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**NEW
DELUXE!**



Cat. # 260MD

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We would like to take this opportunity to thank you, the consumer, for supporting us, the CoCo 3, and the capitalist system by purchasing a copy of this program instead of pirating it. We feel that it provides a darn good value for the money and we ask you to please refrain from giving away copies to others. If the original purchaser of a product does not give away copies, there can be no piracy. Please do your part. The future of this product and its revisions depends on you. Spread the word, not the program.

We sincerely hope that you enjoy using Color Max Deluxe and that it lives up to all of your expectations.

Erik Gavriluk and Greg Miller

October 1, 1987

I. Getting started with Color Max Deluxe

"Any smoothly functioning piece of technology will have the appearance of magic." - Arthur C. Clarke

Color Max Deluxe requires a CoCo 3 with 512K, the Radio Shack Hi-Resolution Joystick Interface, a disk drive, and a joystick or mouse. We strongly recommend that you use a mouse, as it offers the quickest and smoothest possible response when used with a program of this type.

To get started, you'll need to plug in the hardware joystick interface. Here's how:

- o Turn off your Color Computer 3.
- o Unplug the joystick or mouse that you have connected to the RIGHT joystick port, and plug it into the Hi-Res interface. Be sure that you push it in so that it makes firm contact.
- o Plug the two cables coming out of the Hi-Res interface into the respective jacks on the back of the CoCo 3. One goes into the RIGHT joystick port, and the other goes into the cassette port. They will only fit into the correct jack in the back, so don't worry about getting things backward.

Just one more step and you'll be able to get started. Make a backup of both disks! No! Don't skip to the next paragraph! It is extremely vital that you do this.

Once you have made the backups, put your original disks away in a safe place, preferably away from the rest of your disks, and use only the backups from now on.

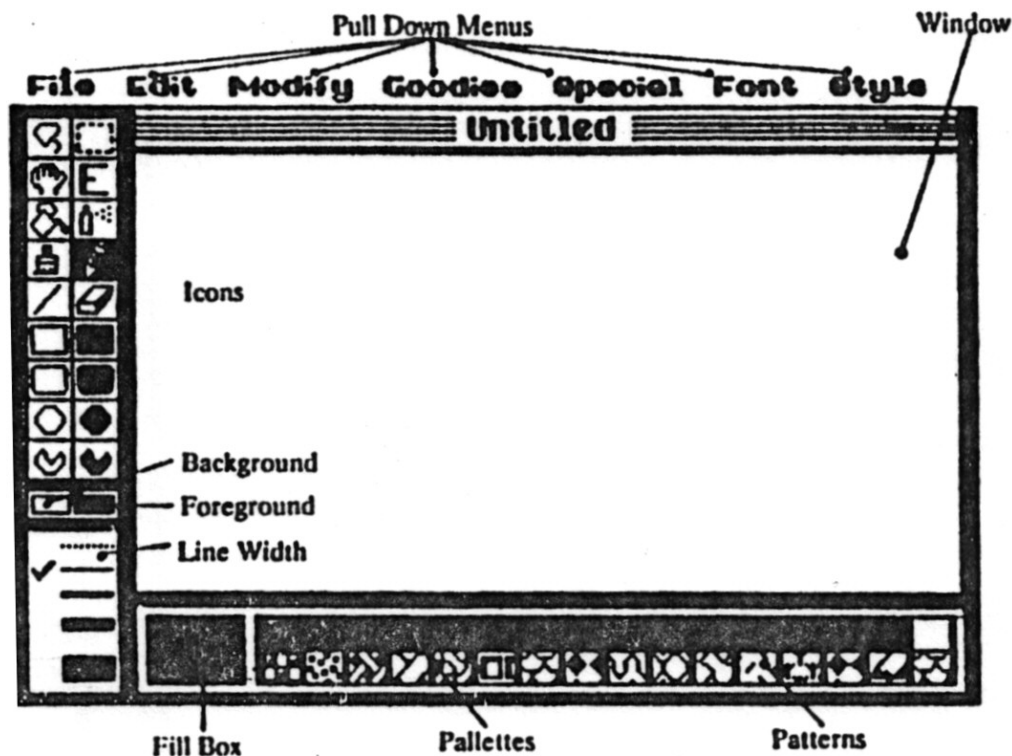
Before you can use Color Max Deluxe, you will have to set it up for your hardware configuration. Put the backup of the "Color Max Deluxe Boot" disk into drive 0, type RUN"PRINTER" and press [ENTER]. This program will allow you to choose which printer you would like to use with Color Max Deluxe. If your printer (or printer type) is listed on the menu, select it, otherwise choose the "No printer" option. When you get the "OK" prompt, type LOAD"BOOT" and press [ENTER]. If you do NOT have a RGB monitor, change line 10 to read X = 1 instead of X = 0. Change line 20 for the baud rate that you use with your printer. The table below lists the common serial baud rates used:

20 POKE 150,xxx

xxx = 300 baud = 180, 600 baud = 87, 1200 baud = 41, 2400 baud = 18

COLOR MAX DELUXE

SAVE:"BOOT" and you'll be ready to go. Any time you wish to boot Color Max Deluxe, put the "Color Max Deluxe Boot Disk" in drive 0 and type RUN"BOOT". The drive motor will come on, and you will be greeted with a title page while the program loads. When the program is done loading, place the backup of the "Color Max Deluxe Font Disk" into drive 0. This is what you will see:



II. Definition of Terms

Certain vocabulary will be used quite frequently in this manual to describe how to use various functions of Color Max Deluxe. Here's a quick rundown just to make sure everyone knows what's going on:

CLICK

This means to press the button down on the joystick or mouse once and then release it. You don't need to hold down on the button for very long; just tap it down quickly and let it up.

