MOTION WORKS

ADDMOTION II

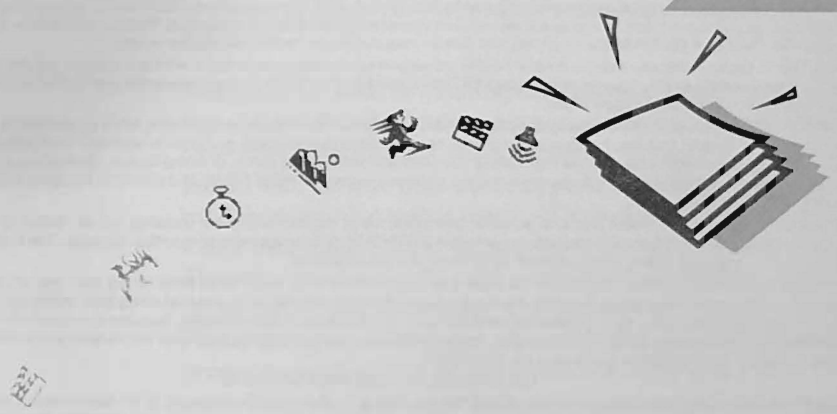
MANUAL

~ The Multimedia Solution for HyperCard

inspiration illuminations innovation

MOTION WORKS

ADDMOTION II



USER MANUAL

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Manual Edition: June 1992. Manual written by Harry, Hill, Kathrine Brown, Randy McCallum, Kevin MacDonald. Edited by Kathrine Brown, Rajiv Aggarwal, Steve Israelson, Kevin MacDonald.

ADDMotion II Programming by Rajiv Aggarwal, Steve Israelson. Interface Design by Randy McCallum, Rajiv Aggarwal, Steve Israelson, Lloyd Bernhardt, Kathrine Brown, Scott Fearnley. Product Management by Randy McCallum, Rajiv Aggarwal.

Welcome

Welcome to Motion Works ADDmotion II - a powerful, easy-to-use media integration programfor HyperCard. Whether you are a novice or an expert in creating interactive animations, multimedia presentations or training applications, ADDmotion II offers you the tools you need to get professional, high-quality results in a fraction of the time and cost of other products, and best of all it's integrated with HyperCard.

Designed by award-winning multimedia professionals, ADDmotion II provides the ideal interactive communication tool for the '90s. Its extensive import and export capabilities make it a flexible content media tool for use with other applications. You can import and modify existing content using ADDmotion II's impressive 24 Bit Color Paint and Sound Editors with just a few clicks of the mouse. This new media can then be easily incorporated into an animation using the Media Controller, Cel Sequencer, TimeLines window and Path editing tools. You can also add interactivity without being a programmer because ADDmotion II guides you every step of the way. The program's intuitive pop-up menu-driven scripting language makes syntax errors impossible and allows you to concentrate on building your animation. The resulting animation can then be exported to a variety of playback formats.

You will find that ADDmotion II works equally well with System 6.0.7 or System 7 operating software. ADDmotion II is completely compatible with Motion Works' ADDmotion software and with PROmotion 1.0. This provides ADDmotion and ADDmotion II users with an upgrade path to PROmotion for those who need to create animations and presentations outside the HyperCard environment.

About This Manual

This manual is divided into the following 10 chapters:

Chapter 1: Getting Started tells you how to become a registered user of ADDmotion II, what hardware and system software you will need to run the program, how to install the program and media content provided, and how to use the Help features.

Chapter 2: Introduction to Multimedia and Animation introduces

you to some of the uses for multimedia, outlines the basic concepts and principles of traditional animation and describes ADDmotion II's main program features and tools.

Chapter 3: Tutorial guides you through a self-paced tutorial where you learn how to create an interactive animation for a sample presentation.

Chapter 4: Paint Tools describes how to use ADDmotion II's Paint tools and basic effects. You also learn how to create new actors by modifying media content.

Chapter 5: Paint Options introduces you to a number of advanced Paint tools.

Chapter 6: Creating Actors, Props and Sound Effects gives step-by-step instructions on creating content for your animations.

Chapter 7: Creating an Animation describes how to combine all of the media content into an animation using the Media Controller, Cel Sequencer and TimeLines window.

Chapter 8: Sound Editing tells how to modify sound effects using the built-in sound recording and sound effects editing software.

Chapter 9: Menus and Dialogs documents the use and function of all menu items and dialogs not described elsewhere.

Chapter 10: Tips and Techniques teaches you how to use some of ADDmotion II's advanced features to create complex, interactive animations and QuickTime movies. HyperTalk scripting and advanced Cues are also described.

Contents

Chapter 1: Getting Started

This chapter explains:

- How to become a registered user of ADDmotion II
- The ADDmotion II package contents
- What hardware and system software you will need to run ADDmotion II and HyperCard V2.1
- Preparations before you install the software
- How to upgrade from ADDmotion V1.0
- How to install ADDmotion II software on your hard disk
- How to set HyperCard's Application Memory Size
- How to register and install ADDmotion II Scripts into the HyperCardV 2.1 Home stack using the ADDmotion II installer
- How to remove ADDmotion II from your hard disk
- How to use the Help features

Becoming a Registered User

Complete and mail your registration card! In order to provide you with technical support, assign you a serial number and let you know about upgrades to the program, we need to know who you are. Please fill out the Product Registration card now and promptly mail it to Motion Works. It is included with the ADDmotion II package in the pouch containing your program disks. Please also take the time to fill out the short questionnaire. Thank you in advance for your prompt response.

Technical Support

Motion Works will provide you with free technical support for a period of 90 days after we have received your registration form. Please have your technical questions ready before calling. It will save time if you have double-checked your system hardware and software and have checked the manual to see if there is an answer to the problem.

Technical support hours are 9:00 AM to 5:00 PM Monday through Thursday and 9:00 AM to 3:00 PM Friday, Pacific Standard Time.

Please have the following information ready when you call Motion Works Technical Support.

Version of ADDmotion II: _____

Version of HyperCard: _____

HyperCard Application Memory Size (see page 5) _____

Macintosh Model: _____

RAM (Memory): _____

Hard Disk: _____

System Version: _____

Finder Version: _____

Printer: _____

Other Hardware: _____

Expansion Boards & Slot Number: _____

System INITs (System Extensions): _____

Control Panels and Desk Accessories: _____

Other XCMDs installed: _____

Network Type & Software Version: _____

ADDmotion II Package Contents

Your ADDmotion II package contains:

- Disk pouch
- ADDmotion II Manual (you're reading it now)
- Miscellaneous information inserts

The disk pouch includes:

- Product Registration card
- ADDmotion II Program disk
- ADDmotion II Tutorial disk
- HyperCard 2.1 disk containing the HyperCard 2.1 program and the Home stack
- Media Sampler disk
- Principles of Animation disk

If any items are missing from your package, please make a list of these items and contact Motion Works U.S.A. at (415) 541-9333 or send a fax to (415) 541-0555 (please include your name, address, and telephone and fax numbers.)

Media Sampler Disk

Motion Works wants to provide you with enough media content (Actors, Props and Sounds) to get you up and running quickly using ADDmotion II, so we have included the Media Sampler disk with this package. The Media Sampler stack on the disk contains Actors, Props and Sounds that can be used in your animations. You are welcome to use them as is or modify them to suit your individual requirements.

Motion Works' PrimeTime contains over 100 Actors, Props and Sounds which can be imported into your presentations, as well as several samples of animation and multimedia. This clip-media collection covers the fields of business, education and entertainment and is available on CD ROM or 800K disk. It can be ordered from Motion Works or purchased from your ADDmotion II dealer.

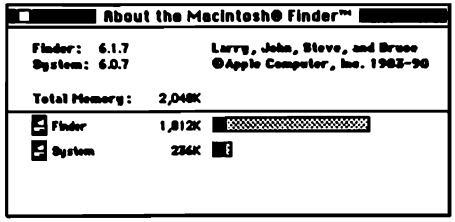
Hardware and System Software

You can use ADDmotion II on any model of Macintosh computer that has a hard disk and a minimum of 2 MB memory available to HyperCard.

Required System Version:

System 6.0.7 and Finder 6.1.7 or a newer version are required to use ADDmotion II. The 32 Bit QuickDraw V. 1.2 (System File) is required for Color under System 6.0.7.

To check your System software, choose About the Finder from the Apple Menu.



Required HyperCard Version

Running ADDmotion II requires HyperCard 2.1 or greater. We recommend that you use the version of HyperCard and the Home stack provided in the ADDmotion II package.

Required Memory – Black and White

Running HyperCard and ADDmotion II in black and white requires 2MB of memory. You can create small animations in 1200-1500K of memory, but you may encounter low memory problems.

Required Memory – Color

Running HyperCard and ADDmotion II in color requires 4MB of memory using System 6.0.7 and Finder 6.1.5. It requires a minimum of 4MB of memory using System 7, but Motion Works recommends that you have 4 MB to 8MB of memory for larger animations.

Virus Protection Programs and ADDmotion II

ADDmotion II manipulates resources within HyperCard stacks and some virus protection programs (usually INITs) do not allow for this. To combat viruses, developers of many virus protection programs have made them more sophisticated by checking to see when resources are being changed, etc. and then alerting the end-user. The end-user can then decide whether it is OK to allow the changing of the resources. Consequently, Motion Works has found that some virus protection programs work fine with ADDmotion II while some don't. You will have to experiment with the virus protection program that you use to determine its compatibility.

We have found that Disinfectant 2.1™ or greater and SAM II™ (Symantec Utilities) to be the best protection that will work with ADDmotion II, but there may be other programs that work equally well.

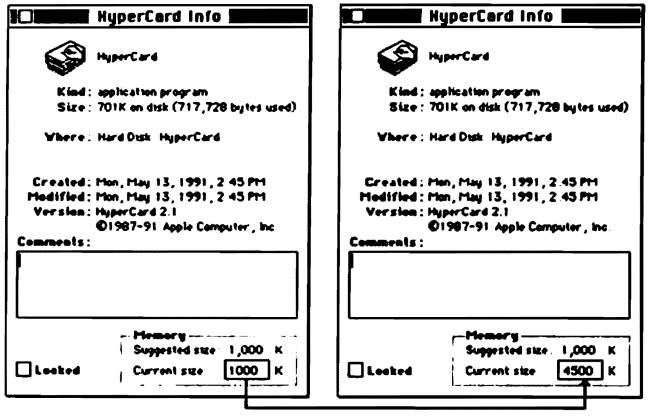
There are a few things to look for if ADDmotion II and the virus protection program that you use do not co-operate. The main problem that you will encounter is a system error when you try to choose New Animation or Open Animation from the File menu. ADDmotion II creates or changes a resource file when you try to use either of these commands and if any problems exist between ADDmotion II and your virus protection program it will probably happen here. If this happens, turn the virus protection program OFF and try to use either of these commands again. This should solve the problem. If

animation objects start to disappear (Actors or Props), or if they don't behave as expected or according to the manual, there could be a conflict between ADDmotion II and your current virus protection program. If so, turn off the virus protection before using ADDmotion II.

Remember to turn your virus protection program ON after you are finished using ADDmotion II. If you have problems, call Motion Works Technical Support at (415) 541-9333.

Setting HyperCard's Application Memory Size

If you are running ADDmotion II using System 7.0 or MultiFinder, you may want to change HyperCard's Application Memory Size. The following shows the Application Memory Size set at 1000K and then set at 4500K.



To change the Application Memory Size, highlight the HyperCard Application Icon and choose Get Info from the File menu. The Application's Get Info box appears. Enter the desired memory size in the Application Memory Size (K) box as indicated above, then click the close box. The application's memory size will be set for use with MultiFinder. If you are having trouble using HyperCard and ADDmotion II with other applications while in MultiFinder, allocate more memory to HyperCard or close an application. Large color animations will require (4-8 MB of RAM) more memory.

Before You Install the Software

Before you install the disks from the ADDmotion II package, make sure that your hard disk contains only one System folder with one System and Finder, and only one copy of HyperCard. Make sure to copy HyperCard 2.1 from your ADDmotion II package if the one on your hard disk is an earlier version.

To use ADDmotion II most effectively, you should be familiar with your Macintosh. Specifically, you should know how to:

- Set up and use your Macintosh, including mouse techniques such as clicking, pointing, dragging, selecting and choosing commands from pull-down and pop-up menus
- Copy files and folders from a floppy disk to a hard disk
- Make backup copies of floppy disks
- Work with Macintosh windows such as open, close, scroll, move, select and resize. Editing text is also necessary.

If you are not familiar with the basics of the Macintosh refer to the Macintosh Owners Guide.

Before you copy the disks contained in the ADDmotion II package, you should make backup copies of them in case they are lost or damaged. You are authorized to make one backup copy of each ADDmotion II disk included in your package. After copying the disks, store the originals in a safe place. That way, should anything happen to your working disks, the originals will still be intact.

IMPORTANT: Do not use the ADDmotion II package disks as working disks. Be sure to name each backup disk using the same name as the original disk.

Copying ADDmotion II Onto Your Hard Disk

Approximately 2.5MB of hard disk space is required to copy the ADDmotion II program and tutorial onto your Macintosh. An additional 2.5MB is required to copy the Media Sampler and Principles of Animation HyperCard stacks. Be sure that your hard disk contains enough empty space *before* starting.

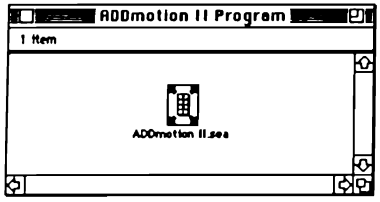
To copy the ADDmotion II Program Onto Your Hard Disk:

1. **Ensure that the ADDmotion II Program disk is locked, then insert it into your floppy disk drive.**


ADDmotion II Program

2. **Double-click the ADDmotion II Program disk icon.**

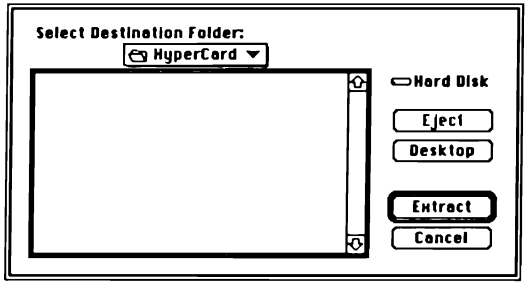
   The contents of the ADDmotion II Program disk appear in a window on your screen.




ADDmotion II.sea

3. **Double-click the ADDmotion II.sea icon.**

   This is a self-extracting archive and you need only to select a destination for the ADDmotion II files. The Select Destination Folder dialog appears.



4. **Select the HyperCard folder on your hard disk as the destination, then click Extract.**

   The AutoExtractor™ dialog appears and the following items are extracted: the Animate.Help file and the ADDmotion II file.

5. **Once the extraction is complete, open the HyperCard folder and drag the Animate.Help file into your System folder.**


Animate.Help

   For those using System 7, place it in either your Preferences or your Extensions folder.

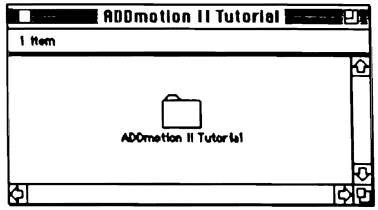
To copy the ADDmotion II Tutorial Onto Your Hard Disk:

1. **Ensure that the ADDmotion II Tutorial disk is locked, then insert it into your floppy disk drive.**


ADDmotion II Tutorial

2. **Double-click the ADDmotion II Tutorial disk icon.**

   The contents of the ADDmotion II Tutorial disk appear in a window on your screen.




ADDmotion II Tutorial

3. **Drag the ADDmotion II Tutorial folder icon into the HyperCard folder on your hard disk.**

   The folder is copied onto your hard disk.

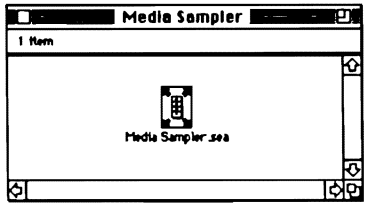
To copy the Media Sampler Onto Your Hard Disk:

1. **Ensure that the Media Sampler disk is locked, then insert it into your floppy disk drive.**


Media Sampler

2. **Double-click the Media Sampler disk icon.**

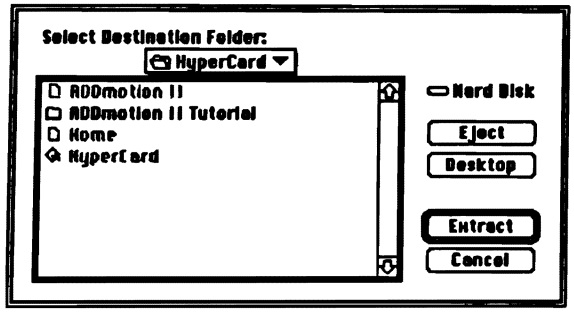
   The contents of the Media Sampler disk appear in a window on your screen.




Media Sampler.sea

3. **Double-click the Media Sampler.sea icon.**

   This is a self-extracting archive and you need only to select a destination for the Media Sampler stack it will create. The Select Destination Folder dialog appears.



4. **Select the HyperCard folder as your destination, then click Extract.**

   The AutoExtractor™ dialog appears and the following item is extracted: the Media Sampler stack.

   NOTE: If you are using a color monitor, ensure that it is set to at least 256 colors before viewing the content provided in the Media Sampler stack.

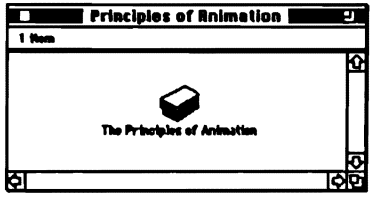
To copy the Principles of Animation Onto Your Hard Disk:

1. **Ensure that the Principles of Animation disk is locked, then insert it into your floppy disk drive.**

Principles of Animation

2. **Double-click the Principles of Animation disk icon.**

   The contents of the Principles of Animation disk appear in a window on your screen.



The Principles of Animation

3. **Drag the Principles of Animation stack icon into the HyperCard folder on your hard disk.**

   The stack is copied onto your hard disk.

Upgrading from ADDmotion V1.0

If you do not currently have ADDmotion V1.0 installed on your hard disk, skip to the next section, *Registering and Installing ADDmotion II.*

If you currently have ADDmotion V1.0 installed on your Hard Disk:

1. **Register and Install ADDmotion II as explained in the next section.**

   Note the small change in the installation procedure in step 4.

2. **You can now dispose of the ADDmotion stack.**

   See your Macintosh manual for more information.

3. **Update the AMLoad, AMPlay, AMRelease XCMDs.**

   To Update the AMLoad, AMPlay, AMRelease XCMDs in each of your ADDmotion V1.0 stacks, create a new animation and place an Actor or Prop in it. Close the Animation. This process automatically updates the XCMD's. The new animation can now be removed if it is unwanted.

4. **Send in your ADDmotion II registration card.**

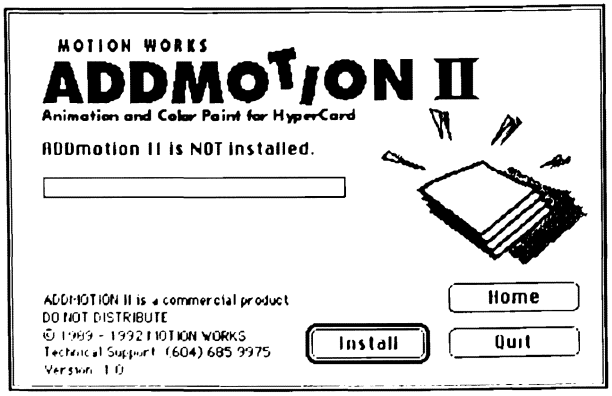
Registering and Installing ADDmotion II

After copying ADDmotion II onto your hard disk, follow these steps to register and install it.

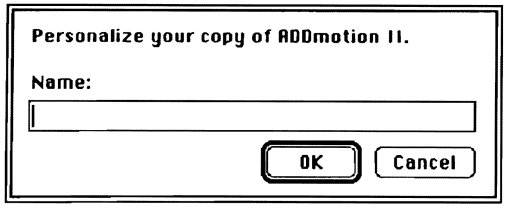
1. **Double-click the ADDmotion II icon on your hard disk.**


ADDmotion II

The following installation screen appears.

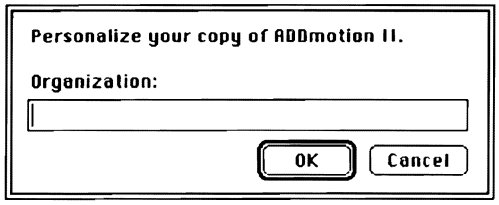


You are now asked to enter your name to personalize your copy of ADDmotion II.



2. **Enter your name, then click OK (clicking Cancel quits ADDmotion II).**

   You are asked to enter your organization's name.

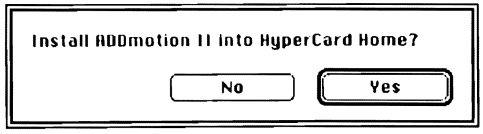


3. **Enter your company's name if you wish, then click OK (personalizing your copy of ADDmotion II by organization is optional).**

   You have now completed registering your copy of ADDmotion II. You are returned to the installation screen.

4. **Click Install (if you have ADDmotion V1.0 already installed into your Home stack, the Install button appears as an Update button).**

   The Install dialog appears.



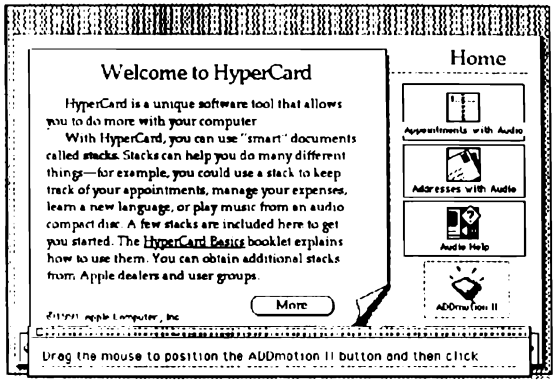
NOTE: By installing ADDmotion II, your Home card stack script is modified. An ADDmotion II call is added to the Startup handler and an ADDmotion II script is appended to the end of the stack script. A button is placed on the first card of your Home stack that toggles ADDmotion II on

and off. The actual ADDmotion II stack resources — the animation, color paint and sound resources — are used through a "start using" call.

5. **Click Yes to proceed with the installation (clicking No will stop the installation and leave your Home stack untouched).**

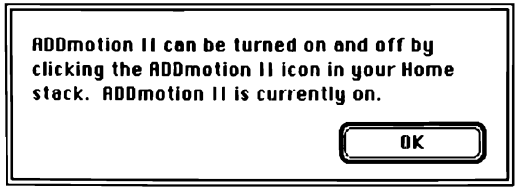
   When you click Install, the ADDmotion II installer installs the scripts and path information necessary to run the program.

   The HyperCard Home stack appears.



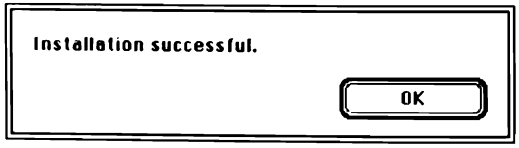
6. **The ADDmotion II icon appears on the first card of your Home stack. Click the mouse to set the icon location.**

   The following dialog appears.



7. Click OK.

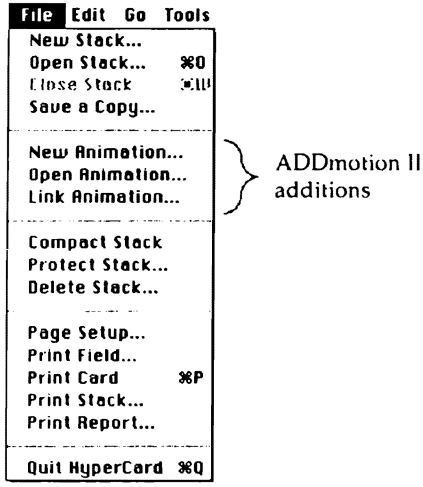
   The ADDmotion II installer continues to install the resources needed. When the installation is complete, the following dialog appears.



8. Click OK.

NOTE: If at any point in the installation procedure you are told that the installation was unsuccessful, check to see that you are using HyperCard V2.1 and the Home stack provided with your ADDmotion II package.

When ADDmotion II is installed, your HyperCard File menu changes to reflect the additions that ADDmotion II has made.



Turning ADDmotion II On and Off

ADDmotion II can be turned on and off at any time by clicking the ADDmotion II icon in your Home stack. When ADDmotion II is running, its icon in your Home stack looks like this:


ADDmotion II

Click on this icon to turn ADDmotion II off. When ADDmotion II is not running, its icon looks like this:

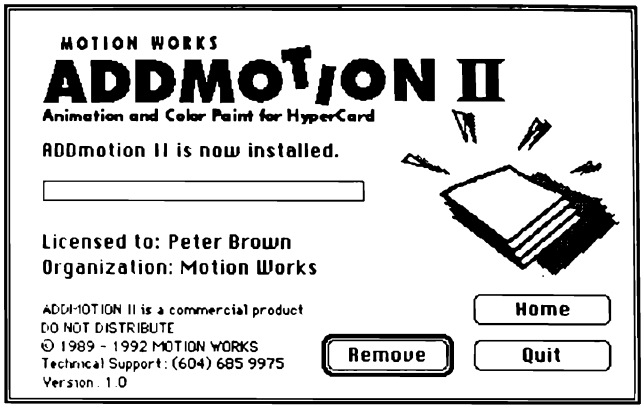

ADDmotion II

Removing ADDmotion II

If you want to remove ADDmotion II permanently:

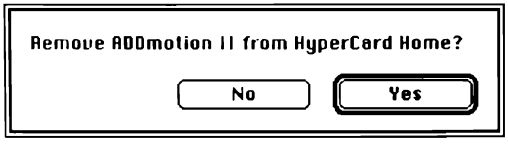
1. **Double-click its stack icon.**

   The following screen appears.



2. Click Remove.

   The Remove ADDmotion II dialog appears.



3. **Click Yes to remove the scripts, path information and icon from your HyperCard Home stack.**

Using the Help Features

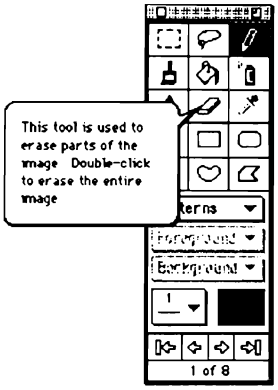
Balloon Help

ADDmotion II supports System 7's Balloon Help. It enables you to see descriptions of objects on the screen.

To use Balloon Help:

1. **Choose Show Balloons from the Help menu.**
2. **Position the pointer over an object on the screen — such as an icon, a button, or an option in a dialog box.**

A description of the object pops up as a "balloon."



3. **You can turn off the balloons by choosing Hide Balloons from the Help menu.**

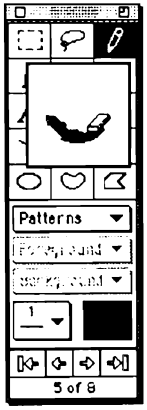
Animated Help

Animated Help is available for all tool icons and buttons in the Media Controller and Paint palette.

To view the Animated Help:

1. **Place the cursor over the icon or button you want described.**
2. **Press and hold the Option-Command keys while clicking and holding down the mouse button.**

   A visual description of the tool or button pops up and animates until you release the mouse button.



Chapter 2: Introduction to Multimedia and Animation

This chapter introduces you to multimedia and some of the basic principles of traditional animation, as well as ADDmotion II's approach to animation.

The best way to learn how to use any program is through exploration. Don't hesitate to try out different techniques when reading through this guide.

Multimedia

Multimedia combines words, sounds and images to communicate in a more persuasive way than any single method can achieve. In the forms of film and television, multimedia has been around for many years. Multimedia based on personal computers now allows for the user's interaction which in turn increases attention, understanding and retention of the information being communicated. With computer animation programs like ADDmotion II, you can integrate and control the various elements of multimedia to make your presentations more interesting and convincing. Multimedia provides an opportunity to learn by doing.

ADDmotion II makes use of all the elements that make up multimedia presentations. From within the program you can create text, graphics and animation. You can also import still video, full motion video, and sound – all elements of advanced multimedia.

Potential Uses for Multimedia

The potential uses for multimedia are unlimited. However, multimedia based on personal computers has mainly been applied within the following four areas:

- *Education and training*
- *Point-of-sales*
- *Point-of-information*
- *Diagnostics and guidance*

Education and Training

Multimedia applications are frequently used in classroom education in schools and universities, online job assistance, personal training, distance learning and equipment set-up and operation. A multimedia education or training application provides the following opportunities:

- *High flexibility*
- *Ease-of-use for professional education or training*
- *Increase in understanding and retention of information*
- *Easy student administration*

Point-of-sales

Multimedia point-of-sale applications are used by the retail, real estate, tourism, banking and insurance professions. The purpose is to give a professional presentation of the products and services of the individual company. Multimedia helps customers in their purchase decision-making and provides the following advantages:

- *Easy-to-use, professional and consistent information*
- *Self-service, inside and outside the branch*
- *24-hour service*
- *Dynamic selection of presented information (user-controlled interaction)*
- *Gathering of information for analysis or marketing purposes*

Point-of-information

Multimedia applications are now implemented in the public sector as well as in the private sector. For example, they can be found within libraries, hotels, hospitals, museums, public parks, public offices, transportation facilities and tourism information facilities. Point-of-information multimedia provides users with many conveniences:

- *Easy-to-use, professional and up-to-date information*
- *Self-service, inside and outside the branch*
- *24-hour service*
- *Dynamic selection of presented information (user-controlled interaction)*

Diagnostics and Guidance

Multimedia applications are used to make diagnoses, error corrections and equipment service in hospitals, airlines, engineering and industrial service. They provide the following opportunities:

- *Professional and up-to-date information*
- *Correct, fast diagnosis and error correction*
- *Flexibility*
- *Training opportunities - increase in understanding and retention of information*

Animation

Animation at its most basic is a series of drawings strung together to create the illusion of movement. In the hands of artists, the techniques of animation have been used to produce beautiful works of art. Animation is only limited by the imagination and skills of its creators. The rudiments of animation can be taught relatively quickly. What is required then is patience, commitment and effort to make the basic principles come alive with fresh ideas.

Traditional Animation Process

Traditional animation requires a team of cooperative artists. It demands a collective, creative approach, within which the individual members must harmonize and communicate well with the others for the final product to be successful. Because so many people are involved in producing a single piece of traditional animation, its creation is very costly.

A good understanding of the concepts and terminology of the traditional animation process will help you to plan a satisfactory finished product and avoid last minute fixing. No matter how modest or ambitious the project, the traditional animation process follows a number of structured procedures.

Script

The script is the first stage in all film production. In an animation script, the visual action in the plot and performance is far more important than the dialogue.

Storyboard

The storyboard is a series of roughly drawn images that convey the action described in the script. This scene-by-scene portrayal helps the writer, director and animation team to assess the content of the project and to correct any deficiencies in the scripted story.

At this stage of the project vital questions are asked and answered. For example, how much time and effort will be required to create the different parts? Animations are almost always created by groups, so it's important that all participants have the same understanding and vision of the project. Typically, the storyboarding process generates a great deal of discussion while it provides the producers with an opportunity to evaluate assumptions about the animation's goals and objectives.

Soundtrack

After the script and storyboard are completed, the recording of any dialogue or key music is undertaken. Since traditional animation relies on perfect synchronization of the picture to the soundtrack, the animator must receive the recorded track before beginning to draw.

Design

Designers create visual interpretations of all the actors in the script. When these interpretations are approved, the actors are drawn from many angles on a model sheet which the animators will use as a reference.

Leica Reel

A Leica reel is a filmed storyboard which can be projected in synchronization with the soundtrack. It helps the director see how the film is shaping up and make any changes to its visual aspects before animation is begun.

Line Tests

Line tests are animation drawings, produced in pencil on paper, filmed to the precise timings of each scene. As line tests are approved they are cut into the Leica reel, replacing the original drawings and giving the director an even better idea of how the final film will look.

Cleanup

Cleanup artists take the animation drawings and clean them up, to give them a consistent visual style.

Trace and Paint

When a cleaned-up line test is approved, each drawing is transferred to a sheet of celluloid or acetate – a cel – and painted in the colors of the original design.

Backgrounds

Background artists produce the animation's backgrounds – everything behind or, sometimes, in front of the actors that does not move.

Checking

The finished animation cels are passed to the checker, who makes sure that everything is correctly drawn, traced, painted and prepared for the cameraman who is to finally film it.

Final Shoot

When the checker is satisfied that all the artwork for each scene is correct, the artwork is passed to the camera operator who shoots the final scene.

Dubbing

When the whole film exists in final form, and the director is satisfied with it, the editor, with the director, proceeds to choose sound effects to go with the action in the film. These sound effects are then laid in synchronization with the action, and mixed with the voice track and music on one complete soundtrack.

Answer Print

Creating an answer print involves merging the sound and picture on one piece of film, ready for projection!

Principles of Animation

In the early days of animation, a number of principles were discovered that enabled animators to make their productions both more realistic and exaggerated. Over time, these methods and terms devised by individuals and teams working in the field came to be used by most animators in order to facilitate communication. These

principles are just as valid today in computer animation. Get to know the rules first and then experiment outside of them in an effort to create an animation that is interesting and unique.

If you have not yet viewed the Principles of Animation HyperCard stack that was included on a separate disk in your ADDmotion II package, we suggest you look at it now. Double-click the stack icon in the HyperCard folder on your hard disk to start it running. (If you didn't install the stack, insert the disk and double-click its icon.) Once you have seen the principles in action, come back to this manual and read about them in detail.

Squash and Stretch

Squash and stretch is the term animators use to describe the more fluid and exaggerated movements they achieve in their animations. To understand this principle, you must first think of animated characters as more than just lines. They should move and behave like forms that have volume and mass. The idea of characters being composed of substances, not empty shapes of air, means that their movements can be effectively shown as loose flowing tissue on a more rigid internal "skeleton." This interpretation of your characters is one of the most important ground rules of animation.

Squash and stretch helps you to communicate to your audience the nature and composition of your actors. This adds depth and realism to otherwise rigid or awkward movements that detract from the overall integrity of your animations.

Consider the difference between a bouncing tennis ball and a bouncing cannon ball. Successfully communicating this difference is excellent practice for developing animation skills. Use animation to tell as much as possible about the characteristics of your actors – whether they are hard, soft, hollow or solid – as they move across the screen. Animating such differences in the nature of the actors improves the communication to your audience.

Anticipation

Anticipation helps to prepare your audience for an actor's next movement and to expect it before it occurs. The principle is based on close observations of movement in real life. People crouch slightly before they jump or inhale deeply to blow out birthday candles. These are examples of anticipatory actions. A pause before an action is a key point in any animation, as the audience is looking for infor-

mation to maintain the plot and fluidity of the story line.

You can use anticipation to set the stage for your next action and continue to communicate to your audience more information about the nature of the actors. An actor's movements should not always follow long pauses or periods of anticipation. This would result in a choppy or broken flow of action. Anticipation should always be relevant to the action it precedes. An actor who begins to walk, or a ball that begins to roll slowly across the screen does not require an anticipatory action. Anticipation can also be used to set the audience up for "sight gags" by making them expect the obvious.

Secondary Action

An actor's secondary action supports the initial or main action that occurs simultaneously, while remaining subordinate to the more important action. Use secondary action to add to the richness of the scene and enhance an actor's personality in a subtle and natural way.

Straight Ahead Action and Pose-to-Pose Action

Straight ahead action and pose-to-pose action relate to the approach animators take to an actor's movements. An animator following the principle of straight ahead action knows the story point of a scene but allows the actor's movements to evolve naturally from the first drawing. The scene evolves along with the creative process. An animator applying the concept of pose-to-pose action moves an actor through a series of previously determined poses between which the action flows. The key poses that occur within that series of movements are worked out before the process of animating begins.

The two approaches can have very different results. Straight ahead action allows the actor's "individuality" or "personality" to lead the animator through the scene, while pose-to-pose action leaves more of the control in the hands of the animator.

Follow-Through and Overlapping Action

Use follow-through and overlapping action in combination to keep your actors moving from action to action and scene to scene in a smooth and connected flow of movement. Slightly exaggerating movement adds to the continuous and flowing feel of your animations. When your actors start to move, their appendages and other elements (clothing or hair) should take a moment to start moving. When your actors stop moving, any appendages should

continue to move after their bodies have stopped. The importance of this flow becomes clear when we string our actor's actions together. These more subtle aspects of your animations help to link the motion and the actors.

Slow-In and Slow-Out

Slow-in and slow-out are terms that refer to a way of moving an actor from one pose to the next. You can accomplish this by carefully preparing an actor's important poses, then putting most of the inbetween drawings close in timing to these poses. If you place more inbetween drawings at the end of a movement, the actor will appear to slow down.

Always remember that the more drawings used to produce a movement, the slower the movement will be. Conversely, the fewer drawings used to produce a movement, the faster it will be. The slow-in and slow-out technique makes your actors' movements lively, but if used too much can give a mechanical feel to the action.

Arcs

Making actions move along arcs or curved paths helps to give them a more natural, fluid feel. While an actor's head is moving from right to left it should also move in an arc. Arcs usually do not apply to things which are non-organic because that would indicate the movement of a living being.

Animators are tempted to create straight inbetween drawings that are halfway between two other drawings, but this tends to kill the spirit of the action and make it feel mechanical. Loosen up the movements you assign to the many parts of your actors and see how things really start to flow.

Staging

Staging is where and how you place your actors in relation to the props and other actors in the animation. The staging of a scene helps to set the mood and create an environment for the action to take place, much the same as in theatre or movie making. The surroundings should never upstage the action they are meant to enhance.

Staging can also refer more directly to actors. How are they to be placed in the scene – in a close up or a long shot? The physical attributes of the actor must also be considered. Do their costumes

reflect their character? Does their placement reflect their personality? Are they lost in the scene? Do they need to be emphasized? The consideration of these questions will help your animation take place in an enhancing environment.

Timing

Timing is basically the speeds at which different actions take place. We must consider what is taking place and if it is necessary to increase or decrease the speed at which actions occur. Timing determines how different actions string together into a series of related actions. An actor that is moving through a scene at twice the pace of other actors might be a point of focus, but is that in keeping with the flow and cadence of the animation?

Exaggeration

Animators often over-emphasize their actors' attributes to assist in telling something about the story, the actor and the environment in which the animation is set. When done properly, exaggeration actually makes an animation more believable and convincing. Exaggerate your actors' form and behavior whenever you need to communicate "big" movements in the story.

