

ANIMAC II, Version 2.12

Released: November, 1996.

See conditions for distributing copies of ANIMAC at the end of this document.

To ensure trouble-free operation of ANIMAC, please read this document!

IF YOU DO NOT READ THE ENTIRE DOCUMENT, PLEASE NOTE:

ANIMAC is MEMORY-HUNGRY, since it stores all images in memory for fastest possible access. DO NOT run ANIMAC together with other programs! If ANIMAC locks up when you try to run it, requiring you to restart your computer, then ANIMAC's memory size is incorrectly set, or you have a conflicting extension (see below). If your Mac has 16 Mb of RAM (of which at least 11 Mb free), please set ANIMAC's "preferred memory size" to 10.000 K (i.e. 10 Mb). If it has significantly more, set the size to a maximum of 16.000 K. If you have 16 Mb or less, please set it as described below. (ANIMAC is delivered with a setting of only 2200 K, enabling it to run on older Macs with as little as 4 Mb RAM.)

ANIMAC is incompatible with some extensions. To bypass extensions, start your Mac and hold down the "Shift" key until you see the text "Extensions off". Then run ANIMAC. (The extensions will be back on the next restart.)

INSTALLATION:

- **IMPORTANT:** If you have an old version (or demo version) of ANIMAC on your hard disk, you should remove the old ANIMAC II and ANIMAC DATA files before copying the new version to your hard disk. The animation and sound files are still fully compatible and do not need to be removed.

- If you have downloaded the ANIMAC Demo and are reading this, then you do not need to extract any files; skip the next paragraph.

- **BEFORE USING ANIMAC, FIRST COPY THE ENTIRE ANIMAC FOLDER TO YOUR HARD DISK. THEN EJECT THE FLOPPY DISK AND OPEN THE NEWLY COPIED ANIMAC FOLDER ON YOUR HARD DISK. DOUBLECLICK THE SMALL FOLDER ICON WITH ARROWS. PRESS THE "EXTRACT" BUTTON IN THE APPEARING WINDOW. THE DATA IN THE FOLDER WILL BE EXTRACTED AND PLACED IN THE ANIMAC FOLDER. (The extracted data consists of some sample animation, x-sheet and sound files, and an electronic version of the User's Manual.)**

- If you have purchased ANIMAC and use the software enabler (also called "dongle"): Please follow the hardware and software installation instructions in the ANIMAC User's manual. You must also install the software for the camera from the enclosed two disks. Please see the camera manual for instructions on how to install this software. ANIMAC will not function correctly unless installation is properly made. If you have a Quadra 700, 900 or 950, PowerBook 140, 160, 170 or 180: you may need some of the special software that is provided in the "Problems?" folder on your ANIMAC disk. Please check the "Read this" file in that folder.

If you are unable to solve a problem, please phone or fax your ANIMAC supplier.

- A freely distributed copy of ANIMAC (i.e. without the "dongle") will run in "demo" mode and does not need any camera software. Some older Macs may not be able to play ANIMAC sounds.

SETTING ANIMAC's MEMORY SIZE:

- ANIMAC is memory-hungry. To optimize the number of drawings ANIMAC can handle, you must check the amount of free memory in your Mac. To do so, quit all programs. Check the "About this Macintosh" in the Apple menu. Then highlight the ANIMAC II program by clicking on it ONCE, and then choose "Get info" in the "File" menu. Set the "Preferred Memory Size" in ANIMAC's Info to at least 500-800 K LESS than the "Largest Unused Block" of memory that you see in "About this Macintosh" window. See example below:

If the preferred size is set too high, ANIMAC may not function correctly, and printing from ANIMAC may be impossible. If it is set too low, ANIMAC may crash. Please periodically check this setting, especially if you add more memory to your Mac (preferred size can be set larger) or otherwise change the system (adding extensions, for instance, then you have to reduce the preferred size). An absolute minimum of RAM is 4 Mb; this usually means about 2500 K free memory, and a preferred size of 2200 K. This suffices for only a little over 100 drawings. With 10 Mb free RAM, ANIMAC can handle up to 850 drawings. Please note: There is no use to set the Preferred size to more than 10.000 K - ANIMAC cannot use more than 10 Mb RAM, even if you have more available. One exception: if you have more than 16 MB free RAM in your Mac, and ANIMAC crashes, set the memory size to 16.000 K.

