

AUDIO ANIMATOR™

User's Manual

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AUDIO ANIMATOR™

User's Manual



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Federal Communications Commission Radio Frequency Interference Statement

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly (i.e. in strict accordance with these instructions), it may cause interference to radio or television reception.

FCC I.D. Number: EY5QGAUDANIMATOR

This equipment has been type tested and found to comply with the limits for a class B computing device in accordance with the specifications in Subpart J of Part 15 of the FCC Rules. These rules are designed to provide reasonable protection against radio and television interference in residential installation.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reposition the receiver's antenna. Also make sure the antenna wires are making good electrical contact.
- Use a roof-mounted antenna rather than a "rabbit-ear" antenna or an antenna mounted in the attic.
- Make sure that all electrical connections on the computer are secure and any shielded I/O cables that are required for compliance are properly fastened.
- Move the computer farther away from the receiver.
- Plug the computer and receiver into separate electrical circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Solve Radio-TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

Note: This equipment has been certified to comply with the limits for Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, keyboards, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

Finally, any unauthorized changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

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INTRODUCTION

Welcome to the Sound

The Board

The Audio Animator is both a MIDI system and an audio digitizer and playback system. Once installed, your IIGS thunders into a whole new dimension. You've seen the GS' incredible graphics, now hear its dynamic roar.

The board is easy to install. It will work in slots 1, 2, 6, or 7. The external connector box enables you to quickly and easily connect line inputs and speaker outputs and control recording and playback levels.

The Software

Sequencer

Hook up your MIDI device (keyboard, saxophone, drum machine, etc.) set the tempo, turn on the metronome, and then make your own kind of music. Use the editor to copy often repeated segments, add tracks, mix tracks, and more. The AA Sequencer lets you record up to eight separate tracks.

Digitizer

Connect your CD player, phono, tuner, tape player, VCR, or microphone to the input connectors and record pieces of your favorite songs, TV shows, or noises you make with your mouth, hands, nose, pets, etc.

Attach a microphone to the phones connector and your phono, tape deck, radio, etc. to the Line In connector and sing along with your favorite songs. The included Super Hi-Res software lets you digitize in mono or stereo. Variable record and playback rates as well as volume setting are also provided in the control panel.

But wait! There's more...

We've included another disk that contains an aural spectrum of sounds. We've pulled several files from AE's vast "library o' sounds" and put them on disk for you. Feel free to make modifications to these files but make a backup copy of this disk first to keep the original files in their pure form.

The Manual

In order to use this manual and the AA effectively, you must know something about MIDI. If you're new to the field, take a look at "Other Sources" in App. I for a list of references.

Notes and warnings throughout the manual will help you to better understand what you're dealing with. They appear as shown in the examples following:

❖ *Note:* This indicates a special note. Pay close attention to these entries.

❖ **Warning:** This indicates a warning. Be sure to read and heed.

Audio Animator is the full name of the product. In this manual, we'll often call it AA for short.

Part I, The Hardware, describes the card, tells you what you need to use it, and takes you through the installation of the Audio Animator.

Part II, Software Overview, begins by giving you a quick run through of what the Audio Animator software can do.

Part III, The Digitizer, details each of the Digitizer's menu options. The chapters are in the same order as the menus for easy reference.

Part IV, The Sequencer, details each of the Sequencer's menu options. Again, the chapters are in the same order as the menus for easy reference.

The Appendices tell you how to copy the AA program to your RAM, ROM, or hard disk, how to work around problems you may encounter, what adapters you may need, and more.

The Glossary contains many of the terms used in the manual with which you may not be familiar.

The Index is the fastest way to find a particular topic's page number.

Any comments or suggestions regarding this manual or any other $\mathcal{A}\mathcal{E}$ manual, will be greatly appreciated both by $\mathcal{A}\mathcal{E}$ and by others who use our products. Please address any comments or suggestions to:

Applied Engineering

P.O. Box 5100

Carrollton, Texas 75011

Attn: Documentation Mngr.

PART I
The Hardware



Audio Animator

CHAPTER ONE

Getting Started

❖ **Warning:** Do not connect or detach the Audio Animator box while the computer is on!

