

CC Max™

III

File Edit Options Colors Font Size Style



USER'S MANUAL

COLORWARE
THE ART OF COLOR

CoCo Max III

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CoCo Max III

Introduction

Thank you for your purchase and welcome to CoCo Max. We believe that you have just acquired the best program ever written for the Color Computer 3. Even though CoCo Max 3 is probably the most complex CoCo software, it is virtually crash proof and bug free. It is delightfully simple to learn and use and its extensive use of icons and pull down menus make it enjoyable for young children. Even sophisticated users will be impressed by the more advanced features.

Your CoCo Max package includes the Hi-Res module, the Demo Disk, the CoCo Max III disk and, of course, this manual.

To give the Maximum smoothness and power to CoCo Max III, we developed a special Hi-Res Interface which is *twice* as fast as the standard Radio Shack unit. In addition, it works without using the cassette port.

The Demo disk and CoCo Max III work with the standard Radio Shack RSDOS operating system. If you are using ADOS use the *DISABLE* command first. Other DOSes, (JDOS, CDOS, etc.) might not be fully compatible.

The Demo

If you have already seen the Demo, skip to the next section. If not, we suggest that you look at the Demo first.

Put a backup of the Demo disk in drive 0.

If you don't have an RGB monitor and you are running the demo for the first time, type *RUN"SWITCH"*

Otherwise, type *RUN"DEMO"* and watch!

Most of the pictures in the demo were entirely created with CoCo Max and the Demo sequencing itself was created with the CoCoShow program, which is on the Demo Disk.

The Demo Disk is copyrighted however you are granted permission to distribute copies at no charge.

Running CoCo Max III

Installing the Hi-Res Module

- A Mouse is the preferred input device, but joysticks work well too. In this manual, *mouse* means *mouse or joystick*.
- Plug your joystick or mouse into the Hi-Res Module.
- Plug the Hi-Res Module into the *Right* joystick input in the back of your CoCo 3.

Making BACKUP disks

Here are step by step instructions for the beginner:

Put a blank disk in drive 0. Type *DSKINI0*

Do not remove the write protect tab, if there is one, from your CoCo Max disk.

If you have two drives, put the CoCo Max disk in drive 0. Put the disk just made in drive 1. Type *BACKUP 0 TO 1*

If you have one drive, put the CoCo Max disk in Drive 0 and type *BACKUP 0 TO 0* and follow the prompts on the screen.

Put a write protect tab on the Backup disk.

From now on, when we refer to the CoCo Max III (or CM3) disk, we mean the backup. Store the original away to avoid the temptation of using it.

Starting CoCo Max III

512K CoCo: If you have a 512K upgrade, simply type: *RUN"CM3"*

That's all. Within a few seconds you will see the CM3 screen. The window is filled with a title screen. Then the fonts are loaded for about 20 seconds. To clear it, simply click your mouse button once. Now skip to *Using CoCo Max III*.

128K CoCo: If you have a standard 128K CoCo 3 you will need a *work disk*. To make one:

- Prepare a blank, formatted disk.
- Insert your CoCo Max disk in drive 0. (We mean the backup. Do not use the original anymore.)
- Type *RUN"WDMAKER"* (Work Disk Maker).
- Follow the instructions on the screen.

The Work disk is needed to store the CoCo Max fonts, the picture buffers, the clipboard and the scrapbook. All of these are memory resident on a 512K CoCo.

When you are done, label this disk *CoCo Max III Work Disk*. No matter how often you use your CoCo Max, you need only one work

disk. There is no room for any more files on the work disk. (There is about 100K (or 46 grans) of special space reserved on the work disk. This rapid access space does not show up in the directory.)

Your pictures will be saved on a picture disk, which is simply a blank, formatted disk. After you have configured, if you have 2 drives, drive 0 will be the Work disk. Drive 1 will contain your picture disks.

If you have 1 drive, CoCo Max will fully prompt you to change disks when necessary.

Now let's run CoCo Max III. Remove the Work disk and insert the CoCo Max disk in drive 0. Type `RUN"CM3"`. When the title CoCo Max screen appears, remove the CoCo Max disk and insert the Work Disk. That's all. Click the mouse button to clear the *window*. The CoCo Max disk is only needed to initially load the program. Until you turn the computer off, only the Work disk is used. Do not use a write protect tab on your Work Disk.

Using CoCo Max III

At this point, you should have control of the *cursor* with your mouse (or joystick). You may notice some slight cursor jitter. This is usually caused by your monitor's high voltage circuit. Color monitors produce electrical noise which is picked up by your mouse cable. (The Radio Shack mouse and joystick cables are not shielded.) To reduce or eliminate this jitter, you may:

- Reroute the mouse cable away from the monitor
- Raise the monitor away from the computer and mouse cable.

In most cases, routing the cable away from the monitor will reduce the jitter to an acceptable level (1 pixel max).

If your video display is not an RGB monitor (such as the CM-8 or Magnavox CM515) you must switch to the composite (CMP) color palette. To do so:

- Bring the cursor to the word Colors (in the middle of the top of the screen).
- Press the mouse button once.
- A menu will pop up. Move the mouse (or stick) down until the line *Standard CMP* is highlighted.
- Press the button once.

We will see later how you can configure CoCo Max so that it starts in the composite color mode automatically.

If this is your first time using CoCo Max, we recommend that you read through the manual first, but feel free to experiment. You cannot damage anything, and CoCo Max is virtually crash proof. The UNDO feature usually gets you out of most situations; at worst, you'll be puzzled, and then it'll be time to read the manual.

We will begin by describing the simple tools, then the more advanced tools and editing functions. The functions available in the Pull Down Menus will be described next.

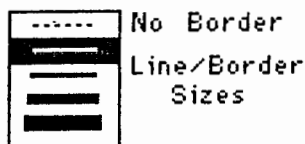
CoCo Max III Lingo

The following terms are used throughout the manual. It is important to understand their meaning in the CoCo Max context.

- **Click** means briefly press the mouse or joystick button.
- **Icons** are little symbols on the left hand side of the screen that you click on to select a function.
- **Double Click** means press the mouse button twice quickly (within 1/2 second).
- **Drag** means hold down the button while moving the mouse.
- **Drop-down Menu:** A window which pops up to offer a list of choices. To call a menu, simply Click on the menu name. The Menu will pop up. Move the pointer down, and the current choice will be shown in reverse as you pass over it. Click on the choice to select it. To exit the menu without making a choice, Click outside the menu area.
- **Alert Box:** A window with a large "I" that pops up to alert you of errors or special conditions.
- **Dialog Box:** Pop-up windows which are used for many purposes. For example: Color selection, pattern editing, paint brush shape selection, etc.
- **Pattern:** An arrangement of dots (pixels) in a particular way that creates a texture when repeated over a large area. CoCo Max has 32 patterns. 24 can be edited. All the patterns are saved with each picture.

If you are already confused, forget about the above. Just remember that Click means press the mouse button.

The CoCo Max Screen



The screen is divided into 7 sections. See page 18.

- The **Window** is the area where you draw and write. The actual picture can be as big as two full video screens, one on top of the other. Only a portion of the picture is shown in the window.
- The **Menu Bar** is used to select any of the seven drop-down menus. Try to click on one of the words. A menu will pop up. Click anywhere outside the drop-down menu and it will disappear.
- The **Palette** shows, on the top row, 16 solid colors chosen from the 64 possible colors. The bottom row shows 16 of the 32 patterns. The other 16 patterns can be viewed and chosen by clicking on the "Selected pattern" box (described below). Each of the little color boxes on the top row is called a slot. They are numbered 0 to 15, from the left.
- The **Selected pattern** box shows the two patterns that will be used for many functions, like drawing, filling, etc..
- The **Tool box** contains 21 icons. Each icon represents a drawing or editing function.
- The 3 **Toggle bars** are functions which can be used in conjunction with the tools. Each can be switched on and off (toggled) by clicking on the bar. The bar is shown in reverse when the function is on. They are:
 - FILL.** When FILL is selected shapes made with the various tools are "filled" with the selected pattern.
 - ZOOM.** This feature is a 4X magnification of a section of the screen, and is useful for detailed work
 - UNDO.** Reverts the picture to its state prior to the last action. It's a powerful "oops" function. You can always UNDO the most recent operation. Even UNDO can be undone
- The **Line width** selection is used by many drawing tools such as the Pencil and the Line. It also determines the width of the border around the shape drawn (circles, rectangles, etc.). The dotted line represents no line, (an invisible border) for drawing shapes without borders.

The Drawing Tools

These tools are selected by clicking on their icon (the symbols displayed on the left side of the screen). When a tool is selected, the icon is shown in reverse (white on black).

Pencil/Crayon

Click on the pencil icon to select the pencil.

If you want to select a different line width, Click on your line width choice.

Double Click on a pattern or color of your choice to select any solid color or pattern.

SHORTCUT: Double clicking on the pencil icon reverts it to a thin black line.

Eraser

Click to select the eraser.

Move onto the drawing. The pointer has changed into a small square. Drag (move the mouse with the button down) to erase part of the picture.

SHORTCUT: To clear the entire window, double click on the eraser. If you do this accidentally, click on the UNDO bar to recover your screen.

TRICK: The Box with FILL and the Paintbrush are other ways (described later) to erase.

Paintbrush

Click to select the paintbrush tool. Move the pointer inside the window.

Drag (move with the button down) to paint.

Change the color or pattern by clicking once on the solid color or pattern. Click in the Pattern Selected box to see the second set of 16 patterns.

