16MB Sound Flash
Installation Instructions for E6400 Ultra, E4XT Ultra & E-Synth Ultra

6876

Use these instructions to install 16 MB of rewriteable Flash Sound Memory to the E6400 Ultra, E4XT Ultra or the E-Synth Ultra. Sound Flash allows you to create and store your own custom "ROM" banks

Please read the instructions carefully. Sound Flash is easy to install, but if you need help, please call E-MU customer service for referral to a authorized service center

Tools Needed:

Phillips head screwdriver #2

Kit Contents:

(1) These installation instructions
(1) 16 MB Flash RAM SIMM

Caution: *When the Sound Flash SIMM is installed the maximum amount of Sound RAM is limited to 64 MB. (Sound Flash can be disabled in software to allow use of 128MB of Sound RAM.)*

Important: *Sound Flash uses one of the two active ROM sockets. Therefore you cannot install the Sound Flash SIMM if you already have two ROM SIMMs installed.*

These instructions are not provided as a guarantee against improper installation. When in doubt, contact: E-mu Customer Service at (831) 438-1921. Contact E-mu UK at +44 (0) 131-653-6556.

WARRANTY MAY BE VOIDED IF DAMAGE IS CAUSED BY IMPROPER INSTALLATION, IMPROPER OR INADEQUATE MAINTENANCE, ACCIDENT, ABUSE, MISUSE, ALTERATION, UNAUTHORIZED REPAIRS, TAMPERING, OR FAILURE TO FOLLOW PROCEDURES OUTLINED IN THESE INSTRUCTIONS.

-————————————> WARNING <————————————

UNPLUG THE AC CORD BEFORE DOING ANY WORK!

Groundwork

Before you begin, find a clean, well lit place in which to work. This procedure requires that you periodically "Ground" yourself, by touching a grounded object such as a water pipe or a grounded piece of equipment. Grounding yourself prevents the static charge in your body from damaging the sensitive memory chips. When you are asked to "Ground" yourself, simply reach over and touch the grounded metal. Do not walk across the room or a rug, as this will defeat the purpose of grounding.

Remove the Top Cover

To gain access to the interior of the unit, the top panel must first be removed. The top panel is attached to the main chassis by means of (7) screws. There are three screws along the back of the unit and two on each side. When all the screws are removed, slide the metal top backwards and up off the unit, exposing the main circuit board. Set the top cover aside in a safe place and put the screws into a cup so they will not get lost. The power supply is covered by a metal box. Do not remove this metal cover!

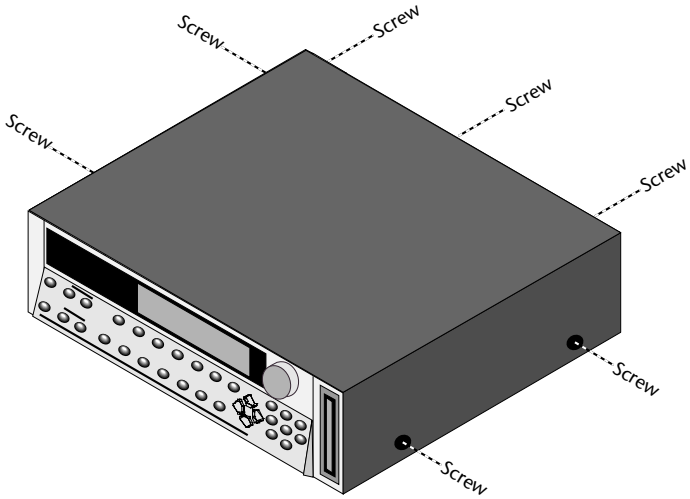


FIG. 1

Install the Flash SIMM

1. Is the unit unplugged? Make sure it is before continuing.
2. Ground yourself, then remove the 16 MB Flash SIMM from the antistatic packaging.
3. Locate the six SIMM sockets at the left of the main circuit board. If a sound RAM SIMM is in the **RAM A** slot, you'll have to temporarily remove the sound RAM SIMMs before installing the Flash SIMM. *(A SIMM in the "A" slot blocks the installation of the Flash SIMM.)*

   To Remove a SIMM: On each end of the SIMM socket there is a silver or plastic tab. Use a screwdriver or a ball point pen to squeeze the tabs toward the outside of the socket while gently pushing the SIMM towards the right side of the unit *(when facing the front of the unit)*. The SIMM should "hinge" to the right and can now be removed.
4. **The Flash SIMM must be installed in the ROM 0 location.** To install the SIMM, refer to figures 2 & 3. If there is a Sound ROM SIMM installed in ROM 0, you'll have to move it to ROM 1.

