



Case Study: Henry Lee Summer's Studio

Auralex Acoustics, Inc. recently provided acoustical consulting services and acoustical products for Henry Lee Summer's personal studio. Henry Lee Summer is a pop music icon from the '80's. He released four albums on EPIC/CBS Records and scored big with two top twenty hits; *Wish I Had a Girl* and *Hey Baby*. As is a growing trend, his common work method is to record, perform, mix and rehearse in the same room. Henry utilizes Soundcraft TS12 and Mackie DB-8 consoles, multiple recording formats (2" tape, hard drive and Tascam DA-88), great microphones (Nuemann, AKG, etc.) and top of the line mic-preamps and compressors (API, Tube-Tech, Focusrite, etc.). The main room has a cathedral ceiling, carpet with pad, and the dimensions are 27'x19'x14' (peak). There is an adjoining "piano" room with the same profile but is 13' in length and has hardwood floors.

Some of the acoustical concerns Auralex addressed were:

- 1) Severe low frequency problems to the point that in rehearsal situations, certain notes below 100 Hz would essentially cancel.
- 2) Dramatic flutter echo leading to a very harsh response in the high frequencies.
- 3) Design treatments for the multiple functions of the room.

ACOUSTICAL TREATMENT OF THE PRIMARY ROOM

The first concern was the large exposed ceiling surfaces. Reflections off these surfaces were not only creating the harsh characteristics for rehearsal and tracking applications, but were greatly inhibiting an accurate mix environment. In light of this, the main element of the treatment was thirty T'Fusor[™] Diffusors. These diffusors were installed in clusters on the angled sections of the ceiling. Six clusters - each of which included three (3) T'Fusors and two (2) 1'x2' panels of 2" Metro Studiofoam[™] were installed closer to the ends of the room. To maximize the acoustic benefits, the clusters were offset on opposite surfaces. Also, adjacent T'Fusors were rotated to maximize the diffused sound field. The cavities of the T'Fusors were backfilled (75%) with sections of Studiofoam to increase low-mid and low frequency control.

A Closer Look:

The center of the room functions not only as the mix position(s), but it is where Henry places his drum kit for recording. This high priority area received one large cluster per ceiling angle of the following arrangement: two rows of three T'Fusors (spaced 10" apart) centered with a six-foot section of a hybrid male Sunburst[™] Broadband Absorber (see Figure 1). Auralex created the hybrids by carefully cutting the female Sunbursts in half lengthwise with an electric carving knife and gluing the sections back-to-back with Foamtak[™] spray adhesive.



Figure 1: Close-up of ceiling treatments in main room.

Wall Treatments:

- Four panels of our 4" Metro Studiofoam were placed on exposed areas of the south wall (see Figures 2, 3, and 4 for different views).
- Two panels of 4" Metro Studiofoam were placed behind the main mix position on a pre-existing "deflector" (a felt covered, slightly angled plywood unit backed with fiberglass insulation to add some low frequency control). *Placing higher NRC panels, such as Auralex 4" Studiofoam, on the wall surface behind near field monitors greatly increases midrange detail perception at the mix position.*
- The remaining exposed wall areas and the upper section of the west wall were selectively treated with 2" Metro Studiofoam to absorb room reflections.
- No treatment was placed on the east wall, which is wood paneling. Wood paneling yields favorable low frequency characteristics (especially when insulated) and the beveled edges of this particular paneling will offer pleasing upper-mid and high frequency diffusion.
- Next, an area above the HVAC closet was treated with LENRD bass traps to reduce low frequency build-up.

One box of our Max-Wall[™] 420 and one box of our Stand-Mounted LENRD[™] Bass Traps were included to complement the dynamic functions of the room. Two of the bass traps were placed in the north corners under a soffit and the remaining stand-mounted products will be moved to suit each application.



Figure 2: Rendering of studio with proposed treatments (Showing Mix Position "A").

ACOUSTICAL TREATMENT OF THE PIANO ROOM

Auralex targeted two primary acoustic concerns with this adjoining room: 1) creating a high-quality acoustic environment for recording acoustic instruments, and 2) reducing "secondary space" issues, which would create low frequency anomalies in the main room. The east wall of the piano room has an 8' wide opening to the main room and both it and the west wall are covered with wood paneling. Once again, diffusing the ceiling was a main element of the acoustic treatment. In this case, 12 of our MetroFusor™ Diffusors were selected. Auralex installed the diffusors in clusters similar to the ceiling treatments in the main room. The clusters consisted of MetroFusors and 2" Metro Studiofoam staggered in height and offset on opposite surfaces.

The flat portion of the ceiling was treated with two "V" shaped clouds suspended from the ceiling. These clouds produced significant low frequency absorption and reduced room reflections above the piano and off the paneled walls. Auralex constructed these clouds using 2'x2' sections of 2" Metro Studiofoam and 4" Studiofoam mounted onto opposite sides of our Vel-X™ mounting panels.

Additional bass trapping was achieved by stacking two male Sunburst Broadband Absorbers in each of the corners of the north wall. Henry also has the flexibility to move his MAX-Wall and/or Stand-Mounted LENRD's in from the main room.

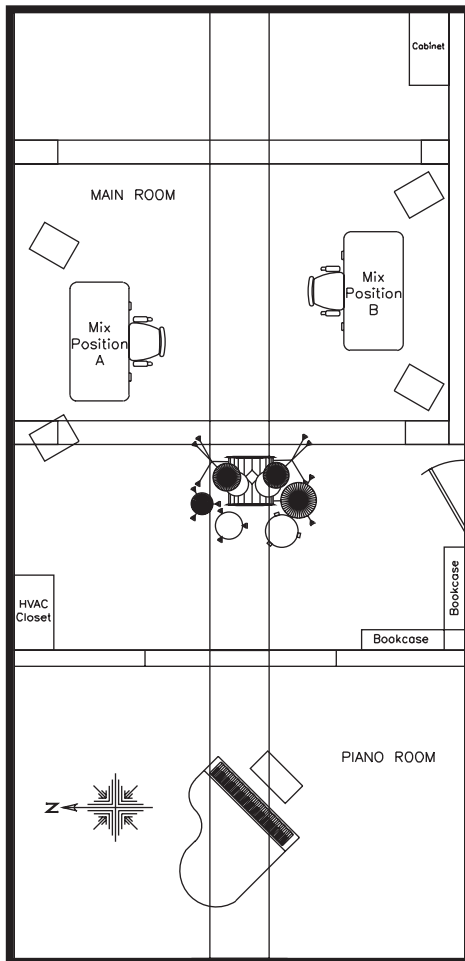


Figure 4: Plan View of Rooms.



Figure 3: View of Main Room Mix Position "A" with drums in foreground.

CONCLUSIONS

By all accounts the treatment is considered a great success. This facility is now a high quality acoustical environment in each room, having reduced all of the initial acoustic concerns. In addition, both rooms are acoustically functioning together in a sympathetic manner.

Of the Auralex treatments Henry states, "I don't know how this stuff works, but you made a believer out of me". "I used to have to digitize, sample and EQ to get a sound. Now I just put up a mic!" Furthermore he mentioned, "I have worked at Oceanway, the Hit Factory and most major studios and other than the large orchestra rooms, I consider my room to be just as good... I can't wait to get back to my studio!"

Henry is currently writing material for an upcoming release. He is eager to implement his newly treated room as he records and mixes. Auralex Acoustics and the Auralex Consulting Group are proud of the contributions that have been made toward Henry Lee Summer's future musical efforts.