

# E-MU EOS Modulation Matrix Wizard in Logic Audio

Version 1.0

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Zoolab: <http://www.zoolabmusic.com>



Omega Art: <http://www.ision.nl/users/h>

## The basics

The purpose of this PDF is to describe the operation method of the E-MU EOS Modulation Matrix Wizard in Logic Audio. It requires some basic knowledge of Logic Audio environments and please understand, that we can not apply this to any other sequencer program. This magician environment was tested on a E-MU E-5000 Ultra sampler (OS 4.61) using Logic Audio Gold 4.8.1 (Windows) with Emagic AMT 8 MIDI interface using its USB drivers. It has not been tested with non-Ultra EOS samplers, but the modulation matrix editing should work on those machines too.

*We suggest you to print this short PDF for easier understanding.*

*Check our websites: Zoolab for more Logic Audio environments & music. Omega Art for more Logic Audio environments and sysex tutorials.*

## The eoswiz.zip file you have downloaded contains two items:

- this short Adobe Acrobat PDF file called „eoswiz.pdf”. Acrobat Reader 4.x or 5.x is required.
- a Logic song called „eoswiz.lso” („lso” means „Logic Song”) containing an environment called „EOS MMWiz”.

## What the Modulation Matrix Wizard really does?

As an E-MU user, you may already have spent hours tweaking the modulation sources, amounts and destinations at the Cords screens of your E-MU's display. Using the front panel knobs for setting the modulation matrix is rather tiring, and there is no computer editor program that allows musicians to apply mod.matrix settings to a preset through the touch of a button. You may spend hours to fine-tune every new preset you made, but it really kills the creative process of making music and forces you to delve too much into the technical aspects of the machine. But after practicing the method we offer and spending some time making new snapshots, you definitely will get acquainted with a new aspect of your E-MU sampler: you will re-discover that wonderful E-MU synthesis engine that offers infinite possibilities – but NOW with a very fast method.

## What does it do for you?

It is simple: in the environment window first you have to select which preset/voice and group to edit and then you have several choices (see details later):

- you can set your own modulation matrix settings and
- if you like this setting, *you can record the full matrix* into a snapshot
- you can apply this mod.mx. snapshot *to any other presets* residing in the memory of sampler
- you can apply an existing modulation-matrix snapshot to *any preset*
- you can completely clear a filled modulation matrix at *any preset*
- you can randomize the modulation sources
- you can randomize the modulation amounts
- you can randomize the modulation destinations
- you can randomize *all at once*
- *and finally you can create as many modulation matrix snapshots as you like!*

Now, let's see the details...

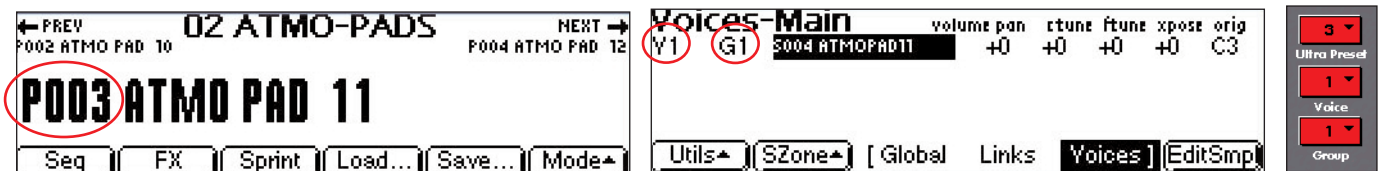
## Using the Modulation Matrix Wizard

Open the eoswiz.iso in Logic. On a Mac you probably have to use the File > Import command instead. After importing, re-save the song immediately, so it will get a proper Mac-Logic signature, and you'll be able to „Open” or double-click the song next time, instead of having to Import it.

Go to screenset 1. Set the „EOS sampler” instrument to the right MIDI port, channel can be set to 1. You may switch the EOS sampler into Preset Edit mode and go to the first Cord screen that will reflect each change from the Modulation Matrix Wizard.