Tip: *Keep track of each SIMM you remove and put it back in the same location.*

• The exception to this rules is if you have a ROM SIMM in ROM location 0. In this case, the ROM SIMM will be moved to ROM location 1 since the Flash MUST reside in location 0.

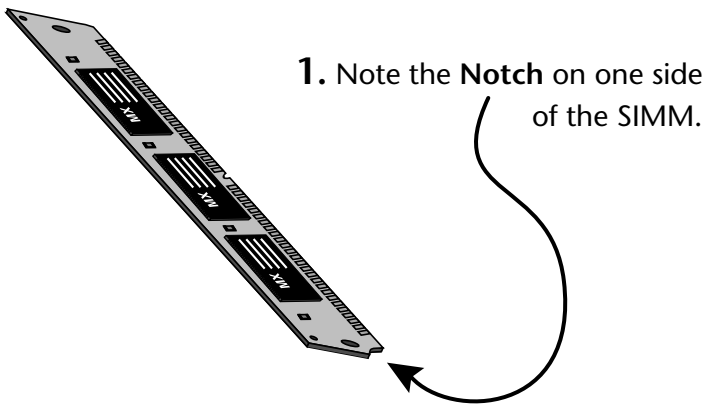
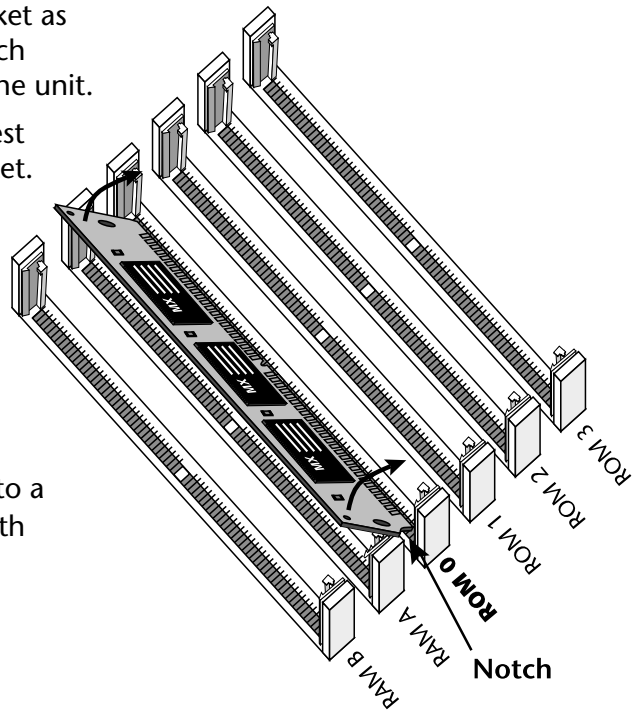


FIG. 2

2. Insert the SIMM module into the ROM 0 socket as shown with the notch toward the rear of the unit.

The SIMM should rest naturally in the socket.

FIG. 3



3. Tilt the SIMM into a vertical position. Both tabs should lock.

5. And that, as they say, is that! The Flash SIMM is installed.
6. Remember to replace your sound RAM SIMMs if you had to remove them. The memory chart on the next page shows most of the possible memory configurations. If two different sized SIMMs are installed, the larger SIMM goes in RAM A.

Tip: *If you end up with less RAM that you started with, you probably have the RAM SIMMs reversed. (Press Master to check available memory.)*

Replace the Top Cover

Place the metal top cover on the box with the screw holes toward the rear. Lift the rear of the top cover and slide it forward UNDER the lip of the front panel bezel, then set the rear down. The screw holes should all be perfectly aligned. Replace the (7) screws.

At this point, the installation is finished. The Emulator should boot up normally when power is applied. During the boot-up process, the display should read, “Sound Flash Installed”.

