



Eight-Step Program

What if buttons could talk back? **Monome**, a Philadelphia collective of musicians and tech-savvy designers, is exploring that concept in a big way. Its 40h “computer-human user interface” is a 6.75-inch-square USB controller on which each of the 64 backlit buttons is also a pixel in an interactive display. (40h is 64 in hexadecimal.)

Software for Windows, Mac, and Linux transforms the 40h into eight step faders, a one-bit video display, a drum machine, a spectrograph, an audio-sample slicer, triggers for popular music programs, or whatever you decide to make. Both the software and firmware are open source, and Monome purposely included extra inputs on the circuit boards to facilitate modding. Other makers have already added knobs, accelerometers, and even alternative LEDs.

“By all means we want you to open up and change your hardware,” begins one of the detailed tutorials on the Monome site. “We are not responsible if something goes wrong, [but] we will help you fix your problem and we’ll even repair your unit” (fee applies for that).

In reality, the 40h is more of an interactive art experiment than a retail product. Only 400 units were made, and custom parts and hand assembly drove the price to \$500. Monome’s manufacturing philosophy is meticulous, too. Following the Restriction of Hazardous Substances Directive (see wikipedia.org/wiki/ROHS), the group avoids lead-based components and other toxics. It seeks out local suppliers, uses recyclable packaging, and even delivers orders to the UPS depot by bicycle.

The name Monome (pronounced *mon ohm*) is a nod to the simplicity of monomial numbers, to the minimalist credo of doing more with less.

Addressing two of the most frequent user requests, Monome’s Brian Crabtree writes, “If we had tri-colored LEDs and velocity-sensitive pads, it’d be an entirely different instrument. I am honestly less interested in gradients (tri-color or velocity) than I am in the 16×16 [an upcoming 256-button controller]. More bits!”

—David Battino

» Monome: monome.org