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soundInnovations: the manufacturer's view

Sound Ascendant: Cloud Mics

by Gregory A. DeTogne

Sometimes you wind up taking a step backwards in order to move forward, and the escalating interest we're seeing in ribbon microphones these days seems to underscore just that. First developed fairly early in the last century, ribbon mics typically use a thin piece of aluminum placed between the poles of a magnet to generate voltage via electromagnetic induction. Bidirectional by nature, the microphones have long been prized for their ability to tame harsh sounds and provide midrange warmth.

Just as importantly, in a digital age when audio engineers continually strive to capture vintage tones with a dizzying array of tube preamps, exotic compressors, and software of all description, these mics, born of primal technology, a level of plug-and-play simplicity to the task.

RJ Cloud, a singer, songwriter and recording artist, didn't know much about ribbon mics when he first crossed paths with Stephen Sank in 2006. Sank, on the other hand, probably knew more about the devices than anyone still breathing. The son of the late Jon R. Sank, whose engineering fame at RCA was gained by improving upon Harry Olson's venerable 44 and 77 Series ribbon microphones with models like the BK-11, Stephen Sank began downloading his father's accumulated wisdom at the age of 10. By the time the senior Sank passed away in 1998, more than 50 collective years of skills, secrets, research material, testing equipment and other hardware had been handed down to his son.

Having built an esteemed reputation of his own based upon his work modifying and restoring vintage microphones, Stephen Sank met Cloud when he moved in next to Cloud's Tucson studio. "About the second time I had any kind of conversation with RJ, I gave him a vintage RCA ribbon mic I had restored to try out," Sank recalls of the fateful gesture that would ultimately lead to the launch of Cloud Microphones, a company making its debut at AES last year. "He was completely hooked instantly. It wasn't long before he started buying up old ribbon mics wherever he could find them and

having me fix them up. His mic locker quickly filled up with a large selection of ribbons, and he was producing amazing recordings out of this little shoebox studio. I wound up overhauling his whole place in about a year-and-a-half. I think it became the most exquisitely equipped room of its size on the planet."

For his part, Cloud admits that he couldn't believe what he was hearing when he was introduced to Sank's ribbon mics. "I had wanted my recordings to sound like this ever since I had to abandon tape and move to digital because of expense and practicality," he says. "I couldn't stop listening to these microphones. I'd use them in different systems, listen to recordings I made with them in the car and at home. The sound had a life to it, a special dynamic that was very warm and human. It had a depth I'd never heard except in old, old recordings. It was as if the sound had suddenly become three-dimensional. All along, something had been missing, but now I had found it."

At some point in Cloud and Sank's burgeoning relationship, Sank mentioned that one of his goals was to re-create the BK-11. Taking that idea one step further, Cloud began steering him in the direction of modernizing the classic ribbon design and funding a completely new microphone company. "The impressive results I was getting with the modifications, alterations and re-ribboning of other mics inspired us both to a point where we wanted to build a mic from scratch," Sank recalls. "The mic we envisioned would incorporate all of the lessons learned and expressed in the mics of old, and be outfitted with new technology that made sense for the ribbon mic of today. It would be built cost-effectively, and offered at a price people could afford to pay for a high-end mic."

Cloud and Sank's collaborative vision ultimately became reality with the application of a patent for the first JRS-34 microphone in 2007. A second series of patents was filed based upon the circuitry that makes the JRS-34 unique shortly thereafter. Following an extended period of research, analysis, and further develop-



RJ Cloud (left) and Stephen Sank with foreground friends from left-to-right: One of the first RCA model 44A ribbon mics, made around 1932; RCA 77DX radio version from the '70s; and an early '70s BK-11 owned by inventor Jon R. Sank. Completing the lineup are the Cloudlifter, passive Cloud JRS-34-P, broadcast JRS-34-TV and the active JRS-34.

ment using crude and makeshift microphone bodies, Cloud contracted with a Tucson-based fabrication firm called Aerofab to build the first prototypes.

Branded and sold under the Cloud Microphones name today, all JRS-34 microphones are assembled by hand in Tucson, Arizona using parts made locally using energy saving, environmentally responsible methods. The few parts that aren't made within the desert city are sourced elsewhere, but exclusively in the United States. Each JRS-34 ribbon is cut, corrugated, and installed by hand in precisely the same fashion as prescribed by RCA pioneer Harry Olson. New ideas bring the design into the 21st century with the addition of audio transformers by CineMag, neodymium magnets, active JFET circuitry, and more.

Offerings found within the JRS-34 Series begin with the passive JRS-34-P, which sports a powder-coat-grey finish, nickel screens and a silver logo. Conversely, Model JRS-34 is outfitted with active circuitry and features brushed nickel covers and nickel screens. As further complement to

the product group, active-circuit Model JRS-34-TV is ideally suited for on-camera use with its black, non-reflective powder coat finish, black screens and silver logo. Each of the phantom-powered, active circuit mics delivers output performance gains of 20 dB over the passive JRS-34-P.

Beyond the contingent of JRS-34 ribbon mics, Cloud is also manufacturing the Cloudlifter, which offers two channels of portable, world-class, initial preamplification for any passive signal. Built to simplify the task of using ribbon mics in any application, the Cloudlifter is capable of elevating a mic's performance over 20 to 25 dB (depending upon the mic and secondary preamp impedance), and is equipped with the same ultra-transparent circuitry as found in the mics to keep the audio path free-and-clear of coloration produced by transformers, capacitors and resistors.

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