AVOIDING SOFTWARE CONFLICTS

- Do not run any other applications simultaneously with ANIMAC. If you do, you may experience jerky movement and imprecise timing. (Check the application menu in the top right corner of your screen — only ANIMAC and Finder should appear.)
- If you experience "jerky" animation that seems to stop momentarily, you may have some program or background task running in your Mac. Some CD-ROM software may also cause jerkiness. Please ensure that all unnecessary extensions are switched OFF (use "Extension Manager" in the Apple Menu's Control Panel.) For ANIMAC, you only need the QuickTime and camera extensions. (Your specific Mac model may require additional extensions. See your Mac manual before disabling any of Apple's extensions.)
- If you are running the demo version, it is simpler to restart your Mac while holding down the shift key until you see the "Extensions disabled" message. (You'll get them back on the next restart.)

- Please note that the Apple software "At Ease" and "Launcher" should NOT be used together with ANIMAC. These programs run in the background, "stealing" processing time from ANIMAC, also causing jerky animation. To disable "At Ease", go to its Control Panel and switch it OFF. To disable "Launcher", remove it from the Startup folder (in the System folder). "At Ease" and "Launcher" are usually factory-installed on the Performa Macs, so if you have a Performa, please ensure these programs are disabled! See your Mac manual if you need further information on these programs.

- If you experience problems with the ANIMAC software, please disable all unnecessary Extensions. A conflict exists between ANIMAC and some scripting and other extensions. If the ANIMAC program freezes, please restart your Macintosh, go to the Extension Manager control panel and temporarily disable all extensions EXCEPT the following: QuickTime; any system enablers your computer needs; the camera software. These must be active for ANIMAC to function fully. Then restart again and try running ANIMAC. If this does not help, please contact your ANIMAC supplier with an EXACT description of the problem and any error messages. You can also E-mail: animato@sci.fi

- Do not use a screen saver (such as After Dark — you may get flying toasters ruining your animation...) and don't use virtual memory. (Virtual memory will slow the display and make the action jerky — get more RAM if you need more picture memory.)

HARDWARE CONSIDERATIONS

- Do NOT plug or unplug the software enabler when power is on.

- If you wish to record sound into the ANIMAC program, use the Control Panel "Sound" in the Apple menu to choose the appropriate input. If your sound source is a tape recorder or amplifier please consider the following: There are two types of microphone inputs, depending on the model of Mac. The "old" type has a low-voltage input, which may cause distorted sound if you connect a tape recorder directly to it. You may have to obtain a "sound attenuator cable" that lowers the voltage. Such a cable can be provided by the ANIMAC supplier. The "new" type can handle a line-level signal directly. (The "new" type is found on the Performa/LC 475 and newer Macs, and on all the PowerMacs). NEVER use a sound output other than "line level", i.e. do NOT connect a loudspeaker output to the Mac's microphone input, with or without attenuator! Failure to follow this instruction may cause damage to your Macintosh!

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If you use any program with sound input that allows you to change the sound input

specifications, please make sure that you reinstate the correct settings when running ANIMAC: Mono, 22 KHz sample rate, no compression. Otherwise the soundtrack display will not be correct.

- To all PowerBook users:

You must switch off both "Resting" and "Processor Cycling" from the PowerBook Control Panel in the Apple Menu. Otherwise the animation will be jerky or very slow. The battery life is shorter than usual when these options are off, so be sure to switch them back again if you plan to use your PowerBook for other purposes on battery power.

A PowerBook has a "slower" screen than an ordinary monitor. For this reason, a button "Pause between scans" is available in the camera adjusting display. PowerBook users should find it useful.

