

Installation Instructions

Audicy

Audio Memory Upgrade

orban

Introduction

This Audio Memory Upgrade kit includes either a SIMM Control Module (with qualified and tested SIMMs already installed) or individual pairs of SIMMs for installation in an existing SIMM Control Module. SIMM Control Modules can be used to replace earlier generation memory boards, or can be used in conjunction with previously installed memory boards (with some restrictions) to expand the amount of record and playback capacity on your system.

This document describes the Audicy workstation memory upgrade process for three scenarios:

- 1) Adding SIMMs to a pre-existing SIMM Control Module
- 2) Installing a new or second SIMM Control Module
- 3) Adding a new SIMM Control Module to a system with older style memory boards.

Unpacking And Preparation

The Audio Memory Upgrade package includes the following:

- SIMM Control Module (with SIMMs installed), or Orban qualified SIMMs (Standard Inline Memory Modules)
- Ribbon Cable (comes with SIMM Control Module only)
- Installation Instructions

Installation takes about a half hour and requires a Philips screwdriver.

The Orban customer service telephone number is 1-510-351-3500

Installation of Audio Memory

Take static precautions: Perform the installation under static control conditions. Simply walking across a rug can generate a static charge of 20,000 volts. This is the spark or shock you may have felt when touching a doorknob or some other conductive item. A much smaller static discharge can potentially destroy one or more of the CMOS semiconductors employed in the tower. Static damage is not covered under warranty.

Basic damage prevention consists of minimizing generation, discharging any accumulated static charge on your body or work station and preventing that discharge from being sent to or through an electronic component. A static wriststrap (grounded through a protective resistor) and a static safe workbench with a conductive surface should be used. This will prevent any buildup of damaging static.

1. From Audicy's Job Control screen, check the About screen for the current amount of installed audio memory and version of Audicy software.

- A) Arrow to the About menu choice, beneath Information Center and press *Enter*.
- B) Write down the amount of audio memory you have in your system. This will be useful in the event you require customer support.

Memory size is listed under the About screen's Workstation Hardware section, in the Memory field. Common sizes are 64MB, 128MB or 256MB.

- C) Check the About screen for the current Workstation Software Version. This will be useful if you choose to re-install Audicy System Software at the end of this installation, in order to update the system's memory configuration.

Common listings are 1.00, 2.01, etc.

- D) Press *Esc* to close About screen and return to Job Control screen.

2. Turn off power.

3. Open the tower to access empty memory board slots and previously installed memory boards.

- A) *For older units only*, remove the plastic cover panel from the rear of the tower.

This attachment snaps off with minimal effort.

- B) Use a Phillips screwdriver to unscrew the screws which hold the tower cover in place.

Note: For newer units, which have two side covers, you only need to remove the left side cover (as oriented by facing the XLR connectors on front of the tower).

C) Remove cover from tower.

4. Remove existing memory board(s) from your Audicity; identify and label them.

A) Find the memory board(s) in your system.

All Audicys have similar board types stacked horizontally in the lower half of the tower, but they may be installed in varying order. The longest boards are the DSP Engine and memory boards. The DSP card has two 50-pin connectors, located at its front center and front right side; memory boards have one 50-pin connector, located at their front center.

B) Remove the Ribbon Cable that connects the RAM memory board(s) to the DSP Engine.

A short 50-pin multi-connector cable is used to connect memory boards to the DSP Engine. Carefully work the connector loose from each board, being careful not to bend connector pins, and set the connector cable aside.

C) Remove the retaining screw that holds each memory board in place — this is on the left edge of the memory board.

Use a Philips screwdriver to remove the screw fastening the memory board's metal bracket (sometimes called an expansion slot blankout plate). Save the screws.

D) Remove the memory board(s) from the Motherboard.

These boards have a flange on their inside edge that plugs into a slot on the Motherboard. Carefully hold each board by its edges and work it out of the slot by pulling it toward you.

E) Identify and label the removed memory board(s).

Refer to the diagrams on the next two pages to identify which type of memory board you removed from your system. Most boards will also have a sticker on their surface which identifies their capacity.

Label the memory board as “Old” and include the respective figure name (for example, “Old: RAM Control Board,” “Old: 128MB Surface Mount,” etc.).

Note: If you are upgrading and have any of the earliest 16MB boards (Figure 5), you will not be able to use them with the new SIMM Control Module due to address size incompatibilities. These boards should be removed from service.