Solid Drawing

Solid drawing can be described as consistency, strength and "realism" in our animations. Consistency greatly helps the audience following action and story line in an animation. You can put your actors through any task or exaggerate their form and reactions as long as they remain recognizable to your audience. Your drawings should be definite and clear. Try to "see" what you are drawing through practice and careful observation of your subject matter.

Ideally, you should be able to draw your actors from every angle. If you can only draw your actors from two or three angles, your animations will take longer and be restricted in the way you can stage the action.

Appeal

Appeal is the overall image, character, and qualities that your actors give to your audience. An appealing actor is one that catches and holds the eyes and ears of the audience. Your success in creating appeal depends on your ability to recognize who the audience is and what they expect. Animators rely on appeal to communicate con-

cepts, themes and subject matter. Anything can appeal to an audience, as long as they are not left in the dark or have to guess their way through confusing, unconnected scenes. Remember to be confident with your drawing and work out your animations so that they make sense and add to, not detract from, your story.

ADDmotion II's Animation Process

ADDmotion II takes the mystery out of the animation and presentation process by providing easy-to-use tools to integrate different media types. It is a two-dimensional program which enables you to simulate frame-by-frame animation. ADDmotion II provides the necessary editing tools for creating the paint objects and sound effects as well as facilities for compositing or layering multiple animated images and sounds. With ADDmotion II, an animated sequence may include a number of diverse visual elements that have been created separately, such as 2D images, 3D objects and captured video, and then composited during editing.

ADDmotion II consists of three integrated modules:

Paint

ADDmotion II's 24-bit color Paint module allows you to create convincing animated actors (foreground objects) and props (background objects) using a wide variety of special tools and effects.

Most animation work is concerned with slight changes of movement from drawing to drawing within an actor, so Paint includes "Onion-Skin," a feature similar to an animator's lightbox. Onion-Skinning allows you to see two drawings at the same time, with one superimposed on the other.

The tools in the Paint palette are the computer equivalent of pencils, paint brushes, straight edges, erasers, and a variety of other implements for creating the graphic images you want. The Patterns palette allows you to embellish Paint graphics with a selection of patterns.

Sound

Animations and presentations would be lifeless without sound, so ADDmotion II includes a complete sound recording and special effects editor for choreographing recorded words or sounds and the animated picture.

Action

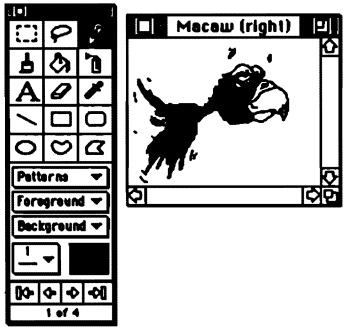
ADDmotion II provides you with a set of tools capable of giving life and interactive movement to your creations. Animation relies on perfect synchronization of the actors, props, sound effects and cues over a length of frames, and ADDmotion II makes this task quick and easy.

With ADDmotion II, your actors can follow paths of action that you create. Refinement is as easy as adding, moving, or deleting points on the path. A user-definable variety of prop transition effects are included to create the environment for the actors' actions and a mood for the overall animation.

Some ADDmotion II Terms and Features

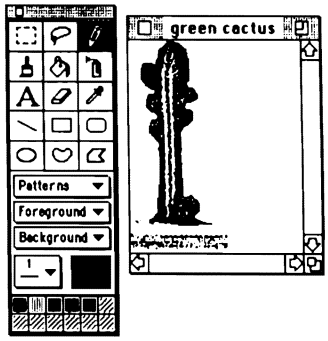
Actors

Actors are the movable foreground objects within an animation and can consist of one or more cels. If an actor consists of more than one cel, each cel picture is representative of one stage of the actor's action or gesture. Displayed in succession, cels are seen as a cycle (for example a bird flapping its wings). These actors can then be assigned paths of action over a series of frames, creating the illusion of movement or animation.



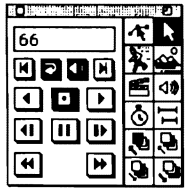
Props

Props are the static background objects within an animation. They provide the stage for animating actors. Transitions or visual effects can be assigned to props when they are placed in an animation.



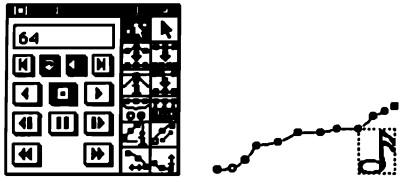
The Media Controller

The Media Controller is the control center for your animations. The controller allows you to play an animation. It also provides a selection of tools and special functions to create, edit and manipulate the Actors, Props, Sounds and Cues that form the animation. The Media Controller also gives access to libraries of Actors, Props and Sounds that have been previously created.



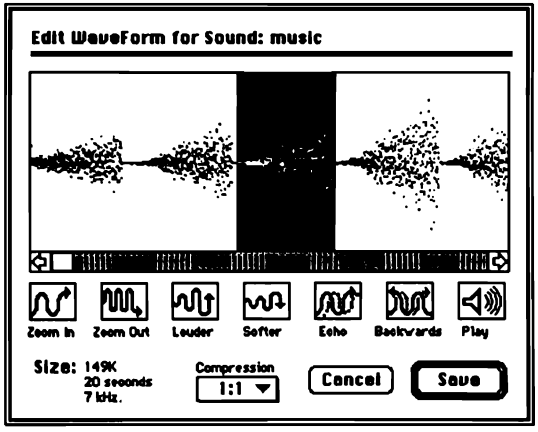
Paths

A path is a series of points that an actor follows within an animation. Each point represents a frame within the animation, and corresponds to the actor's position on that frame. Adding or removing path points is as simple as pointing and clicking. The speed of the actor is partly dependant on the number of points in the path and the distance between them.



Sounds

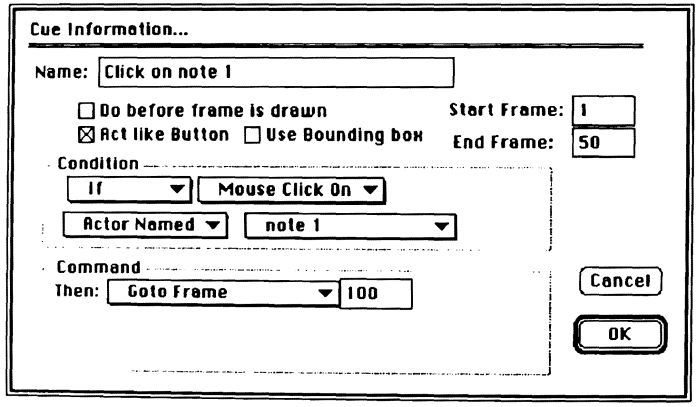
ADDmotion II has a built-in sound module to record, edit and add special effects to sounds. To record sounds you need an Articulate Systems™ sound digitizer, MacRecorder, or a Macintosh with a built-in microphone such as the LC™ and IIsi™, Powerbook™ 140 and 170, Quadras™ or Classic II™. Sounds are added to an animation using the Media Controller or Objects menu. ADDmotion II can play back up to 16 sounds simultaneously depending on your Macintosh. If you don't have any of these sound recording devices, you can obtain sounds from other sources to include within your animation, then modify them using the sound editor's special effects.



Cues

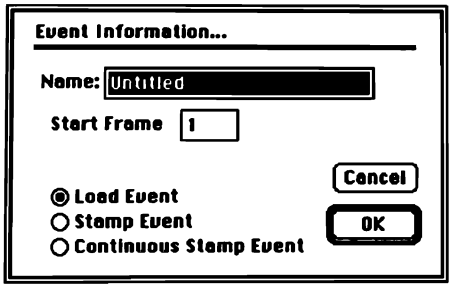
With ADDmotion II's cues you can add interactivity to your animations. Cues allow you to control external devices such as CD-ROM drives, MIDI and videodisc players, and prompt visual effects and movement between different animations.

The Cue Information dialog lets you name the cue, indicate its start and end frames, specify a condition to be met by the animation's user, and set a command to be carried out when the condition is met. To help you create cues, ADDmotion II presents you with pop-up menus listing all cue choices.



Events

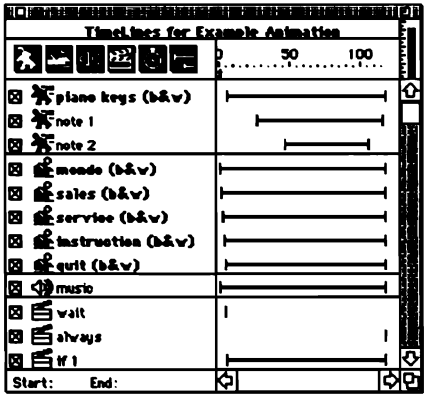
Events are used to optimize animation speed and memory. Load Events specify a point in the animation when Actors, Props and Sounds will be loaded into memory, staggering the initial loading time. Stamp Events take a "snapshot" of the current frame of the animation, freezing all visible Actors in place. This allows the removal of the Actors from subsequent frames, resulting in faster animations.



TimeLines

After you build your animations you might need to refine them. The TimeLines window allows you to view all of the objects and frames of an animation. The Start and End frames of these objects can be adjusted by simply clicking and dragging bars on the object line handles. The Playback figure can be dragged back and forth to view the changes to your animation.

The TimeLines window gives you a quick reference to the position of a particular item in an animation. You can double-click the item at any time to modify its information.



Chapter 3: Tutorial

The tutorial in this chapter introduces you to the fundamental aspects of the program. When you have completed it, you will have a solid understanding of the program's environment and the practical experience you need to begin creating your own dynamic presentations.

The tutorial's Example Animation is divided into seven progressive lessons which provide step-by-step instruction. By following these lessons, you will learn first hand how to combine the Actors, Props, Sounds and cues that make up the Example Animation. The topics are as follows:

Lesson 1: Creating a Simple Animation
Lesson 2: Creating a Path
Lesson 3: Using the Cel Sequencer
Lesson 4: Using the Paint Editor
Lesson 5: Defining Cues
Lesson 6: Adjusting the TimeLines
Lesson 7: Linking to HyperCard

Before You Begin

This tutorial assumes that you are already familiar with the Macintosh basics. You should also have read ADDmotion II's Terms and Concepts in Chapter 2 before you begin.

Please ensure that your monitor is set to black and white. The tutorial was created in black and white and runs more efficiently with the correct monitor setting.

Remember to save your animation frequently. The program will save automatically when you quit but a system failure could produce unpredictable results.

Lesson 1: Creating a Simple Animation

A significant advantage of ADDmotion II is its ability to easily import content for your animations into your HyperCard stacks. Motion Works' objective is to provide an increasing selection of content to meet your animation requirements.

In this lesson, you will import existing Actors, Props and a Sound and coordinate them into a simple animation. Your tasks will involve:

- *Viewing the Example Animation*
- *Starting a new stack and animation*
- *Importing content*
- *Placing Props*
- *Setting the frame counter*
- *Defining Prop transitions*
- *Placing an Actor*
- *Adding a Sound*


Example Stack

Viewing the Example Animation

1. **Double-click the Example Stack icon in the ADDmotion II Tutorial folder.**

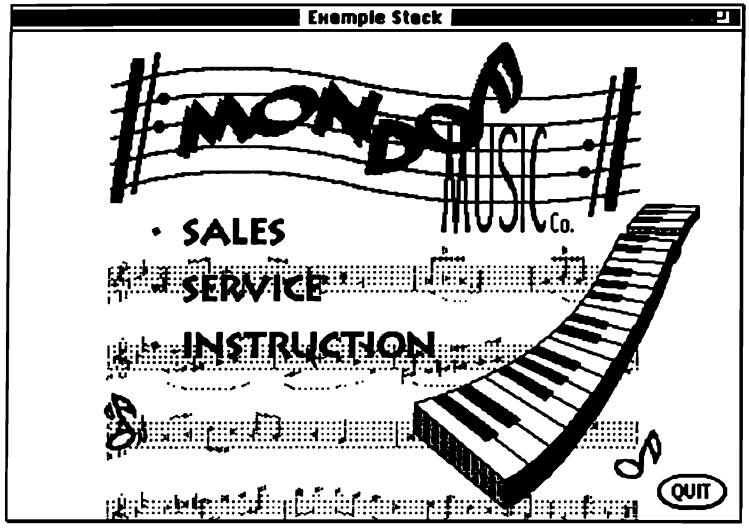
   The first (and only) card of the stack shows a button named Example Animation.

2. **Click the Example Animation button.**

   The button disappears and the animation begins (it may take a moment to load). Once the three bullet points appear, the animation pauses while it waits for a mouse click.

2. Click INSTRUCTION.

   Piano keys appear and notes start moving across the screen (this part of the animation loops indefinitely).



3. **Click INSTRUCTION again.**

   The piano keys and notes disappear and the animation pauses while it waits for the next mouse click. Try clicking INSTRUCTION a few more times.

   NOTE: For the purposes of the tutorial, only the INSTRUCTION bullet point was scripted.

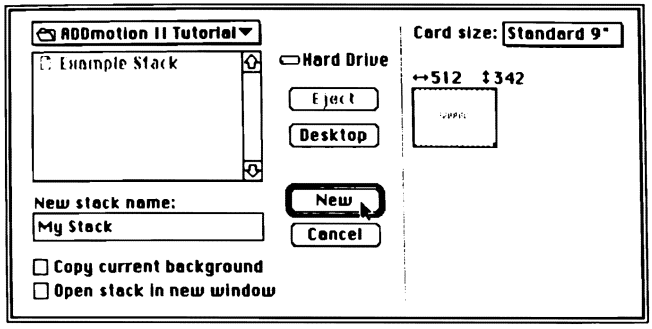
4. **Click QUIT.**

   You are returned to the card level.

Starting a New Stack and Animation

1. **Choose New Stack from the File menu.**

   You are asked for a file destination and name.

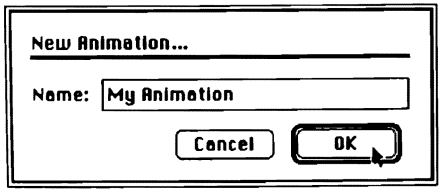


2. **Ensure that the ADDmotion II Tutorial folder is open.**
3. **Click in the New stack name box, then type My Stack.**

   Leave the card size at Standard 9". This is better suited to the tutorial's design.
4. **Click New.**

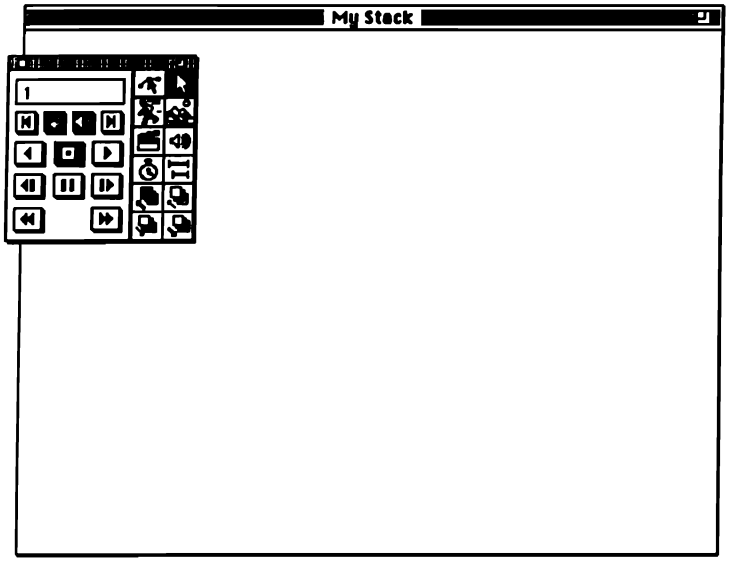
   A blank stack titled "My Stack" appears.
5. **Choose New Animation from the File menu.**

   You are asked for a name.
6. **Type in My Animation.**



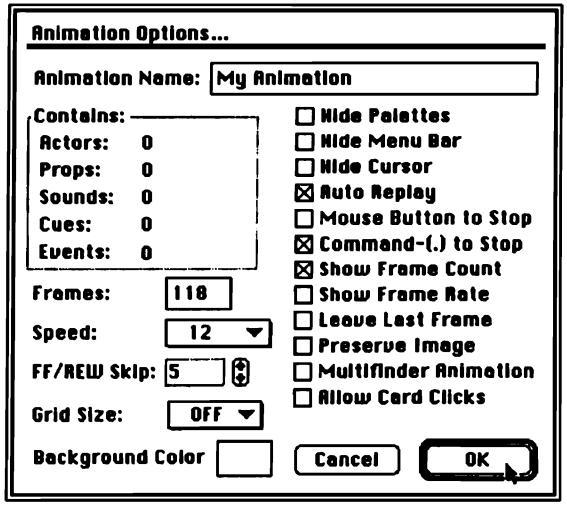
7. **Click OK.**

   The Media Controller appears and you are now at the animation level. The Media Controller can be moved to any convenient location by dragging the bar at the top of it.



8. **Choose Animation Options from the Media menu.**

   The Animation Options dialog appears. New animations default to 200 frames in length though they can be set as high as 5000. Speed refers to the "frames per second" display rate.



9. **Set the Frames and Speed to 118 and 12 respectively.**

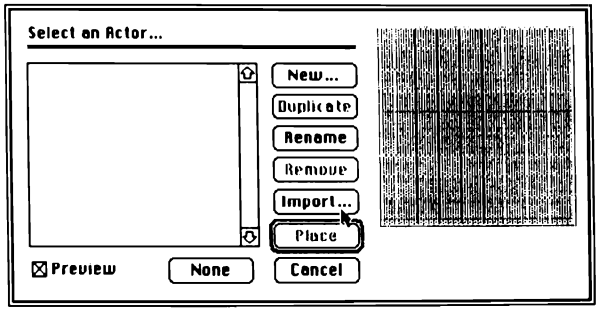
   These settings have been predetermined for the tutorial. In future animations, you should experiment with these and other options to determine their optimum settings (you can set or change them at any time).

10. **Click OK.**

Importing Content

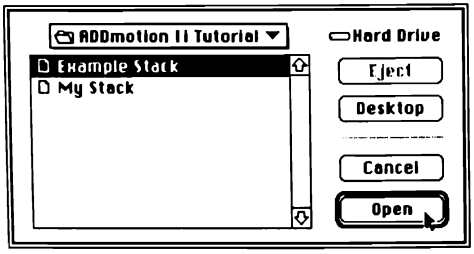
1. **Click the Actor icon on the Media Controller.**

   The Select an Actor dialog appears. New animations have no library content. At this stage, you will simply import the objects you need for your animation.



2. **Click Import.**

   You are asked for a file to import from.



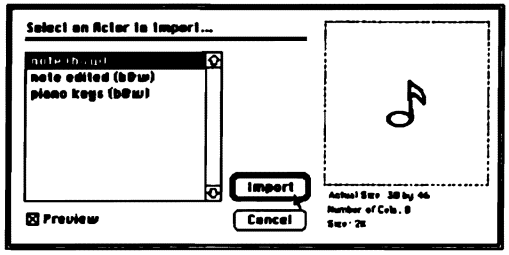
3. **Open the Example Stack.**

   The Select an Actor to Import dialog appears. This gives you acces to the Example Stack's Actor Library, an alphabetical list of its Actors. If you wish to preview them, ensure that the Preview

checkbox is ticked (clicking toggles it on/off), and then select the Actor you wish to see.

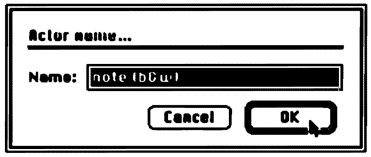
NOTE: A (b&w) at the end of a name indicates a 1-bit black and white Actor or Prop. A (col) indicates an 8-bit color Actor or Prop. They have been named this way for convenience but you can name or rename your Actors and Props however you like.

NOTE: The preview window scales the cels of an Actor, sometimes making it appear to jump or move within the window. This is not necessarily indicative of the Actor's movement.



4. **Import the note Actor.**

   You are asked to confirm the Actor's name (or change it if you wish).



5. **Click OK.**

   The Actor is then copied into the Actor Library of your stack.

6. **Click Cancel to close the window.**

7. **Repeat steps 1 through 6 and continue to Import the following from the Example Stack. Remember to first click the apPropriate icon on the Media Controller.**

   When importing multiple objects of the same type (eg. the Props), it is not necessary to click cancel after each one.

Actor - piano keys

Prop - instruction
- mondo
- quit
- sales
- service

Sound - music

Placing Props

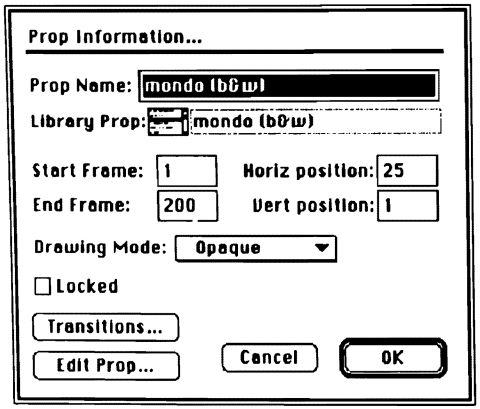
1. **Click the Prop icon on the Media Controller.**
2. **Select the mondo Prop, then click Place.**

   Placed objects default to the center of the animation screen. Until an Actor or Prop is placed in an animation, it is considered to be "unemployed".

   NOTE: To remove a placed object, simply select it and press the delete key. Removing an object from an animation will not *remove it from the library.*

3. **Click and drag a solid area of the mondo Prop until its bounding rectangle is flush with the bottom of the screen.**
4. **Once you are satisfied with its location, double-click the mondo Prop.**

   The Prop Information dialog appears.



5. **The Start and End Frames should read 1 and 118 respectively.**

   The start and end frames are inclusive. In this case, the Prop appears on frame 1 and disappears after frame 118.

   NOTE: When an object is placed, its start frame will always default to the current frame number.

6. **Set the Horiz and Vert positions to 69 and 8 respectively.**

   The top left corner of the animation screen is 0,0. The registration point of Actors and Props defaults to the top left corner of their bounding rectangle. The horizontal and vertical positions represent the pixel distance between these two points.

   NOTE: Values not within the screen's boundaries will move an object out of view.

7. **Click the Locked checkbox.**

   You will be positioning further Props on top of this one, so it is best to lock it in place to avoid accidentally moving it later.

8. **Click OK.**

9. **Repeat steps 1 through 8 and continue to place the following into your animation. You will also stagger their start frames for visual interest.**

Prop	- sales	(Start: 2, End: 118)
		(Horiz: 100, Vert: 130)
		(Locked)
	- service	(Start: 3, End: 118)
		(Horiz: 100, Vert: 170)
		(Locked)
	- instruction	(Start: 4, End: 118)
		(Horiz: 100, Vert: 210)
		(Locked)
	- quit	(Start: 5, End: 118)
		(Horiz: 455, Vert: 310)
		(Locked)

   The placed Props seem to "disappear" once you adjust their start frames. This is because the Media Controller is still showing frame 1. Click the Single Step buttons if you wish to see the Props on frames 2 through 5.

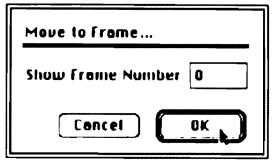
Setting the Frame Counter

1. **Click the Reset button on the Media Controller.**

   Animations always reset to frame 1 since nothing can be placed on frame 0. However, viewing an animation as it would appear and play on frame 1 requires setting the frame to 0.

2. **Double-click the Frame Counter window.**

   The Move to Frame dialog appears.



3. Type in O.
4. Click OK.

   NOTE: You can also set the frame to 0 by holding down the Option key and then clicking the Reset button.

5. **Click the Play button on the Media Controller.**

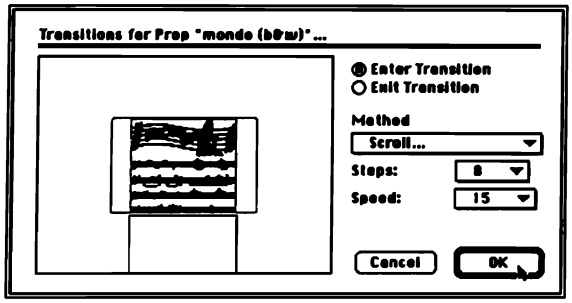
   Notice how the Props appear in your animation. Even though they are staggered, they still enter the screen abrubtly. You will be addressing that in the next part of this lesson.

6. **Click the Stop button on the Media Controller.**

Defining Prop Transitions

1. **Double-click the mondo Prop.**
2. Click Transitions.

   The Transitions for Prop "mondo (b&w)" dialog appears. You will now define a transition for the Prop to help smooth out its entrance and create an effect.



3. **Ensure that the Enter Transition button is highlighted.**
4. **Set the Method to Scroll.**
5. **Click and drag the flashing bounding box straight down below the Prop preview.**

   This will be the Prop's transitional starting position.

6. **Set the Steps and Speed to 8 and 15 respectively.**

   The steps represent how many increments the Prop will take to move from the flashing box position to its screen position. The speed represents how fast those increments will be played.

7. **Click OK.**
8. **Repeat steps 1 through 7 and continue to define the Enter Transition for the following:**

   Prop - sales (Method: Angular Wipe Top Left)
   (Steps: 8, Speed: 15)
   - service (Method: Angular Wipe Top Left)
   (Steps: 8, Speed: 15)
   - instruction (Method: Angular Wipe Top Left)
   (Steps: 8, Speed: 15)

   NOTE: An Exit Transition is defined in the same manner. However, a Prop's end frame must be at least one frame shorter than the animation in order to allow for it.

9. **Set the Frame Counter to 0 again and play your animation (remember to stop it when you are done).**

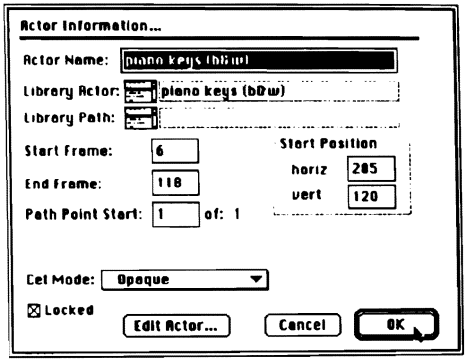
   Notice the difference the transitions make, in particular, the frame 1 transition of the mondo Prop.

Placing an Actor

1. **Click the Actor icon on the Media Controller.**
2. **Select the piano keys Actor, then click Place.**

   Actors are placed and positioned in the same manner as Props.
3. **Click and drag the piano keys Actor to the lower right area of the animation screen.**
4. **Double-click the piano keys Actor.**

   The Actor Information dialog appears.

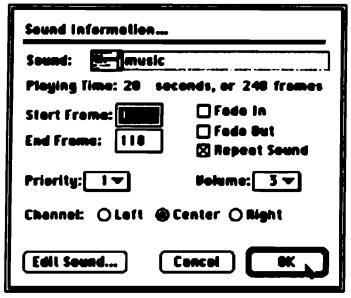


5. **Set the Start and End Frames to 6 and 118 respectively.**
6. **Set the horiz and vert to 285 and 120 respectively.**
7. **Click the Locked checkbox.**
8. **Click OK.**

Adding a Sound

1. **Click the Sound icon on the Media Controller.**
2. **Add the music Sound.**

   The Sound Information dialog appears. Sounds can punctuate specific parts of an animation or be played throughout.



3. **Set the Start and End Frames to 1 and 118 respectively.**
4. **Click the Repeat Sound checkbox.**
5. **Set the Volume to 3.**

   This may or may not be loud enough, depending upon your work environment. You will have an opportunity to adjust the volume in *Lesson 6: Adjusting the TimeLines.*

6. **Click OK.**

   The above settings will be apPropriate for some background music in your animation. Don't be concerned right now about the Sound "skipping" when your animation repeats. This will be resolved in *Lesson 5: Defining Cues.*

Reviewing Your Animation

Reset and play your animation to see what you have created so far. Very impressive! You have successfully completed *Lesson 1: Creating a Simple Animation.*

Lesson 2: Creating a Path

ADDmotion II offers a flexible, path-based animation process. While other programs require manually placing graphics in different positions over a series of frames, ADDmotion II uses paths (a line of points or screen coordinates) to control how Actors will move around on-screen. It thereby becomes more intuitive and the results are immediate.

In this lesson, you will place a second Actor into your animation,

create a path for it and then duplicate it. Your tasks will involve:

- *Naming an employed Actor*
- *Plotting a rough path*
- *Moving path points off-screen*
- *Refining the path*
- *Looping the path*
- *Duplicating the Actor*

Naming an Employed Actor

1. **Move to frame 27 (set the frame counter or use the buttons on the Media Controller).**

   You are going to place a second Actor into your animation starting at frame 27. This will allow the piano keys Actor to cycle through at least once, for visual interest, before introducing the second Actor.

2. **Click the Actor icon.**
3. **Place the note Actor.**
4. **Click and drag the note Actor to the lower left area of the animation screen.**
5. **Double-click the note Actor.**
6. **Type in note 1 for the Actor Name.**

   You will be duplicating this Actor later, so it is best to give it a name to help identify it.

   NOTE: The same library object can be used many times in an animation. Each instance of it can be given a unique name, separate and distinct from its library name (if no name is specified, it defaults to its library name).

7. **The Start and End frames should read 27 and 118 respectively.**
8. **Set the horiz and vert to 15 and 260 respectively.**

   Do *not* lock the Actor in place yet. You will be creating a path for it in the next part of this lesson which will require changing its start position.

9. **Click OK.**

Plotting a Rough Path

1. **Click the Path tool.**

   The animation icons on the Media Controller are replaced by path icons (they will be dimmed if you don't have an Actor selected).

2. **Ensure the note 1 Actor is selected.**

   The Actor's single-point path appears.

   Without a defined path, the Actor will remain at this screen position and cycle through its cels.

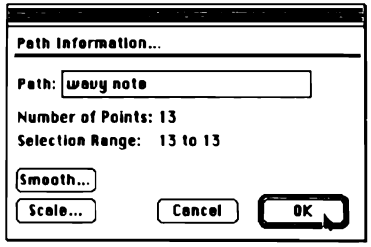
3. **Click to the right of the existing path point and continue to roughly plot 10-15 points in a wavy line across the screen.**

   To adjust a point, click and drag it. To remove a point, simply select it and press the delete key. To add a point, first determine where you want the new point, then select the point *before* it. The next place you click will then become a new point on the path.

4. **Click the Path Information icon.**

   The Path Information dialog appears. The path you just created has been saved automatically in the Path Library with the name Untitled 1.

   NOTE: Removing an Actor from an animation will not *remove the path as a library object.*



5. Type in wavy note for the Path.
6. Click OK.

7. Reset and play your animation to see the difference the path makes.

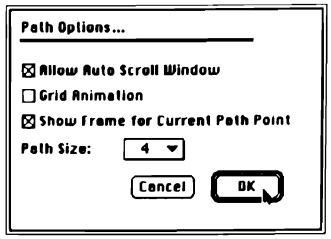
   The path causes the Actor to move across to the right side of the screen and then remain stationary as it continues to cycle. This is because every path point corresponds to a frame. Currently, the Actor cycles over more frames than it has points for. You will be refining that later in this lesson.

Moving Path Points Off-screen

1. Click the Path tool.
2. Select the note 1 Actor.

3. Click the Path Options icon.

   The Path Options dialog appears.

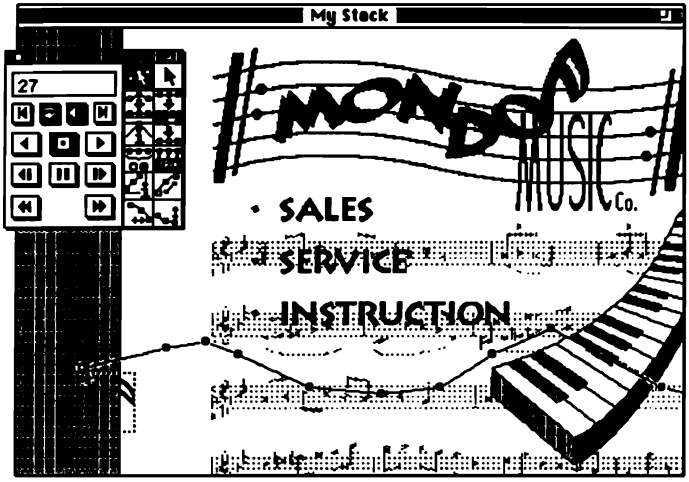


4. Click the Allow Auto Scroll Window checkbox.

   This will allow you to automatically "push" path points beyond the screen's boundaries so the Actor can begin "off-screen".

NOTE: You can also click and drag the animation screen around freely by holding down the option key. Path points can then be "pulled" or dragged beyond the screen's boundaries.

5. **Click OK.**

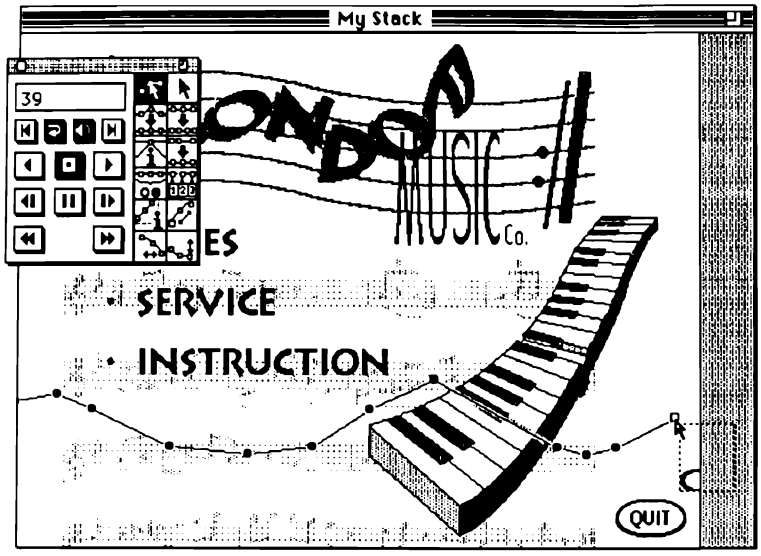


6. **Click and drag the first path point to the left until only a small portion of the Actor remains on-screen.**

   The gray section represents the off-screen area.

7. **Once you are satisfied with its location, hold down the Option key and double-click anywhere on- or off-screen.**

   This realigns the animation screen.

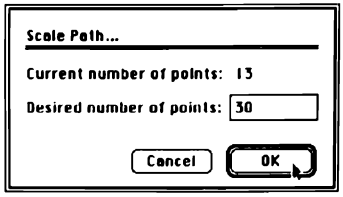


8. **Click and drag the last path point to the right until only a small portion of the Actor remains on-screen.**
9. **Option and double-click to realign the screen.**

Refining the Path

1. **Click the Scale Path icon.**

   The Scale Path dialog appears.



2. **Type in 30 and click OK.**

   This increases the number of path points to 30.

3. **Click the Distribute Points icon.**

   The path points are now uniformly spaced.

4. **Click the Smooth Path icon.**

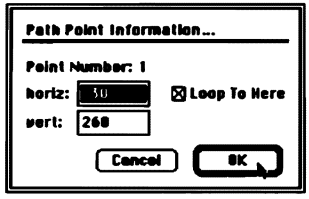
   The path is smoothed out (repeated clicking would eventually form a straight line).

Looping the Path

1. **Hold down the Option key and click and drag the animation screen to the right so you can see the beginning of the path again.**

2. **Select the first path point, then click the Point Information icon.**

   The Path Point Information dialog appears (your horizontal and vertical values may differ).



3. **Click the Loop to Here checkbox.**
4. **Click OK.**

   This stretches the path line from the last path point across to the first, indicating a continuous loop. It may look peculiar but this is *not* an error.

5. **Option and double-click to realign the screen.**

6. **Reset and play your animation to see the difference the off-screen points, path refinements and loop make.**

   The Actor now starts and ends off-screen, travels a smooth, uniform path and loops for the duration of your animation (this evens out the "frame to point" ratio mentioned earlier).

Duplicating the Actor

1. **Move to a frame where the note 1 Actor is showing.**
2. **With the Object tool highlighted, select the note 1 Actor.**
3. **Choose Duplicate from the Edit menu.**

Another note 1 Actor appears on top of the first one, offset horizontally and vertically by 5 pixels.

The duplicate Actor has the same cels, Actor information and path as the first one. If you did *not* want the same Actor information and path, you would have simply placed another "note" Actor from the Actor Library, rather than duplicate the "note 1" Actor in your animation.

4. **Double-click the duplicate Actor.**
5. **Type in note 2 for the Actor Name.**
6. **Set the Start and End Frames to 47 and 118 respectively.**

   This will delay the introduction of the note 2 Actor until the note 1 Actor is part way across the screen. Depending on the frame showing, the note 2 Actor will either move to its current screen position or it may "disappear" from the screen.

7. **Click the Locked checkbox.**

   Now is a good time to lock the Actor in place, since its path and starting position are finalized. Remember to lock the note 1 Actor as well .

8. Click OK.

Reviewing Your Animation

Reset and play your animation to see how it looks at this point. Well done! You have successfully completed *Lesson 2: Creating a Path.*

Lesson 3: Using the Cel Sequencer

The Cel Sequencer is a powerful feature that allows complete control over an Actor's characteristics on any frame or path point within an animation. Consequently, a single Actor can accomplish the tasks of many and conserve valuable memory.

In this lesson, you will use the Cel Sequencer to control the cels of an Actor. Your tasks will involve:

- *Examining the Cel Sequencer modes*
- *Controlling individual cels*
- *Controlling ranges of cels*

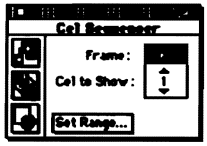
Examining the Cel Sequencer Modes

1. **Move to frame 6, the frame on which the piano keys Actor first appears.**

2. **Select the piano keys Actor.**
3. **Click the Path tool.**

4. **Click the Cel Sequencer icon.**

   The Cel Sequencer appears.



   The three icons down the left side represent Cel Size, Cel to Show and Cel Opacity respectively. The default mode is Cel to Show. Frame 6 (the current frame number) is highlighted and the Cel to Show indicates which of the Actor's cels is currently showing (cel 1 in this case).

5. **Click the Cel Size icon.**

   The wording changes and the number indicated is now 100, meaning 100% size.

6. **Click the up/down arrows to change the percentage size.**

   The Actor updates accordingly.

7. **Set the Cel Size to 100 again before you continue.**

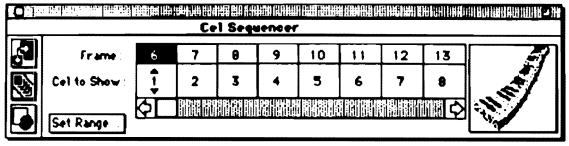
   NOTE: The Cel Opacity also works in percentages but any changes won't be evident with a black and white monitor setting. Furthermore, an Actor's Cel Mode must be set to Sequence Opacity in order for any changes in the Cel Sequencer to be referenced.

