

EPYX

D E S I G N E R S E R I E S

ART & FILM DIRECTOR™

Instruction Manual



Art & Film Director
for the Atari® ST™

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INTRODUCTION

Welcome to *Art & Film Director*!

Art & Film Director is a powerful, full-color, graphics and animation software package brought to you by Epyx. In this package you receive two programs--*Art Director* and *Film Director*. With *Art Director* you'll create beautiful characters, scenes, and storyboards. Then add "life" to your creations with *Film Director*, using techniques similar to those used in famous animated films. Finally, put your animated films on video tape to enjoy with your family and friends.

If you're serious about the exciting field of computer art and animation, or if you just want to have fun, *Art & Film Director* is the graphics and animation package for you!

Art Director

The *Art Director* program supplies you with a large canvas, a toolbox of artist's equipment, and a menu bar of options to help you make your painting "picture perfect." You can use up to 16 of the Atari ST's 512 colors in each painting. With color cycling, you can use up to 128 colors!

Art Director is easy to use. Drawing tools let you paint in broad strokes or finely adjust a delicate line. You can create perfect shapes and fill areas with brilliant color with just a few mouse or keyboard moves.

In addition, the program is loaded with special features. For example, you can make an image look three-dimensional, wrap it around a cylinder, even set it spinning on its axis and bouncing around the screen!

Here are just some of the features you'll find in *Art Director*:

- Drawing pencil with a wide selection of points in different sizes and shapes.
- Paintbrush that you can make from any part of your painting, then easily duplicate, modify, flip in any direction, and use to fill other images.
- Shape tools for drawing perfect circles and squares as well as lines, rectangles, ovals, and polygons.
- Palette of 512 brilliant colors.
- Palette options that let you easily modify colors to achieve lighter and darker shades.
- Multiple canvasses that you can use at the same time--for example, to swap or duplicate colors and images.

-
- Images can be imported from *NEOchrome* and *DEGAS Elite* and used just like original *Art Director* images.

Film Director

The *Film Director* program offers you the latest in modern electronic animation techniques. Using *Film Director*, you can assemble images into animated art pieces that move lifelike around the screen. *Film Director* provides you with toolboxes and menu options so the features you need are always just a keystroke or mouse move away.

Here are some of *Film Director*'s features:

- Imports and animates *Art Director* images.
- Includes graphics on disk that can be assembled into animated figures and backgrounds.
- Supplies animation shortcuts that let you set the beginning and end of an action, then create all the poses in between.
- Lets you add text to your scenes.
- Includes files of sound effects for adding a musical dimension to your film.

Using This Manual

The *Art & Film Director* manual contains complete information on using both *Art Director* and *Film Director*. Following this introduction you'll find a section on hardware requirements, loading instructions, and computer controls for both programs.

The *Art Director* section begins with a hands-on learning session. Here you work with the program's most frequently used features to create a complete scene on your canvas. A reference section follows, containing detailed information about every *Art Director* feature, including the keyboard alternatives to mouse commands.

The *Film Director* section provides an overview, a learning session in which you become familiar with the program's features while creating an animated figure. The reference section that follows provides detailed information on *Film Director*'s animation tools and menu options, including how to import and use images created in *Art Director* and how to video-tape your films. A listing of keyboard alternatives to mouse commands ends the section.

You can learn how to use *Art & Film Director* easily and quickly by reading this manual and experimenting on your computer. Work through the learning sessions from beginning to end. They're designed to teach you how to create images in *Art Director* and animate them in *Film Director*. Practice using the tools and options, and don't be afraid to experiment!

Getting Started

System Components

You'll need these components in your computer system to use *Art & Film Director*:

- Atari ST computer with mouse
- TOS (operating system) in ROM
- Minimum 512K RAM (1 megabyte recommended)
- 3 1/2-inch floppy disk drive (single-sided or double-sided)
- Second floppy disk drive or hard disk drive (optional)
- Color monitor

If you're going to video-tape your *Film Director* films, you'll also need these components:

- Color composite output port on your ST, or RGB-to-color composite converter
- Video cassette recorder (VCR)
- Computer-to-VCR cabling

For instructions on connecting your VCR to your computer, see **Taping Your Art and Films** in this manual.

Art & Film Director Disk Contents

You receive four disks--two *Art Director* disks and two *Film Director* disks--in your *Art & Film Director* package. Each two-disk set contains the program and graphics files for the program--*Art Director* or *Film Director*--listed on its label.

Art Director Disk 1 contains the *Art Director* program file ARTDIR.PRG. The .ART files on the disks are graphics and font files you can use as models or practice canvasses, and for adding text to your paintings. Use the program ARTCONV.PRG to convert graphics files from *NEOchrome* and *DEGAS Elite* to *Art Director* files. The program ARTSHOW.PRG lets you run a slideshow of your .ART files.

Film Director Disk 1 contains the *Film Director* program FILMDIR.PRG. The .FLM files on the disks are animated films you can use as models. Use the program MUSICSEL.PRG and the sound (.MUS) files to add sound effects to your animated films. The program FILMSHOW.PRG lets you show your films.

Copying the Disks

For your convenience, the *Art & Film Director* disks are not copy-protected. As the owner of the software, you are encouraged to make backup copies of these disks for your personal use. Making and using backup copies protects you from accidentally erasing the original program disks.

The *Art & Film Director* disks are single-sided, and can be copied to single-sided or double-sided floppy disks. To avoid confusion later, label and date your backup disks as soon as you make the copies. Consult your Atari computer manual for full instructions on copying disks.

If you have a hard disk drive connected to your system, you can set up an *Art & Film Director* directory (folder) on it and copy the floppy disk files to that directory. Then you can run the programs from your hard disk and easily save your paintings and animations. Refer to the manuals supplied with your computer and hard disk drive for complete instructions.

After copying the original disks, store them in a protected place. That way, the programs and supporting files will remain safe and available. Always use your backup copies as your working disks.

Art & Film Director is protected by the copyright laws pertaining to computer software. This means that copying the program disks for any reason other than an owner's personal use and backup purposes is illegal. Epyx, Inc. appreciates your consideration in copying the disks for your personal use only, and not to share. This ensures our ability to continue to produce high-quality software for you.

Data Disks

If you're running *Art & Film Director* from floppy disks, you'll want to have several blank, formatted disks on hand for saving your work. It's a good idea to format these data disks beforehand, although both *Art Director* and *Film Director* include disk-formatting options, so you won't be caught without a data disk available.

Loading the Programs

Art & Film Director uses the ST's 16-color, 320 x 200 pixel mode. The GEM Desktop must be in low resolution in order for you to load the programs.

Follow these steps to load *Art Director* and *Film Director* from a floppy disk:

1. Set up your computer system, following the instructions in your computer manual.
2. Insert either *Art Director* Disk 1 or *Film Director* Disk 1, label side up, into drive A.

3. Turn on your system. After a moment, the GEM Desktop appears. If your desktop display is in medium resolution, change it to low resolution now. (Use the Set Preferences option in the Options menu.)
4. Double-click on the drive A icon. A directory window opens for your disk.
5. Double-click on ARTDIR.PRG or FILMDIR.PRG, depending on which disk is in the drive.
6. A title screen appears as the program loads. When loading is complete, the program's main screen appears. You're now ready to use either *Art Director* or *Film Director*.

To run either program from a system that's already booted, update the directory window for the drive that holds your disk, then double-click on either ARTDIR.PRG or FILMDIR.PRG.

Notes and Warnings

1. If you have a number of custom utilities (such as GDOS) installed, you will not be able to load *Art Director* or *Film Director*. To load the programs, reboot your system with an *Art & Film Director* disk in drive A, following steps 2 to 6 in **Loading the Programs**.
2. *Art & Film Director* is not compatible with desk accessories. If you have desk accessories installed, they will appear in the *Art Director* or *Film Director* Desk menu. However, DO NOT run them from within either program.
3. You cannot use *Art & Film Director* with a RAM disk.
4. *Art & Film Director* is not compatible with the Install Application option on the GEM Desktop.

Program Controls

Mouse

With *Art & Film Director*, you use a mouse to draw and manipulate graphics and select options. When you roll the mouse on a flat surface, a cursor on screen follows the mouse's movements.

Press the left mouse button to select tools, colors, and menu items, and draw, paint, and select images on your canvas. Press the right mouse button to see menus or further information about a selected item.

The terms "left-click" and "right-click" are used throughout this manual to indicate which mouse button you should press. The term "double-left-click" means two quick clicks on the left mouse button.

Keyboard

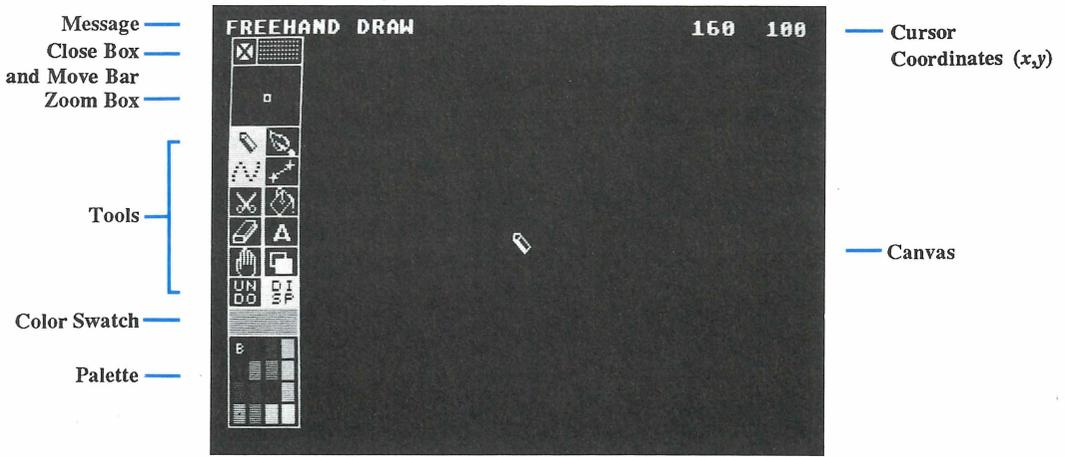
You can also operate *Art & Film Director* from your keyboard. Press one of the four **Arrow** keys to move the cursor one pixel in the arrow's direction. (A pixel is an individual screen dot.) Hold down **Alternate** and press an **Arrow** key to move the cursor eight pixels in the arrow's direction.

The function keys **F1** through **F10** activate specific commands, as do many key combinations. See the **Keyboard Shortcuts** sections in this manual for complete details.

USING ART DIRECTOR

Art Director Screen Components

During loading, the *Art Director* title screen is displayed. When the program is finished loading, its main screen appears. This is where you create your *Art Director* paintings.



Here's a brief summary of the components of the *Art Director* screen:

Toolbox The toolbox contains your painting tools.

Close Box The close box hides the toolbox to give you a full view of your canvas. Place the cursor on the close box and left-click (press the left mouse button once) to hide the toolbox. Press the **F10** key to return the toolbox to the screen.

Move Bar The move bar moves the toolbox left and right on the canvas. Place the cursor on the move bar, hold down the left mouse button, and move the mouse left or right. Release the mouse button when the toolbox is where you want it.

Zoom Box The zoom box magnifies the canvas area where your cursor is positioned. It also lets you select from eight levels of magnification for detail-editing on the canvas.

Tools Use the tools to draw, create shapes, brush on color and patterns, fill areas with color, cut out images, add text, and move your canvas on screen. A tool that's highlighted is the one that's currently selected. You will use many of

the tools in the *Art Director Learning Session*, next in this manual. Complete details about all tools are given in the *Art Director Reference* section.

Color Swatch The color swatch shows the color you selected from the palette and are now using on the canvas.

Palette The palette shows the 16 colors currently available for painting on the canvas. You can change the palette colors at any time.

Canvas The canvas is where you draw, paint, manipulate picture sections, and place text. Your painting is created on the canvas.

Message The message shows the tool you are now using and often gives information about it. Freehand Draw is the default message when you load *Art Director*.

Cursor Coordinates (x,y) The cursor coordinates tell you the location of your cursor in pixels from the upper left corner of the canvas. Pixels are individual screen dots. The pixel in the upper left corner of the canvas is 0,0. The pixel in the lower right corner is 319,199. When you first load *Art Director* the cursor is centered at 160x (horizontal), 100y (vertical).

When you load *Art Director*, the pencil and freehand tools are highlighted. This means they are selected and ready to use. When these two tools are selected, Freehand Draw is listed in the message.

Move the cursor onto the canvas and right-click (click the right mouse button) to see the menu bar at the top of the screen. Each of its five selections has a list (menu) of options that you can use to work on your paintings. Some of the menu options are used in the *Art Director Learning Session*, next in this manual. Complete details about all menu options are included in the *Art Director Reference* section. Left-click to hide the menu bar.

Art Director Learning Session

Creating a simple painting is the best way to acquaint yourself with the *Art Director* program. Follow the step-by-step instructions in this section to paint a tropical scene with a palm tree, grass huts, and mountains. This get-acquainted session will show you how easy *Art Director* is to use.



Tip: If you don't like something you draw on the screen, left-click on Undo in the toolbox (or press the **Undo** key on the ST keyboard) before you draw anything else. Undo erases the last thing you added to the canvas.

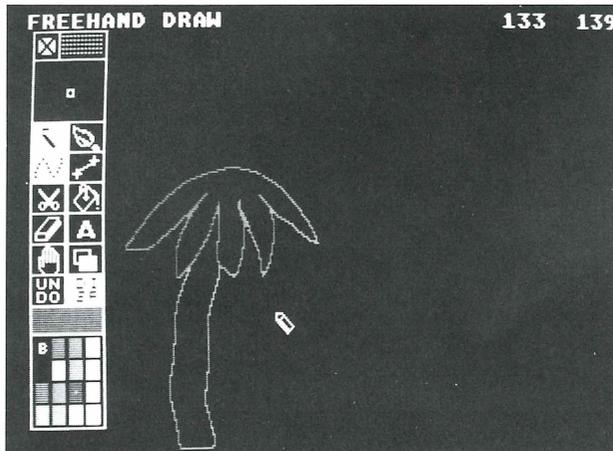
When you load *Art Director*, the pencil  and freehand  tools are selected (highlighted) in the toolbox. When they are selected, you can draw by freely rolling the mouse while holding down the left mouse button.

Begin by drawing a palm tree. Select a color for the top of the palm tree by moving the cursor onto the darker of the two greens in the palette and left-clicking. A dot appears on your color choice, showing that the color is selected. The color also appears in the color swatch. Then follow these steps:

1. Position the cursor near the center of the screen, slightly toward the left.
2. Press and hold down the left mouse button.
3. Move the mouse to draw the palm fronds. A green line appears as you move the mouse.
4. Finish drawing the top of a palm tree. Make sure you close the outline so there are no gaps in it. Release the mouse button when the palm tree top is complete.



Tip: The toolbox disappears as you draw and reappears when you release the mouse button.



Now draw the palm tree trunk by following the steps:

1. Change your drawing color to brown by left-clicking on brown in the palette.
2. Draw a tree trunk beginning at the bottom of the green treetop. Again, make sure you draw a closed outline.



Tip: The green of the treetop can be considered part of the closed outline.

3. When your tree trunk is finished, trace your pencil over it without holding down the mouse button. Watch the magnified outline in the zoom box. If you see a gap in your outline, position it under the small white square in the center of the zoom box and left-

click. This adds a pixel of brown to your canvas. Close all the gaps in your tree trunk outline this way.



Tip: If you like, select green again and close up any gaps in your treetop as well.

Fill in the palm tree and its trunk. Here are the steps:

1. Select the green color you used to draw the treetop.
2. Select the bucket  tool by moving the cursor onto it and left-clicking. Notice that the message changes to Fill and the freehand tool is no longer selected. When you move the cursor out of the toolbox, it becomes a bucket with a falling paint drop.
3. Move the bucket onto the treetop, make sure the paint drop is inside the outline, and left-click. The treetop fills with green.

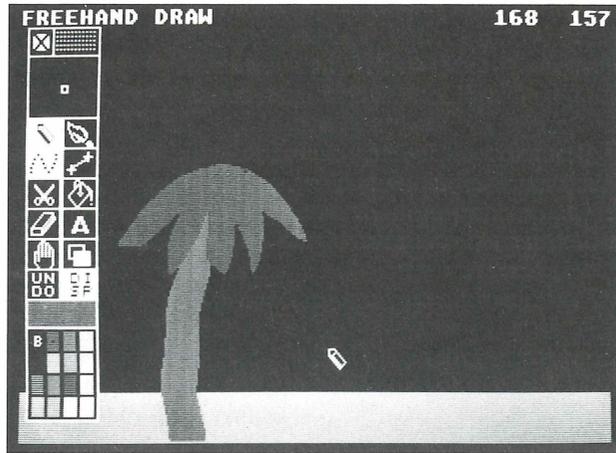


Tip: If the palm treetop is not a completely closed outline, green will leak from it and flood the canvas. If that happens, press Esc to stop the fill, then left-click on Undo in the toolbox (or press the **Undo** key). Your treetop returns to its outline form. Inspect the outline in the zoom box and close up any gaps. Then fill the treetop again.

4. Fill the tree trunk. Select brown from the palette, then use the bucket to fill the tree trunk, the same way you filled the treetop.

Use the special shapes features to add grass and sky to the drawing. Follow these steps:

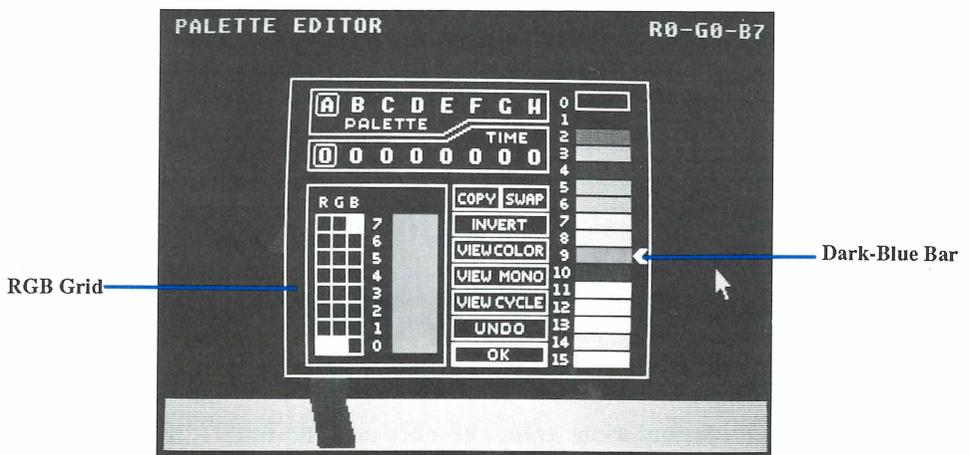
1. Select bright green from the palette.
2. Right-click on the line-draw  tool. A selection box appears.
3. Left-click on the Rectangle selection, then left-click on OK or press **Return**. Notice that the message changes to Rectangle and line-draw is selected in place of the bucket.
4. Left-click on the close box or press **F10** to hide the toolbox.
5. Move your cursor (a pencil) to a point on the lower left edge of the canvas (somewhere between the center and the bottom) and left-click. Small flashing crosshairs appear.
6. Move the pencil down and to the right. A flashing box begins to stretch across the canvas. When you reach the lower right corner, left-click again. The box turns green and sets itself in place.
7. Press **F10** to return the toolbox to the screen.
8. Select the bucket, move it into the green box, and left-click the mouse. The grass area fills with bright green.



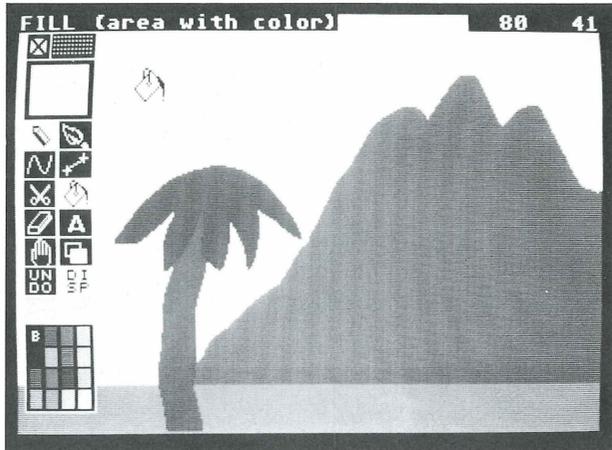
9. When you drew the box, you may have drawn a green line through your tree trunk. If so, fill it with brown, using the pencil and either the freehand or line-draw tool. Be sure to select brown from the palette before filling the green line. Watch your zoom box to help you position the cursor. If you're filling the line with the line-draw tool, left-click when you're finished to set the line.

Now add some mountains and sky to your scene. Follow the steps:

1. Right-click on the palette and the palette editor appears.



2. Left-click on the dark blue bar (9). An arrow appears, showing that the color is selected.
3. Move the cursor onto the RGB grid (RGB stands for Red Green Blue) and position it in column G, row 1. Left-click. The blue in the color bar and in the box next to the grid changes slightly.
4. In the same column (G), left-click in row 2, then in row 3, and finally in row 4. Watch how the blue color changes. Then move the cursor to column B, row 3, and left-click. The blue color changes to a pine green.
5. Left-click on OK in the palette editor. The color appears in the palette, above the green you used for the treetop. The color also appears in the color swatch.
6. Add a mountain range to your canvas. Select the pencil and the color you just created. Draw a jagged outline in the background and fill it in.



7. Add a sky. Select sky blue from the palette, place the bucket anywhere in the black background, and left-click.

This picture looks a little barren without signs of civilization. Now's the time to add some grass shacks. Follow these steps:

1. Select the pencil and a yellow color.
2. Right-click on line-draw and select Rectangle. Left-click on OK or press **Return**.
3. Draw a box with its base on the grass. Left-click to set the box.

4. Right-click on line-draw again and select Polygon.
5. Use this tool to draw a roof for your shack. Place the pencil a short distance above the center of the box, where you want the peak of your roof. Left-click to set the first point.
6. Move the pencil to a point a little bit to the right of the box's upper right corner. Left-click to set the second point.
7. Move the pencil straight to the left. You see the base and third side of a triangle form as you move to a point just left of the box's upper left corner. Double-left-click to set the triangular roof. The pencil cursor reappears.
8. Fill the box and triangle with yellow. You now have a grass shack.
9. Give the shack a door by selecting another color and drawing a small rectangle inside the yellow rectangle. Fill the door rectangle.



Outline the shack so it shows up clearly on the canvas. Here are the steps:

1. Right-click anywhere on the canvas to display the menu bar.
2. Move your cursor to Tools in the menu bar to show the Tools menu. Move the cursor down the menu to highlight Outline and left-click.
3. Outline is highlighted in the selection box that appears. Left-click on OK or press **Return**.
4. In the toolbox, select black in the palette (left column, second line from the top). Then move the cursor onto the grass shack and left-click. The toolbox disappears while a

thin black outline is drawn around the shack. When the outline is complete, the toolbox reappears.



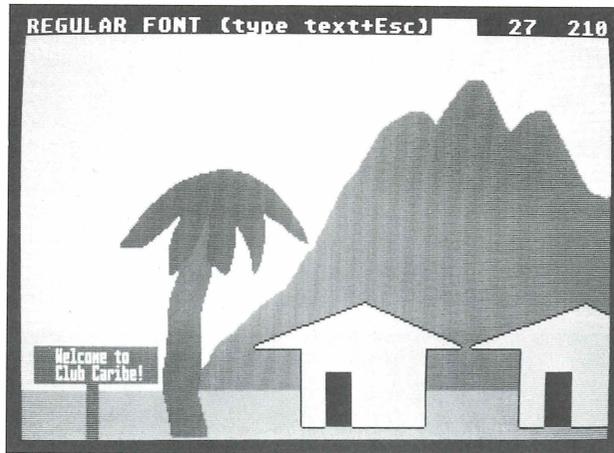
Tip: The program takes several seconds to complete the outline operation.

There's not much civilization with just one shack. Here's where your brush comes in handy. Follow the steps to add more shacks:

1. Select the brush  and scissors  in the toolbox. A warning box appears. Ignore the warning for now and left-click on **OK** or press **Return**. Notice that **Cut Rectangle** appears in the message.
2. Large flashing crosshairs appear on the canvas. Move the center of the crosshairs to a point directly above the left end of the roof line and directly left of the roof peak. Left-click.
3. Small flashing crosshairs appear. Move the mouse to extend a flashing box completely around the shack. When the lower right corner of the box is where you want it, left-click.
4. You've created a brush that consists of the grass shack plus some background. Move the mouse and you see a duplicate shack moving across the canvas. Place the shack where you want it and left-click to stamp it on the canvas. Do this as many times as you want, adding more shacks to your scene.
5. When you finish creating a village, clear your brush. Right-click on the brush in the toolbox and select **Clear Brush** from the selection box that appears. When the warning box appears, left-click on **OK** or press **Return**.
6. Use the tools you're familiar with to clean up the background sections that were moved with the brush.

The village could use a welcoming billboard. Make one by following these steps:

1. Select the pencil and line-draw with the **Rectangle** option. Select gray from the palette.
2. Draw and fill two gray boxes, one vertical and one horizontal, to make a billboard for your village.



Tip: If you need to move the toolbox out of the way first, place the cursor on the move box (the dotted area in the toolbox's upper right corner), hold down the left mouse button, and drag the toolbox across the canvas. Release the mouse button when the toolbox is where you want it.

3. Right-click on the text **A** tool in the toolbox. If a warning box appears, left-click on OK or press **Return**.
4. In the font size selection box, left-click on Half Size and OK.
5. Select red from the palette.
6. Move the cursor--a small flashing box--onto the upper left corner of the billboard. Begin typing "Welcome to Club Caribe!" Press **Return** if you need more than one line to fit the words on the sign.
7. When you finish typing, left-click or press **Esc** to turn the text into a brush. With your mouse, adjust the text so it's placed correctly on the billboard. Then left-click to stamp the text onto the billboard.

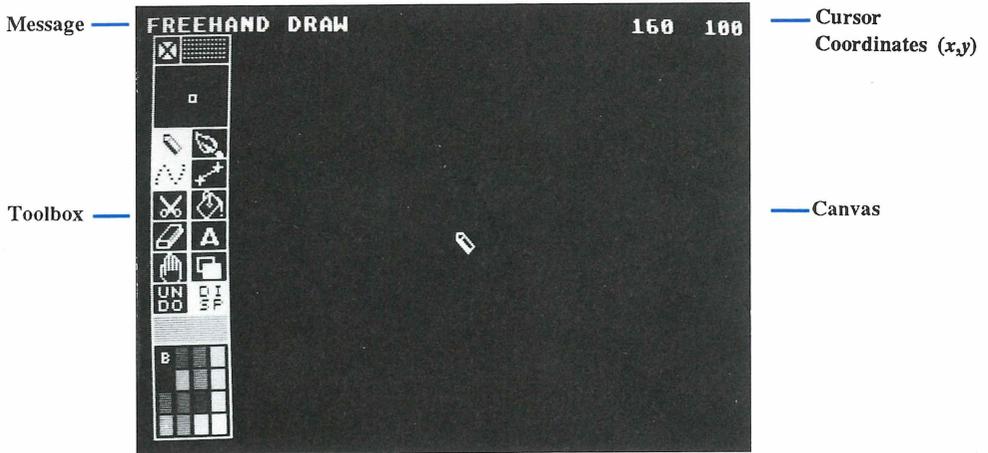
Congratulations! You've finished your first *Art Director* painting!

To save your painting, insert a data disk into the drive from which you're running *Art Director*. Then right-click anywhere on the canvas to see the menu bar. Move the cursor to File. In the File menu, left-click on Save Pict. An item selector appears. Type in the filename VILLAGE. Left-click on OK or press **Return**. Your file will be saved to disk under the filename VILLAGE.ART.



ART DIRECTOR REFERENCE

When the *Art Director* program is finished loading, its main screen appears. The main screen contains the features you use to create your paintings.



Message

The message in the upper left corner tells you what tool you are using, and often includes further information about the tool. When *Art Director* first loads, the message shows Freehand Draw. The message changes as you select different tools.

Cursor Coordinates (x,y)

The cursor coordinates show the location of your cursor in pixels on the canvas. Pixels are individual screen dots, the smallest points of resolution on your monitor.

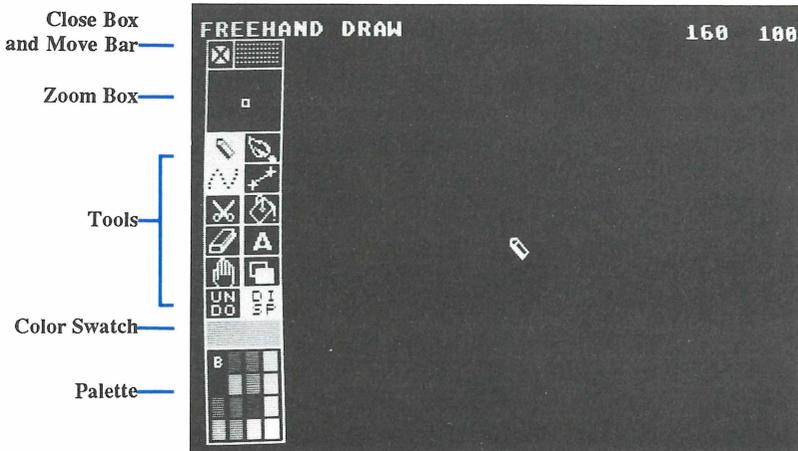
The cursor coordinates x,y are relative to the upper left corner of the canvas, where x and y are both 0. x is the horizontal coordinate and increases as you move the cursor right. y is the vertical coordinate and increases as you move the cursor down. When you first load *Art Director* the cursor is centered on the canvas at $160x,100y$.

The on-screen canvas is 320 pixels wide by 200 pixels deep. The pixel in the upper left corner is 0,0; the pixel in the lower right corner is 319,199. When you select the Free Cursor option from the Special menu you can move the cursor into an off-screen canvas area that is 2000 pixels wide by 2000 pixels deep.

Press **Help** to automatically return the cursor to the center of the canvas.

Toolbox

The toolbox contains the features you'll probably use most often with *Art Director*. Normally, the toolbox disappears while you're using a tool and reappears when you're finished. You can set the toolbox to remain on screen continuously by using the Toolbox option in the freehand tool's selection box. (See **Freehand** in this section for more information.)



Close Box

The close box hides the toolbox so that you can see the entire canvas. Left-click on the close box to remove the toolbox from the screen. To return the toolbox back to the screen, select the Show Toolbox option in the Special menu.

You can also press **F10** to toggle between hiding and showing the toolbox.