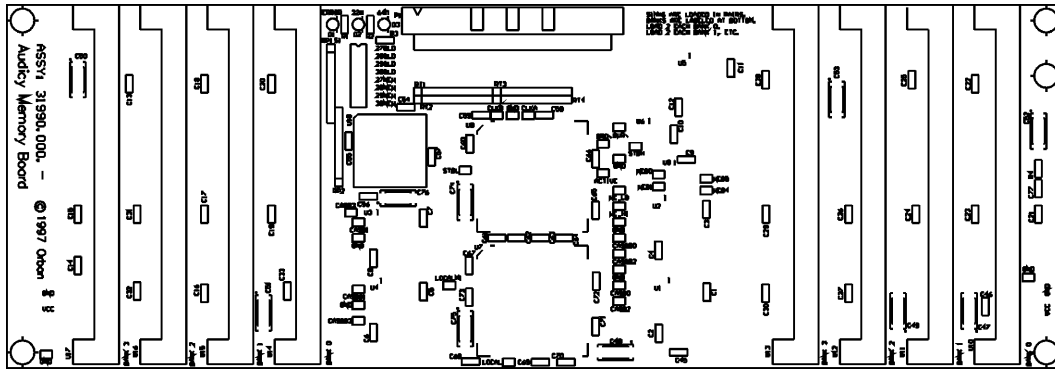


Figure 1: SIMM Control Module
(Holds 8x 32 or 64MB SIMMs for 64 (min) to-512 (max) MB capacity)