What You Need

To effectively use the Audio Animator, you need:

- ❑ **A IIGS or Retrofit GS** (//e with a GS motherboard) with at least 512K expanded memory (768K total).
- ❑ **A pair of external speakers;** amplified or non-amplified will work. The Audio Animator's digitized sound will actually come out the GS' speaker but to really get that thumping stereo sound, you'll need stereo speakers.

Some external speakers are amplified. Some have volume controls. If you don't already have a pair of speakers to connect to the Audio Animator, shop around for a pair that give you the sound you want.

If you have a stereo tuner, you can connect the tuner to the Audio Animator and control the speaker volume with your tuner.

You'll connect the speakers or tuner to the PHONES connector on the top of the box. While you can also connect them to the Line Out connector on back of the box, attaching them to the PHONES connector enables you to control the volume from the box Output Volume control.

- ❑ **MIDI devices** (e.g. keyboards, drum machines, etc.) to create, playback, and modify your own tunes.
- ❖ *Note:* You must have a MIDI device connected to play back MIDI songs. MIDI songs will not play back through the GS or AA speakers.
- ❑ **Some adapters** may be required to allow your speakers to connect to the Audio Animator's stereo jacks. (Appendix C details some of the adapters available at any Radio Shack®.)
- ❑ **A Phillip's screwdriver** is the only tool you'll need to install the Audio Animator.

Optional

There are many options open to you with the Audio Animator. Below are a few prospects:

- Use a microphone to digitize your voice.
- Connect your stereo to playback digitized sounds through the speakers and to digitize segments from phono, tape, radio, or CD.
- Connect a VCR to digitize excerpts from your favorite TV shows or video tapes.
- Much, much more.

Where It Goes

We recommend installing the Audio Animator into slot 2. You can also use it in slots 1, 6, or 7. It will also work in slot 5 but most GS users access the 3.5" drive through this port.

Decide which slot you'll put the Audio Animator into according to how you want to use it and your current use of the slots...

Playback Only

If you want to use the card for stereo playback only, you can put the card in slots 1-6 without changing the Slot setting to "Your Card". For example, you can insert the card into slot 5, leave the Slot setting set to "Smart Port" and still play back sounds from games, and music software.

Recording and Saving Changes

To record or save changes to a file using the Audio Animator software, you should install the card in slot 1, 2, 6, or 7 and set the Slots option of the Control Panel to "Your Card." If the Slots option is not set to "Your Card" the software will give you the error message, "Requires AE Audio Animator Card" because it cannot locate the Audio Animator card.

- If you're not using slot 2, put the card in there and leave the Slots option set to "Your Card."
- If you're not using slot 6 or 7, put the card in there and leave the Slots option set to "Your Card."
- If you have an external modem connected to the GS modem port, put it in slot 2 and toggle between the Audio Animator and the modem with the Control Panel's Slots option.

- If you have an internal modem and a printer connected to the GS' printer port, put it in slot 1 and toggle between Audio Animator and the printer with the Control Panel's Slots option.

RamKeeper Users

You'll need to take your RamKeeper out of its slot during the installation. Before beginning the installation, back up your ROM disk and disconnect both the transformer and the battery. You will not need to remove the RamKeeper's connector plate. The rest will be explained in Chapter 2.



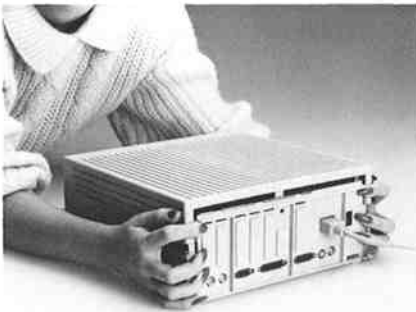
Audio Animator

CHAPTER TWO

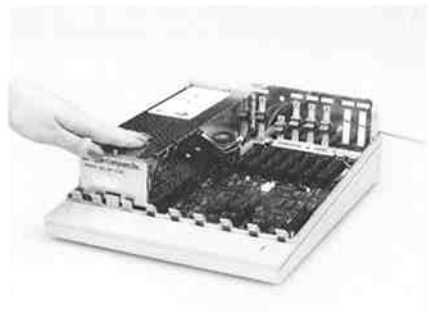
Installation

To install your Audio Animator, you'll need a small Phillip's screwdriver. Once you have one, follow the steps below:

- 1) **TURN OFF THE APPLE'S POWER SWITCH.** Never install or remove a card while the computer is on. However, you need to leave the computer plugged in throughout the installation to allow the power supply to discharge static electricity from your body.
- 2) **Remove the cover from the Apple.** Press in the two latches in the rear of the case with your forefingers while using the heel of your hand to pull the lid up and towards you. (See picture following.)
- 3) **Touch the power supply** to remove any static electricity from your body. Do not skip this step! A static shock can damage the chips on your boards and/or the chips on your computer's motherboard.



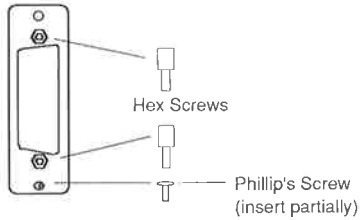
Remove the IIGS cover



Touch the power supply case

- 4) **Remove the plastic plate** covering the large opening in the backplate closest to the slot in which you plan to install Audio Animator.
- 5) **Remove the AA from its anti-static bag.** Hold the card by its edges, like a photograph.

- 6) **Attach the Connector Plate to the 15-pin connector.** Insert the hexagonal screws in the center-most holes. Tighten the hex screws completely. Partially insert only one of the Phillip's screws into the plate. Do not insert the other Phillip's screw.



Attach Connector Plate

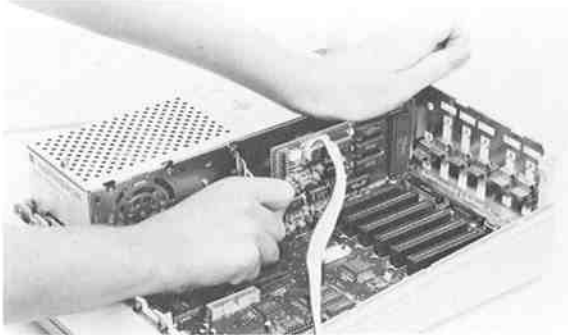
- 7) **Attach the 15-pin connector** to the backplate of the computer. If the cable is connected to the card, disconnect it before mounting. Feed the cable from the inside of the computer. Slide the Phillip's screw that you have attached to the plate into the bottom notch of one of the large back panel openings, insert the top screw and then tighten both screws. The plate should be firmly mounted to the opening.



Connect 15-pin Connector to Backplate

❖ **Important!** You must connect the mounting plate to the back panel of the computer for proper grounding. If you do not, Audio Animator cannot function properly.

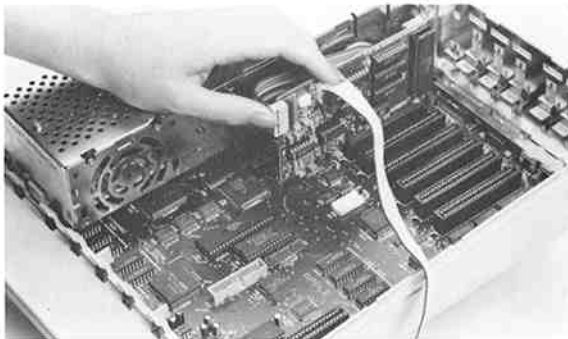
- 8) **Insert the AA into any slot 1, 2, 6 or 7 (slot 2 recommended). Your computer must be OFF!!** Align the AA's edge connector with the Expansion Slot then use the heel of one hand to push the card down into the slot and seat it firmly.