8. **Click the Cel to Show icon.**
9. **Click the up/down arrows to change the cel number.**

10. Set the Cel to Show to 1 again before you continue.

Controlling Individual Cels

1. **Extend the Cel Sequencer by clicking the zoom box at the top right corner of it.**



You can now scroll from frame 6 through frame 118 (the start and end frames of the Actor). The Cel to Show goes from cel 1 through cel 21 (one complete cycle of the Actor), then repeats itself. There is also a preview of the Actor.

2. **Scroll forward and highlight frame 27.**

For visual interest, you will wait for the Actor to cycle through once (frames 6-26 inclusive), then you will change some of the Cels to Show (frames 27-31 inclusive).

▲ ▼ 3. **Change the Cel to Show.**

Set it to any cel number (cels 1-21 inclusive).

4. **Continue to highlight frames 28 through 31, then change their Cel to Show.**

Set different cel numbers for each.

5. **Reset and play your animation to see the difference in the Actor's cycle.**

The Actor starts its regular cycle, plays through the random cel numbers, then returns to its regular cycle. More variation is needed but rather than change any more cels individually, you will work with ranges of cels.

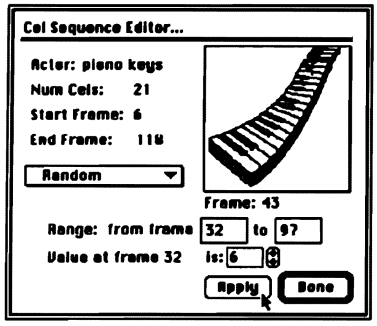
Controlling Ranges of Cels

1. **Select the piano keys Actor.**
2. **Click the Path tool.**

3. **Click the Cel Sequencer icon.**

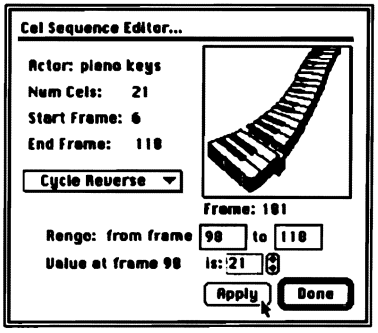
4. **Click Set Range.**

   The Cel Sequence Editor dialog appears. You will be applying sequences to two different ranges of cels.



   The first sequence (frames 32-97 inclusive) will play the cels in random order.

5. **Set the pop-up menu to Random.**
6. **Set the Selection Range from 32 to 97.**
7. **Click Apply but do *not* click Done yet.**



   The second sequence (frames 98-118 inclusive) will play the cels in reverse order.

8. **Change the pop-up menu to Cycle Reverse.**
9. **Change the Range to read from 98 to 118.**
10. **Set the Value at frame 98 to 21.**

Setting the value to 21 ensures that the Actor will start this sequence from the end of its cycle (cel 21), not part way through it.

11. **Click Apply.**

12. **Click Done to close the window.**

Reviewing Your Animation

Reset and play your animation to see the affects of the Cel Sequencer. A regular Beethoven! You have successfully completed Lesson 3: *Using the Cel Sequencer.*

Lesson 4: Using the Paint Editor

ADDmotion II's Paint Editor is a complete 24-bit colour paint program specially designed for creating and/or editing Actors and Props. A host of special effects and transformations can be applied manually to an individual cel or automatically to all cels.

In this lesson, you will use the Paint Editor to edit the cels of an Actor. Your tasks will involve:

- *Examining some important features*
- *Editing individual cels*
- *Editing all cels*

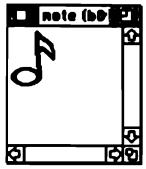
Examining Some Important Features

1. **Choose Open Actor/Prop from the Objects menu.**

   The Select an Actor to Edit dialog appears.

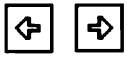
2. **Open the note Actor.**

   The Actor's paint window appears and the paint palette can now be accessed.



While Props always consist of a single image, Actors may consist of one or more cels. Therefore, the paint palette for Actors includes cycle arrows (along with the current cel number) at the bottom of it.

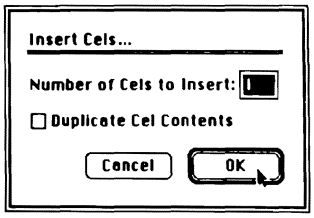
NOTE: You can have multiple Actors and Props open at the same time, allowing you to cut and paste artwork between them.



3. **Click the cycle arrows to view the cels of the Actor individually OR click and hold the arrows to cycle through all the cels.**
4. **Choose Onion Skin - Previous Cel from the Options menu.**

   Now when you view the cels, you see a double-image — that of the current cel and the previous cel (gray-scale or color machine settings illustrate this feature more clearly as a lighter, ghost-like image). Onion-skinning is extremely useful for aligning or tracing artwork.
5. **Choose Onion Skin - None from the Options menu.**
6. **Move to cel 5 of 8.**
7. **Choose Insert Cels from the Edit menu.**

   The Insert Cels dialog appears.



8. **Click OK to insert just 1 cel.**

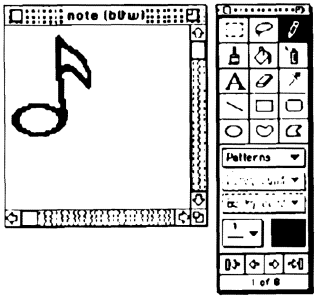
   Now when you view the cels, you see that the blank cel you are on has been inserted immediately after cel 5 and all cels have been renumbered accordingly.

9. **Move to cel 6 of 9.**

10. **Choose Remove Cel from the Edit menu.**

    The current cel is removed.

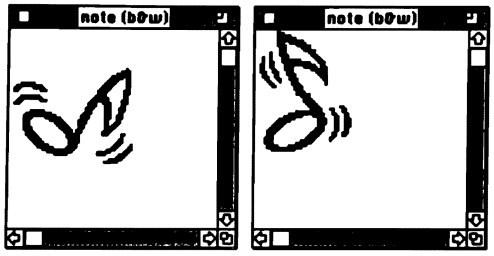
Editing Individual Cels



1. **Resize the paint window by clicking and dragging the grow box at the bottom right corner of it (the window will automatically shrink back to the most efficient size once you close it).**

   You may also want to adjust the proximity of the palette. If so, drag the bar at the top of it.

2. **Double-click the pencil tool to zoom in/out to a more comfortable working size.**



3. **With the Pencil tool highlighted, move to cels 3 and 6 and sketch some motion lines.**

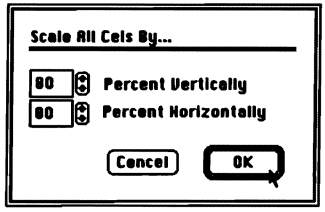
4. **When you are satisfied with the changes, choose Keep Paint from the Paint menu.**

   This saves your changes so far, allowing you to continue experimenting with the Paint Editor. Try out some of the other paint tools, then choose Revert Paint when you are ready to return to this stage.

Editing All Cels

1. **Ensure that nothing is selected in the paint window, then choose Scale All Cels - By Percent from the Paint menu.**

   The Scale All Cels By dialog appears.



2. **Set both the Percent Vertically and Percent Horizontally to 80.**

3. **Click OK.**

   The program automatically scales all cels to the required size.

4. **Close the paint window by clicking the close box at the top left corner of it.**

   You are asked to save your changes.

5. **Click Save.**

   Notice that both of the note Actors in your animation reflect the changes you have been making. This is because they both reference the same library Actor you were working on.

Reviewing Your Animation

Reset and play your animation to see your newly-edited note Actors. What an artist! You have successfully completed *Lesson 4: Using the Paint Editor.*

Lesson 5: Defining Cues

Interactivity is the key to successful multi-media presentations and ADDmotion II makes it easy with its menu-driven scripting. Actors and Props can behave like buttons to make animations interactive. Hypertalk™ handlers can be executed to control the playing of CD and videodisc players, visual effects and much more.

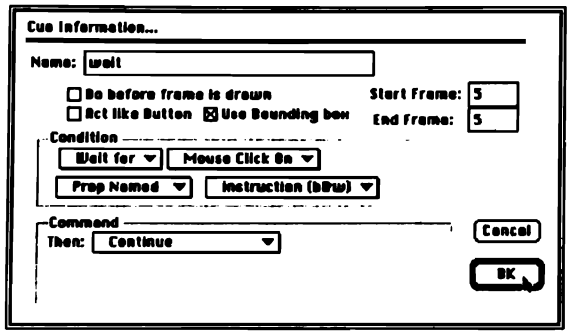
In this lesson, you will define the cues that will add interactivity to your animation. Your tasks will involve:

- *Pausing the animation*
- *Looping the animation*
- *Stopping the loop*
- *Ending the animation*

Pausing the Animation

1. **Click the Cue icon.**

   The Cue Information dialog appears. The idea is to imply that the piano keys and note Actors are directly related to the INSTRUCTION Prop. There are actually three cues involved in this procedure.



This first cue will make your animation pause while it waits for a mouse click on a specific object (in this case, the INSTRUCTION Prop).

2. **Type in wait for the Name.**

3. **Set both the Start and End Frames to 5.**

   This cue will be active only on frame 5, the frame on which the Props have finished their transitions and the frame before the piano keys Actor first appears.

4. **Define the Condition as:**

   Wait for **Mouse Click On**

   Prop Named **instruction (b&w)**

   Pop-up menus suggest the most apPropriate scripting choices.

5. **Leave the Command as:**

   Continue

   This means that once the mouse is clicked on the Prop, your animation will simply continue.

6. **Click the Use Bounding box checkbox.**

   This will enable you to click anywhere within the Prop's bounding box to activate it (this is especially important when working with text).

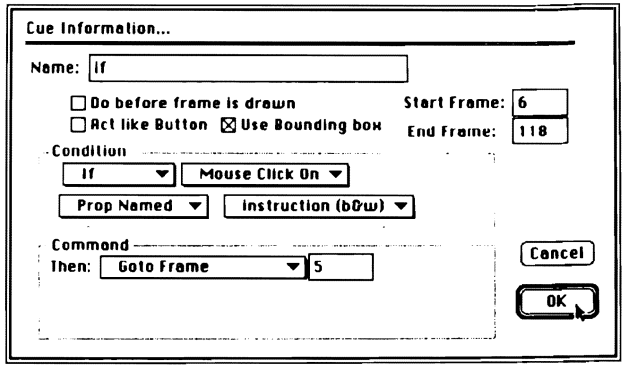
7. **Click OK.**

8. **Reset and play your animation to test the wait cue.**

   The three bullet points appear as usual but your animation now pauses until you deliberately click INSTRUCTION to make it continue.

Looping the Animation

1. **Click the Cue icon.**



   This second cue will determine a point in your animation where it will always loop.

2. **Type in always for the Name.**

3. **Set both the Start and End frames to 118.**

   This cue will be active only on frame 118, the frame on which the piano keys Actor completes its reverse cycle. That way it is less likely to appear that your animation is being interrupted, thereby providing a seamless loop.

4. **Leave the Condition as:**

   Always

   This means whenever your animation reaches frame 118, it will loop.

5. **Define the Command as:**

   Goto Frame 6

   Your animation will loop back to this frame, the frame on which the piano keys Actor first appears.

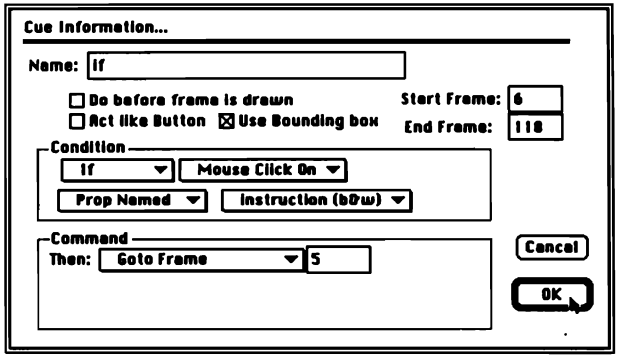
6. Click OK.

7. Reset and play your animation to test the always cue.

   Now once you make the piano keys and note Actors appear by clicking INSTRUCTION, your animation loops indefinitely. As a result, the Sound no longer "skips" but notice the note Actors still "disappear" suddenly whenever the animation loops. You will be adjusting this in *Lesson 6: Adjusting the TimeLines*.

Stopping the Loop

1. Click the Cue icon.



   This third cue will allow you to stop the animation loop by clicking INSTRUCTION again.

2. Type in if for the Name.

3. Set the Start and End Frames to 6 and 118 respectively.

   This cue will be active for the duration of the loop.

4. Define the Condition as:

If	Mouse Click On
Prop Named	instruction (b&w)

5. Define the Command as:

Goto Frame	5

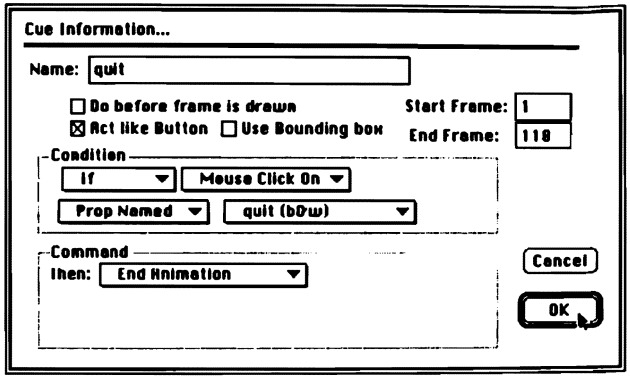
   This will make your animation pause again while it waits for the next mouse click.

6. **Click the Use Bounding Box checkbox.**
7. **Click OK.**
8. **Reset and play your animation to test the if cue.**

   The illusion is complete... repeated clicking of INSTRUCTION makes the piano keys and note Actors seem to "show" or "hide." Likewise, Actors and Props related to SALES or SERVICE can be scripted in the same manner.

Ending the Animation

1. **Click the Cue icon.**



This final cue will allow you to end your animation at any time. If you are in an ADDmotion II animation, the animation will simply stop. If you are viewing an ADDmotion II animation by means of a HyperCard link (such as the Example Animation button) you will actually quit the animation and return to the card level.

NOTE: You can also end an animation by pressing command-period — one of the default Animation Options.

2. **Type in quit for the Name.**
3. **Set the Start and End frames to 1 and 118 respectively.**

   This cue will be active throughout the animation.

4. **Define the Condition as:**

If	**Mouse Click On**
Prop Named	**quit (b&w)**

5. **Define the Command as:**

   End Animation

6. **Click the Act like Button checkbox.**

   This will make the Prop highlight when clicked.

7. **Click OK.**

8. **Reset and play your animation to test the quit cue.**

   Now, regardless when you click the quit Prop, the animation ends immediately.

Reviewing Your Animation

Reset and play your animation to test all the cues one last time. Good job! You have successfully completed *Lesson 5: Defining Cues*.

Lesson 6: Adjusting the TimeLines

The TimeLines window provides a comprehensive overview of an animation. It features instant access to object information and precision control for editing start and end frames of object timelines.

In this lesson, you will examine the TimeLines window and adjust the timelines of two Actors. Your tasks will involve:

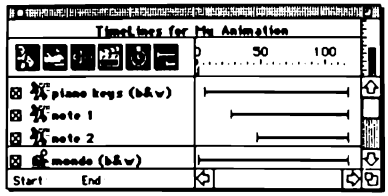
- *Accessing object information*
- *Deactivating an object*
- *Adjusting the timelines*

Accessing Object Information

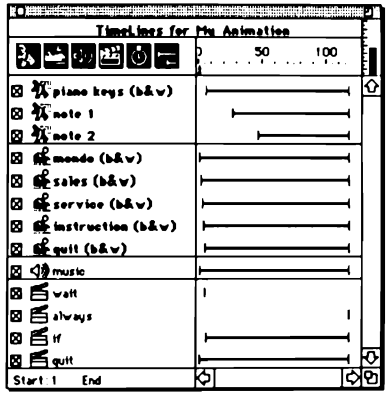
You can select any object or get access to its information instantly from within the TimeLines window.

1. **Click the TimeLines icon.**

   The TimeLines window appears.



2. **Resize the TimeLines window by clicking and dragging the grow box at the bottom right corner of it (adjust its screen position if necessary).**



The objects in your animation are listed by section and name, in the order that they were placed or added (relayered objects would be reordered accordingly).

3. **Double-click the music Sound in the TimeLines window.**

   Its Information dialog appears. You may want to take this opportunity to adjust the volume level.

4. **Click OK.**

Deactivating an Object

The checkbox next to each object name allows you to deactivate the object (clicking toggles it on/off). Deactivating objects is very convenient while building, testing or editing animations.

1. **Click the music checkbox.**

   Since it is a Sound, there is no apparent change to your animation

(Actors or Props would actually disappear from the screen).

2. **Reset and play your animation.**

   The animation plays as usual but you no longer hear the music Sound.

3. **Click the music checkbox again.**

   The music Sound has been turned on again.

Adjusting the Timelines

An object's timeline is a visual representation of its start and end frames. In this case, you are going to tidy up the end frames of the note Actors so they won't "disappear" suddenly whenever your animation loops.

1. **Move the cursor towards the end of the note 1 Actor timeline until it changes to a one-directional arrow.**

2. **Click and drag the end frame from 118 to 116 (watch the value at the bottom of the TimeLines window).**

   This will prevent the Actor from beginning another cycle once it moves off the right side of the animation screen at frame 116.

3. **Move the cursor towards the end of the note 2 Actor timeline until it changes to a one-directional arrow.**

4. **Click and drag the end frame from 118 to 106.**

   This will prevent the Actor from beginning another cycle once it moves off the right side of the animation screen at frame 106.

   The note 1 Actor actually cycles three times while the note 2 Actor only needs to cycle twice. The Actors are indistinguishable so the number of cycles makes no difference when viewing the animation.

Reviewing Your Animation

Reset and play your animation to see the note Actors "exit" Properly. Way to go! You have successfully completed *Lesson 6: Adjusting the TimeLines*.

Lesson 7: Linking to HyperCard

ADDmotion II's extensive exporting capabilities allow for a variety of formats, from standard PICT or PICS files to QuickTime™ Movie files and more. Furthermore, by linking your animations to HyperCard you can easily create dynamic, sophisticated stacks.

In this lesson, you will link your completed animation to a HyperCard button. Your tasks will involve:

- *Linking to a new button*
- *Viewing the finished product*

Linking to a New Button

1. **Choose Link - New Button from the File menu.**

   You are temporarily returned to the card level. The new button named My Animation will move with the cursor until you confirm a location for it by clicking the mouse.

2. **Click near the center of the card.**

   The button is then placed and you are returned to the animation level.

3. **Choose Close Animation from the File menu.**

Viewing the Finished Product

1. **Click the My Animation button to see the finished product.**

   Remember it may take a moment to load.

2. **Click INSTRUCTION a few times to test the interactivity.**

3. **Click Quit to return to the card level.**

Congratulations! You have successfully completed Lesson 7: *Linking to HyperCard,* the final installment of the tutorial.

Chapter 4: Paint Tools

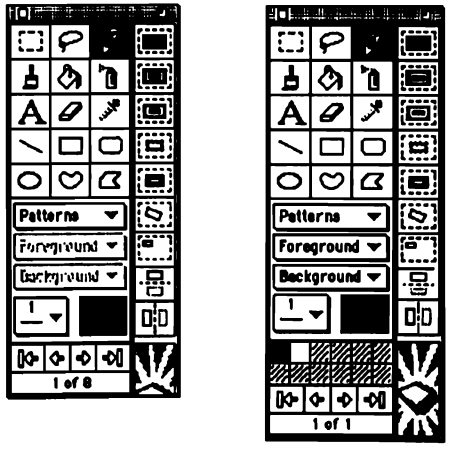
This chapter describes the purpose and function of the various tools in the Paint palette. You use the Paint tools to create and edit the appearance of Actors or Props.

Paint Palette

The Paint palette appears whenever you create a new Actor or Prop or edit an old one. The top of the palette displays the Paint tools available. To select a tool, click inside the box that holds it. The shape of the pointer may change depending on the tool you have selected.

Click the Paint palette's zoom box in the top right corner to display the Paint Effects buttons. Clicking these icons has the same effect as choosing their equivalent items from the Paint menu.

The following Paint palette examples show how they appear when working on an Actor in black and white and in color. When working in black and white, the Color Pick-up tool, Foreground and Background color pop-up palettes are dimmed, and the most recent color selection palette does not appear.

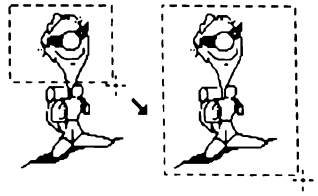


Since Props consist of a single cel, the cel cycle arrows at the bottom of the palette do not appear when you are working on Props.

Selection Tools

Marquee Tool

Use the Marquee tool to select a rectangular area of an image. Drag diagonally across the area to select it.



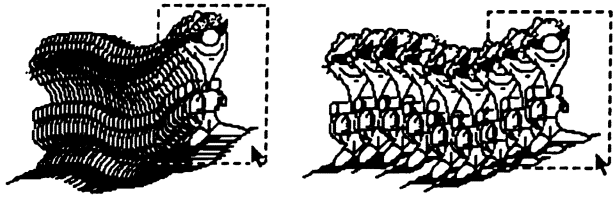
To select the entire image, double-click the Marquee tool icon in the Paint palette. You can also choose Select All from the Edit menu.

To shrink the selection to the outside area of the image you are selecting, press the Option key while you drag; when you release the mouse button, the selection rectangle shrinks around the image eliminating the extra white space.

To move a selection, position the pointer inside the selection until the pointer changes to an arrow then click and drag the selection.

To move a selection straight up or down or directly left or right, hold the Shift key down while you drag. To make a copy of the selection, hold the Option key down while you drag.

To make multiple copies of a selection, press the Command-Option keys combination while you drag.



Lasso Tool

Use the Lasso tool to select a specific part of an image when the area is too small for the selection rectangle or when you need to select a part of the image that is non-rectangular or between other graphics.

To use the Lasso tool, click and drag around the area you want to select. The line that trails the lasso's tip shows what you are lassoing. When you release the mouse button, the lasso shrinks around the image and selects it. The lasso shimmers around the edges. To lasso an area without shrinking around the image, hold down the Option key while dragging.

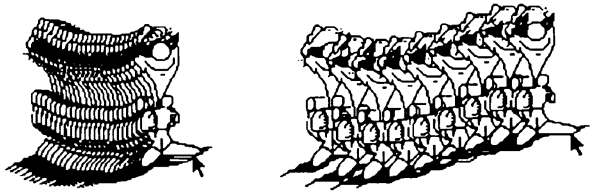
To lasso the whole image, double-click the Lasso icon in the Paint palette. The enclosed white space is not selected.

To move a selection, position the Lasso tool's tip within the selection until the cursor changes to an arrow, then click and drag. To move a

selection straight up or down or directly left or right, hold the Shift key down while you drag.

To make a copy of the selection, hold the Option key down while you drag.

To make multiple copies of the selection, hold the Command-Option keys down while you drag.



NOTE: To move an image one pixel at a time, select it with the Marquee or Lasso tool, then use the arrow keys on your keyboard. To move it five pixels at a time, hold down the Shift key as you press an arrow key.

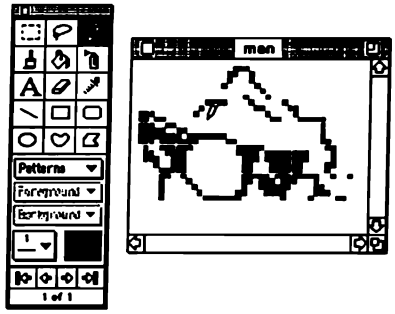
Pencil Tool

Use the Pencil tool to draw thin free-form lines. This is the most useful tool for working in Fatbits mode (magnified or detailed work).

When you are working on a color monitor, the pencil draws in the selected color. (If you click on a pixel of the selected color and then draw, the pencil draws in the background color.) When you are working on a black and white monitor, the pencil draws in the reverse of the area on which you first press the mouse button. For example, if you press on a black area, the pencil draws in white.

To draw straight lines in a vertical or horizontal direction, hold down the Shift key while you drag.

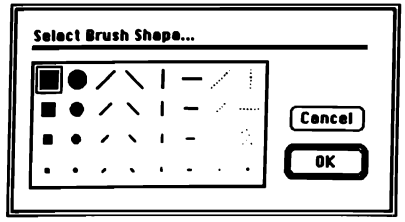
To work in Fatbits mode, double-click the Pencil icon in the Paint tool palette or press down the Command key and click the area that you want magnified. To zoom out of Fatbits, press Command-Shift and click.



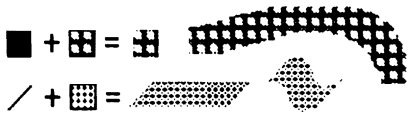
While the Pencil tool is selected, holding down the Option key produces the Hand cursor which you can use to move the work area.

Brush Tool

Use the Brush tool to paint with the current pattern and brush shape. Choose the Choose Brush item from the Options menu or double-click the brush in the Tool palette to choose a new brush shape from the Select Brush Shape dialog.

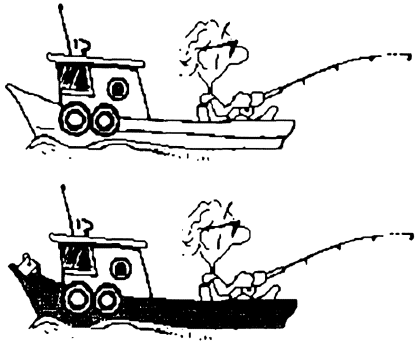


Using different brush shapes and patterns creates different effects when painting. To paint straight lines in a vertical or horizontal direction, hold the Shift key down while you drag. If you want to erase using the brush tool, hold the Command key down while you drag.

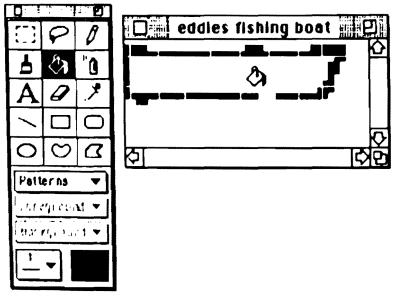


Paint Bucket Tool

Use the Paint Bucket tool to fill solid areas of an image with the selected pattern and color. The hollow parts of outlined and shadowed text can be filled in the same manner.



If there is a gap or space in the outline of an area, paint spills out and fills the surrounding area of the image. Choose Undo from the Edit menu to correct the mistake. Use Fatbits to check for gaps before using the Paint Bucket tool.

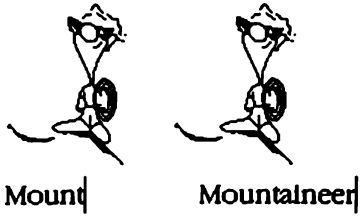


Spray Can Tool

Use the Spray Can tool to spray color onto an area of the image. When working on a color monitor, you can double-click on the Spray Can icon to bring up settings. When working in black and white, you can erase using the Spray Can tool, by holding the Command key down while you drag.

Text Tool

Use the Text tool to add text to the image. Use it for labels and titles within an image or by itself. Adding text has the same effect as the other tools, the text becomes part of the image. Immediately after typing the text and before clicking anywhere on the screen, you can change the text's font, size, style and color. Clicking the Marquee or Lasso tools selects the text you have just typed. Clicking anywhere else "stamps" the text in the Paint window.



To set the text attributes, choose a Font, Size, and Style from the Paint menu. The settings that you make stay in effect until you make changes to them again or until you restart the program.

Selecting a Font

Choose Font from the Paint menu, and while holding down the mouse button, choose one of the available fonts from the hierarchical menu. The current font is checked.

Selecting Font Size

Choose the Size hierarchical menu to display a list of all available font sizes. The current font size will be checked. The best font sizes for the current font will be outlined. Double-clicking on the Text tool icon brings up the Text size dialog.

Selecting Other Font Sizes (TrueType)

Choose Other from the Size hierarchical menu to display the Choose Font Size dialog, then select any size font using the font size up or down arrows. The font size will be displayed in real time in the text box. ADDmotion II is compatible with ATM (Adobe™ Type Manager) and Apple TrueType™ outline fonts.

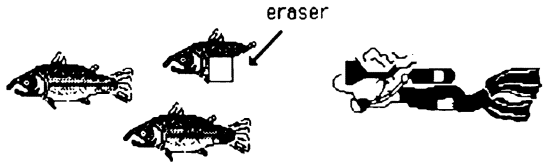
Selecting a Font Style

The hierarchical Style menu displays a list of all available font styles. The current font style choices are checked. You can choose a number of font styles to create different effects in your paint documents.

You can also choose to Left Justify, Right Justify or Center your text.

Eraser Tool

Use the Eraser tool to erase or remove part of the image you drag over.



Double-clicking on the Eraser tool in the tool palette erases the whole image. If you make a mistake, choose Undo from the Edit menu.

Color Pick-up Tool

Use the Color Pick-up tool to select a color from part of the image. This tool is unavailable when working in black and white.

When working in color, Paint displays the 12 most recently used colors in the Recent Colors palette. If you select a color using the Color Pick-up tool it is added to the palette behind the last color selected. Colors are added from left to right. When the palette has all 12 spaces filled, the next color is added in the last space and the first

space will be removed. All previous colors are then pushed one space back in the palette.

Holding down the Option key and clicking on an image fills all instances of the color you have clicked on with the selected color. Holding down Option-Command and clicking on an image fills it with the current Gradient.

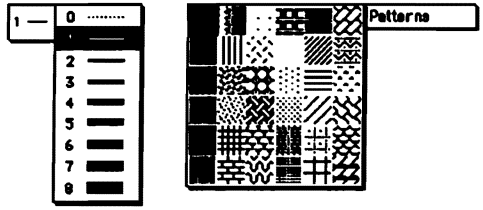
You can use the Tab key to toggle between the current tool and the Color Pick-up tool.

Line Tool

Use the Line tool to draw straight lines. Hold down the Option key while you drag to draw lines in the selected pattern. Hold down the Shift key while you drag to draw straight horizontal or vertical lines. Choose the line thickness from the Line Width pop-up.

Shape Tools

Select a border size and pattern from the palette's pop-ups for the shapes you want to draw.

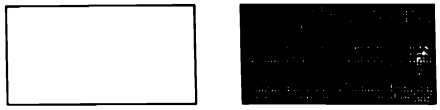


To draw centered on a given point, choose Draw Centered from the Options menu before you drag. To draw borderless shapes, choose Draw Filled from the Options menu and hold down the Option key as you drag or select 0 from the line width pop-up and then draw. To draw multiple shapes, choose Draw Multiple from the Options menu before you drag. To constrain shapes, hold down the shift key while you drag.

Rectangle Tool

Use the Rectangle tool to draw rectangles. Position the cross-hair pointer where you want the rectangle to start; then drag diagonally. To change the thickness of the rectangle border use the Line Width pop-up. To draw rectangles that are filled with the selected pattern

and color, choose Draw Filled from the Options menu or double-click the Rectangle tool in the tool palette.



Draw filled unchecked and checked

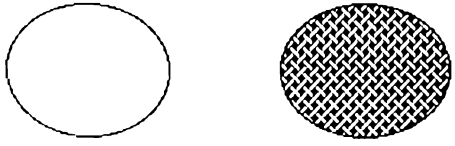
Rounded Rectangle Tool

Use the Rounded Rectangle tool to draw rectangles with rounded corners. Position the cross-hair pointer where you want the rectangle to start; then drag diagonally. To change the thickness of the border, use the Line Width pop-up. To draw rounded rectangles that are filled with the selected pattern and color, choose Draw Filled from the Options menu or double-click the Round Rectangle tool in the Tool palette.

Draw filled unchecked and checked

Oval Tool

Use the Oval tool to draw oval shapes. Position the pointer where you want the oval to start; then drag diagonally. To change the thickness of the oval border use the Line Width pop-up. To draw ovals that are filled with the selected pattern and color, choose Draw Filled from the Options menu or double-click the Oval tool in the Tool palette.



Draw filled unchecked and checked

Curve Tool

Use the Curve tool to draw free-form shapes. Position the pointer where you want to start, then drag out your shape. Paint will draw a straight line connecting the start and end points of the shape when

you release the mouse button. To draw curves that are filled with the selected pattern and color, choose Draw Filled from the Options menu or double-click the Curve tool in the Paint tool palette.

Draw filled unchecked and checked

Polygon Tool

Use the Polygon tool to create polygons with irregular sides. This tool works differently than the other tools. To draw, position the mouse where you want to begin, then click and release. Move the mouse to the second point and click; then to the third point and click, and as many more as you want. To finish the polygon, double-click or click the beginning point again. To change the thickness of the polygon border, use the Line Width pop-up. To draw polygons with the current pattern, choose Draw Filled from the Options menu.

Draw filled unchecked and checked

To draw borders using the current pattern and color, hold down the Option key while you drag.

Pattern Pop-up

The Pattern Fill pop-up palette displays a choice of available patterns you can use for paint and fill operations.

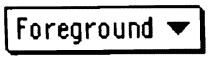
Selecting Patterns

To select a pattern, click on the Patterns button, hold down the mouse button until the cursor is over the pattern you want, then release it.

To make changes to an existing pattern, choose Edit Patterns from the Options menu, click on the pattern, then edit it pixel by pixel.

Gradient Fill

The gradient fill is the pattern on the top row, second from the left. It is only available if you are working in color. For information on defining the gradient fill, see the *Edit Gradient* section in Chapter 5.



Foreground Color Pop-up

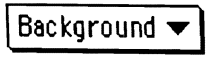
The Foreground pop-up palette displays a choice of available colors for painting in foreground colors. Depending on the Macintosh and monitor that you have, this palette can display 2-bit black & white, up to 256 gray scales, and up to 256 colors out of a palette of 16 million.

Selecting Foreground Colors

To select a foreground color, click on the Foreground Colors button, hold down the mouse button until the cursor is over the color you want, then release it.

Editing Foreground Colors

To make changes to an existing color, choose Edit Colors from the Options menu. Select a color by clicking on it, then choose Edit. You can either select a new color by clicking on it in the color wheel, or by modifying the existing color by adjusting its hue, saturation, brightness or color composition. Use the scroll bar to the right of the color wheel to adjust its values. Edit Colors is only available if you are working in 16 or 24 bit mode.



Background Pop-up

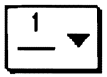
The Background pop-up palette displays a choice of available colors for painting in background colors. Depending on the Macintosh and monitor that you have, this palette can display 2-bit black & white, up to 256 gray scales, and up to 256 colors out of a palette of 16 million.

Selecting Background Colors

To select a background color, click on the Background Colors button, hold down the mouse button until the cursor is over the color you want, then release it.

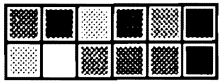
Editing Background Colors

To make changes to an existing color, choose Edit Colors from the Options menu. Select a color by clicking on it, then choose Edit. You can either select a new color by clicking on it in the color wheel, or by modifying the existing color by adjusting its hue, saturation, brightness or color composition. Use the scroll bar to the right of the color wheel to adjust its values. Edit Colors is only available if you are working in 16 or 24 bit mode.



Line Width Pop-up

Available line widths are displayed in the Paint palette. Click on the Line Width pop-up, then select one of the nine possible widths.

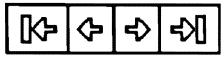


Recent Color Pick-up

Recent Colors are displayed in the Paint palette to allow for a convenient selection of one of the 12 most recent colors that have been used. To select a color, click one of the palette choices. To assign a color as a background color, hold down the Option key while clicking.

Changing Recent Colors

Click on the color you want to change, then select a new color from either the Foreground or Background color palettes.



Cel Cycle Arrows

Show First Cel

Click the first arrow (vertical line and left arrow) to show the first cel in an Actor's cel cycle.

Show Previous Cel

Click the second arrow (left arrow) once to step reverse one cel in the Actor's cel cycle. Hold the arrow down to reverse cycle or animate through the cels of the Actor. The left arrow on the keyboard performs the same action.

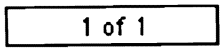
Show Next Cel

Click the third arrow (right arrow) once to step forward one cel in the Actor's cel cycle. Hold the arrow down to forward cycle or

animate through the cels of the Actor. The right arrow on the keyboard performs the same action.

Show Last Cel

Click the fourth arrow (vertical line and right arrow) to show the last cel in an Actor's cel cycle.



Cel Counter

The cel count is displayed by first showing the current Actor cel number then the number of total cels in the Actor. Double-click in this area to bring up the Insert Cels dialog.

Paint Effects

With Paint you can add special effects to one cel of an Actor or Prop, or all the cels of an Actor. If you select part or all of an image with the Lasso or Marquee tool, the Paint menu items reflect a selection. For information on special effects for selections, see the next section in this chapter.

If you want to add a special effect to all of an Actor's cels, with no selection, choose a special effect from the Paint menu or click the equivalent button on the extended Paint palette. The special effect will change all of the cels, saving you the steps required to do it one cel at a time.

Special Effects for All Cels of an Actor

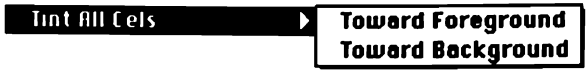
Fill All Cels

Choose this command to fill all of the current Actor's cels with the current pattern and color. This is especially useful for changing the pattern of a large area.

Invert All Cels

Choose Invert All Cels to change the color of the pixels in all of the current Actor's cels to colors on the opposite side of the color spectrum. If you are working in black and white, white pixels become black and black pixels become white.

Tint All Cels



If working in color:

Choose Tint - Toward Foreground to tint all of the current Actor's cels by adding the foreground color to all pixels.

Choose Tint - Toward Background to tint all of the current Actor's cels by adding the background color to all pixels.

If working in black and white:

Choose Tint - Toward White to lighten all of the current Actor's cels by removing black pixels.

Choose Tint - Toward Black to darken all of the current Actor's cels by adding black pixels.

Anti-Alias All Cels

Choose Anti-Alias All Cels to remove the jagged or stair-step edges and outlines from all of the current Actor's cels. Anti-aliasing smooths the edges of the cel by creating intermediate pixels. These pixels are greyish unless you have given the cels a background color. For example, if the Actor is a flying bird, you might want to pour sky blue around it before choosing Anti-Alias All Cels.

Anti-Aliasing is only available when you are working in color. It is especially useful when you are printing the finished animation to video or displaying on a video screen.

