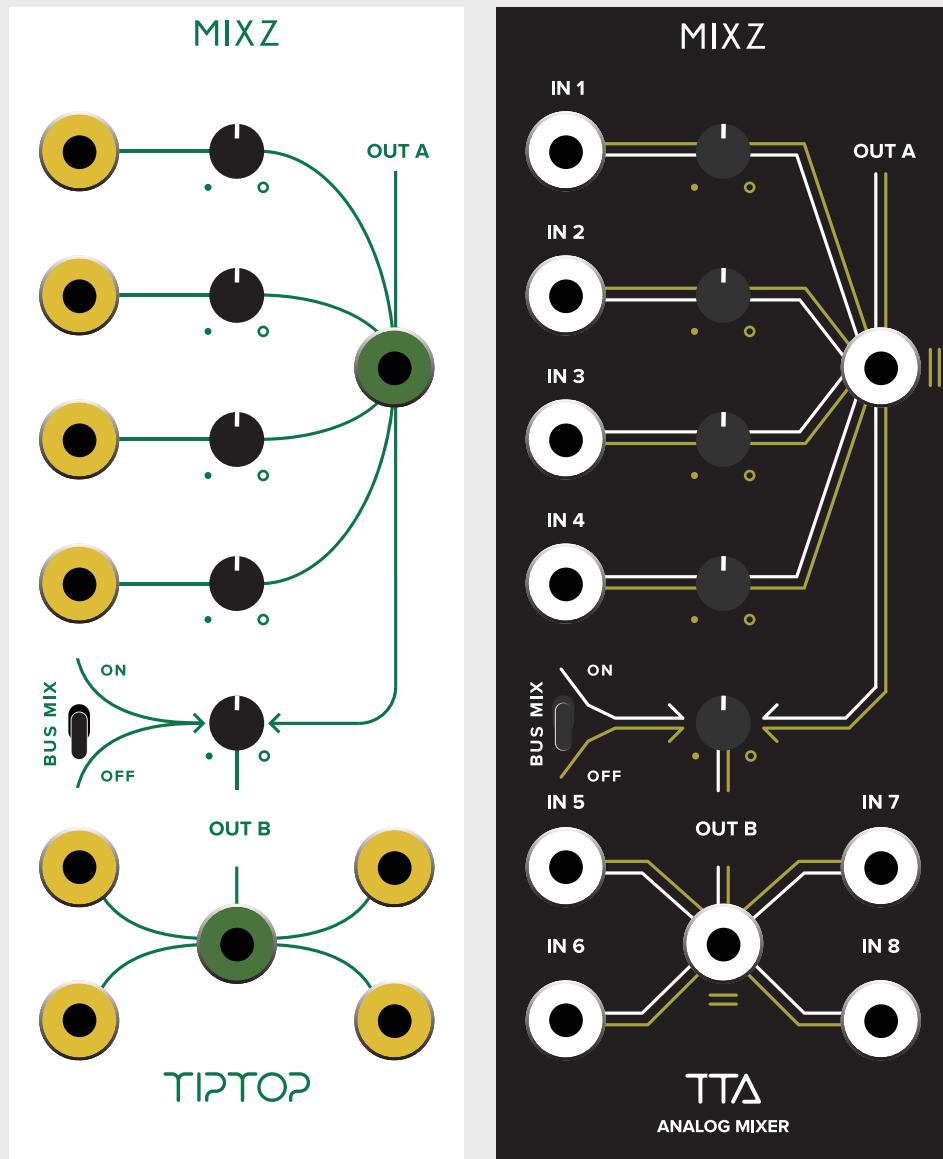


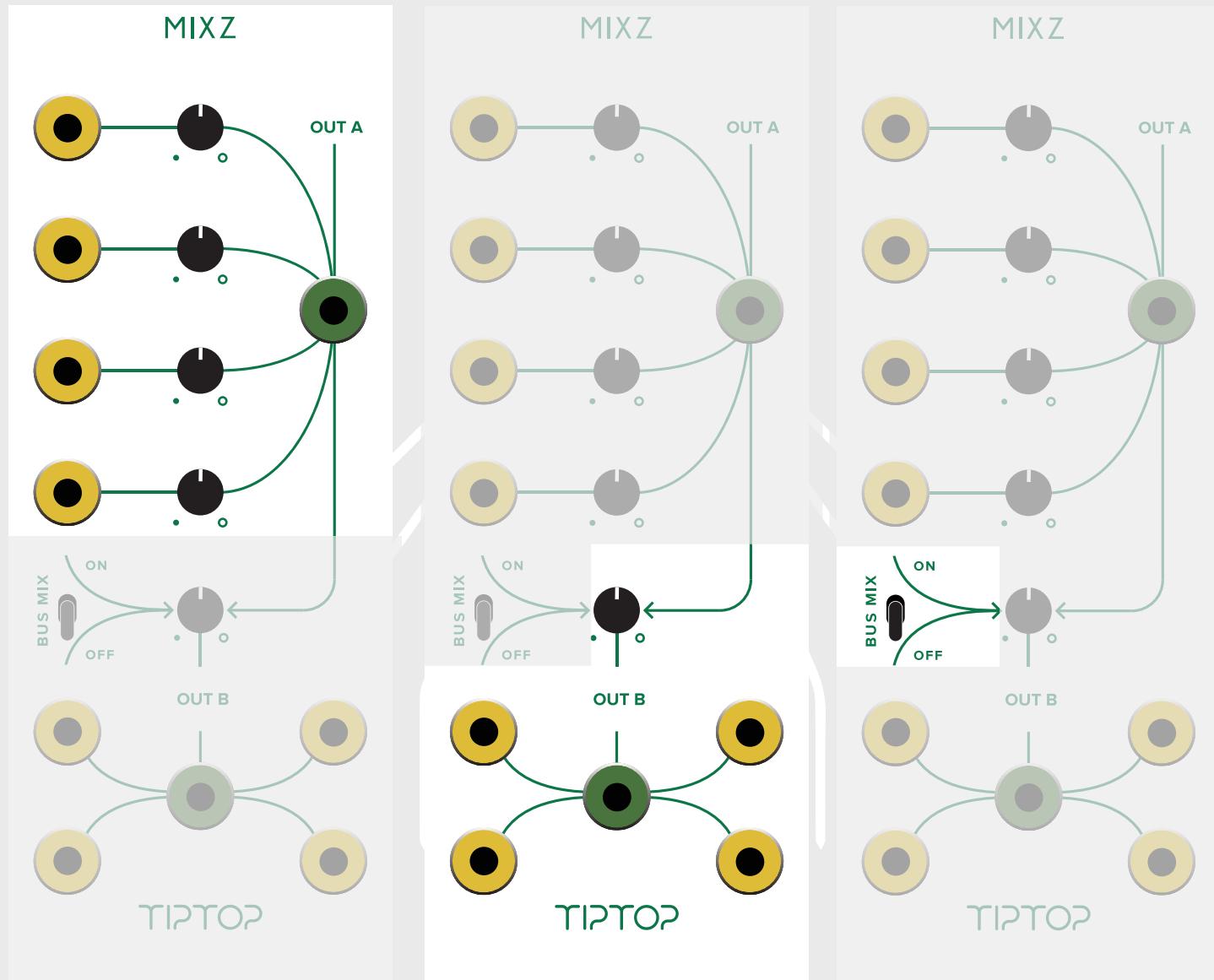
MIXZ



Low-Noise Dual Mixer with Tiptop Bus Mix

Introduction

The MIXZ is a low cost multichannel mixer module for the modular synthesizer. At its heart are low noise summing stages that are made to mix audio, CV, and gate signals with excellent linearity. The MIXZ has two 4-channel mixers available on the front panel plus a multichannel mixer that uses the Tiptop Bus Mix connected through the power bus board and is enabled into Mixer B using the BUS MIX toggle switch. To simplify, we've highlighted each:



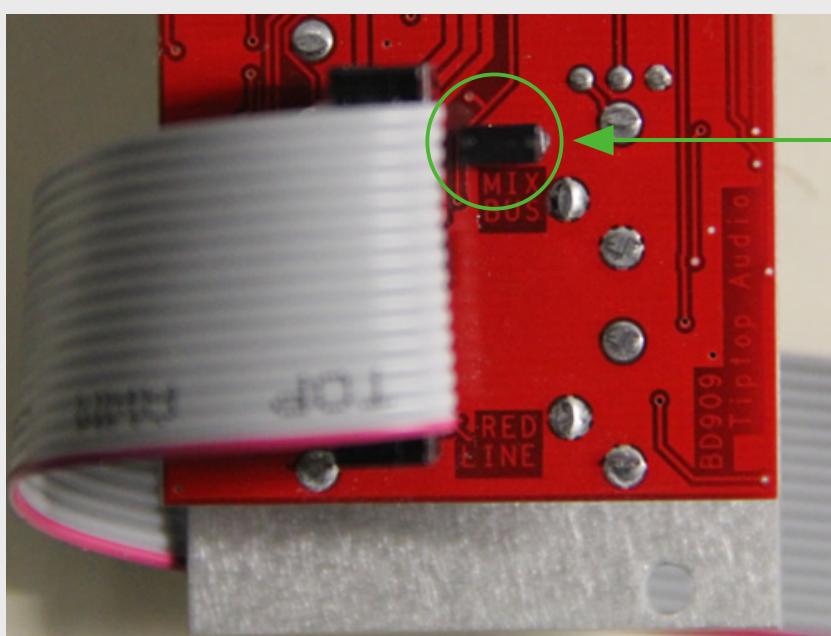
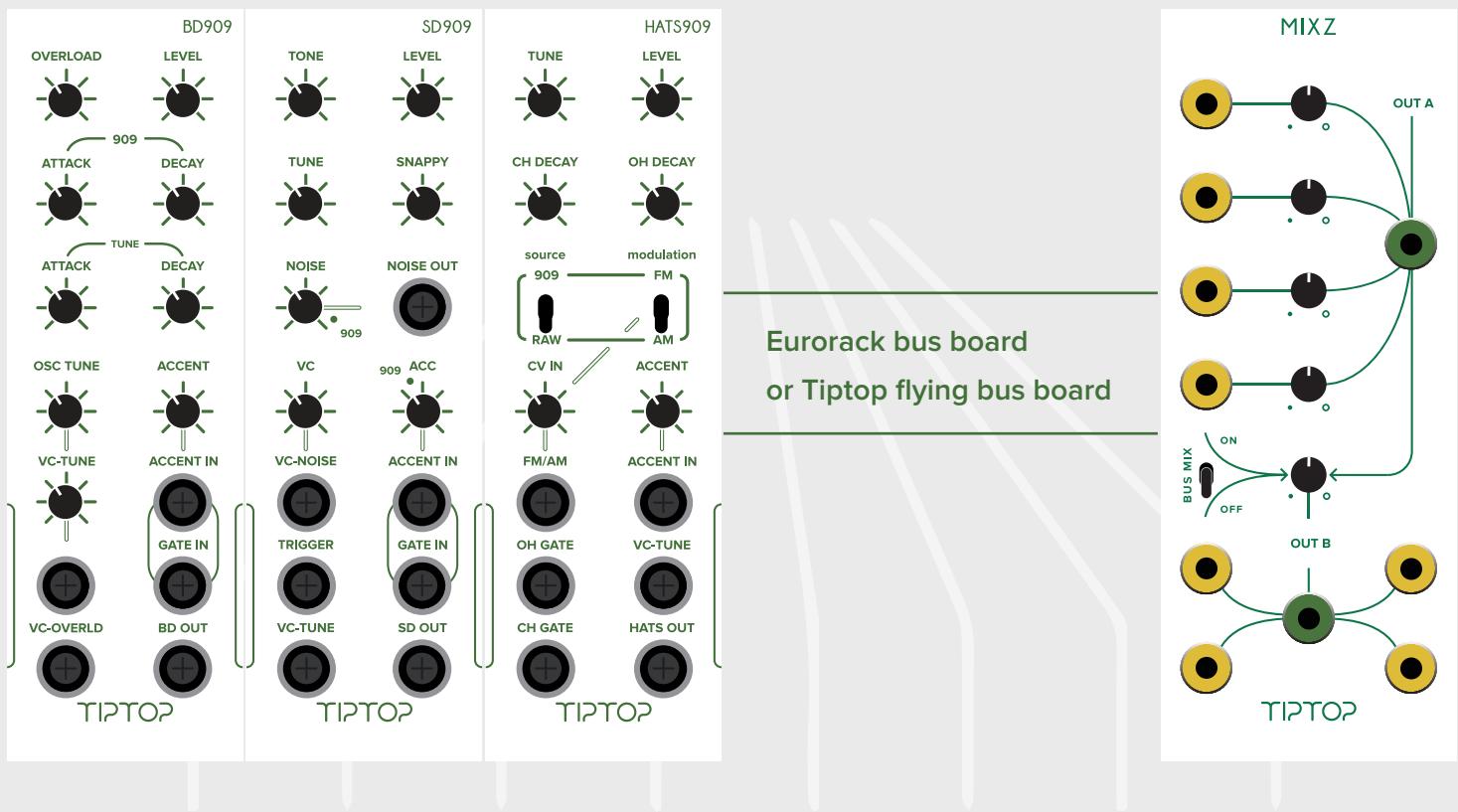
Mixer A is a four channel mixer. It has gain control for each channel. The out is internally routed to Mixer B. If you plug a patch cable into the out jack it will break the connection to Mixer B so Mixer A can be used independently from Mixer B

