Garrett's Workshop

GW4402A

8MB ROM SIMM for Macintosh SE/30 and Macintosh II-series

User's Guide

GW4402A was designed by Zane Kaminski and Garrett Fellers
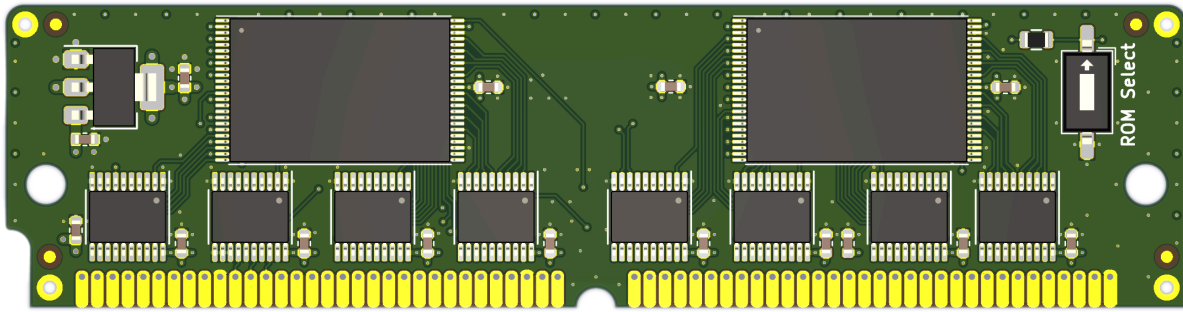
Overview

The GW4402A 64-pin ROM SIMM replaces the ROM SIMM of a Macintosh II-series or Macintosh SE/30 computer. GW4402A comes preprogrammed with a customized, 32-bit clean Macintosh ROM. The customized ROM allows your Macintosh to use more than 8MB of RAM, and also features a 7.5MB bootable ROM disk preloaded with System 7 and several utilities.

Compatibility

GW4402A is compatible with the following Macintosh computers:

- Macintosh IIx
- Macintosh IIcx
- Macintosh IIci
- Macintosh IIfx
- Macintosh IIsi
- Macintosh SE/30

Fast Startup

It takes about 10 seconds to boot from the included ROM-based System 7.1, so you can begin working with programs or playing games almost instantly.

ROM Disk Settings

A control panel allows your preferences for the built-in ROM disk to be changed. You can boot from the ROM disk, mount it under another boot disk, or hide it from the desktop completely. Of course, you can always hold "R" during startup to boot from ROM independent of your saved preferences.

It's also possible to enable RAM disk mode, which allows writing data to the ROM disk, although it is not retained between restarts. The RAM disk is enabled by holding "R" and "A" during startup, or by enabling the corresponding setting in the control panel.

The control panel also allows you to enable or disable MacsBug and CD-ROM support when booting from the ROM disk. To clear the saved ROM Disk settings, reset your Macintosh's battery-backed PRAM by holding Cmd+Opt+P+R when the machine is powered on.

Dual ROM Images

In addition to the customized ROM with the System 7 ROM disk, GW4402A also includes an unmodified Macintosh IIsi ROM image. The desired ROM image can be selected using the DIP switch in the upper right corner of the board.

Ecologically Friendly, Gold-Plated PCB

GW4402A features a lead-free, ENIG gold-plated, 4-layer PCB and is fully EU RoHS-compliant. All units are tested extensively before shipment. Only new parts are used to build GW4402A, and all GW4402A ROM SIMM modules are manufactured in our semi-automated facility in Columbus, Ohio, in the United States.

Open-Source Design

GW4402A's design is fully open-source. The schematics, board layouts, and driver software are all freely available for commercial and noncommercial use. To download the design files, visit the Garrett's Workshop GitHub page, https://github.com/garrettsworkshop.

Installation

The GW4402A ROM SIMM is installed into the ROM SIMM slot on your Macintosh's motherboard.

Installation Procedure for Macintosh SE/30

To install the GW4402A ROM SIMM in a Macintosh SE/30 machine, remove the rear case shell and then remove the motherboard. From the motherboard, remove the existing ROM SIMM from the ROM SIMM socket and replace it with the new SIMM, then reassemble the computer.

Installation Procedure for Macintosh II-series

To install the GW4402A ROM SIMM in a Macintosh II-series machine, open the machine's top cover and locate the ROM SIMM socket as well as the jumper labeled "W1."

If your Macintosh II-series machine has a ROM SIMM already installed, then you need only to substitute the existing SIMM with the new SIMM.

However, if your Macintosh II-series machine boots without a ROM SIMM installed, then your machine has ROM chips soldered directly to the motherboard. These must be deactivated in order to utilize a ROM SIMM. To deactivate the motherboard ROM, you must change the "W1" jumper setting to the opposite of its default state. That is, if your machine has the "W1" jumper installed, then it must be removed in order to use the SIMM in the ROM SIMM socket. On the other hand, if your machine does not have the "W1" jumper installed, install the provided jumper there.

If you become confused as to which jumper setting is correct, remove any ROM SIMMs and set the jumper to the setting on which the machine is unable to boot. Then install the GW4402A SIMM and the machine should boot.

ROM Select DIP Switch

The "ROM Select" DIP switch allows you to select between the customized ROM with ROM disk and an unmodified Macintosh IIsi ROM. To enable the ROM disk, set the switch to the upper position. To use the unmodified Macintosh IIsi ROM, set the switch to the lower position.