To change the Brush shape, click on the **Options** drop-down menu on top of the screen. Move the mouse down and click on *Select Brush*. The Brush shape dialog box appears. Then choose the brush shape from the forty shapes available. You must choose a shape to exit.

SHORTCUT: Double clicking on the paint brush icon will also bring up the Brush shape dialog box.

Play for a while with the brush, changing the color, pattern, and brush shape. Use the UNDO bar to remove the last brush stroke. Click on UNDO again and it's back.

TRICK: Selecting a white paintbrush makes a handy eraser with forty shapes.

TRICK: If the background is a solid color or pattern, selecting a corresponding brush makes for a powerful eraser.

Spray Can

Select the Spray Can icon.

Drag to spray.

You can spray paint any color or pattern. Try it.

Double click on the Spray can to select the spray size and spray density dialog box.

Click on your choice to exit. Move to the window.

TRICK: *Spray white on a color to lighten it.*



Rubber Band Line

Click on the straight Line icon.

Select the line width from the several available.

Double click to choose the color or pattern to be used to draw the line.

Move the cursor in the window. Hold the button down to fix the starting point of the line.

Drag the mouse around. The line follows. When you release the button, the line will be locked. As with all tools, if you don't like what you did, just click on UNDO.

TRICK: *Selecting a checkerboard pattern (the lower left pattern) and a thin line will result in drawing a dotted line automatically.*

Arc

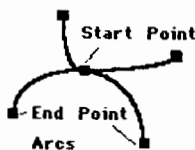
Select the Arc tool. (Click on the icon.)

Move to the starting point of the arc.

Click and drag the mouse; the arc will follow.

To reverse the curvature, hold down the SHIFT key on the keyboard. Release the button to fasten the arc. Release the mouse button *prior* to the Shift key when you want to lock a reversed arc.

TRICK: *Although the arc seems like a rather specialized feature, it is actually the best way to draw smooth curved lines when creating a picture.*



Square box

Select the box tool.

Move to where you want one of the corner points. Click and drag the mouse to the ending point, then release the button to fasten the opposite corner.

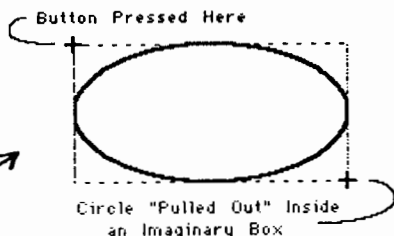
Select the border color by double clicking on the selected color.

Select the border width, if you want to change the current selection.

TRICK: You can use the box to form perfectly straight horizontal or vertical lines, one or two lines thick.

Square box with round corners

Works the same as the Square box, but the corners are rounded.



Circles or ovals

Click on the Circle icon.

Move to the window area. Hold down the button to anchor the "corner" of the circle. Release the button to lock the circle. If you don't like the way your circle turned out, use the UNDO bar.

The circle drawn with this tool fits into the invisible square box defined by the two corner points you selected.

Centered Circles or ovals

Click on the Centered circle tool.

Hold the button down to fasten the center. Drag the mouse. releasing the button fastens the shape.

As usual, select the border thickness with the line width selector, and chose the border color by double clicking on the selected color or pattern.

TRICK: For concentric circles (bull's eye), it's a good idea to mark the circle's center with a small dot (use a pencil or paintbrush).

Cube

Select the Cube icon.

Click and drag to draw the front of the cube (the same way you draw a box). Release the button and move to preview the cube's other faces. Click to lock the cube. Again, you can select any border thickness and color/pattern.

TRICK: Right after a cube is drawn, double click on the cube icon. This will make all sides of the cube visible.

Rays

Click on the Ray icon.



Move to the window area and select the center by clicking. Move away, and a ray line, connected to the center, will follow. Drag around the center to create many rays from the same center point. To exit, click outside the window. The last ray will be removed when you click.

Double clicking will also exit.

As with the other tools, line thickness, color and pattern are completely selectable.

Polygon

To draw a figure made of straight lines, Click on the Polygon icon.

Click on a point. Move away and click on another point. Continue to click on points until your shape is almost complete. Click outside the window, or double click and the shape will automatically be closed. The end of the last line will be connected to the beginning of the first line. This feature is useful when using the FILL option described below.

Free hand shape

Click on the icon.

This is similar to the polygon, but lines are drawn freehand, just like with the pencil. Drag the mouse around to draw a shape. When the button is released, the beginning point and the ending point will be connected with a straight line.

FILL

Click on the the *FILL bar*. While FILL is selected (the *FILL bar* is black with white letters) any of the shapes will automatically be filled with the selected pattern or color.

The FILL pattern is selected by clicking once on a color or pattern. The FILL pattern is shown in the center of the pattern selected box.

The border line pattern is selected by double clicking on the color or pattern. The border line pattern is shown on the outside of the pattern selected box.

The FILL function works with Square box, Round box, Cube, Circle, Centered Circle, Polygon, and Free hand shape.

Try to draw some of these shapes again with the FILL toggle on.

- You can select the border thickness.
- The pattern/color used for the border is selected by double clicking in the palette and is independent of the *FILL* pattern/color which is selected by clicking once.

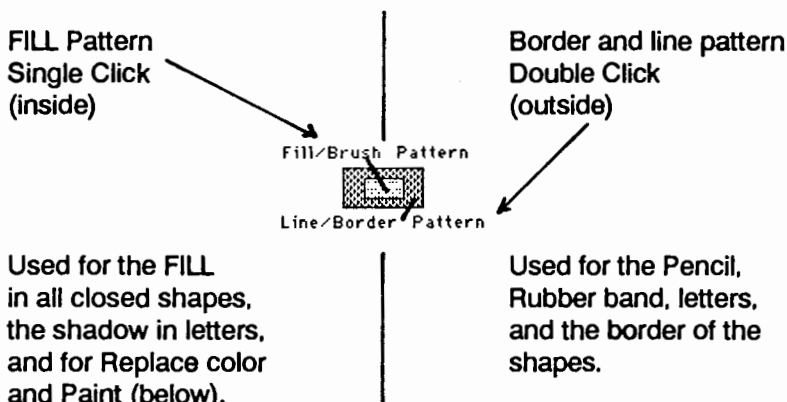
- Double clicking on the Selected Pattern box brings up the second set of 16 patterns.

TRICK: If you select the dotted line for a line width, the shape will have no border, so you can draw borderless patches.

TRICK: By selecting white as the FILL color, no border (dotted line) and having the FILL on, you have a fast and variable size area eraser. It is also useful for trimming items to a straight edge.

TRICK: Using the Cube tool with FILL on will show a solid cube with hidden lines. Double-Clicking on the cube icon immediately after drawing it will "reverse" the cube. Try it.

The double pattern selection might seem confusing at first, so here is a summary:



Replace Color

Click on the Replace color icon (A paint bucket). You will use this tool almost every time you wish to fill an area with a given color or pattern.

This is a very useful tool. It is used to replace any area of a solid color with any other color or pattern. Click once on a color or pattern to select it. Then move to the window and Click anywhere on the patch of color that you want to Replace. Experiment with this. Use UNDO to change the color back. Click again to UNDO the UNDO and see before and after pictures.

Once an area is Replaced by a pattern, you will probably not be able to Replace the color of the same area again. Replace color only replaces one color (white included) with another. Patterns are usually made of more than one color.

Replace color will only Replace a continuous solid area. If there

is a gap between two areas of the same color, only the area you click on will be Replaced.

When filling very detailed and large areas, the Replace color may be partial. If this happens, simply UNDO and Replace color in 2 operations starting with the bottom of the screen.

Paint

Click on the Paint icon.

The powerful Paint function is hard to describe. You may want to skip this tool and come back to it later. It is similar to Replace Color but, the Paint tool fills or replaces an area made of several colors with any other pattern or color. The painting will stop when it reaches a continuous border made of the selected "border color" (the one selected by double clicking). If there are any breaks (or "leaks") in the boundary, the paint may cover more area than intended. If this happens, simply use UNDO, and then repair the break in the border. (ZOOM, described below, is often helpful in locating and closing leaks.)

ZOOM

Click on the ZOOM bar to activate it.

ZOOM is a four time magnifier which gives pixel by pixel control over the entire window. The hand (Move Window) icon is automatically selected after you click on ZOOM to allow you to move the magnifier to the area of interest. Just drag the mouse inside the window to move to a different area. Clicking on the tool of your choice will also secure the window.

All the tools described above work in the ZOOM mode.

Try some of them (square, FILL, etc.).

The actual size view of the area magnified is displayed in the top left corner of the window. This shows you what effect your operations have on the unZOOMed display.


To exit ZOOM, click on the ZOOM bar again.

***TRICK:** To do really detailed work, double click on the brush to call the brush shape dialog box, and select the smallest brush shape (the single dot). Then select white to make a tiny eraser or select a color to make a tiny paint brush.*

Note: ZOOM mode is different from the CoCo Max II "click to reverse" zoom. This is because, with 16 colors, there is no way of knowing what color to reverse to.

T Text

CoCo Max III has some nice "typesetting" capabilities. There are 13 built in "Fonts". Each font has a different type of lettering.





Each font is given a name. To see the font names, click on  in the menu bar (on top, above the window).

Now move the mouse straight down on top of the choice "Rome". Click to select the *Rome* font.