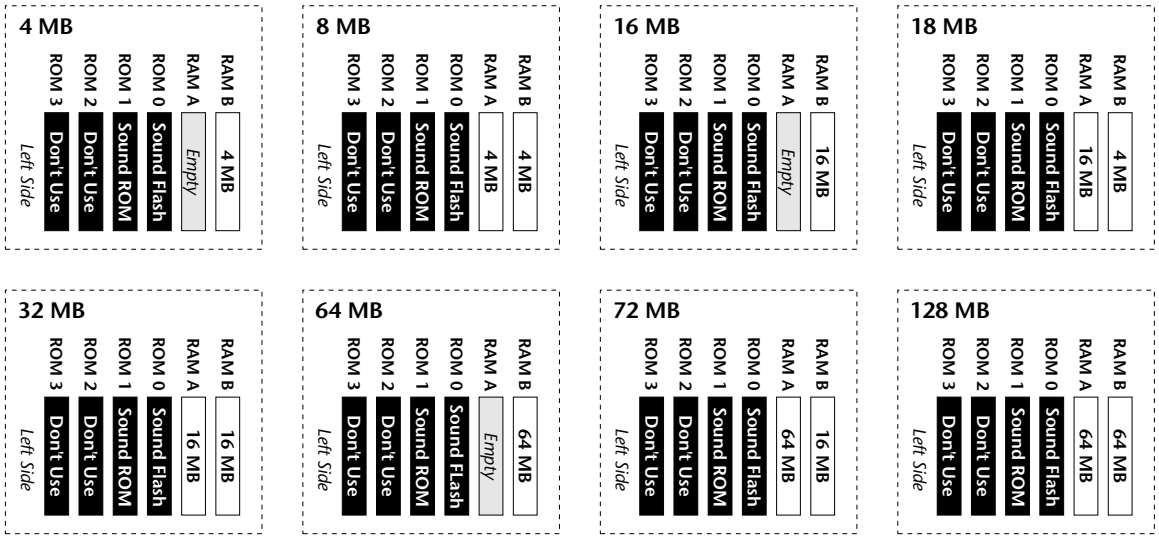
Problems?

If the unit doesn’t power up normally and display the “Sound Flash Installed” message, one or more of the SIMMs may be incorrectly installed. Disconnect power, open the unit and try the following:

- Check that all the SIMMs are correctly installed and in the proper locations *(refer to the chart on the following page)*. Try removing the SIMMs, then replacing them.
- Try returning the unit to its original configuration.
- If you had the Orbit/Phatt ROM set installed in ROM 0, your presets will now be incorrectly mapped to the Flash bank. Use the **E-Synth Ultra Orbit/Phatt Disk** that came with your Orbit/Phatt ROM and reinstall the presets.

If all else fails, call E-mu Customer Service at (831) 438-1921. Telephone support hours are 8:00-5:00 PST, Monday through Friday.

RAM & ROM Memory Chart



Memory Test

It's a good idea to test the memory whenever the SIMMs have been removed and replaced. Turn on power to the unit and wait for the unit to boot.

▶ To Test Memory:

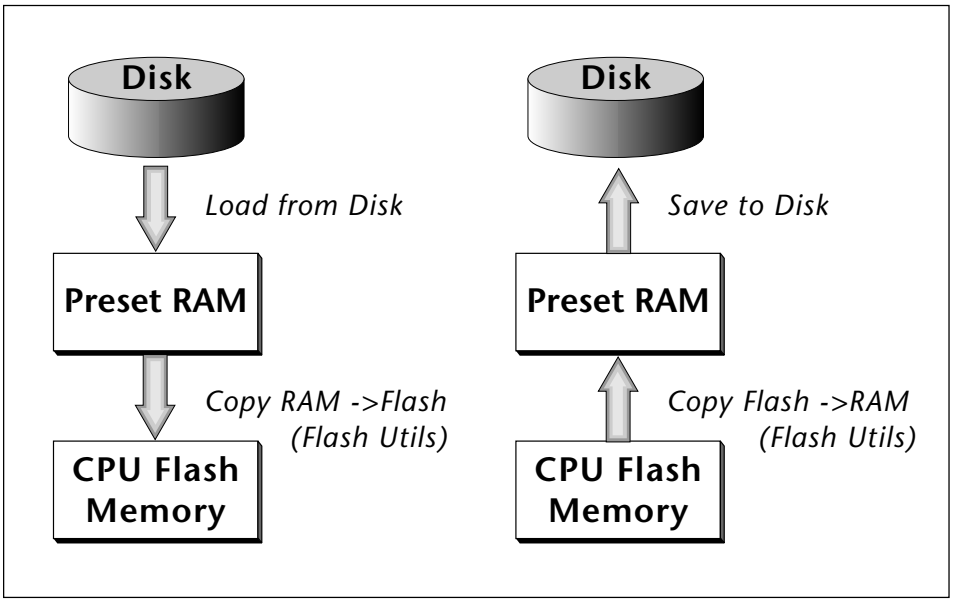
1. Activate the Master module.
2. Select Utilities.
3. Select Tests. A pop up window will appear asking you to enter the Diagnostics Password. Enter the secret password: 1-3-5-8, then press OK. Another row of soft keys will appear.