Move Bar

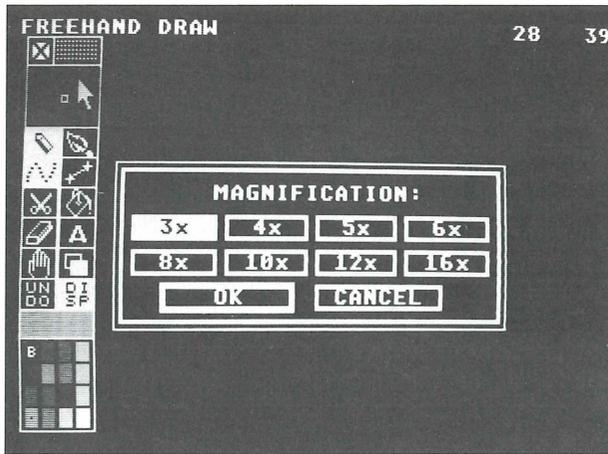
The move bar moves the toolbox left and right on the canvas. Position the cursor on the move bar, hold down the left mouse button, and move the mouse left or right to move the toolbox.

Zoom Box

The zoom box magnifies the area of the canvas where the cursor is positioned. Use the zoom box to do fine detail work or to determine the exact pixel position of the cursor.

The white square at the center of the zoom box marks the cursor's position on the canvas. You can move the cursor over an image on the canvas to see its color composition pixel by pixel in the zoom box. If you are using the pencil in freehand mode, you can color a single pixel on the canvas by positioning the pixel under the white square in the zoom box and left-clicking.

Right-click on the zoom box to see its selection box:



Magnification The eight multiplier selections are the levels of magnification in which you can display your canvas.

Make your selection and left-click on OK or press **Return**. The cursor returns to the zoom box. Move the cursor onto the canvas and a flashing box appears on your canvas, showing you what the visible canvas area will be at the magnification you selected.

Move the flashing box over the area you want to magnify and left-click. The area appears magnified on the canvas. In the zoom box, the area appears in its default (non-magnified) size. The cursor becomes a box the size of a pixel on your magnified canvas.

While the canvas is magnified, you can place color on it pixel by pixel. You can work only with the pencil. The only selection you can make is to choose a different color from the palette. If you make any other selection, the canvas will return to its default size.

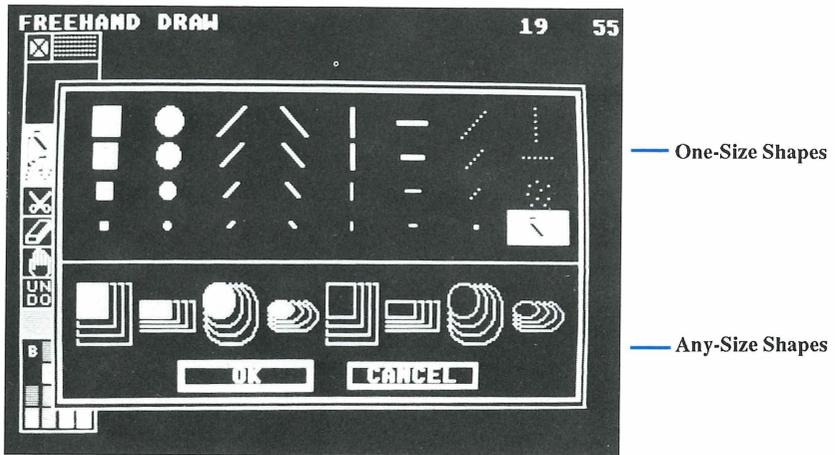
To return the canvas to its default size, either left-click on the zoom box, select any other screen option, or press **Esc**.

Pencil

The pencil draws freehand lines and figures, straight lines, and a variety of shapes, including circles, rectangles, and polygons. Left-click on the pencil to select it.

When the freehand tool is selected along with the pencil, you can draw freehand by moving the cursor over the canvas while holding down the left mouse button. When line-draw and the pencil are selected, you can draw straight lines and defined, regular shapes.

Right-click on the pencil to see its selection box:



One-Size Shapes These selections determine the size of your pencil point.

Any-Size Shapes These selections let you create shapes in any size. The filled shapes are drawn filled with color. The unfilled shapes are drawn as outlines.

Make your selection and left-click on **OK** or press **Return**. If you selected a one-size shape, hold down the left mouse button while moving the mouse to draw.

If you selected an any-size shape, left-click anywhere on the canvas to set a point where your shape will begin. Then move the cursor to extend your shape to the size you want. Left-click. The shape appears, and you can move it wherever you want on the canvas. When the shape is positioned, left-click to stamp it. You can paint with the shape by holding down the left mouse button while moving the mouse.

Your pencil retains your selection until you change it from the pencil selection box.

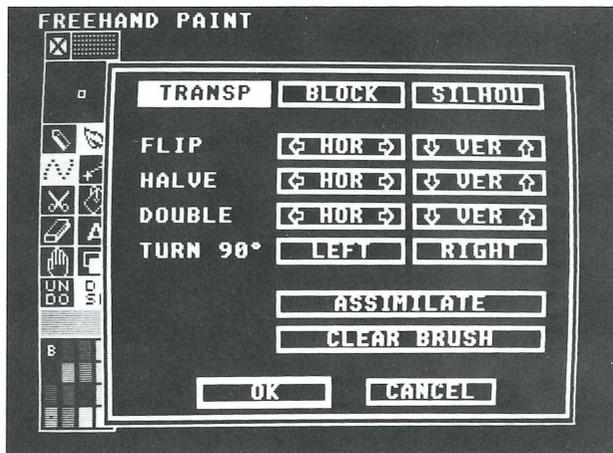
Brush

The brush is a tool you define by cutting out a block of color, an image, or a piece of text on your canvas. Once you create a brush, you can paint with it in ways similar to using a real paintbrush.

Left-click on the brush in the toolbox. If no brush was previously selected, a default brush is provided for you.

 **Tip:** If you've cleared a previously selected brush, a dialog box appears telling you that no brush is selected. Left-click on **OK** or press **Return**. When you move the cursor onto the canvas, you will see a small "No" attached to the cursor. You cannot use this "No" as a brush.

Define a new brush by clipping a shape from your canvas with the scissors. (See **Scissors** later in this reference section.) With a brush defined, right-click on the brush in the toolbox to see its selection box:



Transp With this selected, any parts of the brush that match the canvas's background color will be "transparent." When you move the brush, any other colors on the canvas will show through the "transparent" brush sections.

Block With this selected, the entire brush will be visible, including any brush sections that match the canvas's background color. Irregular brushes (cut with the freehand selection from the scissors' selection box) are placed in a rectangle of background color.

Silhou With this selected, the original brush becomes a silhouette of solid color, depending on the color selected in your palette. Any parts of the original brush that matched the canvas's background color will be transparent. Use the Silhou selection to create shadows for images on your canvas.

Flip Hor This selection flips the brush left to right.

Flip Ver This selection flips the brush top to bottom.

Halve Hor This selection reduces the width of your brush by half. Select Halve Hor again to continue reducing your brush.

Halve Ver This selection reduces the height of your brush by half. Select Halve Ver again to continue reducing your brush.



Tip: Halving a brush eliminates every other row or column of pixels in the direction of the halving. Because of this, some detail may be lost, and doubling a halved brush will not restore it to its original look.

Double Hor This selection doubles the width of your brush. Select Double Hor again to continue doubling your brush.

Double Ver This selection doubles the height of your brush. Select Double Ver again to continue doubling your brush.



Tip: Doubling a brush duplicates every row or column of pixels in the direction of the doubling. Halving a doubled brush restores the brush to its original look.

Turn 90° Right This selection rotates your brush 90 degrees to the right.

Turn 90° Left This selection rotates your brush 90 degrees to the left.

Assimilate This selection uses the colors in your current palette to change the colors of your brush. Assimilate is useful when your brush is taken from one canvas and brought onto another canvas with a different palette. After using Assimilate, the new colors in the brush will be as close as possible to the original colors, depending on your palette.

For example, suppose you create a brush by clipping out a tire from the graphics canvas CAR.ART. Then you clear your canvas in order to work on another painting. When the second painting appears, the "tire" brush is still active. But its colors are now taken from the current palette and are different from the palette colors in CAR.ART. The tire looks strange because its colors aren't chosen correctly. Select Assimilate from the brush selection box. *Art Director* will choose colors from the new palette that are as close as possible to the tire's original colors, and recolor the tire.

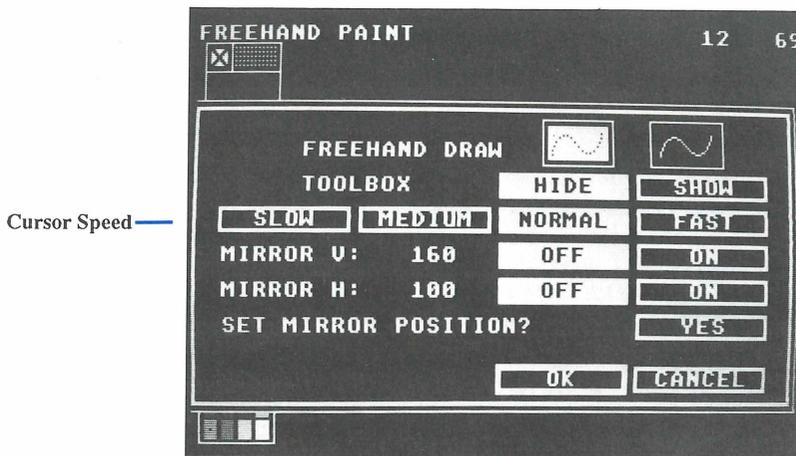
Clear Brush This selection deletes your brush. A warning box alerts you that the process is irreversible. Left-click on OK or press **Return**. When the canvas reappears, the cursor includes the small "No," reminding you that no brush is selected. (You can also press **Control S** to clear your brush.)

Make your selections and, if needed, left-click on **OK** or press **Return**. Move your brush around the canvas by moving your mouse. Left-click to stamp the brush in place, or hold down the left mouse button while moving the mouse to paint with your brush across the canvas.

Freehand

Select the freehand tool when you want to move the cursor freely on your canvas. With the freehand tool you can also select either the pencil (for Freehand Draw), the brush (for Freehand Paint), or the eraser.

Right-click on freehand to see its selection box:



Freehand Draw These selections determine the look of your freehand line. Select the left box to draw coarse, sometimes broken, lines. The faster you move the mouse, the coarser the lines will be. Select the right box to draw smoother, more evenly colored lines. These selections are effective only in Freehand Draw (with the pencil selected).



Tip: Shapes drawn with coarse lines will generally "leak" when filled with the bucket.

Toolbox Select Hide to make the toolbox disappear while you're using a tool on the canvas. Select Show and the toolbox remains on screen continuously. (You can still toggle the toolbox off by pressing **F10** or using the Hide Toolbox option in the Special menu.)

Cursor Speed Your selection--Slow, Medium, Normal, or Fast--determines how fast the cursor responds to your mouse movements.

Mirror V and Mirror H Each of these selections divides the canvas into two sections that mirror each other. Anything you add to one section simultaneously appears in a mirror position in the other section.

Select **On** to activate a mirror. **Mirror V** divides the canvas vertically; **Mirror H** divides it horizontally. The coordinates tell where the canvas will be split (160x is the vertical center of the canvas; 100y is the horizontal center). With both mirrors on, the canvas is divided into four quadrants.

Select **Off** to deactivate a mirror.

Set Mirror Position? Select **Yes** to change this option to modify your **Mirror V** and **Mirror H** settings. These new settings remain as your default settings. A cross-shaped cursor and flashing crosshairs appear. Left-click and move the mouse to move the flashing crosshairs. These define your mirror quadrants. Left-click again to set your mirror quadrants. Draw in one quadrant and vertical and horizontal mirror images simultaneously appear in the others.

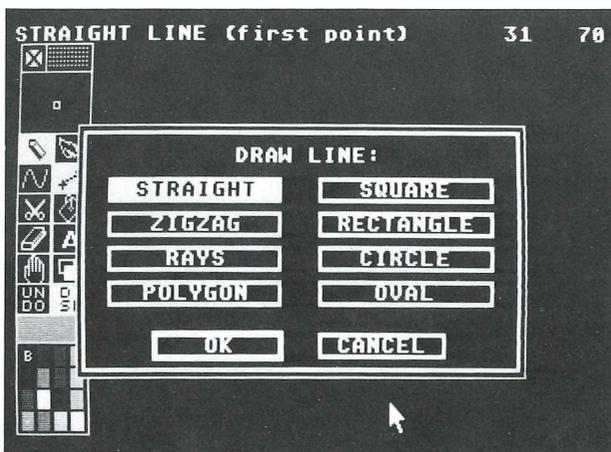


Tip: The line-draw tool also uses the mirrors activated from the freehand selection box.

Make your selections and left-click on **OK** or press **Return**.

Line-Draw

Line-draw lets you draw straight lines, circles, ovals, squares, rectangles, and other figures. Right-click on line-draw to see its selection box:



Straight This selection draws a straight line between two points. To use Straight on the canvas, position the cursor where you want one end of the line and left-click to set the point. Release the mouse button and move the cursor to where you want the line to end. Left-click again. A line appears, drawn between the two points.

Zigzag This selection draws a series of connected straight lines. To use Zigzag on the canvas, position the cursor where you want the first line to start. Left-click to set the point. Release the mouse button, then move the cursor to where you want the first line to end and the second line to start. Left-click to set that point, then move the cursor to the third point. Continue until your figure is complete, then double-left-click to set it.

Rays This selection draws lines outward from a central point. To use Rays on the canvas, position the cursor, then left-click to set the central point. Move the cursor to where you want the first line to end and left-click again. Next, move the mouse to where you want your second line to end and left-click. Repeat to draw as many rays from the central point as you want. When your figure is complete, double-left-click to set it.

Polygon This selection draws multi-sided, multi-angled figures. To use Polygon on the canvas, move the cursor to where you want the first point and left-click to set the point. Then move the cursor to the second point and left-click. A straight line appears. Move the cursor to the third point. Two flashing lines follow the cursor. One line is connected to the last point set and the other is connected to the first point set. Left-click to set the third point. Continue setting as many points as you want. When your figure is complete, double-left-click to set it.

Square This selection draws perfect squares. To use Square on the canvas, position the cursor where you want the upper left corner of the square. Left-click to set the corner. Move the cursor down and to the right. A flashing box follows the cursor. When the square is the size you want, left-click to set it.

Rectangle This selection draws rectangles. To use Rectangle on the canvas, position the cursor where you want the upper left corner of the rectangle. Left-click to set the corner. Move the cursor down and to the right. A flashing box follows the cursor. When the rectangle is the size you want, left-click to set it.

Circle This selection draws perfect circles. To use Circle on the canvas, position the cursor where you want the center of the circle and left-click. Then move the cursor in any direction. A flashing circle follows the cursor, centered on your first point. When the circle is the size you want, left-click to set it.

Oval This selection draws ovals. To use Oval on the canvas, position the cursor where you want the center of the oval and left-click. Then move the cursor in any direction. A flashing oval follows the cursor, centered on your first point. When the oval is the size you want, left-click to set it.

Make your selections, then left-click on OK or press **Return**. Now you can use your selection on the canvas.

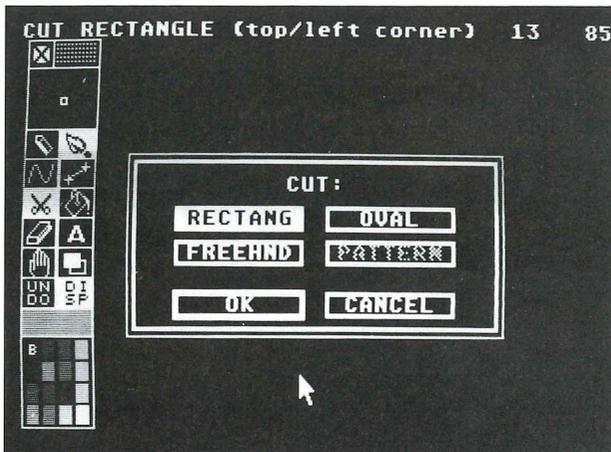


Tip: Select Undo from the toolbox or press **Undo** on the keyboard before setting your last point to erase what you've drawn and start over.

Scissors

The scissors tool defines a brush by cutting out an image on the canvas. Left-click on scissors, then move the cursor onto the canvas. Large flashing crosshairs appear. Position the center of the crosshairs at the upper left corner of the image you want to cut out and left-click. The crosshairs become smaller. Hold down the left mouse button and drag the cursor to the lower right of your image. When the image you want is surrounded by a flashing outline, left-click. Your image becomes a brush which can be used with the same tools available for the pencil.

Right-click on the scissors to see its selection box.



Rectang This selection cuts out a rectangular section on the canvas.

Freehnd This selection lets you trace around an image in freehand in order to cut out an irregular shape. Use the zoom box with this selection to see exactly where you're cutting.

Oval This selection cuts out an oval section on the canvas.

Pattern This selection is available after you've loaded the file FILLPTRN.ART onto your canvas. On the canvas, move the cursor from pattern to pattern. A flashing box surrounds each pattern as the cursor points to it. When the cursor is on the pattern you want, left-click. The pattern will be cut out as your brush.



Tip: You can modify the designs in FILLPTRN.ART or create your own in the empty boxes provided.

Make your selections and left-click on OK or press **Return**. Now you can proceed to cut out your image using the scissors tool.

Bucket

Use the bucket to fill an area with color or with the image chosen as your brush.

To fill with color, select the bucket and the pencil from the toolbox and a color from the palette. Move the drop on the bucket cursor onto the area you want to fill and left-click. The fill will occur in the selected color. If you've selected a special tip for your pencil, the fill will also be in the shape of the tip.

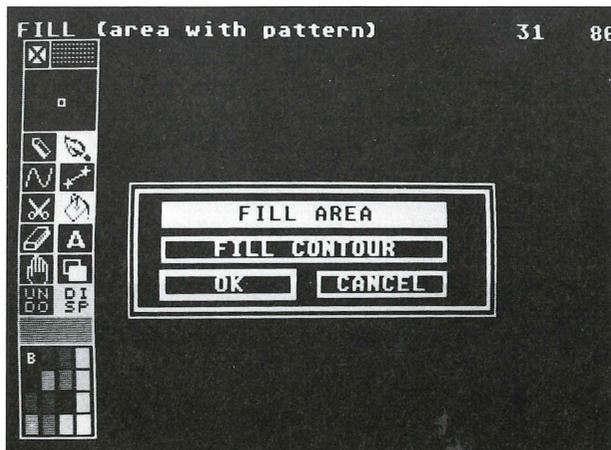
To fill with a brush image, select the bucket and the brush from the toolbox. Move the drop on the bucket cursor onto the area you want to fill and left-click. The area will be filled with brush images.



Tip: Be sure the drop on the bucket cursor is in the area you want to fill before left-clicking. Watch the zoom box for help if needed when positioning the drop.

To stop a fill, press **Esc**. Select Undo from the toolbox or press **Undo** on the keyboard to erase the fill.

Right-click on the bucket to see its selection box.



Fill Area This selection fills an area that is a single color and is completely enclosed by any other color or colors.

Suppose you have a section of canvas that is solid green. Draw a circle in that section, using blue. You can then fill in the green circle with blue or any other color, using Fill Area. Be sure the drop on the paint bucket cursor is on a green pixel inside the blue circle before left-clicking to begin the fill.

If any pixels of the color being filled (green in the example above) occur in the enclosing line, the fill color will "leak" out. When this happens, press **Esc** to stop the fill, and use **Undo** to erase it. Color the gap using your pencil and another color, then refill the area.

Also, if any pixels of a color different from the color being filled occur in the area, they will not be filled. In the example above, if any red pixels occurred in the green fill area, they would not be affected by the fill color (the color in the color swatch).

Fill Contour This selection fills an area enclosed by the color in the color swatch (the fill color). All pixels in the enclosed area will be filled, regardless of the color touched by the bucket's drop when you left-click to begin the fill.

For example, suppose you enclose the car in CAR.ART in a white rectangle. You can now fill that rectangle with white by using the Fill Contour selection and left-clicking anywhere within the rectangle (making sure white is still the color selected in the palette). The fill continues until it meets the rectangle.

If any pixels of a different color occur in the white rectangle, the fill color will "leak" out. Fix the gap with white and refill.

Eraser

Use the eraser to erase a portion of the canvas down to the background color. The eraser can be used with either the freehand, line-draw, or bucket tool and features from that tool's selection box. (See the section describing a tool for full information on using it.)



Tip: The eraser wipes away all colors down to the background color. If you are drawing a figure in one color over something in another color, both colors will be erased when you use the eraser on them.

Right-click on the eraser to see its selection box. Left-click on the eraser size--Small, Medium, or Large--you want. Then left-click on **OK** or press **Return**.



Tip: Any pencil point will act as an eraser when the background color is selected from the palette.

Text

The text tool lets you add text in your canvas. Once added, the text becomes a brush.

Left-click on text in the toolbox. If a brush is already defined, a warning box appears. Left-click on OK to continue.

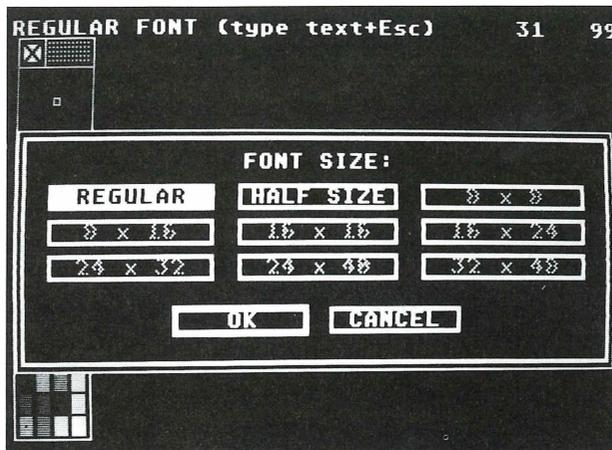
Move the cursor onto the canvas. The cursor appears as a small flashing box. Begin typing. Your text appears in the color chosen from the palette. Press **Return** when you want to start a new line of text. Press **Backspace** to delete the text character to the left of the cursor.

 **Tip:** To clear your typing and begin again, left-click on Undo in the toolbox or press **Undo** on the keyboard.

When you finish typing, press **Esc** or left-click. The text becomes a brush. Position the text where you want it on the canvas and left-click to set it.

 **Tip:** Your text can be used exactly like any other brush, and is affected by your selections from the brush selection box. For example, selecting Clear Brush from the brush selection box clears the text from the brush.

Right-click on text to see its selection box:



Font Size Select the font size you want to use. Regular (6 x 8 pixel) and half-size (3 x 8 pixel) fonts are always available. Make your selection and left-click on OK or press **Return**.

Other font sizes can be loaded from *Art Director* Disk 2. Follow these steps to load the fonts:

1. Left-click on Page Swap  in the toolbox to display a blank canvas. (See **Page Swap** in this section for full information on using that tool.)
2. Insert *Art Director* Disk 2 into the drive from which you're running the *Art Director* program.
3. Right-click anywhere on the canvas to display the menu bar.
4. Move the cursor to File in the menu bar to see its menu. Move the cursor down to highlight Load Pict (the first menu option) and left-click.
5. A warning box appears. Left-click on OK or press **Return** to continue. An item selector appears, listing the files on the disk. *Art Director* font files begin with FNT and end with the extension .ART.



Tip: If the font files don't appear in your item selector, they may be on *Art Director* Disk 1. Insert that disk into your drive and update your item selector. See the section **Load Pict** later in this manual for full information on using the item selector.

6. Left-click on a font file. Then left-click on OK or press **Return**. The file loads and the font appears.
7. Left-click on Page Swap in the toolbox. Your canvas appears.
8. Right-click on text in the toolbox and on OK in the warning box that appears. When the selection box appears, you'll see that an additional font size is now available to select and use on your canvas.

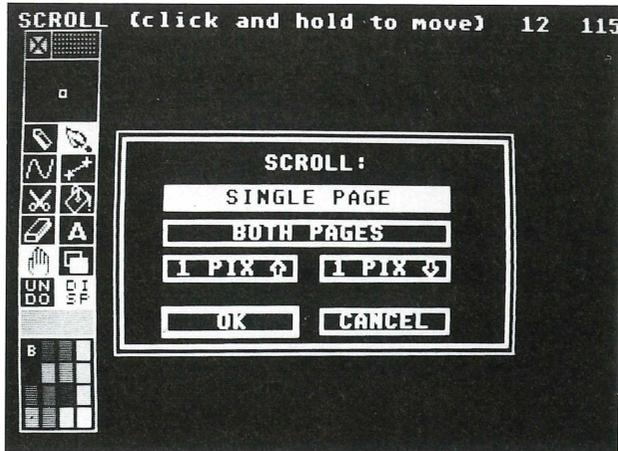


Tip: You can create custom fonts by redrawing the characters in an existing font file. Be sure to keep your new characters within the boxes. Then save your custom font file under a new filename.

Scroll

The scroll tool lets you move your canvas right, left, up, or down on the screen. Select the tool, then move the cursor onto the canvas. Hold down the left mouse button and move the mouse to move your canvas.

Right-click on scroll to see its selection box:



Single Page This selection moves one canvas around the screen.

Both Pages This selection lets you scroll between your front and back pages. This is handy when you want to work on the junction between pages. When Both Pages is selected, the tool in the toolbox changes to two hands.

1 Pix Either selection moves the canvas one pixel in the arrow direction.

Make your selection, then, if needed, left-click on OK or press **Return**.

Page Swap

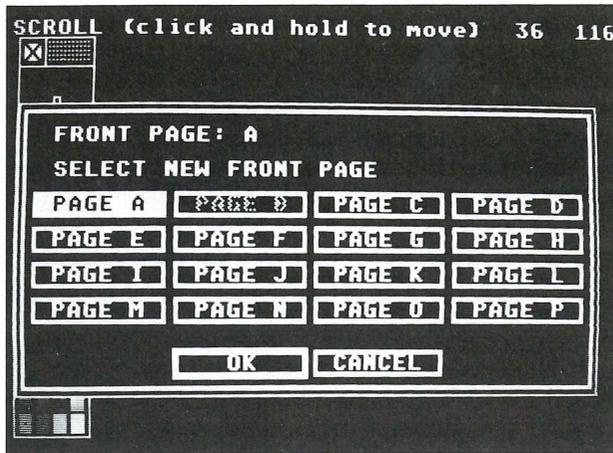
The page swap tool lets you move different canvasses onto the screen from "pages" in memory. Left-click on page swap. The canvas that was on the back page now appears on your front page on screen. (If a painted canvas was not previously moved to the back page, the new canvas will be blank.)

When you swap pages, the canvas on the front page is moved to the back page. Select on the tool again to bring the original canvas back on screen.



Tip: The canvas on screen is always your front page.

Right-click on page swap to see its selection box:



Front Page This line tells you what page is currently showing as your front page.

Select New Front Page This selection lets you choose a new canvas for your front page from up to 16 different canvasses held in memory. The current front page is highlighted. The current back page is in "ghost" type. For your new front page, left-click on any page except the back page.

Make your selection and left-click on OK or press **Return**. The canvas on the selected page appears as your new front page. If the canvas has not yet been worked on, it will be blank.

A canvas always stays on the letter page you put it on originally.



Tip: You can store up to 16 pages of canvasses in memory if your computer has 1 megabyte or more of RAM. If your computer has only 512K of RAM, you will have only two pages (front and back) available, and the swap page selection box will not be active.

Undo

The Undo tool lets you erase ("undo") the action you most recently performed on the canvas. To undo, left-click on Undo in the toolbox. Pressing the **Undo** key on your keyboard has the same effect.

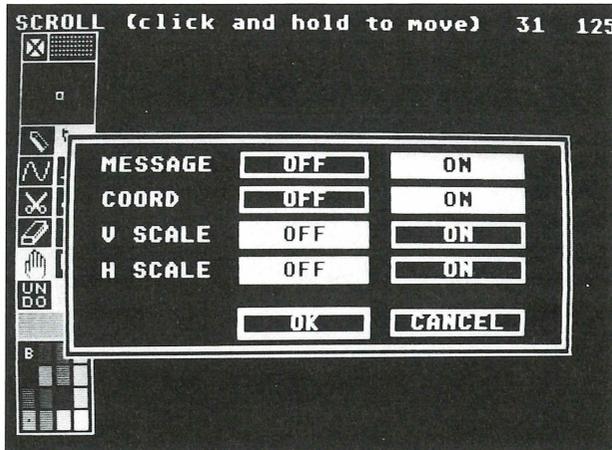


Tip: Only your last action will be erased; you can't undo any actions before that. However, you can erase your last undo operation. Select Undo again (or press **Undo**). The former look of the canvas will be restored.

Display

The Display tool toggles certain screen displays, including the message and cursor coordinates, on and off. Left-click on Display to hide those features. Left-click on the tool again to return the display to your screen.

Right-click on Display to see its selection box:



Message Selecting On displays the message at the top left of the canvas. Selecting Off hides it.

Coord Selecting On displays your cursor coordinates at the top right of the canvas. Selecting Off hides them.

V Scale Selecting On displays a vertical scale at the left side of the canvas. The longer marks on the scale are spaced five pixels apart. Selecting Off hides the scale.

H Scale Selecting On displays a horizontal scale at the bottom of the canvas. The longer marks on the scale are spaced five pixels apart. Selecting Off hides the scale.

Make your selections and left-click on OK or press **Return**. Now, clicking on the Display tool toggles a display on and off of those selections that are "on" in the selection box. The selections that are "off" will not appear.

Color Swatch

The color swatch shows the color currently selected in the palette. Left-click on the color swatch to fill the canvas with its color. A warning box appears. Left-click on OK or press **Return** to fill the canvas with color.



Tip: Left-clicking on the color swatch covers over any work on your canvas. If you left-click on the color swatch in error, left-click on Undo in the toolbox or press the **Undo** key to restore your work.

Right-clicking on the color swatch displays the palette editor, which is explained in the **Palette Editor** section later in this manual.

Palette

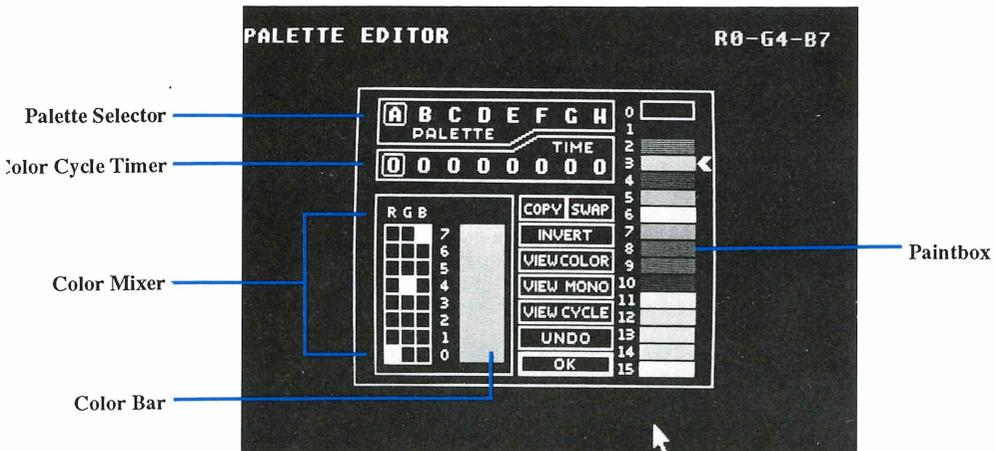
The palette shows the 16 colors currently available for painting and drawing on your canvas. You can change the palette colors at any time by using the palette editor and choosing from the ST's selection of 512 colors.

