

Radio World

The Newspaper for Radio Managers and Engineers

REPRINTED FROM JULY 16, 2008

WWW.RADIOWORLD.COM

PRODUCT EVALUATION

StudioDrive's Desk Appeal Yields SixMix

Henry Engineering Developed Broadcast-Ready Mini USB Mixer for Radio Station PC Editing

by Ty Ford

You can't say you've run a radio station unless you have had at least one or two Henry Engineering problem-solvers operating somewhere in the plant.

Four years ago the company offered a solution for broadcasters operating in tight spaces with its StudioDrive mixer, a petite model designed to fit in the drive bay of a computer. Sales of the optional desk mount suggested that the StudioDrive increasingly was being used with laptop computers. SixMix is the result of that realization.

The 12 inch by eight inch, six-channel, 10-input mixer was designed for radio station use, including the broadcast studio, newsroom, automation system, remote studio, emergency studio, Internet studio or production studio. It can be operated at 115 or 230 VAC and has a standard IEC power connection.

Industrial look

SixMix is not crammed into a computer bay, so its size, panel layout and features were rethought. The design is decidedly un-sleek and industrial. The bold, primary colors and large knobs almost suggest a child's toy. But looks can be deceiving. There's a lot more going on under the hood than you imagine.

SixMix has features you won't find on

those PA or small-project studio mixers that are sometimes forced into service: separate busses for air monitor input, cueing, monitor out, program out, record out, mix-minus, guest headphone by way of an RJ for the Henry MultiPhones pod device, a S/PDIF program out and more.

Most connections are on the back except for the 1/4 inch TRS headphones and a convenient unbalanced 1/8 inch TRS on the front for occasional -10 stereo, unbalanced consumer audio devices.

There's also a dual logic, 1/8 inch TRS, +12 VDC mic tally output jack for on-air lights. The first output is configured to turn on tally lights if either mic one or mic two pots are on. The second logic circuit lights up only when mic two is on.



Product Capsule:

**Henry Engineering
SixMix USB Mixer**



Thumbs Up

- ✓ Has the features a broadcast console needs and then some
- ✓ Separate busses for air monitor input, cueing, monitor out, program out, record out, mix-minus
- ✓ Bi-directional USB port



Thumbs Down

- ✓ No phantom power

PRICE: \$1,195

CONTACT: *Henry Engineering*
at (626) 355-3656 or
visit www.henryeng.com.

SixMix has a bidirectional USB port (USB 1.1 or higher) that allows you to stream audio to and from a computer. The 16-bit USB codecs operate at 32, 44.1 and 48 kHz. After selecting the proper inputs and outputs on your computer, you can record into the computer and play back from it.

In fact, SixMix also lets you set up automation or other audio playback from a computer through the USB cable to a dedicated 1/8 inch TS S/PDIF connection on the back of

the SixMix. This is an isolated output, so you can use the rest of the mixer for other functions.

Pots 1 and 2 are -60 dBu to -40 dBu, 10,000 ohm, balanced, low-Z professional mic inputs. Each mic input has its own ± 12 dB trim adjustment, cough button and -10 insert jack usable for compression, limiting or other effects (and possibly for direct outs). There is no phantom power. Pots 3-6 have both A and B inputs for either pro or consumer line level.

The A inputs are $+4$ dBu, 10K ohm, balanced stereo using pairs of 1/4 inch TRS jacks. The B Inputs are -10 dBu, 10K ohm, unbalanced, stereo and use pairs of RCA jacks. The exception is input 6B, which is dedicated to USB return audio from an attached computer. Additional pairs of 1/4 inch TRS jacks are used for stereo air monitor input, -10 dBm stereo monitor out, a 0 dBu mix minus out and $+4$ dBm stereo program out. The 1/8 inch TRS unbalanced stereo record output level is set to -10 dBu.

The Cue buss feeds its own speaker and also is routed to the -10 dBv output ring of the mix-minus output jack in case you need a beefier cue amp. Cue leakage into the Program buss in down about 70 dB. All channels but Mic 1 can be mixed to the Cue bus by depressing the blue Cue button on that channel's input. Cue is pre-fader and overrides the program buss.

The Cue speaker is disabled when the main monitors are muted, but Cue can still be heard in the headphones if auto-

cue is engaged. The auto-cue feature drops programming levels in the headphones to cue bus send. When you release auto-cue the headphones switch back to main monitor.

The monitor system can be switched to Program or Air. When the Norm/PC button is down, Program/Air is disabled and the monitor receives audio only from a computer attached to the USB bus. Monitor muting for talkback or cueing may be disabled by changing internal jumpers, if desired.

The default input for mix-minus operation is input 3. If only one mic is used, opening up input 2, SixMix internal jumpers can be set to move mix-minus to input 2, thereby freeing up input 3 for other audio inputs.

SixMix also has a talkback circuit for Mic 1. If Mic 2 is in a booth, the SixMix operator can cue the booth using the talkback feature. Mic channel 2 can talk on the cue buss back to the main operator and be heard in headphones or on the SixMix cue speaker.

There is no master fader, but know that headroom is 20 dB above 0 dB output, which for SixMix is $+4$ dB.

In practice

I grabbed an old JK Audio Innkeeper 1r digital hybrid, connected it to the SixMix and plugged the USB cable into my G5 Mac.

After changing the Mac's audio IOs to the SixMix codec, I brought up Mac's

Soundtrack Pro and Garage Band and called some friends.

Operation was easy. The line inputs to the SixMix are a pair of balanced 1/4 inch TRS jacks. Because the hybrid output is a single balanced line, I used a splitter cable to bridge both inputs jacks on the SixMix.

USB busses can be noisy and my G5 Mac's is no exception. There was a low-level, high-pitched whine under the audio whenever I pushed the program button of a SixMix mic channel. It increased in volume as I raised gain on the pot.

I switched to my new MacBook and the whine dropped below the self-noise of the Schoeps mic (with external phantom power) that I had plugged into the SixMix mic input. I was in the stone dead quiet of my studio. Had I been in most normal environments, the whine would not have been audible.

I recorded into Garage Band and then played back from the computer through the USB buss to the USB input on the SixMix. No problem.

Although I didn't have the Henry pod device for multiple headphones, I'm giving Henry a "gimme" on that. The SixMix features make it a no-brainer for that one piece of gear you want sitting on the shelf when a console goes down, or for daily operation. The SixMix proves that less is more.

Ty Ford is a frequent contributor to Radio World, and may be reached at www.tyford.com. 