Trace All Cels Edges

Choose Trace All Cels Edges to outline edges of the same color in all of the Actor's cels. Repeated tracing adds more outlines to edges in all cels. Pressing Command+E has the same effect.

Rotate All Cels

Choose Rotate All Cels - Right to turn all of the current Actor's cels 90 degrees right.

Choose Rotate All Cels - Left to turn all of the current Actor's cels 90 degrees left.

Choose Rotate All Cels - By Degree to turn all of the current Actor's cels by the number of degrees specified in the Rotate All Cels by Degree dialog box. The number of degrees can be between 1 and 360 and the cels can be rotated clockwise or counter-clockwise. The Free option is only available when part of a cel is selected.

Flip All Cels

Choose Flip All Cels - Vertical to flip all of the current Actor's cels vertically about their center line.

Choose Flip All Cels - Horizontal to flip all of the current Actor's cels horizontally about their center line.

Scale All Cels

Choose Scale All Cels - By Percent to scale all of the current Actor's cels by the values set in the Scale All Cels By Percent dialog box. The cel can be scaled by changing the percentage vertically and horizontally. The Free option is only available when part of a cel is selected.

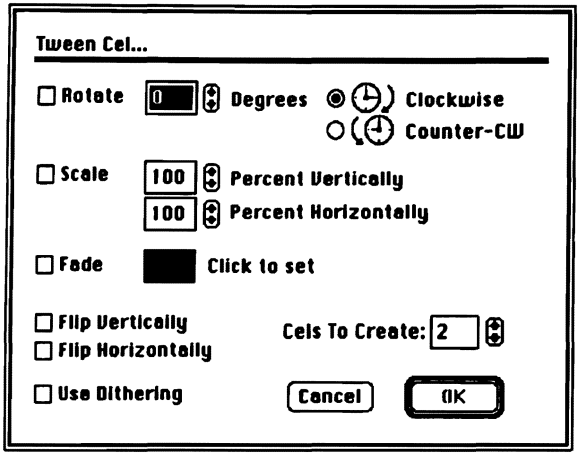
Tween Cel

The Tween Cel item in the Paint menu lets you rotate, scale, fade or flip the image over a specified number of new cels. You select the final orientation, size, etc. and Tween Cel creates the intermediate steps.

To tween an Actor's cel while using Paint:

1. **Choose Tween Cel from the Paint menu.**

   The Tween Cel dialog appears.



2. **To rotate the cel, check the Rotate box, enter a number of degrees from 1 to 360, then choose Clockwise or Counter-Clockwise.**
3. **To scale the cel, check the Scale box, then enter values from 0 to 100 in the Percent Vertically and Percent Horizontally boxes.**
4. **To have the cel change color, check the Fade box, then click the Click to Set box to choose a color from the pop-up color palette. If your Macintosh has a black and white monitor, click the Click to Set box to indicate whether the cel should fade to black or white.**
5. **Check the Flip Vertically box if you want the cel to flip vertically.**
6. **Check the Flip Horizontally box if you want the cel to flip horizontally.**
7. **Enter the number of cels over which you want the action to be carried out.**

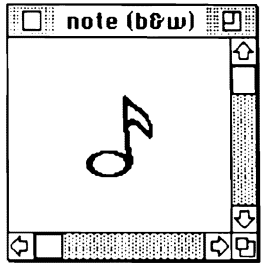
8. **Check the Use Dithering box to cause scaled and flipped images to look more accurate. (Dithering may introduce new colors to your artwork.)**

9. **Click OK.**

As an example of how the Tween Cel feature works:

1. **Open an Actor.**

   The Actor's first cel appears.



2. **Choose Tween Cel from the Paint menu.**

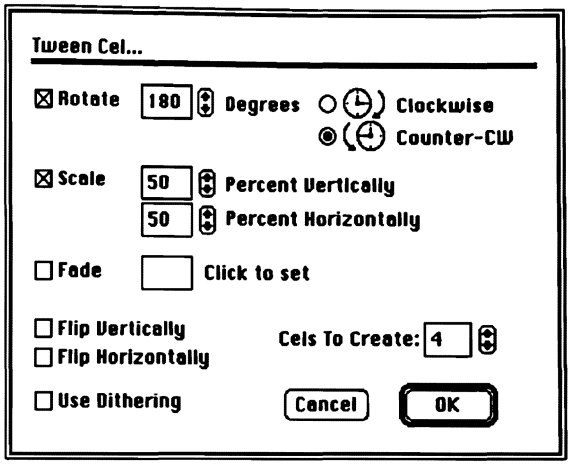
   The Tween Cel dialog appears.

3. **Check the Rotate box, enter 180 degrees, then choose Counter Clockwise for the direction of the rotation.**

4. **Check the Scale box, then enter 50 in both the Percent Vertically and Percent Horizontally boxes.**

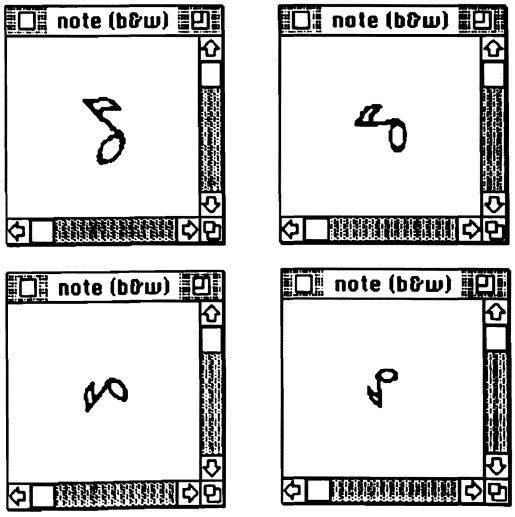
5. **Enter 4 in the Cels To Create box.**

   The dialog should look like this.



6. Click OK.

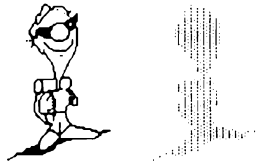
   Four cels are created, with each one rotating one quarter of 180 degrees and scaling down one quarter of 50 percent.



Special Effects for a Selection of an Actor or Prop

Fill Selection

Choose Fill Selection to fill the selected part of the image with the current pattern and color. This command is especially useful for changing the pattern of a selected part of the image.



Invert Selection

Choose Invert Selection to reverse the color of the pixels in the selected part of the image, such that white pixels become black and black pixels become white.

Tint Selection

If you are working in color:

Choose Tint Selection - Toward Foreground to tint the selected part of the image by adding the foreground color to the selected area.

Choose Tint Selection - Toward Background to tint the selected part of the image by adding the background color to the selected area.

If you are working in black and white:

Choose Tint Selection - Toward Black to darken the selected part of the image. You can repeat the action until the selection is totally saturated.

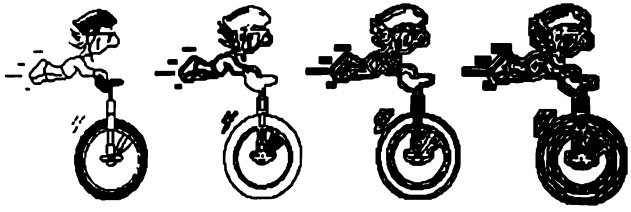
Choose Tint Selection - Toward White to lighten the selected part of the image. You can repeat the action until the selection is totally white.

Anti-Alias Selection

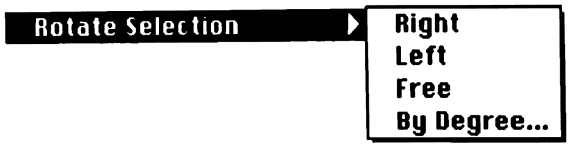
Choose Anti-Alias Selection to remove the jagged or stair-step appearance from images as they step from one row or column to the next. Anti-aliasing smooths the edges of a selected image by adding intermediate pixels. These pixels are grayish unless you have given the selection a background color. Anti-aliasing is only available if you are working in color. It is especially useful when you are printing the finished animation to video or displaying it on a video screen.

Trace Selection Edges

Choose Trace Selection Edges to outline areas in the selected part of the image that are of the same color. Repeated tracing adds more outlines.



Rotate Selection



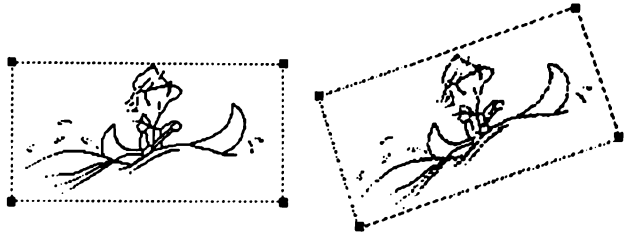
Choose Rotate Selection - Right to turn the selected part of the image 90 degrees right.

NOTE: If you rotate the image right and any part moves off the screen during a rotation, you'll lose that part permanently - Undo can't retrieve it.

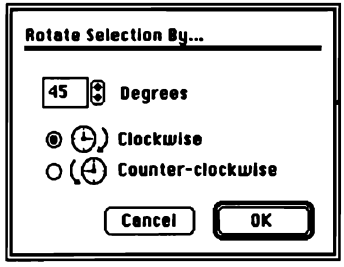
Choose Rotate Selection - Left to turn the selected part of the image 90 degrees left.

NOTE: If you rotate the image left and any part moves off the screen during a rotation, you'll lose that part permanently - Undo can't retrieve it.

Use Rotate Selection - Free to rotate a selection about its center freely. Select a portion of the image using a selection tool, choose Rotate Selection - Free, then grab one of the four handles at the corner of the selection rectangle and rotate it clockwise or counter-clockwise.

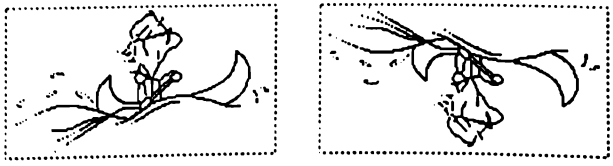


Choose Rotate Selection - By Degree to turn the selected portion of the cel by the number of degrees specified in the Rotate Selection - By Degree dialog box. The number of degrees can be between 1 and 360 and the selection can be rotated clockwise or counter-clockwise.



Flip Selection

Choose Flip Selection - Vertical to flip the selected part of the image vertically about its center line.

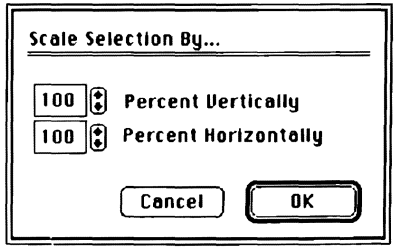


Choose Flip Selection - Horizontal to flip the selected part of the image horizontally about its center line.

Scale Selection

Choose Scale Selection - Free to scale the selected part of the image by grabbing one of four handles and resizing the selection freely. You can resize it using any different combination of the handles. This will continue to work until you select another tool or choose another menu item.

Choose Scale Selection - By Percent to scale the selected part of the image by the values set in the Scale Selection - By dialog. The selection can be scaled by changing the percentage vertically and horizontally.

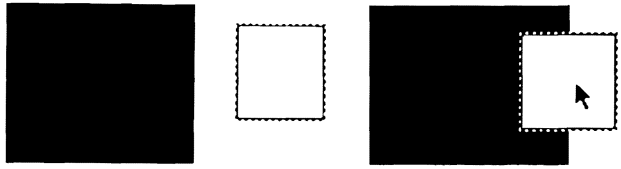


Ink Effects

Ink effects can be used to overlap or superimpose a selected part of an image by making it either opaque or transparent.

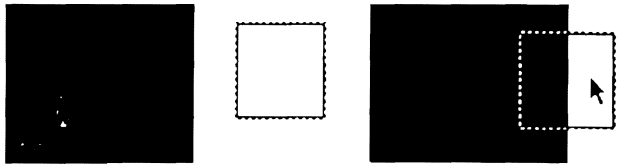
Opaque

Select part of an image using the Marquee or Lasso tool, then choose Opaque from the Paint menu. When you move the selection over another image in the Paint window, it covers the other image.



Transparent

Select part of an image using the Marquee or Lasso tool, then choose Transparent from the Paint menu. When you move the selection over another image in the Paint window, the other image shows through it.

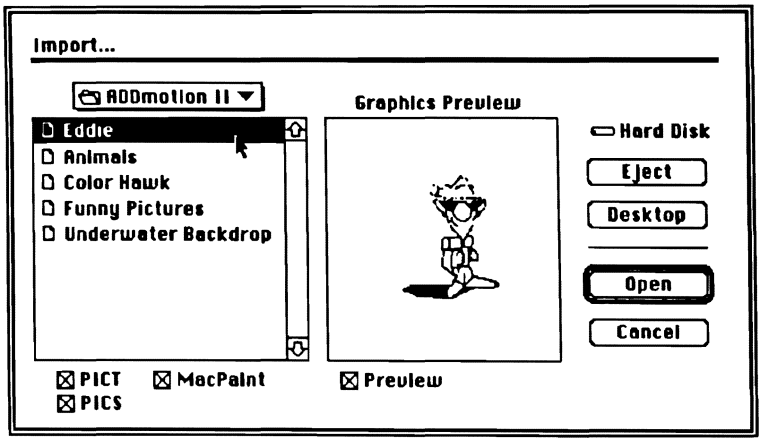


Importing Graphics

ADDmotion II Paint is compatible with many popular Macintosh programs and allows you to import documents in PICS, PICT, or MacPaint formats.

Import

Choose Import Graphics from the Paint menu, click the appropriate format box, select a file to import, then click Open. Once a picture is imported into Paint, it is treated as if you had created it in Paint.



The Paint Import dialog allows you to see a picture preview before you import the file. Check Preview to see the image you will be importing.

Importing PICS Files

Check PICS in the Import dialog to import a PICS file into the current Actor.

NOTE: Large PICS files require more memory. It is suggested that you keep your PICS files small or split large PICS files into a number of smaller PICS files before you import them into an Actor.

Importing PICT Files

Check PICT to import a PICT file image into the current Actor or Prop. A PICT file can be imported to replace the current cel in an Actor or the entire image of a Prop.

Importing MacPaint Files

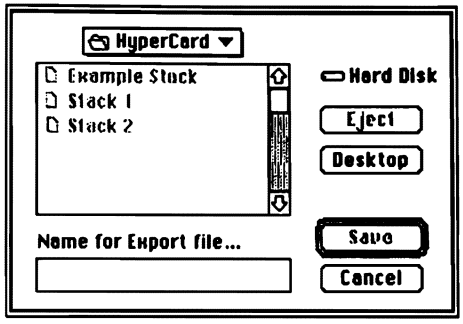
Check MacPaint to import a MacPaint file image into the current Actor or Prop. A MacPaint file can be imported to replace the current cel in an Actor or the entire image of a Prop.

Exporting Graphics

ADDmotion II Paint lets you export Actors as PICS files and Props as PICT files.

Export

Choose Export Graphics from the Paint menu, then select the appropriate hierarchical menu item. The Export dialog appears. Select a destination folder, type in a name for the export file, then click Save.



Paint Bitmaps

Keep Paint

Use Keep Paint (or Command-K) to keep the changes you've made to an Actor or Prop. Use Revert to go back to the most recently kept version of the picture. If you click the close box in the Paint document window, you are asked whether you want to save any changes you have made.

Revert Paint

Use Revert Paint to restore the most recently kept version of the Actor or Prop, throwing away any changes since the last Keep command or since you started painting.

Chapter 5: Paint Options

This chapter tells you how to use the Paint features listed in the Options menu. Paint tools appear when you create a new Actor or Prop or edit an old one.

Using Fatbits

Zoom In

Zoom In lets you focus on a section of an image to do close-in work and to edit your image one pixel at a time. To Zoom In at any time while using the Pencil tool, hold down the Command key and press the mouse button in the Paint window. Zoom In has three levels; each time you press the mouse button it will zoom in to a more magnified version of the picture. Pressing Command-J has the same effect. You can also use the 1, 2, 3 and 4 keys to set the magnification to 1, 2, 4 or 8 times.

Zoom Out

Zoom Out lets you zoom out of a section of an image after doing close-in work. To Zoom Out at any time while using the Pencil tool, press Command-Shift and click. Pressing Command-L has the same effect. You can also use the 1, 2, 3 and 4 keys to set the magnification to 1, 2, 4 or 8 times.

Editing Paint Features

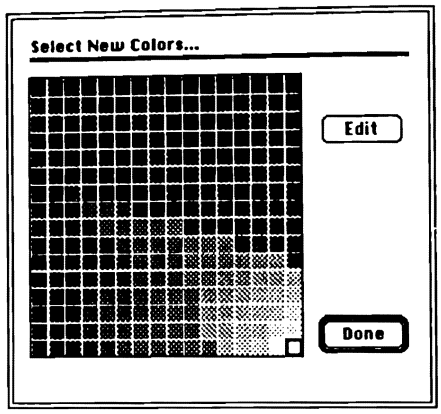
Edit Colors...

The Edit Colors menu item lets you change colors using the Color wheel. Edit Colors is only available in 16 and 24 bit mode. It will be dimmed in any other mode.

To change a single color:

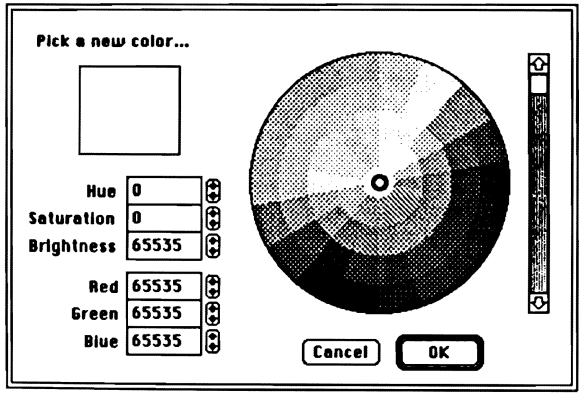
1. **Click the color that you want to change.**

   The color is surrounded by a thin black line to indicate that it is selected.



2. **Double-click the color or click the Edit button.**

   The Apple Color Wheel dialog appears.



3. **Select a color by clicking in the color wheel.**

   Your selection is indicated by a small reverse video dot on the location that you clicked. You can adjust the Hue, Saturation and Brightness of the color using the up or down arrows, or by typing the new settings into the boxes provided.

4. **Click OK when you are finished editing the color.**

   The new color is added to the Edit Color dialog as well as the pop-up in the Paint tool palette.

Edit Gradient...

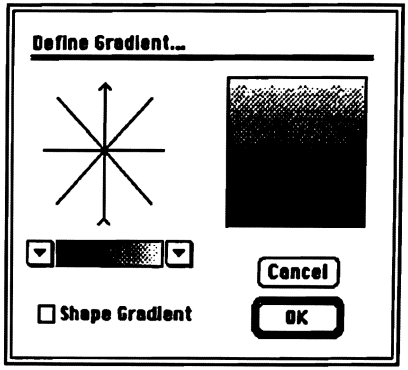
The Edit Gradient option is only available if you are using a color monitor. It lets you set the type and angle of gradient, and to choose the two blending colors.

Once you have edited the gradient, you can use it to fill shapes by first choosing the gradient option in the Paint palette's Pattern pop-up.

To edit the gradient:

1. **Choose Edit Gradient from the Options menu.**

   The Define Gradient dialog appears.



2. **Click on one of the eight lines and a directional arrow appears to indicate the angle for the gradient, or click at the center of the lines to indicate you want the gradient to radiate either in or out from the center.**

3. **Click on the left control arrow of the gradient bar, then select a color from the pop-up color palette.**

4. **Click on the right control arrow of the gradient bar, then select a color from the pop-up color palette.**

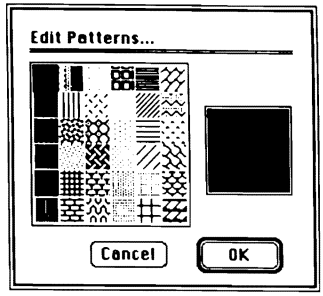
5. **Click the Shape Gradient box if you want the gradient fill to adjust to the shape of the object it fills. You must have a radial gradient selected to do this (all arrows on lines pointing toward or away from center).**

   The preview box displays the selected gradient.

6. Click OK.

Edit Patterns...

The Edit Pattern dialog allows you to edit the paint patterns. Click one of the patterns, then edit it pixel by pixel in the box to the right of the pattern palette. When you restart ADDmotion II, the patterns return to their default state.

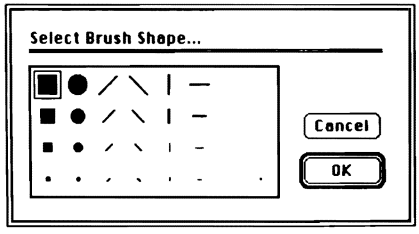


Choose Brush...

To change the shape of the Paint Brush:

1. **Choose Choose Brush from the Options menu.**

   The Select Brush Shape dialog appears. Each shape displayed has a different effect when you use it.



2. **Select a shape by double-clicking on it or by clicking on it once, then clicking the OK button.**

Shape Effects

Draw Filled

Draw Filled fills shapes as you draw them. It uses the current pattern to fill the shapes. The tools that it affects (Rectangle, Rounded Rectangle, Oval, Curve and Polygon) change in appearance in the Paint palette. When the Draw Filled feature is turned on, a check mark appears next to it in the menu. To turn off Draw Filled, choose Draw Filled again .

Draw Filled with the Polygon tool: If Draw Filled is on while you're using the Polygon Tool, Paint draws a straight line between the polygon's starting and ending points when you double-click to finish your polygon. The resulting shape is filled with the current pattern and colors.

Draw Filled with the Curve tool: If Draw Filled is on while you're using the Curve tool, Paint draws a straight line connecting the starting and ending points of the shape when you release the mouse button; then it fills the shape with the selected pattern and colors.

Draw Centered

Draw Centered lets you draw from the center point. Draw Centered affects the following tools: Line, Rectangle, Rounded Rectangle and Oval. When the Draw Centered feature is turned on, a check mark appears next to it in the menu. To turn off Draw Centered, choose Draw Centered again.

Draw Multiple

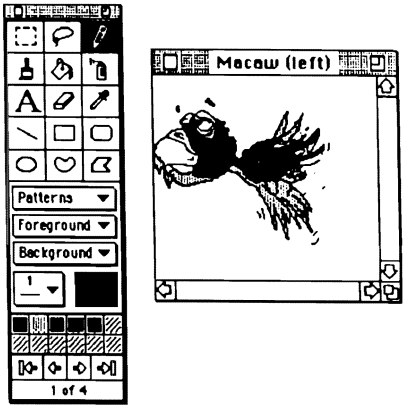
Draw Multiple draws multiple images as you drag with the mouse. Draw Multiple affects the following tools: Line, Rectangle, Rounded Rectangle, Oval, Curve and Polygon. When Draw Multiple is on a check mark appears next to it in the menu. To turn off Draw Multiple, choose Draw Multiple again.

Onion Skin

Onion Skin is only available when editing multi-cel Actors. When chosen, it allows the previous or next cel of an Actor to show through to the current cel. The other cel always appears behind the

current cel at 30% of the saturation of the original. Onion Skin provides for a method of tracing or aligning the current cel.

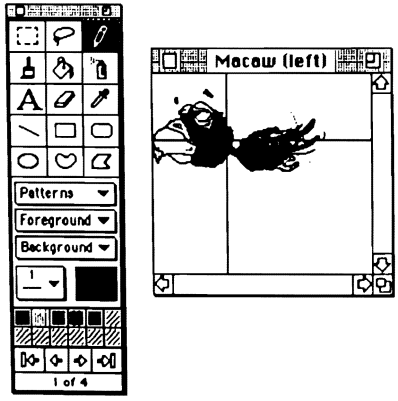
Onion Skin works in all levels of Fatbits, but some operations might become slower when it is turned on.



Choose Previous Cel or Next Cel, or choose None to turn off the feature.

Registration

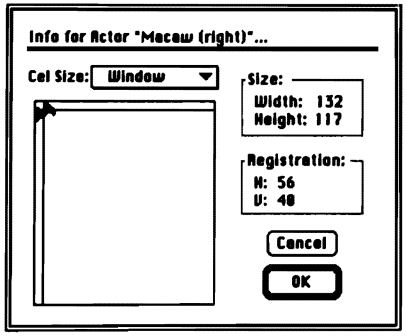
Registration is only available when editing Actors. When checked the registration point of an Actor is displayed in the Paint editing window. The registration point is the spot that path points are anchored to.



To change the Registration point:

1. **Make sure Registration is checked under the Option menu.**
2. **Open the Actor document window.**
3. **Choose Get Info from the Objects menu.**

   The following dialog appears, allowing you to change the Registration point by moving the horizontal and vertical registration lines.



4. **Click on the line and, holding down the mouse button, move it to the desired location.**

   The registration point is the point where the two lines intersect.

5. **Release the mouse button.**
6. Click OK.

To turn off Registration, choose Registration again.

NOTE: The registration point can also be changed in the Actor Document window by holding down the Shift, Option and Command keys while clicking with the pencil tool.

Chapter 6: Creating Actors, Props and Sound Effects

This chapter explains how to create Actors, Props and Sound Effects which you can then add to your animation. Actors can have one cel or many, while Props have only one cel. Sounds can be recorded using one of several devices, then manipulated within the program to create the effect you want.

Creating a Single-Cel Actor

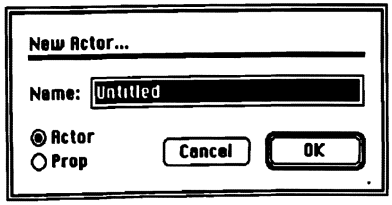
Animation is the calculated spacing of drawings that brings gestures to life. Most Actors should have at least three cels to give a proper flow of movement, but there are instances when an Actor requires only one cel.

Since Actors and Props are treated as different layers, a Prop cannot appear in front of an Actor. In the event that an Actor must move behind a Prop (eg. a tree), this can be achieved by creating and employing an identical single-cel Actor and placing it at the fore-front.

To create an Actor:

1. **Choose New Actor/Prop from the Objects menu.**

   The New Actor dialog appears.

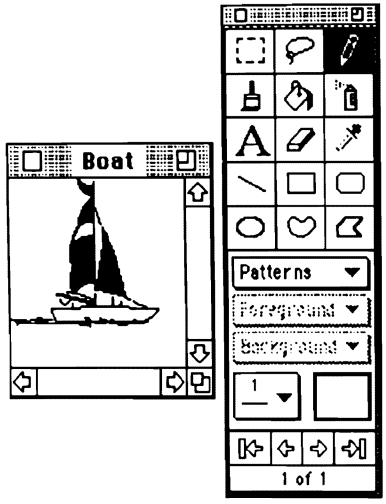


NOTE: The dialog defaults to New Actor.

2. **Enter a name for the new Actor.**
3. **Click OK.**

   The blank Actor window appears.

4. **Use the tools in the Paint palette to draw the Actor.**



NOTE: Actors such as this sailboat only need one cel to calmly sail across a lake.

5. **Click the window's close box when you have completed the image.**

   You are asked if you want to save changes.

6. **Click Save.**

Creating a Multiple-Cel Actor

Multiple-cel Actors are often referred to as cycles because they consist of a repeating series of drawn cels. When creating a multiple-cel Actor, it's useful to bear in mind the principles of animation outlined in Chapter 2 of this manual.

To illustrate the procedure of creating a multiple-cel Actor, the following example will guide you through the steps of producing a duck flapping its wings. Before starting to draw, plan the Actor by asking yourself questions about it: How many cels will the duck have? Will it be color? Will it be realistic or in a cartoon style? How large will it be? Will it fly straight across or up and down? What action or rhythm should the duck's wings have? How will its cels cycle through the flapping of the duck's wings?

In this example, the Actor will be a mallard duck with four cels showing different wing positions.

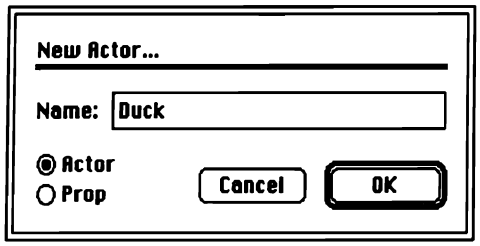
Creating an Actor's First Cel

To create the first cel of the Actor:

1. **Choose New Actor/Prop from the Objects menu.**

   The New Actor dialog appears.

2. **Enter Duck for the name of the new Actor.**

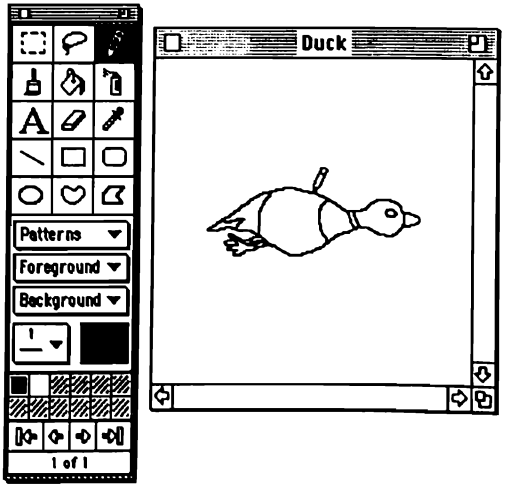


3. **Choose OK.**

   The blank Actor window appears.

   With proper planning you can minimize the amount of steps that it might otherwise take to create the four different cels of the duck. By drawing the body first (mid-section of the duck), you can create the parts that will remain the same in all four cels of the duck.

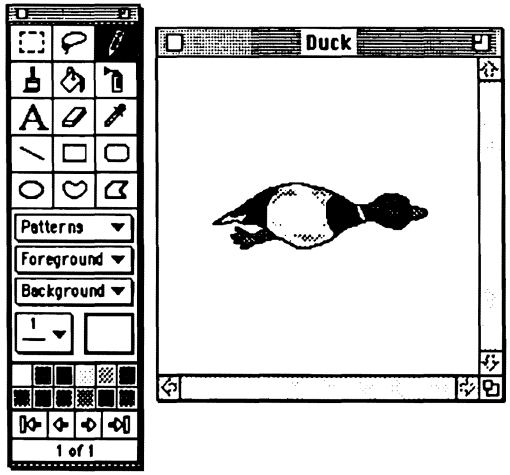
4. **Use the Pencil tool in the Paint palette to draw the body of the duck in the first cel.**



Try to draw the shape as shown in the cel window. It doesn't have to be perfect. You might want to draw the mid-section first, then the head and the tail.

Take as much time as you want with the first drawing. The idea is to rough in the body, then add the detail. Before we insert the other three cels, draw and color the parts of the duck that will remain similar in all four cels. Now is the time to add things such as color and shadow details to give it depth. This will help to reduce the flickering and odd movement of pixels in the cel drawings.

5. **Use the Paint Bucket tool in the Paint palette to drop different colors into the mid-section, head, neck, feet and tail feathers.**



Head: Make the head dark green and add light green to the top to give it some shape.

Neck: Leave a small white space between the head and the neck. Then paint the neck red, with some slight variation in red to give it more shape.

Mid-section: Add some gray lines at the top and the bottom of the body to give it some shape.

Tail Feathers: Add dark and light green, and leave white in the back part of the tail feather.

Beak and Feet: Add dark and light orange for the feet and beak.

Duplicating Cel Contents

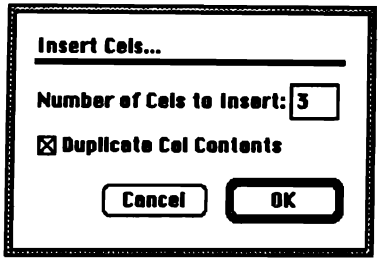
The duplicate feature in the Insert Cels dialog allows you to duplicate the contents of the first cel into the new cels that you insert. You can use this feature to duplicate parts of Actors without having to draw them again or use copy and paste.

1. **Choose Insert Cels from the Edit menu or double-click the Cel Counter.**

   The Insert Cels dialog appears.

2. **Enter 3 for the number of cels to insert.**

3. **Check the Duplicate Cel Contents box.**



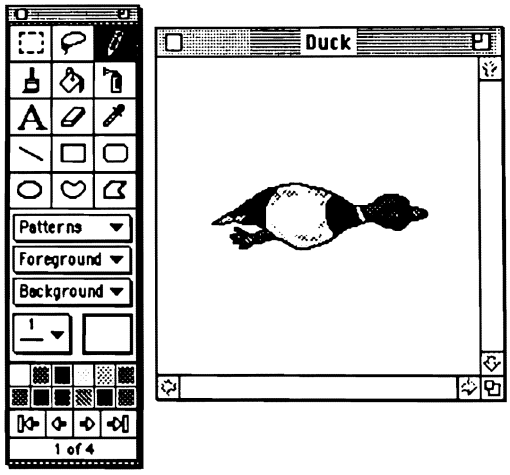
4. **Click OK.**

   The Cel Counter changes to reflect the new cel count. It should reference 2 of 4, informing you that the current cel is the second of four. If you click the cel forward arrow, the counter and cels change, but since the contents are identical no visible changes to the Actor appear in the Actor window.

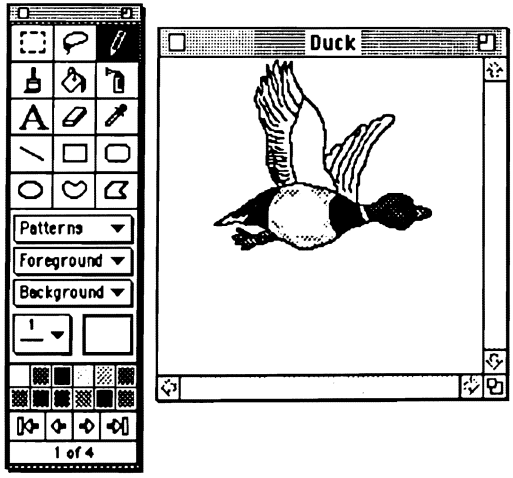
Using Onion-Skinning to Add Motion

It is time to add motion to the duck by drawing its wings in different flight positions. To move through the air, a bird glides or flaps its wings up and down. So start with the wings in the up position, work down, then back up to repeat the cycle. This should take four steps. Draw all the cels using the Pencil tool first, then add color.

1. **Click the cel forward arrow to show cel 1 of 4.**



2. **Use the Pencil tool from the Paint palette to draw the wings in the upstroke position.**



3. **Advance to cel 2 of 4 by clicking on the cel forward arrow.**

   Animators use acetate cels to view the previous or next cel to trace a new cel over it. ADDmotion II's "Onion-skin" feature lets you do the same.

   NOTE: The Onion Skin item is only available in the Options menu when the Actor you are working on has more than one cel.

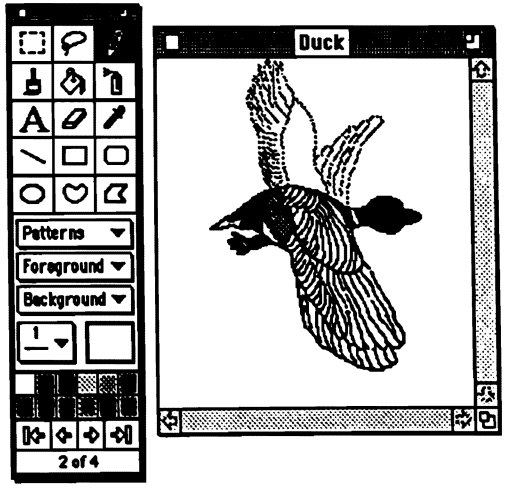
4. **Choose Onion Skin from the Options menu and then from the hierarchical menu, choose Previous Cel.**

There are three choices: Previous Cel, Next Cel or None.

The image from the first cel appears behind the current cel at 30% of its actual saturation. This is useful for drawing the new image in the current cel, because the onion-skinned cel acts as a reference point.

To move through the air, a duck glides or flaps its wings up and down. As the wings move down, the feathers close and push the air downwards and backwards to lift the duck up.

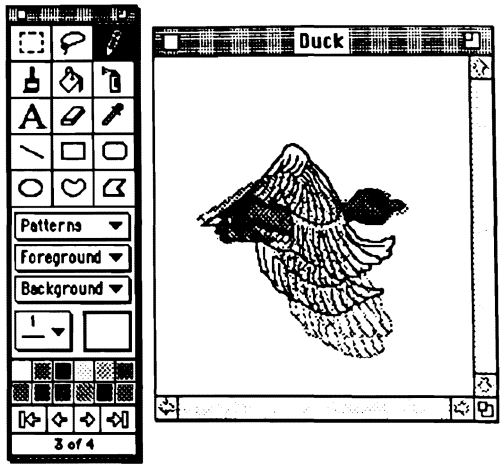
5. **Use the Pencil tool from the Paint tool palette to draw the wings in the downstroke position.**



6. **Advance to cel 3 of 4 by clicking on the cel forward arrow.**

   As the wings of the duck move back up, the feathers separate to allow the air to pass through.

7. **Use the Pencil tool to draw the wings showing the feathers in the separating position.**

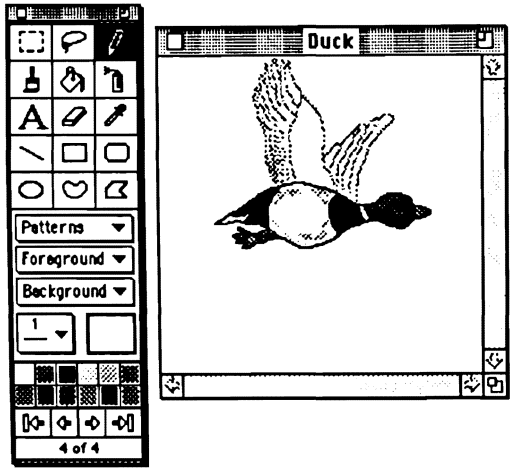


8. **Advance to cel 4 of 4 by clicking on the cel forward arrow.**

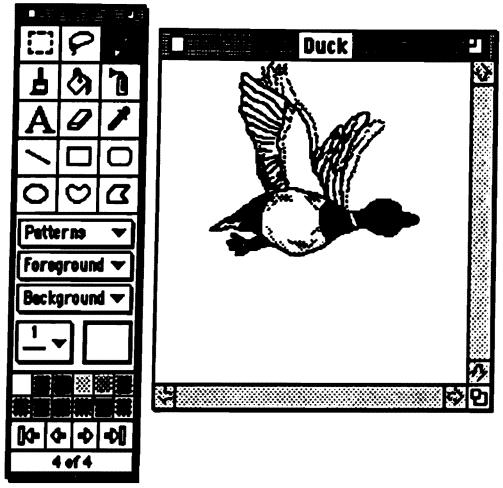
   In the last cel, the wings of the duck should be in a position between that of the third cel and the first cel. This will allow for smooth rhythm and timing. A duck's wings move up faster than they move down, so the wings in the last cel should be very close to their position in the first cel.