The color marked with the letter B (upper left corner of the palette) is the background color. The background color is the color of the canvas, and other colors are applied over it. The default background color is black.

Left-click on a color in the palette to select it. A flashing dot appears on the color, indicating that it is selected, and the color appears in the color swatch. When you use a tool, the color you apply will be the currently selected palette color.

Palette Editor

Use the palette editor to change the colors in your palette, and to create up to seven additional palettes for the canvas, each containing 16 colors. Right-click on the palette or the color swatch to see the palette editor:



Paintbox The colors shown in the paintbox are the colors currently in your palette. The colors are numbered as they appear in the palette from top to bottom. Colors 0 through 3 are in the far left column of the palette; colors 4 through 7 are in the center left column; colors 8 through 11 are in the center right column; and colors 12 through 15 are in the far right column. The arrow marks the color currently showing in the color mixer, and that color's RGB value appears in place of the cursor coordinates on the top left of the canvas.

Color Mixer Use the color mixer to modify the colors in your palette. You can change one color at a time in the color mixer. The color currently in the mixer is shown with its RGB value.

The RGB value is composed of three digits representing the red, green, and blue light intensities, in that order, of the color. The eight intensity levels are numbered from 0 (least intense) to 7 (most intense). There are 512 RGB combinations ($8 \times 8 \times 8 = 512$), making 512 colors possible.

To change a color in the color mixer, move the cursor onto an empty square in the RGB grid and left-click. The square will be highlighted and the color in the color bar will change, reflecting the new RGB value you just set. The same color in the paintbox will also change to the new color. When you return to the canvas, the new color appears in the palette (and on your canvas) in place of the original color.



Tip: Do not set colors 0 and 15 to the same RGB value. Color 0 is the background color, and color 15 is the outline and type color of the palette editor. If you set both colors to the same value, you will not be able to read the palette editor. If this happens, press **Help** to make your screen readable.

Palette Selector You can use up to eight palettes per canvas to create color cycling. Color cycling scrolls colors from different palettes through the same image or images on a canvas, creating the effect of motion.

In the palette selector, the palettes are labeled A through H. Left-click on a palette letter to select it. The letter of the palette currently selected has a box around it, and the colors of that palette appear in the paintbox.

Color Cycle Timer The color cycle timer lets you set up and activate color cycling. Follow the steps:

1. On your canvas, draw an image using palette A (your first color palette).
2. Left-click on the palette to display the palette editor.
3. Left-click on B in the palette editor to select the second palette.
4. Modify the colors in the palette B paintbox. The colors you modify must be the colors used in your drawing.

-
5. Select palette C and modify the same colors again.
 6. Continue selecting palettes and modifying colors until you have all the palettes you want or you've used all eight palettes.
 7. Set the time each palette will remain on screen in a color cycle. To do that, left-click on the number in the color cycle timer that's below the palette letter. The number represents a relative time scale and may be set from 0 (fastest) to 9 (slowest). The number increases by one with each left-click.
 8. To preview your color cycling, hold down the left mouse button on View Cycle in the palette editor.

To view your color cycling from the canvas, left-click on OK or press **Return** to return to the canvas. Then right-click anywhere on the canvas to display the menu bar. Move the cursor to Special to see its menu, and left-click on the Color Cycle option. Click a mouse button to stop the color cycling.

Copy This selection copies colors and palettes. The purpose of Copy is to move colors around within a palette. Doing this helps you set up color cycling, because the position of a color within a palette determines if and when it will appear in the cycle.

To copy a color within the same palette, first left-click on the color you want to copy in the paintbox. Then left-click on Copy. Finally, left-click on the color in the paintbox you want to copy over. The first color selected in the paintbox is copied over the second color. In the palette on the canvas, the first color selected will appear in its original position and in the position of the second color selected.

To copy a palette, select a palette letter in the palette selector at the top of the palette editor. Then left-click on Copy. Finally, select a second palette letter in the palette selector. The colors in the first palette selected will be copied to the second palette selected.

Swap This selection exchanges colors within a palette or from palette to palette. Doing this helps you set up color cycling, because the position of a color within a palette determines when it will appear in the cycle.

To exchange colors in the same palette, select one color from the paintbox. Then left-click on Swap. Move the cursor back to the paintbox and select a second color to exchange with the first color. The two colors will trade places in the paintbox.

To exchange the colors of two palettes, first select a palette letter in the palette selector. Then left-click on Swap. Finally, select a second palette letter. The colors of the two palettes will be swapped.

Invert When you left-click on this selection, it inverts all colors on the palette. Inverting a color changes it to its complementary color--one that has the opposite RGB value.

View Color Hold down the left-mouse button on this selection to view your canvas in the current palette colors. Release the mouse button to return to the palette editor.

View Mono Hold down the left mouse button on this selection to view your canvas in shades of gray. Release the mouse button to return to the palette editor.

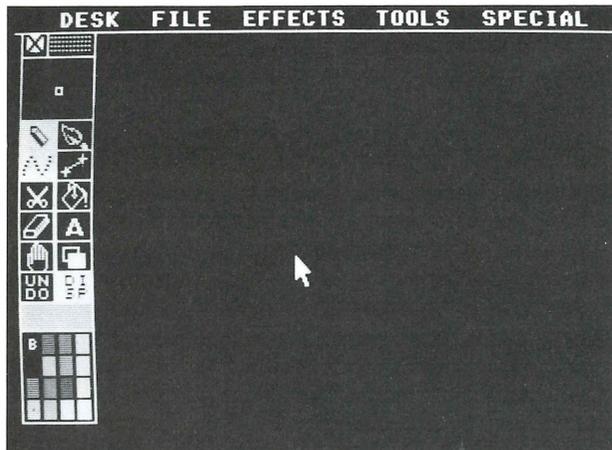
View Cycle Hold down the left mouse button on this selection to preview your color cycling.

Undo Left-click on this selection to cancel the last action you took in the palette editor.

Make your selections, then left-click on OK to return to the canvas.

Art Director Menu Bar

Whenever you right-click on the canvas, the menu bar appears across the top of your screen. The menu bar contains five selections, each having a drop-down menu of options. You'll use the options both for working on your canvas and for manipulating picture files.



— Art Director Menu 1

Desk The Desk menu contains an option that displays the program credits and version number.

File The File menu includes options for loading, saving, deleting, and printing files, formatting data disks, and exiting the program. It also provides an option for saving your *Art Director* preferred settings.

Effects The Effects menu contains options for manipulating a defined section of your canvas. The image created by one of these options becomes a brush.

Tools The Tools menu contains painting tools, such as the spray can and the outline option, that produce complex effects.

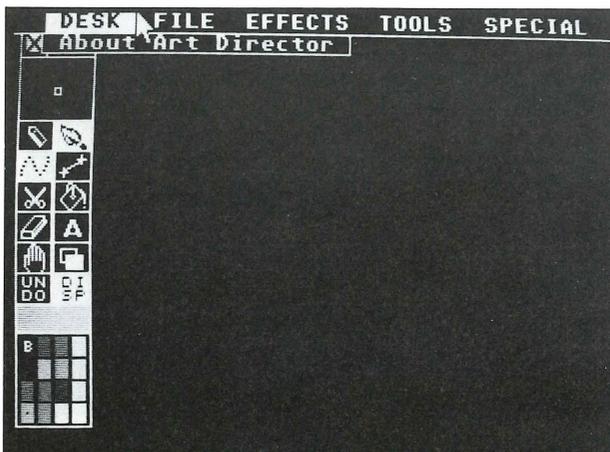
Special The Special menu includes miscellaneous options both for achieving special effects and for controlling the on-screen components.

With the menu bar displayed (right-click on the canvas), move the cursor to any selection to see its menu of options. Move the cursor up and down a menu to highlight individual options. When an option is highlighted, left-click to select it.

If you decide not to select any menu option, left-click anywhere outside the menu and it disappears. Left-click again to return to continue working on your canvas.

Desk Menu Option

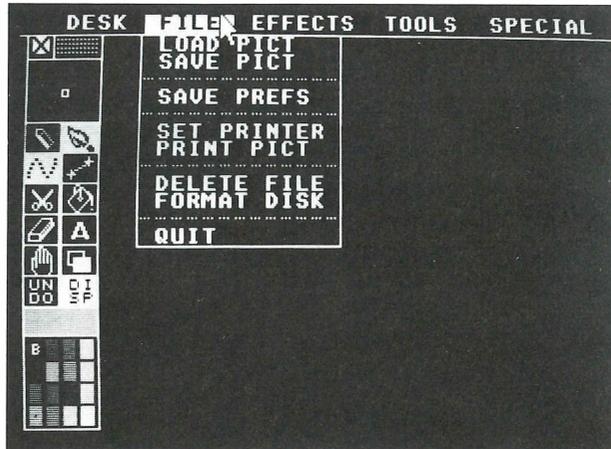
The Desk menu contains the About Art Director option.



Select this option to see the *Art Director* design credits and version number. Left-click on OK in the dialog box or press **Return** to return to your canvas.

File Menu Options

The File menu contains options for loading, saving, deleting, and printing files, formatting data disks, and exiting *Art Director*. It also provides an option for saving the program preferences you set with *Art Director*.

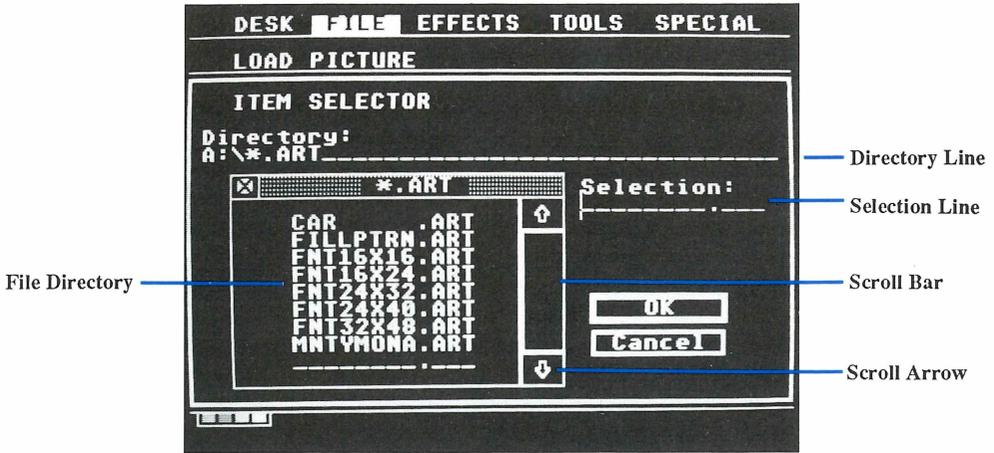


Load Pict

The Load Pict option loads a painting file onto your canvas. Select the option and left-click on OK in the warning box that appears (or press **Return**). An item selector appears listing the .ART files on the disk currently in the drive. These files can include paintings you've created and saved, text fonts, fill patterns, and clip art.



Tip: The item selector for your disk may list different .ART files than those shown here.



Left-click on a filename to select it, then left-click on OK or press **Return** to load the file. If the file directory is longer than one screen, drag the scroll bar up and down or left-click on the item selector's scroll arrows to see all file selections.

You can edit the directory line to access a different drive, directory (folder), or group of files with extensions other than .ART. Left-click on the directory line, press **Backspace** or **Esc** to erase, then enter a new pathname. Move the cursor into the scroll bar and left-click again. The new directory appears.

Another shortcut (if you know the name of the file you want) is to type the filename on the selection line and left-click on OK or press **Return**. If the file is on the disk in the drive (and folder) listed in the directory line, it will be loaded onto your canvas.

Select Cancel in the item selector if you don't want to load a file.



Tip: See your ST manual for full information on using the item selector.

Save Pict

The Save Pict option saves the on-screen canvas to disk as an *Art Director* file. When you select the option, the item selector appears. If you are saving the canvas as a new file, type a filename for it using up to eight characters. (Before typing, make sure the cursor is on the selection line. If it isn't, left-click on the selection line to move it there.) The filename will be entered on the selection line. Then left-click on OK or press **Return**. Your canvas will be saved to the disk in the drive listed on the directory line, and its filename will be given the extension .ART.

If your canvas already has a filename, left-click on it in the file directory, then left-click on OK or press **Return**. A dialog box asks if you want to overwrite the existing file. If you do, left-click on Yes or press **Return** to save the file.

Before saving a file, you can edit the directory line to indicate a different drive or directory (folder) where the file will be saved. Left-click on the directory line, erase by pressing **Backspace** or **Esc**, and type a new pathname. Then save your canvas as already described.



Tip: The Save Pict option saves only the on-screen canvas, and not all the pages in memory. Those must be brought on-screen and saved in their own files.

Save Pref

Select the Save Pref option to save the following settings to disk:

- The File menu/Set Printer option setting (pixels per line on printed work).
- The Special menu/Warnings option settings (warning boxes displayed or hidden).
- The Special menu/Free Cursor option setting (cursor restricted to the visible canvas area or freed to move beyond it).
- The selections you made from the Display tool's selection box (message, cursor coordinates, and vertical and horizontal scale display on or off).

When you select Save Pref, an item selector appears. Save your preferences to the disk containing the *Art Director* program ARTDIR.PRG. Check the directory line in the item selector to make sure the drive (and directory, if needed) is correct. (If either is not, edit the directory line.)

Also make sure the disk containing ARTDIR.PRG is in the drive named on the directory line. Then left-click on OK or press **Return**.

The settings are saved in a file named A.PRE on the disk in your working drive. That disk should also contain the *Art Director* program file ARTDIR.PRG. The next time you load Art Director from that disk, those settings will be in effect.

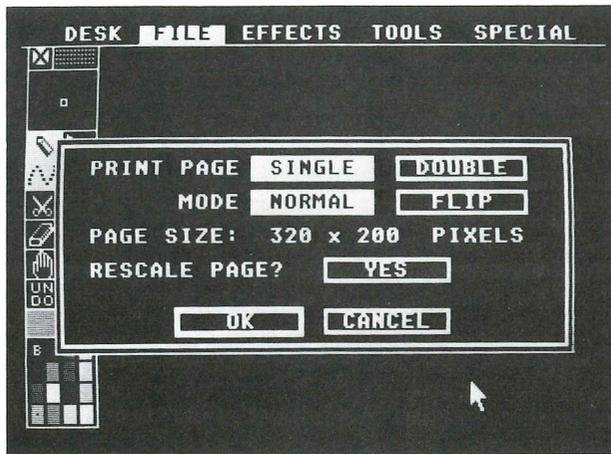
Set Printer

The *Art Director* program can print to any Epson or Epson-compatible dot-matrix printer. With a printer connected to your system, use the Set Printer option to set the resolution (pixels per line) of your printed work.

First, consult your printer owner's manual to find out whether your printer uses 960 or 1280 pixels per line. Generally, 960 pixels per line is chosen for narrow carriage (8 1/2 inches wide) printers; 1280 pixels per line is chosen for wide carriage printers. Then select Set Printer. In the selection box, left-click on either 1280 or 960, depending on your printer. Then left-click on OK or press Return.

Print Pict

Select the Print Pict option when you're ready to print a canvas. A selection box appears:



Print Page Select Single to print the canvas currently on screen. Select Double to print both the front and back pages of your canvas in that order.

Mode Select Normal to print the canvas as you see it. Selecting Flip prints the canvas in reverse, right to left.

Page Size These numbers show the size at which the current canvas will be printed. The size is expressed as width by height in pixels.

Rescale Page Select Yes to change the size of the printed canvas. A flashing border appears around the canvas. To rescale, move the mouse to move the lower right corner of the flashing border. When the border is the size you want, left-click to begin printing.

After making your Print Page and Mode selections, left-click on OK or press Return to begin printing. When you rescale a page, printing begins automatically.



Tip: Be sure you have your printer set up and ready to print before making your selections.

Delete File

Select the Delete File option to erase a file from disk. The item selector appears. In the file directory, left-click on the filename of the unwanted file. When the filename appears on the selection line, left-click on OK or press **Return**. In the dialog box that appears, left-click on OK again or press **Return**. The file will be deleted from the disk and cannot be retrieved.

In the Delete File item selector, you can edit the directory line to access a different disk or directory (folder). Left-click on the line, press **Backspace** or **Esc** to erase, then type a new pathname. Move the cursor into the scroll bar and left-click to update the file directory. Then delete a file as explained.

Format Disk

The Format Disk option lets you format a disk without leaving the *Art Director* program. This can be a great help when you want to save a canvas but you're caught without a formatted disk handy.



Tip: Take care when using the Format Disk option. If a disk containing files is in the drive during formatting, all its information will be erased.

To format a disk, follow these steps:

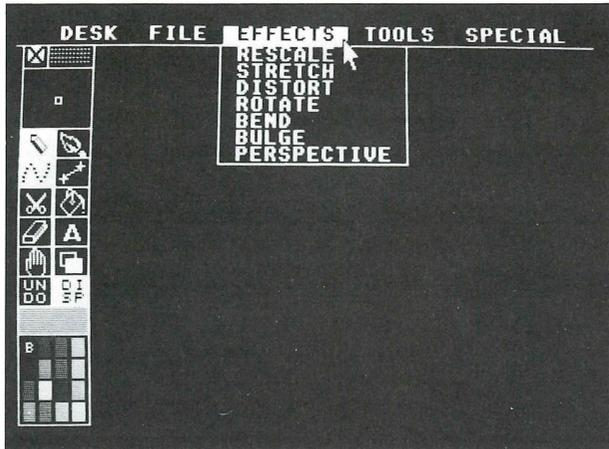
1. Insert the disk to be formatted in a drive.
2. Select Format Disk.
3. A dialog box appears. Left-click on the drive containing the disk to be formatted. (Select Cancel or press **Return** to cancel the operation.)
4. A second dialog box appears. Select Single to format a single-sided disk, or Double to format a double-sided disk. (Select None or press **Return** to cancel the operation.)
5. The disk is formatted and you return to the canvas.

Quit

Select the Quit option to leave the *Art Director* program and return to your system desktop. A dialog box reminds you to save your changes before quitting. Press **Y** (for Yes) to leave the program and return to your desktop. Press **N** (for No) to return to your canvas.

Effects Menu Options

The Effects menu contains options for manipulating a defined section of your canvas to create a new brush. When an option is selected, its name appears in the upper left corner of your screen.



Images created by Effects menu options become brushes, and can be stamped repeatedly or painted on the canvas. They can also be modified with the options in the brush's selection box to create particular effects.

For example, you can stretch an image with the Stretch option described in this section. The stretched image becomes a brush. By using a dark color from the palette and the Silhou option from the brush's selection box, you can turn the stretched image into a shadow and stamp it near the original image for a shadow effect.



Tip: Press **Esc** to cancel an image that's being redrawn by an Effects menu option. The partially drawn image becomes your brush.

Rescale

The Rescale option enlarges or shrinks a selected part of your painting and uses the resulting image as a brush. With Rescale you can change the size of an image but you cannot change its relative proportions.

Select Rescale, then left-click on OK or press **Return** in the warning box. Flashing crosshairs appear on your canvas. To create a rescaled brush, follow these steps:

1. Place the center of the crosshairs in the upper left corner of the area you want to rescale and left-click to set this point.

2. Move your mouse to see a flashing box. As you continue moving the mouse, the box surrounds an area of your canvas. Left-click when the box is set over the area you want.



Tip: If the source area you last defined was a rectangle, you can use it again now by pressing **Alternate O** instead of redefining that area.

3. The crosshairs reappear. Now set the image's new size. Move the center of the crosshairs anywhere on your canvas. When you left-click, the center becomes the upper left corner of the new area. Move the mouse until the flashing box is the correct size, then left-click. The image is reproduced in the new size and becomes your brush.
4. Move your mouse to position the image, then left-click to stamp the image on the canvas.



Tip: When setting the image's new size (step 3), move the mouse downward and to the right to create a normal image, upward to create an upside-down image, and to the left to create a flipped image.

Rescale can be used to correct errors in proportion. For example, if you draw a human body, use Rescale to correct an out-of-proportion body part without having to redraw it.

Stretch

The Stretch option alters the relative proportions of an image. For example, you would use Stretch on an image that is the correct scale for its surroundings, but you want it fatter or longer. With the Stretch option, the image you create becomes a brush.

Select Stretch, then left-click on OK in the warning box (or press **Return**). Flashing crosshairs appear on your canvas. Then follow these steps:

1. Place the center of the crosshairs in the upper left corner of the area you want to stretch and left-click to set this point.
2. Move your mouse to see a flashing rectangle. As you continue moving the mouse, the rectangle surrounds an area of your canvas. Left-click when the rectangle is set over the area you want.



Tip: To use your current brush for the source image, press **Alt 0** in place of defining an image in step 2. When your brush appears, left-click.



Tip: If the source area you last defined was a rectangle, you can use it again now by pressing **Alternate O** instead of redefining that area.

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3. The crosshairs reappear. Now set the image's new size. Move the center of the crosshairs anywhere on your canvas. When you left-click, the center becomes the upper left corner of the new area. Move the mouse until the flashing rectangle is the correct size, then left-click. The image is redrawn in the new size and becomes your brush.
 4. Move your mouse to position the image, then left-click to stamp the image on the canvas.



Tip: When setting the image's new size (step 3), move the mouse downward and to the right to create a normal image, upward to create an upside-down image, and to the left to create a flipped image.

Distort

The Distort option lets you skew a portion of your canvas into another shape. The image you create becomes a brush. With Distort, you can create interesting surrealistic images, shapes, and patterns.

Select Distort, then left-click on OK in the warning box (or press **Return**). A small arrow appears which you will use to define a four-sided shape. Follow these steps:

1. Decide on the area you want to distort, then outline it by setting points. Move the mouse to place the arrow on your first point in the outline. Left-click to set the point.
2. Move the arrow to a second point. A flashing line forms between the two points. Left-click to set point two.
3. Move the arrow to a third point. The flashing line becomes a three-sided shape. Set the third point with a left-click.
4. Move the arrow to a fourth point. A four-sided shape now defines the area that will be distorted. Left-click. The flashing shape disappears.
5. Begin defining an area for the distorted image. Set four new points by moving the arrow and left-clicking, as in the previous steps. If you defined a regular shape, such as a square, for the source image (steps 1 through 4), you may want to set points for an irregular shape, such as a trapezoid, for the distorted image.
6. Once you set the fourth point, the image is redrawn in the distorted shape and is available as a brush.



Tip: When redrawn, an image will always begin at the first point you set. For example, suppose you set the first point of your source image at its upper left. Then you set the first point for the distorted image at its lower right. The image will be redrawn upside down.

Rotate

The Rotate option turns a portion of your canvas around an axis to the orientation you want. The image created with Rotate becomes a brush.

Use Rotate to create similar images with different orientations for use in *Film Director* animations. For example, Rotate can help you create images for an animation of an athlete swinging on a parallel bar, or a runaway tire rolling downhill.

Select Rotate, then left-click on OK in the warning box (or press **Return**). Flashing crosshairs appear on your canvas. Then follow these steps:

1. Place the center of the crosshair in the upper left corner of the area you want to rotate and left-click to set this point.
2. Move your mouse to see a flashing box. As you continue moving the mouse, the box surrounds an area of your canvas. When the box is set over the area you want, left-click to set it.



Tip: If the source area you last defined was a rectangle, you can use it again now by pressing **Alternate O** instead of redefining that area.

3. A guide bar appears with its end at the center of the rectangle.

Move the mouse to rotate the guide bar and box to the orientation you want for the redrawn image. When the guide bar points to the center right edge of the canvas, the image will be redrawn right side up. When the guide bar points to the left center edge, the image will be redrawn upside down.

4. When the guide bar and box are positioned, left-click. The image will be redrawn as a brush that you can stamp or paint with anywhere on the canvas.

Bend

The Bend option wraps a section of your painting around an imaginary cylinder. Use Bend to achieve a three-dimensional effect. For example, use Bend to wrap the word "soup" around a can, or make columns on the front of a building look cylindrical. The image created with the Bend option becomes your brush.



Tip: During a Bend operation, *Art Director* may take several seconds to draw the bent image on your canvas.

Select Bend, then left-click on OK in the warning box (or press **Return**). Flashing crosshairs appear on your canvas. Follow these steps:

1. Place the center of the crosshairs at the upper left corner of the area you want to bend and left-click to set this point.

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2. Move your mouse to see a flashing box. As you continue moving the mouse, the box surrounds an area of your canvas. Left-click when the box is set over the area you want.



Tip: If the source area you last defined was a rectangle, you can use it again now by pressing **Alternate O** instead of redefining that area.

3. Small crosshairs appear. Move the crosshairs anywhere on the canvas and left-click to set the first point of an axis line for your imaginary cylinder.
4. Move the crosshairs at any angle to the point you just set. A flashing line--the axis line--appears. Left-click when the crosshairs are where you want to end the line.
5. When you move the mouse now, two curves appear, one at each end of the axis line. These curves represent the circumference of the imaginary cylinder. Move the mouse in any direction to size the curves--wider, narrower, above, or below the ends of the axis line. When the curves look good, left-click.
6. The image is redrawn, bent around the cylinder you defined, and becomes your brush.



Tip: The bending effect is very apparent when the bent area includes a pattern.

Bulge

The Bulge option wraps an image on or in an imaginary sphere. You can use Bulge to draw both a convex soccer ball and a concave reflection in a metal bowl.

Select Bulge, then left-click on OK in the warning box (or press **Return**). A small arrow appears. Now follow these steps:

1. Decide on the area you want to bulge, and move the arrow to its center. Left-click to set this center point.



Tip: If the source area you last defined was a circle, you can use it again now by pressing **Alternate O** instead of redefining that area.

2. A flashing circle appears that you can expand and contract by moving the mouse. Drag this circle to the desired circumference of your sphere and left-click to set it.
3. A second flashing circle appears inside the circumference. Move the mouse to expand or contract this circle. If you want the bulge to appear convex (like a ball), set the inner circle's size to almost equal the outer one's. If you want the bulge to appear concave (like the inside of a bowl), make the inner circle smaller than its original size. Left-click to set the inner circle.



Tip: You can't make the inner circle larger than the outer circle.

4. *Art Director* draws the bulge which becomes your new brush.



Tip: The bulge is very apparent when the bulged area includes a pattern.

Perspective

The Perspective option alters the perspective of a selected image. This option is useful for adding depth to a painting or creating a realistic scene such as railroad tracks heading into the distance.



Tip: When you use Perspective, *Art Director* may take several seconds to draw the altered image.

Select the Perspective option, then left-click on OK or press **Return** in the warning box. A dialog box appears asking if you want to set a new vanishing point. Left-click on Yes if you do. (Left-click on OK or press **Return** to retain a previously set vanishing point.)



Tip: The vanishing point is where converging lines in a painting will apparently meet.

Four flashing lines appear radiating from a common vanishing point. Now follow these steps:

1. Move the mouse to position the vanishing point and left-click to set it. Flashing crosshairs appear.
2. Define the image from your canvas that will have its perspective altered. Move the mouse to position the center of the crosshairs at the upper left corner of the image and left-click. When you move the mouse, a flashing box appears. Move the mouse to size the box until it surrounds your image, then left-click to set it.

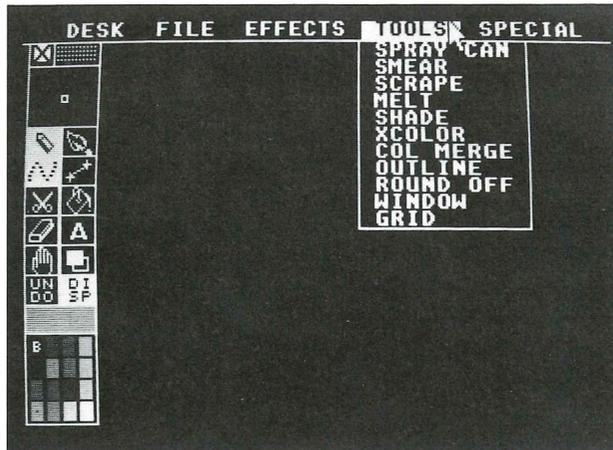


Tip: If the source area you last defined was a rectangle, you can use it again now by pressing **Alternate O** instead of redefining that area.

3. A line appears radiating from your vanishing point. The end of the line represents where the upper left corner of your source image will be drawn. Move your mouse until the line's end is where you want it, then left-click.
4. Move the mouse again. A flashing triangle appears, representing the width of the final image. Adjust the triangle by moving your mouse, then left-click when the triangle is the size you want.
5. Move the mouse. A flashing box appears representing the height of the final image (that is, how far the image will reach from its end point, set in step 3, towards the vanishing point). Adjust the box to the depth you want and left-click to set it.
6. The final image is drawn and becomes your brush.

Tools Menu Options

The Tools menu contains options that are used as painting tools, similar to the tools in the toolbox. Options from the Tools menu are used less frequently than toolbox tools, but produce more complex effects, such as color smearing and outlining.

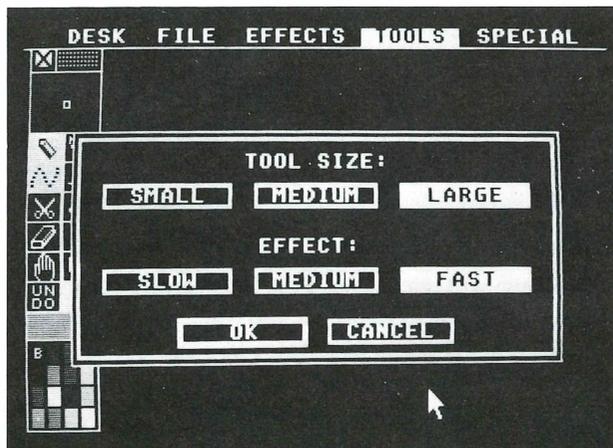


When you select an option, its name appears in the message in the upper left corner of your screen. To exit from an option, select a toolbox feature or another option from the Effects or Tools menu.

Spray Can

The Spray Can option randomly sprays a mist of color on your canvas. Using the Spray Can, you can create a starry sky, for example.

When you left-click on the option, a selection box appears.



Tool Size Your selection determines the size of your spray can nozzle when used with the pencil.

Effect Your selection sets the rate at which color is sprayed. Select Slow for a very fine mist; select Fast for heaviest coverage.

Make your selections and left-click on OK or press **Return**. If you're using the pencil, a flashing circle (the spray can nozzle) appears. Hold down the left mouse button and move the mouse to spray. The color you spray will be the color currently showing in the color swatch.

If you're using the brush, a flashing box appears. Again, hold down the left mouse button and move the mouse to spray. The result will be a spray of colors from the brush.



