

OUT WITH THE NEW AND IN WITH THE OLD: RECYCLING AN ORGAN CONSOLE

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My partner and I decided to acquire a home organ, seeking more regular, uninterrupted practice with fewer commutes to our churches. Space constraints precluded a pipe organ, and price eliminated a conventional electronic instrument (an AGO regional convention flyer advertised an entry-level electronic organ costing more than a new car). I instead chose the eco-friendly and cost-effective option of recycling a console and converting it into a MIDI organ. This project required a console, software, a computer, and a MIDI encoder.

In search of a used console, I contacted several organbuilders and technicians. The query yielded a 1972 Klann console that a local organ technician had kept in storage for ten years. The console's small footprint, good condition, and bargain price matched our requirements. For virtual organ software, I selected *Hauptwerk*. This popular package plays individual pipe recordings in response to MIDI messages. Any MIDI device (such as a keyboard) will command *Hauptwerk*.

The organ pipe recordings come from separately purchased selections of dozens of organs across diverse genres

and geographies, each with stunning acoustical realism. Not only do the engineers record the attack, sustained note, and release of each pipe, they also capture ambient room noise (complete with blower) and console and chest-action noise. Moreover, adjustable tuning and temperament satisfy the most demanding audiophile. *Hauptwerk's* auto-detect feature made initial setup of our MIDI console nearly automatic. Of course, because some European *Hauptwerk* virtual organs lack an AGO-standard pedalboard, our top three pedal notes are silent.

For the third component, a computer for *Hauptwerk*, I assembled a "home theater" PC with nearly silent fans and power supply. I selected a fast processor, lots of memory, a solid-state drive, and a high-end audio card. Although I prefer *Linux*, the *Hauptwerk* copy protection works best with *Windows*.

Finally, I needed a MIDI encoder, a device that converts console key movement into MIDI messages. These messages command *Hauptwerk* to play pipe recordings and to react to console switches. My search let me to *MIDI*

Gadgets Boutique located in Bulgaria, offering a wide array of devices paired with superb technical support. My MIDI encoder converts four channels of 64 binary inputs into customizable MIDI messages, sufficient for three divisions and all console pistons and switches.

The console refurbishment required some basic woodworking and electrical wiring skills. I refinished the wood with tung oil, replaced the lights and cleaned the key and stop electrical contacts. After installing the MIDI encoder, I wired the console's key, stop, piston, and reversible contacts to it. Finally, I replaced the expression pedal rollers with variable resistors and connected them to the encoder. I also assembled a rolling platform so I could move the heavy console around the room easily. Ultimately, the project took roughly three months of hobby time.

The resulting instrument performs better than I imagined. All console notes and controls activate the corresponding controls on the *Hauptwerk* virtual organ. Each virtual organ memorizes the association between physical switches via the computer mouse (or an optional touch screen). Similarly, flexible keyboard assignments enable a single physical keyboard to control multiple virtual manuals.

This project reflects the progress of technology, where cheap commodity components mature to accomplish the same job that once required an expensive, dedicated machine. Instead of going to a landfill, the discarded console affords us frequent practice on a French Romantic instrument in our living room. Organbuilders such as Schnitger and Cavallé-Coll always embraced the potential of contemporary engineering when building their organs, and I encourage organists to consider how such technology would aid their own pursuit of music.

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