9. **Choose Onion Skin from the Options menu and then from the hierarchical menu, choose Next Cel.**

   The image from the first cel appears behind the current cel at 30% of its actual saturation. This makes it easy to trace the new wing positions for the last cel.



10. **Use the Pencil tool to draw the wings showing them a little further back and down slightly.**

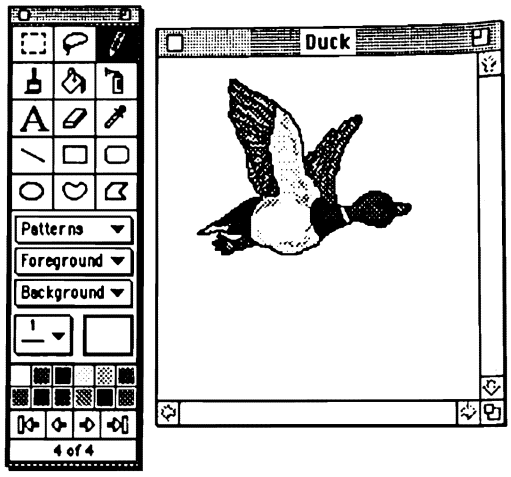


Before coloring the cels, test the rhythm of the duck's movement and make refinements if the rhythm is off. It is a good idea to make these changes to your pencil drawings, rather than spend a lot of time adding detail only to find out that you need to change the basic drawings. Now you are ready to add color to the wings.

11. **Choose Onion Skin from the Options menu and then from the hierarchical menu, choose None.**

12. **Use the Pencil tool, Paint Bucket or Paint Brush from the Paint tool palette to color the wings in all four cels.**

    Use a light brown on the feathers and add some grey lines on the underside to add shape. Cycle through the cels again to view the color and rhythm.



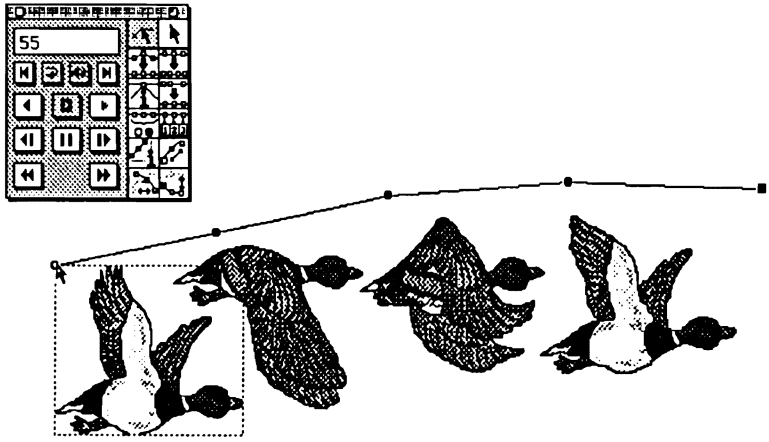
If the rhythm and color seem right, save the Actor.

13. **Click the close box in the Actor window.**

    The Save dialog appears.

14. **Click Save.**

When given a path, the four-cel Actor appears to fly across the screen.



Using Tween Cel to Add Motion

Once you have created the first cel of an Actor, you can use the Tween Cel feature to rotate, scale, fade or flip that image over a specified number of cels. For details, see *Tween Cel* in Chapter 4.

Creating a Prop

While Actors can have one or many cels, Props always have only one cel. Props form the background in front of which Actors move. They help to create the setting of your animation.

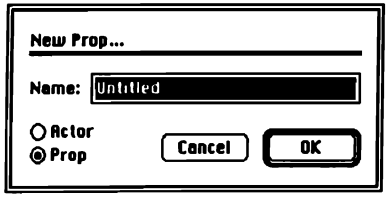
To create a Prop:

1. **Choose New Actor/Prop from the Objects menu.**

   The New Actor dialog appears.

2. **Click the Prop button.**

   The dialog's title changes to New Prop.



3. **Enter a name for the new Prop.**
4. **Click OK.**
5. **Use the tools in the Paint palette to draw the Prop.**
6. **Click the window's close box when you have completed the image.**

   You are asked if you want to save changes.

7. **Click Save.**

Recording a Sound

ADDmotion II lets you record sounds using an Articulate Systems™ sound digitizer, MacRecorder or built-in sound input device.

To create a new sound effect:

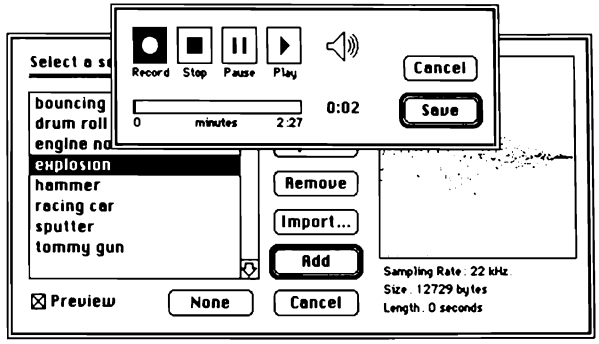
1. **Choose Add Sound from the Objects menu or click the Add Sound icon in the Media Controller.**

   The Select a Sound dialog appears.

   NOTE: If the New button is dimmed, your Macintosh might not have a recording device such as Articulate Systems or a built in microphone available on some Macintosh models. You might also want to check to see that the MacRecorder Extension is in the System Folder.

2. **Click New.**

   The New Sound dialog appears, allowing you to record a new sound.



3. **Click Record to start recording a new sound.**
4. **Click Stop to stop recording the sound, or Pause to pause recording.**
5. **Click Play to hear your new sound.**

For information on editing sounds, see Chapter 8.

Chapter 7: Creating an Animation

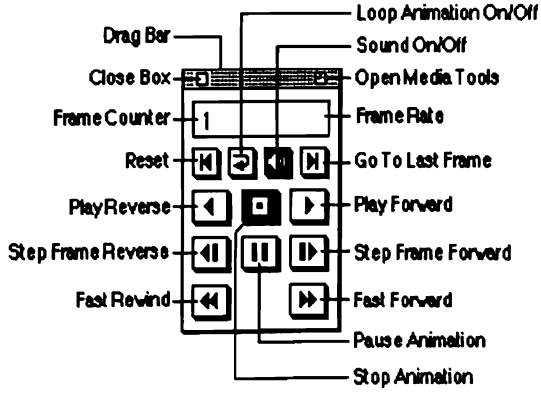
This chapter explains how to create an animation using Actors and Props which you import or produce with ADDmotion II's Paint. The Media Controller contains the tools you need to manipulate the various parts of your animation to get the results you want.

The Media Controller

The Media Controller has controls similar to a VCR. Use the Media Controller in Play Only mode to play, stop, pause or rewind your animations. The Media Controller defaults to the Build mode (with Media tools available) when you create a new animation. You will spend most of your time using the Media Controller in Build mode to create, edit and play your animations.

Media Controller in Play Only Mode

If the Media Controller is in Build mode, you can click the zoom box to set it to Play Only mode.



Close Box

Click the close box to hide the Media Controller.

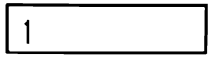
Drag Bar

Use the Drag Bar to move the Media Controller around the screen, by clicking on the bar, dragging the Controller to the desired loca-

tion, then releasing the mouse button. When you open ADDmotion II, the Media Controller appears where it did when you last quit the program.

Open Media Tools

Click this button to hide or display the Media tools.



Frame Counter

The Frame Counter displays the current frame number. When an animation is playing, the Frame Counter increments one frame at a time until the end of the animation. If you press Stop or Pause, the frame counter stops. If Loop Animation is On, the animation starts again at the beginning after it reaches the end. Double-click the Frame Counter to display the Move to Frame dialog, allowing you to go to any frame of the animation.

Reset

Click this button to go to frame 1 of the animation. Press the Option key and click this button to go to frame 0.

Loop Animation On/Off

If Loop animation is On, the animation plays over and over again in a continuous loop until you stop it. If it is Off, the animation plays once and stops on the last frame of the animation.

Sound On/Off

Toggle this button to turn the Macintosh sound speaker On or Off.

Go To Last Frame

Click this button to go to the last frame of the animation.

Play Reverse

Click this button to play the animation in reverse.

Stop Animation

Click this button to stop the animation.

Play Forward

Click this button to play the animation.

Step Frame Reverse

Click this button to step the animation one frame in reverse.

Pause

Click this button to pause the animation on a particular frame. Click it again to resume the animation.

Step Frame Forward

Click this button to step the animation one frame forward.

Fast Rewind (Skip)

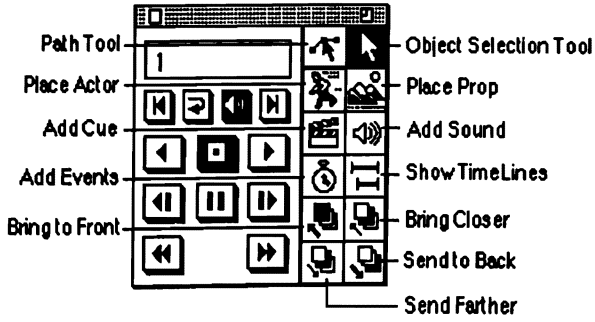
Click this button to play the animation in reverse by the number of Skip frames. The number of Skip frames is set in the Animation Options dialog. You can click the Fast Rewind button while an animation is playing to slow it down.

Fast Forward (Skip)

Click this button to play the animation by the number of Skip frames. The number of Skip frames is set in the Animation Options dialog. You can click the Fast Forward button while an animation is playing to speed it up.

Media Controller in Build Mode

If the Media Controller is in Play Only mode, click the Open Media box at the top right corner to set it to Build mode.



The Media options available to you depend on whether you have selected the Path tool or Object Selection tool. First click on the Object Selection tool.

Object Selection Tool

The Object Selection tool (also known as the Pointer tool) allows you to move and manipulate placed Actors and Props. You can further manipulate them using various dialogs.

To get the Actor Information dialog to appear, double-click a placed Actor or choose Get Info from the Media menu with an Actor selected. Use this dialog to change an Actor's information. You can display and change a Prop's information in a similar way.

(Refer to *Actor/Prop Information Dialogs* in Chapter 9 for details.)

Place Actor

Click the Place Actor icon to place a new Actor starting on the current frame in the animation. When you click this icon the Select an Actor dialog appears allowing you to select an Actor from the library.

(Refer to *Select an Actor Dialog* in Chapter 9 for details.)

Place Prop

Click the Place Prop icon to place a new Prop starting on the current frame in the animation. When you click this icon the Select a Prop dialog appears allowing you to select a Prop from the library.

(Refer to *Select a Prop Dialog* in Chapter 9 for details.)

Add Cue

Click the Add Cue icon to add a new Cue to the animation. The Cue Information dialog appears, allowing you to enter a Cue name, conditions and commands. Cues give you control over events such as the playing of CD and videodisc players, visual effects and movements between different animations, and pauses in your animation.

(Refer to *Cues* in Chapter 9 for details).

Add Sound

Click the Add Sound icon to add a sound to the animation. The Select a Sound dialog appears, allowing you to select or record a sound.

(For more information on sound, see chapters 6 and 8.)

Add Events

Click the Add Events icon to add load and stamp events to the animation. The Event Information dialog appears.

A load event loads any Actors, Props and Sounds that are currently unloaded and used between one load event and another. There is an implicit load event on the first frame of the animation. This means that a complex animation with many objects to be loaded will take some time to open unless load events are added.

A stamp event allows your animation to run faster by turning the image on the current frame into a Prop. This allows you to freeze the action of one frame and animate Actors over this background. Any Prop transitions interrupt a stamp event.

A continuous stamp event does a stamp event on each frame of the animation that it is active.

(Refer to *Load and Stamp Events* in Chapter 10 for details.)

Show TimeLines

Click the Show TimeLines icon to display the TimeLines window.

(Refer to the TimeLines section later in this chapter for details.)

Bring To Front

Select an Actor or Prop, then click this icon to move the object to the front of the appropriate layer. There is no keyboard equivalent for this tool.

NOTE: Actors reside in their own layer and are always placed in front of Props.

Bring Closer

Select an Actor or Prop, then click this icon, or Command-Plus (+), to move the object one position forward in the appropriate layer. You would want to move an object forward when a second object is covering it, not allowing you to select the object. You can also use this command to move an object to a desired position in the layer. Keep using the command until the object is in the layer that you want. If the object is in the top of the layer the command has no effect.

NOTE: Actors reside in their own layer and are always placed in front of Props.

Send Farther

Select an Actor or Prop, then click this icon, or Command-Minus(-), to move the object back one position in the appropriate layer. The Send Farther command moves the selected object one layer further back in its layer, relative to the other objects in the layer. You would want to move an object further back when it's covering a second object, not allowing you to select the object. You can also use this command to move an object to a desired position in the layer. Keep using the command until the object is in the layer that you want. If the object is in the furthest position in the layer the command has no effect.

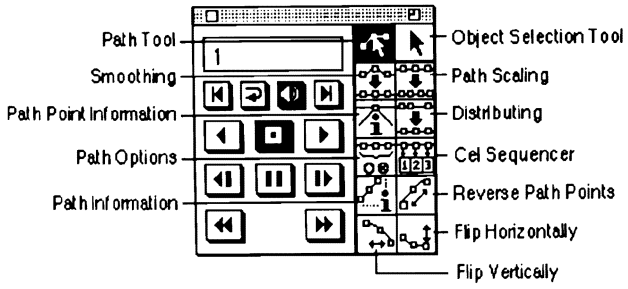
NOTE: Actors reside in their own layer and are always placed in front of Props.

Send to Back

Select an Actor or Prop object, then click this icon to move the object to the back of the appropriate layer. There is no keyboard equivalent for this tool.

Media Controller in Path Mode

With the Media Controller still in Build mode, click the Path tool icon. Ten different Media tool icons appear. These icons are dimmed until you select an Actor with the Path tool.



Path Tool

Use the Path tool to add, create, or change points on an Actor's path.

To create a path for an Actor:

1. **Click the Path tool icon.**
2. **Select an Actor.**

   The Actor's default single-point path appears.

3. **Click new points for the path of action or drag the mouse with the Command key held down to rapidly add points to the Actor's path.**

NOTE: Path points are added after the currently selected path point.

NOTE: If an Actor is locked (see Actor Information Dialog *in Chapter 9), you must first select it with the Object Selection tool, then click the Path tool icon before using any of the following path editing tools.*

Smoothing

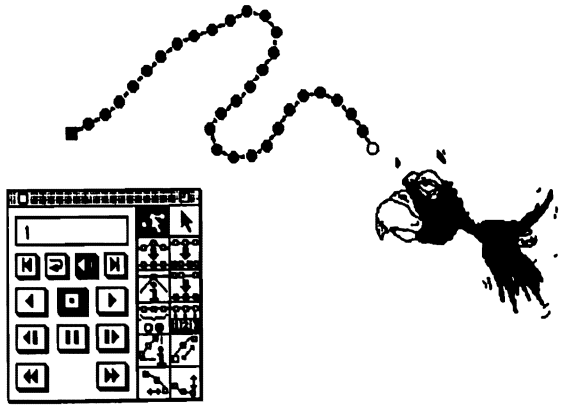
To smooth the points on a path:

1. **Click on an Actor with the Path tool.**

   The Actor's path appears.

2. **Click the Smoothing icon.**

   Each time you click the icon the path becomes smoother.



Path Scaling

To scale a path:

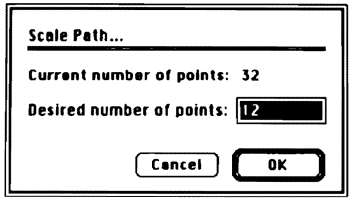
1. **Click on an Actor with the Path tool.**

   The Actor's path appears.

   NOTE: The path must have at least two points for Path Scaling to work.

2. **Click the Path Scaling icon.**

   The Scale Path dialog appears, allowing you to set a desired number of path points to scale the path to. The default value is set to the number of frames that the Actor is employed in the animation.



3. **Enter a number in the Desired Number of Points field.**
4. Click OK.

Path Point Information

To get information on a selected path point:

1. **Click on an Actor with the Path tool.**

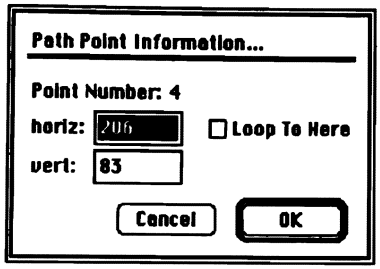
   The Actor's path appears.

2. **Click the Path Point icon or double-click the point.**

   The Path Point Information dialog appears, giving you the point's screen coordinates and allowing you to change its location.

3. **Enter new horizontal or vertical screen positions if you want to move the point to a specific screen location.**
4. **Check the Loop to Here box, if you want the point to be the loop point on a path.**

   Creating a loop point causes the Actor to animate continuously around the path, jumping from the end point back to the loop point.



5. Click OK.

Distributing

To equalize the distance between all points on a path:

1. **Click on an Actor with the Path tool.**

   The Actor's path appears.

2. **Click the Distributing icon.**

   When you click the icon the points on the path become equally distributed.

NOTE: Smoothing, Scaling and Distributing also work on a range of selected path points.

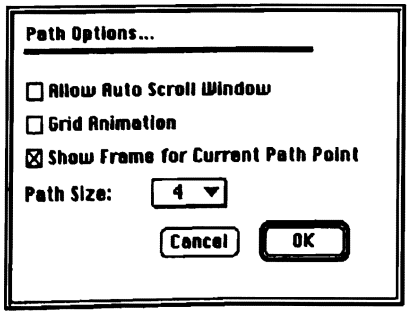
Path Options

To change the Path Options:

1. **Click on an Actor with the Path tool.**

2. **Click the Path Options icon.**

   The Path Options dialog appears.



3. **Check Allow Auto Scroll Window if you want the contents of the window to scroll when you drag path points near the edge of it.**

   This allows you to make Actors animate on and off the screen.

4. **Check Grid Animation to see each path point snap to an invisible grid.**

   To set the size of the grid and to turn it on, choose Animation Options from the Media menu.

5. **Check Show Frame for Current Path Point to display the animation frame for the path point that is currently selected.**

   This allows you to see exactly where your Actor is on that frame.

6. **Select a size from the Path Size pop-up menu.**

   On a large monitor, a wider path is easier to "grab."

7. Click OK.

Cel Sequencer

Click on an Actor with the Path tool, then click the Cel Sequencer icon to set which cel of an Actor is shown on each frame, as well as adjust its size and opacity.

(Refer to *Cel Sequencer* later in this chapter for details).

Path Information

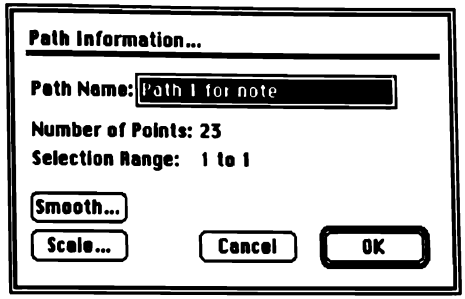
To get information on a path:

1. **Click on an Actor with the Path tool.**

   The Actor's path appears.

2. **Click the Path Information icon or double-click the Actor.**

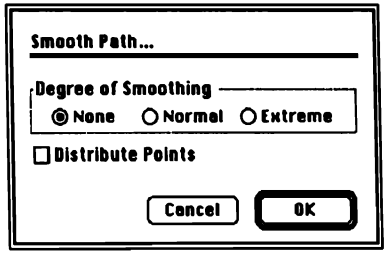
   The Path Information dialog appears.



3. **To change the path's name, type a new name into the box.**

4. **Choose Smooth to bring up the Smooth Path dialog.**

   There are three degrees of smoothing: None, Slight, and Normal. Check Distribute Points to space points evenly along the path. Click OK.



5. **Choose Scale to bring up the Path Scaling dialog. (See Path Scaling earlier in this chapter for details).**

6. **Click OK.**

Reverse Path Points

To reverse the direction of points on a path:

1. **Click on an Actor with the Path tool.**

   The Actor's path appears.

2. **Click the Reverse Path Points icon.**

   All points on the path are reversed, with the first point becoming the last. The Actor will now move in the opposite direction on the path.

To reverse a range of path points:

1. **Click on an Actor with the Path tool.**
2. **Select a range of points in the path.**
3. **Click the Reverse Path Points icon.**

   The range of points is reversed.

Flip Vertically

To flip a path vertically:

1. **Click on an Actor with the Path tool.**

2. **Click the Flip Vertically icon.**

   The path is flipped top to bottom.

To flip a range of path points vertically:

1. **Click on an Actor with the Path tool.**
2. **Select a range of points in the path.**
3. **Click the Flip Vertically icon.**

   The range of points is flipped top to bottom.

Flip Horizontally

To flip a path horizontally:

1. **Click on an Actor with the Path tool.**

2. **Click the Flip Horizontally icon.**

   The path is flipped right to left.

To flip a range of path points horizontally:

1. **Click on an Actor with the Path tool.**
2. **Select a range of points in the path.**
3. **Click the Flip Horizontally icon.**

   The range of points is flipped right to left.

Cel Sequencer

The Cel Sequencer gives you full control of the appearance of your Actors during an animation. With the Cel Sequencer, you can select which cel of an Actor will appear on any given frame, as well as its size and opacity.

In its default mode, the cels of an Actor cycle over a series of path points with each frame or point representing one cel. For example, an Actor with four cels automatically has its first cel assigned to the fifth path point and so on.

Frame:	1	2	3	4	5	6	7	8
Cel to Show:	1	2	3	4	1	2	3	4

This sequence gives a steady rhythm and repetition to the Actor's movements. When an animation calls for irregular rhythms, you can achieve this by repeating a cel over several path points, reversing the cel cycle, skipping cels in the cycle, and so on. For example, when animating an Actor with four cels you might have the Actor remain motionless over a few path points, then move in reverse.

Frame:	1	2	3	4	5	6	7	8
Cel to Show:	1	1	1	4	3	2	1	4

The Sequencer has three modes:

- Cel Size (to set the scale of the cel on a frame from 0-100%)
- Cel to Show (to set a specific cel to show on a frame)
- Cel Opacity (to set the opacity of a cel on a frame from 0-100%)

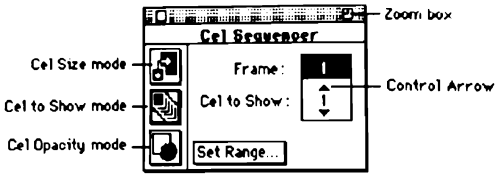
The Cel Sequence Editor dialog is displayed when you choose Set Range from within the Cel Sequencer, providing shortcuts in setting size, sequence and opacity over defined ranges of cels.

Follow these steps to open the Cel Sequencer:

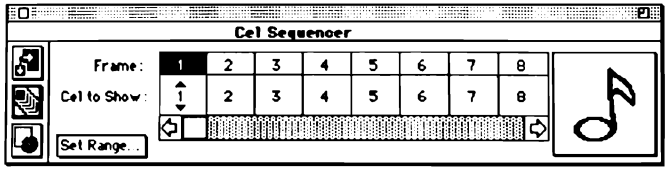
1. **Click on an Actor with the Path tool.**

2. **Click the Cel Sequencer icon.**

   The Cel Sequencer window appears.



3. **Click the window's zoom box to extend the Cel Sequencer to display more frames of the animation.**



The zoomed window allows you to quickly sequence and modify cels over eight frames at a time. To display more frames of the animation, use the scrollbar. The preview box shows you the selected cel.

Setting Cel Size

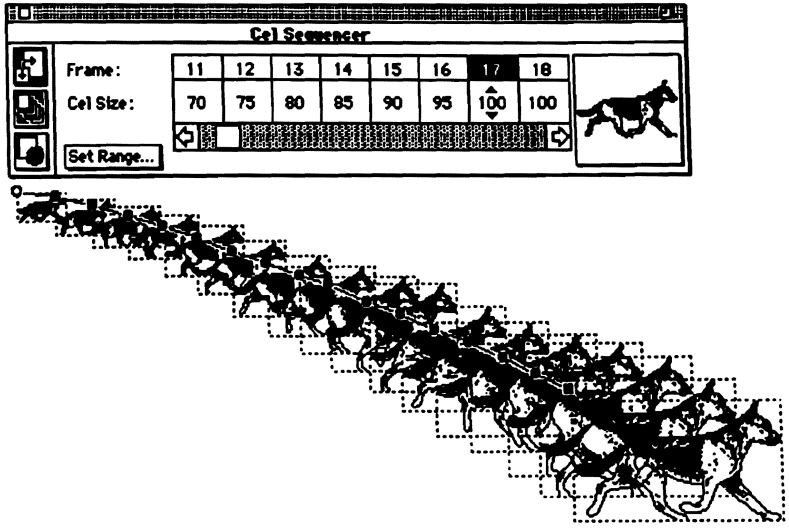
1. **Click the Cel Size mode button to set the size of individual cels.**
2. **Click on a frame number.**
3. **Use the control arrows to adjust its size.**

   Full size is 100% and 1% is the smallest visible size. The size scale goes up and down in increments of 1% (unless you hold down the Shift key to move in increments of 5%).

4. **Use the scroll bar to move to more frames, then repeat steps 2 and 3.**

With the Cel Sequencer you can set the cel size to give the effect of an Actor moving toward or away from the viewer. This is otherwise known as creating a perspective view.

In this example the dog appears to move from the background to the foreground because its cel size enlarges frame by frame.

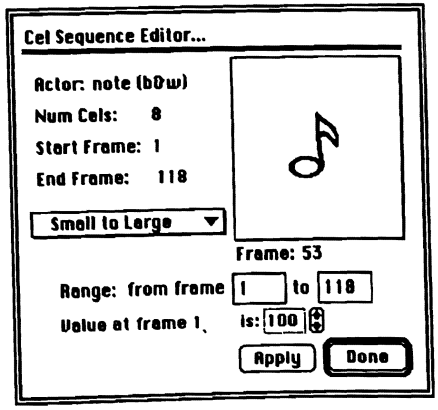


Cel Size Ranges

For a shortcut in setting cel size over a defined range of cels:

1. **Click the Set Range button while the Cel Sequencer is in Cel Size mode, or double-click the Cel Size mode button.**

   The Cel Sequence Editor dialog appears.



2. **Choose one of the size options in the pop-up menu.**

   The Cel Sequence Editor can display the range of cels at Full Size, Small to Large, Large to Small, Medium to Large, Large to Medium, Constant or Random. You can choose a different option for each series of cels whose numbers you enter in the Range boxes.

3. **Define a range of cels.**

4. **If you set the size option at Constant, you can adjust the size of the range of cels by setting the percentage size of its first frame in the Value box.**

5. **Click Apply.**

6. **If you want to apply additional size sequences, repeat steps 2 to 5.**

7. **Click Done when you have made all your choices.**

NOTE: You must click the Apply button each time you set a size option and a selection range. This allows you to sequence several ranges at one time.

Setting Cel to Show

1. **Click the Cel to Show button to assign cels to frames.**

   When an Actor is selected, you can change the cel sequence on any frame the Actor appears on.

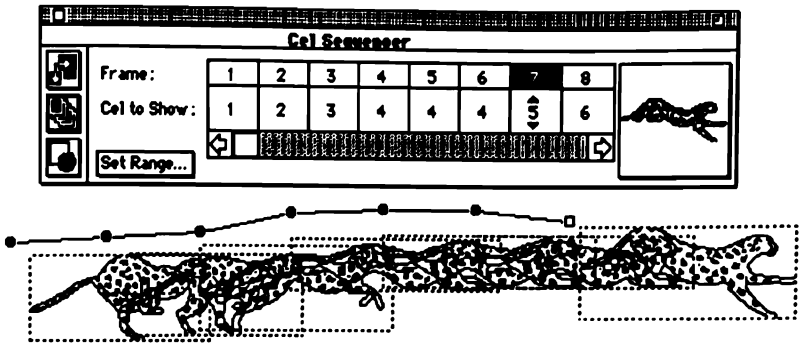
2. **Click on a frame number.**

3. **Use the cel control arrows to select the desired cel to show.**

   The cel preview allows you to see the current cel. You also see the cel displayed on the specific path point in the animation window.

4. **Use the scroll bar to move to more frames, then repeat steps 2 and 3.**

You can modify an Actor's movements by changing the sequence of cels to show. Reverse the cel cycle to make the Actor move backwards. Show the same cel over two or more frames to make the Actor appear motionless. In this example, the cheetah's leap is lengthened by repeating cel 4 over frames 4, 5 and 6.



Cel to Show Ranges

For a shortcut in setting the cel sequence over a selected range of cels:

1. **Click the Set Range button while the Cel Sequencer is in Cel to Show mode, or double-click the Cel to Show button.**

   The Cel Sequence Editor dialog appears.

2. **Choose one of the cel sequence options from the pop-up box.**

   The Cel Sequence Editor can display the range of cels in Cycle Forward, Cycle Reverse, Ping Pong, Still, Slow Forward, Slow Reverse, Slow Ping Pong or Random. You can choose a different option for each series of cels whose numbers you enter in the Selection Range boxes.

3. **Select a range of cels.**

4. **Select the cel you want the cel sequence to start on in this range, or accept the default cel in the Value at frame box.**

5. **Click Apply.**

6. **If you want to apply additional cel sequences, repeat steps 2 to 5.**

7. **Click Done when you have made all your choices.**

NOTE: You must click the Apply button each time you set an action and a selection range. This allows you to sequence several ranges at one time.

Setting Opacity

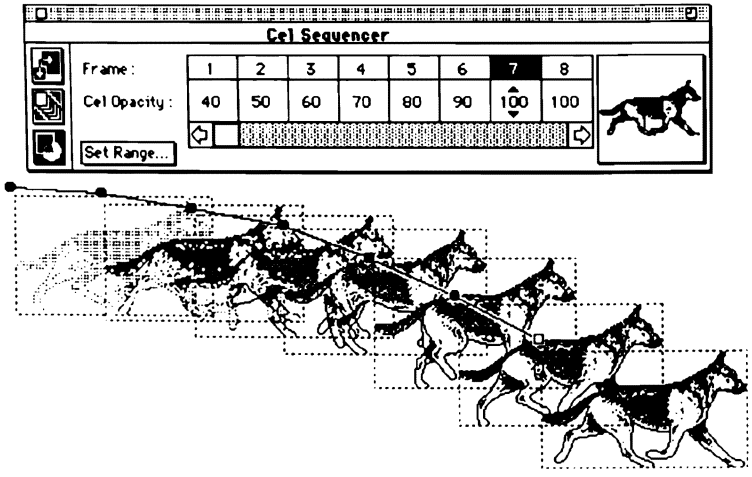
1. **Click the bottom mode button in the Cel Sequencer to set the opacity of individual cels.**
2. **Click on a frame number.**
3. **Use the control arrows to adjust its opacity.**

   Fully opaque is 100% and fully transparent is 0%. The opacity scale goes up and down in increments of 1% (unless you hold down the Shift key to move in increments of 5%).
4. **Use the scroll bar to move to more frames, then repeat steps 2 and 3.**

NOTE: Set the Actor's drawing mode in the Actor Information dialog to Sequence Opacity in order to see any changes made here.

NOTE: You must be working in color mode for the adjustments in opacity to show in your animation.

You can use the Cel Sequencer to set cel opacity to make an Actor appear to fade in or out over a range of frames. In this example, you can see the percentage settings on each frame.



Opacity Ranges

Follow these steps for a shortcut in setting cel opacity over a selected range of cels.

1. **Click the Set Range button while the Cel Sequencer is in Cel Opacity mode, or double-click the Cel Opacity mode button.**

   The Cel Sequence Options dialog appears.

2. **Choose one of the opacity options from the pop-up box.**

   The Cel Sequence Editor can display the range of cels at Fully Opaque, Fade In, Fade Out, Constant and Random. You can choose a different option for each series of cels whose numbers you enter in the Selection Range boxes.

3. **Select a range of cels.**

4. **If you set the option at Constant, you can adjust the opacity value for the range of cels down towards transparent, or leave the value at 100 (fully opaque) in the Value at frame box.**

5. **Click Apply.**

6. **If you want to apply additional opacity sequences, repeat steps 2 to 5.**

7. **Click Done when you have made all your choices.**

NOTE: You must click the Apply button each time you set an action and a selection range. This allows you to sequence several ranges at one time.

Creating a New Path

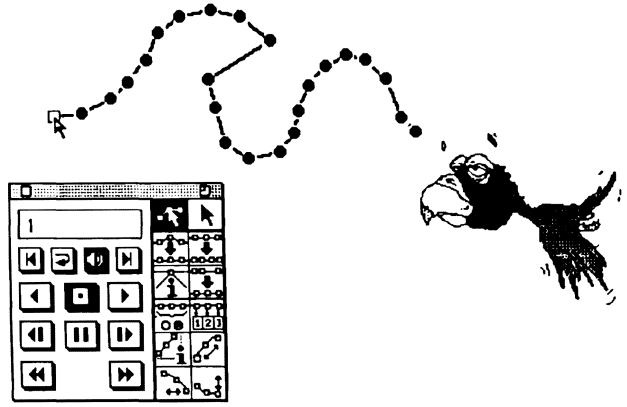
Creating a Path for an Actor is as easy as clicking points on the screen. When an Actor is placed in an animation, it is placed at a specific location on the screen and is given a one-point path. To add more points to its path, select the Path tool in the Media Controller, select the Actor, then click a number of new points. When the animation is played back, the Actor animates or moves along the points on the path.

The Actor's speed is dependant upon the distance between the path points. The closer together the points, the slower the Actor moves; the further apart the points, the faster the Actor moves.

This example shows a 24-point path. The last point (inverted rectan-

gle) automatically defaults to being the loop point. The Actor animates from the first point, along the path to the last point. When it reaches the last point, the Actor loops, until it reaches the Actor end frame. If the end frame is the same frame that the last point is on, the Actor disappears, and does not loop.

If there is no loop point and there are fewer points in the path than the number of frames the Actor is employed for, then the Actor will disappear after the last point.



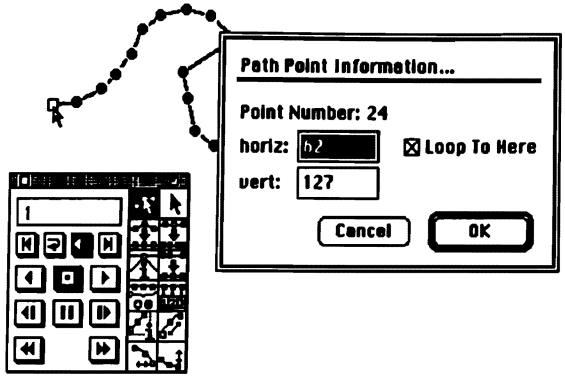
Using the Command Key to Add Points

There is a quicker way to create a path than clicking individual points. Hold down the Command key and drag the mouse around the screen, adding points as you move it around. To stop adding points, release the mouse button.

Setting a Path Loop Point

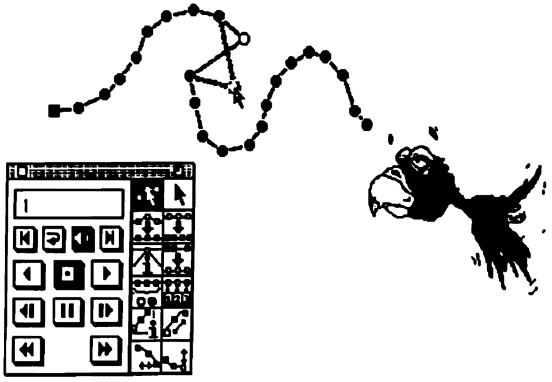
Loop points are useful when you want an Actor to animate on the spot or to repeat a sequence over and over. Any point on the path can be designated as the loop point. If you designate a point in the middle of the path, the Actor animates along the path from the start point to the end point, then starts at the loop point and animates until it reaches the end point, when it will go back to the loop point.

To set a Loop point, double-click a point and check Loop To Here, then click OK. The path segment between the end point and the loop point will be drawn in gray.

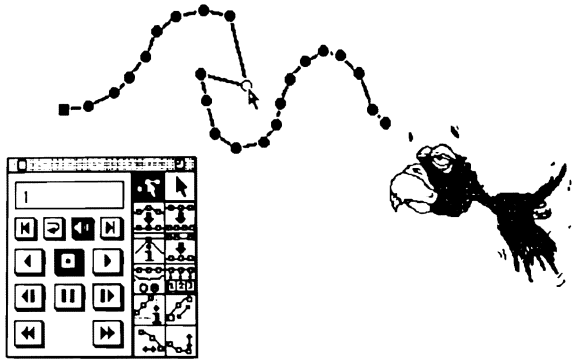


Moving Points on a Path

To move a point, select it and drag it to a new location on the screen. The point and the interconnecting lines become grayed as you drag. You can see the point's original location until you release the mouse button.

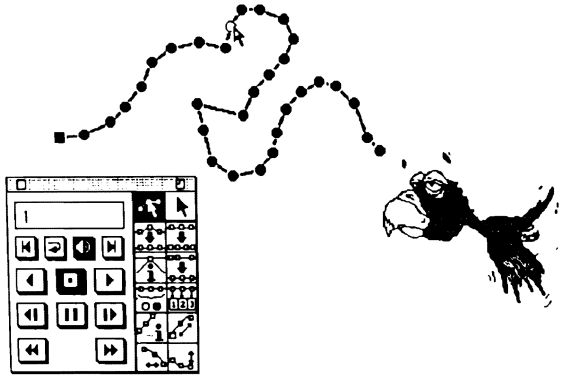


The path is updated to reflect the new location of the point.



Adding Points to a Path

New points can be added anywhere on the path. To add a new point, select a point and click a new point after it. Points are always added after the selected point. The loop point is always a rectangle, and all other points are circles.

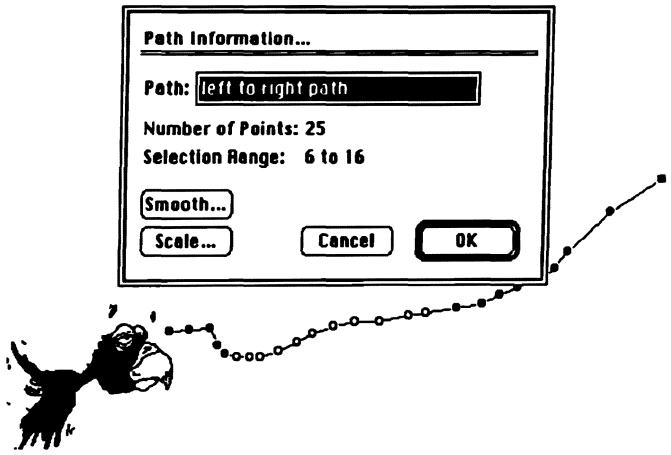


Deleting Points on a Path

To delete or remove points on a path, select a point, then press the Delete key. One point is removed every time you press the delete key and the points are removed back towards the start point.

