

PRO AUDIO REVIEW

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STUDIO

EQUIPMENT REVIEW

Crane Song Spider Mixer

BY DR. FRED BASHOUR

For the past thirty years, I have used a highly-tweaked and severely modified Suburban Sound SS-III 8x2 mixer for most of my analog mixing tasks, but have been looking for a modern replacement for quite some time. I first encountered a prototype of the Crane Song Spider mixer at the 1999 AES convention. I thought it was the coolest-looking product there, and it promised the sound quality and flexibility I needed for my classical remote recording sessions.

I eventually received one of the first Spiders manufactured — in July, 2001 — and pressed it into service the very next day on a three-day recording session at Studio Dufay. I have subsequently used it daily, as well as on several commercial classical CD projects during the fall and winter. I eventually exchanged it for a currently-manufactured unit (incorporating my suggestions for increased flexibility with the analog direct outputs) in mid-April, 2002. I type this review, having just returned from using my “new improved Spider” at a week-long recording session at the “Great American Brass Band Festival” in Danville, KY.

FEATURES

The Spider (\$7,500) mixer's unique combination of analog and digital circuitry begins with eight discrete Class A preamps similar to those used in its “Flamingo” mic

preamp — gain blocks which were designed to exhibit warm sound and excellent transient response. Each Spider input channel also incorporates a switchable “fat” amplifier stage, in order to supply tube-like color upon demand. This analog circuit is modeled after the one used in Crane Song's Flamingo mic-pre. The mixer can be switched to eight channels of line input (on 1/4-inch phone jacks) as well.

The Spider also has ten channels of built in A/D converters which feature Crystal Semiconductor's latest technology 24 bit, 96 kHz chips, and provide extremely wide dynamic range. In addition, Spider's digital section also contains 300 MIPS of digital signal processing dedicated to analog tape emulation. This effect — based on the sonic characteristics of Ampex 456 tape —



Fast Facts

Applications:

Location recording, analog mixing, vacuum tube and tape emulation via analog and digital signal processing, front end for DAWs.

Key Features:

8x2 mic or line mixer with simultaneous analog and digital direct and stereo outputs, several digital effects

Price:

\$7,500

Contact:

Crane Song at 715-398-3627,
www.cranesong.com

CRANE SONG SPIDER**Plus**

- Superior analog and digital sound quality
- Flexible I/O and routing

Minus

- None

The Score

The Spider joins the two other high-end analog mixers — Manley 16 x 2 and Millennia Media's Mixing Suite — at the top of the heap, and ups the ante by including high quality multichannel digital conversion and several unique effects.

is adjustable over a very wide range on each channel and was also taken from the HEDD-192's design.

Each of the Spider mixer's ADCs is preceded by a switchable peak limiter stage, which prevents the converters from being overdriven. Spider's ten analog outputs appear in two places. First, they can be accessed as the "ring" on its standard TRS insert connectors, enabling the user to send each channel to an external effects box, and then return it to the mixer before A/D conversion. Alternatively, by using easy-to-make cables, those jacks be used simply as direct outs. Spiders built since March, 2002 also feature a separate rear panel nine-pin D-sub connector, which also contains the eight direct outputs. Eight rear panel pre/post pushbuttons determine the source of these direct outputs, relative to the "fat" and peak limiter circuits, and the front panel level controls.

Spider's stereo digital output is fed from the internal stereo bus and appears simultaneously in three formats on three connectors, which can be accessed in parallel: AES/EBU, S/PDIF, and TOSLink. It can also be routed — at the flip of a front panel switch—to channels 7 and 8 of the multichannel digital outputs. The eight-channel digital direct outputs can be interfaced through a choice of three different option boards: AES/EBU, ADAT optical, or TDIF; one is installed within each Spider.

The stereo outputs and the eight channel outputs can be used simultaneously—and

at different sample rates and bit depths as well. This means, among other things, that a recordist can feed an eight-channel MDM recorder or DAW and a stereo DAT machine or CD recorder at the same time. Output dither is variably selectable from 24 bits down to 15 bits, and is generated through a proprietary analog process.

One the rear panel, the Spider's digital section also features work clock input and output BNC connectors, providing the use the flexibility of making the mixer either master or slave when recording, for example, to DTRS cassette machines.

Very tightly packed with high-end parts, the Spider itself is only four rack-spaces high but, since it generates considerable heat, is best installed with at least 3/4 or an inch of free space above and below. Its rack ears are so punched that I was able to install it in my (unfortunately no longer available) shallow five rack-space SKB carrying case. The power supply is sold with a full rack-size front panel, so it can be installed in any standard 3.5-inch rack location.

IN USE

I have received considerably more than my usual share of "great sound, Dr. Fred" comments on every project I have tracked through the Spider. In my opinion, its mic/line preamps are the first solid state circuits I have really been able to live with, day in and day out. They are not fussy about mic output level or impedance, and simply make each of my mics sound great. On occasion, when I want the additional different personalities imparted by my vacuum tube Fearn, Manley, or Millennia Media preamps, I do use them, patched into the Spider's line inputs. But make no mistake, the Spider sounds so good that I now bring along my separate mic preamps only on big-budget projects during which I'm allowed the necessary extra setup time. Usually they stay home at Studio Dufay!

The second use I have found for the Spider is perhaps even more exciting and revolutionary — especially for an engineer who has long tried to "keep everything digital." I mixdown through it! That is to say, once I have made my multichannel digital recordings (stored and edited inside my MOTU or Merging Technologies Pyramix DAWs), I frequently leave the digital

domain (in order to add Crane Song, Manley, or Amek analog processing) and do my final mix through analog! This way, I can record at 96 kHz (via MOTU) or at 192 kHz or DSD (via the Pyramix) for the highest quality masters. Eventually, I will route the DAWs respective analog outputs through the Spider, add appropriate analog processing, and finally output a nice 44.1 kHz, 24-bit file suitable for dithering down to 16-bit while making CD master files.

But here is the coolest part: Even though there is no automation in the Spider, I set up my DAWs virtual mixers with all the mix moves I need, and then simply "go through" the Spider at a nominal unity gain which makes sense for the final stereo level. I enjoy all the wonderfulness of being in the analog domain with the Spider's I/O flexibility, coupled with the precise automation control my MOTU and Pyramix DAWs give me. If this is not the "best of both worlds," I don't know what is!

SUMMARY

The Crane Song Spider is the first 8x2 location recording mixer I have purchased since 1972. At that rate, it should be at least 2032 before I consider replacing it!

Dr. Fred Bashour is a jazz pianist, church organist, classical music producer/engineer, intermittent college professor, consultant to university music libraries on the digital storage of course listening materials and a contributor to Pro Audio Review.

REVIEW SETUP

Neumann/Stephen Paul SM 69, M 50, M 249, Royer SF-12, 12A, R-121A, Manley Labs/AGK C 24 mics; DW Fearn VT-2, Millennia Media M-2b mic preamps; TASCAM DA-78HR DTRS, Sony PCM-R100 DAT recorders; Merging Technologies Pyramix, MOTU 1296 DAWs; Manley/Tannoy monitors.

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