

Ryan Cole
Adv. Max/MSP
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My Final Patch

The original concept of my patch was to create a harmonizer for voice or any monophonic instrument. I wanted to use a keyboard like interface to control what harmonies would be added. I also wanted to add other audio effects such as volume and panning controls for each additional voice as well as delay. After some thought, I decided to build the patch to work with the controller I built for my ITP class, which ended up making the patch a little more convoluted just because of the way that my controller sends out MIDI information. I'm very happy with the overall product of the patch and how it is exactly tailored for my controller, the Voccordion. The patch works as follows.

In the root patch you have 2 different input options, either a line in or a sound file. You then can choose whether to have a basic reverb applied to it. There is also an option to record the output. There are 3 faders and panners, one to set the raw signal, one for the shifted, and one for the delay of the shifted. The panning and the delay time is determined by the controller.

In order to create polyphony with my controller and the "gizmo~" pitch shifting object, as well as conserve CPU, I put a "poly~" inside of the "pfft~" object. Then every time the "poly~" receives a new note, it opens up a new "gizmo~" object that has been specially setup to receive the MIDI information from the controller. I used "mute" and "thispoly~" inside of the "gizmo~" to mute voices that weren't being used. I also added a ramp to the audio input so that when a new voice is added it does not "pop" in. I could not figure out a way to ramp the signal down because of the way the controller works with the "poly~" object so what I did was put a delay on the "note off" commands so that it would not immediately cut off every time I let go of the button. I also had to setup a "poly" object for all of the notes coming in before they went to the "poly~" object. Inside the root patch you can also navigate to a patch that will allow the user to see if all of the buttons on the Voccordion are working.

Overall I'm very pleased with how the patch turned out. Future changes that I would like to someday make would be to add panning to each new voice that is being added to the raw signal. I would also like to try to see if there is a way to ramp down the audio signal out so that it isn't as jarring when a button is released. One other aspect that I would like to add would be a keyboard slide that would show which buttons/harmonies are being depressed/added.