Selecting a Range of Points on a Path

To select a range of points in a path, click on the first point that you want selected, hold the shift key down and then click on the last point that you want selected, and the inbetween points are selected as a range of points. The selected points can be moved to a new screen location, and they can be deleted, scaled, smoothed, distributed, cut, copied and pasted.



Deleting a range of path points:

To delete a selected range of points, press Delete.

Smoothing a path:

To smooth a path, select an Actor with the Path tool, then click the Smoothing icon. For greater control on how the path is smoothed, select an Actor with the Path tool, then click the Path Information icon. When the Path Information dialog appears, click the Smooth button and choose a smoothing method, then click OK.

Scaling points in a path:

To scale points in a path, select the Actor with the Path tool, then click the Scale Path icon. The Scale Path dialog appears. Enter the desired number of points to scale, then click OK.

Moving a range of path points:

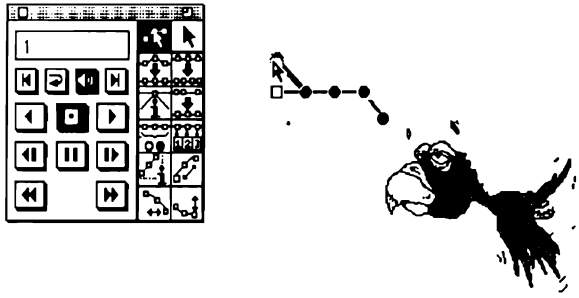
To move a selected point or a selected range of path points, click and hold down the mouse button while you drag the point or points to the desired location.

NOTE: You can move a selected point or range of points, by pressing the left arrow, right arrow, up arrow and down arrow keys on the keyboard. Hold down the Shift key to move selected points by 5 pixels at a time.

Grid Size

You can use ADDmotion II's invisible grid to help you create uniform, straight lines in a path. All points in the path snap to the grid. To set the Grid Size, choose Animation Options from the Media menu. Choose the Grid Size pop-up menu and select a new grid size.

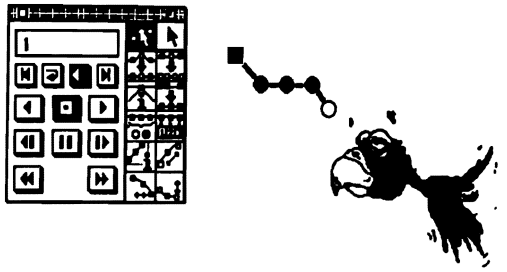
In the following example, the Grid Size is set to 20 pixels. When you add a point to the path, it snaps to the closest 20th pixel.



Path Size

The Path size can be changed in the Path Options dialog. The Path size can be 4, 6, 8, 10 or 12 pixels in size. To set the Path size, click the Path Options button in the Media Controller. Choose the Path Size pop-up menu and select a new path size.

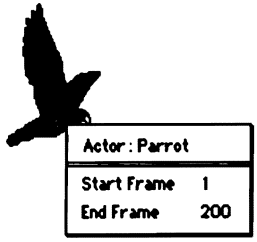
In the following example, the Path Size is set to 10 pixels. Changing the point size makes points more visible when making path point adjustments and easier to "grab" too.



Quick View of Object's Start and End Frames

You can view an object's name, start and end frames without accessing the TimeLines window or Get Info dialog. Hold down the Command and Option keys until the cursor changes to a question mark, then click on the object until a small information pop-up appears displaying the object's name, start and end frame information. The pop-up remains visible until you release the mouse button.

This example shows an Actor's name, start and end frames.



You can get the same information for Actors and Props using System 7's Balloon Help. Turn on Balloon Help by choosing Show Balloons from the Help menu, then move the cursor over an Actor or Prop.

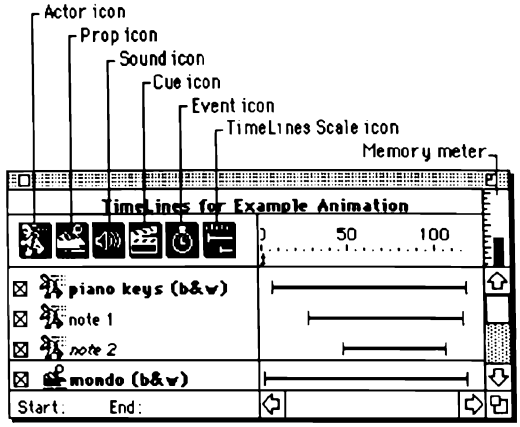
TimeLines

ADDmotion II's TimeLines feature lets you see the various elements that make up an animation and perform editing functions.

There are two methods to display the TimeLines window:

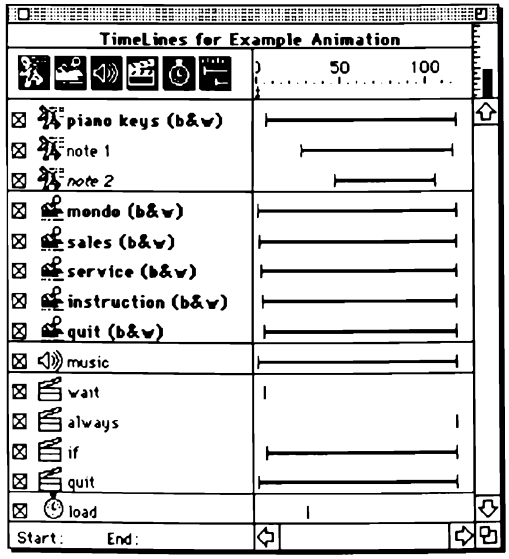
- **Select the Object Selection tool in the Media Controller, then click the TimeLines icon.**

- Choose Show TimeLines from the Media menu.



Resizing the TimeLines Window

You can resize the TimeLines window by clicking the grow box in the bottom right hand corner and dragging the window to a new size. You can also use the zoom box in the upper right hand corner to expand the window and show the animation's total frame count. When you click the zoom box, the zoomed window appears at the bottom of the screen.



Placement of Objects in the TimeLines Window

Every object in the animation appears with a descriptive icon beside it. The object has a name and a "timeline" that represents the number of frames that the object is employed in the animation. Items that appear in bold are locked. Items in italic are not in memory.

Using Object Icons to Change Lists and Frame Scale

The six icons in the top left area of the TimeLines window let you temporarily hide objects from the list and change the scale of the line representing the frames in your animation.

The first five icons represent the Actors, Props, Sounds, Cues and Events in your animation. When an icon is highlighted, all the objects in that category appear in the TimeLines window. If you click the icon to deselect it, the objects in that category are temporarily hidden from the list.

The sixth icon is useful in changing the scale of the frame line. When the TimeLines Scale icon is highlighted, the scale equals one mark for every five frames, regardless what size the TimeLines window is. If you click the icon to deselect it, the scale automatically adjusts to include all the frames of your animation within the TimeLines window.

Turning Objects Off and On

The checkbox to the left of each object's descriptive icon allows you to turn that object off and on. This makes work on complex animations easier by temporarily removing objects from the screen.

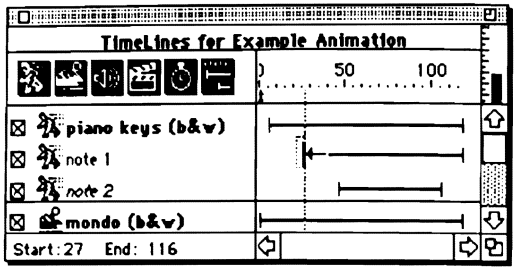
NOTE: You cannot check or uncheck these boxes if the Media Controller is in Path Edit mode.

Adjusting the Start and End Frame for an Object

To adjust an object's start frame:

1. **Move the cursor near the start frame handle on the object's timeline.**

   The cursor changes to a one-directional arrow when it is over the start frame handle.



2. **Drag the handle to a new start frame.**

   The object's start frame number at the bottom of the window changes as you drag the handle horizontally along the frame counter.

3. **Release the handle when the Start Frame number appears at the frame you want.**

   The object's timeline is updated to reflect the changes to the start frame number.

   You can adjust the End Frame for the object using the same technique as illustrated for the Start Frame.

Moving the Whole TimeLine

An object's whole timeline can be moved left and right to a new position in the TimeLines window.

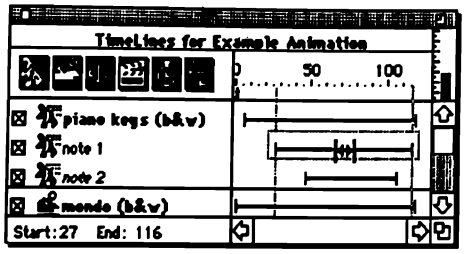
To move a whole timeline:

1. **Move the cursor near the middle of the timeline.**

   The cursor changes to a two-directional arrow.

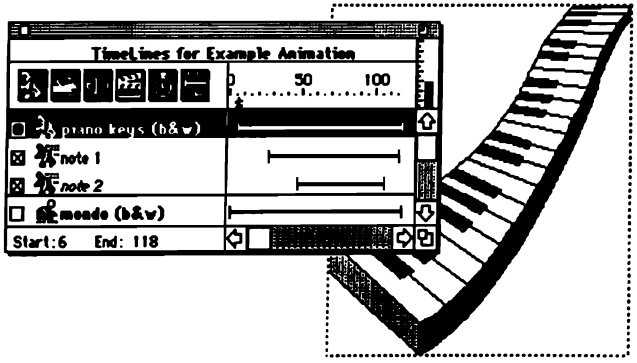
2. **Click and drag the timeline to a new position.**

   The object's start and end frame numbers at the bottom of the window change as you drag the line horizontally.



3. **Release the line when you are satisfied with its new position.**

   The object's timeline is updated to reflect the changes to the start frame and end frame numbers.



NOTE: When you select an object in the TimeLines Window, it also becomes selected on the screen. You cannot select or deselect timelines if the Media Controller is in Path Edit mode.

Checking the Animation by Moving the Play Indicator

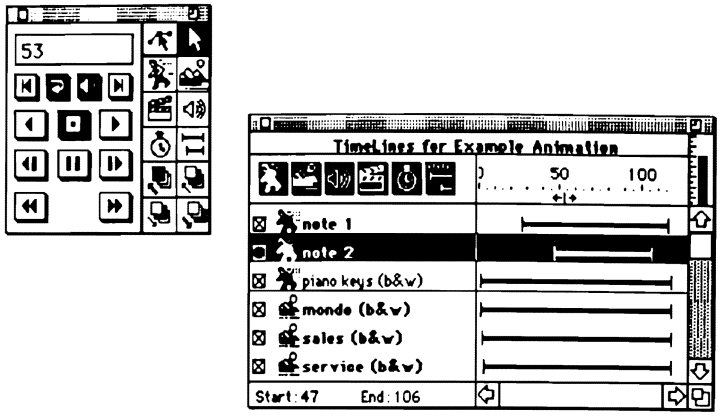
You can check your animation by either playing it using the Play button in the Media Controller or by moving the Play Indicator (the running stick man) forward or backward along the scale in the TimeLines window.

To move the Play Indicator:

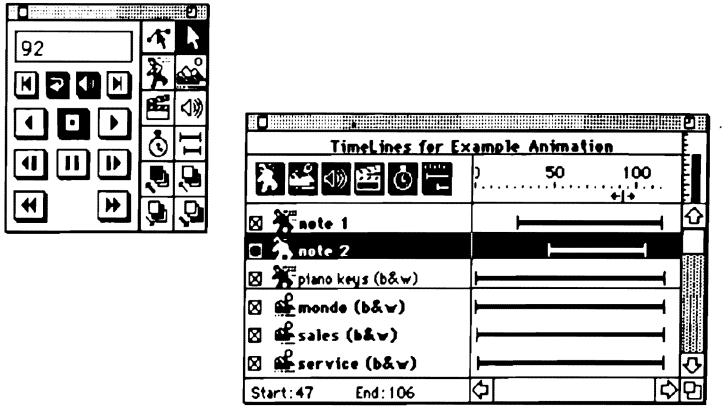
1. **Click on the Play Indicator and drag it to a new frame position.**

   The current frame number changes as you drag the Play Indicator horizontally along the frame counter. As you drag the indicator,

the animation plays as you built it. In this example, the note animates along its path from left to right as the indicator is dragged from left to right.



Notice that the Media Controller Frame Counter is updated as you drag the Play Indicator.



Deleting Objects from the TimeLines Window

To delete an object:

1. **Click on the object's icon or name.**

   The object's timeline becomes highlighted. (To select more than one object for deleting, hold down the Shift key as you click on their icons.)

2. **Press the Delete or Backspace key on the keyboard to remove the object.**

   A dialog box appears, asking you to confirm your decision.

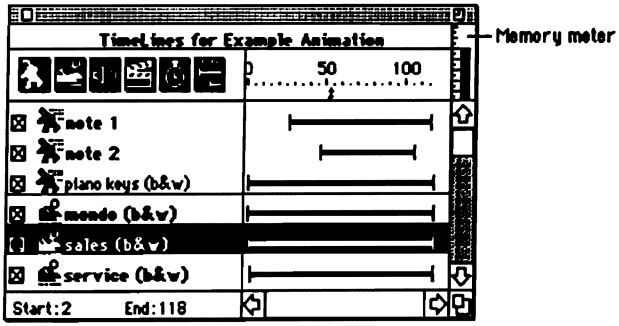
3. **Click OK to remove the object.**

   The TimeLines window updates to reflect the change.

NOTE: To delete an object without the confirmation dialog appearing, hold down the Option key, then press Delete. The object is removed.

Memory Meter

Every time you add a new object to an animation, memory is used. The memory meter informs you of available memory before you add objects. The higher the meter, the more memory being used.



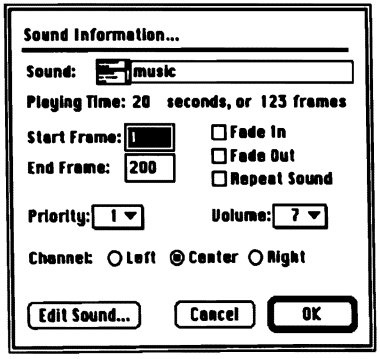
If an object is used once, then added again in the same animation, the available memory does not change much.

Chapter 8: Sound Editing

This chapter tells you how to modify the sounds you have recorded or created following the instructions in *Chapter 6: Creating Actors, Props and Sound Effects* or imported from a media library or other animations.

Sound Information

The Sound Information dialog lets you adjust a Sound once it has been added to your animation. To display the Sound Information dialog, double-click the icon of a Sound in the TimeLines window or select the Sound in the TimeLines window, then choose Get Info from the Objects menu.



Sound

Every Sound is given a unique name when it is created. This name appears beside the Sound Selection icon. To change a Sound, click the Sound Selection icon. This lets you select another Sound to play this part. Select a new Sound from the Select a Sound dialog and click the Add button to replace the previous Sound.

Playing Time

The Playing Time displays the Sound's length in seconds and in the number of frames.

Start Frame

The start frame defaults to the frame number that the animation was on when the Sound was added. The start frame can be changed at any time as long as it is not a number larger than the end frame number. When added to the animation, the Sound starts to play on the start frame until it is finished, or the end frame is reached.

End Frame

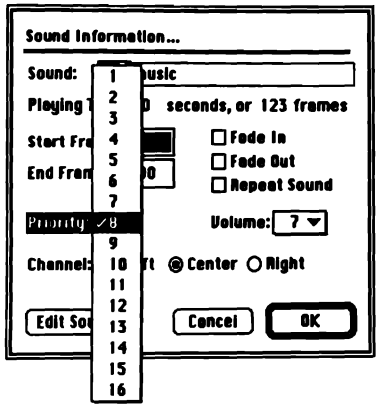
The end frame defaults to the last frame of the animation. A Sound can stop before its end frame is reached.

If Repeat Sound is checked, when the animation plays the Sound repeats until its end frame in the animation is reached. If Repeat Sound is not checked, the Sound stops at the end frame, if it is still playing.

Priority

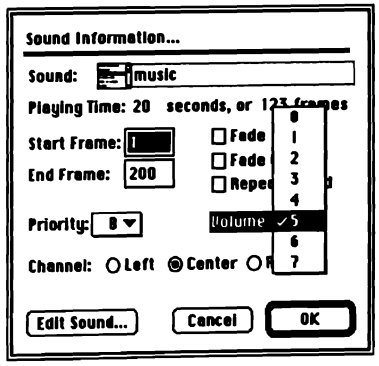
The Priority pop-up menu lets you set the sound priority from 1 to 16. More than one sound can be played simultaneously, depending on the type of Macintosh and the amount of memory available.

The priority setting is used to determine which sounds will actually be heard when the animation is played. If you have 4 Sounds set to play on frame 10 and your Macintosh only supports 2 channels of Sound, then the 2 Sounds with the highest priority (lowest number) will be heard. It is best to create background noises (like an insect Sound) with low priority (possibly 16). With this scenario, temporary Sounds like a bird singing will override the insect Sound. If a Sound is interrupted by a high priority Sound, it will continue to play after the interrupting Sound is finished *only* if it is a repeating Sound.



Volume

The Volume pop-up menu lets you set the volume for the selected Sound. 7 is the loudest setting, 0 the quietest.



Channel

Channel lets you choose a channel for the Sound. All Macs can play on left or center. The right channel can only be heard with stereo equipment connected to the sound output jack of those Macintoshes that support stereo sound.

Fade In

Check the Fade In box if you want the Sound to fade in. If you set the volume to 5, the Sound will fade in over five frames.

Fade Out

Check the Fade Out box if you want the Sound to fade out before its end frame. If you set the volume to 5, the Sound will fade out over five frames.

Repeat Sound

Check the Repeat Sound box if you want the Sound to play over and over until its end frame is reached.

Editing a Sound Effect Waveform

A waveform is a graphic representation of a sound, with time along the x-axis and volume along the y-axis. You can modify a Sound by altering its waveform using a variety of tools.

First open the Edit WaveForm for Sound dialog:

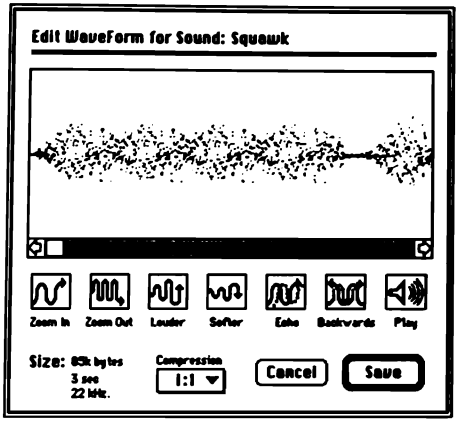
1. **Click the Add Sound icon in the Media Controller or choose Add Sound from the Objects menu.**
2. **Select a Sound.**
3. **Click Add.**
4. **Click Edit Sound.**

   The Edit WaveForm for Sound dialog appears.

The Edit WaveForm dialog has the following tools to let you modify the Sound:

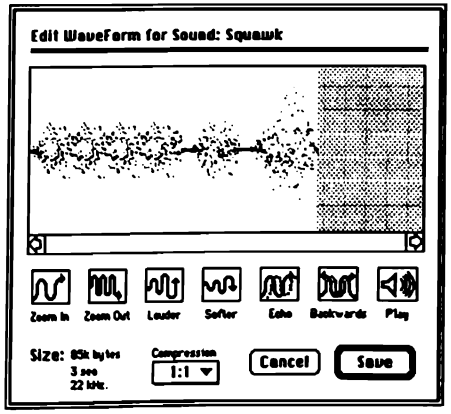
Zoom In

The Zoom In button displays more and more detail of the waveform for editing by zooming in to it.



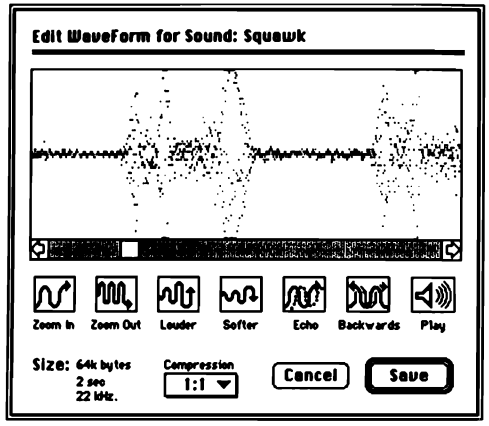
Zoom Out

The Zoom Out button displays less and less detail of the waveform by zooming out from it, eventually displaying the whole waveform in the edit window.



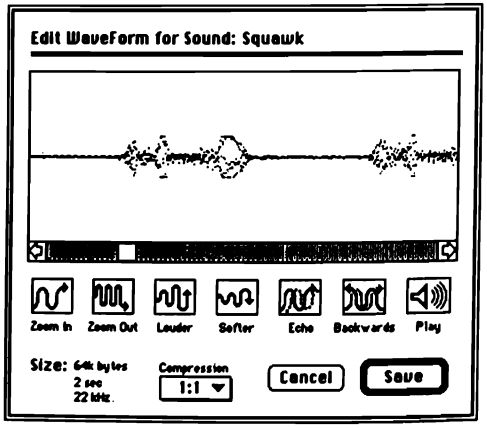
Louder

The Louder button amplifies the whole waveform or the selected portion of the waveform making the Sound louder when it is played back.



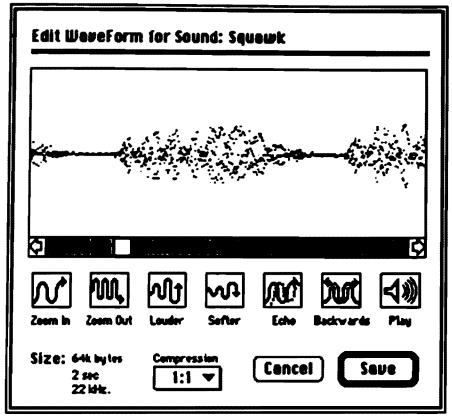
Softer

The Softer button will soften or decrease the amplification of the whole waveform or the selected portion of the waveform making the Sound quieter when it is played back.



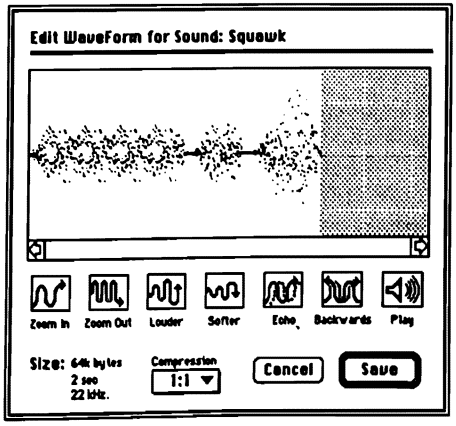
Echo

The Echo button echoes or repeats the whole waveform or the selected portion of the waveform with a decay. When played back, the sound will echo. Click the Echo button a number of times to increase the echo effect.



Backwards

The Backwards button reverses the whole waveform or the selected portion of the waveform. When played back, the sound will play in reverse.



Play

The Play button plays the whole waveform or the selected portion of the waveform.

NOTE: You can interrupt playing at any time by clicking the mouse.

Lower Hz/Raise Hz

Holding down the Option key causes the zoom buttons to change to Lower Hz and Raise Hz. Lower Hz makes the frequency of the Sound lower while Raise Hz makes the frequency higher.

Ramp Up/Ramp Down

Holding down the Option key causes the Louder and Softer buttons to change to Ramp Up and Ramp Down. Ramp Up makes the current selection or entire Sound start at a volume level of 0 and increase to a maximum volume. Ramp down does the opposite.

Sound Details

Details pertaining to the Sound are displayed in the bottom left corner of the dialog.

Compression

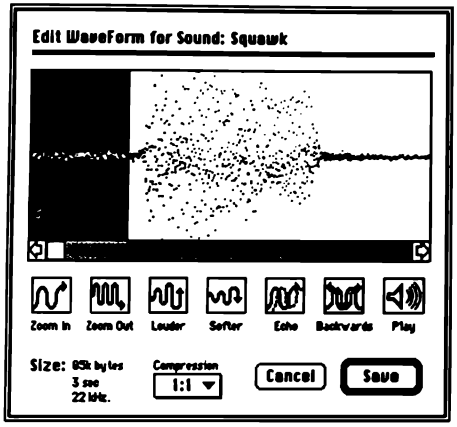
You can reduce the memory used to store the Sound by selecting 3:1 or 6:1 from the Compression pop-up. The Sound will be compressed when it is saved. The quality of a Sound is higher if it is not compressed.

Undo, Cut, Copy, Paste and Clear

To perform Undo, Cut, Copy, Paste and Clear, use the keyboard equivalents, as the menus are not available while you are in the Sound Editing dialog. Press Command-Z to Undo an action.

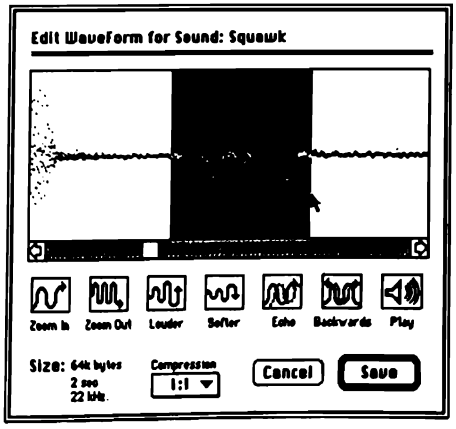
Cut

To Cut a section of a sound, highlight the area by clicking the mouse down until an insertion line appears. Drag the mouse in either direction to select a section of the sound. Press Command-X to cut the selection to the Clipboard. The selected portion of the sound will be removed and placed in the Clipboard.



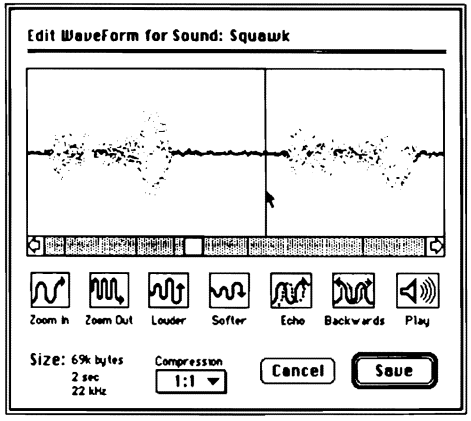
Copy

To copy a section of a Sound, highlight the area by clicking the mouse down until an insertion line appears. Drag the mouse in either direction to select a section of the Sound. Press Command-C to copy the selection to the Clipboard.



Paste

To paste a section of a Sound from the Clipboard, click the mouse down in any area of the waveform until an insertion line appears. Press Command-V to paste the portion of the Sound from the Clipboard into the waveform. The pasted portion of the Sound will appear in the waveform and the size of the sound will change because you are adding to the Sound.



Clear

To remove a section of a Sound, highlight the area by clicking the mouse down until an insertion line appears. Drag the mouse in either direction to select a section of the Sound. Press the Delete key to remove the selection. The selected portion of the Sound will be removed.

Select All

There are two methods for selecting all of the sound waveform:

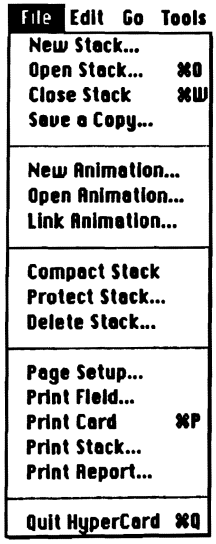
1. **Drag the mouse from the start of the sound waveform to the end, or**
2. **Press Command-A.**

NOTE: Most sound editing operations affect the entire sound if there is no selection. If you select part of the waveform, only that area is affected by the editing operation.

Chapter 9: Menus and Dialogs

This chapter provides comprehensive information about ADDmotion II's menu items and commands used to create animations. It also describes dialogs not covered elsewhere in the manual.

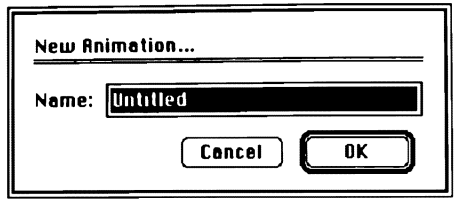
ADDmotion II and HyperCard's File Menu



ADDmotion II is designed to run as an integrated animation tool for creating animations in HyperCard 2.1. Animations can be created in any HyperCard stack as long as ADDmotion II's New Animation and Open Animation menu items are available. Link Animation allows you to link animations from within HyperCard. For information on other File menu items, refer to your HyperCard manual.

New Animation...

Choose New Animation to create a new animation in the current HyperCard stack.

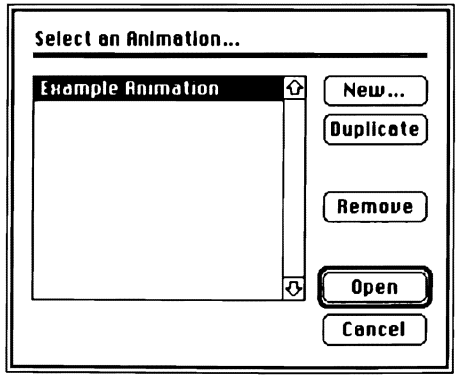


When a new animation is created it is given the default name of Untitled. To give the animation a new name, type in a new name, then click OK. The HyperCard menu bar changes to reflect ADDmotion II's menus and the Media Controller appears.

If you click Cancel, you remain at the HyperCard level.

Open Animation...

Choose Open Animation to open an existing animation. When the Open Animation dialog appears, select an animation, then click Open.



If you click Cancel, you remain at the HyperCard level. From within the dialog you can also create a new animation, or duplicate or remove an existing one.

New...

Click the New button to create a new animation. The New Animation dialog appears.

Duplicate

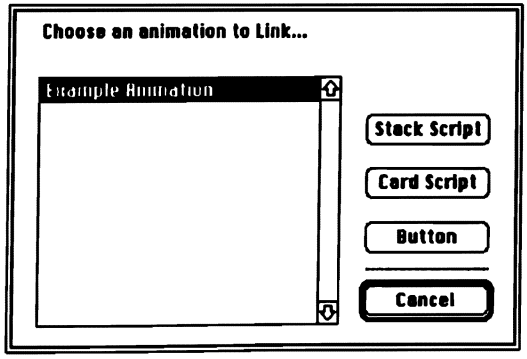
Click the Duplicate button to duplicate the animation in the current stack. Type in a name for the duplicate, then click Save.

Remove

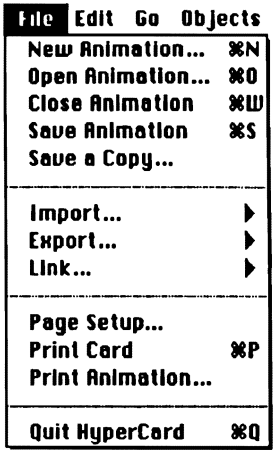
Click the Remove button to remove an animation from the HyperCard stack. A warning dialog appears asking whether you want to proceed with the command. If you click OK, the animation will be deleted.

Link Animation...

Choose Link Animation to link animations using Stack Script, Card Script or Buttons. When the Choose an Animation to Link dialog appears, select an animation from the list, then click one of the buttons. The three linking methods are described later in this chapter's Link hierarchical menu section.



File Menu



New Animation

Choose New Animation to create a new animation in the current HyperCard stack. When the New Animation dialog appears, enter a name for the animation, then click OK.

Open Animation...

Choose Open Animation to open an existing animation. When the Select an Animation dialog appears, select an animation, then click Open. From within this dialog you may also create a new animation, or duplicate or remove an existing one.

Close Animation

Choose Close Animation to close the current animation.

Save Animation

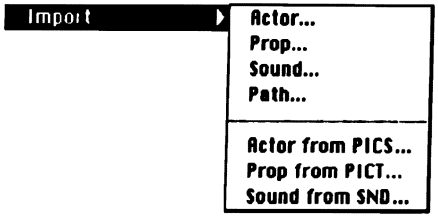
Choose Save Animation to save changes to the current animation. It is good practice to save your animations frequently so you don't lose any changes. Animations are saved automatically when they are closed.

Save a Copy...

Choose Save a Copy to save a copy of the current HyperCard stack, plus any animations contained within that stack.

Import

Choose Import and use any of the seven available hierarchical menu items to import objects into the current animation from stacks that contain animations or from Macintosh standard file types.



Actor, Prop, Sound, Path

Choose the Actor, Prop, Sound or Path hierarchical menu item to import one of these objects from another ADDmotion II animation.

Actor from PICS...

Choose the Actor from PICS hierarchical menu item to import and create an Actor from a PICS file.

Prop from PICT...

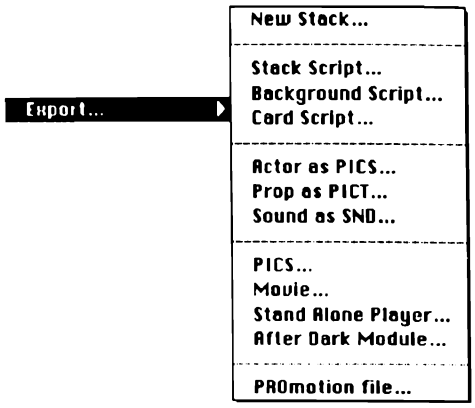
Choose the Prop from PICT hierarchical menu item to import and create a Prop from a PICT file.

Sound from SND...

Choose the Sound from SND hierarchical menu item to import and create a Sound from a SND file.

Export

Choose Export and use any of the 12 available hierarchical menu items to export the current animation or objects to other file formats.



New Stack...

Choose the New Stack hierarchical menu item to create a new stack and pre-script the current animation into that stack. You are asked to name the new stack.

Stack Script...

Choose the Stack Script hierarchical menu item to pre-script the current animation into a stack script. You are asked for the stack to export to and the name of the handler to be created. The animation will play when this handler is called.

Background Script...

Choose the Background Script hierarchical menu item to pre-script the current animation into a background script. You are asked for the stack to export to and the name of the handler to be created. When this handler is called, the animation plays. You can scroll through the backgrounds in the stack to be exported to be positioning the cursor near the left or right sides of the card. Positioning the mouse near the left side will display the previous background, while positioning the mouse at the right side of the card will display the next background.

Card Script...

Choose the Card Script hierarchical menu item to pre-script the current animation into a card script. You are prompted for the stack to export to and the name of the handler to be created. When this handler is called the animation will play. You can scroll through the

cards in the stack to be exported to by positioning the cursor near the left or right sides of the card. Positioning the mouse near the left side will display the previous card, while positioning the mouse at the right side of the card will display the next card.

Actor as PICS...

Choose the Actor as PICS hierarchical menu item to export an Actor as a PICS file.

Prop as PICT...

Choose the Prop as PICT hierarchical menu item to export a Prop as a PICT file.

Sound as SND...

Choose the Sound as SND hierarchical menu item to export a Sound as a SND file.

PICS...

Choose the PICS hierarchical menu item to create a PICS file from the current animation.

Movie...

Choose the Movie hierarchical menu item to create a QuickTime™ Movie from the current ADDmotion II animation. For more information, see *Chapter 10: Tips and Techniques.*

Stand Alone Player...

Choose the Stand Alone Player hierarchical menu item to create a stand alone file from the current ADDmotion II animation. Select a destination for the file, type in a name for the Stand Alone Player, then click Save. The name defaults to the current animation name with a .MW extension.

When running the Stand Alone Player in color, you need 3,000K of memory. When running in black and white, 1,500K should be sufficient. To reduce the memory required, click the Stand Alone Player's icon, choose Get Info from the File menu and change the memory figure.

After Dark Module...

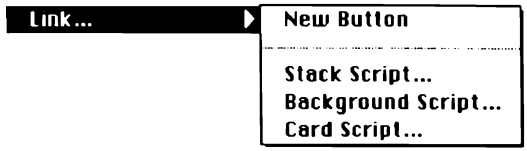
Choose the After Dark Module hierarchical menu item to create an After Dark module from the ADDmotion II animation. When the dialog

appears, select the folder that holds your After Dark modules (inside the System folder) as the destination. Type in a name for the module, then click Save. A constantly looping module is created. Its name appears in the After Dark list of possible modules to choose from.

PROmotion file...

Choose the PROmotion file hierarchical menu item to create a PROmotion file from an animation in the current ADDmotion II stack. When the dialog appears, select the animation, then click Save.

Link...



Choose Link to link the current animation to the currently open stack as a pre-scripted Button, Stack script, Background script or Card script. Use any of the four hierarchical menu items to link the current animation.

New Button

Choose the New Button hierarchical menu item to pre-script the current animation to play from a HyperCard button that is added to the current card. You can place this button by dragging it to where you want it then clicking the mouse button. Clicking the button will play the animation.

Button Script example:

```
on mouseUp
        AMLoad "Birds Flying"
        put the result into Animation
        AMPlay Animation
        AMRelease Animation
end mouseUp
```

(Refer to Runtime Animation in Chapter 10 to learn more scripting with ADDmotion II.)

Stack Script...

Choose the Stack Script hierarchical menu item to pre-script the current animation to play when the stack is opened.

Stack Script example:

```
on OpenStack
        Global Animation
        AMLoad "Bird"
put the result into Animation
        AMPlay Animation
end OpenStack
on CloseStack
        Global Animation
        AMRelease Animation
        put empty into Animation
end CloseStack
```

In this example, the stack script is executed on OpenStack. First a global variable named `Animation` is declared. The animation named `"Bird"` is then loaded into memory (`AMLoad "Bird"`). The result contains a reference to the animation which is put into `Animation`. The `AMPlay Animation` command plays the `"Bird"` animation. Finally, the animation is released from memory when the stack is closed (`AMRelease Animation`). It is a good idea to set the reference to the animation (`Animation`) to empty when the animation is released.

Background Script...

Choose the Background Script hierarchical menu item to pre-script the current animation to play when the current background card is opened.

Background Script example:

```
on OpenBackground
        Global Animation
        AMLoad "Bird"
        put the result into Animation
        AMPlay Animation
end OpenBackground
on CloseBackground
        Global Animation
        AMRelease Animation
        put empty into Animation
end CloseBackground
```

This script works similarly to the example shown for linking a Stack Script.

Card Script...

Choose the Card Script hierarchical menu item to pre-script the current animation to play when the current card is opened.