DOUBLE CLICK

Click twice on something. Click, click. You get the idea.

CURSOR

Is a symbol that is used to show where you are pointing. It could be the arrow, in which case you would be pointing to what is at the tip of the arrow, or it could be the pencil, when you would be pointing at what is at the tip of the pencil. There are many other cursors as well, and we'll go into more depth on them later.

POINT

This means to move the cursor with the mouse so that the cursor is pointing at something.

DRAG

To hold the button down while pointing. This is how you work most of the "rubber-band" type commands in Color Max Deluxe.

WINDOW

Is the portion of the screen inside of which is contained a portion of the actual page in memory. To work on other parts of the page, you merely "slide" or "push" the window to reveal a new portion of the page.

PALETTES

On the CoCo 3, you can have up to 16 colors on the screen at one time. Moreover, each one of these 16 palettes can be set to any one of 64 different colors. "Palettes" refers to the set of 16 colors that you have selected. By setting your palettes properly, you can create beautifully colored pictures.

PATTERNS

When filling areas you can usually use patterns in addition to colors. Each pattern is an 8 x 8 block of pixels, and can be comprised of up to 16 colors as well.

III. Icon functions

The left side of the Color Max Deluxe screen contains eighteen different icons, each of which has a unique function when selected. To select an icon for use, merely point at the icon you wish to use, making sure that the tip of the arrow is inside of that icon's surrounding box. When this is done, click, and the icon will be selected for use. Now when you point into the window, the arrow will change into a cursor that makes more sense than just an arrow. For example, selecting the "pencil" icon and then pointing inside of the window will cause the arrow to change into a pencil. You could then use the pencil or any other icon as outlined below. We'll start with the simpler ones first.



PENCIL

Pencil lets you draw thin, connected lines on the screen just like a real pencil. Click on the pencil and point somewhere inside the window. Now simply point at where you would like to start drawing, and drag to draw. The pencil draws with the current foreground color, unless the start point you choose is already in the foreground color. If this is the case, the pencil will draw in the current background color. Double clicking on the pencil will let you toggle "fat bits" mode. See section IX for more information on fat bits.



ERASER

This lets you erase any portion of the screen. Clicking on the eraser and pointing the arrow inside of the window will cause the cursor to change into a small square. Point this square where you wish to erase, and drag to erase whatever you wish. The eraser always erases with the background color.

**SPRAY CAN**

This option lets you place many dots on the screen at once, producing an effect similar to that of a spray can or an airbrush. Position the spray and drag. It sprays with the palette or pattern inside of the fill box. Double-clicking on the spray can is a shortcut to the "Edit brush" option of the "Goodies" menu.

**LINES**

One of the top twenty trite lines of all time is "I'm such a poor artist that I can't even draw a straight line!" That excuse is now officially outdated. Simply place the center of the cross-hairs on the start point of the line, and drag to the endpoint of the line. When the line looks the way that you want it to, release the button. Line uses the foreground color and the line width you have selected. Double-clicking on lines will let you do rays. Rays are a series of lines each sharing a common startpoint. To draw them, first click on the startpoint. After the startpoint has been set, click on the endpoints of as many lines as you wish. After you have clicked on the last endpoint, click outside of the window to stop.

**RECTANGLE**

This draws a rectangle in the foreground color and line width selected. Simply place the cross-hairs on any corner of the rectangle that you want, and drag to the opposite corner of the rectangle.

**FILLED-IN RECTANGLE**

This is the first filled-in function. The function draws a rectangle just as described above, but fills it in with what's inside of the fill box. It also outlines the box with color in

palette #0 (usually black) in the current line width. If you don't want to have your rectangles outlined, merely set the line width to the "dotted" setting.



ELLIPSE

Draws an ellipse in the current foreground color and line width. Simply set your start point and drag until you get the desired shape and size. If you're up on your geometry, you might like to know that the ellipse always remains internally tangent to an imaginary rectangle that you have defined. If not, "simply set your start point and drag..." Double clicking on Ellipse will allow you to "Pull" a horizontal arc to the right or left.



FILLED-IN ELLIPSE

This works just like ellipse, but fills it in with the palette or pattern inside of the fill box and outlines just like in filled-in rectangle.



ROUNDED RECTANGLE

This works just like rectangle, but rounds off the corners.



FILLED-IN ROUNDED RECTANGLE

This works just like filled-in rectangle, but rounds off the corners.