Now click on the Text icon. (the letter T)

Move the cursor to the center of the window. Notice that the cursor now looks like an "I". Click. You won't see anything, but you just marked the starting point of the text. Move the cursor away and type your name using the keyboard. You can use upper and lower case letters. Most large fonts do not have lower case letters, numbers or punctuation. As usual, Shift Ø will toggle the keyboard from upper & lower case to upper case only. Backspace (the left arrow) works, Clear will erase the line, and Enter will lock in the current line and move down to the next line. Clicking the cursor at a new point will start text at a new point on the screen.

Until you press Enter or Click again, the line is "active" and as long as a line is active you can:

- Pull down the  menu and change the font. (Unless you have a 512K upgrade, fonts are stored on the work disk.)
- Pull down the  menu and change it. You can combine the sizes, for example X3/4 and X4 will give X3 lettering. You can also change the aspect ratio by selecting *Tall* or *Wide*, which double the height or width, respectively. The size is limited by the window size.
- Pull down the  menu and experiment. The styles can be combined in any way. Clicking on *Plain* cancels all the other styles.
- Pull down the  menu and choose that the text be *Right* justified (the clicked point will be the right side of the text), *Left* justified, or *Centered* on the clicked point.
- Change the color of the text. Click on a color or pattern.
- Change the color of the *Outline*, *Shadow*, or *3-D*. Double click on a color or pattern.
- Change from overlay lettering to a cleared box under the text. *Clear Box* will give a white background to the letters.
- Combine any of the above. Some combinations are better than others, and you may want to note down which combinations of font, style, size and color you find pleasing.

Note that if you select a fancy font with several options, do not type too fast, as the CoCo has a tremendous amount of processing to do. You might miss a few characters if you type too fast. You may want to type the line in a *Plain* style and change the style at the end (before pressing Enter or Clicking).

The line remains active until the cursor is clicked at a new location in the window, or the Enter key is pressed. Type can be overlaid with new type. UNDO will remove the last line entered.

TRICK: If you type more than the window allows, text is gently compressed to fit. If you use the backspace, text is decompressed.

TRICK: To make a nice 3-D effect, choose a "Large" font. Double click on black, Click once on white. Pull down the **Style** menu and select 3-D. Now click on the text icon, Click in the window and start typing some text to see the effect.

TRICK: Clicking on the Lasso or **Editing Box**, prior to clicking or pressing Enter will automatically cut a lasso or **Editing Box** around the text. (This feature will make more sense after reading the next section.

There are over 90 additional fonts available for CoCo Max III. In addition, there is an optional package: the Max Edit font creator. This helps you create any fonts of letters or symbols (music, electronic, etc.).

Here is a list of the built in fonts.

CoCo Max Fonts

Each Font can be:

Plain
Bold
Italic
Outline
Shadow
3-D

Woodhaven Plain Font

TOPEKA STYLE

Paris Font

Fort Worth Small

Ft Worth Lge

Quebec Small

Quebec Medium

Quebec Lge

Irvine Small

Irvine Large

Rome Font

Thames Font

Styles can be combined

Note: if you already own "Max Fonts", send us your original font disks. We will send back new disks at no charge. The new disks will work with all versions of CoCo Max.

Editing Box

The **Editing Box** is used to select a rectangular area of the screen so that an operation can be performed on it.

We'll explain this feature with an example.

Double click on the eraser to clear the window. Using the text feature described above, type a few letters (your first name, for example) using a large font, such as Ft. Worth Large.

Press enter to lock in the line.

Now let's pick up an **Editing Box**. To do so, Click on the **Editing Box** icon. Move the pointer to one corner of your name. Drag the cursor to the opposite corner. Make sure your entire name is in the blinking box. Release the button to lock the text. The **Editing Box** is now picked up. It is easily recognized by its "rolling" border. If your name is not completely within the rolling border, Click outside the **Editing Box** or on UNDO and try again.

- First let's *Move* the **Editing Box** around. Bring the pointer inside the **Editing Box** and drag the box around. The pointer changes from a crosshair to an arrow when you are inside an **Editing Box**.
- Now let's *Rubber stamp* it. Move the box around by dragging it, then stop and press the shift key (for about 1/2 second) as many times as you want to create duplicate rubber stamp images of your **Editing Box**.
- Pull down the *Edit* menu. You will see many choices. We'll skip the first three for now (*Cut*, *Copy*, and *Paste*). *Clear* will clear the entire **Editing Box**, but don't do that now. Instead, click on the other choices (*Fill*, *Trace Edges*, *Negative*, *Flip H*, *Flip V*, *Sideways*) and see the effects. Most are self explanatory; just try them.

Size and *Rotate* require a few words of explanation.

Size is used to Shrink and Stretch the area inside the editing box. Select **Size** in the **Edit** drop-down menu. Then move the pointer inside the box and slowly drag in any direction. The contents of the **Editing Box** will be resized to fit any aspect ratio. Release the button to lock the new size. You can resize it without losing detail as long as the **Editing Box** is still picked up.

The corner farthest from the arrow when you press the button remains fixed, while the other three will move. To exit this editing mode, and lock the current size, simply move the arrow outside the **Editing Box** and press the button for



about 1/2 second. You can also Click on **Size** in the **Edit** drop-down menu again to stop sizing. You are still in the **Editing Box** mode and can make the other modifications listed in the **Edit** drop-down menu. If you are done, click again outside the box to lock it.

Rotate lets you turn the **Editing Box** to any of 240 angles (in 1.5 degree steps). When you click on **Rotate**, the **Editing Box** will become square, and a dotted line from the center of the box shows the current orientation. When **Rotate** is selected, this line points directly up. Click inside the box (a longer click is necessary here) to change the orientation. The dotted line from the center will now aim toward the point you clicked. Click (for about 1/2 second) outside the rotate box and you will be back in the **Editing Box** mode. Clicking on **Rotate** in the **Edit** drop-down menu does the same thing. Clicking a second time (1/2 second) outside the **Editing Box** will lock the current screen.



As you have seen, you can make several different changes while using the **Editing Box**. If you use **UNDO**, you will return to the screen as it was before the **Editing Box** was picked up (if the **Quick Edit** on 128K CoCos is not selected). For example, if you **Size**, then **Rotate**, then **Trace Edges**, **UNDO** will **UNDO** all three operations, not just the **Trace Edges**. To allow for this very forgiving **UNDO**, the contents of the **Editing Box** and its original position are saved each time you pick up a **Lasso** or **Editing Box**. This is a powerful feature but with a 128K CoCo the disk access might be a minor inconvenience. You can disable this **UNDO** by clicking on **Quick Edit** in the **Options** drop-down menu.

Note that the pixels under the rotating dotted line of the **Editing Box** are part of the edited area.

Also, all the editing functions in the **Edit** drop-down menu are greyed out unless a **Lasso** or **Editing Box** is active.

SHORTCUT: Clicking on the **Editing Box** while a line of text is active (before clicking or pressing **Enter**) will automatically pick up the text into an **Editing Box**.

SHORTCUT: Double clicking on the **Editing Box** will grab the entire window. This allows the edit functions to be performed on the whole window.

TRICK: Tracing edges several times on letters creates some interesting effects.

Lasso

The Lasso is similar to the **Editing Box**, except that it grabs an object of any shape.

Instead of cutting out a rectangle around the shape, a line is drawn (similar to the Free hand shape) by dragging the cursor around the object. When you release the mouse button the Lasso closes itself and shrinks around the object, picking up only the object.

After an object has been picked up by a Lasso or **Editing Box**, you can switch between the two modes by simply clicking on the appropriate icon. (CoCo Max II users will appreciate this new feature.)

TRICK: When in the Editing mode, the cursor motion is a little jerky. To momentarily return to the smooth action (for selecting patterns, menu entries, etc.) hold the CTRL key while moving.



TRICK: You can use the outline of the object inside the lasso as a brush. In the Lasso mode, drag the Lasso while pressing the ALT key. The trace left uses the selected FILL pattern. This is very useful when a shadow under a shape or object is needed.

TRICK: To grab the smallest possible box around an object, click on **Editing Box**. Cut a box loosely around the object. Click on the Lasso, wait for the border to appear and Click again on the **Editing Box**. The result is the smallest rectangle that includes the object. This is very useful to position text.

TRICK: When in the text mode, Clicking on the Lasso or **Editing Box** while a line is active will automatically Enter the line and draw a Lasso or **Editing Box** around it. It's ready to be moved around, or be processed by any of the **Edit** drop-down menu functions (invert, Trace Edges, etc.).

TRICK: When sizing or rotating a white object that has been lassoed, the shape may become deformed. To prevent this, use Negative in the **Edit** drop-down menu before and after sizing or rotating.

If you have a standard 128K CoCo 3, you will have noticed that the drive goes on at certain times, to load a font, save a screen, or to allow the fancy UNDO, etc.. All these are done using the work disk that should remain in drive 0. (with a 512K CoCo, all this is done at lightning speed in the extra memory. With 128K CoCo's, if you don't need the complete UNDO, you can Click on **Quick Edit** in the **Options** drop-down menu. The disk will not be accessed when the Lasso or **Editing Box** is used. This allows for maximum speed. If you save your picture regularly with **Close/Save**, you can still recover from major mistakes by using **Open/Load**. We will describe this in detail later.

