E-mu Systems, Inc.
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EMAX II

16 – BIT DIGITAL SOUND SYSTEM

STEREO SAMPLING RETROFIT INSTRUCTIONS

EMAX II

STEREO SAMPLING
Retrofit Instructions

This kit upgrades an Emax II with true phase-linear stereo sampling capability. The retrofit is designed to be performed by an E-mu dealer or service center. Removing and installing an IC chip is the only skill needed to perform the retrofit.

Tools needed: Phillips Screwdriver
IC Removal Tool, or a small flat blade screwdriver (to remove IC's).

Kit 2211 Stereo Sampling Upgrade

Contents:

(1)	Retrofit Instructions *(Detach pages 5-7 and give to Emax II owner)*[1]	
(1)	5326 Stereo 16-bit ADC	(E-mu PN II361)
(1)	7524 Level DAC	(E-mu PN II331)
(1)	Programmed "GSTEREO" PAL	(E-mu PN IP457)
(1)	Stereo Y-Cable	(E-mu PN WC31 4)
(1)	Stereo Sampling Installation/Operation Software Disk (E-mu PN ZD868)	

**Note: the Install disk can only be used once.**

Disassembly

1)   Disconnect AC, then place the Emax II upside down on a padded surface. Next, remove the (10) bottom panel screws from the perimeter of the bottom panel. Put the screws aside in safe place.

2)   Remove the bottom panel. Be especially careful on rack units not to stress the ribbon cables as you unplug them.

A FEW WORDS ABOUT *STATIC*
Static discharge from your body has the potential to damage the IC chips in the Emax II. Before touching any ICs or Emax II circuit boards, ground yourself by touching the inside of the Emax II enclosure. Do this frequently, especially after moving around, in order to keep your body discharged and the electronic components safe.

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[1] These pages are not included here. They are replacement pages for the User Manual on Stereo Sampling.

IC Removal
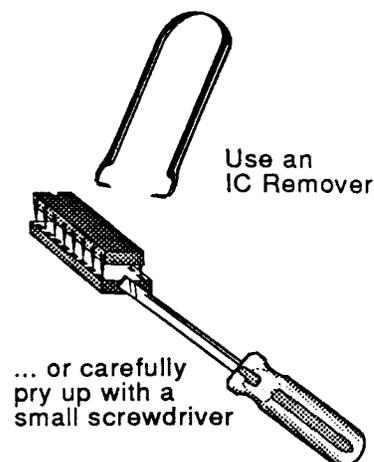
Use an
IC Remover...

... or carefully
pry up with a
small screwdriver

Use care when removing an IC! Pull straight up when using an IC remover or carefully pry up each end of the chip using a small, flat bladed screwdriver.

IC Insertion
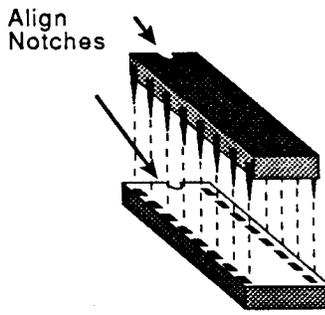
Align
Notches

When inserting an IC into a socket, straighten the pins and make sure that they are seated in the sockets. The notches on the chip and socket *must be* correctly aligned!

STEREO-IZE

Refer to the diagrams and perform the following IC replacements:

1)   Insert the new 5326 Stereo ADC into the empty socket at IC 10. Next, remove the old 5126 ADC from the socket in the output board at location IC 9.

2)   Insert the 7524 Volume DAC into the empty socket at location IC 13 on the output board.