**FREE HAND DRAW**

This is identical to the pencil, but always draws in the current foreground color and uses the line width that you have selected. Double-clicking on free hand draw will allow you to use lines instead of points to draw. Simply click on the startpoint of a line, and then click on the endpoints of as many points as you wish. The endpoint of the current line becomes the startpoint of the next line, and so on. To stop drawing lines, click outside of the window.

**FILLED FREE-HAND DRAW**

This works just like free-hand draw, but automatically closes off the shape you have defined when you release the button, and fills in the inside of the shape with whatever is inside of the fill box. Double-clicking on this icon will do the same thing as double clicking on the previous icon, but fills it as well.

**PAINT BRUSH**

This lets you "paint" with the palette or pattern in the fill box using various shaped brushes. You can select different brushes and even edit your own, and we'll tell you how to do all of this in section IX. For now, to use the paint brush, point where you wish to start painting and drag to continue painting. Double clicking on the paint brush is a shortcut to the "Set brush" option of the "Goodies" menu (see section IX).

**FILL**

The icon represents a paint can spilling paint. The tip of the spill is where painting will begin when you click. The type of "paint" used is shown by the palette or pattern inside of the fill box. Fill works exactly like the PAINT command in Extended BASIC, filling in the inside of any outlined area completely. Any gap in the outline will let the paint

"escape", and fill in adjacent areas of the picture. Double-clicking on fill is a shortcut to the "Edit pattern" option.



HAND

The hand lets you slide the picture inside the window around, and allows you to work on other areas of the page. To see the entire page, use the "show page" command (see section IX) or double-click on the hand icon.



TYPESET

This lets you type on the screen, using any of a variety of fonts. This will be covered in detail in sections XI and XII.



LASSO

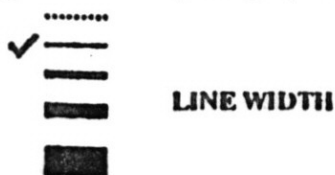
Lasso allows you to "grab" any portion of the screen and move it around. To grab a part of the screen, draw a line around any part of an object on the screen. Release the button, and the lasso will shrink down and cause the object that you grabbed to blink. To move the lasso, put the cursor on top of the lassoed object so that it becomes an arrow, and drag the object to its new location. When moving the lasso, pressing or holding the shift key will let you "stamp" the lassoed object. Click outside of the lasso to stop it from blinking and to lock in the change. Double-clicking on lasso will allow you to define a lasso using lines, just like double-clicking on filled free hand draw.



EDIT BOX

The edit box is similar to the lasso, but opens up a powerful array of manipulative features in addition to those allowed for use with the lasso. These features are detailed in section VII. Define an edit box just like you define a rectangle. To move the edit box

and what is inside of it, place the cursor inside of the box, so that it becomes an arrow, and drag it to its new location. You can "stamp" with the edit box as well by holding or pressing the shift key while moving. Click outside of the edit box to stop it from blinking and lock in any changes you have made.



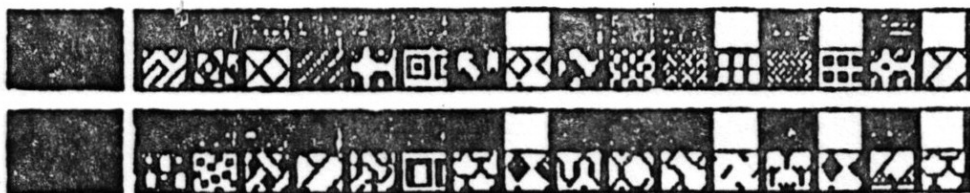
This lets you set the width of any line that is drawn to match that of the line inside of the line width box. To set a new line width, just point to the desired line width and click. The dotted line width has a special function; it makes any drawn line invisible. This is useful if you wish to turn off the automatic "black-outline" that is put around filled shapes.

IV. Patterns, Palettes, and the Fill Box

Inside of Color Max Deluxe, these are the most powerful and thus most potentially confusing features. These functions work closely with the background and foreground color boxes discussed earlier. To set your foreground color, click on any of the palettes. The foreground color box and the fill box will change to show you the updated foreground color.

Setting the background color is accomplished in a slightly round-about fashion. Set your foreground color to the background color that you want, and click on either the background color box or the "Set background" option of the "Goodies" menu. This is detailed in section IX.

To set the fill box, simply click on any palette or pattern. The fill box will be updated to show your new fill palette or pattern. Here's a hidden feature: to get an additional set of 16 patterns, simply click on the fill box. To get the original set back, click again on the fill box. Note that the palettes and whatever is inside of the fill box remain unchanged when you do this.



V. Pull-down Menus

At the top of the screen you will see the words:

FILE EDIT MODIFY GOODIES SPECIAL FONT STYLE

Positioning the arrow on top of any of these words and clicking will bring up the respective pull-down menu for that particular section. Each pull-down menu holds many powerful options that you can use with Color Max Deluxe. After you have clicked on a menu, it will quickly appear, and you will be able to make a selection. To select an option, point at it so that it inverts, and click. The option will blink several times, giving you an indication that all is well, and then you will be presented with that option.