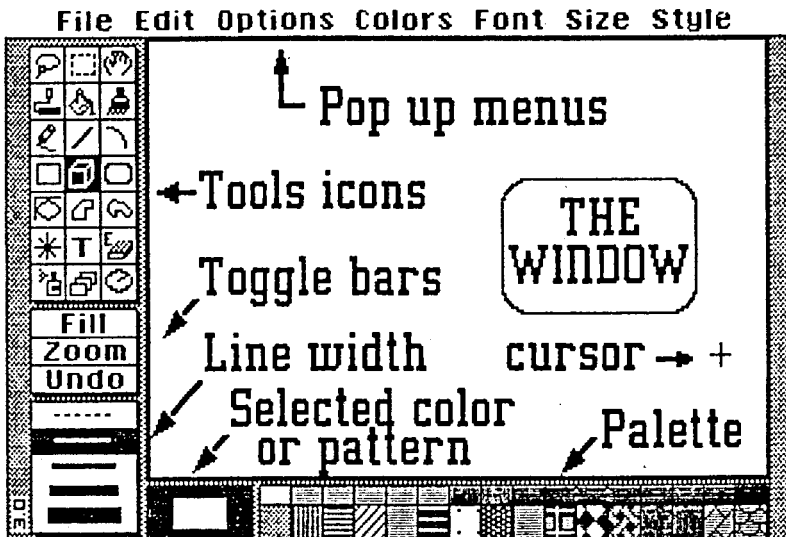
The Clipboard

When an area has been grabbed by the **Editing Box** or Lasso, it can be *Cut* or *Copied* to the "Clipboard". The contents of the Clipboard can be later recalled using *Paste*.

Cut "peels off" the contents of the Lasso (or the **Editing Box**) and puts it in the Clipboard. The contents are no longer in the picture you are creating, and a white area appears in it's place. **Copy** takes the contents of the Lasso or **Editing Box** and puts it in the clipboard without removing it from the drawing. The window remains unchanged.

Paste brings back the previously saved Lasso or **Editing Box**. Simply move the arrow into the Lasso or **Editing Box** and drag it around. Click outside the Lasso or **Editing Box** to lock it where you want. You do not have to *Paste* immediately after you *Cut* or *Copy*. The contents of the clipboard remain until they are overwritten by a new *Cut* or *Copy*. You can *Paste* the same area several times, if needed. The contents of the clipboard remain intact. All the functions listed in the **Edit** drop-down menu are available.

In a 128K CoCo, there is one Clipboard which is on the work disk. On a 512K machine, the Clipboards are in RAM. There are 4 Clipboards, A, B, C and D.



The CoCo Max III Screen

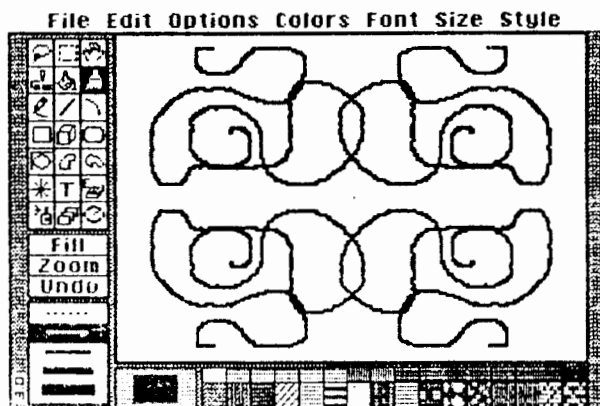
Special features

Grid

When you Click on *Grid* in the **Options** drop-down menu, the cursor will be locked on an invisible *Grid*, spaced every 8 pixels. This "grid" works with most of the shape and line drawing tools. To revert to normal handling, Click on *Grid* again. The *Grid* feature is quite useful to get straight lines or to line up objects.

Brush Mirror

You can do multiple mirrored image of brush strokes by Clicking on *Brush Mirror H* or *Brush Mirror V* in the **Options** drop-down menu. Symmetry can be Horizontal (H) or Vertical (V) or both. *Brush Mirror* works with the Paint brush and the Flowbrush (described later). Try it.



Load Font Set

CoCo Max has an unequalled number of optional fonts. To allow easy installation of optional fonts, *Load Font Set* in the **Options** menu is used. If you are using CoCo Max for text or titles, these fonts increase the versatility of the CoCo Max "typesetting" capability. Over 90 fonts are available in 4 disks. (Max Fonts 1 to 4). A font flyer is available showing all the choices. Using the *Assign Drives* Dialog Box, you can assign a separate drive for the fonts. Detailed instructions are included with the optional font disks.

Colors and Patterns

So far in this manual, we have only discussed patterns and colors in passing. CoCo Max III has very powerful tools to handle patterns, colors, animation, *Color Cycling*, and color mixing. The new video hardware in the Color Computer 3 has made it possible to have pictures that seem to jump right out of the screen with motion and color!

About Color

To understand the differences between "slots" and "colors" in CoCo Max III, it is necessary to understand how the Color Computer 3 handles color.

Any of 64 separate colors are possible, one set with an RGB monitor and a different set with a composite monitor or color TV. Any 16 of these colors can be assigned to the 16 "slots", or screen colors. This means that, for example, the second slot, which normally is yellow, can be changed to any other color simply by using the *Set Colors...* dialog box in the **Colors** drop-down menu. Since drawings on the screen use "slot numbers", not absolute colors, the color of anything on the screen that was yellow will also change.

This makes possible the *Animate* and *Color Cycling* effects, which simply change the colors assigned to some of the slots. Drawing methods take care of the rest of the animation effect.

RGB and Composite

Because colors are not the same on the RGB monitor and a composite monitor or color TV, two Standard color sets are provided. These are called *Standard CMP* (for composite monitors or color TV's) and *Standard RGB* (for RGB monitors). They are available in the **Colors** drop-down menu. This Standard color set is selected to produce logical results with the *Negative* operation in the **Edit** drop-down menu and with the Color Mix modes (discussed later). CoCo Max III starts out with the *Standard RGB* color set; if you aren't using an RGB monitor, your first step should be to select *Standard CMP* from the **Colors** drop-down menu. We will see later that CoCo Max can be configured to power up with the right setting for your system.

Setting the Palette

Any color can be assigned to any slot. Click on *Set Colors...* in

the **Colors** drop-down menu. A unique 64-color menu displays all possible colors at once. A Slot menu at the bottom shows all 16 slots. The lines of random dots that appear in the 64-color menu are a side effect produced by the video chip; ignore them. They are the price to pay for showing the 64 colors simultaneously. We believe that CoCo Max is the only program which manages to all 64 colors on the screen simultaneously.

To set a color, first click on the slot you wish to change. A black box will be drawn around the selected slot, and also around its present color in the 64-color menu. To change the slot's color, simply click on another entry in the 64-color menu. When all the colors are set up as you wish, click on the OK box, or click on Cancel to keep the old colors.

Important: The white box (first box on the left) and the black box (last box on the right) are the colors used by CoCo Max III to draw its own screen, including the Tool box, the Menu bar, and the Line width. If you change them, the CoCo Max screen will also change, try it.

Notice that the Animation effect, if it is selected, turns itself off when you're in the *Set Colors...* dialog box; this allows the *Animate* slot colors to be conveniently set.

Color Cycling

Color Cycling is also set up with a 64-color menu, in the *Cycle Colors...* dialog box. This box has a menu showing the colors for the 8 cycle steps on the left side. Set these colors just as you would the slot colors in the 64-color menu. The effects can be observed in the *Color Cycling* slot in the color menu below the window if the *Color Cycling* is enabled. The *Color Cycling* slot is the sixth slot from the right and is marked with a small white dot on each side.

Color Cycling can be switched on and off by clicking on *Color Cycle* in the **Colors** drop-down menu. Another dialog box that affects *Color Cycling* is the *Cycle Speed...* dialog box. This is used to control how fast the colors change: slow for flashing, medium for flickering, and fast for smooth "glides". Simply click at the point in the control bar that you want the pointer to move to, and observe the effect in the *Color Cycling* slot in the color menu. Suggested effects with *Color Cycling* might be:

- 7 steps of black and one white for a strobe effect
- Random reds and oranges for a fire effect
- Colors alternating with black for a sign that flashes different colors

- A smooth sequence of colors that fade into each other, such as dark blue, medium blue, light blue, white, light orange, medium orange, dark red, and black for a hypnotic shifting effect. (The colors may actually seem to move on a color TV or Composite monitor.)


TRICK: The cycling color slot in the color/pattern menu can be used to draw anything, even text!

Since the 8 colors in *Color Cycling* can be chosen from the 64 colors, not just the 15 selected colors, you can bring up to 8 additional colors to your picture.

Animation

Animation works by rotating a set of colors through 4 slots. By drawing areas of these colors close together in the right sequence, a motion effect is produced. We will first discuss how to set up animation, then introduce methods of producing animated drawings.

Before setting up your choice of animated colors and speed, you might want to switch to the second set of patterns by clicking on the Pattern Selected box. This will display, as the last 8 patterns in the pattern menu, the 8 Animation Patterns. These appear as multicolored horizontal, vertical, and diagonal stripes, which will "move" in 8 different directions once the animation effect is turned on.

Select the *Set Colors...* dialog box from the  drop-down menu. Note that the animation is temporarily disabled, so that these colors can be easily set up. The *Animate* slots are the 4 slots just ahead of the last slot (black). Set up these 4 slots to the desired animation colors: use colors that contrast; or perhaps a gradual change of light to dark of one color, to make the animation effect clear. Other possibilities include making 3 of the slots the same color as the background of the object you wish to *Animate*, and the other slot a contrasting color (i.e. 3 white slots and one black slot). This could be used to show 4 objects, one after the other, if each were drawn in a different *Animate* slot "color".

For example, draw a hammer in four positions and color each with one of the *Animate* slots to get a moving hammer.

Animate speed can be set with the *Animate Speed* dialog box, which is identical to the *Cycle Speed...* dialog box (see the *Color Cycling* section above). *Animate* and *Color Cycling* speeds can be set independently.