Tip: Holding down the left mouse button without moving the mouse will eventually spray your brush on screen as though you stamped it.

Smear

The Smear option lets you "rub" the canvas, mixing up pixels of different colors. Doing this creates a smeared or smudgy look. Left-click on the option and a selection box appears.

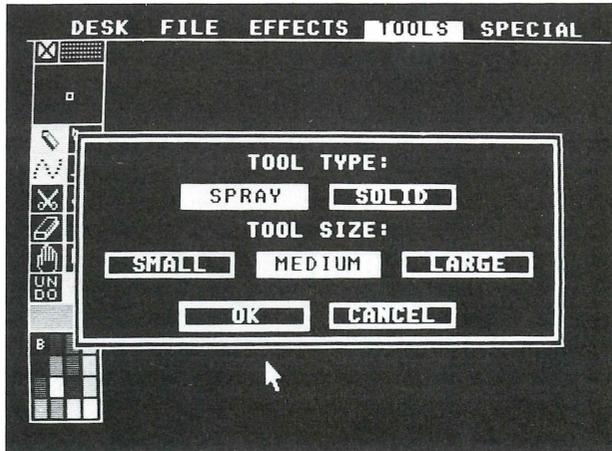
Tool Size Your selection determines the size of your smearing tool.

Make your selection and left-click on OK or press **Return**. Flashing crosshairs appear. Move the crosshairs to an area on your canvas where two or more colors meet--for instance, where a row of hills meets the horizon. Then hold down the left mouse button while moving the crosshairs over the area. Pixels of the different colors will change places within the area, achieving a hazy look similar to a watercolor wash.

Scrape

The Scrape option lets you scrape through an image on your front page to reveal an image on your back page. When you're creating frames for animation, use Scrape to achieve the effect of gradually revealing parts of another scene, or merging two scenes.

When you select Scrape, a selection box appears:



Tool Type Choose Spray if you want to scrape away an image pixel by pixel for a misty effect. Choose Solid to scrape away an image in blocks. The Spray cursor is a flashing circle; the Solid cursor is a flashing box.

Tool Size Select a size depending on the area you want to scrape away with each stroke.

Make your selections and left-click on OK or press **Return**. Position the cursor on the area of your canvas you want to scrape away. Then hold down the left mouse button while moving the mouse to scrape. The underlying image from your back page will be exposed in the scraped area.



Tip: Scrape uses the palette of your front page, and images from the back page will be revealed in those colors. For best results, the palettes of both your front and back page should be the same or at least similar.

Melt

The Melt option blends colors together. Left-click on the option and a selection box appears.

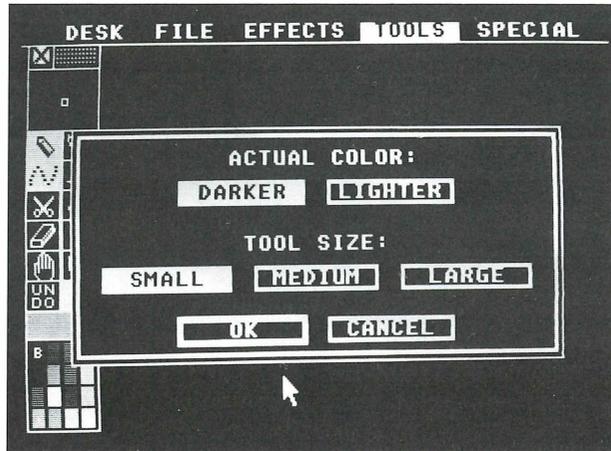
Tool Size Your selection determines the size of your melting tool.

Make your selection and left-click on OK or press **Return**. A flashing box appears. Move the box to an area on your canvas where two or more colors meet—for instance, where the top of a tree overhangs a roof. Then hold down the left mouse button while moving the box over the area. Pixels of the different colors will change places within the area,

achieving a drizzly look. In the case of a treetop overhanging a roof, the effect will be as if a breeze were blowing the leaves.

Shade

The Shade option sprinkles pixels of a darker or lighter shade onto a selected color in your painting. Left-click on the option and a selection box appears:



Actual Color Your selection determines if the sprinkled pixels will be a shade darker or lighter than the color in the color swatch.

Tool Size Your selection determines the size of your shading tool.

Make your selections and left-click on OK or press **Return**. A flashing box appears. Move the cursor onto the palette and left-click on the color you want to shade. That color appears in the color swatch.

Move the cursor back onto the canvas, hold down the left mouse button, and move the mouse. When the flashing box moves over the color-swatch color on your canvas, pixels of color will be sprinkled onto it. The color sprinkled will be the color from your palette that is the closest shade (lighter or darker) to the actual color.



Tip: The Shade option does not create lighter or darker colors--it chooses them from the palette. For example, suppose the color in your color swatch is yellow, but there are no other lighter or darker yellows in the palette. When you use Shade, *Art Director* will sprinkle pixels of the closest color from the palette, such as brown, tan, or orange.

Xcolor

The Xcolor option substitutes or swaps one color on your canvas for the color in the color swatch. Left-click on the option and a selection box appears.

Replace Select this option to substitute one color on the canvas for the color in the color swatch. For example, if you've painted a green house under a blue sky, use Replace to paint the house blue.

Exchange Select this option to swap two colors on the canvas, so that each color replaces the other. For example, if you've painted an orange house under a blue sky, use Exchange to repaint the house blue and the sky orange.

Make your selection and left-click on OK or press **Return**. An arrow appears. Move the cursor onto the palette and left-click on a color. That color appears in the color swatch. Move the cursor back onto the canvas, place the point of the arrow on the color you want to affect, and left-click.

If you're replacing a color, the color in the color swatch will be substituted for the color pointed to throughout your canvas. If you're exchanging colors, all occurrences on the canvas of the color in the color swatch and the color pointed to will swap places.

Col Merge

The Col Merge option merges a single color from one canvas onto another. This option is helpful when you want to duplicate a one-color image, such as text, an outline, or a silhouette, from one canvas into the exact spot on another canvas.



Tip: Images copied with Col Merge are not brushes. They cannot be easily relocated on the second canvas once they are duplicated onto it.

Follow these steps:

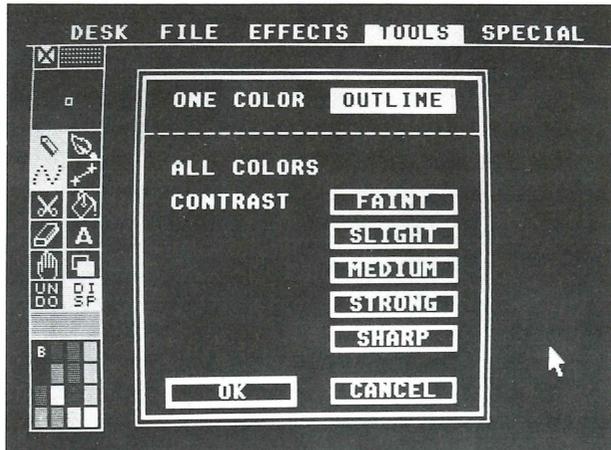
1. Select Col Merge from the Tools menu. Move your cursor onto the palette and left-click on the color of the image to be duplicated.
2. Move the canvas to the back page. Now load a new canvas onto the front page (or use the blank canvas).
3. Left-click anywhere on the canvas. The color from the back-page canvas will be duplicated into the same location on the front-page canvas.



Tip: Col Merge uses the palette of your front page, and images from the back page will be duplicated in those colors. For best results, the palettes of both your front and back pages should be the same or at least similar.

Outline

The Outline option outlines images on your canvas with the color in the color swatch. Left-click on the option and a selection box appears:



One Color Left-click on Outline to outline all shapes of a single color with the color in the color swatch. The outline surrounds the shape and leaves the original color intact.

All Colors Left-click on a contrast level to draw an outline of a shape and erase its original color. A shape is outlined depending on its level of color contrast with the colors that surround it.

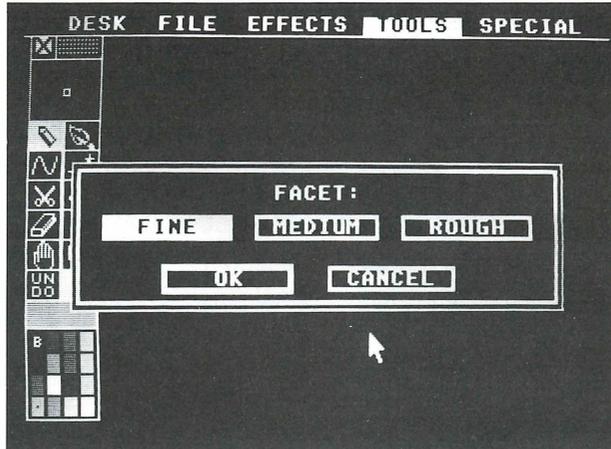
- Select **Faint** or **Slight** to outline shapes that contrast slightly with surrounding colors.
- Select **Medium** to outline shapes that have a medium contrast with their surrounding colors.
- Select **Strong** or **Sharp** to outline all shapes that contrast sharply with their surrounding colors.

Make your selections and left-click on OK or press **Return**. Select the color from the palette that you want as your outline color. Then, if you selected One Color Outline, move the arrow onto a shape that is in the color you want outlined and left-click. If you selected All Colors and a contrast level, move the cursor anywhere on the canvas and left-click.

The toolbox disappears during outlining and reappears when outlining is complete.

Round Off

The Round Off option smooths sharp angles in a painting to achieve a softer look. Left-click on the option and a selection box appears:



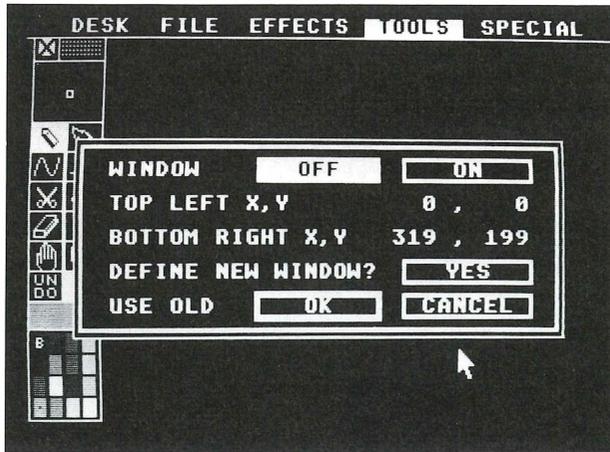
Facet Select a level--Fine, Medium, or Rough--to determine to what degree the angles will be rounded. Fine gives the least amount of rounding; rough gives the most.

Make your selection and left-click on OK or press **Return**. Then left-click anywhere on the canvas. The toolbox disappears during rounding off and reappears when the operation is complete.

Window

The Window option defines an area, or window, on your canvas. Once a window is defined, the bucket tool and Xcolor, Col Merge, Outline, and Round Off options will affect only that area.

Left-click on Window and a selection box appears:



Window Select On to activate a window. Select Off to deactivate a window currently on your canvas.

Top Left X,Y Shows the location of the window's upper left corner, in pixel coordinates.

Bottom Right X,Y Shows the location of the window's bottom right corner, in pixel coordinates.

Define New Window? Select Yes if you want to set a new window. When the canvas reappears, flashing crosshairs are on screen. Move the center of the crosshairs to the upper left corner of the window area you want and left-click. Then move the mouse to stretch a flashing box around the area. When the lower right corner of the box is where you want it, left-click.

Use Old Select OK or press **Return** to re-activate the last window you set, defined by the pixel coordinates given in this selection box. Window must be set to On in order for this option to work.

When a window is active, select a tool or option (such as the bucket tool or Col Merge), move the cursor into the window, and left-click. This action will affect only the canvas area within the window.

The window remains active until you turn it off. Select the Window option again, left-click on Off, then left-click on OK or press **Return**.

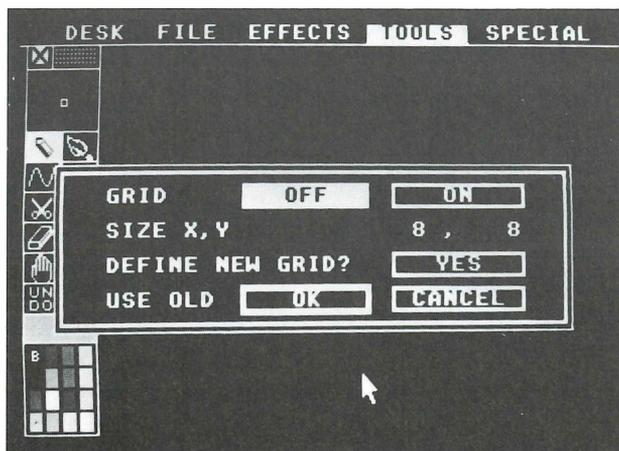


Tip: Press **Alternate W** to toggle a window on and off.

Grid

The Grid option places an invisible grid over your canvas. Tools lock onto the grid's intersections. A grid helps you draw precise lines or arrange shapes in a precise pattern. The grid is also useful for creating graphs, charts, checkerboards, or any pattern that requires straight lines and right angles.

Left-click on Grid and a selection box appears:



Grid Select On to activate a grid. Select Off to deactivate a grid currently on your canvas.

Size X,Y This item gives the size of the upper left box of your grid. The upper left corner of this box is always at location 0,0 on your canvas. The bottom right corner is at the pixel coordinates shown here.

Define New Grid? Select Yes if you want to set a new grid. When the canvas reappears, a flashing grid with a cross-like cursor is on screen. Move the cursor to enlarge or reduce the boxes in the grid. The grid covers the entire canvas even if its visible portion covers only part of the screen. Most of the grid is invisible when its boxes are small and its intersections are close together.

When the grid is the size you want, left-click to set it. The grid disappears and becomes active.

Use Old Select OK or press **Return** to re-activate the last grid you set.

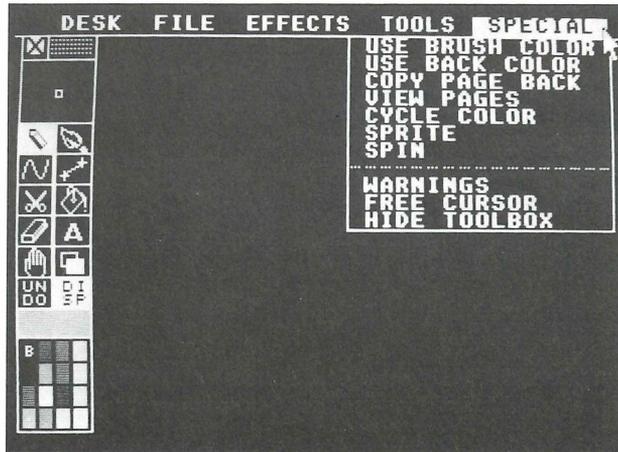


Tip: You must move or hide the toolbox in order to set a grid that's narrower than 24 pixels across.

The grid remains active until you turn it off. Select the Grid option again, left-click on Off, then left-click on OK or press **Return**.

Special Menu Options

The Special menu contains miscellaneous options both for achieving special effects on your canvas and for controlling the components on the *Art Director* screen.



Use Brush Color

The Use Brush Color option is helpful when you're using a brush that you created on another canvas having a different palette. Select Use Brush Color to change the current palette to the one that was originally used to create your brush. The two paintings then have identical palettes.



Tip: The canvas where your brush was originally created does not have to be on your back page.

Use Back Color

The Use Back Color option lets you change your palette to the one currently on your back page. Select the option to bring the back page palette onto your current canvas. The two canvasses will then have identical palettes.

Copy Page Back

The Copy Page Back option duplicates your current canvas onto the back page, while retaining it on the front page. This option is handy when you want a backup copy of your current canvas within easy reach.



Tip: All palettes set for your current canvas from the front palette editor are copied to the back page with this option.

View Pages

Select View Pages to see both your front and back pages at the same time. The front page is on top, and the front page palette is used. The letters to the left of the pages tell their position in your page map.

The View Pages screen is a viewing screen only; you can't make any changes on it. Left-click to return to the *Art Director* screen.

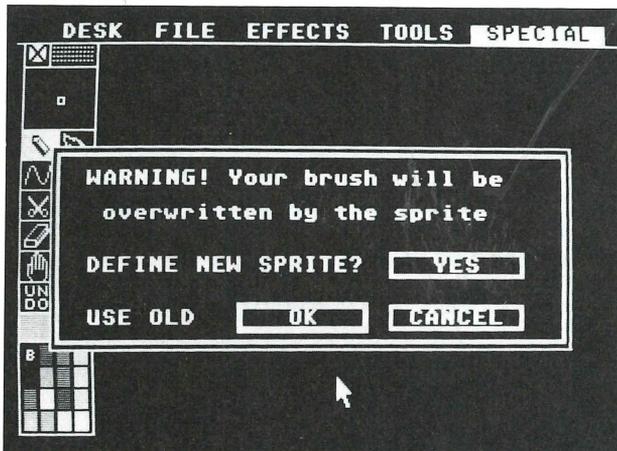
Cycle Color

The Cycle Color option cycles different palettes through your painting. The palette colors and timing are set from the palette editor. For details, see **Palette Editor** earlier in this manual.

Press any key or click either mouse button to turn off color cycling.

Sprite

The Sprite option defines a circle on your canvas and makes it bounce around the screen. Left-click on the option and a selection box appears:



Define New Sprite? Select Yes if you want to create a new sprite. When the canvas reappears, a small arrow is on screen. Follow these steps:

1. Move the arrow to the center of an image, press the left mouse button, and move the mouse. An oval appears.
2. Move the mouse until the oval surrounds the image, then left-click. Your cursor goes to the center of the oval.
3. Move the mouse to extend a line that indicates the direction and speed of the sprite's first move. The longer the line, the faster the sprite.
4. Left-click to start the sprite moving. The back page appears, with the sprite bouncing in it and using the palette from the front page. When the sprite bumps an edge of the canvas, it bounces off in another direction.

Use Old Select OK or press **Return** to reactivate the sprite already created. In order for this selection to work, the canvas with the sprite must be on the front page.

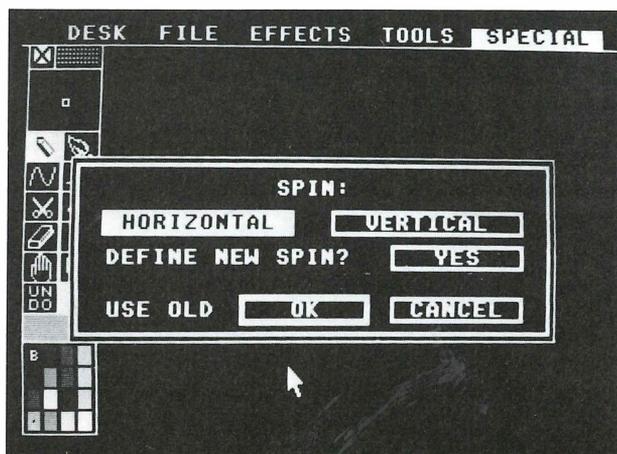
Press any key or click either mouse button to stop the sprite and return to the front page.



Tip: The image you define as a sprite also becomes a brush.

Spin

The Spin option defines a rectangular area on your canvas and makes it spin around its axis, either horizontally or vertically. Left-click on the option and a selection box appears:



Spin Select either **Horizontal** or **Vertical** to set the direction of spin. Your choice affects only the next sprite you define. It does not affect a previously defined sprite.

Define New Spin? Select **Yes** if you want to set up a new spinning image. A warning box appears. Left-click on **OK** or press **Return** if you don't mind overwriting the back page. If you do, select **Cancel** and save your back page before creating a spinning image.

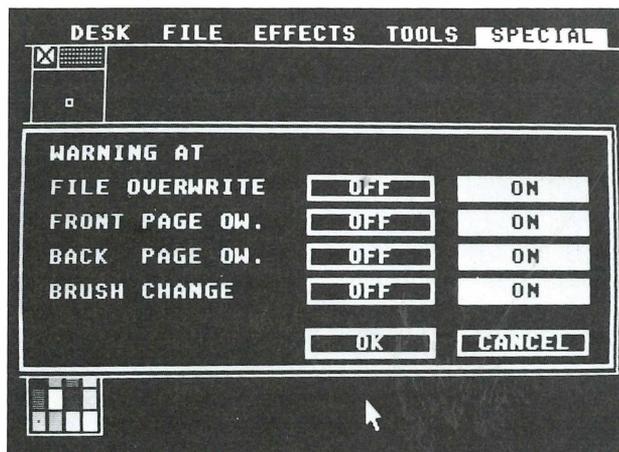
When the canvas reappears, a flashing box is on screen. The box indicates the maximum possible size of the spinning image. Move the top left arrow of the box to where you want it and left-click. Move the mouse until the box surrounds the spinning image you want, and left-click. In a few moments, the spinning image appears on your canvas. The image is also put on your back page.

Use Old Select **OK** or press **Return** to re-activate the spinning image already created. In order for this selection to work, the canvas with the spinning image must be on the back page, and the back page must not have been changed since you defined the spinning image.

You can move the spinning image on the canvas by moving your mouse. Press any key or either mouse button to make the spinning image disappear.

Warnings

The **Warnings** option lets you toggle various warning messages on and off. Left-click on **Warnings** and a selection box appears:



File Overwrite This message warns that you are about to write over an existing file, and appears when you saving a painting under an existing filename.

Front Page Ow. This message warns that you are about to write over your front-page canvas, and appears when you are loading a file or flooding your canvas with color.

Back Page Ow. This message warns that you are about to write over your back page canvas, and appears when you use the Copy Back Page and Spin options.

Brush Change This message warns that you are about to replace your brush with another brush. It appears if you already have a brush selected and choose an option that lets you create another brush.

Set each selection to Off or On by clicking on either word. Off means the warning box will not appear during your *Art Director* session; On means the warning box will appear. Then select OK or press **Return**.

Your selections can be saved to disk with the Save Prefs option in the File menu.

Restrict Cursor

The Restrict Cursor option keeps your cursor within the visible canvas. To deactivate the option, display the Special menu and select Free Cursor. You'll then be able to move your cursor off screen--for example, in order to look at a painting without the cursor in it.



Tip: If you lose the cursor, press **Help** to return it to the center of the canvas.

Hide Toolbox

The Hide Toolbox option removes the toolbox from your screen. To redisplay the toolbox, display the Special menu and select Show Toolbox.

Using ARTCONV.PRG

With *Art Director*, you can use picture files created with *NEOchrome* or *DEGAS Elite*. To do that, you must first convert those files to .ART files using the program ARTCONV.PRG (supplied on the *Art Director* disks). Follow these steps:

1. From the GEM Desktop, run ARTCONV.PRG. The program loads and displays its menu bar offering four selections: Desk, File, Input, and Output.
2. Insert a disk containing a *NEOchrome* (.NEO) or *DEGAS Elite* (.PI1) picture file into a disk drive.

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3. Display the Input menu and select the type of file you want to load.
 4. Display the File menu and select Load Picture. An item selector appears listing picture files.



Tip: If you need to, edit the directory line in the item selector to display the correct drive letter and folder (if any). Left-click on the scroll bar in the item selector to update the directory list.

5. Left-click on the file you want to convert, then left-click on OK or press **Return**. The file is loaded into memory.
6. Display the Output menu and select the type of file you want to convert to.
7. Display the File menu and select Save Picture. An item selector appears.
8. If you want, edit the filename on the selection line, but do not change the filename extension. Select OK or press **Return** to save the file.

You now have two picture files on disk: the original file and the converted file.

Select Quit from the File menu to exit the program. The File menu also contains the Delete File and Format Disk options. Use them in the same way you use the Delete File and Format Disk options in *Art Director*.

Using ARTSHOW.PRG

ARTSHOW.PRG lets you display your *Art Director* paintings one by one in a slideshow. From your GEM Desktop, copy the file ARTSHOW.PRG (supplied on the *Art Director* disks) to any disk containing .ART files. When you want to watch a slideshow of the files, insert that disk into a drive and run ARTSHOW.PRG from the desktop. The program will display all .ART files on the disk, one at a time.



Tip: If your .ART files are in a folder, copy ARTSHOW.PRG into the folder with them. To watch the slideshow, run ARTSHOW.PRG from the folder.

During the slideshow, press the **Left Arrow** to watch your slideshow in reverse. Press the **Right Arrow** to return to forward showing. Press the **Down Arrow** for forward color cycling; press the **Up Arrow** for reverse color cycling.

Press **Spacebar** to pause the slideshow; press it again to resume. Press **Esc** to exit the program and return to the GEM Desktop.

ART DIRECTOR

KEYBOARD SHORTCUTS

With *Art Director*, you can make selections from the keyboard instead of using your mouse. Press the following keys for the selection listed next to each key.



Tip: **Alt** indicates the **Alternate** key. **Ctrl** indicates the **Control** key.

General Use

Alt	Hold down to prevent horizontal cursor movement.
Shift	Hold down to prevent vertical cursor movement.
Control	Displays a pixel's RGB value in the upper right corner of the canvas while using the pencil and the freehand or line-draw tool.
Esc	Interrupts and cancels an operation; completes the entering of text; exits zoom display.
Alt Esc	Displays the menu bar.
Help or Ctrl B	Places cursor at screen center.
Return	Usually the same as left-clicking on OK (except when another selection is highlighted by default). Enters carriage return when typing text.
Alt Return	Same as holding down the left mouse button. Press Return again to release function.
Arrow keys	Move cursor one pixel in indicated direction.
Alt Arrow keys	Move cursor eight pixels in indicated direction.
Delete	Floods the canvas with the currently selected color.
Ctrl U	Moves the canvas up one pixel.
Ctrl D	Moves the canvas down one pixel.

Toolbox

Alt /	Brush
Alt Spacebar or Alt .	Pencil
Alt ,	Eraser
F1	Freehand
F2	Line-draw
F3	Bucket
F4	Text
F5	Zoom
F6	Scissors
F7	Scroll
F8	Toggles mirror on and off
F9	Toggles brush cursor on and off
Ctrl X	Swaps front and back pages
Undo	Undo

Pencil

First select the pencil (**Alt Spacebar** or **Alt.**) and the scissors (**F6**). Then use these keys to select pencil tips:

Shift R	Unfilled circle
Alt Shift R	Filled circle
R	Unfilled oval
Alt R	Filled oval
Shift S	Unfilled square

Alt Shift S	Filled square
S	Unfilled rectangle
Alt S	Filled rectangle

Brush

First select the brush (**Alt /**). Then use these keys:

Alt * or Alt Shift 8	Transparent
Alt -	Block
Alt + or Alt Shift =	Silhouette
Ctrl Q	Assimilate
Ctrl S	Clears brush
Alt Ctrl S	Default brush
Z	Flip horizontally. (Not active with a text brush).
Shift Z	Flip vertically. (Not active with a text brush).
Shift X	Halve horizontally. (Not active with a text brush).
Shift Y	Halve vertically. (Not active with a text brush).
X	Double horizontally. (Not active with a text brush).
Y	Double vertically. (Not active with a text brush).
T	Turn 90 degrees right. (Not active with a text brush).
Shift T	Turn 90 degrees left. (Not active with a text brush).

Freehand

First select freehand (**F1**). Then use these keys:

Alt N	Smooth line
Alt Shift N	Coarse line

Alt 1	Slow
Alt 2	Medium
Alt 3	Normal
Alt 4	Fast

Line-Draw

First select line-draw (F2). Then use these keys:

Alt L	Straight
Alt Z	Zigzag
Alt X	Rays
Alt S	Rectangle
Alt Shift S	Square
Alt R	Oval
Alt Shift R	Circle
Alt P	Polygon

Scissors

First select the scissors (F6). Then use these keys:

0	Cut rectangle
6	Cut freehand
7	Cut oval
-	Cut pattern

Bucket

First select the bucket (F3). Then use these keys:

Alt F	Fill area
Alt Shift F	Fill contour

Text

First select text (F4). Then use these keys.



Tip: All fonts except regular and half-size fonts must be loaded onto the back page before they can be accessed with these keys.

Alt 0	Regular font
Alt 1	Half-size font
Alt 2	8 x 8 font
Alt 3	8 x 16 font
Alt 4	16 x 16 font
Alt 5	16 x 24 font
Alt 6	24 x 32 font
Alt 7	24 x 40 font
Alt 8	32 x 48 font
Backspace	Erases last character entered.
Return	Moves cursor to next line.
Alt I	Inverts the color of the next text you enter. Active only with regular and half-size text.
Alt Shift I	Restores the next text you enter to the original text color. Active only with regular and half-size text.
Esc	Completes the entering of text and converts text to a brush.

Page Swap

When the page swap selection box is displayed, press **A** through **P** to display page **A** through **P** (except for whichever page is the current back page).

Display

F10	Toggles toolbox on and off
Tab or Ctrl I	Toggles display on and off

Palette Editor

First display the palette editor. Then use this key:

Alt I	Inverse color
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Tools Menu

Press these keys to continue to select options from the Tools menu when a selection from that menu was the last action taken.

Alt A	Spray Can
Alt S	Smear
Alt C	Scrape
Alt M	Melt
Alt [Shade, light
Alt]	Shade, dark
Alt X	XColor, replace
Alt Shift X	XColor, exchange
Alt U	Color Merge
Alt O	Outline, in the last selected mode

Alt W	Toggles previously set window on and off
Alt G	Toggles previously set grid on and off
Alt 0 (zero)	Outline, in selected color
Alt 1	Outline, faint contrast
Alt 2	Outline, smooth contrast
Alt 3	Outline, medium contrast
Alt 4	Outline, strong contrast
Alt 5	Outline, sharp contrast
Alt Q	Round Off

Effects Menu

Press these keys to continue to select options from the Effects menu when a selection from that menu was the last action taken.

1	Rescale
2	Stretch
3	Perspective
4	Bend
5	Rotate
8	Distort
9	Bulge
Alt O	Uses the source area last defined if compatible with the current option.
Alt W	Toggles previously set window on and off.
Alt G	Toggles previously set grid on and off.

Special Menu

Press the following keys to continue to select options from the Special menu when a selection from that menu was the last action taken.

Ctrl P	Use Brush Color
Ctrl R	Use Back Color
Ctrl K	Copy Page Back
Ctrl V	View Pages
Alt (or Alt Shift 9	Cycle Color
Alt) or Alt Shift 0	Sprite (begin bouncing)
Alt & or Alt Shift 7	Spin (begin spinning)
Ctrl F9	Restrict or Free Cursor
F10	Show or Hide Toolbox

USING *FILM DIRECTOR*

Film Director uses traditional animation techniques to assist you in creating your own films. The many time-saving features *Film Director* offers, together with the high speed of your ST, let you quickly assemble your artwork into colorful and exciting animated works. You can then transfer your films to video-tape to use in many ways, from family fun to professional product presentations.

Film animators use a technique called cel animation to animate their artwork. A cel is a sheet of transparent celluloid with artwork painted on it. Cels are layered, or stacked, to assemble the frames that make up the completed film. Without a computer, the process of creating cels and assembling them into a film can be long and tedious. *Film Director* advances the concept of cel animation by having the computer generate many of the intermediate steps necessary to create smooth animation.

