

ANI-ST

by

Jim Keist

Program Copyright Douglas Elmer 1987

Documental

ANI-ST

ANIMATION

Program

Instruction Book

Handwritten notes:
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NOTE: You may be familiar with the ANI-ST program, which was developed by Jim Keist, who was the author of the original ANI-ST program. Jim Keist has moved from Argis. Owing to a number of reasons, he has transferred the program to the hardware market under the name ANI-ST. The only change made in the program is the addition of the program to the program with GUCS.

Great animation is a collaborative effort. In a typical context, the chief animator only draws the principle image. Later, someone called a "tweener" comes along and draws all the in-between movements. In the film *Who Framed Roger Rabbit?*, for instance, if a scene called for Roger's eyes to pop out of their sockets, the cartoonist would draw the beginning of the action (the eyes ready to pop) and the end of the action (the eyes fully out of the sockets). A tweener would then draw everything that happens in-between, one frame for each movement, until the scene is complete. You can now do this with Ani-ST. The software will do the in-between frames for you. You can see the results by clicking on the **Next** button in the **Next Menu**.

As you can guess, there are few people with enough patience and skill to be good tweeners. Computers, on the other hand, have nothing if not endless patience. And Ani-ST you can turn your ST into a professional tweener in no time at all. A color monitor is required.

Ani ST

by

Jim Kent

Program Copyright Dancing Flame, 1987

Documentation Copyright Antic Publishing 1989

At a computer, you can draw a polygon (a shape with straight sides) and move it into another shape. The computer generates the in-between shapes automatically. You can do this over a painted (MEMO or PRT) background or you can edit out pieces of a picture (CEL's and MSK's) to move along a path, color cycle the result, or then take to disk as the polygon.

This program and documentation may be freely distributed.

NOTE: You may be familiar with the program previously marketed by Aegis as Aegis Animator (TM). Jim Kent, who wrote the program, has received the rights to it back from Aegis. Citing an inability for people to find the program, he has entered it in the shareware market under the new name Ani ST. The suggested contribution is a smile. The only change made in the program is a fix to a problem the program had running with GDOS.

Let's make a circle that turns into a star, first turning a bigger circle. To do this, move the cursor to the top of the screen and right-click. The Ani ST drop-down menu appears. Select **Make Circle** under the **Make menu**. Left-click to set the center of the circle, then move the cursor away from the center about two inches and click again. Now move to the top of the screen and right-click again. From the **Move menu**, select **Loop**. Our cursor will change to a loop and the bottom of the screen will prompt you to select a polygon. Click once over the circle. Now drag every other point of the polygon away from the center of the circle to create a star. Right-click when you're through. Select **Play All** from the **Time drop-down**. Congratulations! You've just produced your first metamorphic animation.

To complete the sequence, select **Next Tween** from the **Time drop-down**. Click on the star shape to select it, and use the loop to move the inner point of the star away from the center until you have a circle larger than the original. Try another **Play All**. If

Great animation is a collaborative effort. In a typical cartoon, the chief animator only draws the principle image. Later, someone called a "tweener" comes along and draws all the in-between movements. In the film *Who Framed Roger Rabbit?*, for instance, if a scene called for Roger's eyes to pop out of their sockets, the cartoonist would draw the beginning of the action (the eyes ready to pop) and the end of the action (the eyes fully out of the sockets). A tweener would then draw in everything that happens in between, one frame for each movement.

As you can guess, there are few people with enough patience and skill to be good tweeners. Computers, on the other hand, have nothing if not endless patience. And with Ani ST you can turn your ST into a professional tweener in no time at all. A color monitor is required.

As a computer tweener, Ani ST excels in what is known as metamorphic polygon animation (polymorphic for short). In this type of animation you draw an initial shape and move it into another shape. The computer generates the in-between shapes automatically. You can do this over a painted (.NEO or .PI1) background or you can cut out pieces of a picture (CEL's and MSK's) to move along a path, color cycle the result, then fade to black as the polygons shrink in the distance.