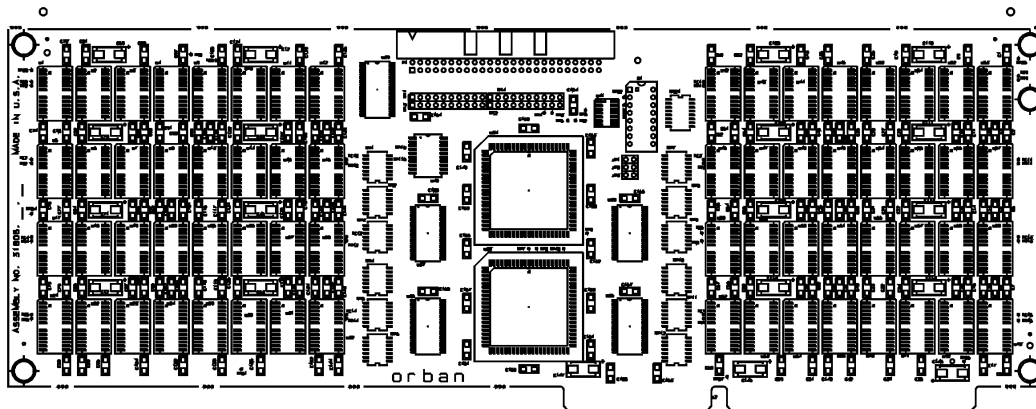


Figure 2: 128MB Surface Mount Board

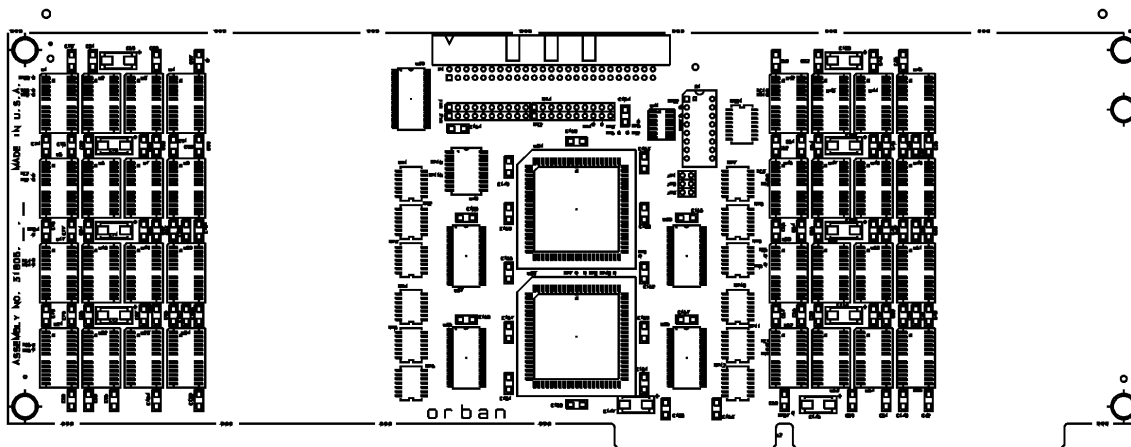


Figure 3: 64MB Surface Mount Board

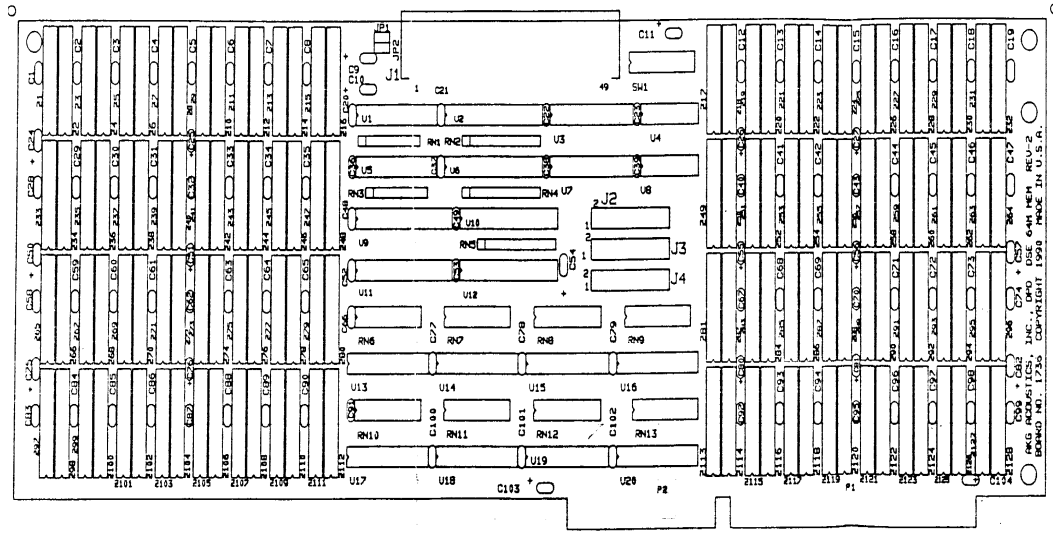


Figure 4: 64MB Zip Memory Board
(32MB Zip boards are similar, but chip sockets are half populated)

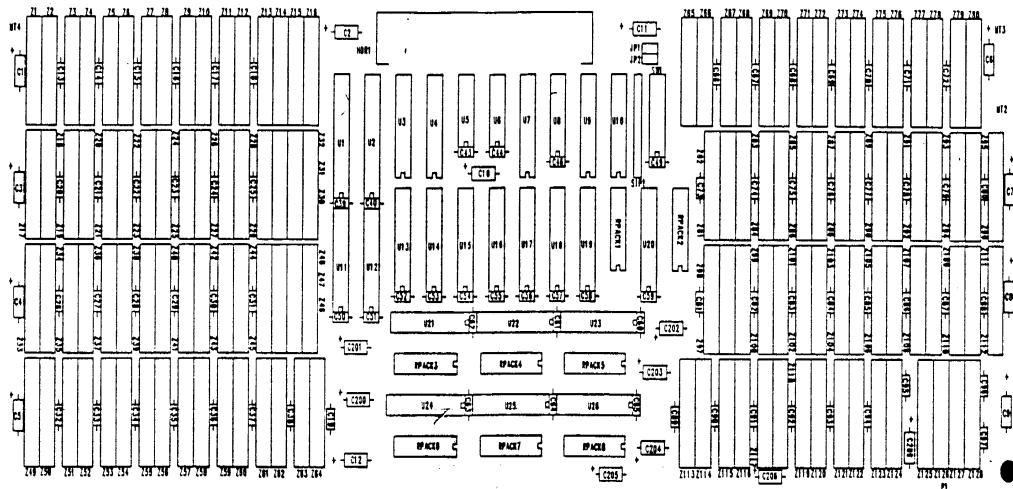


Figure 5: 16MB Zip Memory Board (incompatible with SIMM Control Modules)

5. Configure Memory Board(s) for installation.

Dip switches on all memory module types (new or old) set memory base address locations. While the physical order of boards does not determine how they are addressed since all memory boards pull only power and ground from the PC bus, you'll find that placing boards in a logical order helps installation and upgrading go easier. At this writing, the current maximum addressable software limit is 512MB. Please note that combinations of older style RAM boards can't address memory higher than 256MB.