A film is a series of still pictures, called frames, that give the illusion of movement when viewed in rapid succession. *Film Director's* frames contain stacks of cels that can be manipulated in many ways to speed the animation process.

Patterns are images cut out of art files from *Art Director*. They can be anything from small images to large blocks of color to body parts used in the construction of characters. The cut-out patterns can be used as cels in a frame. A special type of image, called a polygon, is a geometric line drawing created in *Film Director*.

Patterns and polygons can then be used to build a more complex cel, called a group. A group is a single cel that was constructed with multiple patterns and polygons. This is a useful element when you want to build an object out of many smaller graphics, but later wish to treat the object as a single cel.

One of the most valuable animation tools *Film Director* offers is the actor. An actor is a series of cels that define an action when viewed in sequence. Each cel in the series is called a phase, and it can be a pattern, or a polygon, or a group. Examples of actors are a person running, a wheel rolling, or a ball bouncing.

Using cels, you can design stages for your film. A stage is a backdrop placed behind the action in a film. Stages are used most often to provide scenery and other elements of the film that are stationary.

The range of *Film Director's* power is shown in its ability to create the intermediate elements in an animated sequence. This feature is called tweening. Suppose you want to show a child dropping a ball in a series of ten groups. All you have to create is the first group (the child holding the ball) and the last group (the ball on the ground). Then, when you select the Tween option and specify eight groups, *Film Director* creates the eight intermediate groups needed for the ball to appear to fall. The Tween option can be used to create intermediate polygons, groups, and stages.

Patterns, polygons, groups, actors, and stages are the elements used to create frames. You can construct frames one at a time, or work simultaneously on a number of frames that are in sequence. For example, with one operation you can change a stage in your film for a single frame or a sequence of frames.

One easy way to make a film with an actor performing on a stage is by using the path feature. With it, you define the beginning and end of the path and the number of times you want the actor to cycle through all its phases. Within seconds, *Film Director* creates the requested number of new frames with your actor performing as it moves along the path you defined.

The record feature provides another way to add an actor to your film. With this feature you record your actor on pre-existing frames, one at a time, specifying the position of each phase.

Once you have an actor defined in your film, you can use the overlay feature to duplicate images in different locations. For example, you can quickly transform a single dancer performing a high kick into a chorus line. Then you can have the dancers kick in perfect synchronization or skew each dancer one frame to achieve a wave effect. You can also copy this sequence so the dance lasts as long as you want.

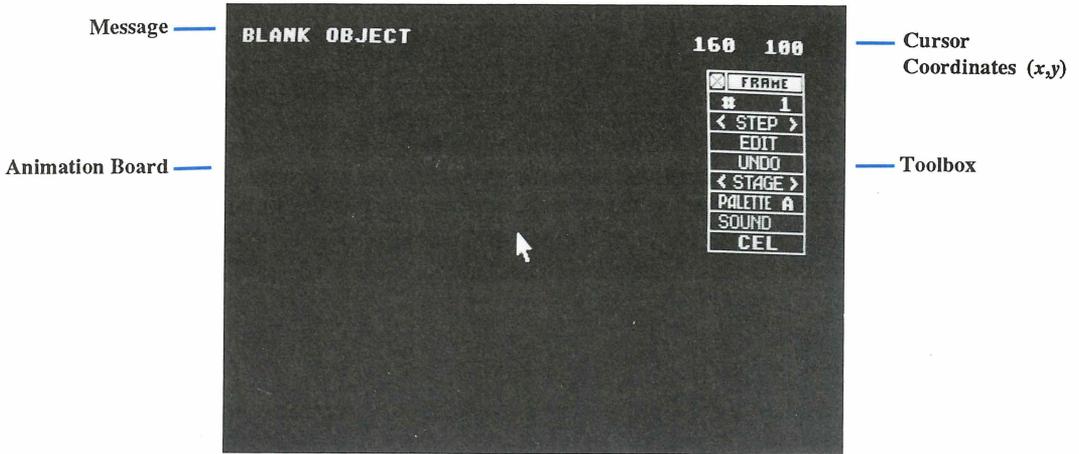
Add new cels to a sequence by using the interpolate feature. This option tweens the elements in your film, but instead of creating new frames, it finds the intermediate images from your defined elements and places those cels on your frames. Interpolate is used for patterns, polygons, and groups.

Film Director also offers a layering feature. Layering places a cel under or over another cel. For example, by layering cels, you can show a bird flying through the trees, passing in front of some trees and behind others.

You can save your work to disk at any time. When your film is completed you even can add sound effects from the music files included with *Film Director*.

When you're ready to begin creating a film, load the *Film Director* program. (For directions, see the **Getting Started** section earlier in this manual.)

During loading, the *Film Director* title screen is displayed. After the program finishes loading, its main screen appears. This is where you will begin putting together an animated film.



Here's a brief summary of the components of the *Film Director* screen:

Toolbox The toolbox contains tools for creating your films.

Message The message shows the option you most recently selected and often gives information about it. Blank Object is the message when you load *Film Director*.

Animation Board The animation board is where you create your film.

Cursor Coordinates (x,y) The cursor coordinates tell you the location of your cursor in pixels from the upper left corner of the animation board. They behave exactly the same as the cursor coordinates in *Art Director*.

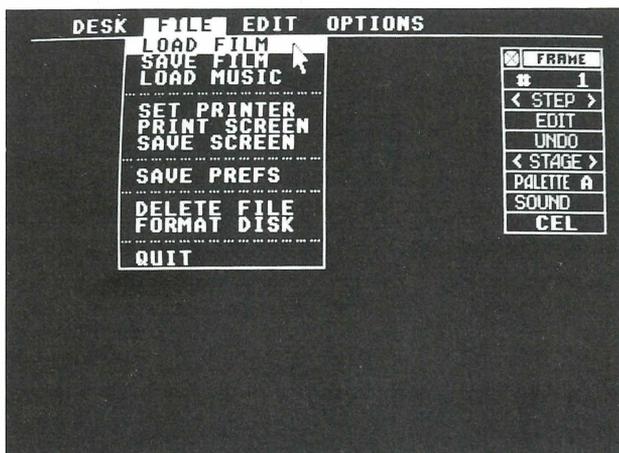
Move the cursor onto the animation board and right-click to display the menu bar at the top of the screen. Each of the four menu selections has a list (menu) of options that you can use to work on your film. Some of the menu options are used in the *Film Director Learning Session*, next in this manual. Complete details about all menu options are included in the *Film Director Reference* section. Left-click to hide the menu bar.

Film Director Demonstration Film

Watching the Demonstration Film

A demonstration film is provided on *Film Director* Disk 2 so you can see some of the animation opportunities *Film Director* offers you. To watch the film, follow these steps:

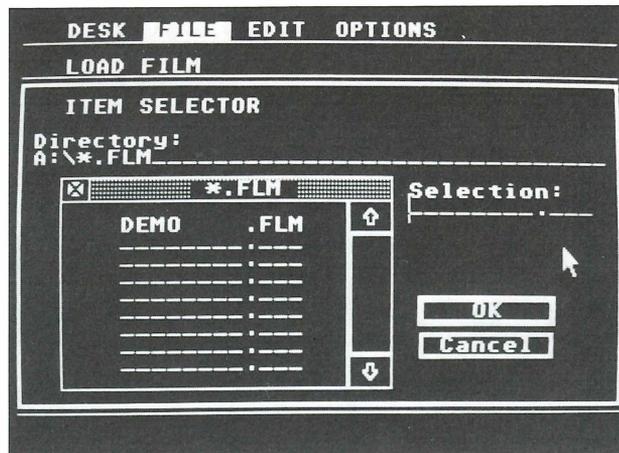
1. Load *Film Director* as explained in **Getting Started**, earlier in this manual. When the main screen appears, remove *Film Director* Disk1 from the drive and insert *Film Director* Disk 2.
2. Right-click anywhere on the screen to display the *Film Director* menu bar.
3. Move the cursor to the File selection to display its menu. Move the cursor down to highlight Load Film (the first menu option) and left-click.



4. The Load Film item selector appears, listing the .FLM (film) files on the disk.



Tip: The item selector your screen displays may list different files than those shown here.



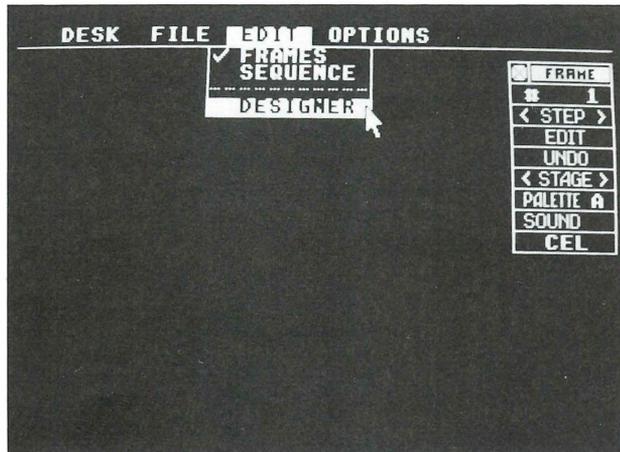
Tip: You may be running *Film Director* Disk 2 from a second floppy disk drive or a hard disk drive. If so, edit the selection line so you can access that drive. Left-click on the selection line, then use the **Left Arrow** and **Backspace** keys to change A: to the correct drive letter. Move the cursor into the scroll bar and left-click again. A new directory for the correct drive appears, listing the file DEMO.FLM.

5. Left-click on DEMO.FLM to select it. Then left-click on OK. The file loads and displays the first frame of the film.
6. Right-click to display the menu bar again.
7. Move the cursor to Options to display its menu. Then move the cursor down to highlight Show Film (the last option) and left-click.
8. A dialog box appears offering direction and speed options. For now, left-click on OK. (The options are explained in the **Show Film** section, later in this manual.) The demonstration film begins playing.
9. Watch the film to see a fully animated sequence, complete with background details, created with *Film Director*. Notice the frame counter running in the upper left corner as the animation plays. Right-click at any time to stop the film and display the menu bar.

Patterns

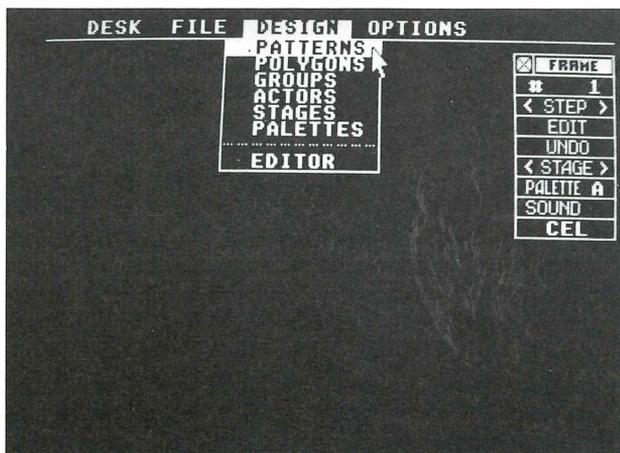
When you loaded the demonstration film, you also loaded the graphic images--or patterns--that are the building blocks of an animated figure. To look at the patterns, follow steps 1 through 5 in the previous section, then continue with these steps:

1. With the menu bar displayed, move the cursor to Edit and select the Designer option from the menu.

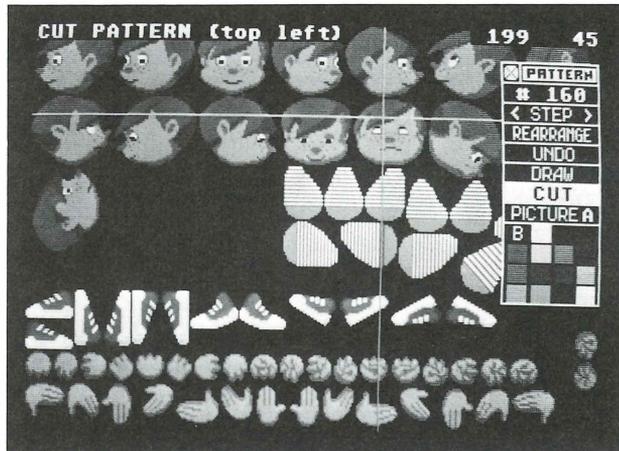


The word "Design" replaces the word "Edit" in the menu bar, showing that you are now in Design mode.

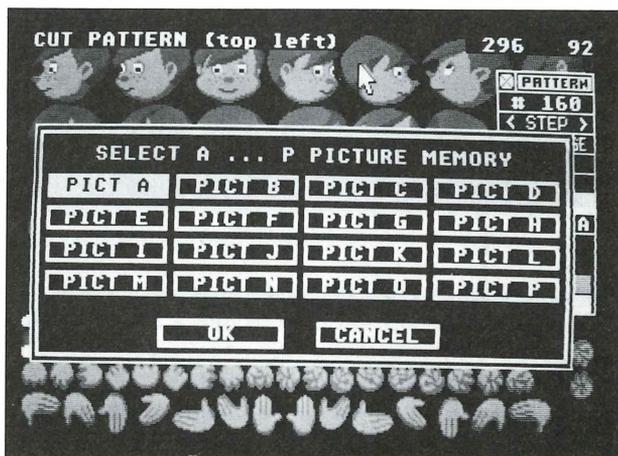
2. Move the cursor to Design and select Patterns from the menu.



A screen of images appears. This is picture A, one of two picture files used to create the demonstration film DEMO.FLM. The screen also contains a Patterns toolbox and flashing crosshair cursor.



3. Move the cursor into the toolbox and left-click on the words "Picture A." A dialog box appears from which you can select any picture used in the creation of the film. DEMO.FLM used two pictures: picture A and picture B.



4. Left-click on Pict B, then left-click on OK. Picture B appears.



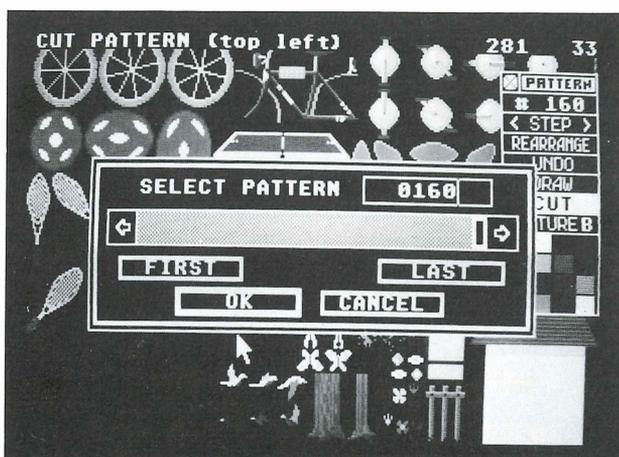
Tip: If your system has only 512K of RAM, the dialog box does not appear. Instead, picture B appears.

Pictures A and B contain all the images needed to produce DEMO.FLM's characters and props, in all their positions. The images are separate elements of the characters and props, and are drawn from every view and orientation needed for the film. These images can be cut out as patterns.

Pictures A and B were created with *Art Director* and saved as .ART files. Then they were loaded into *Film Director*, where the patterns were cut from pictures and used to create the demonstration film.

You can look at each pattern individually. Follow the steps:

1. Left-click on # in the toolbox's first row. The Select Pattern dialog box appears.



2. In the dialog box, left-click on First. Pattern #1 appears on screen, surrounded by a flashing box. This pattern has been cut from picture A of DEMO.FLM.

3. Move the cursor to the toolbox and left-click repeatedly on the > character in <Step> in the second row. Patterns from DEMO.FLM will appear sequentially, one at a time. Or, hold down the left mouse button while pointing to the > character. Patterns sequentially appear until you cycle through all the patterns used in the demonstration film.

Polygons

Polygons are another basic element used to create an animated film. To look at the polygons used in the demonstration film, follow the steps:

1. Right-click to display the menu bar. You should be in Design mode, with Design as the third menu selection from the left. (If it isn't, display the Edit menu and select Designer.)
2. Display the Design menu and select the Polygons option (second from the top). The screen displays the Polygons toolbox and the first polygon used in DEMO.FLM. Polygons are multi-sided shapes that can be used as elements in your animated film. You create polygons using tools from the *Film Director* toolbox.
3. Move the cursor into the toolbox and left-click repeatedly on the > character in <Step>. Polygons from DEMO.FLM will appear sequentially, one at a time. Or, hold down the left mouse button while pointing to the > character. Polygons sequentially appear until you cycle through all the polygons used in the demonstration film.

Groups

Groups are collections of patterns and polygons. In DEMO.FLM, the parts of the boy are collected into groups to make up a complete boy figure.

To look at the groups, follow the steps:

1. With the menu bar displayed, move the cursor to Design and select Groups (the third option from the top in the menu). The screen displays the Groups toolbox and the first group used in DEMO.FLM.
2. Move the cursor into the toolbox and left-click repeatedly on > in <Step>. Or, hold down the left mouse button while pointing to >. Groups sequentially appear until you cycle through all the groups used in DEMO.FLM.

Groups are created with tools from the *Film Director* toolbox. Once a group is defined, it can be used in your film.

Actors

An actor is a series of patterns, polygons, and/or groups. Each phase in the series is selected and arranged in such a way that when the series is viewed in rapid sequence, the actor appears to move. The boy riding his bicycle is an example of an actor.

To look at the actors in DEMO.FLM, follow the steps:

1. With the menu bar displayed, move the cursor to Design and select Actors. The screen displays the Actors toolbox and the first actor used in DEMO.FLM.
2. Move the cursor into the toolbox and left-click repeatedly on > in <Step>. Or, hold down the left mouse button while pointing to >. Actors sequentially appear until you cycle through all the actors used in DEMO.FLM.

Actors are created with tools from the *Film Director* toolbox. Once an actor is defined, it can be used in your film.

Stages

Stages are the background of a film, giving it a feeling of place and atmosphere. Stages are composed of patterns, polygons, and groups, and sometimes contain text.

To see the stages used in the demonstration film, follow the steps:

1. With the menu bar displayed, move the cursor to Design and select Stages. The screen displays the Stages toolbox.
2. Move the cursor into the toolbox and left-click repeatedly on > in <Step>. Or, hold down the left mouse button while pointing to >. Stages sequentially appear until you cycle through all stages used in DEMO.FLM.

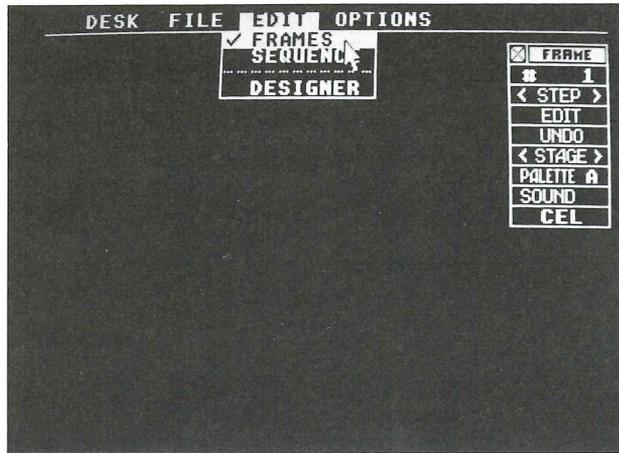
Stages are created with tools from the *Film Director* toolbox. Once defined, stages can be used in your film.

Frames

The elements created with the Design feature--patterns, polygons, groups, actors, and stages--can be put together to create frames.

To look at all the frames that make up the demonstration film, follow the steps:

1. Right-click to display the menu bar. You'll be using the Edit menu, so Edit should be the third menu selection from the left. If Design is the third selection from the left, move the cursor to it to display its menu and then highlight and left-click on the Editor option. Edit should now be the third menu selection from the left.
2. Select Frames from the Edit menu.



The screen displays the Frames toolbox and a frame from DEMO.FLM.

3. Move the cursor into the toolbox and left-click repeatedly on > in <Step>. Or hold down the left mouse button while pointing to >. Frames sequentially appear until you cycle through all the frames used in the demonstration film.

As you view the frames, you'll see that each frame is only slightly different from the one before it. When the frames are viewed in rapid succession, they create the illusion of smooth, continuous movement. Notice that each frame is composed of elements--patterns, polygons, groups, actors, and stages--that were defined in Design mode.

Look at the demonstration film again, now that you have an idea of how it was produced. To view the film, display the Options menu and select the Show Film option. Then select OK from the dialog box that appears.

Film Director Learning Session

Creating an Animated Film

This section explains how to create your own animated short subject using *Film Director*. It guides you step-by-step from cutting out patterns to putting together a sequence of frames. During the session you will use all of *Film Director's* toolboxes and gain experience with more than 40 tools.

The film you will create contains two parts. In the first part, a boy moves across a forest background, doing jumping jacks. All elements for this part will be taken from the *Film Director* demonstration film DEMO.FLM. The second part shows a star appearing

apparently out of nowhere. You will produce the elements needed for this part of the film using one of the *Film Director* toolboxes.

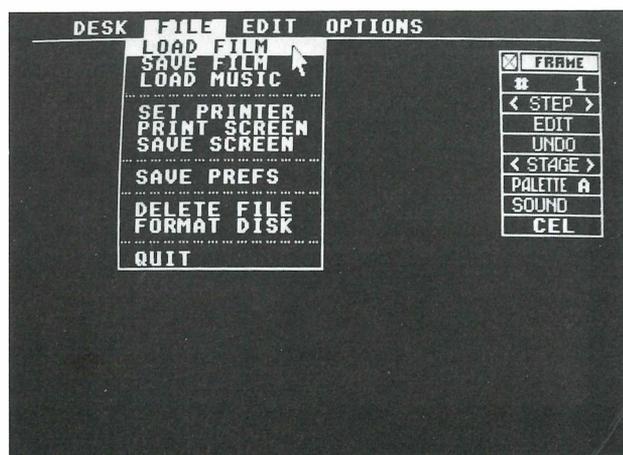
Loading Pictures

To begin creating your animated short subject, first load the file DEMO.FLM. Follow the steps:

1. With *Film Director*'s main screen displayed, right-click anywhere on screen to display the menu bar.
2. Insert *Film Director* Disk 2 into drive A.
3. Move the cursor to the File selection in the menu bar. In the File menu that appears, highlight the Load Film option and left-click.



Tip: The item selector on your screen may list different files than those shown here.



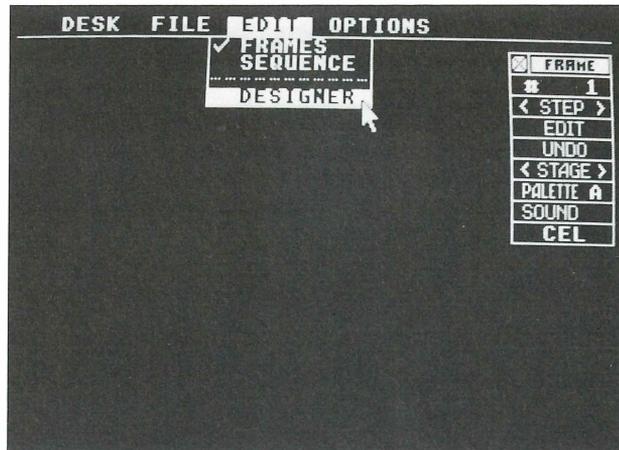
An item selector appears listing the .FLM (film) files on the disk.



Tip: You may be running *Film Director* Disk 2 from a second floppy drive or a hard disk drive. If so, edit the directory line in the item selector so the correct drive letter appears in the pathname. Then move the cursor into the scroll bar and left-click. Doing this updates your directory listing and displays the file-name DEMO.FLM.

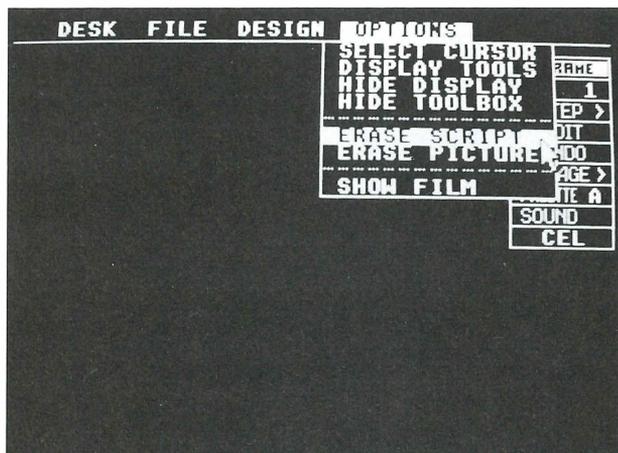
4. Left-click on DEMO.FLM in the item selector, then select OK. DEMO.FLM loads and its first frame appears.

- Right-click to display the menu bar. Move the cursor to Edit and select the Designer option from the menu.



The word "Design" replaces the word "Edit" in the menu bar, showing that you are now in Design mode.

- Move the cursor to Options in the menu bar and select Erase Script.

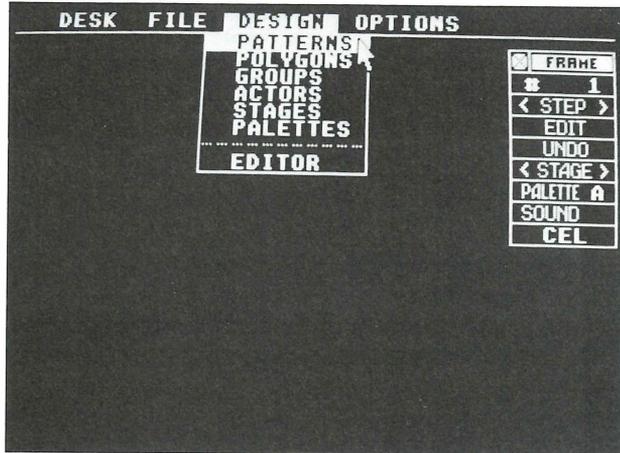


- A dialog box appears warning that the erasure cannot be undone. Left-click on Erase. The patterns, polygons, groups, actors, stages, and frames (but not the pictures) of DEMO.FLM are erased from memory in order for you to create your own film elements.

Cutting Out Patterns

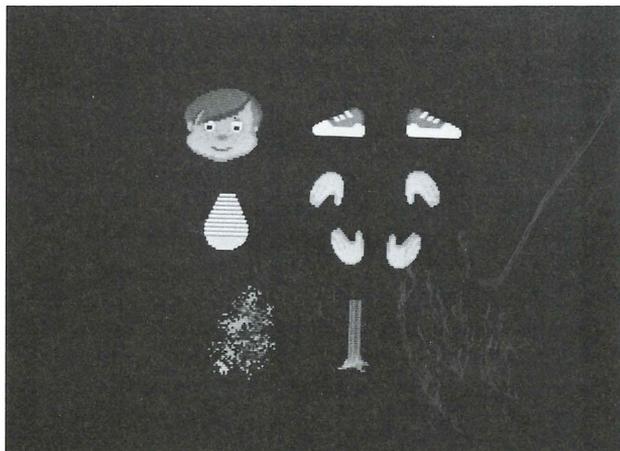
Cut out the patterns you are going to use in your animated film. Follow the steps:

1. Display the menu bar, move the cursor to Design, and select the Patterns option.



Picture A, containing patterns of heads, torsos, shoes, and hands, appears. The cursor is a flashing crosshair. The pattern counter in the second line of the toolbox reads #0.

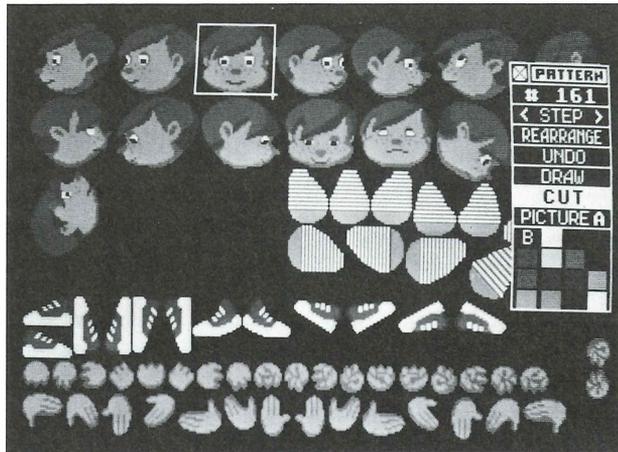
You will cut out the ten patterns shown from pictures A and B in order to make your animated film:





Tip: The toolbox and message on screen hide some patterns. Press **F10** to remove the toolbox and **Tab** to remove the message. Press the same keys again to return the toolbox and message to the screen.

2. Move the mouse to place the crosshair immediately above and to the left of the third head in the top row. Left-click to set the crosshair.
3. Move the mouse to drag a flashing box around the head. Make sure the right side of the box is immediately to the right of the head, and the bottom of the box is immediately under the head. Then left-click to cut out the first pattern.



Tip: If you set the beginning angle of the flashing crosshair in the wrong position, use Undo to cancel the action and begin again. If you set the ending angle of the box in the wrong position, cut out that pattern, then cut-out the correct pattern. You'll be able to edit your patterns later.

4. Left-click on Cut in the toolbox to reset the crosshair. When you move the cursor out of the toolbox, the crosshair reappears.
5. Repeat steps 2 to 4 to cut out all the patterns you need from picture A. When you cut out the shoe patterns, be sure to cut out each shoe separately. Each time you cut out a pattern, the pattern counter in the second line of the toolbox increases by one.
6. Left-click on Picture A in the toolbox.
7. In the dialog box that appears, left-click on Pict B. Then left-click on OK. Picture B appears.



Tip: In systems having only 512K of RAM, the dialog box does not appear. To display picture B, left-click on Picture A in the toolbox.

-
8. Select Cut from the toolbox. Then repeat steps 2 through 4 to cut out the tree trunk and treetop patterns.

Make a large blue rectangle to represent the sky in your film. Follow the steps:

1. Left-click on the sky-blue color in the palette at the bottom of the toolbox. The animation board turns sky-blue.
2. Cut out a rectangle that is the width of the animation board but only half as high. If you need to, press **F10** to hide the toolbox.
3. Press **F10** again to show the toolbox. Move the cursor onto the toolbox and left-click on Picture B to return it to the screen.

To see the patterns you cut out, left-click on < in <Step> in the toolbox. Look through all your patterns. If a pattern is incorrect you can delete it. When the pattern is on screen, left-click on Rearrange. In the dialog box that appears, left-click on Delete, then left-click on OK in the warning box. The pattern is deleted.

If you need to make a replacement pattern, return to the appropriate picture and cut out the pattern again. The new pattern is assigned the last number in the pattern series.



Tip: You've used several options in the Patterns toolbox. For a complete description of all the options, see *Film Director Reference* later in this manual.

