

The Doors: Vinyl Restoration

The process of restoration and mastering this vinyl reissue took place over a three-month period, starting with the gathering of all the original stereo and, where available, monaural master tapes as well as the 1:1 safety copies and original EQ copies. All the tapes were originally mixed from 1/2" 4 track and 1" 8 track to 1/4" 15 ips NAB analogue tape records, generally on Ampex 351 tube/valve machines. (In the U.K. tubes are known as valves.) In 1968, starting with The Doors' third album, EKS-74024 *Waiting For the Sun*, in order to optimize tape hiss we introduced the Dolby A-301 noise-reduction system. I believe that this album in particular was the first multi-channel recording in the U.S. to employ Dolbys; it required five stereo units, four for the 8 track recorder and one for the stereo mix.



It all began in January 1967 with The Doors EKL-4007 monaural and EKS-74007 stereo. You'll have to forgive my suing the old Elektra nomenclature numbering system of its releases; I know the albums by their numbers and it's kind of fun to hold on to the memories of that fabulously creative time through these albums. Just Google these numbers, EKS-74007, EKS-74014, EKS-74024, EKS-75005, EKS-75007, and lastly EKS-75011. All these numbers will take you directly to hundreds of portals that recognize The Doors release numbers.

To do the restoration from the original analogue tape masters, we purchased a new remanufactured Ampex ATR-102 with Aria Class A

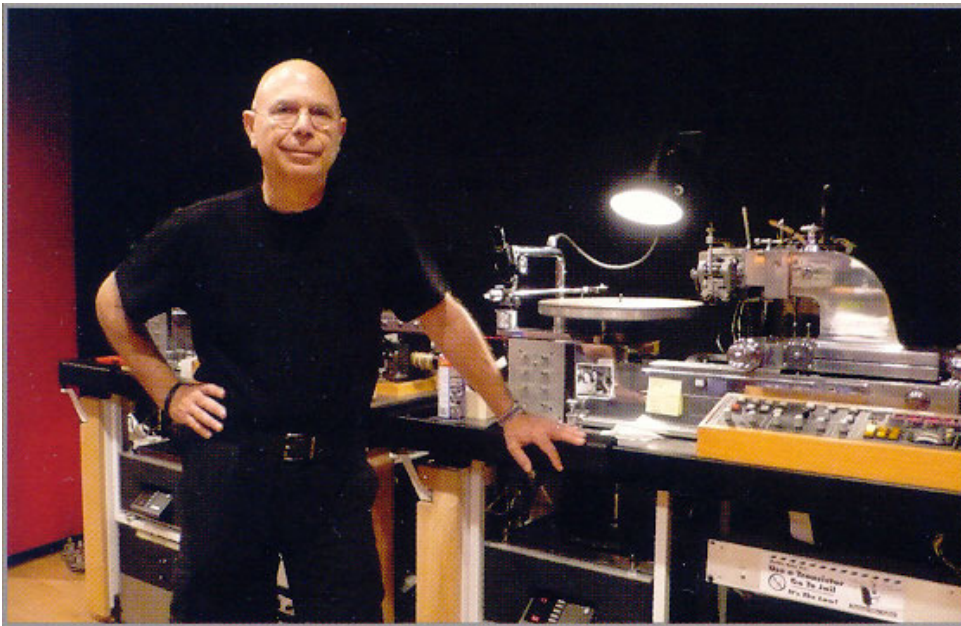
Electronics. At my studio I have one of the original Elektra Dolby A-301 noise-reduction units that was used on *Waiting For the Sun* and *The Soft Parade*. For the analogue-to-digital process, a Pacific Microsonics HDCD Model Two Processor was set to the highest digital resolution of 192 kHz 24 bits, and that in turn fed into a Digidesign Pro Tools HD3 Accel system.

The original concept was to go pure analogue straight through to the lacquer masters - that is until we discovered the



true physical condition of the master tapes, which varied from almost unplayable to excellent. In the interest of keeping the quality at the highest level, we made blind listening tests with the original analogue source and compared it to the output of the Pacific Microsonics. We couldn't tell the difference sonically, and that further convinced us to do the restoration in the digital domain.

The first album, EKL-/EKS-74007 *The Doors*, had its own set of problems, or should I say solutions. Previously in print I've said that this album, as the world has heard it since its seminal release in 1967, has never played back at its correct speed and pitch. We went through



the process of correcting, from the beginning of each side, from almost on speed, with “Break On Through”, to slightly over a quartertone flat by the end of “Light My Fire”. The same condition occurred on Side 2 from “Back Door Man” to the finish of “The End”. The speed correction was applied to both the monoaural and stereo versions. During the actual lacquer mastering process, Jac Holzman, Bernie Grundman, and I thought it best to go with the original, slightly off-speed masters, because our overriding purpose was to bring you new vinyl discs, mastered with the highest attention to detail and quality that not only sound better and quieter but also contain the exact music on the original discs.

For a bit of history, here are the unsung original mastering engineers. Sydney Feldman mastered the first two albums, The Doors and Strange Days at Mastertone Sound in NYC, and his system was all Westrex. The Third, Waiting For the Sun, was mastered at Contemporary Records by Bernie Grundman. The lathe and full cutting system still exists today in the basement of Bernie’s studio. Armin Steiner at Sound Recorders Studio mastered the fourth album, The Soft Parade. For the fifth and sixth albums, Morrison Hotel and L.A. Woman, we mastered with Bob McCloud at Artisan Recorders in Hollywood on his Neumann lather. All of the electronics for the cutting systems were tube.



For the new lacquer masters we weren’t under the same technical constraints as we were when the albums were originally released, so our emphasis was to make a more open representation of what the original tapes really sounded like. The Soft Parade is a good example. It went through three different stages, the original mix through double limiters, one set for peak and the other for RMS. Then the next stage was to EQ and limit again to achieve a measure of premastering. The third was mastering at half speed. Half speed gave you clearer high end, but you lost a great deal of bottom end. Imagine a bass, its lowest note dropped down an octave. Not only couldn’t the playback machine resolve those frequencies, but the poor cutting head gave up.

Enjoy these discs. Take care of them. They are treasures, and remember, as always, play it loud and part the waters. - Bruce Botnick, Ojai, CA, July 2007