

MUSIC



TALE OF THE TAPE

THE ORIGINAL MEDIA FROM STEELY DAN'S 1978 RELEASE GAUCHO COMES OUT OF STORAGE FOR A 2003 SACD REMIX.

BY STEVE HARVEY

Plenty has been written regarding the remixing and repurposing of archived catalog material for multichannel DVD or SACD release. Often the articles skip over several integral and very crucial components of the process, namely the preparation and restoration of the analog assets, their transfer into the high-resolution digital domain to facilitate remixing, and rearchiving for future access.

Renowned engineer Elliot Scheiner recently brought the analog multi-track master tapes for Steely Dan's 1978 album, *Gaacho*, out for a second airing. Originally released in DTS 5.1 on CD in 1997, Universal Music requested that Scheiner, who engineered the original stereo release and remixed the DTS 5.1 version, to once more work his magic for an eventual SACD 5.1 release.

Scheiner, in turn, enlisted the help of Bruce Maddocks, of *Cups 'n Strings* in Santa Monica, whose 30 years in the industry includes experience with archive masters at Capitol Studios in Hollywood, to restore the tapes to playable condition and transfer them onto hard disk. As Maddocks notes, he and Scheiner first had to work their way through a box load of tapes.

"We did spend a day, Elliot and I, going through probably close to 20 reels, because the Universal Music library sent us everything," Maddocks recalls. "In some cases it was very clear which the masters were. In other cases there was a question as to whether it was a real master or not. After we confirmed the master takes, we put aside everything that wasn't necessary and shipped it back to Universal."

As many readers will be aware, certain brands of analog tape popular 10, 20, or more years ago have proved to age badly. Ampex tape, in particular, typically requires baking to remove moisture and prevent the oxide shedding onto the tape heads, quickly rendering further playback impossible.

Of the seven master 2-inch tapes, says Maddocks, all but one needed to be baked before they could be played. "A seventh reel, which I believe was on Scotch 250, did not need to be baked. The rest were Ampex 456. This is the second time they were baked — they were also baked in '97."

The six reels were put into Maddocks'

mechanical convection oven and heat-treated. "For 2-inch tape, I bake it at 51 degrees C for a period of 10 hours. That is to the EMI practice, I believe. That was what we were doing at Capitol, and it works. If the tape could be played, that time period allowed it to be played."

The oven offers precise control. "It's a laboratory-grade mechanical convection oven, digitally controlled. It will hold and maintain temperature to within half a degree C over the period of the operation. I can get four analog 2-inch reels into it safely, and still allow proper spacing for the tapes and not produce too much of a heat load. The oven is configured so that there is a fixed rate ramp-up to the operating temperature, so that the tapes are not shocked, and then there is a controlled cooling down period, post the baking period."

The seven tapes were transferred into a Nuendo system at 96/24 utilizing Swissonic Mark II A-to-D converters that were individually clocked from a Swissonic master clock. "On the back end, for monitoring, the digital outputs were returned off of Nuendo into my Sony DMX-R100 operating at 96/24, and we ran a Swissonic D-to-A converter on the digital stereo output bus of the Sony into our monitor selector. So we stayed Swissonic all the way through the chain. That way, Elliot had a common reference that he was familiar with."

Maddocks continues, "The cards on my Nuendo system are using the SEK'D Prodif card, which is an 8-channel AES digital card, 96/24 capable. I use it because of the overall performance — it's a better sounding card than some of the other cards available for the Nuendo system."

Although some songs did not use the full 24-track count, others included multiple, disparate takes on one track. "As the track density increased, you would find individual overdubs on a single track — maybe a vocal, then another instrument. As individual elements or instruments would appear on a track, Elliot and I would quickly write down what track shared what information."

The pair also found that noise reduction had not necessarily been applied on all tracks. "On some of the tapes we found that some tracks were noise reduced using the Dolby A system, and some weren't — on a single reel. You might find that two tracks were encoded and the rest weren't."

In addition to the transfers to Scheiner's hard drive, reveals Maddocks, "I also created, for the Universal archive, a single drive with all the songs transferred, and delivered that as both a Firewire and USB dual-interface drive."

Further, to ensure future playback, he adds, "There were analog copies made for the library, on the request of Universal Music, of all seven masters after they had been transferred digitally. We went back and made 2-inch analog transfers, 15 ips, Dolby SR." The transfers were made on a Studer 827 machine to BASF 900 tape. "We wanted to be sure that, in another 10 years, we can deal with this — when we come to the next level of migration of sample rates and bit depths."

Observes Scheiner, "We did it in multiple formats because I wanted all the bases covered, and didn't want to mix from a generation down in analog, so we put it into a digital format at 96k in Nuendo. I mixed it from Nuendo through an analog [AMS Neve VR Legend] console at Presence Studios in Connecticut."

Regarding the tapes that included multiple, mixed overdubs on single tracks, he says, "I only have 24 outputs of 96k on Nuendo, so I had to split it after Nuendo. I spread them out on the console."

Despite this being the second time that *Gaacho* has been remixed into 5.1 in six years, Scheiner reports, "We didn't have any of the recall information from the second mix. So all the Flying Faders stuff was gone and I had to redo that. But it's only a 24-track tape, so it wasn't all that difficult. The mix took about a week."

With a surround version already in existence, says Scheiner, there was no reason to return to the stereo master for reference. "I went back to the multichannel version for my reference. I changed things in this multichannel [mix] where I got a little more adventurous with certain instruments. I might have had them in the front in the first version and put them in the rear on the new one."

Even just six years on there is a marked difference in the quality of the two surround versions, Scheiner reports. "In listening to the CD version and A/B'ing it against what I was doing, just being at 96k made a huge difference. When I did the first surround version, when we transferred the tapes, we didn't think about anything other than doing it digitally for convenience. We transferred it to a Sony 48k DASH. Just listening to the difference between the 48k and the 96k was staggering. It made such a huge difference."

Mastering the new 6-track version to his favored 2-inch, 8-track analog format and duplicating the multitrack analog masters offer a safety net for the future, says Scheiner. "I don't want to be locked into a 96k file if [technology] is changing again. [The analog copies] are a generation down, but I did use SR, so hopefully that will make a difference." ■