Running Ani ST

Run ANIST.PRG in low resolution by double-clicking on its icon. A black screen will appear with a small, icon-driven menu on the upper left-hand corner. This is the "fast" menu. I'll get to a button-by-button description of the program shortly, but first let's try an experiment.

Let's make a circle that turns into a star that turns into a bigger circle. To do this, move the cursor to the top of the screen and right-click. The Ani ST drop-down menus appear. Select **Make Circle** under the **Make** menu. Left-click to set the center of the circle, then move the cursor away from the center about two inches and click again. Now move to the top of the screen and right-click again. From the **Move** menu select **Loop**. Your cursor will change to a loop and the bottom of the screen will prompt you to select a polygon. Click once over the circle. Now drag every other point of the polygon away from the center of the circle to create a star. Right-click when you're through. Select **Play All** from the **Time** drop-down. Congratulations! You've just produced your first metamorphic animation.

To complete the sequence, select **Next Tween** from the **Time** drop-down. Click on the star shape to select it, and use the loop to move the inner point of the star away from the center until you have a circle larger than the original. Try another **Play All**. If

everything was done correctly, you should see a small circle change into a star and then from a star into a large circle.

Button by Button: The Drop-Downs

Most of the functions of Ani ST are available either from the **Fast Menu** or the drop-down menus. In order to access these menus, press the right mouse button while your cursor is at the very top of the screen. You can close the **Fast Menu** by clicking on the box in the upper left-hand corner; to bring it back, click on **Fast Menu** under the **Menu** menu bar.

Menu

Most of the **Menu** drop-downs take you to other menus. Here too you'll find the all important **Undo** and **Exit** options.

About - Displays program version and copyright.

Undo - Forgets last action.

Help Bar - When selected the program puts prompts at the bottom of the screen (this is the default).

Fast Menu - Brings up or takes down the iconic fast menu.

Storage - Goes to a flat-panel menu to load, save or kill files.

Storyboard - Goes to an editing display where you can cut and splice animations.

Color - Goes to the color-mixing menu.

Time - Goes to the menu for setting speed of individual tween intervals and the animation as a whole. Also lets you jump around to a specific tween interval and play animation forward or backward.

New Script - Wipes current script (animation) from memory.

Status - Tells how much memory is left in your machine.

Exit - Takes you to the Desktop.

Make

Most of the Make drop-down options create new shapes.

Polygon - Creates a polygon shape one dot at a time.

Circle - Creates a circle (actually a 16-point polygon).

Star - Creates a star with five points.

Block - Creates a horizontal or vertical rectangle. (You can't move the vertices of a block, it's like a CEL or MSK that way.)

Filled - Newly created shapes will be solid (this is the default).

Outline - Newly created shapes will be outlined and the last point automatically connected to the first.

Line - Newly created shapes will be outlined and the last point and first point will be separate.

Clone - Creates an exact duplicate of an object.

Destroy - Removes an object.

Insert - Newly created objects will be on top of older objects (this is the default).

Exchange - Newly created objects will replace the nearest older object.

Move

The Move drop-down options let you either move or transform existing shapes.

Sideways - Moves objects to either side in the plane of the screen.

Into Screen - Moves objects into the screen. How far they move corresponds to how far you move the mouse while the left button is down.

Out of Screen - Moves objects out of screen.

Rotate - Rotates objects in the plane of the screen.

Xrotate - Rotates objects about a horizontal axis.

Yrotate - Rotates objects about a vertical axis.

Big/Small - Shrinks or expands an object. First set center point, then click over object to resize and hold button down. Move toward the center to shrink, away from the center to expand. Release button when the object is the right size.

Along Path - Moves objects in the plane of the screen along a path you define one point at a time.

Change Color - Changes objects to your current color.

Make Filled - Transforms an outline or line object to a filled one.

Make Outline - Transforms an object to outlined form.