To help drawing with animation effects, many special drawing tools are supplied for your use.

The first of these are the *Animate* patterns noted above— these will "move" in the 8 standard directions. Any drawing operation will work normally with these patterns, including figures, text, brush, and spray can. Try spraying an *Animate* pattern on the screen, then lightly spraying a pattern that moves in a different direction over it to produce a "rippling" effect. Anything drawn with the animation patterns can also be *Flipped* or *Rotated*, and the animation direction will also be *Flipped* or *Rotated*. Even sizing is supported.



Flowbrush

Another tool designed especially for animation work is the Flowbrush. This modified brush will switch between the *Animate* "colors" 20 times a second as the brush moves over the screen. The net result of this is that the animation effect will follow the speed and direction that the Flowbrush moved in! (Try using the last "cloud" brush shape in the *Select Brush* dialog box, and moving it slowly for a really surprising effect.)

To use the "one of four objects at a time" animation discussed earlier, the object must be reproduced in each of the *Animate* "colors", each image in a different position. One way to do this with a solid shape might be to Lasso it, and use the Alt key to produce a "shadow" image in each *Animate* color in turn. Another way might be to make several copies of a black object, then use *Subtractive Mix* mode to change their color (discussed later) or just use Paint or Replace Color.

SHORTCUT: Double click on the flow brush to select the brush shape dialog box.

Pattern Editing



Patterns are shown 16 at a time. Click in the Pattern Selected box to see the second set of 16 patterns. Patterns can be modified or new ones created with the *Modify Pattern* dialog box in the **Options** drop-down menu. Notice that you cannot edit the 8 animation patterns. If you try to do this, or try to edit a solid color, the *Modify Pattern* entry in the menu will be greyed out and unavailable. You can edit 24 of the 32 patterns available. Since the patterns are saved with each picture, each picture can have its own custom set of up to 24 patterns.

The *Modify Pattern* dialog box displays a double color menus at

the bottom, to set the two colors in the pattern. All 24 of the editable patterns use 2 colors. It also has a 8 x 8 display of a single pattern "tile". These pattern tiles might be considered to cover the area being drawn on, edge to edge. A large box filled with the pattern shows what the current pattern looks like on a large area and without magnification. This area is updated instantly as you experiment with new dots and color combinations. To change a color in a pattern, simply check which of the two color menus has the present color boxed; then click on what you want to change it to (in the same menu).

TRICK: *Exchanging the two colors with two clicks will reverse the pattern.*

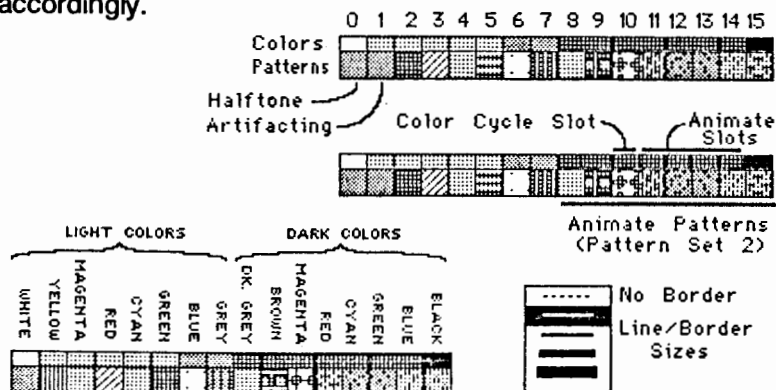
With a color TV or composite monitor, fine detail in the pattern may become invisible, or even the whole pattern changed, as colors change. This is because these devices use the NTSC color display method, which can confuse fine detail and color.

To change the appearance of the pattern, move the pointer into the box containing the magnified view of the pattern. Press the button over the square that you wish to change in color. As long as the button is held down, every square that the pointer passes over will change to this new color.


Once the pattern looks good, click on "OK" to keep it, or "Cancel" to ignore the changes.

TRICK: *If you are using an RGB monitor, new colors that look almost solid can be created using a checkerboard pattern and "mixing" two colors.*

The checkerboard pattern (lower left, first set) is used for greyed out entries in the pull down menus. If you modify this pattern the appearance of the greying will be changed accordingly.




Color Mixing Modes

Three entries in the  drop-down menu affect the way colors mix on the screen.

No Color Mix

This mode causes the colors to cover up the area beneath them with opaque paint. The colors underneath the new colors have no effect.


Additive mix

Additive Mix can be considered to act as a transparency mode or a water color, and functions with all drawing tools, including  and Lasso. With the Standard color set, it can be considered to be the same as mixing paints. For example, yellow plus cyan (which is blue-green, or paintbox blue) produces green. Other useful effects include :

- any color covers white.
- black shows through any color (as if watercolor was brushed over black crayon).
- adding dark grey to any light color changes it into a dark color: for example, yellow becomes brown.
- If you change the standard color set, the mixing will probably no longer mix like colors.

Additive Mix performs a logical OR on the slot numbers.

Subtractive mix

Subtractive Mix could be considered similar to removing a color from a paint, or mixing beams of light. It is not available in Lasso and .

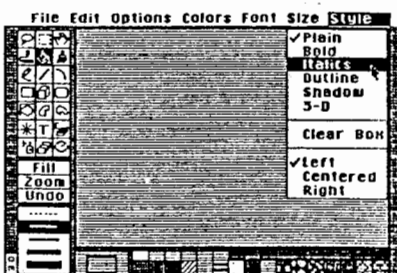
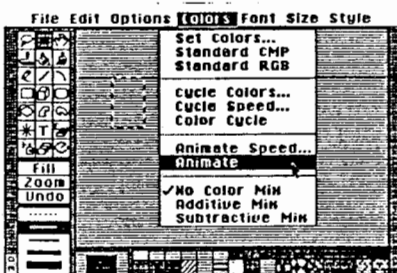
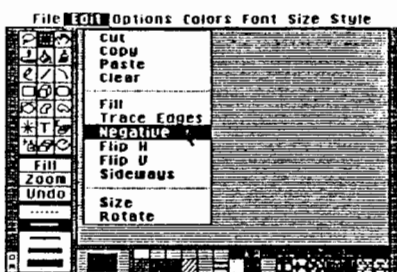
An example of a *Subtractive Mix* would be red and green producing yellow. Here's another list of useful effects:

- applying any color over a black and white object will turn the black into that color, but will not affect the white.
- White shows through any color.
- mixing light grey with any dark color changes it into a light color.

TRICK: Applying the Halftone pattern (that's the checkerboard pattern, which is the left pattern in the first set of patterns) over any colors in Additive Mix mode adds black dots, darkens it. Doing the same in Subtractive Mix mode tend to lighten the color by adding white dots

TRICK: Use the subtractive mix and filled Boxes with no border over text to make multicolor striped text (like the Apple logo).

Subtractive Mix performs a logical AND on the slot numbers.



Drop-down Menu

The Big Picture

So far, all of the drawing tools have been used inside of the drawing window on the screen. However, this window is only a part of a larger picture, or *page*, stored on disk in the 128K version, and in memory in the 512K mode. This page is a full screen wide (320 pixels), and one or two screens high. The height is selected with the *Double Page* option in the **Files** drop-down menu; a check means double-height. Double-height pages will fill an 8-1/2 x 11 page nicely (in double size printing); single-height is the right size for displaying a screen from BASIC or to use with the **CoCo Show** software described later on.

The drawing window is "loosely linked" to the full page. This means that any changes made in the drawing window are transferred to the full page only when necessary. A nice side effect of this is that the full page can serve as an extra level of UNDO. Two entries in the **Files** drop-down menu are supplied to do this: *Open/Load* and *Close/Save*.

Open/Load retrieves the area of the page corresponding to the drawing window. Thus, it restores the picture to the last version that was saved to the page.

Close/Save will save the current window to the page. So, to use this extra UNDO level, save your picture as often as desired to the full page using *Close/Save*. If a bad error was made, you can retrieve the last version with *Open/Load*.

Since with 128K of memory, the picture is stored on the work disk, it's quite possible to continue editing the same picture at the next session without loading a picture file. The last version of the picture will still be on the work disk, and you can retrieve it with *Open/Load*, if it has been saved with *Close/Save*.

The same technique can be used with 512K by holding down the CTRL key when CoCo Max III is started up until the screen goes white. This prevents the program from clearing the page or the RamDisk. (Of course, if the computer was turned off since the last time CoCo Max III was run, there is no data in the memory.) This is useful if you need to kill a file or format a disk.

Another important point about these functions (as well as *Load...* and *Save As...*) is that they also save all patterns, colors, *Animate* and *Color Cycling* data, and the page height. The window position is also saved. This means that if you plan to use the extra UNDO level, the *Close/Save* function should also be used after setting colors or modifying a pattern.

Some operations automatically perform the *Close/Save* operation if it's needed. This includes *Move Window* (the hand shaped icon) except when in ZOOM mode, entering the Scrapbook Mode, or using *Scroll* and *Show Page*.

Move Window

The drawing window can be changed to a different area of the full page by using the *Move Window* tool. This can be used to "drag" the image on the screen in different directions to reveal new areas of the picture. Simply position the tool and hold the button down to "grab" the picture, then slowly move the tool to Drag the picture. What happens now depends on how much memory your computer has.


With 512K of memory, the picture will slide with the tool, showing new areas as the hand moves.