   A Word of Warning: Now that you know how to get into the hidden diagnostics, be careful not to erase your hard disk by running the Automatic or Hard Disk tests!
4. Press the RAM soft key to begin testing memory. The display will warn you that the test destroys any data currently residing in RAM. This test does NOT affect your hard disk data. Press OK to continue.
5. CPU memory will be tested first (cRAM). After four cycles, the sound memory (gRAM) will be tested. Allow this test to run through at least four complete cycles or longer if you want. (This time will vary with the amount of RAM installed.)
6. Press and hold the Exit key to stop. Any errors will be displayed. If the memory tests bad, you may have incorrectly installed the SIMMs.
7. Press More (F1) to access the Sound ROM test. Another row of soft keys will appear.
8. Press SndROM (F5). (This tests Flash Sound RAM as well as the Sound ROM.) The Sound ROM checksums for each 2 MB block will be checked, and the display will tell you if the test passed or failed.
9. Press Done (F1) to exit back to the tests screen
10. Press Master to return to the main screen.

Flash Utilities

EOS contains special utilities for use with the Sound Flash Memory/CPU Flash and are located under Master, Bank.

Preset RAM is used as the intermediary storage area when copying between CPU Flash and disk. To copy presets from a floppy into CPU Flash Memory, you first load them onto the bank, then use the Copy RAM -> Flash utility to copy them into Flash Memory. To save presets on disk, you copy them into the bank (using the Flash copy utility), then save to Disk.



The Bank is used as an intermediary storage space when copying between Disk and Flash memory. Data is first copied into RAM, then to Disk or Flash.

- **Clear Flash** - Erases all resident presets and sequences.
- **Compact Flash** - Defragments Flash Memory. As presets are erased and modified, the memory can become fragmented. This utility reorders the memory in the most efficient way.
- **Copy RAM to Flash** - Copies RAM presets into Flash Memory.
- **Copy Flash to RAM** - Copies Flash presets to Preset RAM.

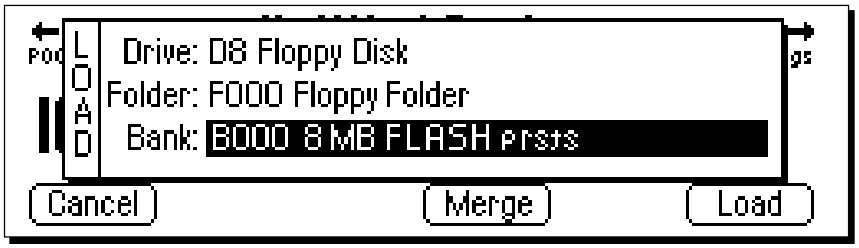
▶ To Access the Flash Utilities:

1. Press the Master key. The LED will illuminate and the Memory Statistics screen will appear.
2. Press the Bank function key (F2). A second row of function keys will appear.
3. Press the Flash function key (F6). Another row of function keys will appear.
4. Select the desired Flash utility using soft keys 1-4. You will asked to confirm the selected operation.
5. Press OK (F6) to confirm your choice or Cancel (F1) to cancel the operation.

▶ To Upload Presets into Flash from Floppy Disk:

To load presets into CPU Flash, use the following instructions.

1. Power up the machine and wait for it to finish booting.
2. Press Master.
3. Press Setup (F3).
4. Press Memory (F6).
5. Set the Memory Configuration. To load 1000 presets, you'll need at least 507K of Preset Memory. Press Save (F6).
6. Press Master again to exit the Master module.
7. Insert the floppy disk containing the presets into the drive.
8. Press **Load** (F4). The popup Load window will appear.
9. Set the Drive to Floppy using the cursor keys and data entry control.
10. Press Load (F6).



11. When the bank has finished loading, press Master.
12. Press Bank (F2).
13. Press Flash (F6).
14. Press RAM->F (F3). A warning screen will appear advising you that you are about to overwrite Flash RAM.
15. Press OK (F6) to write the bank to CPU Flash RAM.