Some options will be unavailable from time to time, such as the "Move window" command. It really wouldn't make much sense to move that fat bits window if you aren't already in fat bits mode, would it? In cases such as this, the option will be "ghosted", or "squiggled", and it will not invert when you point at it.

If you wish to get rid of a pull-down menu without making a selection, simply click outside of the menu, and it will disappear.

Some pull-down menu functions "toggle". Such functions are turned on by a click on that option, and turned off by another click. Toggled options that are turned on will be indicated by a small check mark beside them.

All of the menus will be detailed in the next seven sections. Here's a brief overview:

File

Lets you perform functions that pertain to files on the disk, such as loading and saving things.

Edit

Lets you cut and copy portions of the edit box that you have defined. It also houses the "undo" command, which is a handy tool for fixing mistakes.

Modify

Lets you perform modification operations to the edit box, such as flipping it upside-down, tilting it, bending it, etc.

Goodies

Houses some of the more interesting commands of Color Max Deluxe. Fat bits, the pattern and brush editors, as well as the show page command are all found here.

Special

Allows color cycling, and the ability to edit two pages which are stored in memory.

Fonts

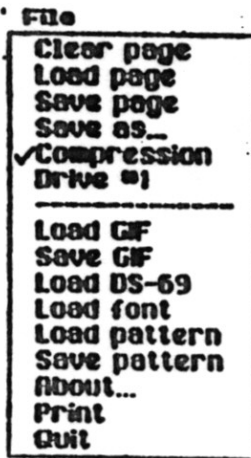
Lets you load any of our 14 system fonts.

Style

Lets you change the way fonts look when you type with them, allowing things such as bold, italicized, outlined, shadowed, and underlined characters.

VI. File Pull Down Menu

Point to "File" and click to activate the file pull-down menu. Here's what you should see:



CLEAR PAGE

This clears the entire page in memory to the current background color. Remember that when we say "page", we mean the entire page in memory, not just the window that you look at.

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LOAD PAGE

This will allow you to load a picture into Color Max Deluxe. Remember that loading a new page into memory will erase the one that is currently located there.

Clicking on load page will bring up a dialogue box showing all of the "MGE" pictures located on the disk. MGE pictures are the files used by Color Max Deluxe. Click any filename to cause that filename to appear in the smaller dialogue box located near the bottom of the screen. You can then click on "LOAD" to load that picture into memory, or click on "CANCEL" to abort the load.

SAVE PAGE

This saves the picture to disk under its current filename and title. You must first name a picture (using the "Save as..." option) before this option will be accessible from the menu.

SAVE AS...

This lets you save a picture to disk, as well as allowing you to title and name the picture.

Click on "Save as..." to bring up the dialogue box. It will first ask you for the filename to save under. Type in a filename, but do not add an extension. "MGE" is added automatically. Press [ENTER] (or click on "SAVE"), and you will be asked for a title for the picture. Titles will appear at the top of the window when the picture is loaded into Color Max Deluxe, and you have up to 30 characters to title your picture. Press [ENTER] after typing a title to save the picture, or press [BREAK] to abort the save.

COMPRESSION

This is a powerful feature of Color Max Deluxe. Uncompressed MGE pictures always take up 14 grans of disk space. However, with compression turned on, your pictures will rarely take up more than 5-7 grans of disk space. Compression should really be left on at all times, but you can turn it off if you need a straight "bit-map" of the graphics data. Note that you do not need to keep track of whether a picture has been saved out with compression on or off, because the MGE file format keeps track of it for you, and the picture will be decompressed automatically at load time if it needs to be.

DRIVE #

This lets you select a drive number for picture file I/O. Click on "Drive #" to select the drive that you wish to use. Each time you click, you will increment the drive number by one. Clicking on "Drive #3" will cause the drive number to wrap around back to 0. A shortcut to set the drive number to a specific value is this: click on the "File" menu, and hold down a key from (0-3) on the keyboard. Click on "Drive #" and the key that

you held down will become the new drive number for use with the program. Pictures, pattern files, and all of the "Edit" options take place on this drive. Note: you should always leave the Color Max Deluxe program disk in the drive from which you booted it, because that is where Color Max Deluxe will look to find its font files.

If you have a single drive, you can put in a picture disk whenever you need to load or save, but you should replace it immediately with the Color Max Deluxe program disk when you have finished so that Color Max Deluxe can find its font files.

LOAD GIF

Load GIF works identically to "Load page", but uses GIF format instead of MGE format. GIF is becoming the "standard" graphics interchange format between all microcomputers. If you find GIF files that are 16 color 320 x 200 pictures, you can load them into Color Max Deluxe with this option.

SAVE GIF

This lets you save any Color Max Deluxe picture in GIF format, so that it could be shared with any other computer that is capable of loading GIF images. SAVE GIF uses a very complex compression scheme to achieve excellent file storage results. Unfortunately, this complexity adds to the time required to save a picture. Go get a cup of coffee while the picture is saving. While saving, the picture screen will invert from upper left to bottom right to show you how far the save is progressing.

LOAD DS-69

This lets you load 128 x 128 16-level DS-69 pictures into Color Max Deluxe for editing. This format is used by the C-SEE software provided with the Micro Works' DS-69 digitizers.