Insert card into slot

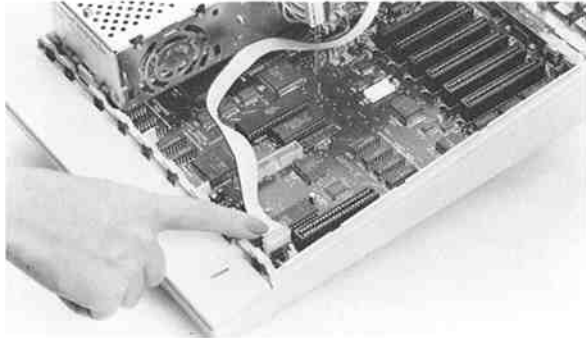
- 9) **Attach the loose end of the 15 pin connector coming from the backplane of the computer to the 15-pin connector at the keyboard end of the AA card.**

❖ *Important!* The red (ground) wire must be toward the *top* of the card.



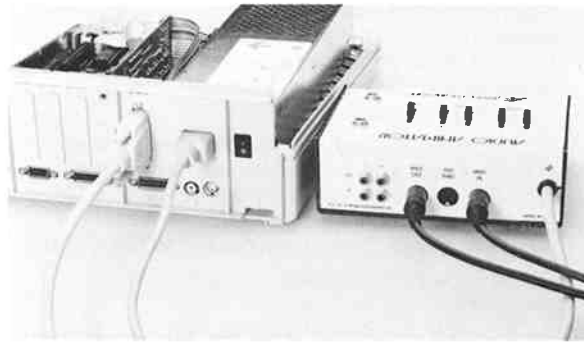
Attach 15-pin connector to card

- 10) Now attach the loose end of the Ensoniq Input/Output (E-I/O) cable to the seven-pin audio connector toward the keyboard end of the motherboard directly above the power light. The cable is keyed so that it will fit easily in one direction only.



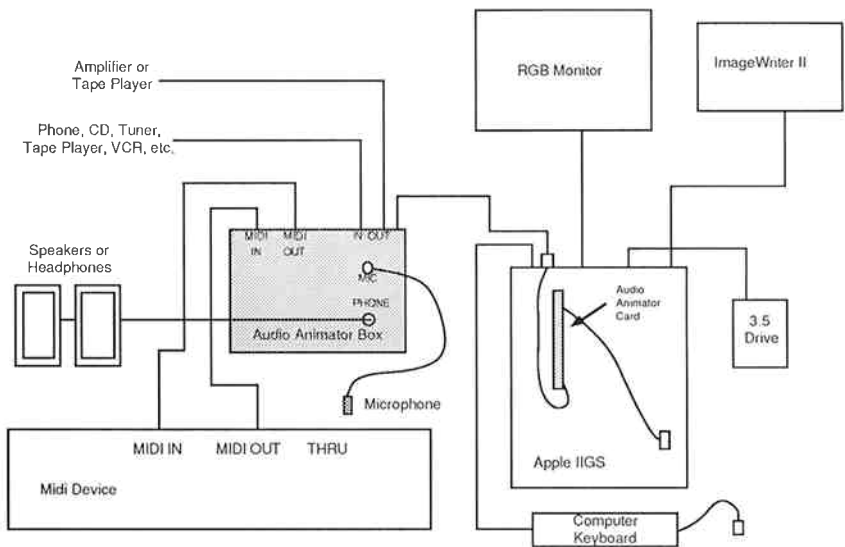
Connect the E-I/O cable to the motherboard

- 10a) If you have a card in the Memory Expansion slot, you may need to remove it to plug in the E-I/O cable. In the case of RamKeepers, be sure to back up your ROM disk before unplugging the transformer and battery. You don't need to unscrew the RamKeeper's connector plate; simply remove the RamKeeper from the Memory Expansion slot and then plug in the cable. Don't reinstall the RamKeeper yet.
- 10b) If you've taken your RamKeeper out of the slot, reinsert it now. Make sure that the insulator is still in position before reconnecting the power. At the end of the AA installation, follow the directions in the RamKeeper manual for setting up the ROM disk.
- 10c) The other end of the E-I/O cable should be connected to the seven-pin connector on the AA. Make sure it is still firmly connected.
- 11) **Plug the 15-pin male connector** coming from the black box into the 15-pin female connector you have installed in the backplate. Tighten screws to secure connector.



Attach Box Cable to 15-pin connector

12) Replace the Apple's cover.