USING SOUND FLASH MEMORY

Sound Flash Memory is a similar to a hard disk containing one bank. A bank is assembled in Sample RAM, then Saved to Flash Memory. Individual presets cannot be saved to Flash Memory. The process of saving a bank to Flash is outlined below.

▶ To Save a Bank to Flash Memory:

Erase the Bank

1. Press Master.
2. Press Bank (F2).
3. Press Erase (F1).

Load the Bank you Wish to Save to Flash

4. From the main screen, press the Arrow key, then Load.
5. Select the Drive, Folder and Bank you wish to Save, then press Load. The bank will load into RAM.

Save the Sounds to Flash

6. Press the Arrow key, then Save.
7. Select Flash Memory as the drive you wish to Save to, then press OK (F6). The Samples will be stored in Flash Sound RAM.

Mount the Drive

8. Press Disk.
9. Press Utils (F1).
10. Press Mount (F1).

Erase the Bank…again

11. Press Master.
12. Press Bank (F2).
13. Press Erase (F1).

Erase Preset 000

This operation deletes the empty preset in the P000 location of the bank so it won't get merged into your Flash Bank. Unfortunately, you must have at least one preset in the bank, so before deleting P000 we'll create a new empty preset at location 999.

14. Press **Preset Manage**.
15. Press **New…**
16. Select destination preset **P999 Empty Preset**.
17. Press **OK**, twice.
18. Select **P000 Untitled Preset**.
19. Press **Utils** (F1).
20. Press **Erase Preset** (F1). Press **OK** (F6).

Merge the Presets

This operation merges the presets into the bank so that they will point to the correct locations in the Flash Sound Memory bank. The Emulator sees that the samples are in Flash Sound Memory and changes the sample numbers so they point to Flash.

21. From the main screen, press the Arrow key, then Load.
22. Select the Drive, Folder and Bank you wish to Save to Flash, then press Merge.

Save the Presets

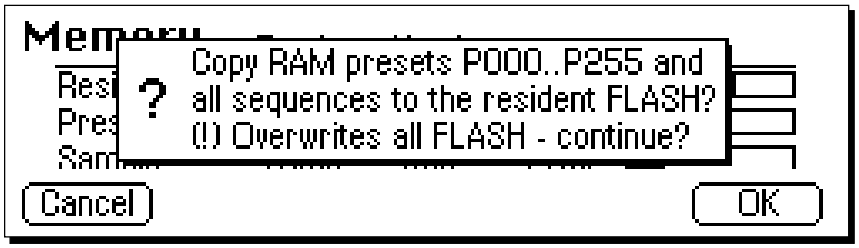
Now that the sample numbers point to the samples in Flash Sound Memory, the presets can be written into CPU Flash memory using the Flash utilities.

Tip: *Keep a back up of your Flash Bank in case you want to make changes later.*

23. Press Master.
24. Press Bank (F2).
25. Press Flash (F6).
26. Press RAM→F (F3). The following warning screen appears.
27. Press OK (F6). The presets will be written into CPU Flash memory.

▶ To Copy Flash RAM Presets to Disk:

1. Power up the machine and wait for it to finish booting.
2. Press Master.
3. Press Bank (F2).
4. Press Flash (F6).
5. Press F->RAM (F4). A warning screen will appear advising you that you are about to overwrite RAM.



Heed this warning if you have ROM or Flash presets already stored in preset Flash. Sound ROM and Flash Sound Memory share the same 256 presets.

6. Press OK (F6) to write to RAM.
7. Press Master to return to the main screen
8. Insert the floppy disk into the drive (if you wish to copy to floppy disk).
9. Press Save (F5). The popup Save window will appear.
10. Select the destination Drive, Folder and Bank for the flash presets.
11. When the parameters are properly set, press OK (F6). A warning screen will appear warning you that you are about to overwrite a bank.
12. Press OK (F6) to save the bank to Disk or Cancel (F1) to cancel the operation.

▶ To Copy Flash Sounds to Disk:

If you want to back-up the flash samples before you overwrite the Flash Bank with your own sounds, follow these instructions.

1. Power up the machine and wait for it to finish booting.
2. From the main screen, press the Arrow key, then Load.
3. Wait for the bank to finis loading, then press the Arrow key, then Save. Save the Bank to the destination of your choice.

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