LOAD PATTERNS

This lets you load a pattern file into Color Max Deluxe. Click on a filename and then click on "LOAD" to load them into Color Max Deluxe. Once loaded, these patterns will replace the ones on the bottom of the screen.

SAVE PATTERNS

This will prompt you for a filename and allow you to save the patterns as you currently have them defined. Patterns are saved with an extension of "PAT".

LOAD FONT

This lets you load external fonts into Color Max Deluxe. Simply place a font disk in the drive from which you booted Color Max Deluxe, click on "Load font", and click on

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the name of the font that you wish to load. You may then click on either the "LOAD" or "CANCEL" boxes to load the font or abort respectively. Once loaded, you can use the "Typeset" option to type with the font that you have loaded. See section XI and XII for more information.

ABOUT...

This gives copyright information and credit to the authors.

PRINT

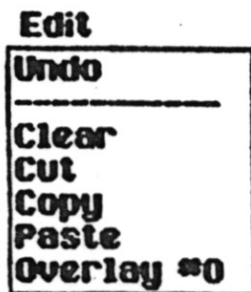
This prints the current picture to the printer. Your baud rate and printer type must have been set correctly before this will work properly. See section XIV for more information on printer dumps.

QUIT

This allows you to exit Color Max Deluxe. Be sure to save out your work before exiting.

VII. EDIT Pull Down Menu

Clicking on "Edit" will present you with this menu:



UNDO

This is a very handy feature of Color Max Deluxe. It will actually allow you to "fix" mistakes that you have made. Undo will always undo the last command entered. For example, if you clicked on the eraser, dragged it around, and then went to undo, whatever

you erased would reappear. However, if you clicked on the eraser, dragged it around, clicked on lines, drew a line, and then went to undo, only the line you just drew would disappear. Undo is especially handy when trying different colors and patterns with the "Fill" option. Undo will undo itself as well.

CLEAR

If an edit box has been defined, "Clear" will clear the area inside of the edit box to the current background color.

CUT

If an edit box has been defined, "Cut" will save to disk the area inside of the edit box, and then clear that area to the current background color. Cut is normally used in conjunction with paste, and is useful for moving a part of a picture to a totally different picture.

COPY

Copy makes a copy of the edit box right underneath where it has been defined. You may then move the edit box to another location, leaving a copy of it underneath.

PASTE

Paste brings in off of disk the current numbered clip and puts it on the screen where it may be moved, copied, etc.

OVERLAY #

Click on this option to increment by one the current overlay number. Clicking on "Overlay #9" will cause it to wrap around to 0. A shortcut to set the overlay number to a specific value is this: click on Edit, and hold down a key from (0-9). Click on "Overlay #" and the number that you held down will become the current overlay number. The overlay number is used when cutting or pasting overlays.

VIII. Modify Pull Down Menu



All the options of modify first require that an overlay has been defined before they may be used. A description of what each option does follows.....

INVERT

This more or less "swaps" the palette colors inside of the edit box. For instance, the colors represented by palette #0 and palette #15 will be swapped, as well as #1 and #14, etc. Note that this palette change occurs only within the edit box, and the actual palettes remain unchanged at the bottom of the screen.

FILL

This fills the edit box with the color or pattern located inside of the fill box.

THICKEN

This makes each of the lines inside of the overlay thicker.

TRACE EDGES

This option traces around all of the edges of an overlay.

SHADOW

This option does a trace edges, and then shadows the result.

FLIP HORIZONTAL

This flips the overlay sideways from left to right.

FLIP VERTICAL

This flips the overlay upside-down.

REMAP

Remap allows you to change the palettes inside of an overlay. Click on remap and you will be presented with a dialogue box. Click on the palette that you wish to change, and then click on the palette you wish to change it to. Click on "OK" and the colors will be changed inside of the edit box. Clicking on "CANCEL" will abort and leave your overlay unchanged.

TILT HORIZONTAL

Tilt horizontal allows you to more or less italicize a graphics block to either the left or right. Define an overlay and then click on tilt horizontal. Move the cursor either to the left or to the right of the overlay to define the amount and direction of tilt desired and click to make it tilt. Clicking on top of the overlay will cause it to abort.

TILT VERTICAL

Tilt vertical works just like tilt horizontal, but allows you to tilt up and down. Move the cursor above or below the overlay to define the new shape of the overlay and click to make the change. Clicking on top of the overlay will cause it to abort.

STRETCH/SHRINK

This allows you to resize the overlay. Click on stretch and then move the cursor to the new bottom right corner of the overlay (you can make the overlay either larger or smaller). Click, and the change in size will be made.

ROTATE

This allows you to rotate the overlay in any proportion. After clicking on rotate, you will see a dialog box that has a square in the center of it. Click to the left or right of the square to make it rotate counter-clockwise or clockwise respectively. When you have defined the proper amount of rotation, click on "ROTATE" and it will do the rotation.

BEND HORIZONTAL

Bend allows you to actually bend an overlay in a given direction. Bending a rectangle gives an effect similar to a sheet blowing in a breeze. Click on bend horizontal and then move the cursor either to the right or to the left of the overlay to define the direction and amount of bending desired. Click, and the bend will take effect. Clicking on top of the overlay will cause bend horizontal to abort.