Make Line - Transforms an object to line form.

Loop - The "easy" metamorphic tool. Click on polygon to transform. Then drag around the vertices to new positions.

Hook - The "hard" metamorphic tool. Click in the center of an edge to create a new vertex. Click on a vertex to move it. If you move a vertex too close to a neighboring vertex it will merge with the neighbor.

Pick

The Pick options let you control how shapes are selected for the Move operations.

Point - Moves a single point at a time.

Points - Moves several points at a time. When this is active you'll first select the points and then go into the "move" part of the operation. Select a point by left-clicking on it. Another left-click over the same point will de-select it. Right-click when you have all the points you've selected.

Segment - Move a segment, or series of connected points, in a polygon, star or circle. First click on the polygon containing the segment. Then click on the first point of the segment. Click on the second point of the segment and, finally, right-click and hold the button down over the last point of the segment to move the object.

Polygon - Move a single object (this is the default).

Polygons - Move more than one shape (polygon, WIN, STR, etc.) at once. Click over each shape to select. Click again over a selected shape to de-select it. Right-click when you're finished selecting.

All - Select this to move all objects at once.

Time

The Time drop-down menus contain options to create new tween intervals and to play back your animation. Clicking Time under the Menu menu takes you to a menu that gives you even more control over these options.

Next Tween - Moves to the next tween interval. If this is the last tween in the animation, create a new one.

Play Tween - Plays through the current tween interval once.

Play All - Plays the entire animation once from start to finish.

Play Loop - Plays the entire animation in a loop forever (or until you right click.)

Ghost Mode - If selected all objects are seen as outlines only.

At End - Views the tween interval at the end of its time segment (default).

At Start - Views the tween interval at start of its time segment.

Icons and Menus

Most of the menus have a question mark icon near the top right. Left-click here and then click over any item in the menu you're curious about. At the bottom of the screen you'll see a one-line description of that item.

Button by Button: The Storage Menu

The Storage Menu is where you load and save animations and parts of an animation. Exit the Storage Menu menu by either left-clicking at Close Box (in the upper left-hand corner) or by simply right-clicking anywhere on the screen. To the right of the Close Box is the Move Bar. Direct the cursor here and hold the left mouse button

down to move the menu.

To the left of Close Box is the File Name Scrollbar. Click on a name here and it will appear in red in the lower right-hand corner of the Storage Menu, indicating it is the selected file. In the middle is this list of file suffixes:

SCR - (Default) These files are complete animation scripts. They're in ASCII and consist mostly of a series of key words and a lot of numbers.

NEO - A NEOchrome picture used as a background.

PI1 - A DEGAS format low resolution background.

CEL - A rectangular piece of a picture. It can be loaded and moved but not metamorphically transformed.

MSK - A rectangular piece of a picture reduced to a single color. It's slightly faster than a CEL and uses up to 1/5 the memory.

POL - A single polygon.

COL - A color palette.

STR - An animation script used as a single object when loaded. Lets you build up your animations in pieces and merge them together.

Clicking on a file suffix causes the File Name Scrollbar to display all your files with a matching suffix.

On the right side of the Storage Menu are the four action buttons - Load, Save, Kill, and Cd (for change directory). A click here causes the chosen action to be executed on the spot.

Underneath these are three icons: the still camera to advance to the next tween, the undo and the help question mark.

In the bottom right-hand corner of the Storage Menu is the Current File Name. A click here lets you type in a new name. Normally you won't type in the file suffix, but if you wish to override the default suffix (for instance, forcing Ani ST to use a .SCR file as a .STR file), type in the suffix as well.

To load a script select Storage from the Menu option. Click on .SCR (unless it's already highlighted). Click on the file you wish to load on the File Name Scrollbar. Then click on load.