New generation SIMM Control Modules have more control lines and therefore a higher address capability than older style memory boards. When using a new SIMM Control Module with older RAM memory board types, the SIMM Module is configured to start at an address above the last old RAM board. The older boards must be attached to the SIMM Module's Aux port connector, on the underside of the SIMM module, and connected by an additional ribbon cable. This implies that older RAM boards must always be installed below a SIMM Control Module, due to cable connections.

In an upgrade scenario where you are adding a SIMM Control Module, the older memory boards do not need to have their address dip switches reset, since the new SIMM Control Module serves as a master DMA Controller for all memory, and maps its own starting address to the top of any older boards connected to its Aux output.

Generally, there are three types up upgrades that you may be performing:

- Adding SIMMs to a pre-existing SIMM Control Module;
- Installing a new or second SIMM Control Module;
- Adding a new SIMM Control Module to a system with older style memory boards.

You can skip to the section that applies to you, although reading through each is advisable.

Adding SIMMs to a pre-existing SIMM Control Module

If you are adding SIMMs to an existing SIMM Control Module, please note:

- SIMMs must be installed in pairs, in the proper banks to be recognized.
- SIMM types (32MB and 64MB) cannot be intermixed on a single board.
- Address dip switches must be properly set. In cases where you are using a single SIMM Control Module, all switches (master switches 1 & 2 and switches 3 through 8) should be set "ON."
- Additional SIMMs should be obtained from Orban to insure smooth installation and function. Orban cannot support components we have neither seen, tested, or qualified.

A) Identify the SIMM types

LEDs on the SIMM Control Module inform you whether you have 32 or 64MB SIMMs installed. Looking at the board with power on,

the lighted LEDs appear next to either “64” or “32” characters printed on the circuit board.

B) Install SIMMs in the proper socket banks.

On the SIMM Control Module board surface, please note that each SIMM socket is labeled U-10 to U-17. SIMMs must be installed in pairs according to the following logic:

a. Boards populated with 32 Megabyte SIMMs:

All SIMMs installed are: 32MB, 72pin, 60nsec, 2K refresh, FPM (fast page mode)

Size: 64MB	Install: U10, U14
Size: 128MB	Install: U10, U11, U14, U15
Size: 192MB	Install: U10, U11, U12, U14, U15, U16
Size: 256MB	Install: U10, U11, U12, U13, U14, U15, U16, U17

b. Boards populated with 64 Megabyte SIMMs:

All SIMMs installed are: 64MB, 72pin, 60nsec, 4K refresh, FPM (fast page mode)

Size: 128MB	Install: U10, U14
Size: 256MB	Install: U10, U11, U14, U15
Size: 384MB	Install: U10, U11, U12, U14, U15, U16
Size: 512MB	Install: U10, U11, U12, U13, U14, U15, U16, U17

Installing a new or second SIMM Control Module

When using 2 SIMM Control modules in one system, all SIMM sockets must be filled on the first board, prior to adding the second board. Given that the maximum addressable amount of memory at this writing is 512MB, you would only add a second SIMM Control Module if your primary module was loaded with 32MB SIMMs, since a Module loaded with 64MB SIMMs could give you the 512MB memory limit on one board.

If installing a single SIMM Control Module, with no other memory boards, all the switches should be set to their factory default “ON” position.

If installing a second SIMM Control Module, set switches accordingly:

first 256MB board: set master switches 1 & 2 to “ON” position; set base address switches 3-8 to “ON” position. (This is the factory default, and the setting used if only one SIMM Control Module is present)

second 256MB board: set master switches 1 & 2 to “OFF” position; set base address switch 6 to “OFF,” and switches 3-5 and 7-8 to “ON” position.

When installing 2 SIMM Control Modules, use a single multi-connector cable to chain the DSP Engine to both SIMM boards.

Adding a new SIMM Control Module to a system with older style memory boards

Up to 256MB of older RAM boards may be addressed via the Aux port on the bottom of a SIMM Control Module, with the exception the earliest 16MB ZIP RAM boards, which should be removed from service. Note the following:

- It is not necessary to fill all the SIMM Control Module's SIMM banks up to connect old RAM boards to new SIMM Control Modules.
 - Older RAM boards connect to the SIMM Control Module's Aux port (located on the module's under side). Separate multi-connector bus cables must be used to connect the DSP Engine to the SIMM Control Module, and the SIMM Control Module to old RAM boards. Never attempt to use a single connector cable to chain the DSP to the SIMM board to a RAM board.
 - When adding a SIMM Control Module to a system with older RAM memory boards, address switches on the older RAM boards **SHOULD NOT BE MODIFIED**.
 - In some cases, it may be necessary to remove old RAM boards in order to get enough slot space to install a new board. If you need to remove old boards, you may need to re-address the old RAM boards. Please contact Orban Technical support for assistance.
 - Set the SIMM Control Module address switches according to the following table. Please note that this table addresses the most common memory configurations, assuming one to three older RAM boards will be attached to the new SIMM Module. If you are upgrading, you can easily determine the amount of old RAM memory in your system by viewing the About screen in the system's Job Controller.
- A) Set switches 1 through 8 on your SIMM Control Module according to the total amount of memory you have with older board configurations (listed in the left column).