Mixer B is a four channel mixer with a master gain control. Mixer B sums its four channels plus the channels connected from the BUS MIX and the out of Mixer A (if Mixer A out is not in use)

BUS MIX mixes the signals coming from modules that are equipped with Tiptop Bus Mix outs. The switch turns the Bus On or Off. If the Bus is not in use, it is recommended to keep it in the off position to reduce noise entering from the Bus. The Bus is internally connected to Mixer B

Tiptop Bus Mix

Bus Mix is a technology we have developed to mix signals coming from modules without the use of patch cables to physically connect them to the mixer. This is done by sending the signals through the bus board and picking them up with the MIXZ. Modules that have Bus Mix include all of the Tiptop drum modules and ONE. You can decide which modules you want to connect to the Bus Mix with a header at the back of each of drum module. Enable this header by placing the jumper to cover both pins which will connect the module output to the bus. The Bus Mix lets you turn on and off a mix of drum sounds with a flip of the MIXZ Bus Mix switch.



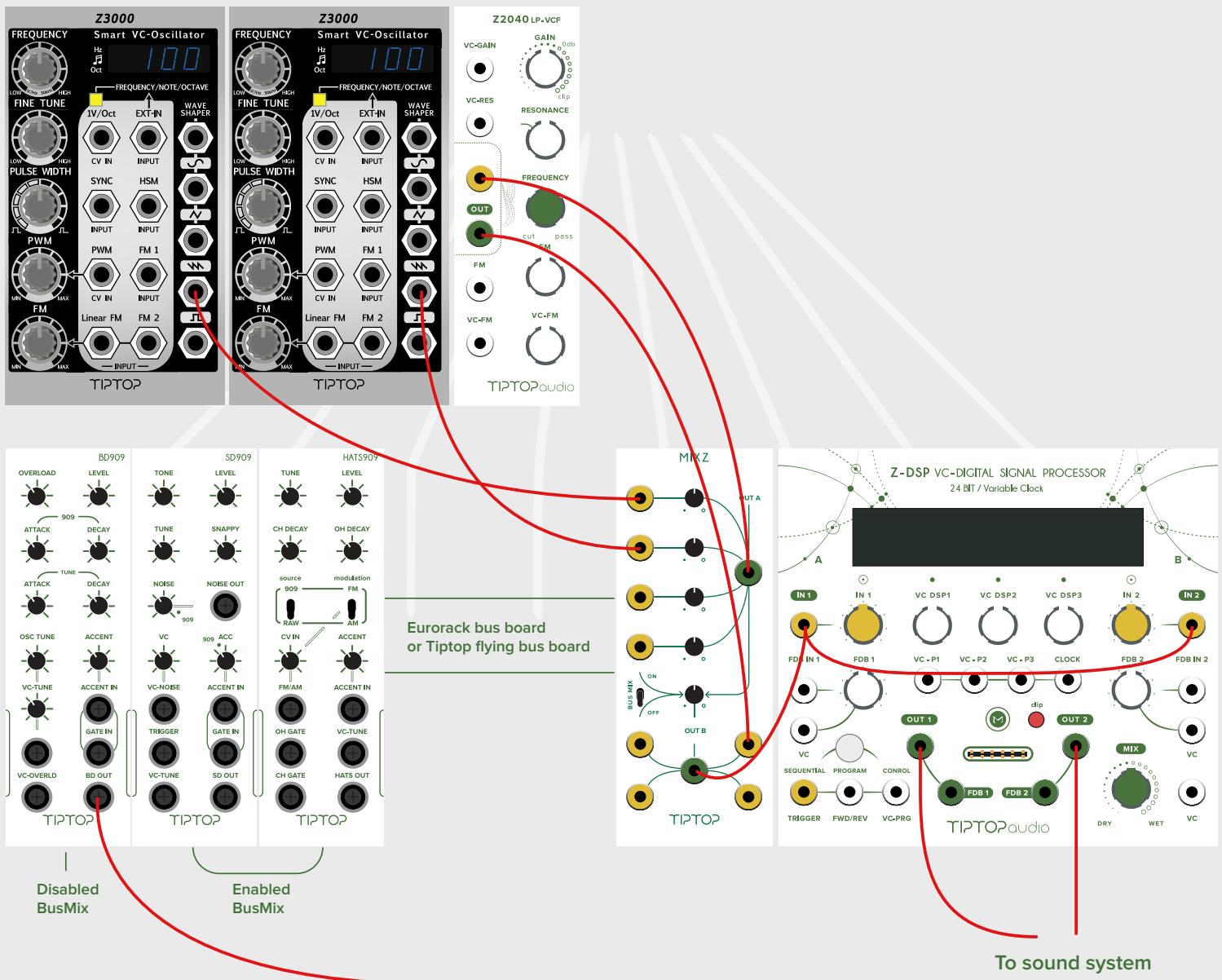
To enable your drum modules for Bus Mix look for the header located on the back of each module and place the header on both pins.

You can enable some and disable others to decide which ones you want to be mixed by the MIXZ.

Remember, you can always add them later to the mix through the front panel Mixer A and B.

Example patch

Here is an example patch showing how versatile the MIXZ is. In this example the MIXZ mixes two Z3000 on Mixer A, going into the Z2040 to make a thick bass line. The output of the Z2040 then goes to Mixer B, Mixer B also takes in the HATS909, SD808 and CP909 from the Bus Mix, the mix of all those voices then goes into the Z-DSP for spatial processing using some stereo delay. In this patch the BD909 was not enabled so it won't mix with the other drums (a good idea if you run the mix through a delay). And there are still many channels left open on the MIXZ to add additional voices into the mix.



Things important to know about Bus Mix

If you have more than one MIXZ module in a row make sure that only one Bus Mix switch is turned on at a time. You can not mix Bus Mix signals on two or more MIXZ simultaneously. Also, the MIXZ cannot be placed on any row that uses the Doepfer CV/GATE bus unless the Bus Mix switch is off.

The maximum amount of channels is limited by the number of modules connected to a single power bus board. From experiments performed in the test lab. mixing 16 channels of drum sounds is possible with no problems or limits in headroom. With Bus Mix the 10HP MIXZ can mix a very large number of channels at very low cost per channel and HP.

The Bus Mix is not the lowest noise mixing method as it will pick up more noise compared to the MIXZ panel Mixers A and B. However, the convenience of the Bus Mix makes it worth experimenting with. Please note that the Bus Mix is a new technology that we have tested in systems that use the various Tiptop Eurorack power supplies with great results. We can not guarantee the same noise performance using power supplies that are noisy.

Some modules will be noisier than others on the Bus Mix, for example the CP909 has a built-in noise generator that can be picked up by the bus board and heard if the volume of your sound system is set very high.

In most cases the level of noise on the Bus Mix is not noticeable, we are only bringing this up in the manual for awareness of it potentially not being low noise.

Enough said, now go make music.

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