Button by Button: The Time Menu

The top of the Time Menu has a Close Box and a Move Bar. Underneath those are three labeled sliders with digit gauges beside them. The sliders and digit gauges control the same quantities. The sliders are better for coarse adjustment, while the digit gauges let you make precise settings. To adjust a slider click on or above the horizontal black line. The diamond-shaped knob will jump to your cursor position. Release the button when the knob is in the right place. To adjust a digit gauge click on the triangles above and below the digit you'd like to change. The slider labeled "which tween" controls which tween interval you're on.

The slider below "tween time" controls how long the current tween is. A value of 60 here will make the tween last one second. Use long tween times for slow dreamy motions, short tween times for fast decisive actions.

The slider labeled "global speed" effects the speed of the entire animation. A value of 32 here is normal. A value of 64 would make the script play back twice as fast. (A 60-tick tween would take only 1/2 a second).

Underneath the slider bars is a set of controls much like you'd find on a VCR. The triple-left arrows control takes you to the first tween. The double-left arrows control replays your animation backwards. The single-left arrow control steps you back one tween. The number in the middle indicates how long your animation is up to this point in time and is measured in minutes:seconds:jiffies (a jiffy is 1/60th of a second). The single right arrow control steps you forward a tween. Unlike the still camera icon in other menus or the Next Tween under the Time menu, this will not create a new tween if you're at the end of your animation. The double-right arrows control plays back the animation forwards. The triple-right arrow control takes you to the end of your animation.

Button by Button: The Color Menu

In the Color Menu you can mix and modulate colors. Under the Close Box/Move Bar there are three digit gauges controlling the red, green and blue components of your current color. To the right of these are the ever-useful Help, Undo and Next Tween (still camera) icons. In the middle left side of the Color Menu are sliders controlling the hue (place in rainbow), light (lightness/darkness) and sat (saturation or vividness) of

the current colors.

On the bottom of the Color Menu is the 16-color Color Bar. Click here to select a color; a dot will appear in the middle of the selected color. Just above the Color Bar is the Color Range selector. It is a left-angle bracket indicating the start of the Color Range, a right angle bracket indicating the end and a horizontal line connecting the two. Drag (right-click and hold) the angle brackets to a new position to adjust the Color Range.

The right side of the Color Menu contains six action buttons.

Cycle - Makes all the colors in the Color Range change to the one to the right. Reverse the Color Range to cycle backwards. To cycle more than one step during a single tween interval click on cycle repeatedly.

Fade - This makes the colors in the Color Range fade into the current color over the course of the tween interval.

Wipe - This removes the background .NEO or .P11 file starting at this tween.

Range - This makes a smooth gradation of colors between the endpoints of the Color Range. To make a grey scale click on the color under the left bracket and drag its light slider all the way to the left to make black, then click on the color under the right bracket and drag its light slider all the way to the right to make white, then select the range.

Spectrum - This is similar to range, but makes gradations that are more like a rainbow. Reversing the color range will make the other side of the rainbow. For example, a spectrum from red to yellow will include orange, while a spectrum from yellow to red will include green, blue and purple. If both ends of the color range are the same color you will get a full 360 degree spectrum.

Glow On - This controls whether the highlight color (used to show which polygon or points are selected during move operations) is automatically color cycled.

All of the options in the Color Menu occur smoothly over the course of a tween interval.

If you wish the changes to happen suddenly it's best to save the new color map as a .COL file in the Storage Menu, and then load it back in.

Button by Button: The Fast Menu

The Fast Menu lets you make most of the choices from the drop-downs in an icon form. It's quicker and provides you with immediate feedback as to what mode Ani ST is currently in. The icons may seem a little cryptic at first but you'll become familiar with them as you use the program.

The top of the Fast Menu has the Close Box and the Move Bar. Underneath this on the left side you have six icons that represent which Pick mode you're in. These are Point, Points, Segment, Polygon, Polygons and Frame. One of these six will always be highlighted. Underneath the Pick selections are the Move and Create options. There are two rows of these icons, eleven in all, one of which will always be highlighted. Click on the question icon and then over an icon to find out what each stands for.