When playing a scene with sound on a PowerBook, the action may appear jerky if the timing is set to more than 24 fps. The timing will still be correct, however. ANIMAC may skip a frame whenever the display's slow update wouldn't cope. (This is better than having inaccurate timing, though.) The problem only occurs when playing sound. Deselect the "Play Sound" button to see the animation smoothly.

New features, not described in manual:

Color / B&W Camera: In the Options menu, you can adjust the settings to correspond with either a B&W or a color camera.

"Line" button in the Adjust Camera window: In addition to the 3 contrast levels, you can choose enhancement of pencil lines. This "picks up" weak lines and strengthens them, and also brings out detail in heavily drawn areas. The image is a little grainier, though. This only works with a color camera.

"Sound start point" in the exposure sheet's Options menu allows you to specify where in the currently open sound file you want playback to start when viewing the animation. This enables you to record a long sound covering many scenes (or a storyboard) and later use the same sound file for many animated scenes by specifying a different starting point for each scene. The value (in seconds) can be input as a decimal number (i.e. "5.34") enabling you to synchronize the sound to the exact frame. This start point value is saved when you save the exposure sheet. The sound file is recorded and stored only once. Sound files having a name that differs from the name of the drawings and/or x-sheet load automatically when a scene is loaded, provided that the sound file was loaded into memory at the time the scene was saved.

"Pause between scans" button is added to the Adjust Camera screen to facilitate adjustment on certain PowerBooks. See above.

"Show scene Info" in the Options menu of the Main Display will first display a window like the one used to open a scene, but instead of loading a scene you will get a list of information about the chosen scene, including aspect ratio, number of images, and if there are properly named x-sheet & sound files present in the same folder, the length and timing of the x-sheet, sound length etc.

Keyboard setting of brightness: In "Adjust Camera" or "Record" mode, typing an uppercase "B" or "D" (shift key + letter key) lets you adjust the camera brightness by 10 steps with every key press. A lowercase "b" or "d" will adjust one step at a time. Pressing the "P" key will disable the rasterized preview when recording, for somewhat faster recording.

MARKING UP A SOUNDTRACK:

First, record or load a sound into ANIMAC. Then go to the exposure sheet, erase the "S" you find on the x-sheet. Choose "Show soundtrack" in the Options menu.

The soundtrack will be displayed just like an optical soundtrack on a filmstrip. You can actually see distinct sounds, and you will soon learn to recognize separate words in spoken dialogue.

By marking a small portion of the soundtrack (press & hold down mouse button - drag - release mouse button) you can listen to that particular part by clicking on "Show sequence" or by pressing return on the keyboard. By marking successively smaller parts of the soundtrack, you can localize syllables, and even the individual letters of a word.

HINT: Remember that it is more important to animate the general shape of the mouth than to draw a mouth position for every letter in a word! A good way to practice is to slowly speak the sentence in front of a mirror and study your own mouth movement.

ANIMAC Questions and Answers

Q: Is there any hardware that has to be installed inside my Mac? How much RAM do I need?

A: No internal hardware is necessary. This is the beauty of the new ANIMAC version.

You just plug in the camera and the software enabler into the Mac's serial and ADB ports, and you're ready to shoot! The ANIMAC can run in as little as 4 Mb memory. With more free RAM, more drawings can be recorded (in 10 Mb, 850 drawings).

Q: Is the new ANIMAC incompatible with any Macintosh models?

A: The older models, such as the Plus, the old "Portable", the original Classic & LC, and other old models that have the slower 68000 chip cannot be used. Macs with the faster CPU chips and ADB mouse & keyboard should all work with the new ANIMAC. Also, System 7.0 or later is required.

Q: Can I watch my animation at 30 fps or some other speed instead of only 24 fps?

A: Yes! You can choose any speed between 1 and 30 fps as your base speed. Looping the drawings and playing according to the exposure sheet will then follow your choice of speed. This is great for testing, and also very necessary if you produce animation to be shown at different frame rates —24 fps for movie theatres, 25 fps for European TV or 30 fps for US TV.