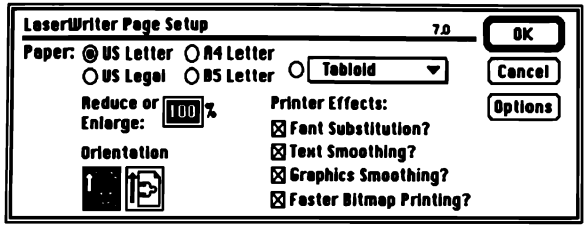
Card Script example:

```
on OpenCard
        Global Animation
        AMLoad "Bird"
        put the result into Animation
        AMPlay Animation
end OpenCard
on CloseCard
        Global Animation
        AMRelease Animation
        put empty into Animation
end CloseCard
```

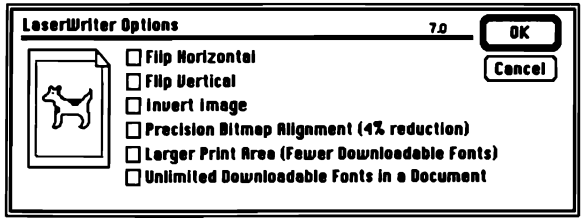
This script works similarly to the example shown for linking a Stack Script.

Page Setup...

Page Setup lets you set certain specifications for printing. You can set the paper size, orientation of the printout and various other effects for printing.



The following dialog is displayed when you click the Options button in Page Setup.

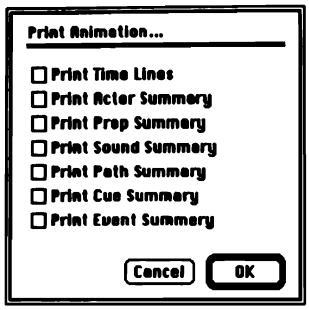


Print Card

Choose Print Card to print the current card using the specifications you gave in Page Setup.

Print Animation...

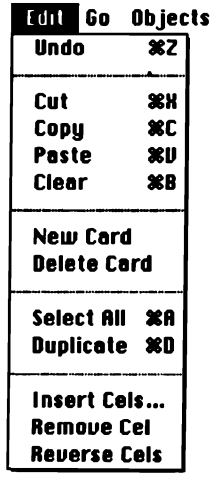
Choose Print Animation to print items in the current animation. When the Print Animation dialog appears, check any or all of the items that you want printed, then click OK to print out summaries.



Quit HyperCard

Choosing Quit from the file menu closes ADDmotion II and HyperCard. Any changes you have made to the current animation are saved automatically.

Edit Menu



The Edit menu lets you make changes to your work. Most items listed work with Paint while only a few are available in the Media Controller.

Undo

Choosing Undo undoes your last operation.

Cut

Choose Cut to remove the selection to the Clipboard. Use Cut when you want to move a selection from one place to another.

Copy

Choose Copy to copy the active selection to the Clipboard. Use Copy when you want to copy a selection to place it somewhere else.

Paste

Choose Paste to paste the contents of the Clipboard.

Clear

Choose Clear to remove the active selection without putting it on the Clipboard or affecting what is already on the Clipboard. Pressing Delete has the same effect.

New Card

Choose New Card to add a new card to the current stack.

(Refer to your HyperCard manual for more information.)

Delete Card

Choose Delete Card to delete the current HyperCard card.

(Refer to your HyperCard manual for more information.)

Select All

Choose Select All to select all visible artwork in the currently active Paint window. In the Media Controller, all visible objects on the current frame will be selected. Once selected, you can move the objects around, delete or duplicate.

Duplicate

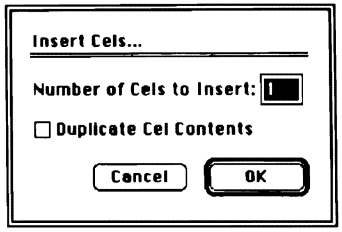
Choose Duplicate to duplicate a selected area of artwork in the currently active Paint window or to duplicate a selected object in the Media Controller.

NOTE: The following Edit menu items do not affect items in the Media

Controller: Undo, Cut, Copy, Paste and Clear. Choosing Duplicate duplicates the selected object(s). Undo, Cut, Copy, Paste and Clear do not affect the items in the TimeLines window.

Insert Cels...

Choose Insert Cels to insert one or more cels into an Actor. Type in a number, then click OK. The insert cel dialog defaults to 1.



When cels are inserted into an Actor the document window appears blank and the cel count changes to reflect the number of cels added to the Actor. As a short-cut for inserting cels, double-click the cel counter (eg. 1 of 4) of the Paint palette. The Insert Cels dialog appears. Insert the desired number of cels. If you want the new cels to have the same artwork as the current cel, click the Duplicate Cel Contents checkbox, then click OK. The Actor's cycle speed depends on the number of cels and the image size in each cel.

NOTE: The more cels you insert into an Actor the slower it will animate. For best performance keep the number of cels under 10 unless you have large amounts of memory available.

Remove Cel

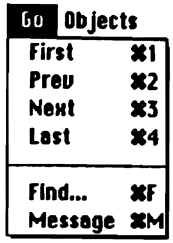
Choose Remove Cel to remove the current cel from an Actor.

NOTE: Once a cel is removed it cannot be recovered.

Reverse Cels

Choose Reverse Cels to reverse the order of an Actor's cels.

Go Menu



Commands in the Go menu allow you to navigate through cards in the current HyperCard stack. You can browse through the stack using the First, Previous, Next, or Last menu commands. You can use these commands to view and test your animated sequences on different cards.

First

Choose First to go to the first card in the current stack. If you are already on the first card, choosing First does nothing.

Previous

Choose Previous to go to the previous card in the current stack. If you are at the first card in the stack, choosing Previous takes you to the last card.

Next

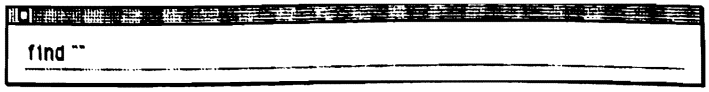
Choose Next to go to the next carde in the current stack. If you are at the last card in the stack, choosing Next takes you to the first card.

Last

Choose Last to go to the last card in the current stack. If you are already on the last card, choosing Last does nothing.

Find...

Choose Find to search for text in fields of the current stack. The HyperCard Message box with the find command pre-scripted in it appears.



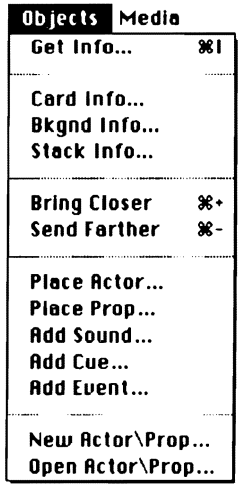
(Refer to your HyperCard manual for more information on Find.)

Message

Choose Message to send a message to HyperCard. The HyperCard Message box appears.

(Refer to your HyperCard manual for more information on Messages.)

Objects Menu



Use the Objects menu to get information, relayer, place, add or edit objects — Actors, Props, Sounds, Cues and Events.

Get Info...

Choose Get Info to bring up information on the currently selected object. You are presented with either the Actor Information, Prop Information, or Paint Document Information dialog, depending on whether you are using the Media Controller or Paint editor. For more information on these dialogs refer to the Actor Information,

Prop Information, or Paint Document Information sections of this chapter.

Card Info...

Choose Card Info to bring up information about the current HyperCard card. You can see and change the card's name, find out the number of cards, card fields and card buttons in the stack.

(Refer to your HyperCard manual for more information on Card Info.)

Bkgnd Info...

Choose Bkgrnd Info to bring up information about the current HyperCard background. You can see and change the background's name, find out the number of cards that share the background, and find out how many fields and buttons this background has.

(Refer to your HyperCard manual for more information on Bkgnd Info.)

Stack Info...

Choose Stack Info to bring up information about the selected stack. You can see and change the stack's name, learn the number of cards in the stack and amount of disk space the stack uses, and read the name of the folder and disk the stack resides on. The card size can also be changed to a different size using the Re-size button.

(Refer to your HyperCard manual for more information on Stack Info and resizing the stack card.)

Bring Closer

To bring an Actor or Prop one layer closer, first select it, then choose Bring Closer from the Objects menu.

NOTE: Actors reside in their own layer separate from Props and are always placed in front of Props. You can use the four object layering tools in the Media Controller palette to move objects within their own layers.

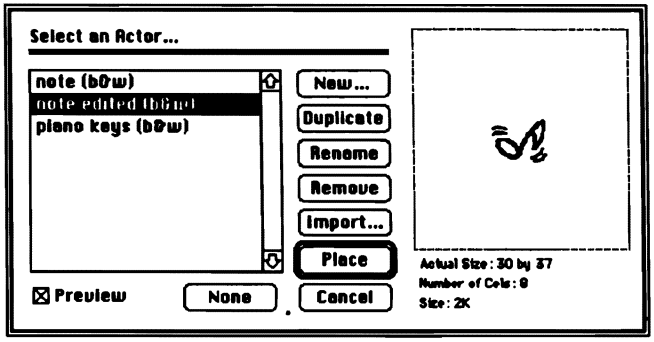
Send Farther

To send an Actor or Prop one layer, first select it, then choose Send Farther from the Objects menu.

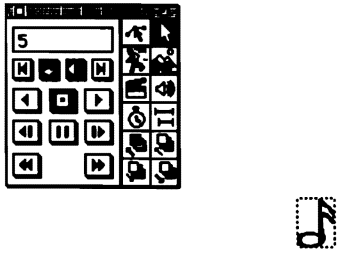
NOTE: Actors reside in their own layer separate from Props and are always placed in front of Props. You can use the four object layering tools in the Media Controller palette to move objects within their own layers.

Place Actor...

Choose Place Actor to place an Actor on the current frame of an animation. This brings up the Select an Actor dialog. Select the Actor you want, then click Place. (Refer to the section on the Select an Actor dialog in this chapter for information on the other buttons available.)



The Actor is placed at the center of the screen, with a marquee border around it. The Actor can be moved to any area of the screen.



Once you place an Actor, you can change its Actor Information by either double-clicking it with the Object Selection tool (Pointer) or by selecting it and choosing Get Info from the Media menu. The Actor Information dialog appears.

NOTE: Please refer to the section in this chapter that discusses Actor Information and changing placed Actors.

Place Prop...

Choose Place Prop to place a Prop on the current frame of an animation. This brings up the Select a Prop dialog. Select a Prop, then click Place. (Refer to the section on the Select a Prop dialog in this chapter for information on the other buttons available.) The Prop is placed at the center of the screen with a marquee border around it. Once you place a Prop, you can change its Prop information by either double-clicking on it with the Object Selection tool or by selecting it and choosing Get Info from the Media menu. The Prop Information dialog appears, allowing you to set information for the Prop.

NOTE: Please refer to the Prop Information section of this chapter for more information on adjusting placed Props.

Add Sound...

Choose Add Sound to bring up the Select a Sound dialog. From here you may select or create a Sound to add. After the sound is added, the Sound Information dialog is displayed, allowing you to adjust the Sound. Sounds added to an animation appear in the TimeLines window.

NOTE: Refer to the sections on the Select a Sound and Sound Information dialogs later in this chapter for more information.

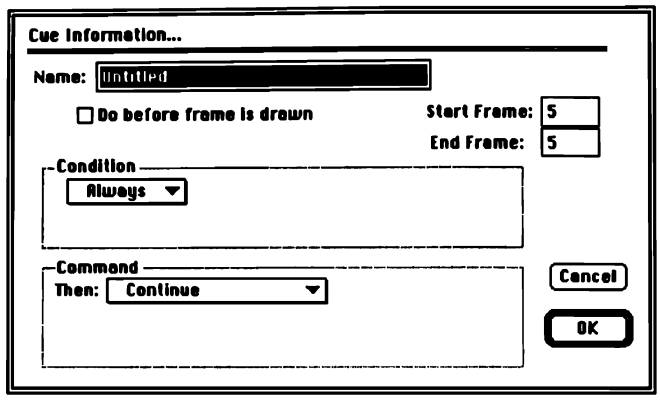
Add Cue...

Choose Add Cue to control the playback of the animation. You can use cues to add interactivity and to control other devices or programs. The cue mechanism establishes a condition that must be met, then sets an action to take place when this condition is met. To help you to create cues, ADDmotion II presents you with pop-up menus listing all possible cue choices.

To add a cue to your animation:

1. **Choose Add Cue from the Objects menu.**

   The Cue Information dialog appears.



2. **Enter a name for the cue in the Name field.**
3. **Enter numbers in the Start Frame and End Frame fields to indicate the period in which the cue is active.**
4. **Click the Do Before Frame is Drawn box if you want the cue activated before the frame is drawn on the screen.**
5. **From the Condition pop-up, choose Always, Wait For, or If .**

   This sets a condition for the cue.

   If you choose Always, then no condition need be met and no further information is requested. The cue will always be executed.

   If you choose Wait For, the animation will stop until the cue executes. You are requested to specify one of four other conditions: Time, Mouse Click On, Key Down and Sound Done. These choices allow you to set the type of event to wait for before executing the command set in the cue. The Time setting gives you a place to enter a value for how much time (in 60ths of a second) to wait for. The Mouse Click On setting allows you to use two other pop-ups to set what the user has to click the mouse on. It could be an Actor or a Prop or simply a mouse click anywhere. If you set these pop-ups for an Actor or Prop, then two checkboxes will appear, allowing you to further define how these mouse clicks will be handled. If you click the Act Like Button checkbox, the Actor or Prop will work like a dialog button. If you click the Use Bounding Box checkbox, the mouse click can take place

within an invisible rectangle enclosing the Actor or Prop. The Key Down setting allows you to enter a character that the user has to type. You can simply type the character on the keyboard or enter the ASCII code for untypeable characters with ASCII codes less than 32 (such as the Return key, ASCII 13). The Sound Done setting allows you to select a Sound from the pop-up menu that will be checked to see if it is still playing.

If you choose If, the cue will be executed only if the condition that you set is met. You can choose from the same conditions as Wait For.

These are the possible choices for setting a condition:

Always			
Wait For	Time	Number in 60ths of second	
Wait For	Mouse Click On	Anything	
Wait For	Mouse Click On	Actor Named	Actor
Wait For	Mouse Click On	Prop Named	Prop
Wait For	Sound Done	Sound	
Wait For	KeyDown	Character/ASCII Code	
If Time	Number in 60ths of second		
If Mouse Click On	Anything		
If Mouse Click On	Actor Named	Actor	
If Mouse Click On	Prop Named	Prop	
If KeyDown	Character/ASCII Code		
If Sound Done	Sound		

6. **From the Command pop-up, choose Continue, Goto Frame, Send HC Message, Send Frontier Message, Send Control Tower Message, Pause Until, End Animation, Change Frame Rate or Play Movie.**

   The command you choose results in a specific action whenever the condition above occurs.

   If you choose Continue, the animation continues to animate.

   If you choose Goto Frame, you are asked to enter a frame number from which the animation will continue. You can use this to cause loops in an animation.

   If you choose Send HC Message, you are asked to enter a message that will be sent to HyperCard.

   NOTE: For more information on messages, see your HyperTalk manual.

   If you choose Send Frontier Message, you are asked to enter an Apple Event message that will be sent to Frontier.

NOTE: Apple Events can be sent using ADDmotion II, but not received.

If you choose Send Control Tower Message, you are asked to enter an Apple Event message that will be sent to Control Tower.

NOTE: Apple Events can be sent using ADDmotion II, but not received.

If you choose Pause Until, the animation will pause until the condition statement becomes true again. For example, you could have a Prop that says "Press me to Pause," then set the condition to If Mouse Click On Prop Name Then Pause Until... and whenever the Prop is clicked the animation will pause until the Prop is clicked on again.

If you choose End Animation, the animation will stop.

If you choose Change Frame Rate, you are asked to enter a new frame rate for the animation. This allows you to make different parts of your animation play at different speeds.

If you choose Play Movie, you are asked to select a QuickTime movie file to play. If this command is executed in response to a Mouse Click on an Actor or Prop condition, the movie will play centered on that Actor or Prop. Otherwise it will play centered in the animation window.

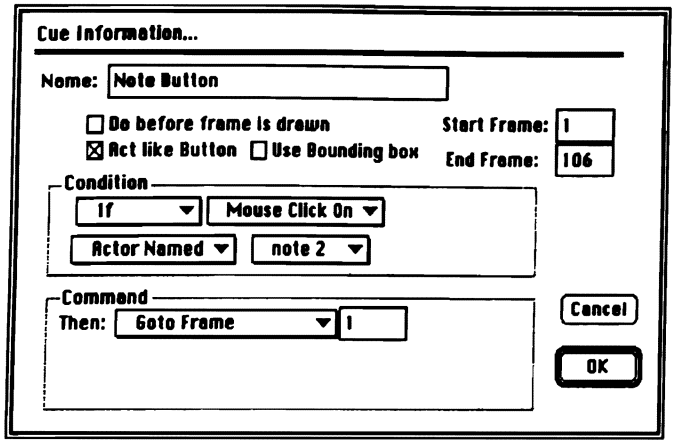
NOTE: You must have QuickTime installed for movies to play. Contact your Apple dealer for more information on QuickTime.

7. **Click OK.**

In the following example, the note 2 Actor will act like a button and the animation will go to frame 1 each time it is clicked.

NOTE: See Chapter 10: Tips and Techniques *for further examples of cues.*

This cue makes the note 2 Actor act like a Rewind button:



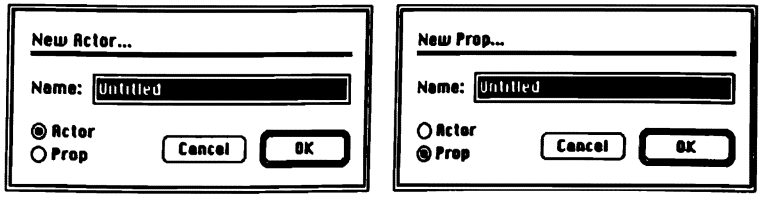
NOTE: Cues are exported to the stand-alone player only; they are not executed or exported to PICS files, QuickTime movies or After Dark modules.

Add Event...

Choose Add Event to add Load and Stamp Events to your animation. For information on Events, see *Chapter 10: Tips and Techniques*.

New Actor/Prop...

Choose New Actor/Prop to create a new Actor or Prop. The default state is set to create an Actor, however, you can create a new Prop by clicking the Prop radio button. Type a name for the new Actor or Prop, then click OK. The following are examples of the New Actor and Prop dialogs.



When you create an Actor, a new document window appears. Actors may consist of more than one cel, therefore the Paint palette for an Actor has a cel counter and cycle arrows which allow you to advance or go back through the cels for viewing and editing purposes.

When you create a Prop, a new document window appears. Props consist of only one cel, therefore the Paint palette does not include a cel counter or the cycle arrows.

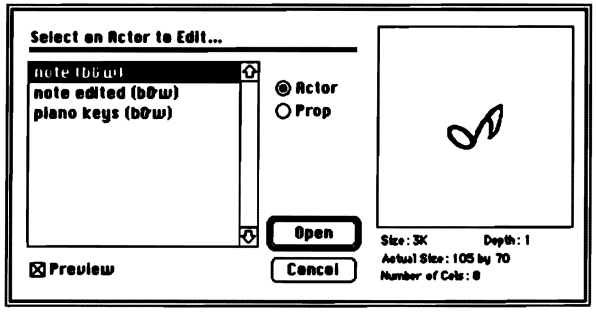
(Refer to *Chapter 6: Creating Actors, Props and Sound Effects* for more details.)

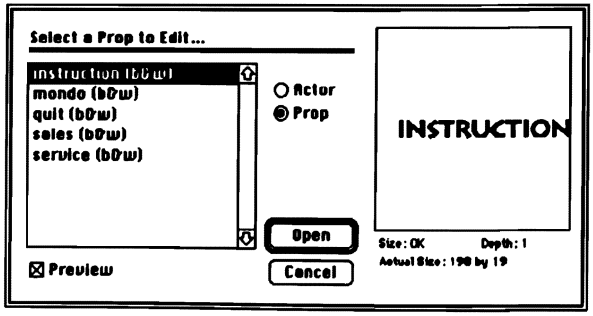
Open Actor/Prop...

Choose Open Actor/Prop from the Object menu to open an existing Actor or Prop for editing. The default state is set to select an Actor, however, you can open a Prop by clicking the Prop radio button.

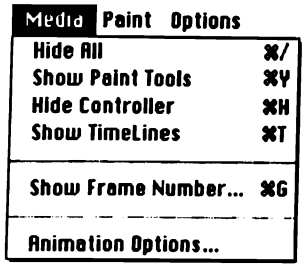
Select an Actor or Prop, then click Open. Click the Preview checkbox, if it is not already checked, to show a picture preview of the selected Actor or Prop. Actors cycle in the preview window if they contain more than one cel.

The following are examples of the Select an Actor/Prop to Edit dialogs:





Media Menu



The Media menu items allow you to show or hide ADDmotion II's windows and palettes, and to execute various commands and functions that are specific to these windows and palettes.

Hide All

Choose Hide All to hide all visible windows and palettes. The Hide All menu item changes to Show All. Choosing Show All brings all hidden windows and palettes back into view.

Show Paint Tools

Choose Show Paint Tools to display the Paint palette. The item remains dimmed until you choose to edit or open an Actor or Prop.

(Refer to *Chapter 4: Paint Tools* for more information).

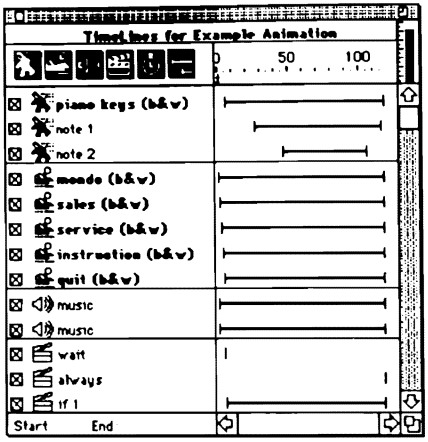
Show Media Controller

Choose Show Media Controller to display the Media Controller. The Media Controller appears in the last screen position that it appeared before it was hidden.

(Refer to the Media Controller section in *Chapter 7: Creating an Animation* for more information).

Show TimeLines

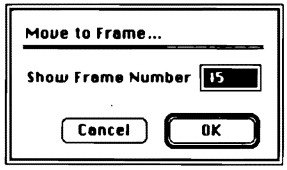
Choose Show TimeLines to display the TimeLines window. The TimeLines window provides for a dynamic view of all the objects within the animation. An object's information can be accessed and manipulated from within the TimeLines window.



Show Frame Number...

Choose Show Frame Number to go to or show a specific frame number and display the contents of that frame.

NOTE: For a short cut to the menu item, double-click the Media Controller Frame Counter to display the Move To Frame dialog.



Animation Options...

Choose Animation Options to set options for the animation such as its length, playing speed, mouse or keyboard control and how the animation should end (or replay) etc. For more information, see *Animation Options Dialog* later in this chapter.

Paint Menu

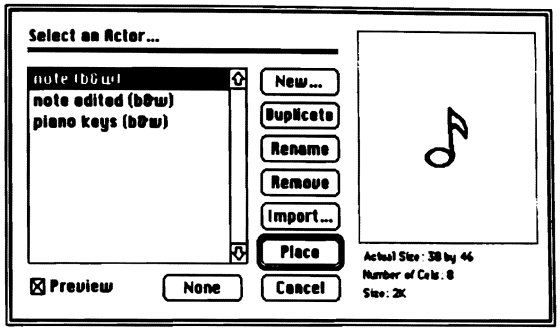
Refer to *Chapter 4: Paint Tools* for information on Paint functions.

Options Menu

Refer to *Chapter 5: Paint Options* for information on the Options menu.

Select an Actor Dialog

The Select an Actor dialog allows you to not only select an Actor, but also to perform many operations on the Actors located in the Actor Library. To display the dialog, choose Place Actor from the Objects menu or click the Place Actor icon in the Media Controller.



Preview

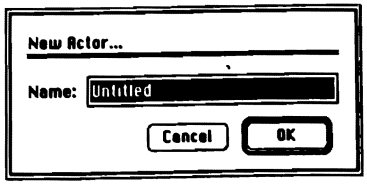
To display an image of the selected Actor, click the Preview checkbox. Once selected, the Actor will cycle in the Preview window if it contains more than one cel.

Actor Details

Information pertaining to the selected Actor appears directly below the picture preview to give you an idea of the contents of the selected Actor before you place it.

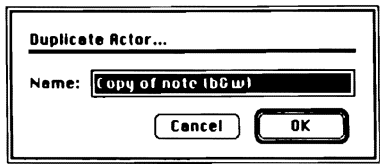
New...

To create a new Actor from within the Select an Actor dialog, click New. The New Actor dialog appears. Type in a name for the Actor, then click OK.



Duplicate

To duplicate an Actor, select the Actor from the list, then click Duplicate. The Duplicate Actor dialog appears. Type in a name for the duplicate, then click OK.

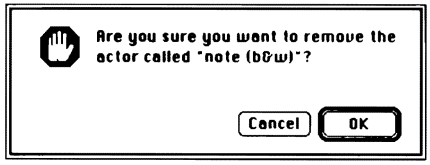


Rename

To rename an Actor, select the Actor from the list, then click Rename. Type in a new name, then click OK.

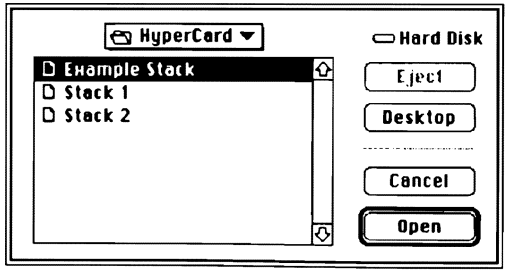
Remove

To remove an Actor, select the Actor from the list, then click Remove. The following dialog appears. Once an Actor has been removed, it cannot be recovered.

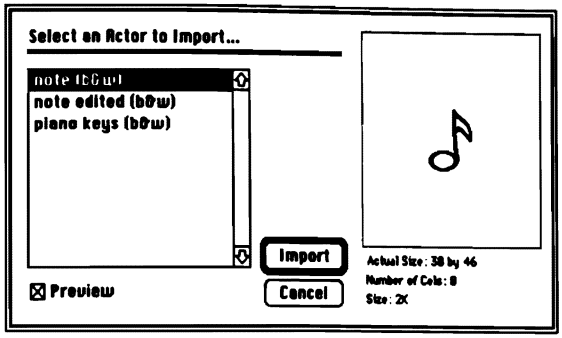


Import...

To import an Actor from another stack, click Import. The following dialog appears.



Select a stack from the list, then click Open. The Select an Actor to Import dialog appears.



Select an Actor from the list, then click Import. (If the stack contains no Actors, this dialog will be blank.) If you want to import more than one Actor from the same stack, hold down the Option key when you click the Import button.

Place

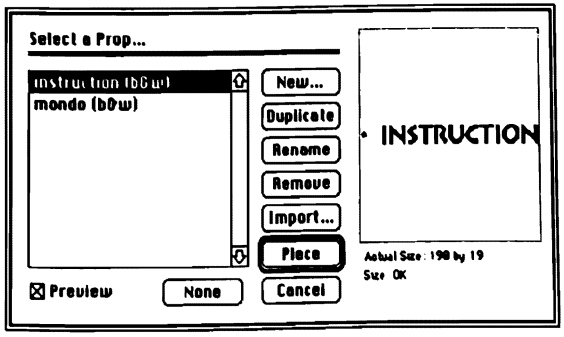
To place an Actor in the animation, select the Actor from the list, then click Place. The Actor appears in the center of the animation.

None

Click None to place an undefined Actor in the animation. This undefined Actor appears on the screen as an Actor icon, which you can later replace with a new or imported Actor.

Select a Prop Dialog

The Select a Prop dialog lets you not only select a Prop but also perform many operations on the Props located in the Prop Library. To display the dialog, choose Place Prop from the Objects menu or click the Place Prop icon in the Media Controller.



Preview

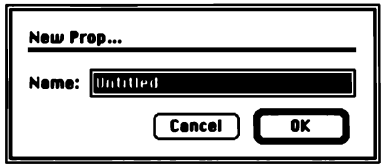
To display an image of the selected Prop, click the Preview checkbox.

Prop Details

Information pertaining to the selected Prop appears directly below the Prop preview to give you an idea of the contents of the selected Prop before you place it.

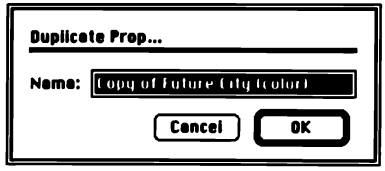
New...

To create a new Prop from within the Select a Prop dialog, click New. The New Prop dialog appears. Type in a name for the Prop, then click OK.



Duplicate

To duplicate a Prop, select the Prop from the list, then click Duplicate. The Duplicate Prop dialog appears. Type in a name for the duplicate, then click OK.

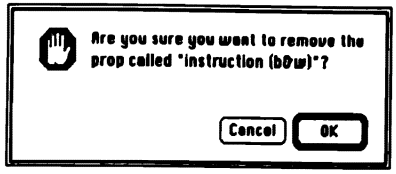


Rename

To rename a Prop, select the Prop from the list, then click Rename. Type in a new name, then click OK.

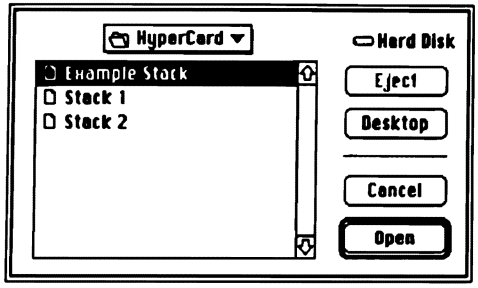
Remove

To remove a Prop, select the Prop from the list, then click Remove. The following dialog appears. Once a Prop is removed, it cannot be recovered.

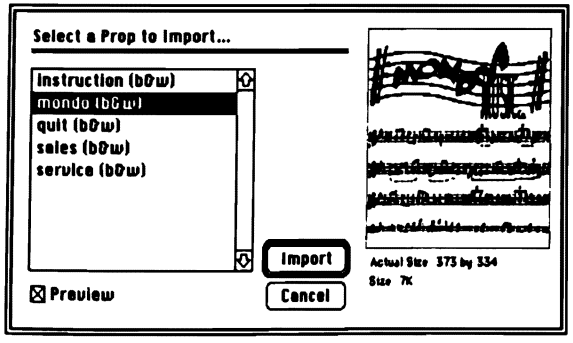


Import...

To import a Prop from another stack, click Import. The following dialog appears.



Select a stack from the list, then click Open. The Select a Prop to Import dialog appears.



Select a Prop from the list, then click Import. (If the stack contains no Props, this dialog will be blank.) If you want to import more than one Prop from the same stack, hold down the Option key when you click the Import button.

Place

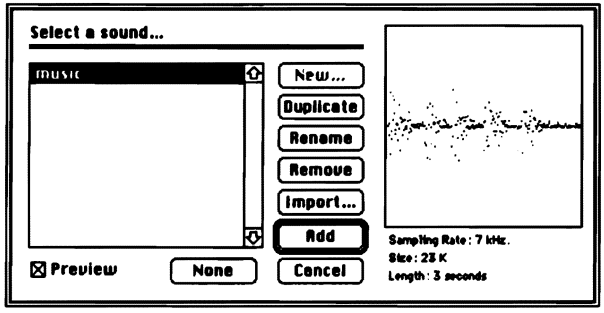
To place a Prop in the animation, select a Prop from the list and click Place.

None

Click None to place an undefined Prop in the animation. This undefined Prop appears on the screen as a Prop icon, which you can later replace with a new or imported Prop.

Select a Sound Dialog

The Select a Sound dialog lets you not only select a Sound, but also perform many operations on the Sounds in the Sound Library. To display the dialog, choose Add Sound from the Objects menu or click the Add Sound icon in the Media Controller.



Preview

To display an image of the selected Sound's waveform and to hear the Sound, click the Preview checkbox.

Sound Details

Information pertaining to the currently selected Sound appears directly below the image of the Sound's waveform to give you an idea of what the Sound is like before you add it.

New...

To create a new Sound from within the Select a Sound dialog, click New. For information on how to record a new Sound, see *Chapter 6: Creating Actors, Props and Sound Effects.*

If the New button is dimmed, the Macintosh might not have an available recording device.

Duplicate

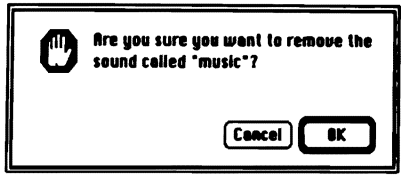
To duplicate a Sound, select the Sound from the list, then click Duplicate. Type in a name for the duplicate, then click OK.

Rename

To rename a Sound, select the Sound from the list, then click Rename. Type in a new name, then click OK.

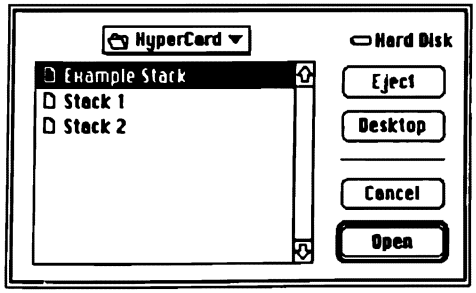
Remove

To remove a Sound, select the Sound from the list, then click Remove. The following dialog appears. Once a Sound is removed, it cannot be recovered.

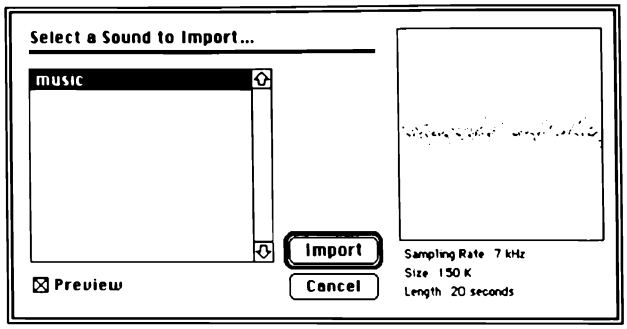


Import...

To import a Sound from another stack, click Import. The following dialog appears.



Select a stack from the list, then click Open. The Select a Sound to Import dialog appears.



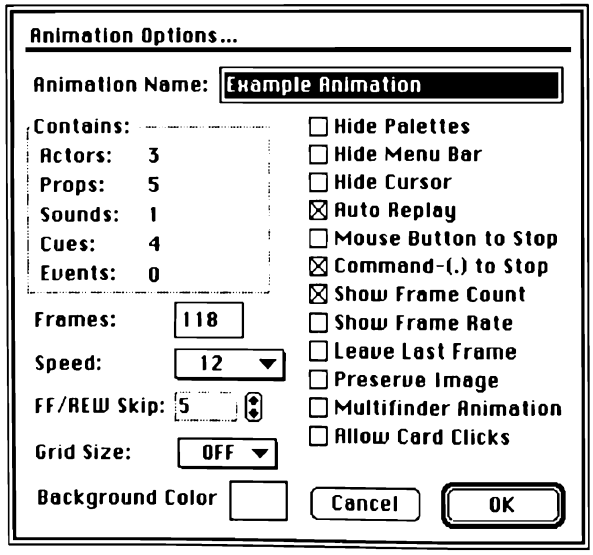
Select a Sound from the list, then click Import. (If the stack contains no Sounds, this dialog will be blank.) If you want to import more than one Sound from the same stack, hold down the Option key when you click the Import button.

Add

To add a Sound to the animation, select the Sound from the list and click Add. The Sound Information dialog appears. For details on how to define and modify Sounds, see *Chapter 8: Editing Sounds.*

Animation Options Dialog

To display the Animation Options dialog, choose Animation Options from the Media menu.



Animation Name

The name of the animation is highlighted when the dialog first appears. You can change the name by typing in a new name.

Contains

This area lists the types and number of objects in the current animation.

Frames

This field indicates the number of frames in the animation. To change the number of frames, type in a new number. The length of an animation can be 1 to 5000 frames.

Speed

The animation playback speed is measured in frames per second. The available speeds range from .25 fps. to 60 fps. An additional value, 60+, tells the computer to play the animation at the maximum possible speed. The animation speed will vary from one Macintosh to another as it is dependant on the amount of available RAM, the processor, and the access time of the hard disk.

To change the playback speed of an animation, choose a new value from the pop-up menu.

FF/REW Speed

If you are working on a particularly long animation, it would be time consuming to play it through frame by frame to see the overall results. You can set the skip of the Fast Forward or Rewind mode by putting a skip value into this box. For example, if you set the skip value to 6, the animation will play the 1st, 7th, 13th, 20th frames etc., when the Fast Forward button is pressed. To set the skip speed, click the Up arrow or Down arrow until the desired number appears in the skip counter. You can enter a skip number between 2 and 50. The default number is 5.

Grid Size

Use the Grid Size pop-up menu to set an invisible grid to add points on a path in a unified manner or move Actors and Props on the screen. If you choose 5 from the pop-up menu, the points will be placed to the nearest 5th pixel from the top left of the window. The

grid is invisible, with a range of every 5 pixels to every 200 pixels. If you want to turn off the grid, choose OFF from the pop-up menu.

Background Color

If you are working in black and white, click in the box to set the background at black or white. If you are working in color, click in the box to display the palette dialog and select a color.

Checkbox Items

The options listed on the right side of the dialog determine how the animation will appear when it is played. Select any items that are appropriate to the animation by checking the adjacent checkbox.

Hide Palettes

Click Hide Palettes to hide all palettes while the animation is playing.

NOTE: If you hide the palettes and the menu bar while the animation is set to auto replay, you can stop the animation by pressing Command - (.). If Mouse Button to Stop and Command Period (.) to Stop are unchecked, you can create an endless looping animation. To stop this endless loop, hold the Shift-Command-Option keys down, then click the mouse button.

Hide Menu Bar

Click Hide Menu Bar to hide the menu bar while the animation is playing. Pressing Command - space bar hides and unhides the menu bar.

Hide Cursor

Click Hide Cursor to hide the cursor while the animation is playing. If you are running under MultiFinder, the cursor will appear when you switch to another application and disappear when you switch back to the animation.

Auto Replay

Click Auto Replay to make the animation repeat or loop. You can also set this option by clicking the Loop Animation button on the Media Controller.

Mouse Button to Stop

Click Mouse Button to Stop to make the animation stop when the mouse button is clicked.

Command-(.) to Stop

Click Command-(.) to make the animation stop whenever Command - period (.) is pressed.

Show Frame Count

Click Show Frame Count to display the animation's current frame number in the frame counter box at the top left corner of the Media Controller.

Show Frame Rate

Click Show Frame Rate to display the actual playback speed in frames per second on the right side of the frame counter box of the Media Controller.