Table 1: SIMM Module Switch Settings

total amount of old memory	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
32 MB	ON	ON	OFF	ON	ON	ON	ON	ON
64 MB	ON	ON	ON	OFF	ON	ON	ON	ON
96 MB	ON	ON	OFF	OFF	ON	ON	ON	ON

128 MB	ON	ON	ON	ON	OFF	ON	ON	ON
160 MB	ON	ON	OFF	ON	OFF	ON	ON	ON
192 MB	ON	ON	ON	OFF	OFF	ON	ON	ON
224 MB	ON	ON	OFF	OFF	OFF	ON	ON	ON
256 MB	ON	ON	ON	ON	ON	OFF	ON	ON

6. Install Memory Boards back in your tower.

Be careful when installing boards that you do not unseat any other boards or cards. This can happen some times when you press a board into a slot: The Motherboard may flex, pulling away from other boards which are anchored to the tower case.

- A) Install the new SIMM Control Module (if any) in the slot directly below the DSP Engine.
- B) Install “Old” memory board(s) if any, in the next available lower slot(s).
- C) Verify all boards and cards are firmly seated in the Motherboard.

Carefully check to make sure that all of the plug-in circuit boards are firmly seated in the Motherboard. Sometimes it can be difficult to ascertain if the boards or cards are partially unseated, so look very carefully.

7. Attach ribbon cable that connects SIMM Module(s) to the DSP Engine.

Connect the 50-pin multi-connector cable to the DSP Engine and SIMM Control Module(s).

Important: If you are attaching older RAM boards to a new SIMM Control Module, use a second multi connector cable to connect the SIMM Module’s Aux port to the older RAM board(s).

8. Configure Audicy software to recognize new memory.

While system hardware will automatically register the amount of memory installed, certain software configuration files need to be updated after you install new memory.

- A) Power on the unit.
 - Leave the tower cover off in case boards need to be reseated, and until you determine that the machine is functioning properly.
- B) From the Job Control screen — the screen with the Orban logo — arrow to the About menu, beneath Information Center, and press *Enter*.

- C) Verify the Memory field (under the About screen's Workstation Hardware section) displays the correct memory size (memory amount written down in step 1 plus any new SIMM Control Modules installed, minus any memory not re-installed). The correct memory size should be followed by "Config Err" in yellow or red letters. This indicates that the memory is detected, but the software is not properly configured to recognize it.

If the amount of memory listed is less than you expect, it is likely that boards are not seated properly, or switch settings are incorrect. In this case, check connector cables, board seating, and switch settings. Otherwise, you may proceed.

- D) Press *Esc* to close About screen.
- E) Re-install your current Audicy System Software — be sure to install the correct software version, as written down in step 1; this will not perform a full re-install, but will update memory configuration. Or, you may manually run the configuration utility program from DOS using the following steps:
- From the Audicy's keyboard, press *Ctrl+Alt+F10*; press the keys in succession, then release them together. This will close the Job Control and bring up the DOS prompt.
 - Type the following: `CD\DSE`
 - Press *Enter*.
 - Type the following: `Insmerge`
 - Press *Enter*.
 - Wait for the prompt to reappear, then reboot Audicy by pressing the *Reset* button.
- F) From the Job Control screen, arrow to the About menu choice, beneath Information Center and press *Enter*.
- G) Verify the Memory field (under the About screen's Workstation Hardware section) displays the total of old and new memory, followed by OK.
- If the field still states Config Err or the amount of memory listed is less than you expect, It is likely that your switch settings are incorrect. Check settings, or call Orban Technical Support.
- H) Press *Esc* to close About screen.

9. Secure each memory board to the tower with a retaining screw (at the metal bracket on the left edge of the board).

10. Close the workstation tower.

- A) Install the tower cover and use a Philips screwdriver to attach it with its screws.

B) For older units, re-attach tower rear cover panel.