EMAX II
OUTPUT BOARD

IC 13

IC 9

IC 10

3) Insert
7524
Here

2) Remove
Old
ADC

1) Insert
New
ADC
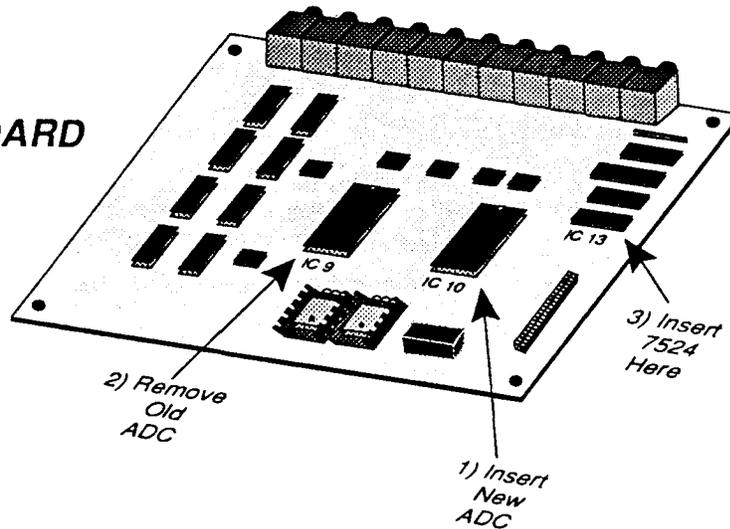
3) Remove the IC at location IC 25 on the CPU board and replace it with the GSTEREO PAL (supplied).
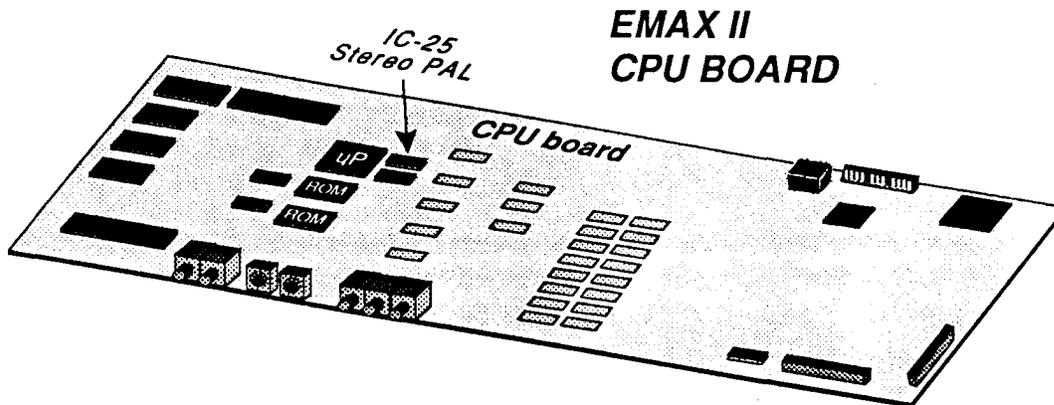
4) Visually check the ICs that you just installed and make sure that all the pins are correctly seated.

Reassembly

1) On rack units, re-connect the output board cable (and SCSI cable if present). Make sure that these cables are plugged in correctly or serious damage may occur. It's easy to offset the connectors by one pin, so be careful!

2) Replace the bottom panel, and the (10) bottom panel screws around the perimeter.

   Note: If the output board ribbon cable isn't plugged in, the Transpose LED will remain lit when the unit is powered on.

Software Update

1) Insert the Emax II Software/Install diskette into the drive and power-up the Emax II.

2) When the Emax II has finished booting, press MASTER, Special, 8 (Install Disk). The display says, "Installing", and then returns you to the MASTER module. The "Install" disk must be write-enabled (window closed) in order to work. The purpose of the "Install" disk is to inform the Emax II that it is now *a stereo* machine.

> **WARNING: Using the Stereo Install disk on an Emax II that does NOT have the stereo sampling hardware will permanently disable proper function of mono sampling (as well as disabling the Stereo Install disk).**

3)   Verify the installation by re-booting the machine using the new version 2.00 software. Enter the SAMPLE module. The display shows:

> Stereo Sampling
> [1 - 7] / Slider

4)   Sample a test sound in stereo to verify that the hardware is functional. The stereo VU meter will also provide a good indicator of functionality.

5)   Copy the new 2.00 software[2] over to all your Emax II disks if you have a non-hard disk unit. This will prevent the annoying, "Different Software Rev." error message from constantly appearing when you change modules. Copy the software to your hard disk, if you have one.

PROBLEMS?

Open up the unit, re-read the instructions and check your work. Bent IC pins or an IC inserted into the wrong location are common mistakes. If you cannot find the problem, have someone else check your work.

If you are still having problems, call E-mu Customer Service at (408) 438-1921 between the hours of 9:00 - 5:00 PST, Monday - Friday.

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[2] The latest Version of the Emax II OS is 2.14.