Q: Why is the recorded image black & white instead of grayscale or color?

A: In order to handle up to 30 frames per second, you have to minimize the amount of data to be displayed.

This is best done by limiting the image to B&W, since it uses only one eighth of the data required for a full grayscale image. However, you can simulate grayscale by letting ANIMAC rasterize the image. On Macs with grayscale or color monitors, you can choose between 3 different contrast levels. (Remember that "QuickTime" movies in even modest frame sizes cannot be shown at 30 fps on any but the most powerful Macintoshes. This is the reason for the choice to rasterize the image in B&W — to get top speed even on less powerful Macs!)

Q: Why doesn't the recorded image fill my big screen monitor, and why isn't ANIMAC's window resizable?

A: Same reason as above — a larger image is slower to display. This image size can be displayed at 30 fps on most Macintoshes, even on some of the laptop models. In order for ANIMAC to work on as many Macintosh models as possible, the program has a fixed window that completely fills the screen only on the smaller Macs.

Q: Can I record live action?

A: You can record QuickTime live action "movies" with the camera's software - size and frames/sec depend on your Mac's power. This format is not used by ANIMAC, however. In ANIMAC, you can record time-lapse live action, one frame at a time.

Q: Can I transfer to videotape?

A: This depends on your Macintosh. If it has a direct video output connector (some AV Macs and third-party display cards have this feature), then you can record directly onto tape. Of course, you can always shoot directly off the Mac's screen with a camcorder... Some Macs may generate a rolling bar, though, if you shoot from the screen.

Q: Can the animation be shown on another Mac?

A: Yes! Thanks to the compact file format, up to several hundred drawings will fit on a single floppy disk.

In addition, you may distribute the ANIMAC software freely — so you can bring a diskette and install a fully functioning demo version on a client's Mac, and leave your animation there for everybody to enjoy... (If you have a PowerBook, you can take the ANIMAC system with you in a briefcase, without camera stand or lights, of course... Itinerant animators please note: a small pocket tripod enables you to set up ANIMAC anywhere!)

Q: Can I transfer my animation via modem or our office network to another Mac?

A: Yes! Using any communications program that supports Mac file transfer, you can send your animation anywhere in just a few minutes. Again, this is possible because the files are so small. If you use a network (such as AppleTalk or Ethernet), these small file sizes make network transfers a breeze!

Conditions for distributing copies of ANIMAC:

You may freely copy and give away the ANIMAC II program on these conditions:

- Any copy must be given completely free of charge. You may not even charge for the media (i.e. disk) on which ANIMAC is distributed.

Inclusion in shareware libraries on non-commercial BBS services is permitted ONLY if the release date (see top of this document) is no more than 6 months ago. If this is not the case, you may NOT distribute this version of ANIMAC. Instead, please obtain a later version, either from another BBS or directly from the author. This is to ensure that only the latest, most complete and error-free version is distributed.

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If you wish to receive an original disk with the latest version of ANIMAC, please send US\$ 10 to address below (US cash, check or money order, please) to cover disk, packaging and air mail postage.

The latest version of ANIMAC is also available for download on the Internet at:
"http://www.sci.fi/~animato".

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you distribute.

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- ANIMAC will run in demo mode on any computer not equipped with the "software enabler" that is supplied with a purchased copy of ANIMAC. It is unlawful to attempt to "break" this "demo protection" by disassembly, reverse engineering or any other means.

IMPORTANT DISCLAIMER:

The ANIMAC software is delivered as-is, with no warranty whatsoever. Since computer software is inherently complex and may not be completely error-free, absolutely no responsibility is taken for any costs including (but not limited to) those incurred as a result of lost profits or revenue, loss of use of this or other software, loss of data, cost of recovering software or data, cost of substitute software, claims by third parties, or any other consequential damage. You use the ANIMAC software on your own risk. For this reason, it is important that you always back up any important data. This is a normal precaution you should take with any and all software you use.

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