BEND VERTICAL

This is identical to bend horizontal, but works up and down instead of left and right. Click on bend vertical and then move the cursor either above or below the overlay to define the amount and direction of bending desired. Click to bend it, or click on top of the overlay to abort.

IX. Goodies Pull Down Menu

Goodies



- Grid
- Fat bits
- Move window
- Show page
- Edit pattern
- Edit brush
- Brush shape
- Brush mirror H
- Brush mirror V
- Set background
- Set palette

GRID

This option may be toggled on and off, and is preceded by a check mark if it has been turned on. When it is turned on, grid strips down the resolution of the joystick by a factor of eight. This is sometimes handy when exact placement of a line or box is desired.

FAT BITS

This is also a toggled option. Fat bits allows you to zoom in on a portion of your work, and works a bit like a magnifying glass. Click on fat bits, and you will see a small edit box appear on the screen. Move this box until it surrounds the portion of the screen on which you wish to zoom. Click, and the enlarged portion of the screen will appear. You can now use the pencil to set any of the enlarged pixels just by clicking on them. The pencil works just as before; set your foreground color and click on a pixel to make it that color. If you click on a pixel that is already in the foreground color, it makes it the current background color instead.

To move to another portion of the screen for editing, use the "Move window" command (discussed next) or use the hand to push the fat bits screen around.

The hand and the pencil are the only icons that function in fat bits mode. Remember, if you make a mistake in fat bits, click on "Undo". To exit fat bits, simply click on "Fat bits" a second time. You may also double-click on the pencil to toggle fat bits mode as well.

MOVE WINDOW

This brings back the screen you initially got when you entered fat bits (the miniature edit box). You can now move to a new area to zoom in on.

SHOW PAGE

This shows you the entire page in memory. Double-clicking on the hand is shortcut to this.

EDIT PATTERN

This allows you to change any of your 32 patterns. To edit a pattern, click on the pattern, and click on "Edit pattern" (or double click on the fill icon). The editor works just like fat bits; click on "OK" to store your changed pattern below or "CANCEL" to abort the editing and return the pattern to the way it looked before editing.

EDIT BRUSH

This allows you to edit the current brush. To select a brush for editing, click on "Brush shape" (or double-click on the brush icon). Now click on "Edit brush" (or double-click on the spray can) to turn on the brush editor. You should normally use only black and white when defining brushes, but colors can be used as well for special effects.

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BRUSH SHAPE

This lets you select a different brush shape for use with the paint brush icon, or for editing with the "Edit brush" option. Simply point at the brush you want to select and click. Click outside the dialogue box to leave your current brush alone.

BRUSH MIRROR H

This turns on a mirror so that, when using the paint brush, every time a dot is set with the brush it is mirrored in the horizontal direction. This option may be toggled on and off.

BRUSH MIRROR V

Same as above, but uses vertical symmetry instead of horizontal symmetry. Both mirrors can be turned on for a psychedelic and funkadelic kaleidoscopic effect.

SET BACKGROUND COLOR

This feature, discussed previously in section IV, sets the background color to be what the foreground color currently is. A shortcut to this is clicking on the background color box. The background color will need to be set to a different value if you wish to clear the page to a color other than white, or if you wish to use the eraser to erase with a different color.

SET PALETTE

This feature allows you to set any one of your palettes at the bottom of the screen to represent a different color. Set your foreground color so that it is the color that you want to change, and click on "Set palette".

NOTE: Due to hardware inconsistencies, separate versions of set palette exist for RGB and composite monitors.

RGB SET PALETTE

A dialogue box will appear on the screen with three sets of four colored boxes. From left to right, the boxes will be colored in shades of red, green and blue. A large box centered below represents the resulting color from the mixture of the current red, green and blue settings. To set a new palette, you "mix" the color you want. To do this, point and click on any of the colored boxes, and the color below will change. Red, green and blue are the primary colors of light, and the laws of mixing them differ from mixing the normal primary colors. You'll need to experiment for yourself to get a feel on how to get the color you're looking for. Click outside of the dialogue box to set the palette and return.

COMPOSITE SET PALETTE

A dialogue box will appear on the screen with eight colored boxes on the left, four intensity boxes in the middle, and a box representing the resulting color on the right. To get the color you want, first set the base color you wish on the left. Now, to change the brightness of that color, click on the intensity boxes. The color that results will be displayed on the right. To get another set of eight base colors, or to toggle between sets, click on the resulting color box. When you are satisfied with the color, click outside of the dialogue box to return.

Important note: Color Max Deluxe itself uses palettes #0 and #15. Changing these palettes will cause the Color Max Deluxe icons and menus to change colors. Normally you should leave these two palettes, the left most and the rightmost, alone. Just be extra careful that you don't change these two palettes to the same color, or the Color Max Deluxe icons and menus will become invisible. Should this happen, simply press F2 to reset palettes #0 and #15 to black and white respectively.

