



**Pimp My Studio! •A FEATURE STORY•**

David Gamson's Mechanism Studios Gets A Tune-Up From Auralex Acoustics  
by [Barry Rudolph](#)

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Producer/songwriters David Gamson (Scritti Politti, Miles Davis, Meshell Ndegeocello, Chaka Khan) and Oliver Leiber (Gavin DeGraw, Silvertide, The Corrs, BB Mak, Aretha Franklin, Paula Abdul) have collaborated on many projects, from scoring cues for *Mission Impossible II* under Hans Zimmer to producing records for Ricky Martin and the Long Beach Dub Allstars including the main title theme for Matt LeBlanc's TV show *Joey*. Their process is to track and overdub at Leiber's Hollywood Hills studio and complete editing and programming at Gamson's Mechanism Studios (L.A.).

However, Gamson moved to a home in Long Beach, Calif., and was midway through massive renovations. He decided to move Mechanism to a nearby commercial property, but it wouldn't be ready for about nine months. Needing an interim studio space, Gamson assembled his absolute necessities for recording (a Nuendo rig, preamps, converters, Genelec monitors, etc.) into a spare 11X11-foot bedroom. It was far from ideal, but he could finish editing and mixing in this space. "I gave my temporary setup a 'test drive' during some songwriting sessions and it was horrible," laments Gamson. "With all of the reflections, it was hard to hear imaging at the mix position, and the bass wandered around the room."



The Sad "Before" Picture

Gamson's problematic room is common for a lot of home studio users and fixing it might be the last thing they would consider spending money on--after all, most would love to own a better mic and pre-amp, a bigger and faster computer or all the latest plug-ins. However after a few projects (and with the engineering, production and recording gear being equal), home studio users quickly realize their recordings never sound quite as good as if they were recorded and mixed in a professional, purpose-built recording studio with acoustically treated spaces.

Acoustic problems in small rooms start with dips, the cancellation of sound at discrete frequencies and/or peaks, hotspots at certain other frequencies caused by the interaction of strong sound reflections between surfaces. Called modes, modal energy that builds up between two parallel walls is called axial, between four walls, tangential and between six surfaces, ceiling, floor and four walls, oblique.

Gamson e-mailed pictures of the room and a floor plan to Auralex Acoustics' regional manager Rusty Sulzmann, who promptly returned an [architectural floor plan drawing](#) specifying the type and placement of 22 Auralex Acoustics Elite Pro Panel diffusers, absorbers and corner treatment products. These panels would cover about 30% of the walls and ceilings. Coverage is based on room's intended use i.e. control room/mix environment, live/tracking room, rehearsal space, home theater, audiophile listening environment, etc.

Auralex offers this free service to anyone who downloads and fills out the form at: [www.auralex.com/pcf/](http://www.auralex.com/pcf/). Due to the huge volume of entries, not everyone will get their own drawing but the correct selection, placement and number of diffuser and absorbing panels will be recommended to fit your room and budget.

"In a small room such as David's, axial modes and standing waves are largely one and the same. Other standing waves might exist without necessarily being modes, but their contribution to room response will be limited compared to the abundance of problems caused by a room mode. A main 'non-modal' standing wave problem is sometimes caused by a 'bounce' from the rear wall. This problem will be addressed quite well by the rear wall treatments while the rest of modal problems above 70 Hz are going to be tackled by the entire treatment design." Sulzmann says. Gamson's bass complaints at the mix position were caused by the first-floor ceiling axial mode at 70 Hz--close to an open D-string on a bass guitar--and a front-to-back axial mode at 49 Hz, low G on a bass guitar.



"For the 70Hz mode, deeper bass traps above the mix position would help, but the space required might occupy more headroom than David is willing to sacrifice," Sulzmann continues. "The quickest way to cure this is to space the ProFusors down about six inches from the ceiling and treat behind them with 4-inch Studiofoam or several layers of SonoFiber. For the 49Hz mode, Auralex CT45 panels on the rear wall could help, but opening the rear double doors during mixdown would provide extra 'breathing room' for the bass."

Auralex Acoustics designs and builds studios through its network of worldwide representative companies. Local custom installer Nigel Martinez--who runs NJM, a one-man studio design operation in Southern California--accomplished Mechanism's studio makeover in one day. Martinez has been building and/or modifying rooms for over 20 years

and has built rooms for: System Of A Down, Orgy, Clint Black, Lionel Richie, Nathan East, Ricky Lawson, Motown, Universal Studios, Blue Microphones as well as a completely portable 5.1 mixing/screening room for Oliver Stone.

"You address all the frequencies you're going to hear in the room to make it as pleasant and accurate as possible," Martinez says. "This room required a lot of bass trapping in the corners because of all the bass buildup in that small space. In a purpose-built recording studio, the monitors are fixed and more accurate because they are designed to sound correct at the mixing position. In a home setup with near-fields, you have to adjust the mix position to accommodate the room. In David's room, that position is in the exact middle--maybe not the most ergonomic spot, but the best place for the most accurate monitoring."

Each of the four corners uses LENRD (Low-End Node-Reduction Device) bass traps behind B-24 absorption panels set off by at least two inches of air space. Sound vibrations go through the panel and get lost in the air space, with lower frequencies absorbed by the LENRD. "The ceiling treatment above the mix position is made up of our ProFusor panels," Martinez continues. "In small rooms, diffusion is sometimes preferred above the mix position, as too much absorption can pull too much life out of a room."

The end result is a neutral and balanced-sounding room that's great for overdubs. "I was concerned I'd end up with a very lifeless-sounding room," Gamson says, "but now I'm surprised how much more open and clear everything sounds. There is better imaging at the mix position, with no flutter echoes or bass problems."

Barry Rudolph is an L.A.-based recording engineer. Visit his Web site at: [WWW.BARRYRUDOLPH.COM](http://WWW.BARRYRUDOLPH.COM)



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