Making Polygons

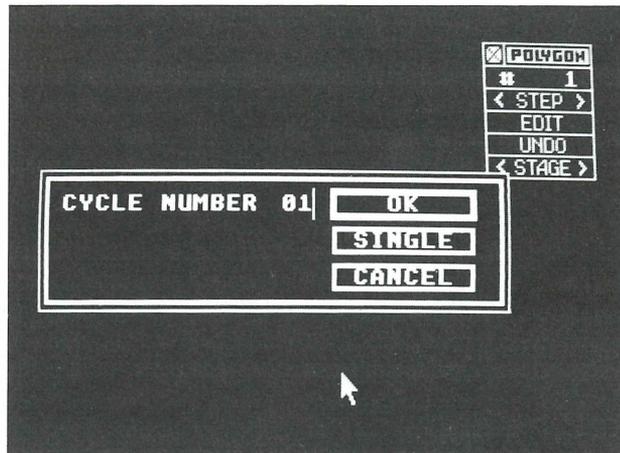
Polygons are line drawings used primarily as props or backdrops in a film. To draw a polygon, follow these steps:

1. With the menu bar displayed, move the cursor to Design and select Polygons from its menu. The screen goes blank and the Polygon toolbox appears.
2. Left-click anywhere on the animation board to set the first point.
3. Move the arrow. A line follows it from the first point. Position the arrow and left-click.
4. Move the cursor and left-click again for each subsequent point.
5. Double-left-click on the last point to finish the polygon. The palette appears in the toolbox.
6. To change the shape of the polygon, move the cursor to a side or angle of the polygon and hold down the left mouse button. The arrow changes to a hand pinching the side or angle.
7. Move the mouse to drag the side or angle to a new location. (When you drag a side, you create a new angle.)

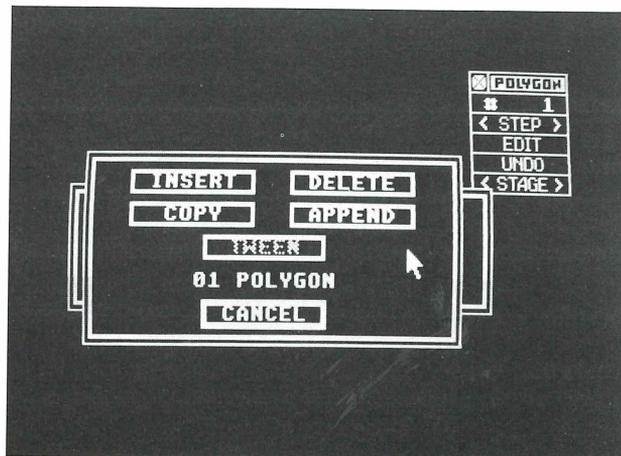
8. Release the mouse button to set the shape.
9. Left-click on Undo in the toolbox to erase the polygon. Then follow steps 1 through 8 to draw a large star for the second part of your film.

With *Film Director*, you can generate a series of images between elements in order to achieve animation. The greater the number of images, the smoother the animation looks. Do this with your star to make it seem as if the star grows from nowhere. Follow the steps:

1. Left-click on Edit in the Polygon toolbox. A dialog box appears.



2. Left-click on Single. A second dialog box appears.



-
3. Left-click on Insert. In the next dialog box, left-click on OK. A blank animation board appears. This is polygon #1. Your star has become polygon #2.
 4. Left-click on > in <Step> to see polygon #2.
 5. Left-click on Edit in the toolbox. Its dialog box appears.
 6. Type "5" to indicate the number of intermediate stars to be created. The number 05 appears in the dialog box.
 7. Left-click on OK. A second dialog box appears.
 8. Left-click on Tween, then left-click on OK in the next dialog box. Five in-between stars are generated. Your star appears on screen as polygon #7.
 9. Look at all the animation effect by pointing to < in <Step> and holding down the left mouse button.

Forming Groups

Now use your pattern to create these groups:

- A tree made up of two patterns--the tree trunk and treetop.
- Two boys, each consisting of six patterns--a head, torso, two hands, and two shoes.

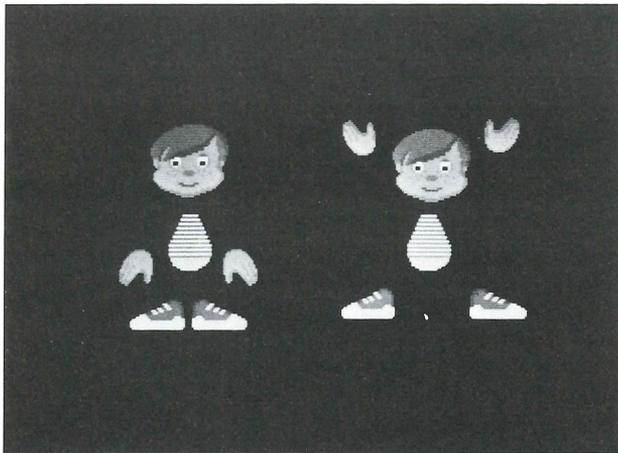
To create the tree group, follow these steps:

1. Display the Design menu and select the Groups option. The Groups toolbox appears on a blank animation board.
2. Left-click on Cel in the toolbox. A dialog box appears.
3. Left-click on Insert in the dialog box: The Layer, Pattern, and Polygon tools are added to the bottom of the Groups toolbox.
4. Left-click on < in <Pattern> until the tree trunk appears.
5. Move the arrow onto the tree trunk. Hold down the left mouse button and drag the tree trunk around the animation board. When the tree trunk is where you want it, release the mouse button.

Repeat steps 2 to 5 to select and place the treetop on the tree trunk. You have now created a group.

To define a different group, you need to start with a blank animation board. Follow the steps:

1. Left-click on Edit in the Groups toolbox. A dialog box appears.
2. Left-click on OK. A second dialog box appears.
3. Left-click on Insert, then left-click on OK in the third dialog box. The screen displays a blank animation board.
4. Following the same steps you used to create a tree group, create the two boy groups shown below:



The two boy groups have some common patterns. When creating the groups, you can save time by duplicating the common patterns, then adding the patterns that are different. Follow these steps:

1. Create the first boy group.
2. Copy this group by left-clicking on Edit in the toolbox. A dialog box appears.
3. Left-click on OK, then left-click on Copy in the second dialog box. Finally, left-click on OK in the third dialog box.
4. Left-click on > in <Step> to display group #2. (Check the first line in the toolbox to make sure it shows #2.)
5. Left-click on a hand, then left-click on < or > in <Pattern> until the hand you want appears.

-
6. Move the cursor onto the hand. Hold down the left mouse button and drag the hand to its new position. Move the cursor away and left-click to set the hand.

Repeat steps 5 and 6 to move or replace the patterns in group #2 until the boy is in the second position for jumping jacks.

Use the toolbox to delete mistakes or unwanted patterns:

- To delete one pattern only from your group, left-click on the pattern. A flashing box appears around it. Next, left-click on Cel in the toolbox. In the dialog boxes that appear, left-click on Delete, then on OK.
- To erase all edits and return to your original pattern, left-click on Undo in the toolbox.
- To erase a group, left-click on Edit in the toolbox. In the dialog boxes that appear, left-click on OK, then on Delete, then on OK.

Animating Actors

The next step in making your animated film is to define the boy doing jumping jacks as an actor. Actors have action steps called phases. The boy actor has two phases. Follow these steps:

1. Display the Design menu and select Actors. The Actors toolbox and a blank animation board appear.
2. Left-click on Phase in the toolbox. A dialog box appears.
3. Left-click on Insert. Four new tools are added at the bottom of the toolbox.
4. Left-click on < or > in <Group> until the first boy group appears. This creates the first phase.
5. Left-click on the center of <Ph 1>, then on Insert in the dialog box that appears.
6. Left-click on > in <Group> until the second boy group appears. This creates the second phase.
7. Left-click anywhere on the animation board to animate the groups.

Now define the series of stars you created as another actor. Follow the steps:

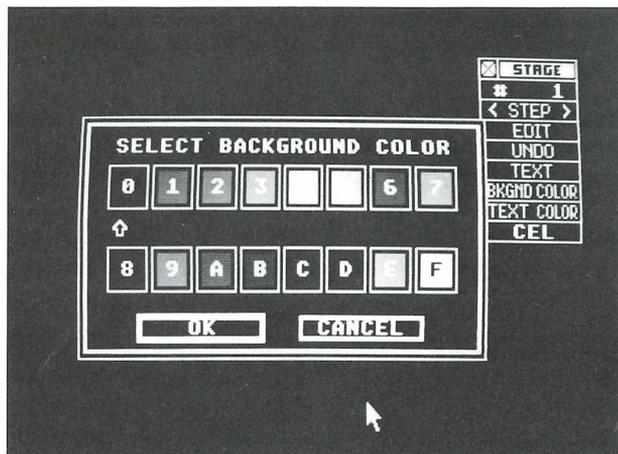
1. Left-click on <Edit> in the toolbox. In the dialog boxes that appear, left-click on OK, then on Insert, then on OK.
2. Left-click on Phase in the toolbox and on Insert in the dialog box that appears.
3. Left-click on < or > in <Polygon> until the smallest star appears.

4. Left-click on the center of <Ph 1>, then on Insert in the dialog box.
5. Left-click on > in <Polygon> until the next larger star appears.
6. Repeat steps 4 and 5 with all the stars in order, until you create six phases with the six stars.

Laying Out Stages

Now's the time to create a stage for the actors in your animated film. Do this by laying out a forest of trees. Follow the steps:

1. Display the Design menu and left-click on Stages. The Stages toolbox and a blank animation board appear.
2. Left-click on Bkgnd Color in the toolbox. A selection box appears.



3. Left-click on a green color box, then on OK. The animation board fills with background color.
4. Next, add sky. Left-click on Cel in the toolbox. A dialog box appears.
5. Left-click on Insert in the dialog box.
6. Left-click on < or > in <Pattern> until the sky-blue rectangle appears.
7. Hold down the left mouse button and drag the pattern to the top of the screen. Release the mouse button and left-click to set the sky in place.

Add trees to create a forested stage. Repeat steps 4 through 7 (left-clicking on < or > in <Group> in step 6 until the tree appears). Each time you repeat the steps, you'll add a tree.

When you're finished, you'll have created stage #1.

Creating Frames

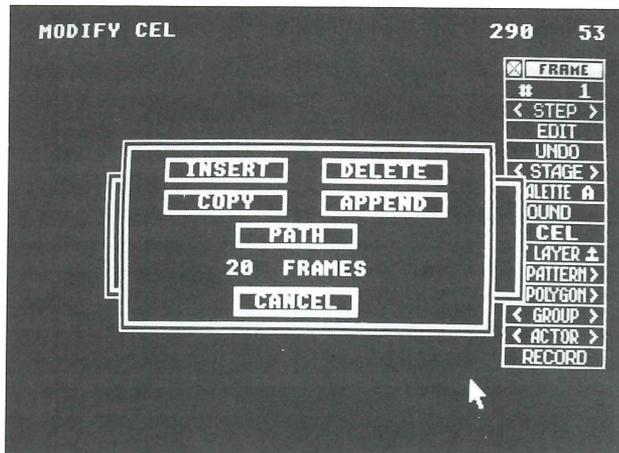
You've now designed all the film elements and you're ready to insert them into frames. Follow the steps:

1. Right-click to display the menu bar.
2. Display the Design menu and left-click on Editor. In the menu bar, the word "Design" changes to the word "Edit."
3. Display the Edit menu and left-click on Frames. The frames toolbox and a blank animation board appear.
4. Insert the stage. Left-click on < or > in <Stage> until stage #1 appears.
5. Insert an actor. Left-click on Cel in the toolbox and on Insert in the dialog box that appears. Five new tools are added at the bottom of the toolbox.
6. Left-click on the < or > in <Actor> until actor #2 appears.
7. Hold down the left mouse button and drag the actor to the left side of the animation board. Then release the mouse button.



Tip: Do NOT left-click or you will deselect the actor. If that happens, left-click on the actor again to select it. (A flashing box appears around the actor.)

8. Now you can use tools to move the boy across the screen. Left-click on Edit in the toolbox. A dialog box appears.
9. Press **Esc** to delete the cycle number, type 20, and left-click on OK. A second dialog box appears.



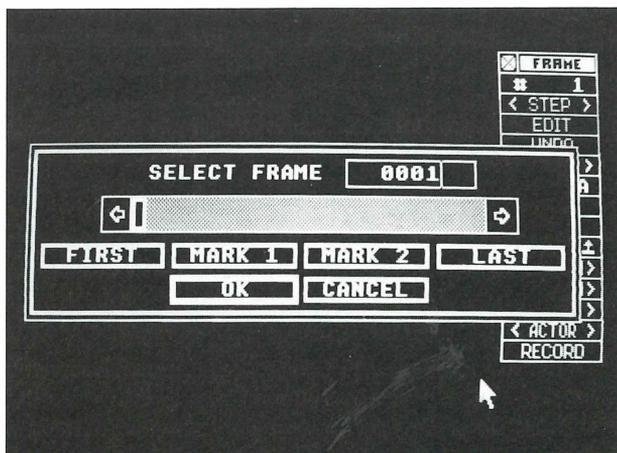
10. Left-click on Path, then on OK in the next dialog box.

11. Move the mouse to move the actor to the right side of the screen and left-click. Doing this sets the path. The frame counter should now read #41.

To view the frames, left click on # in the toolbox. Then left-click on First in the dialog box. Finally, hold down the left mouse button on > in <Step>.

Now add your star to the film. Follow the steps.

1. Left-click on # in the toolbox. A dialog box appears.



-
2. Press **Backspace** twice to remove the frame number. Then type 41, the number of the frame where the star will first appear, and left-click on OK.
 3. Left-click on Cel in the toolbox, then left-click on Insert in the dialog box.
 4. Left-click on < or > in <Actor> until the star appears. The Record tool is added to the bottom of the toolbox.
 5. Left-click five times on Record in the toolbox. Record places actors on individual frames, even on pre-existing frames in which some animation has already been defined.



Tip: Each left-click on Record sets an actor phase on a frame and increases the frame and phase numbers by one. You should click as many times as there are frames in which you want the actor to appear.

You've now finished your film. To see it, display the menu bar, move the arrow to Options, and select Show Film. Left-click on OK in the dialog box. Then settle back and watch your film.

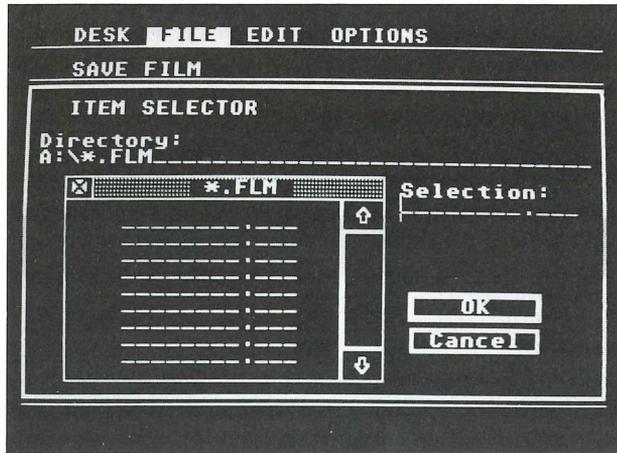
Saving Your Film

Unless they have been saved to disk, your film and all its elements are lost when your computer is turned off or a power interruption occurs. It's a good idea to save your files frequently to avoid losing your work if your computer is accidentally shut down.

Save your work to a formatted blank disk. If you need to, use the Format Disk option in the File menu to format a disk. For details on how this is done, see the Format Disk section in the *Film Director Reference*.

To save your film, follow the steps:

1. Insert a blank, formatted disk into your drive.
2. Display the menu bar and make sure Edit is the third menu selection from the left. Then move the arrow to File and left-click on Save Film. The item selector appears.



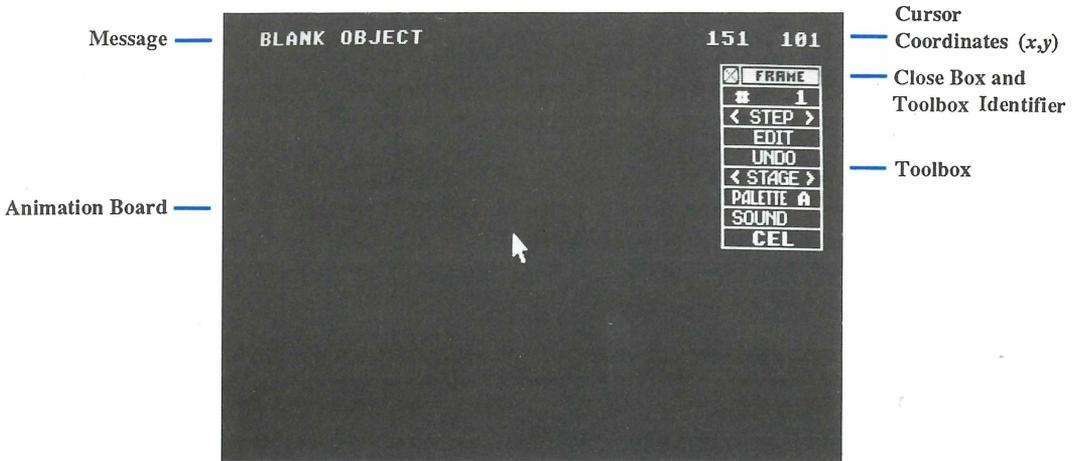
3. Type the filename JUMPJACK.FLM. (Or type JUMPJACK. *Film Director* will automatically save the file as an .FLM file.)

4. Left-click on OK. Your file is saved to disk.

Congratulations! You've successfully completed your first animated film. As you become familiar with *Film Director*, you will be able to use its advanced features to create increasingly complex animated films. These advanced features as well as *Film Director's* basic tools are fully described in the *Film Director Reference* section, next in this manual.

FILM DIRECTOR REFERENCE

When you first load *Film Director*, its main screen appears. This is where you create and animate images with *Film Director* tools.



Message

The message in the upper left corner suggests your next action and often gives information about the current frame. The message changes as you perform operations on screen.

When you first load *Film Director*, the message is Blank Object, indicating that the frame is empty.

Cursor Coordinates (x,y)

The cursor coordinates give the location of your cursor in pixels from the upper left corner of the *Film Director* animation board. They behave exactly the same way as the cursor coordinates in *Art Director*.

Toolbox

The toolbox contains many of the features you'll use to create your animated films. To hide a toolbox, left-click on its close box. Press **F10** to return the toolbox to the screen. To move a toolbox, place the cursor on the toolbox identifier (which is also the move bar). Hold down the left mouse button and move the mouse left or right. The toolbox follows your mouse movements. Release the mouse button when the toolbox is where you want it.

When you first load *Film Director*, the default toolbox is the Frame toolbox.



Tip: The tools in the toolbox change, depending on the options you select from the menu bar. Each particular toolbox is described in the section discussing the menu option it belongs to. The default toolbox (for the Frames option) is described in the section **Frames** later in this manual.

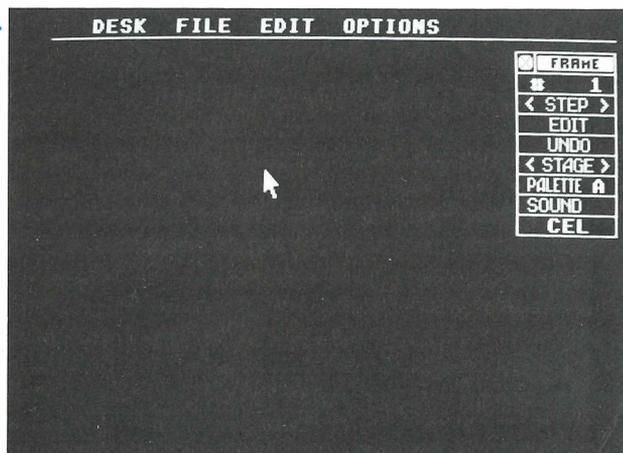
Animation Board

The animation board is where you create your films. It's equivalent to the canvas in *Art Director*.

Film Director Menu Bar

Right-click anywhere on the animation board to display the menu bar. The menu bar has four selections, each with its own menu of options you'll use when working with *Film Director*.

Film Director —
Menu Bar



Desk The Desk menu contains an option that displays the program credits and version number.

File The File menu contains options for loading, saving, deleting, and printing pictures, scripts, and film files. It also provides options for saving the program preferences you set while using *Film Director*, formatting disks, and exiting the program.

Edit Edit is the third selection in the default menu bar. The Edit menu provides options for inserting film elements into frames, adding special effects, and editing film sequences. When the Designer option is selected from the Edit

menu, then Design becomes the third menu bar selection. The Design menu contains options for designing film elements and using the palette in the toolbox.

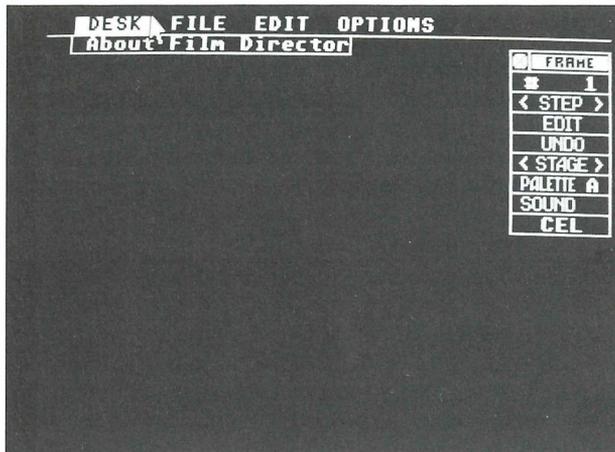
Options The Options menu includes options for controlling the on-screen components, erasing frames, scripts, and pictures, and previewing a film.

Move the cursor across the menu bar. As the cursor touches each selection, the menu for that selection is displayed. Move the cursor down a menu to highlight its options. When an option is highlighted, you can left-click to select it.

Left-click anywhere on the animation board to hide a menu. Left-click again to hide the menu bar.

Desk Menu Option

The Desk menu contains one option: About Film Director.



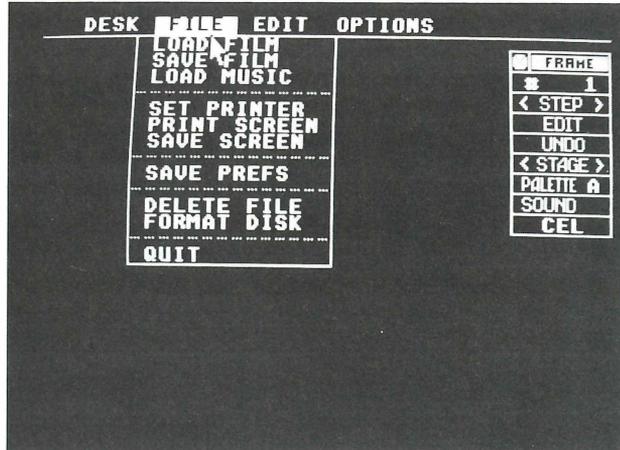
When you select About Film Director, a dialog box displays the *Film Director* credits. Left-click on OK to return to the main screen.

File Menu Options

The File menu contains options for loading, saving, deleting, and printing pictures, scripts, and film files. It also provides an option for saving the program preferences you set while using *Film Director*, formatting disks, and exiting the program.

The options in the menu change, depending on whether you're in Edit or Design mode. When you're in Edit mode, Edit is the third menu bar selection from the left. When you're in Design mode, Design is the the third selection.

File Menu
in Edit Mode



File Menu
in Design Mode



Load Film

When you select Load Film, an item selector appears. The directory lists .FLM (film) files you can load onto the animation board. Use the item selector in the same way you use the Load Pict item selector in *Art Director*, but show the extension .FLM in the pathname. When you left-click on OK, your film is loaded onto the animation board.

Save Film

When you select Save Film, an item selector appears. Here you can type in new file-names for films just created, or save previously created films that you've edited. Use the item selector in the same way you use the Save Pict item selector in *Art Director*. When you left-click on OK, your film is saved to disk.

Load Music

When you select Load Music, its item selector appears. The directory lists .MUS (music) files you can load in order to add sound effects to your films. Use the item selector in the same way you use the Load Pict item selector in *Art Director*, but show the extension .MUS in the pathname. When you left-click on OK, your .MUS file is loaded.

For complete details on adding sound to your films, see the **Sound** information in the **Frames** section later in this manual.

Set Printer

The Set Printer option lets you select the length of your printed line, in order to print *Film Director* screens. Use the Set Printer option in the same way you use Set Printer in *Art Director*.

Print Screen

Select the Print Screen option to print the current *Film Director* screen of patterns, polygons, groups, actors, frames, or sequences. Use this option in the same way you use Print Pict in *Art Director*.

Save Screen

The Save Screen option saves the current *Film Director* screen of patterns, polygons, groups, actors, frames, or sequences. When you select the option, an item selector appears. Use it in the same way you use the Save Pict item selector in *Art Director*. The current screen will be saved as an .ART file.

Save Prefs

The settings you selected with the Select Cursor and Display Tools options in the Options menu, and the Set Printer option in the File menu, are saved to disk when you select Save Prefs. Use this option in the same way you use the Save Prefs option in *Art Director*. The settings are saved to a file named F.PRE.



Tip: Make sure the disk containing the *Film Director* program FILMDIR.PRG is in your working drive before you select Save Prefs.

Delete File

The Delete File option lets you erase a file from disk. When you select this option, an item selector appears. Use it in the same way you use the Delete File item selector in *Art Director*. When you left-click on OK, the file will be deleted from disk.



Tip: Be certain you want to delete the file before selecting OK. Once a file is deleted, it cannot be recovered.

Format Disk

The Format Disk option lets you format a data disk from within the *Film Director* program. Use this option in the same way you use Format Disk in *Art Director*.

Quit

Select Quit to exit the *Film Director* program. Use this option in the same way you use Quit in *Art Director*.

Load Script

Select the Load Script option to load an .SCR (script) file. An .SCR file contains all the patterns, polygons, groups, actors, and stages used in a film.

When you select Load Script, an item selector appears. Use it in the same way you use the Load Pict item selector in *Art Director*, but show the extension .SCR in the pathname. When you left-click on OK, the file is loaded into *Film Director*.

Load Picture

Select the Load Picture option to load an .ART file. An .ART file contains a canvas of images from *Art Director* that you can cut out as patterns for a film.

When you select Load Picture, a selection box appears listing all available picture locations in *Film Director*. Left-click on the location you want to load the picture file to. Then left-click on OK.

An item selector appears. To load your picture, use the item selector in the same way you use the Load Pict item selector in *Art Director*. When you left-click on OK, the .ART file will be loaded onto the animation board.



Tip: The palettes used in your film will be the palettes of picture A.

Save Script

Select the Save Script option when you want to save a script file. An item selector appears. Use it in the same way you use the Save Pict item selector in *Art Director*. When you left-click on OK, the file will be saved as an .SCR file.

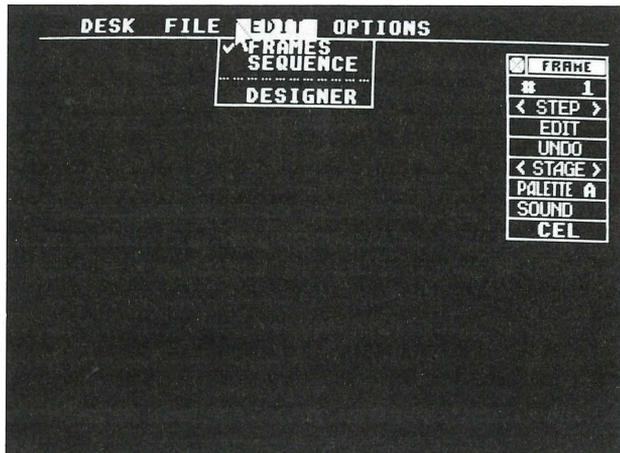
Save Picture

Select the Save Picture option to save your animation board as an .ART file. A selection box appears listing all available picture locations in *Film Director*. Left-click on the location of the picture you want to save. Then left-click on OK.

An item selector appears. To save your picture, use the item selector in the same way you use the Save Pict item selector in *Art Director*. When you left-click on OK, the picture will be saved as an .ART file.

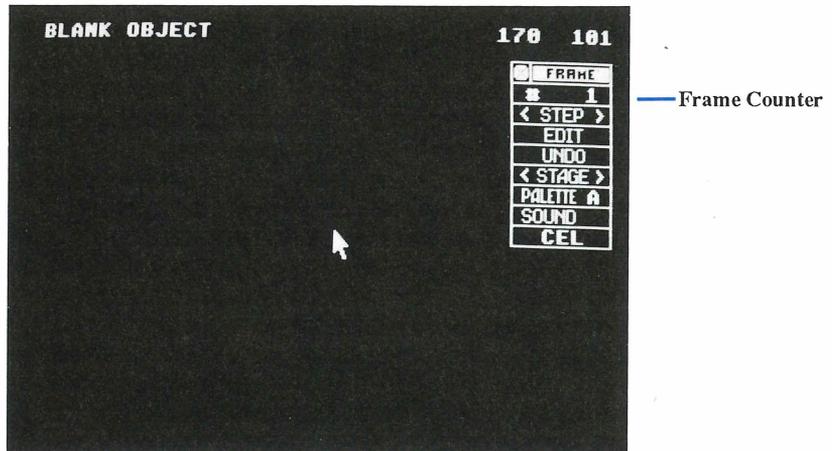
Edit Menu Options

The Edit menu provides options for inserting film elements into frames, adding special effects, and editing film sequences.



Frames

The Frames option lets you create and edit the frames of an animated film. When you select this option, its toolbox appears along with the first frame. Use the Frames tools to add predefined patterns, polygons, groups, actors, stages, and sounds to individual frames.



Frame Counter Shows the number of the frame currently on screen. Left-click on the counter and the frame selection box appears.

- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the frame you want to see. When you left-click on OK, the frame appears.
- Left-click on either First or Last to see the first or last frame in a series.
- Left-click on Mark 1 or Mark 2 to see either the first or last marked frame in a sequence. (Frames are marked with the Mark tool in the Sequence toolbox.)
- When you have more than one frame, a box appears in the slide bar. Drag the box right or left to change the frame number in the selection box. Left-click on either arrow to increase or decrease the frame number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected frame appears.

<Step> Displays the next frame in a series. Left-click on < or > to display the next frame backward or forward. Hold down the left mouse button on < or > to scan the entire series backward or forward.

Edit Inserts, deletes, and duplicates frames. When you left-click on Edit, a dialog box appears asking for the number of cycles. (For Insert and Delete, the number of cycles will be the number of frames you want to affect. For Copy and Append, it is the number of times one frame is duplicated. For Tween, it is the number of frames inserted between two selected frames.)

- Press **Backspace** or **Esc** to erase the number in the box, then type in the number of cycles. Or left-click on **Single** for only one cycle. When you left-click on **OK**, a selection box appears.
- Select **Insert** to add the selected number of blank frames, then select **OK** in the dialog box that appears. The frames are added before the current frame and all following frames are renumbered.
- Select **Delete** to erase the selected number of frames, then select **OK** in the dialog box that appears. The frames are erased, beginning with the current frame, and all following frames are renumbered.
- Select **Copy** to duplicate the current frame the selected number of times, then select **OK** in the dialog box that appears. The duplicate frames are added after the current frame and all subsequent frames are renumbered.
- Select **Append** to duplicate the current frame the selected number of times and add those new frames to the end of the series. Select **OK** in the dialog box that appears to complete the operation.
- Select **Tween** to generate the selected number of frames between the current frame and the frame preceding it. Left-click on **OK** in the dialog box that appears. The frames are generated and all subsequent frames are renumbered.