X. Special Pull Down Menu

Special

Remap
Cycle range
Cycle speed
Cycle colors
Color flow
Dither pattern
Copy palette
Exchange page
Copy to spare

REMAP

Remap works just like remap under the "Edit" menu, but works on the entire page instead of just the overlay. Remap is handy when you have duplicate palette values. Suppose you have two palettes, #5 and #10, that are both set to bright red. Click on remap, click on #10, and then click on #5. Click on "OK", and the change will be made to the picture. In this case you will not see anything different, but palette #10 is now unused and you can set it to a different color. Another use of remap is to change colors. Simply click on the color that you want to change and then click on the color that you want to change it to.

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CYCLE RANGE

This allows you to pick the range of colors you wish to cycle on the screen. Click on the start palette to cycle and then click on the end palette to cycle. The start palette must be to the left of the end palette.

CYCLE SPEED

This allows you to speed up or slow down the rate at which colors cycle on the screen. Click on the slide bar and drag it to the right or left to make the colors cycle faster or slower respectively.

CYCLE COLORS

This toggles on and off whether colors cycle or not. Color cycling allows you to setup a kind of animation within your picture. Try this: draw a big box with palette #1, draw a smaller box inside it with palette #2, and finally draw an even smaller box inside the second box with palette #3. Click on "Cycle range", click on palette #1 (the start palette), click on palette #3 (the end palette) and then click on "OK". Turn "Cycle Colors" on, and sit back and be amused. Many interesting effects can be created with cycle colors, including animated waterfalls and rotating balls. You can press F1 as well to toggle cycle colors on and off.

COLOR FLOW

This option will be available only if you have defined a valid cycle range. It is a "tog-gled" option. When it is turned on, it causes the foreground color to increment through all of the valid palettes of the cycle range whenever you click inside the window. It is handy for creating color cycling pictures.

DITHER PATTERN

This allows you to mix a pattern that will have the apparent color between any two colors. Click on a pattern that you wish to change, and click on "Dither Pattern". Now click on any two colors and click on "OK", and the pattern will change into a mixture between those two colors.

COPY PALETTE

This copies the color in a palette slot from one palette to another. Click on "Copy Palette", click on the color you want to copy, and click on the palette you want to copy it to. Click on "OK", and the palette will be copied.

EXCHANGE PAGE

At any given moment there are actually two pages in memory to work with. Clicking on "Exchange page" will bring the other page into view. Clicking on it a second time will bring back the original picture.

COPY PAGE

This will copy the current page that you are looking at on top of the other page in memory. This is useful when used like a one-picture ram disk. If you draw a picture and want to try something daring on it, click on "Copy page" first. Then, if you don't like what you did to the original, click on "Exchange page" to bring back the old copy. This is actually a bit similar to "Undo". However, undo will only undo the last command entered, while the above procedure will bring back the page all the way back to when you copied it.

XI. Font Pull Down Menu

Font	
<input checked="" type="checkbox"/> Lynchburg Grand Ledge San Pablos Princeton Montauk New York Lensing	Northport Chicago Louisville Sydney Dublin Cleveland Atlanta

This menu allows you to select a font for use with the typeset icon. The current font in memory will have a small check mark beside it. If no font has a check mark beside it, a font has been selected instead from the load font option of the file pull-down menu. Click on any font to load it into memory. To type, first click on the typeset icon. Move the cursor (a small box that is the exact size of the largest character in the set) into the window where you want to start typing, and click. You may now type on the keyboard whatever you wish. Hit backspace to back over typing errors. Press [ENTER] to lock a line into memory and proceed to the next line. If, before pressing [ENTER], you wish to change the style of the letters, click on an option of the "Style" menu (discussed in the next section). Typesetting is done in the current foreground color. If, before pressing [ENTER], you wish to change the color of the text, simply click on a palette, and the text will reprint in that color.

To select a new screen location for typing, merely point and click on the new location.

Single drive owners: if you swap disks to save and load pictures, make sure that you have the Color Max Deluxe Font Disk in the drive before trying to load a font. Failure to do this will result in a "File not found" error dialogue box. If this happens, put the proper disk in the drive and try again.

XII. Style Pull Down Menu



Each font can have any of the seven different options applied to it. Selecting "Plain" clears off all of the other options, and sets the text to be plain. Any of the other options, or combinations thereof, can be used. For example, text can be both bold and italicized, and even bold, italicized, outlined, shadowed and underlined. Any combination is possible.

If you need more type styles, font disks are available from Computize. A font editor is also available that will allow you to create your own fonts.

Note that only the current line of text is changed when you work with this option. Once [ENTER] is pressed, the changes are locked in. To mix different styles of text on the same line, type on different areas of the window and move the portions of the lines together with the use of the edit box.