### How to create a modulation matrix snapshot? A step-by-step guide.

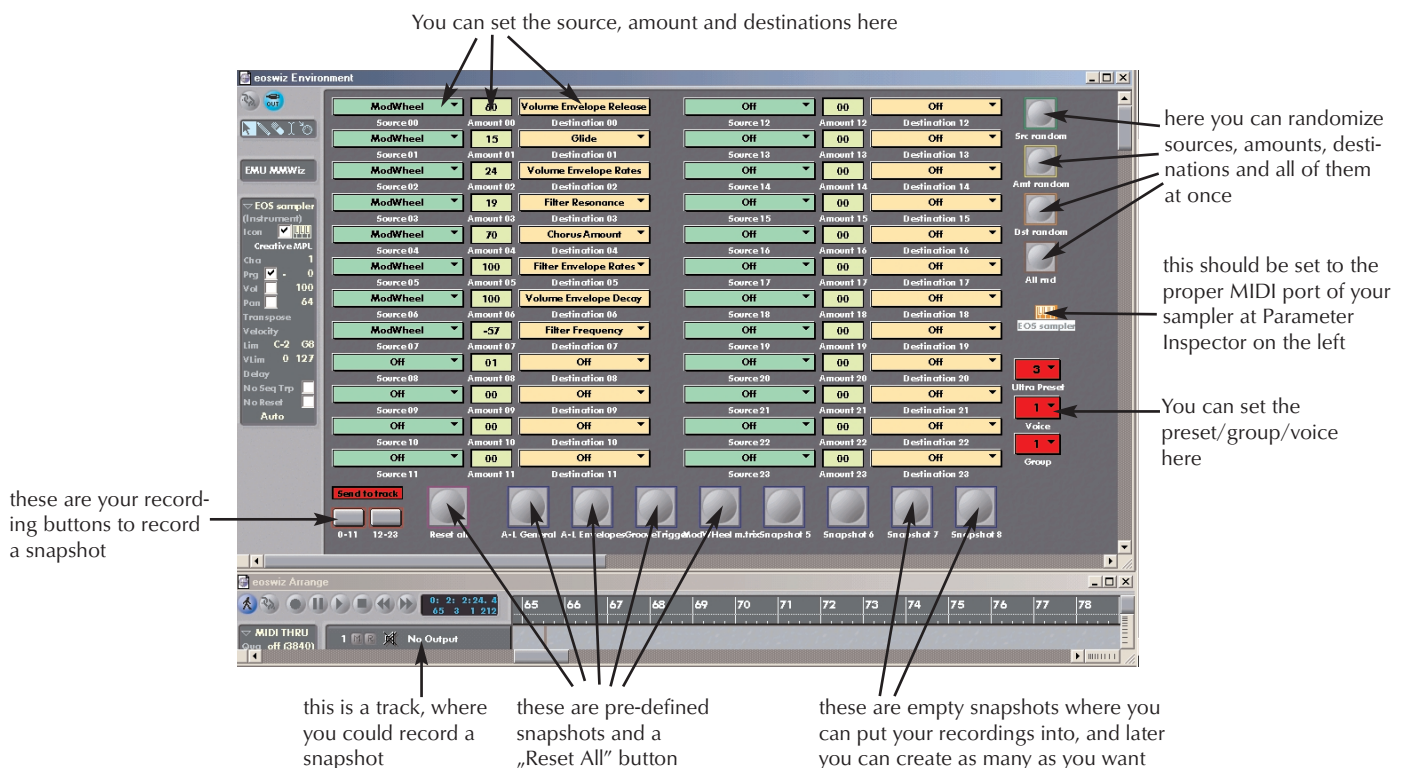
1. When the sampler is in Preset Manage mode, select the desired preset/voice/group by using the red buttons on the right.



Here you can see the number of preset...

and here the voice and group number...

...so set it here!



2. Set the source, amount and destination to the desired values. E.g. let's take a simple example: modulate the pitch with the modwheel. Clear your current modulation matrix with the „Reset All” button, so you get an empty modulation matrix. Then set the Source 00 to „Modwheel”, set the Amount 00 to „+38” (one octave) and set the Destination 00 to „Pitch”. Try the modulation.
3. Now let's record this simple setting into a snapshot! Start recording in Logic.
4. You will find two buttons at the lower left corner labeled „0-11” and „12-23” Press them one after each other.
5. Stop the recording.

6. Select the newly recorded midi-sequence object and open its Event List (control-2 (PC), command-2 (Mac)). You should see lots of MIDI events inside.
7. Click on the „Fader Bang” meta-event while holding down Alt (PC) or Control (Mac). This will select both meta event in the list.
8. Delete both of them (Backspace).
9. Select all events and copy them to the clipboard (Control-C (PC), Command-C (Mac)), then close the List-edit window.
10. Select an empty snapshot, e.g. „Snapshot 4”. Then double click on the word „Sysex” in the Out field in the Parameter Inspector (left side of the window).
11. Paste the clipboard data into the appearing window (Control-V or Command-V).
12. **Deselect !!!** all items, e.g. click on the background.
13. Close the window and you are ready. The snapshot has been saved, so now let's apply it to any other preset.