Undo Cancels all actions taken from the toolbox for the current frame. Left-click on **Undo** (or press the **Undo** key).

<Stage> Places a predefined stage behind all foreground elements on your frame. Left-click on **<** or **>** to see the next stage backward or forward. Hold down the left mouse button on **<** or **>** to scan the entire series of stages backward or forward.

When you left-click on the center of **<Stage>**, its selection box appears.

- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the stage you want to see. When you left-click on **OK**, the frame appears.
- Left-click on either **First** or **Last** to see the first or last stage in a series.
- When you have more than one stage, a box appears in the slide bar. Drag the box right or left to change the stage number. Left-click on either arrow to increase or decrease the stage number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on **OK**, the selected stage appears.

Palette Shows the palette currently selected for your frame. Left-click on Palette to see a selection box offering eight palette selections lettered A through H. Left-click on a letter to select that palette, then left-click on OK. The new palette letter appears in the toolbox.

The colors in the current palette appear below the lettered boxes in the palette selection box. These colors can be modified with the Palette option in the Design menu. For details on modifying colors, see **Palette** later in this manual.

Sound Use this tool to add sound effects to the current frame. Left-click on Sound to see its selection box offering nine sound selections numbered 1 through 9. Left-click on a number to select that sound.

- Left-click on Play to preview the sound.
- Select Off to shorten a sound. Use this to prevent sounds from continuing longer than the corresponding action in your film.
- Select None if you want no sound in your frame.

Make your selection and left-click on OK. The number of the sound appears in the toolbox.

Cel Lets you add or delete patterns, polygons, groups, or actors from your film. Each element is added as a layer, or cel, to the current frame.

When you left-click on Cel, its selection box appears. When you select Insert from the selection box, tools are added to the toolbox for these five items: layers, patterns, polygons, groups, and actors.

Patterns, polygons, groups, and actors are created with options from the Design menu. (See **Design Menu Options** later in this manual for full details.) To generally describe them, they are the animated images in your film. They are placed onto a frame in layers, with one pattern, polygon, group, or actor in each layer. To change an image's layering, left-click on it. Then left-click on the up or down arrow in the Layer tool to place the image in front of or behind an image it overlaps.



Tip: You cannot place a cel behind a stage.

Left-click on <Pattern>, <Polygon>, <Group>, or <Actor> to see its selection box.

- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the element you want to see. When you left-click on OK, that element appears.
- Left-click on either First or Last to see the first or last element in the series.

- When you have more than one element available, a box appears in the slide bar. Drag the box right or left to change the element number showing in the selection box. Left-click on either arrow to increase or decrease the element number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected element appears.

Move the cursor to the element, hold down the left mouse button, and drag the element to where you want it in the frame. Release the mouse button to set the element in place.

When you select <Actor>, another tool, Record, is added to the toolbox and the first phase of your actor appears. Position the phase where you want it, then left-click on Record to set the phase in place. Your frame advances by one and the next phase of the actor appears. Continue positioning and recording your actor phases on the frames for as long as you want. If you record on all pre-existing frames, new frames will be generated as you continue recording.

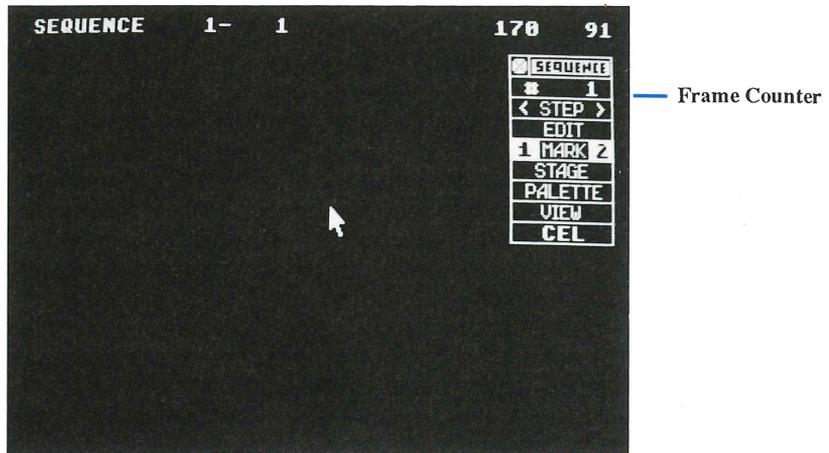
If you want your actor to perform while moving in a straight line, without your having to place each phase, you can use Path. Left-click on Cel, then left-click on Insert. Left click on either < or > of <Actor> until the actor you want appears. Move the cursor to the actor, hold down the left mouse button, and drag the actor to where you want its path to start. Release the mouse button (but do not left-click). Left-click on Edit in the toolbox. Type in the number of times you want your actor to cycle through its phases and left-click on OK. Left-click on Path, then on OK from the dialog boxes that appear. The message now says "Define end of path."

Move the actor to the end of the path and left-click. *Film Director* creates the appropriate number of frames necessary for your actor to perform along the path you defined. For every cycle requested, *Film Director* creates a number of frames equal to the number of phases in your actor.

To delete an element from a frame, first left-click on it on the animation board. Then select Cel from the toolbox and Delete from the selection box that appears. Finally, left-click on OK in the warning box. The element is erased from your frame.

Sequence

The Sequence option lets you edit, view, or add special effects to a series of frames. When you select Sequence from the Edit menu, its toolbox appears.



Frame Counter Your sequence contains a number of frames. The frame counter shows the number of the frame currently on screen. Left-click on the counter and the frame selection box appears.

- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the frame you want to see. When you left-click on OK, the frame appears.
- Left-click on either **First** or **Last** to see the first or last frame in a series.
- Left-click on **Mark 1** or **Mark 2** to see either the first or last marked frame in a sequence. (Frames are marked with the Mark tool in the toolbox.)
- When you have more than one frame, a box appears in the slide bar. Drag the box right or left to change the frame number in the selection box. Left-click on either arrow to increase or decrease the frame number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected frame appears.

<Step> Displays the next frame. Left-click on **<** or **>** to see the next frame backward or forward. Hold down the left mouse button on **<** or **>** to scan the entire series backward or forward.

Edit Deletes, copies, or appends a sequence in your film. The sequence to be affected is determined by the frames in the sequence you've marked as 1 and 2.

- Select **Delete** to erase the frames marked 1 and 2 and all frames between them. Left-click on OK in the warning box to complete the operation.

- Select Copy to duplicate the frames marked 1 and 2 and all frames between them. Select OK from the dialog box that appears to complete the operation. The frames will be copied in sequence and inserted before your current frame.
- Select Append to add the frames marked 1 and 2 and all frames between them to the end of your film. Select OK in the dialog box to complete the operation.

Mark Use this tool to mark the frame currently on screen as either the beginning frame (1) or the ending frame (2) of your sequence. When the frame you want to mark is on screen, left-click on either 1 or 2 to mark it. When two frames have been marked as 1 and 2, those frames and all frames between them become a marked sequence.

Stage Selects a stage to be added to all the frames in a sequence. The beginning and ending frames of the sequence are defined by mark 1 and mark 2. When you left-click on Stage, its selection box appears.

- Press **Backspace** or **Esc** to erase the number in the box, then type in the number of the stage you want to see. When you left-click on OK, that stage is placed in all frames of your sequence.
- Left-click on either First or Last to see the first or last stage in a series. The selected stage appears and is placed in all frames of your sequence.
- When you have more than one stage, a box appears in the slide bar. Drag the box right or left to change the stage number in the selection box. Left-click on either arrow to increase or decrease the stage number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected stage appears and is placed in all frames of your sequence.

Palette Shows the palette currently selected for your sequence. Left-click on Palette to see a selection box offering eight palette selections lettered A through H. Left-click on a letter to select that palette, then left-click on OK. The new palette letter appears in the toolbox.

The colors in the current palette appear below the lettered boxes in the palette selection box. These colors can be modified with the Palette option in the Design menu. For details on modifying colors, see **Palette** later in this manual.

View Previews the sequence of frames defined by mark 1 and mark 2. Left-click on View to see its selection box. The number in the selection box is your current film speed. Speeds range from 1 to 25. Left-click on Slower or Faster to change the speed. Lower numbers slow down the film; higher numbers speed it up. Then left-click on OK to preview your sequence.



Tip: If the frame marked 1 has a higher sequence number than the frame marked 2, your sequence will run in reverse when you view it.

Cel Lets you manipulate the elements on the layers you added to your frames with the Cel tool in the Frames toolbox. Select Cel to see its selection box.

- **Interpolate** Lets you create intermediate images on the top layer of a sequence. First, use the Frames toolbox to place beginning and ending versions of a pattern, polygon, or group onto two different frames. Return to the toolbox and use the Mark tool to mark the frames as 1 and 2. Finally, select Cel and left-click on Interpolate in the selection box, then on OK in the dialog box that appears. Interpolate will generate intermediate images on the frames between the marked frames. When you view your sequence, the element you interpolated will appear to move or change.
- **Overlay** Copies all patterns, polygons, and groups in a sequence, then adds the copies to the film, beginning with the current frame. Select Overlay, then left-click on OK in the dialog box that appears. In your frame, move the mouse to position the elements, and left click to set the overlay in place.

When you view the film, the copied elements appear, performing the same motion as their originals.

- **Peel** Erases the topmost element from a sequence. Select Peel, then left-click on OK in the dialog box that appears. Elements copied to your film with Interpolate and Overlay can be erased with Peel.
- **Trace On** Creates a trail of after-images of actors as they "move" through a marked sequence. Select Trace On, then left-click on OK in the dialog box that appears.



Tip: If your stage changes while you are viewing or showing a film, any after-images are erased.

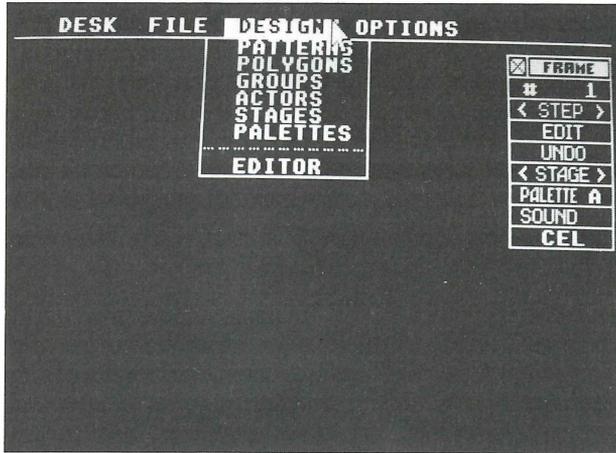
- **Trace Off** Turns off the Trace On operation in a marked sequence. Select Trace Off, the left-click on OK in the dialog box that appears.

Designer

Selecting Designer puts you in Design mode, with Design as the third menu bar selection from the left. For complete information, see the next section, **Design Menu Options**.

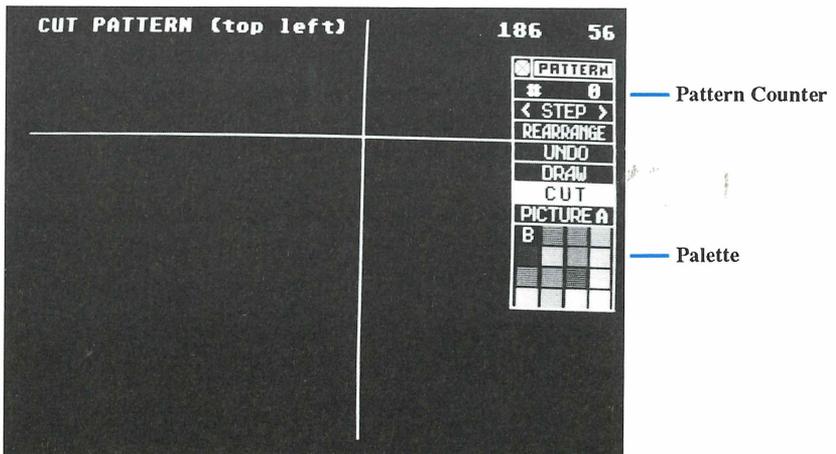
Design Menu Options

The Design menu contains options for designing film elements.



Patterns

The Patterns option lets you create patterns to use in your films. When you select this option, its toolbox appears. Use the Patterns tools to create, edit, and cut out patterns from .ART pictures you have loaded into memory with the Load Picture option in the File menu.



Pattern Counter Shows the number of the pattern currently on screen. Left-click on the counter and the pattern selection box appears.

-
- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the pattern you want to see. When you left-click on **OK**, that pattern appears.
 - Left-click on either **First** or **Last** to see the first or last pattern in a series.
 - When you have more than one pattern, a box appears in the slide bar. Drag the box right or left to change the pattern number in the selection box. Left-click on either arrow to increase or decrease the pattern number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on **OK**, the selected pattern appears.

<Step> Displays the next pattern in a series. Left-click on **<** or **>** to display the next pattern backward or forward. Hold down the left mouse button on **<** or **>** to scan the entire series backward or forward.

Rearrange Inserts, deletes, and rearranges the order of patterns. Left-click on **rearrange** to see its selection box.

- Select **Insert** to add a blank pattern in the current position. Then left-click on **OK** in the dialog box that appears. The blank pattern is inserted and all following patterns are renumbered.
- Select **Delete** to erase the current pattern. Then left-click on the dialog box that appears. The pattern is erased and all following patterns are renumbered.
- Select **Send** to move the current pattern to the end of the pattern series. Then left-click on **OK** in the dialog box that appears. The pattern is moved and all following patterns are renumbered.
- Select **Get** to bring the last pattern in the series into the current position. Then left-click on **OK** in the dialog box that appears. The last pattern appears in the current position and the current pattern is deleted.

Undo Usually cancels your last action taken from the toolbox. Left-click on **Undo** (or press the **Undo** key). A pattern that has been cut out or rearranged cannot be undone.

Draw Lets you draw a new picture or edit an existing picture. When you left-click on **Draw**, the toolbox gives you a color swatch and **Zoom** tool.

Move the cursor onto a color in the palette and left-click to select it. That color appears in the color swatch. Then move the cursor (a pencil) onto the animation board. Hold down the left mouse button while moving the mouse to draw in the color you selected. You can draw over existing pictures or create new pictures.

Left-click on **Zoom** in the toolbox to magnify an area for detailed drawing. The cursor becomes a flashing box. Move it onto the animation board, positioning it over the area you want to magnify. Then left-click to display the magnified area. Move the cursor (a small flashing box) over the area and left-click to add a single pixel of color at the cursor position.

To exit from the **Zoom** and **Draw** tools, left-click on **Exit** in the toolbox.

Cut Cuts out a pattern. Select **Cut**, then move the cursor (flashing crosshairs) onto the animation board. Position the bars of the cursor over the top and to the left of the pattern you want to cut. Left-click, then move the mouse down and to the right. A flashing box follows the cursor. When the box encloses the pattern, left-click to cut out the pattern. The pattern is added at the end of your pattern series (and the number in the counter is increased by one).

Picture Lets you select a picture to display on the animation board. Left-click on the tool. A selection box appears listing picture pages. Left-click on the page you want, then left-click on **OK**. The picture appears on screen and the letter of that picture is listed in the toolbox. If there is no picture currently on the page you select, a blank animation board appears.



Tip: In systems having only 512K of memory, only two pages, A and B, are available. Left-click on **Picture** to toggle between pages.

Palette Shows the 16 colors available for use in your current picture. Left-click on a color in the palette to fill the screen with that color. Then use **Cut** to cut out a rectangle. Left-click on **Picture** in the toolbox to return to your current picture.

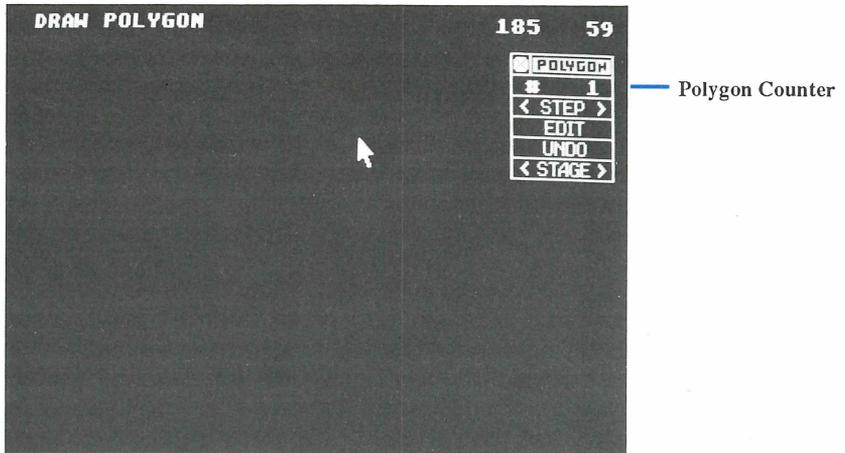
When using the **Draw** tool, left-click on a color in the palette to select it for drawing.



Tip: To change the colors in your palette, use the **Palettes** option in the **Design** menu. For complete instructions, see the **Palettes** section later in this manual.

Polygons

The **Polygons** option lets you draw, color, and edit line-drawings to use in your films. When you select this option, the **Polygon** toolbox appears.



Move the cursor onto the animation board and left-click to set the first point of your polygon. Then move the mouse to draw a line. Left-click to set the second point of the polygon. Continue moving the mouse and left-clicking to set all subsequent points of your design. When the polygon is finished, double-left-click. The palette and Clip tools are added to the toolbox.

Polygon Counter Shows the number of the polygon currently on screen. Left-click on the counter and the polygon selection box appears.

- Press **Backspace** or **Esc** to erase the number in the selection box. Then type in the number of the polygon you want to see. When you left-click on OK, that polygon appears.
- Left-click on either First or Last to see the first or last polygon in a series.
- When you have more than one polygon in your series, a box appears in the slide bar. Drag the box right or left to change the polygon number in the selection box. Left-click on either arrow to increase or decrease the polygon number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected polygon appears.

<Step> Displays the next polygon in a series. Left-click on **<** or **>** to display the next polygon backward or forward. Hold down the left mouse button on **<** or **>** to scan the entire series backward or forward.

Edit Inserts, deletes, and duplicates polygons, and generates intermediate polygons between two existing polygons.

When you left-click on Edit, a dialog box appears asking for the number of cycles. (For Insert and Delete, the number of cycles will be the number of polygons you want to affect. For Copy and Append, it is the number of times one polygon is duplicated. For Tween, it is the number of intermediate polygons inserted between two selected polygons.) Press **Backspace** or **Esc** to erase the number in the box, then type in the number of cycles. Or left-click on Single for only one cycle. When you left-click on OK, a selection box appears.

- Select Insert to add the selected number of blank polygons, then select OK in the dialog box that appears. The polygons are inserted before the current polygon and all following polygons are renumbered.
- Select Delete to erase the selected number of polygons, then select OK in the dialog box that appears. The polygons are erased, beginning with the current polygon, and all following polygons are renumbered.
- Select Copy to duplicate the current polygon the selected number of times, then select OK in the dialog box that appears. The duplicate polygons are added after the current polygon and all following polygons are renumbered.
- Select Append to duplicate the current polygon the selected number of times and add those new polygons to the end of the series. Select OK in the dialog box that appears to complete the operation.
- Select Tween to generate the selected number of intermediate polygons between the current polygon and the polygon preceding it. Left-click on OK in the dialog box that appears. The polygons are generated and all following polygons are renumbered.

When the selected polygons are different sizes or shapes, Tween generates a series of "changing" polygons. When the series is viewed as a sequence, the polygon appears to grow or change.

When the selected polygons are identical but in different positions, Tween generates a series of repositioned polygons. When the series is viewed as a sequence, the polygon appears to move.

Undo Cancels all actions taken from the toolbox for the current polygon. Left-click on Undo (or press the **Undo** key).

<Stage> Lets you preview an existing stage with your current polygon, in order to align the polygon correctly for use on that stage later when you set up your frames. Left-click on the tool to see its selection box.

- Press **Backspace** or **Esc** to erase the number in the box, then type in the number of the stage you want to see. When you left-click on OK, that stage appears on your animation board, behind the polygon.

-
- Left-click on either First or Last to see the first or last stage in a series. The selected stage appears behind the current polygon.
 - When you have more than one stage, a box appears in the slide bar. Drag the box right or left to change the stage number in the selection box. Left-click on either arrow to increase or decrease the stage number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected stage appears behind the current polygon.

With a stage displayed, you can preview how your polygon looks on it. Move the cursor onto the animation board. Hold down the left mouse button. The cursor changes to a flat hand. Now move the mouse to move your polygon onto the stage. When the polygon is positioned correctly, release the mouse button.

If you position the cursor on a side or angle of your polygon and hold down the left mouse button, the cursor changes to a hand pinching the polygon. Move the mouse to drag the side or angle to a new position, then release the mouse button.



Tip: When you drag a side, you create a new angle.

Palette Shows the 16 colors available for coloring your polygons. Left-click on a color in the palette to select it. Then move the cursor onto a line in your polygon and left-click to color the line from angle to angle.

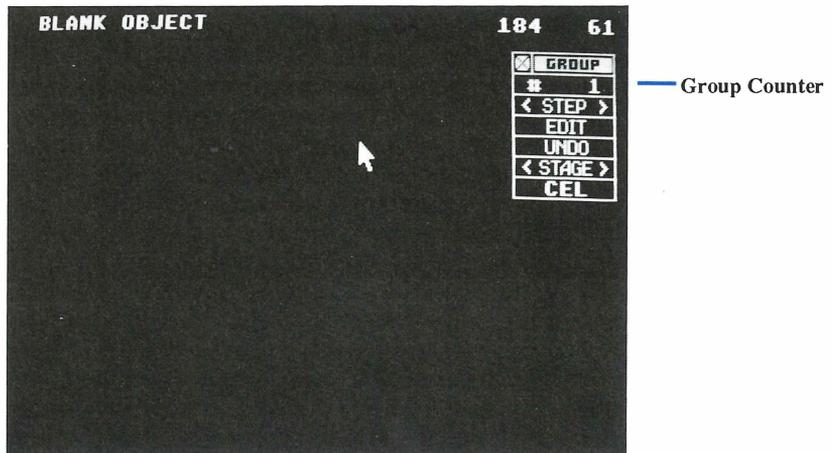


Tip: To change the colors in your palette, use the Palettes option in the Design menu. For complete instructions, see the **Palettes** section later in this manual.

Clip Deletes an angle of a polygon. Select Clip, then move the cursor (a clipper) onto the polygon angle you want to clip. Left-click to delete the angle. The polygon reforms with one less angle.

Groups

The Groups option lets you create groups to use in your films. Groups are collections of patterns and polygons. When you select this option, its toolbox appears.



Group Counter Shows the number of the group currently on screen. Left-click on the counter and the group selection box appears.

- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the group you want to see. When you left-click on **OK**, that group appears.
- Left-click on either **First** or **Last** to see the first or last group in a series.
- When you have more than one group, a box appears in the slide bar. Drag the box right or left to change the group number in the selection box. Left-click on either arrow to increase or decrease the group number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on **OK**, the selected group appears.

<Step> Displays the next group in a series. Left-click on **<** or **>** to display the next group backward or forward. Hold down the left mouse button on **<** or **>** to scan the entire series backward or forward.

Edit Inserts, deletes, and duplicates groups, and generates intermediate groups between two existing groups.

When you left-click on **Edit**, a dialog box appears asking for the number of cycles. (For **Insert** and **Delete**, the number of cycles will be the number of groups you want to affect. For **Copy** and **Append**, it is the number of times one group is duplicated. For **Tween**, it is the number of intermediate groups inserted between two selected groups.) Press **Backspace** or **Esc** to erase the number in the box, then type in the number of cycles. Or left-click on **Single** for only one cycle. When you left-click on **OK**, a selection box appears.

- Select **Insert** to add the selected number of blank groups, then select **OK** in the dialog box that appears. The groups are inserted before the current group and all following groups are renumbered.
- Select **Delete** to erase the selected number of groups, then select **OK** in the dialog box that appears. The groups are erased, beginning with the current group, and all following groups are renumbered.
- Select **Copy** to duplicate the current group the selected number of times. Then select **OK** in the dialog box that appears. The duplicate groups are added after the current group and all following groups are renumbered.
- Select **Append** to duplicate the current group the selected number of times and add those new groups to the end of the series. Select **OK** in the dialog box that appears to complete the operation.
- Select **Tween** to generate the selected number of intermediate groups between the current group and the group preceding it. Left-click on **OK** in the dialog box that appears. The groups are generated and all following groups are renumbered.

When the patterns and polygons in the selected groups are in different positions, **Tween** generates a series of "changing" groups. When the series is viewed as a sequence, the groups appear to move.

Undo Cancels all actions taken from the toolbox for the current group. Left-click on **Undo** (or press the **Undo** key).

<Stage> Lets you preview an existing stage with your current group, in order to position the group correctly for use on that stage later when you set up your frames. Left-click on the tool to see its selection box.

- Press **Backspace** or **Esc** to erase the number in the box, then type in the number of the stage you want to see. When you left-click on **OK**, that stage appears on your animation board, behind the group.
- Left-click on either **First** or **Last** to see the first or last stage in a series. The selected stage appears behind the current group.
- When you have more than one stage, a box appears in the slide bar. Drag the box right or left to change the stage number in the selection box. Left-click on either arrow to increase or decrease the stage number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on **OK**, the selected stage appears behind the current group.

With a stage displayed, you can preview how your group looks on it. Move the cursor onto the animation board. Hold down the left mouse button. The cursor changes to a flat hand. Now move the mouse to move your group on the stage.

When the group is positioned correctly, release the mouse button.

If you position the cursor on a single element in the group and hold down the left mouse button, the cursor changes to a hand pinching the element. Move the mouse to drag the element to a new position, then release the mouse button. A flashing box appears around the element. You can move the element again, or, if it is positioned where you want it, left-click to set it in that position.

Cel Lets you add or delete patterns and polygons from your group. Each element is added as a layer, or cel, to the current group.

When you left-click on Cel, its selection box appears. When you select Insert from the selection box, tools are added to the toolbox for these three items: layers, patterns, and polygons.

Patterns and polygons can be placed onto your group in layers, with one element per layer. To change an image's layering, left-click on it. Then left-click on the up or down arrow in the Layer tool to place the image in front of or behind an image it overlaps.

Left-click on <Pattern> or <Polygon> to see its selection box.

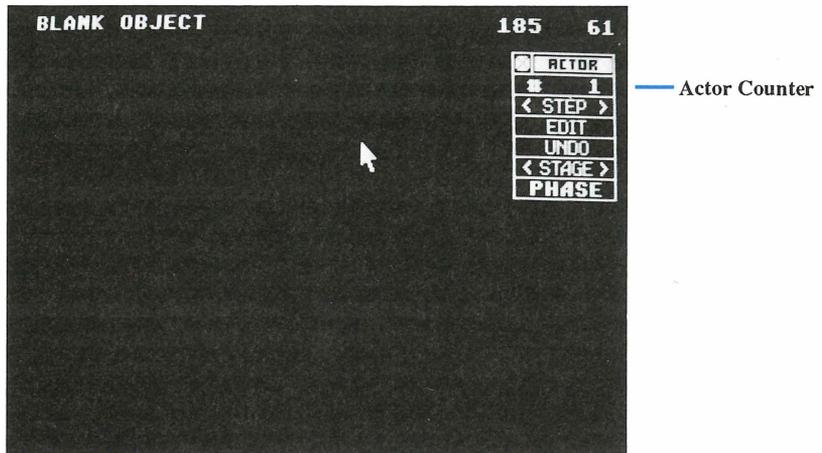
- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the element you want to see. When you left-click on OK, that element appears.
- Left-click on either **First** or **Last** to see the first or last element in the series.
- When you have more than one element available, a box appears in the slide bar. Drag the box right or left to change the element number showing in the selection box. Left-click on either arrow to increase or decrease the element number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected element appears.

Move the cursor to the element, hold down the left mouse button, and drag the element to where you want it in the group. Release the mouse button, move the cursor away from the element, then left-click to set it in place.

To delete an element from a frame, first left-click on it on the animation board. Then select Cel from the toolbox and Delete from the selection box that appears. Finally, left-click on OK in the warning box. The element is erased from your frame.

Actors

The Actors option lets you arrange patterns, polygons, and groups into animated images called actors. When you select Actors from the Design menu, its toolbox appears.



Actor Counter Shows the number of the actor currently on screen. Left-click on the counter and the actor selection box appears.

- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the actor you want to see. When you left-click on **OK**, that actor appears.
- Left-click on either **First** or **Last** to see the first or last actor in a series.
- When you have more than one actor, a box appears in the slide bar. Drag the box right or left to change the actor number in the selection box. Left-click on either arrow to increase or decrease the actor number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on **OK**, the selected actor appears.

<Step> Displays the next actor in a series. Left-click on **<** or **>** to display the next actor backward or forward. Hold down the left mouse button on **<** or **>** to scan the entire series backward or forward.

Edit Inserts, deletes, and duplicates actors.

When you left-click on Edit, a dialog box appears asking for the number of cycles. (For Insert and Delete, the number of cycles will be the number of actors you want to affect. For Copy and Append, it is the number of times one actor is duplicated. For Tween, it is the number of intermediate phases inserted between the selected phase and the one preceding it.) Press **Backspace** or **Esc** to erase the number in the box, then type in the number of cycles. Or left-click on Single for only one cycle. When you left-click on OK, a selection box appears.

- Select Insert to add the selected number of blank actors, then select OK in the dialog box that appears. The actors are inserted before the current actor and all following actors are renumbered.
- Select Delete to erase the selected number of actors, then select OK in the dialog box that appears. The actors are erased, beginning with the current actor, and all following actors are renumbered.
- Select Copy to duplicate the current actor the selected number of times. Then select OK in the dialog box that appears. The duplicate actors are added after the current actor and all following actors are renumbered.
- Select Append to duplicate the current actor the selected number of times and add those new actors to the end of the series. Select OK in the dialog box that appears to complete the operation.
- Select Tween to generate the selected number of intermediate phases between the current phase and the phase preceding it. Left-click on OK in the dialog box that appears. The phases are generated and all following phases are renumbered.

Undo Cancels all actions taken from the toolbox for the current actor. Left-click on Undo (or press the **Undo** key).

<Stage> Lets you preview an existing stage with your current actor, in order to position the actor correctly for use on that stage later when you set up your frames. Left-click on the tool to see its selection box.