Typical Setup

13) **Plug your speakers or headphones, amplified or non-amplified, to the phones connector.**
 The volume is controlled by the slide controls on the black box.

- 14) **If you want to send the sounds from your card through a stereo amplifier or amplified speakers**, connect the line OUT (L/R) connectors from the black box to the Line In (L/R) connectors of the stereo. The volume is controlled by the amplifiers themselves.
- 15) **If you want to send the signals from a tape recorder, CD player, turntable, tuner, etc.** to the AA, connect the output of one of these to the AA's Line In (L/R) connectors. To connect more than one of these devices, you'll need to use a mixer.
- 16) **If you have a microphone**, plug it into the Mic connector of the black box.
- 17) **To monitor the levels from the Line In or Mic inputs**, connect the speakers to the phones connector and then use the Input Level, Output Level, or Mic Level bars to adjust the volume.
- 18) **Attach your MIDI device** such as a keyboard or drum machine, by using the included 5-pin MIDI cables to connect the MIDI Out from the box to the MIDI In of the device. Also connect MIDI In from the box to MIDI Out of the device.
- 19) **Boot the computer and use the Control Panel to set the AA slot setting to "Your Card."** If you don't know how to change the setting in the Control Panel, refer to your Apple IIGS Owner's Guide for instructions.
- 20) **Hardware installation is complete.**

CHAPTER THREE

The Box

Output Volume

The Volume bars let you control the amplitude of speakers or headphones connected to the PHONES jack. The volume will also be affected by the left and right volume bars on the digitizer screen which control volume for speakers connected to both the Line Out and the Phones jacks. The Left and Right volume bars will not have an affect on any speakers connected to the Line Out of the AA box,

Input Level

Input Level and MIC Level (below) allow for a broad range of input sources --anything from mic level (low level input) to line level input (medium).

Input Level adjusts the level from your source connected to the Audio Animator's Line In connector. The input level should be set so that the VU meter bars bounce up about 3/4 of the way toward the top of their columns.

MIDI devices are not affected by the input level setting.

MIC Level

The MIC Level bar adjusts the input level from your source connected to the Audio Animator's Mic jack. As with the Input Level setting, the Mic Level should be set so that the VU meter bars bounce up about 3/4 of the way toward the top of their columns.

MIC Jack

Plug your microphone into this plug. Refer to the appendices for adaptors.

PHONES Jack

External speakers or headphones plug into the Phones jack. The AA Phones jack has a 1 Watt amplifier that will drive headphones or unamplified speakers. The Output Volume bars control the amplitude of devices connected to the PHONES connector. Refer to the appendices for adaptors.

MIDI IN Jack

Plug in the cable from the MIDI Out port of your MIDI device into the MIDI In socket. This is the path that your device uses to send the MIDI data to the computer.

MIDI OUT Jack

Plug in the cable from the MIDI In port of your MIDI device into the MIDI Out socket. This allows you to pipe the music out from the computer to the device.

MIDI THRU Jack

The MIDI Thru jack allows you to pass MIDI data through the AA box to another MIDI device. The MIDI Thru jack is useful only when you are using your IIGS as an instrument in a daisy chain; you will not use it when your IIGS is the controller.

OUT/IN - L/R Jacks

Connect your CD, phono, tuner, VCR, etc. to the Line In connector to capture the sound from the device with AA's digitizer or to monitor the sounds via speakers connected to the Phones jack.

Connect your stereo amplifier (Aux. Input) to AA's Line Out connector to control the volume from your amplifier. You can also connect a tape player to the Out connector to save your digitized creations to cassette.

- ❖ *Note:* The left and right volume bars control the volume of the Phones jack but will not control the volume of the speakers connected to the Line Out jacks. You will need a volume control knob on the amplifier or amplified speakers to control the volume of the Line Out jacks.

What Now?

Experienced Users:

If you understand the function of a sound card and know what you want from yours, have a blast! When you want to know more about a particular aspect of the card, use this manual as a reference.

Others:

Try out the Digitizer and Sequencer sessions in Part II and then skim through the rest of the manual to check your options.