Leave Last Frame

Click Leave Last Frame to cause the last frame of the animation to remain on the screen when the animation ends.

Preserve Image

When checked, Preserve Image allows a newly loaded animation to be played over the screen image of the card graphic. This feature requires a specific amount of RAM to store the image of the card at the same time that it is processing data to run the animation. For example, on a Mac Plus in black and white, ADDmotion II will allocate 30K of RAM to store the card's image in memory. In 8 bit color ADDmotion II will use 300K and 24 bit color requires up to 1MB to store the card's image in memory.

MultiFinder Animation

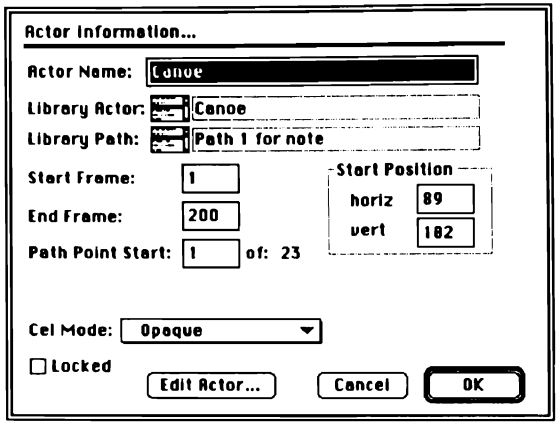
Click MultiFinder Animation to allow the animation to animate in the background under MultiFinder.

Allow Card Clicks

Click Allow Card Clicks to make all items on the HyperCard card active. This allows for interaction with card buttons, fields, etc.

Actor Information Dialog

The Actor Information dialog lets you adjust an Actor once it has been placed. To display the dialog, double-click a placed Actor while using the Object Selection tool or select a placed Actor, then choose Get Info from the Objects menu.



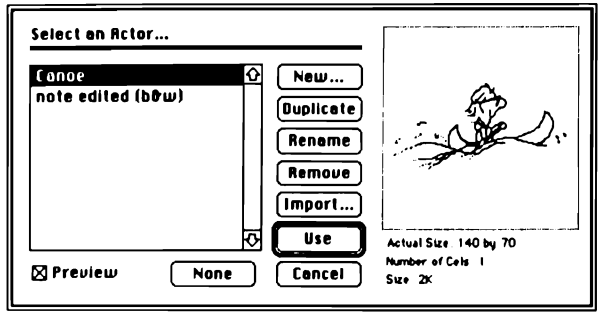
Actor Name

The Actor Name defaults to its library name. To keep track of placed Actors, give each one a unique name every time it is used. This is a label name and does not change the Actor's original name within the Actor library.

NOTE: Giving multiple instances of the same Actor different names makes it easy to distinguish between Actors in the TimeLines window.

Library Actor

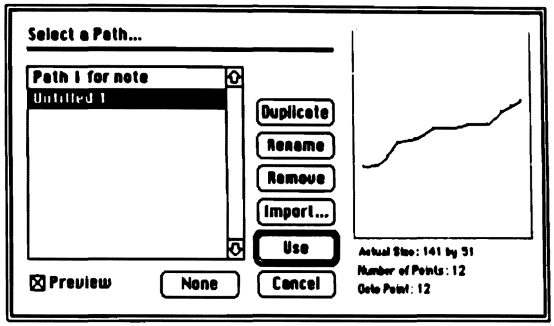
Every Actor is given a unique name when it is created. This name will appear beside the Actor Selection icon. To select another Actor to play this part, click the Actor Selection icon, select the Actor from the list, then click Use. The previous Actor is then replaced in the animation.



Library Path

Every Actor that is placed in an animation has a single-point path. You can create a path of action by selecting the Path tool and adding new points to the single-point path. When a Path is created, it is given a default name (e.g. Untitled 1). Each new untitled path will be numbered automatically.

If the Actor has just been placed, the name of the Library Path will be blank. You can add a pre-defined path or change the Path that an Actor uses by clicking the Library Path icon. This allows you to select another Path (path of action) for the Actor to follow. Select a Path from the list and click Use.



Start Frame

The start frame defaults to the current frame number when the Actor was placed. The start frame number can be changed at any time as long as it is not larger than the end frame number.

End Frame

The end frame defaults to the last frame of the animation. The end frame number can be changed at any time as long as it is not larger than the last frame number of the animation.

Path Point Start

Every Actor that is placed in an animation has a single-point path. If the Actor has more than one point in its path, the first path point is also the starting point to animate from unless you change the number in this box. You can change the start point for the path to any number as long as it does not exceed the number of points in the path. For example, if there are 23 points in a path, you can start at any point from 1 to 23.

Start Position

When an Actor is placed in an animation it is placed at a specific location on the screen. If you move the Actor, these numbers change to reflect the new horizontal and vertical position. You can change the location of the Actor by typing a number into the horizontal and vertical fields.

Cel Mode

When an Actor is first placed in an animation, its default cel mode is Opaque. You can use the pop-up menu to change the cel mode to Transparent, Sequence Opacity or Matte Effect. For information on Sequence Opacity, see the Cel Sequencer section in *Chapter 7: Creating an Animation.*

Matte Effect allows you to choose a Prop that the Actor will use to create the matte. The Actor will act like a cookie cutter, cutting a section out of the Prop and displaying that where the Actor would normally appear. Matte Effect is most effective if you disable the Prop that the Actor is passing over. You can disable a Prop by clicking its checkbox in the TimeLines window.

Locked

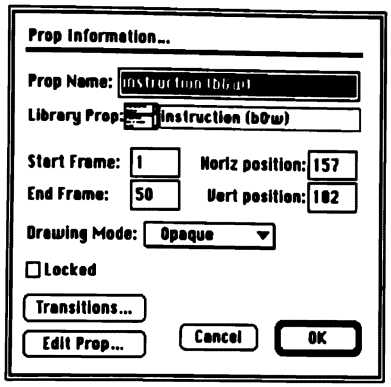
Click the Locked checkbox if you want to lock the Actor in this position on the screen. You will not be able to move it with the Object Selection tool while this box is checked.

Edit Actor

Click Edit Actor to edit or modify the Actor using the Paint tools. The Paint palette and a Paint document window containing the currently active cel of the Actor appear. The Paint tools work in all bit depths—black and white or color.

Prop Information Dialog

The Prop Information dialog lets you adjust a Prop once it has been placed. To display the dialog, double-click a placed Prop while using the Object Selection tool or select a placed Prop, then choose Get Info from the Objects menu.



Prop Name

The Prop Name defaults to its library name. To keep track of placed Props, give each one a unique name every time it is used. This is a label name and it does not change the Prop's original name within the Prop library.

NOTE: Giving multiple instances of the same Prop different names makes it easy to distinguish between Props in the TimeLines window.

Library Prop

Every Prop is given a unique name when it is created. This name will appear beside the Prop Selection icon. To select another Prop to play this part, click the Prop Selection icon, select the Prop from the list, then click Use. The previous Prop is then replaced in the animation.

Start Frame

The start frame defaults to the current frame number when the Prop was placed. The start frame number can be changed at any time as long as it is not larger than the end frame number.

End Frame

The end frame defaults to the last frame of the animation. The end frame number can be changed at any time as long as it is not larger than the last frame number of the animation.

Position

When a Prop is placed in an animation, it is placed at a specific location on the screen. If you move the Prop, these numbers change

to reflect the new horizontal and vertical positions. You can change the location of the Prop by typing a number into the horizontal and vertical fields.

Drawing Mode

When a Prop is first placed in an animation, its default Drawing Mode is Opaque. You can use the pop-up menu to change the mode to Transparent.

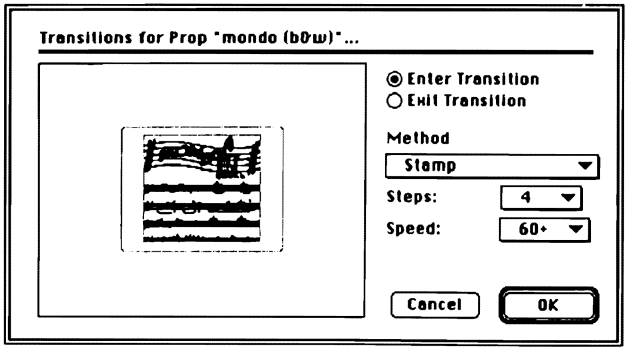
NOTE: For more information, see Cel/Drawing Modes *later in this chapter.*

Locked

Click the Locked checkbox if you want to lock the Prop in this position on the screen. You will not be able to move it with the Object Selection tool while this box is checked.

Transitions

Click Transitions to change the way Props enter and exit animations. (A short-cut to display the Transition dialog is to hold down Command-Shift and double-click on one or more Props.) The following dialog appears.



The preview window shows you the frame that you are currently working on and the selected Prop within it.

Enter/Exit Transition

The Enter and Exit Transition radio buttons determine which transition you are editing. Enter Transitions are shown when the Prop first

appears and Exit Transitions are shown when the Prop leaves. You can set both enter and exit transitions.

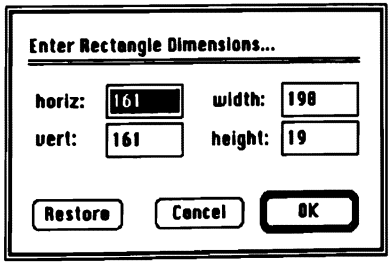
Method

The Method pop-up menu selects the type of transition to be used for the transition. The following is a description of each.

Stamp: This is the default setting. The Prop stamps on the screen with no transition. The Steps and Speed selectors are not active.

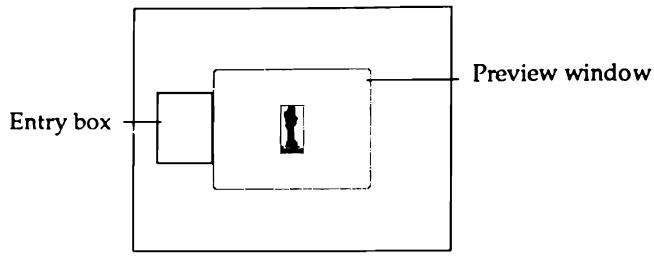
Scroll: The Prop scrolls in from the direction that you specify. When choosing Scroll you can drag the entry box to anywhere within the preview window. Where you position the entry box is the Prop's transitional starting position. The Prop will then scroll to the position that you placed it on the screen. You can also control a Prop's transitional starting size by clicking and dragging the lower right corner of the entry box. Changing the size of this box scales the Prop during its transition.

Another method of setting the Prop's starting position and size is to double-click it in the preview window. The Enter Rectangle Dimensions dialogs appears, letting you enter this information.



Dissolve: The Prop dissolves onto the screen.

Zoom Rectangles: The Prop zooms open from the location that you specify. When choosing Zoom Rectangles you can drag the entry box to anywhere within the preview window. Where you position the entry box is the first Prop's transitional starting position. The Prop will then zoom from this position to where you placed it on the screen.



Angular Wipe Top Left: The Prop will wipe down from the top left corner.

Angular Wipe Bottom Right: The Prop will wipe up from the bottom right corner.

Angular Wipe Top Right: The Prop will wipe down from the top right corner.

Angular Wipe Bottom Left: The Prop will wipe up from the bottom left corner.

Checker Board: The Prop will appear or disappear in a checker board pattern.

Iris: The Prop will appear in the center of the screen as an expanding circle, or disappear as a shrinking circle.

Circle Wipe: The Prop will wipe on to or off the screen like a second hand on a watch.

Rectangular Wipe: The Prop will wipe on to or off the screen from the direction you set using the entry box. Interesting effects can be created by setting the entry box to a point or line.

Fade: The Prop will fade on or off the screen.

Pixelize: The Prop will appear with large pixels that become regular pixels or disappear by forming into increasingly large pixels.

Steps

The Steps pop-up menu controls the speed of the transition. The greater number of steps, the more fluid the transition will be.

Speed

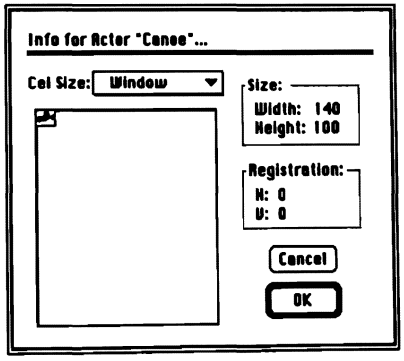
The speed selector controls the speed of the transition. The higher the number, the faster the steps of the transition will be played.

Edit Prop

Click in the Prop Information dialog to edit or modify the currently selected Prop using the Paint tools. The Paint Palette and a Paint document window containing the Prop appear. The Paint tools work in all bit depths—black and white or color.

Paint Document Information Dialog

To display the Paint Document Information dialog, select the Paint document window of interest, then choose Get Info from the Objects menu. The following dialog appears.

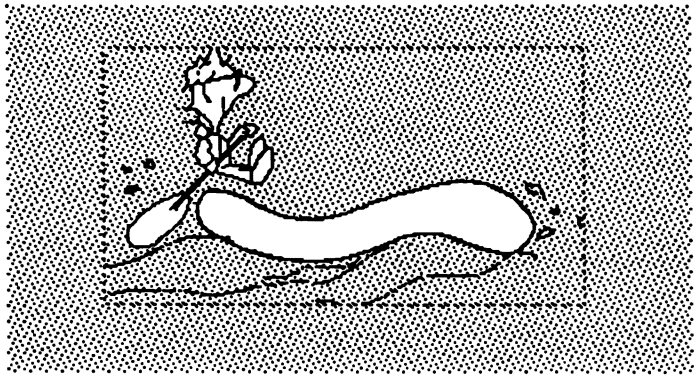


The cel size may be changed by using the Cel Size pop-up menu or by re-sizing the cel size box. If it is an Actor document, you will be able to set the registration point for the Actor by dragging the registration lines.

Cel / Drawing Modes

Opaque

Opaque is the default drawing mode for all Actors and Props. White areas completely outlined with another color will remain white. White areas not completely outlined will be invisible.

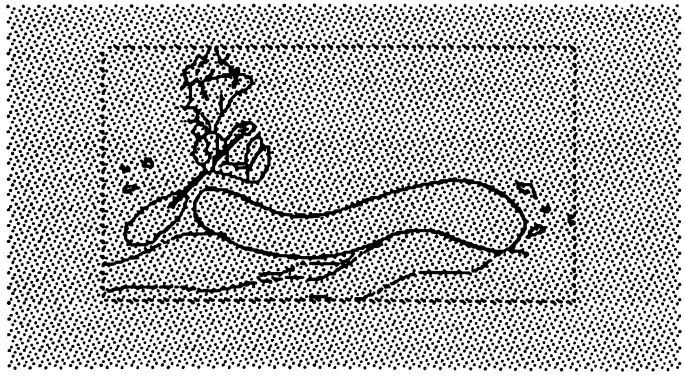


Transparent

All white areas become transparent, allowing objects behind to show through.

The level of transparency can be set on Props. In color mode, setting the level of transparency blends the Prop's colors (including completely outlined areas of white) with the colors of any objects behind it. Fully opaque is 100% and fully transparent is 0%. Setting the level of transparency at any value other than 100% with a black and white monitor setting results in an opaque effect.

NOTE: To set an Actor's tranparency, see Sequence Opacity *below.*



Sequence Opacity

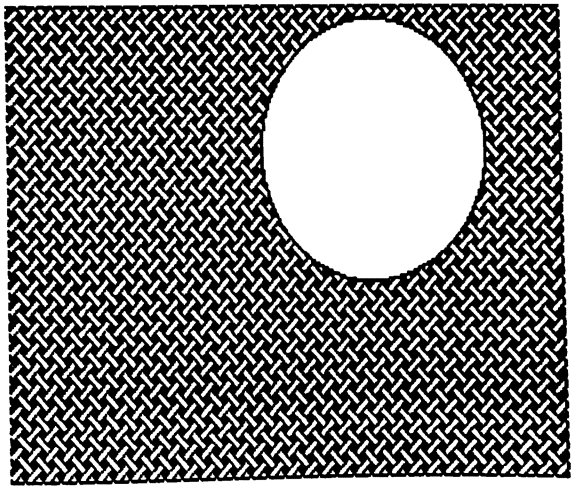
The level of Opacity can be set on Actors using the Sequence Opacity Mode and the Cel Sequencer. In color mode, setting the level of opacity blends the Actor's colors (including completely outlined areas of white) with the colors of any objects behind it. Fully opaque is 100% and fully transparent is 0%. Setting the level of opacity at any value other than 100% with a black and white monitor setting results in a fully opaque effect. For information on using the Cel Sequencer to define opacity levels, see *Setting Opacity* in *Chapter 7: Creating an Animation.*

NOTE: Opacity Changes made in the Cel Sequencer will only display if the drawing mode is set to Sequence Opacity.

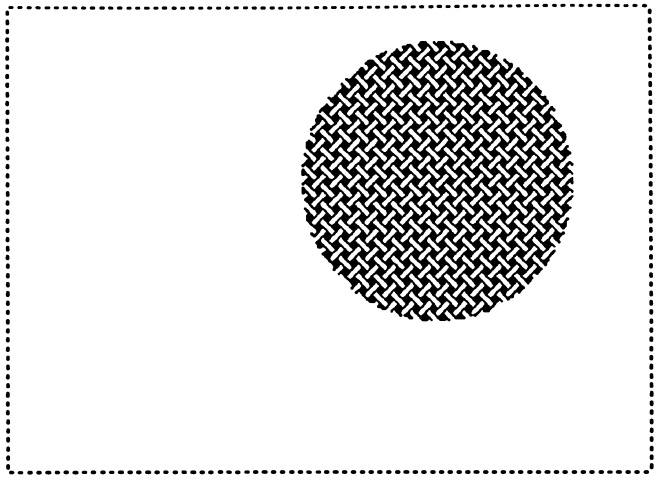
Matte Effect

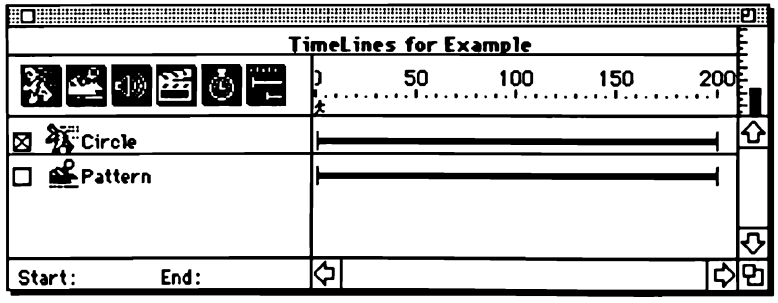
Matte Effect lets you choose a Prop that the Actor uses to create the matte. The Actor acts like a cookie cutter, cutting a section out of the Prop and displaying it where the Actor would normally appear. Matte Effect is most effective if you disable the Prop by clicking its checkbox in the TimeLines window.

In the example below, the circle is the Actor to be matted to the Pattern Prop.



The Drawing mode for the circle Actor is set to Matte Effect, and the Pattern Prop is selected in the pop-up menu. The Pattern Prop should be disabled in the TimeLines window.





Chapter 10: Tips and Techniques

This chapter explains some of ADDmotion II's more advanced features.

Load and Stamp Events

Load and Stamp events can help advanced users of ADDmotion II save memory and increase speed in their more complex animations.

A Load event loads any currently unloaded Actors, Props and Sounds whose start frames occur between the event's start frame and the next Load event. If you add no Load events to your animation, ADDmotion II loads all Actors, Props and Sounds at start up. (There is an implicit Load event at the first and last frames of every animation.) If your animation is complex, this initial loading can be time consuming.

You can take advantage of natural pauses in your animation, such as when the viewer is reading text on the screen, by adding Load events which load objects at these times. These Load events save memory and make your animation flow more smoothly.

A Stamp event can save production time by taking all Actors and Props on a screen at a specific frame and freezing them in place in the background or prop layer of the animation until the end frame specified. You can then add Actors which move in their own layers in front of the "stamped" background layer. Adding new Props to the animation during this period invalidates the stamp event; the stamped background disappears as soon as new Props appear.

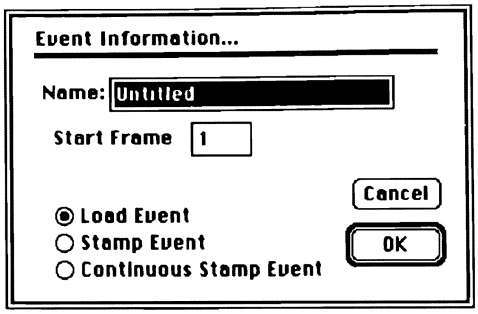
Two or more Stamp events can have different start frames and "overlap" on a number of frames.

A Continuous Stamp event is the same as a Stamp event except that it occurs on every frame from the start to the end frame, rather than just on the start frame.

To create a load or stamp event:

1. **Choose Add Event from the Edit menu, or click the Event icon in the Media Controller.**

The Event Information dialog appears.



2. **Enter a name for the event in the Name field.**
3. **Enter a number of the Start Frame field.**
4. **Click Load Event if you want to load an Actor or Prop that will appear later in the animation.**
5. **Click Stamp Event if you want to freeze all Actors and Props on screen in the start frame specified. If you select Stamp Event, you must also enter a number in the End Frame field.**
6. **Click Continuous Stamp Event if you want a stamp event on each frame that it is active. If you select Continuous Stamp Event, you must also enter a number in the End Frame field.**
7. **Click OK.**

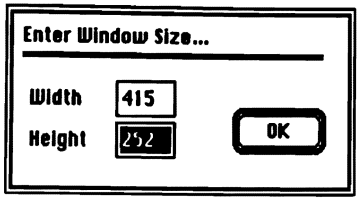
Once added to your animation, these events can be changed using TimeLines. Open the TimeLines window, then click the Events icon which appears as a clock.

Making QuickTime™ Movies

ADDmotion II lets you turn your animations into QuickTime Movies. You must have QuickTime installed on your hard disk for the necessary menu item to be enabled.

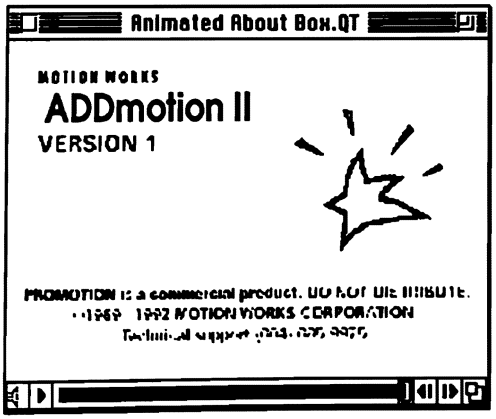
1. **Choose Export - Movie from the File menu.**
2. **Enter a name for the QuickTime movie, then click Save.**

   The Enter Window Size dialog appears.



3. **Type in new dimensions for the movie window or accept the default size, then click OK.**

   A QuickTime file is created. Double-click its icon to play it. Once running, you can move through the movie frame by frame by clicking the forward and backward step buttons, or by clicking and dragging in the play bar at the bottom of the window.



NOTE: You must have one of the QuickTime Players installed for this to function.

Runtime Animations in Stacks

In this section you will learn how ADDmotion II installs the Runtime XCMDs into the stacks that you create and some suggestions and tricks on how to script animations. These new tasks include:

- understanding the ADDmotion II Runtime package and its components
- applying scripting techniques to create effective animations

These XCMDs are automatically copied into any stack in which you create animations or export to. This is done to ensure that all of your stacks will be able to play the animations that you create.

NOTE: This section assumes that you are familiar with HyperCard scripting and HyperTalk. If you are unfamiliar with scripting or HyperCard, please read the HyperCard Script language guide published by Claris Corporation or a third party book related to scripting.

Using ADDmotion II to Create Color Cards and Buttons

The ADDmotion II Runtime can be used to colorize cards easily and effectively by creating an animation that lasts only one frame and by setting Preserve Card Image and Leave Last Frame to true.

The ADDmotion II Runtime Package

The ADDmotion II Runtime package is composed of three separate XCMDs: AMLoad, AMPlay and AMRelease. These XCMDs, syntaxes, examples and descriptions are:

1. AMLoad

```
Syntax:   AMLoad "AnimationName"
          put the result into variable
Example:  AMLoad "Desert Macaw"
          put the result into myanimation
```

Description: AMLoad loads an animation into memory and puts a pointer to that animation into the result (the pointer is a number that is used by AMPlay and AMRelease). You then put the result into a variable. You need only load an animation once; loading more than once is a waste of time and memory. `the result` will contain an error message if the animation was not loaded. Errors occur when the animation name is misspelled, HyperCard does not have enough memory allocated to it, or the animation is corrupted. If you want to play the animation from another script, you must declare the variable used as a global variable.

```
Syntax:   global variable
          AMLoad "AnimationName"
          put the result into variable
```

```
Example: global myanimation
         AMLoad "Desert Macaw"
         put the result into myanimation
```

2. AMPlay

```
Syntax:  AMPlay variable
```

```
Example: AMPlay myanimation
```

Description: AMPlay plays animations that have been previously loaded with AMLoad. Animations can be played more than once and are not released from memory after being played. If you are playing the animation from a different handler than the one that loaded the animation, be sure that the variable is declared as being a global variable.

3. AMRelease

```
Syntax:  AMRelease variable
```

```
Example: AMRelease myanimation
```

Description: When AMRelease is called, the animation is released from memory. This is useful when memory is low and you want to load another animation or you no longer need the animation. If you are playing the animation from a different handler than the one that loaded the animation, be sure that the variable is declared as being a global variable.

NOTE: If an animation does not play, load or release, check the scripting. There are times when an animation might not load. If you try to load and play an animation and it just beeps, there could be a problem with the way HyperCard cached the runtime XCMDs. To solve this problem, quit HyperCard to the Finder, then Open the stack that the animation is in.

Loading, Playing and Releasing an Animation

An example script for loading, playing and then releasing an animation could be:

```
On MouseUp
   AMLoad "Desert Macaw"
   put the result into Macaw
```

```
   AMPlay Macaw
   AMRelease Macaw
End MouseUp
```

Scripting Techniques for Creating Animations

Since the ADDmotion II Runtime is composed of three separate XCMDs and is based in HyperCard, the animations and interactivity that you can create are limitless. This section gives you a few ideas on how to use the ADDmotion II Runtime most effectively.

Preloading Multiple Animations at One Time

It is sometimes advantageous to load animations when the user first enters a stack, background or card. One way around this is to load the animation before the user needs it. The number of animations that you can preload is based on the amount of RAM that you have and the size of the animations. An example script could be:

```
On OpenStack
   -- this script executes when the user enters
   -- the stack, loads the animations into memory
   -- and puts pointers to the animations into
   -- global variables
   global bird, fish, buffalo
   AMLoad "Bird"
   put the result into bird
   AMLoad "Fish"
   put the result into fish
   AMLoad "Big Animal"
   put the result into buffalo
End OpenStack
```

```
On MouseUp
   -- this script plays the animations previously
   -- loaded
   global bird, fish, buffalo
   AMPlay bird
   AMPlay fish
   AMPlay buffalo
End MouseUp


On CloseStack
   -- this script releases the animations and
   -- global variables from memory
   global bird, fish, buffalo
   AMRelease bird
   AMRelease fish
   AMRelease buffalo
   put empty into bird
   put empty into fish
   put empty into buffalo
End CloseStack
```

If you load animations in one handler and play them in another, it is important to release that animation when you no longer need it. If you do not, you will have less memory available to use.

Linking and Exporting Animations

ADDmotion II automatically scripts your animations when you choose Link or Export from ADDmotion II's File menu or Link Animation from HyperCard's File menu. If the Link Animation menu item is disabled, there are no animations in this stack to be linked.

Link – New Button

Choose Link – New Button (or choose Link Animation from HyperCard's File menu, then click Button) to create a button with the same name as the current animation. You can place the button wherever you want on the card.

Link – Stack Script

Choose Link – Stack Script (or choose Link Animation from HyperCard's File menu, then click Stack Script) to create a script with a script level handler that you specify. The default handler name is "OpenStack".

Link – Background Script

Choose Link – Background Script to create a script with a background level handler that you specify. You can select which background you want the handler in by moving the cursor to either the left or right side of the card. Moving the cursor to the left side of the card displays the previous background and moving the cursor to the right side of the card displays the next background. The default handler name is "OpenBackground".

Link – Card Script

Choose Link – Card Script (or choose Link Animation from HyperCard's File menu, then click Card Script) to create a script with a card level handler that you specify. You can select which card you want the handler in by moving the cursor to either the left or right side of the card. Moving the cursor to the left side of the card displays the previous card and moving the cursor to the right side of the card displays the next card. The default handler name is "OpenCard".

Export – New Stack

Choose Export – New Stack to create a new stack with a name that you specify and copies the animation and the ADDmotion II Runtime into it. The default name for the stack is the same as your animation.

Export – Stack Script

Choose Export – Stack Script to select a stack to export to, and copy the animation and the ADDmotion II Runtime into it. The default name for the handler created to run the animation is "OpenStack".

Export – Background Script

Choose Export – Background Script to select a stack to export to, and copy the animation and the ADDmotion II Runtime into it. You can select which background you want the handler in by moving the cursor to either the left or right side of the card. Moving the cursor to the left side of the card displays the previous background and moving the cursor to the right side of the card displays the next background. The default name for the handler created to run the animation is "OpenBackground".

Export – Card Script

Choose Export – Card Script to select a stack to export to, and copy the animation and the ADDmotion II Runtime into it. You can select which card you want the handler in by moving the cursor to either the left or right side of the card. Moving the cursor to the left side of the card displays the previous card and moving the cursor to the right side of the card displays the next card. If there is only one card in the stack, this feature is disabled. The default name for the handler created to run the animation is "OpenCard".

Using Cues to Create More Interaction

Cues allow you to control the flow of your animation, to add interactivity and send messages to other applications. It is possible when one animation is playing to call another animation. This new animation can call other animations and so on and so on... If you want to create an animation that waits for the user to do something before continuing, or branch out and play another animation, you can create a couple of Cues to do this. Here's how:

At any frame you can send a Cue to HyperCard to do anything that HyperTalk or other XCMDs can do. For example, if at a certain frame, say 100, you want the user to select something on the card, you can create a Cue that calls a handler that waits for a specific condition to occur. In this instance, the Cue would be WaitForUser.

```
on WaitForUser
   wait until the mouse is down and the mouseloc ¬
   is within the rect of card button "continue"
end WaitForUser
```

Once frame 100 is reached, ADDmotion II would wait until the user clicked on the button "continue".

If you want to play another animation at this point, or want the user to make a choice to play another animation, the above script could be modified as follows:

```
on WaitForUser
   wait until the mouse is down
   if the mouseloc is within the rect of ¬
   card button "continue" then
      AMLoad "Bird"
      put the result into bird
      AMPlay bird
      AMRelease bird
   end if
end WaitForUser
```

At frame 100 the current animation will stop and wait for the user to click the mouse. If the user clicks on the button "continue", the bird animation will load, play and then release. If the user does not click on the "continue" button, the current animation will continue. When the bird animation is finished, the previous animation will continue where it left off.

A way to achieve the above without waiting for the user to click would be to check "Allow Card Clicks" in the Animation Options dialog. With this feature checked, the user can interact with any buttons or fields on the card. If you had set the MouseUp handler of the "continue" button to the following, the bird animation would play and the current animation would continue if the user clicked on it.

```
On MouseUp
   AMLoad "Bird"
   put the result into bird
   AMPlay bird
   AMRelease bird
End MouseUp
```

Another way is to send Cues throughout the animation by setting the Start and End Frames of the Cue for a range. An example of this could be as follows.

```
on WaitForUser
   if the mouseloc is within the rect of ¬
   card button "continue" then
      AMLoad "Bird"
      put the result into bird
      AMPlay bird
      AMRelease bird
   end if
end WaitForUser
```

If a Cue was added to be sent starting from 1 to 100, the bird animation would play as soon as the mouse was within the button "continue".

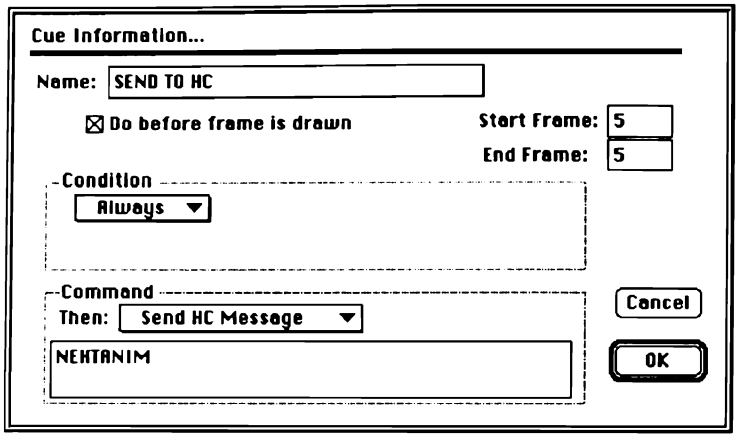
Advanced Cues

Below are some common applications designed to give you more exposure to the concept of Cues. The possibilities are endless. You should be familiar with the *Add Cue* section of *Chapter 9: Menus and Dialogs*.

Sending Messages to HyperCard

One of the most important commands to become familiar with is Send HC Message. Messages allow your animation to communicate with HyperCard, increasing user interactivity.

This Cue sends a "NextAnim" message to HyperCard on frame 5 of the animation. The animation will pause as the NextAnim handler executes.



Create a NextAnim handler at the card level to read a card field and run another animation based on its contents.

Here is an example of a card script:

```
On NextAnim
  if card field "Toggle" contains "Two" then
    AMLoad "Two"
    put the result into T
    AMPlay T
    AMRelease T
  else
    AMLoad "Three"
    put the result into T
    AMPlay T
    AMRelease T
  end if
end NextAnim
```

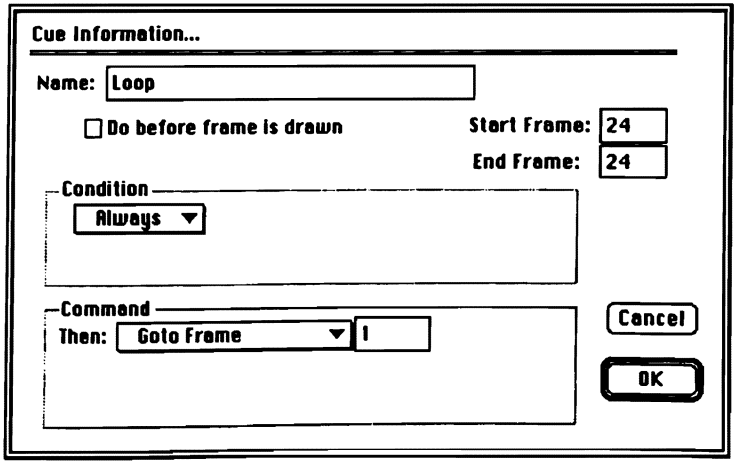
NOTE: For more information on HyperTalk messages, see your HyperTalk manual.

Once a message has been sent to HyperCard, the handler can do anything HyperTalk or other XCMD's can do. Although our example ran other animations, it could have pre-loaded animations, called other XCMD's or updated a card field.

Creating Loops in Your Animation

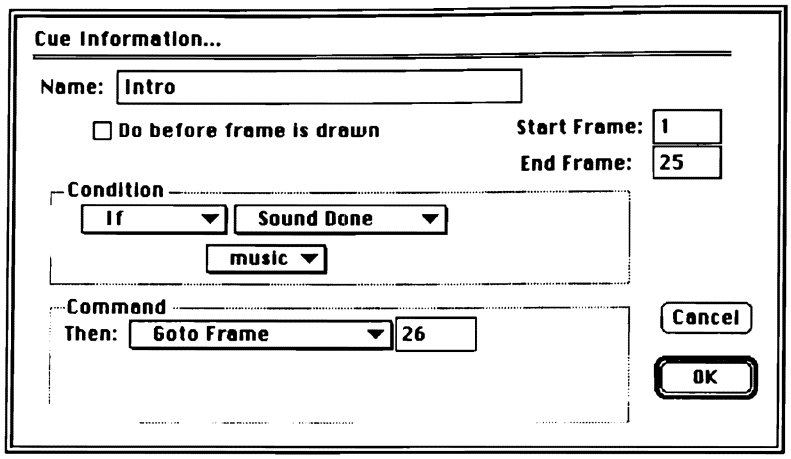
Creating a loop allows animations to be broken up into segments, repeatedly playing a segment until another condition is met. If you want to wait for the user to press an animated button, or let an intro animation play repeatedly until a Sound completes, looping is a valuable tool.

In this example Cue, the animation segment will play frames 1 to 24 repeatedly. The Cue is placed on frame 24 and does an Always Goto Frame 1 command.



Exiting Loops

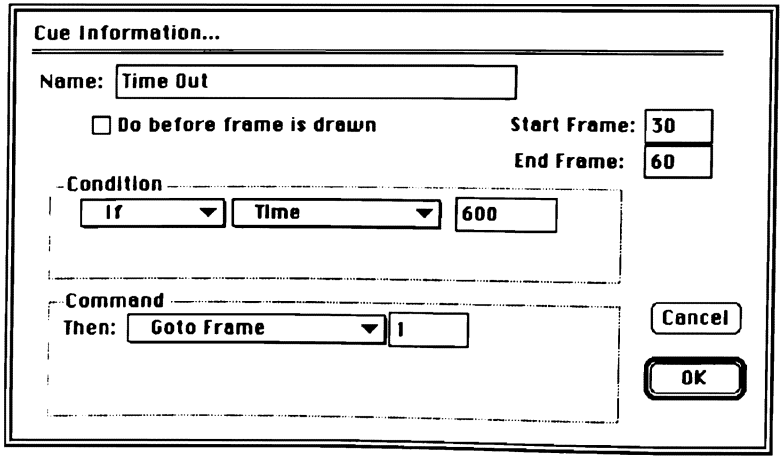
When you have set up a loop as in the previous example, you will likely want to exit the loop and continue with the animation. The Cue below constantly checks to see if the "music" Sound has completed playing, then advances the animation to frame 26. The result of this and the previous Cue is an introduction that will wait for the Sound to complete before continuing to the next segment.



Time Outs

When designing presentations that users can interact with, include a Time Out Cue that will give the user a reasonable period of time to respond. After that time, the Cue will send the animation back to the beginning. In this way, the presentation can reset if the user walks away.

An If Time 600 Goto Frame 1 Cue gives the user a period of time to respond before sending the animation to frame 1. Time is measured in ticks, with 60 ticks per second, thus this Cue waits 1.5 minutes. If at any time the animation jumps outside of the Start Frame-End Frame range of the Cue, the Cue becomes inactive.



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