- Press **Backspace** or **Esc** to erase the number in the box, then type in the number of the stage you want to see. When you left-click on OK, that stage appears on your animation board, behind the actor.
- Left-click on either First or Last to see the first or last stage in a series. The selected stage appears behind the current actor.
- When you have more than one stage, a box appears in the slide bar. Drag the box right or left to change the stage number in the selection box. Left-click on either arrow to increase or decrease the stage number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected stage appears behind the current actor.

With a stage displayed, you can preview how your actor looks on it. Move the cursor onto the animation board. Hold down the left mouse button. The cursor changes to a flat hand. Now move the mouse to move your actor on the stage. When the actor is positioned correctly, release the mouse button. The actor cycles through all its phases as you do this.

<Phase> Displays, inserts, or deletes an actor's phases. A phase is an individual action step. An actor is made up of two or more phases. Left-click on **<** or **>** in the tool to stop an actor at either the first or last phase. The number of the phase appears in the toolbox. Hold down the left mouse button on **<** or **>** to scroll backward or forward through the actor's phases.

When you select Phase, four tools are added to the Actor toolbox for these items: order, patterns, polygons, and groups.

The **<Order>** tool changes the order of two phases. Left-click on **<** to swap the current phase with the one that precedes it. Left-click on **>** to swap the current phase with the one that follows it.

When you left-click on the center of the phase tool, its selection box appears. Left-click on **Insert** to add a pattern, polygon, or group to the current phase. (You can only have one cel per phase.) Then left-click on **<Pattern>**, **<Polygon>**, or **<Group>** in the toolbox to see a selection box.

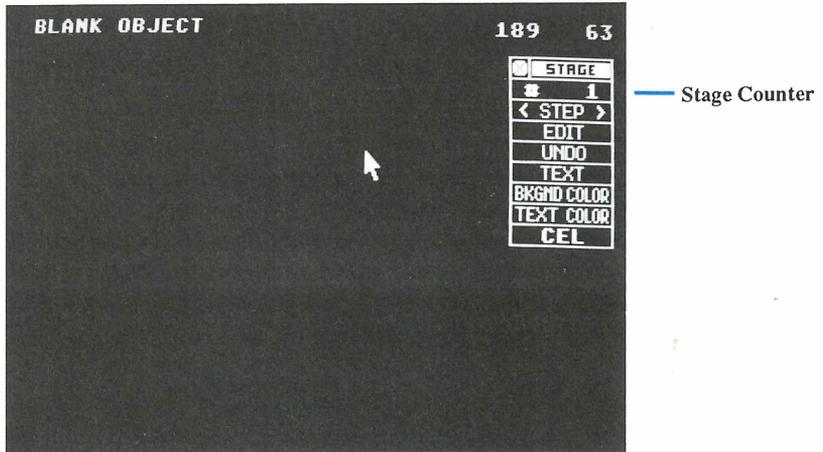
- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the element you want to see. When you left-click on **OK**, that element appears.
- Left-click on either **First** or **Last** to see the first or last element in the series.
- When you have more than one element available, a box appears in the slide bar. Drag the box right or left to change the element number showing in the selection box. Left-click on either arrow to increase or decrease the element number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on **OK**, the selected element appears.

Move the cursor to the element, hold down the left mouse button, and drag the element to where you want it in the phase. Release the mouse button, move the cursor away from the element, then left-click to set it in place. When you view the actor, that element appears in the selected phase.

To delete a phase, first display it by selecting **<** or **>** in the phase tool. Then left-click on the center of the phase tool. Select **Delete** from the dialog box, and left-click on **OK** in the second dialog box that appears. The phase is deleted from your actor.

Stages

The Stages option lets you establish a stage or background for your animated film. After you create a stage, you can place it into a frame by using the Frames and Sequences options in the Edit menu. When you select Stages from the Design menu, its toolbox appears.



Stage Counter Shows the number of the stage currently on screen. Left-click on the counter and the stage selection box appears.

- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the stage you want to see. When you left-click on OK, that stage appears.
- Left-click on either First or Last to see the first or last stage in a series.
- When you have more than one stage, a box appears in the slide bar. Drag the box right or left to change the stage number in the selection box. Left-click on either arrow to increase or decrease the stage number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten.

When you left-click on OK, the selected stage appears.

<Step> Displays the next stage in a series. Left-click on < or > to display the next stage backward or forward. Hold down the left mouse button on < or > to scan the entire series backward or forward.

Edit Inserts, deletes, and duplicates stages, and generates intermediate stages between two existing stages.

When you left-click on **Edit**, a dialog box appears asking for the number of cycles. (For **Insert** and **Delete**, the number of cycles will be the number of stages you want to affect. For **Copy** and **Append**, it is the number of times one stage is duplicated. For **Tween**, it is the number of intermediate stages inserted between two selected stages.) Press **Backspace** or **Esc** to erase the number in the box, then type in the number of cycles. Or left-click on **Single** for only one cycle. When you left-click on **OK**, a selection box appears.

- Select **Insert** to add the selected number of blank stages, then select **OK** in the dialog box that appears. The stages are inserted before the current stage and all following stages are renumbered.
- Select **Delete** to erase the selected number of stages, then select **OK** in the dialog box that appears. The stages are erased, beginning with the current stage, and all following stages are renumbered.
- Select **Copy** to duplicate the current stage the selected number of times. Then select **OK** in the dialog box that appears. The duplicate stages are added after the current stage, and all following stages are renumbered.
- Select **Append** to duplicate the current stage the selected number of times and add those new stages to the end of the series. Select **OK** in the dialog box that appears to complete the operation.
- Select **Tween** to generate the selected number of intermediate stages between the current stage and the stage preceding it. Left-click on **OK** in the dialog box that appears. The stages are generated and all following stages are renumbered.

Undo Cancels all actions taken from the toolbox for the current stage. Left-click on **Undo** (or press the **Undo** key).

Text Lets you add text to your stage. When you left-click on **Text**, a flashing line appears in the lower left corner of the animation board. Use your **Arrow** keys to move the line to where you want text to begin. Then type your text. If you make a mistake, press **Backspace** to erase one character, or press **Delete** to erase all text.

After finishing a line of text, move the flashing line again with your **Arrow** keys to add other lines. When you've typed all text, press **Esc** to complete the operation.

Bkgnd Color Lets you change the background color of your stage. When you left-click on the tool, its selection box appears, offering the 16 color choices from your palette. Left-click on the color you want, then left-click on **OK**. The background color in your stage will change to the color you just selected.

Text Color Lets you choose the color of text added to your stage with the Text tool. When you left-click on Text Color, its selection box appears, offering the 16 color choices from your palette. Left-click on the color you want, then left-click on OK. The text in your stage (and any text you add later) appears in the newly chosen color.

Cel Lets you add, delete, or modify patterns, polygons, and groups in your stage. Each element is added as a layer, or cel, to the current group.

When you left-click on Cel, its selection box appears. When you select Insert from the selection box, tools are added to the toolbox for these four items: layers, patterns, polygons, and groups.

Patterns, polygons, and groups can be placed onto your stage in layers, with one element per layer. To change an image's layering, left-click on it. Then left-click on the up or down arrow in the Layer tool to place the image in front of or behind an image it overlaps.

Left-click on <Pattern>, <Polygon>, or <Group> to see its selection box.

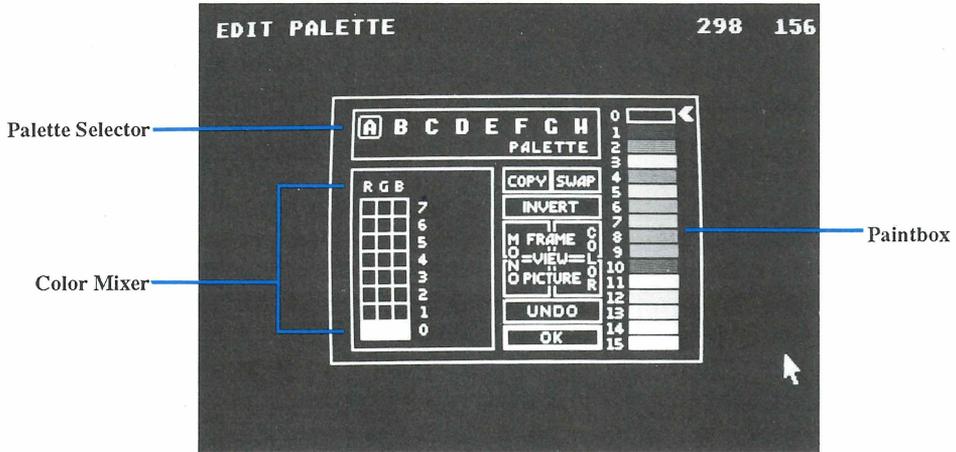
- Press **Backspace** or **Esc** to erase the number in the selection box, then type in the number of the element you want to see. When you left-click on OK, that element appears.
- Left-click on either First or Last to see the first or last element in the series.
- When you have more than one element available, a box appears in the slide bar. Drag the box right or left to change the element number showing in the selection box. Left-click on either arrow to increase or decrease the element number by one. Left-click on the gray area on either side of the box to increase or decrease the number by ten. When you left-click on OK, the selected element appears.

Move the cursor to the element, hold down the left mouse button, and drag the element to where you want it on the stage. To modify your element, select Cel again from the toolbox. When the selection box appears, left-click on Dup to double the size of the element, either from left to right or from top to bottom, depending on the arrows in the Dup box you selected. Left-click on Mir to generate either a left/right or up/down mirror image of the element, depending on the arrows in the Mir box. When the element is the way you want it, move the cursor away from it and left-click to set it in place.

To delete an element from a stage, first left-click on it on the animation board. Then select Cel from the toolbox and Delete from the selection box that appears. Finally, left-click on OK in the warning box. The element is erased from your frame.

Palettes

The Palettes option lets you change the colors in your palette, and create up to seven additional palettes. Each palette contains 16 colors. In the Design menu, left-click on Palettes. The palette editor appears. *Film Director's* palette editor is very similar to the palette editor in *Art Director*.



Tip: Using the *Film Director* palette editor modifies the palette of picture A only.

Paintbox The colors shown in the paintbox are the colors currently in your palette. The colors are numbered as they appear in the palette from top to bottom. Colors 0 through 3 are in the far left column of the palette; colors 4 through 7 are in the center left column; colors 8 through 11 are in the center right column; and colors 12 through 15 are in the far right column. The arrow marks the color currently showing in the color mixer.

Color Mixer Use the color mixer to modify the colors in your palette. You can change one color at a time in the color mixer. The color currently in the mixer is shown with its RGB value.

To change a color in the mixer, move the cursor onto an empty square in the RGB grid and left-click. The square will be highlighted and the color in the color bar will change, reflecting the new RGB value you just set. The same color in the paintbox also changes to the new color. When you return to the animation board, the new color appears in the palette in place of the original color.



Tip: Do not set colors 0 and 15 to the same RGB value, or you will not be able to read the palette editor. If that happens, press **Help** to make your screen readable.

Palette Selector You can use up to eight palettes per canvas. In the palette selector, the palettes are labeled A through H. Left-click on a palette letter to select it. The letter of the palette currently selected has a box around it, and the colors of that palette appear in the paintbox.

Copy This selection copies colors. The purpose of Copy is to move colors around within a palette, or from palette to palette.

To copy a color within the same palette, first left-click on the color you want to copy in the paintbox. Then left-click on Copy. Finally, left-click on the color in the paintbox you want to copy over. The first color selected in the paintbox is copied over the second color. In the palette on your animation board, the first color selected will appear in its original position and in the position of the second color selected.

To copy a palette, select a palette letter in the palette selector at the top of the palette editor. Then left-click on Copy. Finally, select a second palette letter in the palette selector. The colors in the first palette selected will be copied to the second palette selected.



Tip: To deselect Copy, left-click on it again.

Swap This selection exchanges colors within a palette or from palette to palette.

To exchange colors in the same palette, select one color from the paintbox. Then left-click on Swap. Move the cursor back to the paintbox and select a second color to exchange with the first color. The two colors will trade places in the paintbox.

To exchange the colors of two palettes, first select a palette letter in the palette selector. Then left-click on Swap. Finally, select a second palette letter. The colors of the two palettes will be swapped.



Tip: To deselect swap, left-click on it again.

Invert When you left-click on this selection, it inverts all colors on the palette. Inverting a color changes it to its complementary color--one that has the opposite RGB value.

View Frame Lets you look at your current frame in color or monochrome. To view it in color, move the cursor to the upper right quadrant of the View square and hold down the left mouse button. To view it in shades of gray, move the cursor to the upper left quadrant and hold down the mouse button. Release the mouse button to return to the palette editor.

View Picture Lets you look at your current picture in color or monochrome. To view it in color, move the cursor to the lower right quadrant of the View square and hold down the left mouse button. To view it in shades of gray, move the

cursor to the lower left quadrant and hold down the mouse button. Release the mouse button to return to the palette editor.

Undo Left-click on Undo (or press the Undo key) to cancel the last action you took in the palette editor.

After making your selections, left-click on OK to return to the animation board.

Editor

Selecting Editor puts you in Edit mode, with Edit as the third menu selection from the left. For complete information, see **Edit Menu Options** earlier in this manual.

Options Menu Options

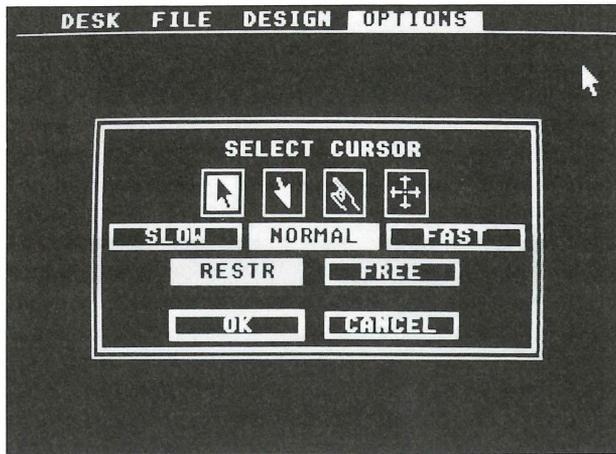
The Options menu includes options for controlling the on-screen components, erasing frames, scripts, and pictures, and previewing an animated film.



Select Cursor

The Select Cursor option lets you select your cursor shape and speed. It also lets you restrict your cursor to the visible animation board or free it to move off the visible board area.

Left-click on Select Cursor to see its selection box:



Choice Select the cursor shape you prefer. When you left-click on OK, that shape will appear on screen as the cursor.

Speed Your selection--Slow, Normal, or Fast--determines how fast the cursor responds to your mouse movements.

Range Select Restr to keep your cursor within the visible canvas. Selecting Free lets you move your cursor off screen--for example, when you want to move cels partially off the screen.

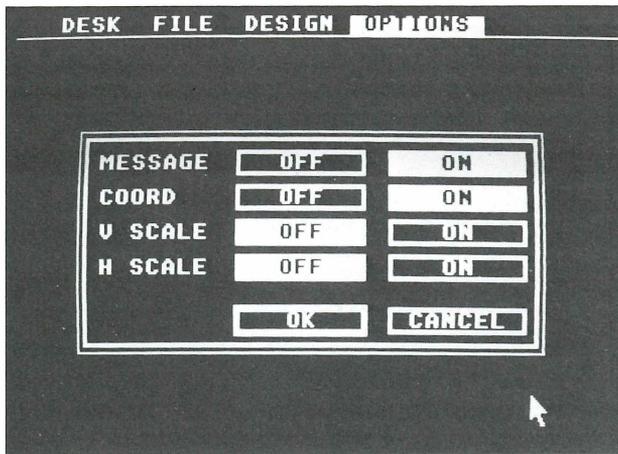


Tip: If you lose the cursor, press **F8** to return it to the center of the screen.

Make your selections, then left-click on OK to return to the animation board.

Display Tools

The Display Tools option lets you toggle certain screen displays on and off. Left-click on the option to see its selection box.



Message Selecting On displays the message line at the top left of the animation board. Selecting Off hides it.

Coord Selecting On displays your cursor coordinates at the top right of the animation board. Selecting Off hides them.

V Scale Selecting On displays a vertical scale at the left side of the animation board. The longer marks on the scale are spaced five pixels apart. Selecting Off hides the scale.

H Scale Selecting On displays a horizontal scale at the bottom of the animation board. The longer marks on the scale are spaced five pixels apart. Selecting Off hides the scale.

Make your selections and left-click on OK or press **Return**.

Hide Display

When you select Hide Display, all displays are hidden. To show the items that are "on" in the Display Tools selection box, display the Options menu and select Show Display.

Hide Toolbox

Select the Hide Toolbox option to remove the toolbox from the screen. To show the toolbox again, display the Options menu and select Show Toolbox.

Erase Frames

This option is available when Edit is the third menu bar selection from the left. Select Erase Frames to erase the frames currently in memory, but leave intact all film elements (patterns, polygons, groups, actors, and stages).

Using Erase Frames makes it possible for you to create a new film with those previously defined elements, as well as palettes and pictures.



Tip: Once a series of frames is erased, it cannot be recalled unless it has been previously saved to disk as a .FLM file.

Erase Script

This option is available when Design is the third menu bar selection from the left. Select Erase Script to erase all patterns, polygons, groups, actors, and stages in memory, but leave intact the palettes and pictures.

Using Erase Script makes it possible for you to begin defining new film elements with existing pictures and palettes.



Tip: Once a script is erased, it cannot be recalled unless it has been previously saved to disk as an .SCR file or as part of a .FLM file.

Erase Picture

The Erase Picture option is available when Design is the third menu bar selection from the left. It lets you erase a picture from memory.

When you select Erase Picture, its selection box appears listing the pictures in memory. Left-click on the picture you want to erase, then left-click on OK or press **Return** to delete the picture. If you've cut a pattern out of the picture, it becomes a blank pattern in memory.



Tip: Once a picture is erased, it cannot be recalled unless it has been previously saved to disk as an .ART file or as part of a .FLM file.

Show Film

Select the Show Film option to view the animated film currently in memory. When you left-click on the option, its selection box appears.

Direction Select Back or Forward to see your film in the reverse or forward direction.

Speed Select Slower or Faster to change the speed at which your film is shown. The number to the left of the selections changes. Speed 1 is the slowest; speed 25 is the fastest.

After making your selections, left-click on OK or press **Return**. The film will begin to play.

During a show, right-click to stop a film at the last frame displayed. The Frame toolbox appears, and you can edit the frame. In this way you can use Show Film to find an incorrect frame and edit the problem. Left-click to resume showing the film.

Using FILMSHOW.PRG

FILMSHOW.PRG lets you show your animated films. From the GEM Desktop, copy the programs FILMSHOW.PRG, S.RSC, and S.INT to any disk containing a .FLM file. When you want to show your film, insert the disk into a drive and run FILMSHOW.PRG from the desktop.

The program first searches for the file DEMO.FLM and runs that film. If DEMO.FLM is not on disk, the program displays a menu bar with two items: Desk and File. Display the File menu and select Load Film. An item selector appears from which you can select the film you want to show. When you left-click on OK, FILMSHOW.PRG shows the selected film.

During the film, press the **Left Arrow** to watch your film in reverse. Press the **Right Arrow** to return to forward showing. Press the **Down Arrow** to slow down the film; press the **Up Arrow** to speed it up. Press **Spacebar** to pause the film; press it again to advance one frame. Press any key to resume the show. When the film is over, press **F1** to restart it. Press **Help** or **Control B** to see the help screen.

Display the File menu and select Show Film to see a selection box offering direction and speed options. Use this selection box in the same way you use the Show Film selection box while working in *Film Director*.

Press **Esc** or select Quit from the File menu to exit the program and return to the GEM Desktop.

Using MUSICSEL.PRG

Film Director can load one music (.MUS) file at a time containing up to nine sounds that you can add to your animated films. The *Film Director* disks contain three music files, for a total of 27 sounds for you to choose from. The music selector program MUSICSEL.PRG lets you assemble your own music files by choosing sounds from the three existing files.

To create a custom music file, follow these steps:

1. Insert the disk containing the program MUSICSEL.PRG and the music files into a drive. Then run MUSICSEL.PRG from the GEM Desktop. The program loads and displays a menu bar with two options: Desk and File.
2. Display the File menu and select the Load Music option. An item selector appears listing the music files.
3. Select the file you want. This will be your input file. When you left-click on OK, an edit box appears indicating the nine sounds in the file with the numbers 1 through 9.
4. To preview a sound, left-click on a number, then left-click on Play. (To stop a sound before it finishes, left-click on Play again.)
5. To add a sound from the input file to your output (custom) file, move the cursor to the number of the sound you want. Hold down the left mouse button and drag the sound to a location (from 1 through 9) in the output file. Release the mouse button. If the sound is where you want it, left-click on OK in the dialog box that appears.



Tip: You can preview sounds in the output file by selecting a sound number and left-clicking on Play.

6. To cancel your selections, select Cancel in the edit box. Doing this cancels all changes you made since entering the edit box. Then display the File menu and select Edit Music to return to the edit box with the same input file loaded.
7. When you finish adding sounds from the input file to the output file, select OK.
8. To copy sounds from a second input file to your output file, display the File menu, select Load Music, and load another input file. Copy the sounds you want, then select OK.
9. To save your output file, select OK in the edit box. Then display the File menu and select Save Music. In the item selector that appears, type a filename for your file. When you select OK, the file is saved with the extension .MUS to the disk in your drive.

Select Quit from the File menu to exit the program. The File menu also contains the Delete File and Format Disk options. Use them in the same way you use the Delete File and Format Disk options in *Art Director*.

Taping Your Art and Films

Once you've created artwork or animated films using *Art & Film Director*, you can record your work on video tape.

Cabling

If your Atari ST has a composite video port (such as the Atari 520STFM) follow these steps:

1. Plug one end of an RCA phono cable (a cable with male RCA jacks on both ends) into the female RCA jack on your computer.
2. Plug the cable's other end into the Video In jack on the VCR. If the female Video In jack is not an RCA jack, insert an adapter between the cable and the Video In jack. (For example, some VCRs require an RCA to BNC adapter.)

If your Atari ST does not have a composite video port, follow these steps:

1. Connect an RGB to composite converter to the monitor port on your computer.
2. Plug one end of an RCA phono cable (a cable with male RCA jacks on both ends) into the female RCA jack on your converter.
3. Plug the cable's other end into the Video In jack on the VCR. If the female Video In jack is not an RCA jack, insert an adapter between the cable and the Video In jack. (For example, some VCRs require an RCA to BNC adapter.)

Recording

To record your *Art & Film Director* work, follow these steps:

1. Insert the tape you want to use for your recording into your VCR.
2. Prepare your VCR for recording by starting to record and then immediately pausing the VCR. (See your VCR manual for instructions.)
3. Load whatever you want to record into *Art Director*, *Film Director*, *Art Show*, or *Film Show*. If you're recording an animated film, begin showing the film, then immediately pause it.
4. Unpause the VCR (and the animation if recording a film).
5. When you've finished recording, stop or pause the VCR. (If you're going to record other pictures or films, it's better to pause the VCR rather than stop it.)



Tip: When recording from *Art Director*, turn your display off by right-clicking on Display in the toolbox and setting all items to Off. When recording from *Film Director*, turn your display off by selecting Display Tools from the Options menu and setting all items to Off.

FILM DIRECTOR

KEYBOARD SHORTCUTS

With *Film Director*, you can make selections from the keyboard instead of using your mouse. Press the following keys for the selection listed next to each key.



Tip: **Alt** indicates the **Alternate** key. **Ctrl** indicates the **Control** key.

General Use

Help or Ctrl B	Toggle help screen on/off.
Tab or Ctrl I	Toggle message on/off.
Alt Esc	Display menu bar.
Alt Space	Stop animation during a film show. Press any key to continue.
Return	Generally the same as left-clicking on OK (except when another selection is highlighted by default).
Arrow keys	Move cursor one pixel in indicated direction.
Alt Arrow keys	Move cursor eight pixels in indicated direction.
F1	Select Patterns option.
F2	Select Polygons option.
F3	Select Groups option.
F4	Select Actors option.
F5	Select Stages option.
F6	Select Frames option.
Alt F6	Select Sequences option.
F7	Show a film from the beginning.
F8	Place cursor at screen center.
F9	Select palette editor.

F10	Toggle toolbox display on/off.
Undo	Same as left-clicking on Undo tool.

Patterns

When the Patterns option is selected (F1), the following keys select toolbox items.

Alt * or Alt Shift 8	Pattern selection box
Alt -	< Step
Alt + or Alt Shift =	Step >
Alt ((or Alt Shift 9	First pattern
Alt) or Alt Shift 0	Last pattern
Insert	Insert blank pattern
Delete	Delete current pattern
Alt A	Send pattern to end of series
Alt G	Get pattern from end of series
Alt C	Cut pattern
Alt D	Toggle Draw on/off
Alt Z	Display Zoom area box
1	Select picture
B	Cut block pattern

Polygons

When the Polygons option is selected (F2), the following keys select toolbox items.

Alt * or Alt Shift 8	Polygon selection box
Alt -	< Step
Alt + or Alt Shift =	Step >
Alt ((or Alt Shift 9	First polygon

Alt) or Alt Shift 0	Last polygon
Insert	Insert blank polygon
Delete	Delete current polygon
Alt C	Copy polygon as next item
Alt A	Append polygon to end of series
Alt T	Tween single polygons
Alt S	Stage >
Alt Shift S	< Stage

Selecting Angles

When an angle is selected in a polygon, use the following keys:

Alt F	Select next angle
Alt Shift F	Select previous angle
Spacebar	Deselect angle

Groups

When the Groups option is selected (F3), the following keys select toolbox items.

Alt * or Alt Shift 8	Group selection box
Alt -	< Step
Alt + or Alt Shift =	Step >
Alt (or Alt Shift 9	First group
Alt) or Alt Shift 0	Last group
Insert	Insert blank group
Delete	Delete current group
Alt C	Copy group as next item
Alt A	Append group to end of series

Alt T	Tween single group
Alt S	Stage >
Alt Shift S	< Stage
Alt I	Insert cel
Alt Shift I	Delete cel

Cels

When the Cel tool is selected, you can use the following keys:

Alt M	Modify cel >
Alt Shift M	< Modify cel
Alt N	Layer up
Alt Shift N	Layer down
Alt P	Pattern >
Alt Shift P	< Pattern
Alt Q	Polygon >
Alt Shift Q	< Polygon
Return	Same as holding down the left mouse button. Press Alt Return to release.

Use the following keys to select cels on screen in the order they were saved in memory:

Alt F	Select next cel
Alt Shift F	Select previous cel
Spacebar	Deselect cel

Actors

When the Actors option is selected (F4), the following keys select toolbox items.

Alt * or Alt Shift 8	Actor selection box
Alt -	< Step
Alt + or Alt Shift =	Step >
Alt (or Alt Shift 9	First actor
Alt) or Alt Shift 0	Last actor
Insert	Insert blank actor
Delete	Delete current actor
Alt C	Copy actor as next item
Alt A	Append actor to end of series
Alt T	Tween single phase
Alt S	Stage >
Alt Shift S	< Stage
Alt I	Insert blank phase
Alt Shift I	Delete phase

Phases

When the Phase tool is selected, you can use the following keys:

Alt M	Modify cel >
Alt Shift M	< Modify cel
Alt N	Order >
Alt Shift N	< Order
Alt P	Pattern >
Alt Shift P	< Pattern

Alt Q	Polygon >
Alt Shift Q	< Polygon
Alt G	Group >
Alt Shift G	< Group

Use the following keys to select phases on screen in the order they were saved in memory:

Alt F	Select next phase
Alt Shift F	Select previous phase
Spacebar	Deselect phase

Stages

When the Stages option is selected (F5), the following keys select toolbox items:

Alt * or Alt Shift 8	Stage selection box
Alt -	< Step
Alt + or Alt Shift =	Step >
Alt (or Alt Shift 9	First stage
Alt) or Alt Shift 0	Last stage
Insert	Insert blank stage
Delete	Delete current stage
Alt C	Copy stage as next item
Alt A	Append stage to end of series
Alt T	Tween single stage
Alt Shift T	Text
Alt S	Set background color >
Alt Shift S	< Set background color

Alt I Insert blank cel

Alt Shift I Delete cel

Cels

When the Cel tool is selected, you can use the following keys:

Alt M Modify cel >

Alt Shift M < Modify cel

Alt N Layer up

Alt Shift N Layer down

Alt P Pattern >

Alt Shift P < Pattern

Alt Q Polygon >

Alt Shift Q < Polygon

Alt G Group >

Alt Shift G < Group

Return Same as holding down the left mouse button. Press **Alt Return** to release.

Use the following keys to select cels on screen in the order they were saved in memory:

Alt F Select next cel

Alt Shift F Select previous cel

Spacebar Deselect cel

Text

When Text is selected, you can use the following keys:

Delete	Delete all text
Backspace	Delete last character
Esc	Exit text mode

Frames and Sequences

When the Frames option (F6) or the Sequences (Alt F6) is selected, the following keys select toolbox items.



Tip: *Film Director* accepts keyboard controls for frame manipulation while Sequences is selected, and vice versa.

Alt * or Alt Shift 8	Frame selection box
Alt -	< Step
Alt + or Alt Shift =	Step >
Alt (or Alt Shift 9	First frame
Alt) or Alt Shift 0	Last frame
Insert	Insert blank frame
Delete	Delete frame
Control D	Delete sequence
Alt C	Copy frame as next item
Alt Shift C	Copy sequence as next item
Alt A	Append frame to end of series
Alt Shift A	Append sequence to end of series
Alt T	Tween single frame or path
Alt Shift T	Interpolate
Alt O	Overlay

Alt R	Peel
Alt U	Trace on
Alt Shift U	Trace off
Alt S	Stage >
Alt Shift S	< Stage
Alt B	Select stage in frame/sequence
Alt Y	Select palette in frame/sequence
V	Toggle View on/off
W	Increase speed by 1
Shift W	Decrease speed by 1
1	Set mark 1
2	Set mark 2
Alt 1	Go to mark 1
Alt 2	Go to mark 2
C	Select palette to the right
Shift C	Select palette to the left
Z	Select music to the right
Shift Z	Select music to the left
Alt I	Insert cel
Alt Shift I	Delete cel

Cels

When the Cel tool is selected, you can use the following keys:

Alt M	Modify cel >
Alt Shift M	< Modify cel

Alt N	Layer up
Alt Shift N	Layer down
Alt P	Pattern >
Alt Shift P	< Pattern
Alt Q	Polygon >
Alt Shift Q	< Polygon
Alt G	Group >
Alt Shift G	< Group
Alt J	Actor >
Alt Shift J	< Actor
Return	Same as holding down the left mouse button. Press Alt Return to release.

Use the following keys to select cels on screen in the order they were saved in memory:

Alt F	Select next cel
Alt Shift F	Select previous cel
Spacebar	Deselect cel

Show Film

When the Show Film option is selected (**F7**), you can use the following keys:

W	Increase speed by 1
Shift W	Decrease speed by 1
F	Show film forward
B	Show film in reverse

Palettes

When the Palettes option is selected (**F9**), press **Alt I** to invert colors.

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