With 128K, however, the full page is on the work disk and cannot be loaded fast enough to be shown instantly. Instead, dragging the picture pulls in white areas. Once the button is released, the proper area of the page is loaded up from the disk to the display to fill the blank sections. The first time the *Move* tool is used, there may be a few second's additional delay after the button is released, as any changes to the present picture are first saved to the disk.

If you do use *Clear Buffer* before starting your new picture, you may find remnants of an old picture when using *Move Window*. On 128K this picture data is on the work disk.

Move Window performs a similar function when you are in the ZOOM mode. The magnified view can be Dragged so that various parts of the full-size screen window can be worked on in detail. The present ZOOM window position is preserved when ZOOM mode is exited, making it very convenient to toggle between full-size and ZOOM modes. Just click on the ZOOM toggle to return to the same area. (ZOOM mode is automatically exited by some menu operations.)

Scroll Page

The full page may be viewed directly with the *Scroll Page* function in the  drop-down menu. The full picture will appear without the tools border. With a double-height picture, it can be "scrolled" up and down with the joystick or mouse to show

any part of the double screen. Clicking the button will exit back to the normal screen.

Show Page

This gives a view of the double page (if selected), and allows selection of the area shown in the window. This *Show Page* function is in the **Options** drop-down menu. A "squeezed" view of the full picture (with 128K there will be a slight delay while *Close/Save* is performed) is shown. Then, a "frame" box is drawn to show the present location of the window. (This frame actually inverts the colors under it, so it might not be the same color in all places.) This frame can be Dragged (just like in *Editing Box*;) to a new location in the display box. Clicking outside of the display box will exit the *Show Page* operation and, if the frame was moved, will load up the new area of picture. The selected area may require some fine tuning with *Move*, as moving the frame one dot in the compressed picture window moves several dots in the full page.

A note about single and double height pages: the display box size for each of these is different. It is quite possible to be working in the bottom half of a double-height page, and then to set the size to single-height. In this case, the frame box may appear below the bottom of the display box; just click in the frame, and it will be reset correctly.

SHORTCUT: Double Clicking on the Hand (Move Window) icon will do a *Show Page*.

Show Page



Clear Buffer

The full page can be completely erased to white with the *Clear Buffer* operation in the **Files** drop-down menu. An alert box will pop up first to make sure that you actually wanted to do this, then the page is cleared. The present colors, animation/ cycling data and patterns are saved.

This operation should always be done first on a new work disk, as the page is originally filled with random data.

Saving and Loading Pictures

CoCo Max III has a powerful and efficient disk and file interface section. This includes "point and click" picture loading, truly effective multiple drive use, and a unique compressed file format that can more than triple the number of pictures stored on each disk.

Assign Drives Dialog Box

The *Assign Drives* dialog box differs in the 128K and 512K versions. In both cases, however, they allow you to assign different types of disks or files to different disk drives, reducing the need for disk swapping. (Of course, if you only have one disk drive, just assign everything to drive 0. You will have to swap disks.) The 512K memory version also supports 4 Clipboards and an internal RAM Disk that uses some extra memory as a fast, built-in disk drive.

The categories that can be assigned to the drives are:

Pictures: for saving and loading picture files.

Scrapbooks: for saving and loading scrapbooks (described later).

Fonts: this drive should contain the optional font disk. To use the original font set, it should be assigned to the same drive as the Work disk (in 128K) or the RamDisk M (with the 512K version).

Clipboard: In the 512K version this selects one of the 4 Clipboards: A, B, C, or D. With 128K, it selects which drive contains the Clipboard buffer. Normally, this would be the same drive as the Work disk, but assigning it to an extra drive would allow the use of extra Clipboards.

Work: Not used in the 512K version: this is the drive that holds the work disk. The work disk contains the full page buffer, the standard Clipboard, the edit restore buffer, and the original set of fonts and the ORIGINAL font overlay file.

Normally, the Clipboard and Font disk categories are also assigned to the same drive as the Work disk.

To select a new drive for a category, just click on the wanted drive number in that category row. (The "M" drive in 512K is the RamDisk). Exit the *Assign Drives* dialog box with OK or Cancel. Some suggestions for using *Assign Drives*: If you have only one drive, the drive numbers are preset for you on drive 0.

However, if you have one drive and 512K, load up commonly needed scrapbooks, etc, reassign the drive to "M", and save that file

into the RamDisk. If the RamDisk is full, it can be emptied with the *Clear RamDisk* entry in the **Options** drop-down menu. If you have more than one drive and 128K of memory, it would be best to reassign Pictures and Scrapbooks to extra drives, and leave the work disk in drive \emptyset .

Loading Pictures

To load a picture, insert the disk containing the picture into the Pictures drive (selected with the *Assign Drives* dialog box) and click on *Load...* in the **File** drop-down menu. A list of all the pictures on the disk will appear. (A picture file is assumed to have the filename extension /CM3.) The drive number and amount of free space (in granules) is shown on the bottom right of the dialog box.

If all you wanted to see was the directory of the disk, exit at this point by clicking on the "Cancel" bar. Otherwise, click on the filename that you want to load. (You could have typed in the name and pressed the Enter key, too.) The picture will now be loaded and decompressed. If you have 512K of memory, that's all there is to do. With 128K, the computer prompts you to insert the work disk. Press the Enter key or click on OK when it is in the work drive (with multiple drives, you'll probably have the work disk in a different drive, so just press Enter right away.)

Saving a picture

Usually, you will save your pictures on a "picture disk", which is simply a blank formatted disk. Saving a picture requires a name for the file. The *Save As...* dialog box will accept a new name or use the last filename. When a picture was saved or loaded previously, the file's name was saved and will appear in the dialog box's textbox. Simply press the Enter key or click on *Save* to use it. (So the *Save As...* dialog box also can be used to remind you of your picture's name.) Otherwise, just type in the name; the old name will disappear when the first character is typed. Use the Left Arrow key to backspace, and *Clear* to delete the whole name. Press the Enter key or click on *Save* when done. To use upper case letters only, press Shift- \emptyset .

All the Patterns are saved with each picture file, and loaded with a new picture file. Patterns are also saved and loaded with *Close/Save* and *Open/Load*. This means that if you plan to use *Open/Load* as an extra UNDO (see the section later on this), be sure to use *Close/Save* to save any modified patterns!

After this the 512K version will ask you to be sure that the picture disk is in its drive, then save the picture.

With 128K, the work disk should have been in its drive at the start (if not, the computer will remind you to insert it). After loading the picture into memory, the Picture disk (that is, the disk you wish to put the picture on), is requested. When permission is given to proceed (by clicking on OK or pressing the Enter key) the picture is saved to the disk. Finally, the computer will need the work disk again so that it can restore the drawing window. If you have a two drive system, keep the work disk in drive 0 and the picture disk in drive 1 to avoid disk swapping.

Always keep a spare formatted disk for your picture files, as you cannot *DSKINI* or *KILL* from within CoCo Max. If you are caught without a formatted disk, and your disk is full, you won't lose your picture if you use the following procedure:

128K CoCo: Use *Close/Save* in the **Files** drop-down menu. Then press the reset button. Use *DSKINI* or *KILL* to free up some disk space.

Now start CoCo Max again. Before you do anything else, Click on *Open/Load* in the **Files** drop-down menu. Your picture will return.

512K CoCo: Use *Close/Save* in the **Files** drop-down menu. Then press the reset button. Do not turn the computer off. Use *DSKINI* or *KILL* to free up some disk space. Now, type *RUN"CM3"*. Hit ENTER, then hold down the CTRL key. When the CoCo Max is loaded, before you do anything else, Click on *Open/Load* in the **Files** drop-down menu. Your picture will return.

SHORTCUT: You can always check the amount of free space on, or the directory of, your picture disk by Clicking on *Load...* in the **Files** drop-down menu. Exit with *Cancel*.

If errors (such as not having the work disk in the drive when needed) occur with the 128K version, the drawing window may become filled with "garbage". Just continue to follow the computer's instructions if it gives you any. Otherwise, use *Open/Load* to restore the picture.

Screen Dump to Disk

Whatever is on the screen can be saved at any time exactly as it is by pressing the combination "shift" and "up-arrow" keys (Hold shift down while pressing the up-arrow key). A full screen will be saved on the picture disk with the name **SCREENxx**. (xx is the screen number and will be incremented automatically.) As you save subsequent screens, CoCo Max looks at the picture disk and assigns the next screen number available.

To save the picture itself, without the border, first Click on *Scroll Page* in the **Options** drop-down menu. Otherwise, the screen will be saved exactly as shown, including the tool box, palette, cursor, etc. **SCREENxx** can be recalled using the *LOAD...* function in the **Files** drop-down menu.

Clear Ramdisk

This function is available in the **Options** drop-down menu. On a 512K CoCo, the RAM disk is completely cleared.

Picture Files

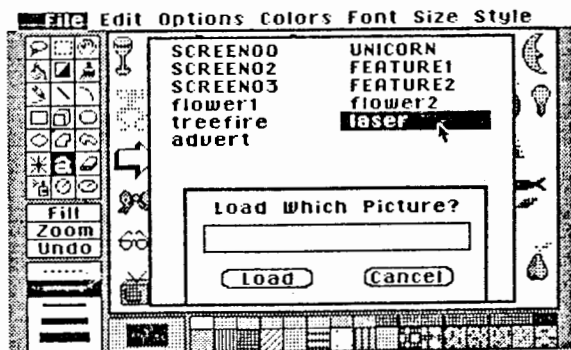
A single screen (equivalent to an HSCREEN 2 (16 colors and 192x320 resolution) takes 14 granules of disk space. This means that you could put a maximum of 4 single screen pictures on a disk. If you do a directory of the demo disk, you can see that the average size of a picture is about 5 granules, even though most screens are very intricate and detailed. The Demo disk holds 11 pictures plus the CoCo Show and Demo programs. A sophisticated multidimensional algorithm was developed for CoCo Max III. The size of a compressed picture file depends on whether a picture is single- or double-height and how complex and full of detail it is. We'll give some sample picture file sizes for single height pictures. Multiply by 2 for double-height pictures:

A blank or very simple picture: 2 granules.