XIII. Animation

Animation is provided by a separate utility included on the Color Max Deluxe Utilities disk. "MOVIE.BAS" and "ANIMTOOL.BIN" allow you to animate up to 13 frames at variable speed. You create your frames one at a time in Color Max Deluxe. Each frame must have the same palettes, and color cycling is not allowed. If any of your frames have different palette settings, the palettes used in the last frame will be used for all frames. Save them to disk as FRAME1, FRAME2, or something similar that will help you keep the order straight. After you have created all of your frames, LOAD "MOVIE". Type in the filenames of the frames, in order, as data statements in lines 1020-1990 in the main program. For example, if you have three frames of animation of a fire, and you named them FIRE1, FIRE2 and FIRE3, what you would type would be this:

```
1020 DATA "FIRE1"
```

```
1030 DATA "FIRE2"
```

```
1040 DATA "FIRE3"
```

If you have multiple drives and need to load pictures off of several disks, just add drive numbers on to the end of the filename. DATA "FIRE1:1" would look for the file "FIRE1/MGE" on drive #1.

You should next title the animated series of pictures. Put that data line in line 2010:

```
2010 DATA "A fire burning"
```

The time delay between frames (in seconds) is controlled in line 2020. To have a two second delay between frames, simply type:

```
2020 DATA 2
```

For a 1/4 second delay between frames, it would be:

```
2020 DATA .25
```

When you are done, save the new MOVIE.BAS program on the disk with your pictures, and copy ANIMTOOL.BIN from the Utilities disk to your disk as well.

RUN the program, answer the "RGB or Composite?" prompt, your frames will load, and you will see your animated creation.

If you have a single drive and all of the frames will not fit on one disk, you can use prompts to have MOVIE ask for a new disk. A prompt starts with an asterisk (*) and

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will print whatever is after the asterisk and wait for [ENTER] to be pressed before continuing. Here's an example:

1020 DATA "FRAME1"

1030 DATA "FRAME2"

1040 DATA "*"Enter disk with frame3 and frame4 and press [ENTER]"

1050 DATA "FRAME3"

1060 DATA "FRAME4"

XIV. Technical Information

Jittery Joysticks

Radio Shack joysticks were meant for use with a 64 x 64 resolution. Through the use of the Radio Shack Hi-Res joystick interface, we increase that resolution to 320 x 200. Unfortunately, your old, dirty, battered joysticks may not be capable of making this quantum leap in resolution. The Radio Shack Deluxe joystick is even worse - when you press the joystick button, the joystick position values change. Some people have been able to fix old joysticks by taking them apart and liberally spraying them with tuner cleaner. However, the best results are given when you use a mouse. The mouse has high quality parts internally for reading the mouse position.

Printer Dumps

Trying to print an image that can consist of any of up to 64 different colors on a 2-color printer is impossible. Sure, we did some grey-scaling, but some colors just look the same when you print them out. If you draw a picture that is dark pink on light magenta, and it comes out printed like one big shaded blob, then all we can say is "sorry." Color printers, especially the CGP-220, give excellent results, but few people seem to have them. Here's a thought - when making pictures for a printer, use **BLACK AND WHITE!** Use patterns that are composed of black and white (like the default patterns) for shading effects. Use lots of colors only when you intend the picture to be put on the screen and can appreciate them! This might sound silly, but the best way to get a good screen dump is with a nice quality 35mm camera and quality color film. Snap the bugger at 1/15 of a second (f5.6) in a darkened room and get it printed any size you wish at your local photo store.

RGB vs Composite

A picture that looks pretty on an RGB monitor will most likely look **TOTALLY DIFFERENT** when viewed on a composite monitor. The palette values need to be set differently, and even when this is done you end up with what is actually a "good approximation", since for every RGB color there isn't an equivalent composite color, and vice versa. This is why you have to tell the program whether you are using an RGB or composite monitor, and it's also why there are two different versions of set palette. Whenever a picture is saved, we save the type of monitor that it was created on. Thus, if someone else tries to load it on a different type of monitor we pass the palette values through a filter that converts the picture so that it looks the best that it can. We picked the bootup palettes specifically to be a group of colors that convert fairly well to either monitor. Remember, however, that if you create a picture on an RGB monitor, save it out, load it up on a composite monitor, save it out again, and then try to load it back up on an RGB monitor that the colors will most likely look different than they originally did.

320 x 200

On the current GIME chip, the 200 mode really only displays 199 lines down. Color Max Deluxe lets you edit all 200 lines, but can only show you 199 of them at the show page command because of this GIME defect. Hopefully there will be a fix for this sometime in the future.

MGE File Format

We've developed a format especially for 320 x 200 images, and we call it the "MGE" format. Here's the rundown (all numbers are in decimal):

1	0	0 = 320 x 200, 16 colors
16	0-63	Palette registers
1	0/1	0 = RGB / 1 = CMP
1	0/255	0 = compressed / 255 = bit map
30	0,32-128	Title of picture in ASCII, last byte = 0
1	0-255	Color cycling delay (0 = fast / 255 = slow)
1	0-255	Left nibble = start palette to cycle Right nibble = end palette to cycle

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This header information is followed by the body of the file.

If the file isn't compressed, the body of the file consists merely of 32000 bytes of graphics data.

If the file is compressed, the compression is done horizontally, and is encoded in two-byte packets. The first byte is the number of byte repetitions, and the second byte is the value to be repeated that number of times. These packets repeat over and over until you get a zero for the number of reps, in which case you know that you have reached the end of the file.

"Follow us, or be left behind." - Socrates