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We are committed to providing accessibility to modular synthesizers and sound design tools. Serving children and young adults of color.

Our focus is diverse community access via a collective of workshops, seminars, and ambitious programming centered around modular education.

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SYNTH HACKS #02

BUILD A TEN-BUCK MIDI SWITCHER

by David Battino
Batmosphere.com

So many synths and controllers now use 3.5mm audio jacks for MIDI that I wondered: Could I use an audio switchbox to route MIDI data? Although the MIDI Association may frown (its TRS MIDI spec forbids audio cables), this hack worked for me and added some cool bonus features.

The reason TRS (tip-ring-sleeve) audio jacks can handle MIDI is because traditional 5-pin MIDI jacks use only the three central pins, numbered 2, 4, and 5. Unfortunately, in the rush to create smaller gear, some manufacturers connected pin 4 (power) to the tip and pin 5 (data) to the ring while others did the opposite. (Pin 2 is ground.) That means if you connect two MIDI devices with a 3.5mm stereo audio cable, they may not communicate.

So I took a different approach, using one of those ubiquitous Y-cables with a TRS plug at one end and two RCA plugs at the other. I attached the TRS end to my controller, the RCA end to the input of an AV switchbox, and then connected four synths to the four outputs.

Pressing the box's buttons routed MIDI to each synth. I could even press multiple buttons (à la the 1176 compressor's notorious "nuke" mode) to layer instruments.

The beauty of this hack is that if one of your TRS MIDI devices is wired backwards, you can just flip the red and white RCA plugs at the switchbox to make it work. For my gear that has DIN jacks, I made some custom Y-cables with a MIDI plug on one end and two RCA plugs on the other. I soldered pin 5 of the MIDI plug to the cable's left (white) wire, pin 4 to the right (red), and pin 2 to the shield.

And because it's an AV switcher, there's a third RCA jack for video. I use that to route CV signals and monophonic audio. With a Novation Bass Station as sound source and controller, sound modules connected to MIDI outputs 2 and 3, and audio cables connected to video outputs 1 and 3, I can solo, mute, or layer the Bass Station with a single button press.

I hacked this \$11 Panlong AV switchbox to route MIDI to four synths and CV to four monster eyes.