A picture with mostly thick lines, simple patterns and solid colors: 4 to 5 granules.

A very detailed picture with lots of complex patterns, spray can work etc: 6 to 9 granules.

The maximum size for a single-size picture file is 14 granules. Double these sizes for double-height pictures.



Scrapbook Mode

The Scrapbook mode temporarily causes CoCo Max III to "forget" that it is linked to the full page picture, and to do all its work on the screen only. The only way that the full page can be affected by anything done in the Scrapbook mode is through the Clipboard: items *Cut* or *Copied* in the Scrapbook mode can be *Pasted* onto the picture. Scrapbook mode can be used in two ways: as a "scratchpad", or as an "artwork file".

To use a "scratchpad", just click on "Scrapbook Mode" in the **Files** drop-down menu. (On 128K systems, the disk will go on.) If you look at the menu again, many of the entries are greyed out, and a checkmark shows that CoCo Max is in the Scrapbook mode. Now you can do whatever you wish with the screen: for example, clear it (double-click on the eraser icon) and draw a figure to *Paste* onto the main picture. You can try out drawing techniques that might jeopardize your main picture. It's like having a second CoCo Max within the first.

When you're done, make sure anything you wish to save has been *Cut* or *Copied* to the Clipboard, and click on Scrapbook Mode again to get back to the main picture. (With 128K, the work disk will be needed so that CoCo Max III can "remember" the old picture.)

Scrapbooks can also be loaded and saved, just like picture files. These can serve as sourcebooks for advertisement artwork, drafting symbols, or just small pictures. Simply load up the scrapbook, use Lasso or **Editing Box** to *Cut* the wanted item to the Clipboard, and exit scrapbook mode. Then it can be *Pasted* onto your picture. The "Glypic" scrapbook supplied with CoCo Max III contains assorted small pictures, but you can draw your own: just make up a screenful of whatever you like, and use *Save Scrapbook* from the **Files** drop-down menu to save the window. Scrapbook files are compressed, just like picture files, and take only 2 to 4 granules of disk space. They use the file name extension *"/SBK"*. Colors, *Animate* data and patterns are not saved in the Scrapbook mode.

Scrapbook files of small symbols can be considered as "quick and easy" clip art files that anyone can make. You can also create, with the optional Max Edit, a series of "rubber stamps" directly accessible from the keyboard. Use it for logos, architecture, etc..

Configuring CoCo Max III

So far we have used CoCo Max as it came out of the box, but CoCo Max can be configured to print out to many different printers. The **CONFIG** program will allow you to customize your CoCo Max to your particular system. Printer, baud rate, type of monitor used, memory configuration and drive assignment will be automatically set when you run CoCo Max.

When the *Print* function in the **Files** drop-down menu is grayed out, this indicates that CoCo Max has not been Configured to any printer yet.

If necessary, CoCo Max III can be reconfigured whenever your system changes. (Different printer, 512K upgrade, switch to RGB monitor, second drive, etc.)

To Configure CoCo Max:

- Put a backup in drive 0 *without* a write protect tab.
- Type **RUN"CONFIG"**
- Answer the questions and choices.
- When the configuration is over, put a write protect tab on your configured disk.

The drive assignment chosen when configuring can be overridden easily. Use *Assign Drives* in the **Files** drop-down menu.

	Drives
Work Disk	0 1 2 3
Clipboard	0 1 2 3
Pictures	0 1 2 3
Scrapbooks	0 1 2 3
Fonts	0 1 2 3

128K Memory- Assign Drives
Dialog Box

	Drives	RAM
Pictures	0 1 2 3	M
Scrapbooks	0 1 2 3	M
Fonts	0 1 2 3	M
Clipboard	A B C D	

512K Memory- Assign Drives
Dialog Box

Printing your Pictures

CoCo Max III's printing function supports the display of colors as "halftone" shades of grey. Five shades are available, but there are 16 different slot colors, so some of these will show up as the same shade. (Note that the halftones are assigned to the slots, NOT the colors they contain.) This might cause a problem when printing out some pictures, as areas might be the same color or the wrong shade. This difficulty can be avoided by recoloring or by careful use of the colors when drawing a picture meant for printing, such as a poster. Fine detail in a light color might get missed in a single-size printout, however black and white are always clear enough for technical drawings. By using only white, yellow, light and dark grey, and black in your picture, it is easy to produce accurate five-shade printouts.

When printing color pictures, Slot 0 prints as white, slots 1,2,3,4 and 5 print as light grey, slots 6 and 7 print as medium grey, slots 8,9,10,11,12,13 and 14 print as dark grey and slot 15 prints as black. This assignment is valid regardless of the actual colors in the slots.



Printouts can be small or large (using the *Double Size* option in the **Files** drop-down menu). The proportions might not be exactly square: circles might look slightly squashed, depending on what printer you have. Printouts can also be darkened with *Double Strike*: the printer runs over the lines twice. Note that only certain printers support *Double Strike* while printing in the graphic mode.

The full page is printed out with the *Print* function in the **Files** drop-down menu.

Press the Break key at any time to stop the printout, or in case the printer doesn't respond to the computer.

If your printer is not on the list, you will have to do a bit of experimenting. Configure CoCo Max and choose a printer that seems compatible with yours. Then run CoCo Max and do as follows:

- Select single size, single strike in the **Files** drop-down menu.

- Make sure you reset your printer (turn it off for a few seconds) and that the baud rates are set correctly.
- Press Shift Right-Arrow to do a *Print Screen*.
- Press the BREAK key to stop the printing if it's erratic.

You can reconfigure your CoCo Max disk as many times as you need, so you may try it with the different printer drivers, to test them.

In any case, do not use the 9600 baud setting first. Select 600 baud. When everything works fine, you can then try higher baud rates. Make sure you reset the printer (turn it off for a few seconds) between each attempt. With serial printers, check the dip switch setting in your printer for the correct baud rate.

Additionally, check the following:

- If your printer is in the IBM mode, use the proper driver.
- Select the standard pica width (10 cpi), if your printer offers a choice.
- Select Carriage return *with* linefeed.

Verify that the baud rate set on your printer or on the serial to parallel interface (if using a parallel input computer) are set to the same rate that you just selected with the CONFIG program. Some serial to parallel interfaces require that you press a reset button on the interface.

If you can't get a printout using any of the drivers, we won't let you down. Here is what can be done:

Solution 1: Send us a self addressed envelope with your printer name on the top left, and we will mail you a printer driver as soon as it's developed.

Solution 2: If your printer manual does not scare you and you can edit a BASIC line, you may be ready for the "Driver development kit". No machine language is needed. This little gem will help you, with a little tinkering, develop a driver for just about any printer capable of dot addressable graphics.

It took a lot of effort to develop this tool, so we have to charge a little (\$19.95 + \$3 S&H), but we will gladly refund it in full if you send us a printout with the printer setting so that we can share this information with others.

This will allow you to have a working system, and to get CoCo Max working with less popular or out of production printers.

Solution 3: If your printer is not very common and you don't want

to wait or you are not up to tinkering with our "Development Kit", send us your printer with its manual. In a couple of days we will return them to you at no charge, with a working driver. Call the Tech Line, 203 656-1806, before you send your printer. Solution 4: Consider purchasing a latest generation Epson, Star, or Radio Shack printer. Their amazingly low cost and vastly improved performance (print quality, speed, etc.) might be worth the investment.

Color Printing

The CGP-220 became very popular when Radio Shack drastically dropped its price prior to discontinuing it. We are putting the final touches on a remarkable driver capable of 125 colors. This allows you to match the 64 RGB colors and the 64 Composite colors. Call us for price (about \$19.95) and availability (soon). If you own a CGP-220, CoCo Max III with the color driver will make it shine.

Troubleshooting

Software

We very carefully prepare the CoCo Max disks. If your CoCo Max disk or the Demo Disk fails to load, check that you are following all the instructions carefully. If possible, try to load the disk in another system. (A friend's or at a local Radio Shack store). If all fails, simply return the original disk with a quick note "Defective, please replace." Please do not call, you do not need any authorization number. We will replace your disk right away. Send the disk only. keep the interface.

Hardware

Your Hi-Res interface is tested twice before being shipped to you. If the CoCo Max screen loads but you cannot get control of the cursor, check the connections carefully. Is it plugged into the right joystick input? Try to use a different joystick or mouse. Try it in a different system if possible.

If you cannot fix the problem, simply return the Hi-Res interface to us. We will repair or replace it right away. You do not need an authorization number.

All shipments should be addressed to:

COLORWARE
Quick Replacement
242 West Ave
Darien CT, 06820

If you have any questions call our Tech Line at 203 656-1806 from 9 to 5 Eastern standard time. Please have the serial number on your interface handy.



CoCo Show and Demo

The **COCOSHOW** program is on your Demo Disk.

To create a slide show with CoCo Show, copy the program onto a blank, formatted disk. Add your choice of single height pictures.

If you have a double height picture, only the top half will be shown. Leave 1 granule on the disk for the **SAVESEQ** file which contains the data for sequence order and timing.