### **How to apply a modulation matrix snapshot to any preset?**

This is easy: just select another preset/group/voice and press the newly created Snapshot4 knob. Check the display of the sampler to verify the changes and try the modulation.

### **How to create more snapshot knobs?**

In the main window's View menu, uncheck „protect Cabling/Positions”. While holding down the Ctrl key (PC) or Option key (Mac), drag and drop an empty Snapshot to copy. Now you can fill the newly created snapshot with new settings, you can rename it, etc. When you're done, recheck „protect Cabling/Positions” in the View menu.

### **How to randomize sources, amount, destinations?**

Just press the knobs in the upper right corner labelled „Src Random”, „Amt Random”, „Dst Random” and „All Random”. You will see how it works...

### **How to import the Modulation Matrix Wizard into your autoload song?**

Open your autoload song and the eoswiz.iso. No other song should be opened. Switch to your autoload song and go to a screenset and open an environment window. In the environment window's menu, go to Options > Import Environment > Layer..., and pick the „EOS MMWiz” layer from the song you just saved. Connect the red „to Phys.Input” object to your Physical Input object, and make sure the orange „EOS sampler” is set to the proper MIDI port. Now save your autoload song.

*Remark: Connecting the red „to Phys.Input” object to your Physical Input object is a bit tricky, since these objects will be on different environment layers. First go to the Clicks & Ports layer, and select the Physical Input object. Check its icon checkbox in the Parameter field (left side of window), so it will be available in the instrument list. Now go to the „EOS MMWiz” layer. In the View menu, uncheck „Protect cabling/Positions” and check „Cables”. Locate the „to Phys.Input” object. It's just to the right of the orange „EOS Sampler” instrument. Alt-click (PC) or Option-click (Mac) on the object's output (small triangle), and an instrument list will popup, from which you can choose the Physical Input object. Do so, and in the View menu again check „Protect Cabling/Positions” and uncheck „Cables”. In the Clicks and Ports layer, uncheck the Physical Input's „Icon” checkbox. You're done.*

## Tips and tricks for creating snapshots:

- Create a mod.matrix setting for one voice and create a different for another but with the same control source (e.g. modwheel) and move the modwheel to control different destinations! This may result in magic layers of sounds
- Create presets that use the Midi Sync features of LFO's as sources and assign them to different destinations with different clock division settings. You can get ethereal rhythmical textures.
- Use the A-L freely definable MIDI controller sources for various destinations and set them at the Master/MIDI/Cntrl2 screen to match your midi controllers.
- Parameters interact with each other, so you regularly have to adjust additional parameters to make certain cords work! E.g. to make the Chorus work it should at least be set 1%, or when modulating envelopes you have to adjust some of the envelope values in order to make it work in the matrix. We also noticed that LFOs reach their maximum speed at value 16-17, so it makes no sense to set LFO speed to higher values. Experiment!

## Current snapshots (the first four):

*„A-L General”*

For General tweaking - it uses MIDI A-L, LFOs and Modwheel

*„A-L Envelope”*

Similar to A-L, but with different destinations: it focuses on envelopes...designed for MIDI controllers

*„Groove Trigger”*

You can retrigger your groove by different clock divisions (half, quarter, eighth and sixteenth). To make this function work, you have to set the tempo of the groove on the Sequence Clock screen of the sampler (this time the Clock Source is set to „Internal”), or you use or send MidiClock to your sampler with the tempo of the groove (this time the Clock Source is set to „External”).

*„Modwheel Matrix:”*

8 significant destinations are programmed to the Modwheel, thus making radical sound morphs by just moving the modwheel!

## Known bugs and limitations: (as of 21.12.2001.)

- Because of the lack of newer sysex implementation docs, only mod. matrix 0-17 work, 18-23 are currently inactive. Will be updated in a future upgrade.
- The text fader object can not display more than 231 value. However you can select a more distant preset too, but you have to count the „+++” signs...No, this is not a good solution. Copy the preset to be edited into this 0-231 range with the Copy Preset function and you can select it now for editing.

*Happy tweaking!*

*HJ and ItaB*