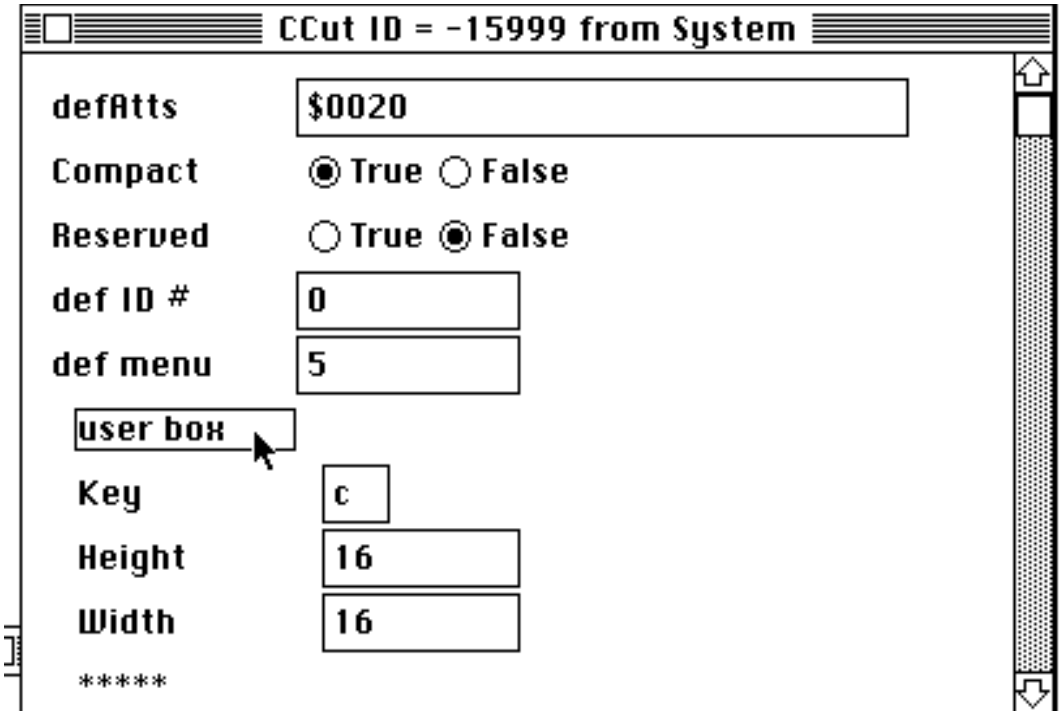

Figure 3 - Editing a CCut resource from ResEdit

By using ResEdit the user is able to change one of the following Color Cutter preferences:

- ***defAttrs*** - this is the default settings for the resource information used by the resource dialog box. All of the resource bits are stored in a single 16-bit value. The format of this 16-bit value is described in Inside Macintosh.

- ***Compact*** - this option turns on or off the automatic compaction Color Cutter performs on the captured area's pixel map. Normally this setting is set to true so that Color Cutter will produce the most efficient pixmap possible. The user may elect leave this option on at all times and temporarily turn off compaction using the ***option key*** feature for those times when compaction is not desired.

- ***Reserved*** - reserved for future use.

- ***def ID #*** - this is the next sequential resource ID Color Cutter will suggest. If def ID# is 0, Color Cutter will suggest random resource IDs.

- ***def Menu*** - this is the item number in the pop up menu for the type of the last resource saved.

- ***user box*** - Color Cutter has predefined sizes for the selection rectangle which are stored in the CCut resource as user boxes. A user box consists of a key character and a height & width that describes the selection rectangle. The user may create additional predefined selection rectangles by creating new user boxes. By selecting ***user box*** in the dialog box, as shown in Figure 3, and chosing ***New*** from the File menu will cause an empty user box to be created which the user may fill in. Color Cutter does not check for duplicate key characters, so the user should make sure the key characters are unique.

The user should not have to use the CCut dialog box very often once the appropriate number of user boxes have been defined. It is not suggested that the user change any of the defaults other than ***user box*** from the CCut dialog box. Instead the user should let Color Cutter save the defaults through the normal use of the program.

Fun Things To Do
Try pasting