An easy way to create single height pictures from CoCo Max is to use the **Save Screen** feature, triggered with the **Shift-Up** arrow.

When your picture is ready for saving, select **Scroll Page** to see it without the CoCo Max border. Press **shift-up-arrow** and the screen is saved to disk. Keep track of the screen contents, as the name of the files will be **SCREEN01**, **SCREEN02**, **SCREEN03**, etc..

You can also save single height pictures with the **Save As...**

function in the  drop-down menu.

When CoCo Show is first run, you can either **Run** the last sequence file created (containing the order and time to show each

picture), make a **New** one, or **Edit** an old one. When **New** or **Edit** is used, the computer shows a list of all the picture files

(recognized by the **/CM3** extension) on the disk. **Edit** also updates the list of pictures on the disk, removing any that were deleted.

After entering the sequence number (that is, the menu entry number on the left side of the screen) of the file whose data you

wish to change, you can set whether or not to show that picture, how many seconds to display it (5 is minimum), or even swap the

order of the entries by entering the sequence number where you want it to be placed. Once all the parameters are correct, enter

"S" as the item number to save the sequence file. To see the show, type **RUN"DEMO"** or select **R** in the CoCo Show menu.

When the sequence file is run, all **Color Cycling** and animation are active, even while the next picture is being loaded. A "wipe"

effect dissolves to the new picture as soon as it's loaded. Press any key to advance immediately to the next picture (if the time

on each picture was set to, say, 1000 seconds, you'd have a slide show). The **Break** key will restart the show with the first

picture. The **P** key will pause indefinitely. Pressing any key after the **P** will resume the sequence. The animation and **Color**

Cycling can be turned on and off by pressing the **A** key. To exit the CoCo Show or the Demo, press the **Reset** button.

The Demo program is a simple run-time version of the CoCo Show program.

Support Software

CoCo Max III comes with several support programs:

WDMAKER: generates work disks for 128K systems. See page 3

COLTRANS: translates pictures (in memory or as a file) between the RGB and CMP colorsets. It updates the present slot colors or the colors (both the slots and the *Color Cycling* tables) of the file that you specify. The file will be directly modified, so it probably should be a copy of the original picture file. Note that the color translation may not be exact, as many colors in each set have no exact equivalent in the other. Reload the file into CoCo Max III and use *Set Colors...* to fine-tune them.

TRANSLAT: translates CoCo Max and CoCo Max II pictures and screen dumps and other black and white (PMODE 4) pictures into CoCo Max III pictures. It can also read and write CoCo Max III compressed picture files to and from the normal BASIC (HSCREEN 2) screen, so you can use them in games, etc.

CoCo Max II pictures and screen dumps can be loaded right off a disk. The program makes a list of all files of the correct type on the disk, then asks you to enter the number of the desired selection. Screen dumps are saved as single height pictures and CoCo Max II pictures are saved as double-height pictures. Other PMODE 4 pictures should be loaded into memory before running TRANSLAT, and the "in memory" option should be selected. These will be single height pictures.

Black and white pictures can be translated in two ways: as a CoCo Max III picture in black and white, or as a multi-colored picture. This last option preserves the "artifacted" colors that CoCo Max II patterns produce on color TVs. Black and white gives the most detail, but if the picture was drawn in color, the "artifact" color option should be selected.

Color pictures are loaded in much the same way that CoCo Max II pictures are loaded. A mini-directory is produced for you to select from. The picture will be displayed as it is loaded, and will continue to be displayed until you press Enter. A listing of the 16 slot color numbers will be produced.

If the picture is a double-height one, you will also be asked whether you wish to load the top or bottom half.

A just-loaded color picture or a picture drawn by BASIC in the

HSCREEN 2 mode can also be saved to a CoCo Max III file. In this case, the colors saved for the picture will be the last 16 in the DATA statement in line 100, or those of the last picture loaded. Any animate or color cycle data will also be the same as the last picture loaded. Thus TRANSLAT can also be used to copy single-height pictures.

Technical note: The Work Disk

The following description is for the more technically inclined readers. It will give a better grasp of what the work disk in the 128K version of CoCo Max III (and the internal buffers, in the 512K version) are for and how to use them.

The work disk contains several buffers and the standard set of fonts, including the original font set overlay. It is designed for a 128K CoCo Max III, so that the disk will need to be removed on a single drive system only if pictures need to be saved or loaded, or a new set of fonts are used.

The buffers in the work disk are:

- The full page buffer. This represents a double height page and takes up to 60K (14 tracks).
- The edit/lasso UNDO buffer. this saves the screen at the start of an edit/lasso cutout, and allows for proper UNDO performance. While the full page buffer could also have been used for this, using a dedicated buffer is faster and allows for the scrapbook mode. In scrapbook mode, the program disables access to the full page buffer, but otherwise works normally.
- The clipboard. This needs no explanation. The clipboard buffer and the Edit UNDO buffer are each 20K, and together use 9 tracks.

These buffers are stored in a fashion that allows for maximum access speed (over 3x as fast as a file would be). This is important, considering the buffer size. The sector access sequence is "scrambled" to increase the speed on normal BASIC disks (gap=4). The buffers reserve granules in the directory to prevent problems with file overlap. Each buffer also has a unique code at its start, so that CoCo Max III will not read or write a non-work disk.

Also on the work disk are data areas that contain the same data as is saved with a picture: the color set, cycle sequence, *Animate* and *Color Cycle* data, window position, and picture size.

The full page buffer is used to keep a record of the full page while the program works on a small area of it. CoCo Max III keeps a record of changes and only performs this saving as needed. All colors, patterns, etc. are also saved at this time. (This save can be forced with *Close/Save* in the **File** menu.)

The correct position of the full page is loaded after a *Move* or other method of changing position. This, too, can be forced, along with the loading of saved colors, patterns, and position, with the *Open/Load* command in the **File** menu. This command is a good way to UNDO Color or pattern changes, as long as you haven't Closed or Moved the buffer. Using this when the program is first run will allow you to continue to edit the picture in the full picture buffer on the work disk. (Use *Close/Save* before you exit the program if you wish to be sure the picture is as current as possible.)

When the entire picture is loaded into memory (for printing or saving, for example) most of CoCo Max III's internal buffers are destroyed. Thus, the part of the picture that you were editing must be reloaded from the work disk. For example, after printing out the picture, the program wants to access the work disk. If you had the wrong disk in the drive, and selected "Cancel" when asked for the work disk, the window would fill with random data. Insert the work disk and Click on *Open/Load* to get the picture back.

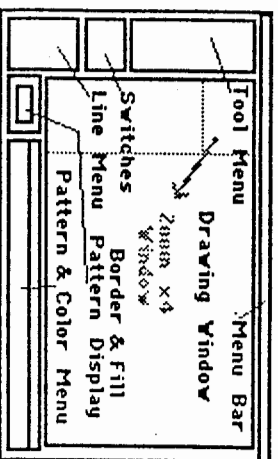
In the 512K version of CoCo Max III, all these buffers, along with the standard set of fonts, are in memory. Also, a total of 4 clipboards are available. The extra memory makes for extremely fast operation of the program, as disk access is not required.



Picture taken with optional DS-69 digitizer

CocoMax III Quick Reference Card

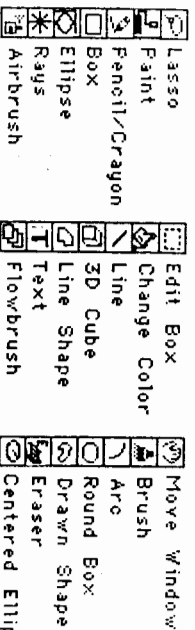
Screen Areas:



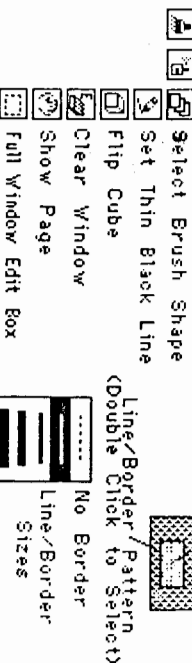
Text Styles:

Plain
Bold
Italic
Outline
Shadow
3-D

Icons:



Double-Click Icons:



Original Cube



Editing Keys:

Clear = Erase Object
Ctrl = Steady Pointer
Alt = Shadow
Shift = Stamp



Screen Dumps:

Shift ↑ = Dump to Disk
Shift → = Dump to Printer

General Text Entry:

← = Erase Last Character
Enter = Accept Text
Clear = Erase All Text

In an "Insert Disk"

Dialog Box:
Enter = OK
Break = Cancel

Save Picture As...

Filename CH2

Save Cancel

Please insert
File disk...

OK Cancel

Standard Colors

Printer
Halftones

Animation/Cycle Slots

Animation Direction



Cycle Animate
Slot Slots



Limited warranty

Your CoCo Max is warranted, to the original consumer only for 90 days, to be free from defects in materials and workmanship under normal use. Our obligation under this warranty is limited solely to repairing the product without charge. Please send any defective units to us insured and properly packed to avoid loss or damage during shipment. Colorware is not liable for incidental or consequential damages due to malfunction of this product, and any recovery may not be greater than the purchase price of this product.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Colorware shall have no liability or responsibility to the purchaser or any other person regarding liability, loss or damage caused or alleged to be caused by the use of the programs or the manual. This includes, but is not limited to, any loss of business or anticipated profits resulting from such loss of business, or any interruption of service or consequential damages whether physical, monetary, material, or of any other kind resulting from the use of such programs or this manual.

Important: Opening the Hi-Res Module voids this warranty.



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