The top-middle icon is the Memory Gauge. When the needle is to the right the computer's memory is full. Even though Ani ST uses much less memory than most other forms of animation, it is wise to watch this gauge carefully. When the program runs out of memory your work is automatically saved. This action unexpected can be a bit disorienting. To the right of the Memory Gauge is the Help question mark. This is followed by a tilde (~) icon. The tilde is used to adjust other icons. A tilde followed by a click over the Rotate icon will let you tell the program how you want to rotate. You can also use the tilde to adjust the Out icon, the big movie projector and the small movie projector. Just right of the tilde is Undo.

Under the Memory Gauge is a floppy disk icon that when clicked on will take you to the Storage Menu. Next to this is an icon of six little boxes which represents the Storyboard (see below). To the right of this is an artist's palette that takes you to the Color Menu and right of this is a shortcut to the Time menu. The last four icons on the right are Exit to quit the program, a big projector that is equivalent to Play Loop under the Time menu, a small projector which plays a tween and a still camera which is equivalent to Next Tween under the Time menu.

Button by Button: The Storyboard

The Storyboard lets you cut and splice animations together. Load up an animation and go into the Storyboard. Your animation will appear in miniature in one of six square slots on the bottom of the screen. Right-click near the top of the screen and a small selection of drop-down menus will appear. These are:

Menu

About... - Provides copyright and version information.

Status - Gives free RAM-memory information.

Exit - Takes you to the Desktop.

Edit

Go Into - Turns your cursor into a flickering "into." Left click over one of the six animation slots to select the animation you wish to go into. This option comes up automatically when you go to the Storyboard menu.

Splice - Splices two animations together or makes a copy of an animation. Click over a slot to select the ending animation of the splice. Click again to select the starting part of the splice. The spliced result will appear in place of the starting part. To make a copy of an animation simply click on the animation and then splice it to the end of an empty slot.

Cut - Cuts an animation at the current tween interval. Click over the animation you wish to cut and then click again over a slot where you'd like to put the second half. The cut puts the current tween in the second half.

Delete - Deletes a slot. Click on a slot and it's empty.

Activate - Plays the animation in the slot you click on. Click again on the same slot to stop it. Click on another slot if you'd like to see a couple of animations going at once.

END

Ani-ST Animator inA

States - Gives the RAM memory information to test state information. It's a quick and easy way to see what state you're in. It's a quick and easy way to see what state you're in. It's a quick and easy way to see what state you're in.

Exit - Takes you to the Desktop. It's a quick and easy way to see what state you're in. It's a quick and easy way to see what state you're in. It's a quick and easy way to see what state you're in.

Edit

Go to - Turns your cursor into a clicking hand. Left-click over one of the six animation slots to select the animation you wish to go to. This option comes up automatically when you go to the Edit menu. Pick the animation you wish to go to. This option comes up automatically when you go to the Edit menu. Pick the animation you wish to go to.

Splice - Splices two animations together to make a copy of an animation. Click over a slot to select the ending animation of the splice. Click again to select the starting part of the splice. The spliced result will appear in place of the starting part. To make a copy of an animation simply click on the animation and then splice it to the end of another animation. It's a quick and easy way to see what state you're in.

Out - Cuts an animation at the current tween interval. Click over the animation you wish to cut and then click again over a slot where you'd like to put the second half. The first half will be cut and the second half will be in place of the first half. You can use the Rotate icon to rotate the second half. It's a quick and easy way to see what state you're in.

Delete - Deletes a slot. Click on a slot and it's empty. It's a quick and easy way to see what state you're in.

Activate - Plays the animation in the slot you click on. Click again on the same slot to stop the animation. You'll see a couple of animation going at the same time. To the right of this is an area for the Storyboard. The last four slots of the Color Menu and right of this is a shortcut to the Time menu. The last four slots of the Time menu will be the program. A big play button is equivalent to Play Loop under the Time menu. A small play button is equivalent to Play Loop under the Time menu.

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