LARRY ZIDE

# Re-creating the Sousa Sound

*Capturing the sound of a large brass band requires some of the technological aids available for rock recording, but others used primarily for classical recording. Here's a recording session where both have occurred.*

There is fame resident in Studio A at New York's BMG studios. Many of the greats of both classical and rock were and still are recorded in this room. It was built as part of a still-active RCA recording complex on Sixth Avenue and 44th Street. The Studio, and the RCA name and complex are now BMG Studios.

Studio A is a huge room with an adjustable ceiling and side valences that can be moved to change the actual ambiance of the room. The room also has a large stage, with a thickly-padded curtain across it, so it can be added to or taken from the overall room characteristics. (See the box at the end of this article for further information about the room's features.)

I was there, on a balmy July day, for a new Delos recording, with John Eargle, Director of Recording for Delos International and Producer Adam Stern in the control room. The recording, which is now in release, was of the *New Sousa Band* under Maestro Keith Brion.

According to Eargle, "Studio A, at 100 by 60 by 40 feet, is quite large as studios go, however, it is not large enough to function as a "Concert Hall" for an ensemble the size of the New Sousa Band. When we made our first tests, we had the room adjusted for its largest and most reverberant parameters. What immediately became apparent was the relatively low direct-to-reverberant sound balance. In short, the room was too live for it s size! While this may work well for small chamber orchestra and solo instruments where

*Figure 1. The band layout and the microphone placements used for the recordings.*

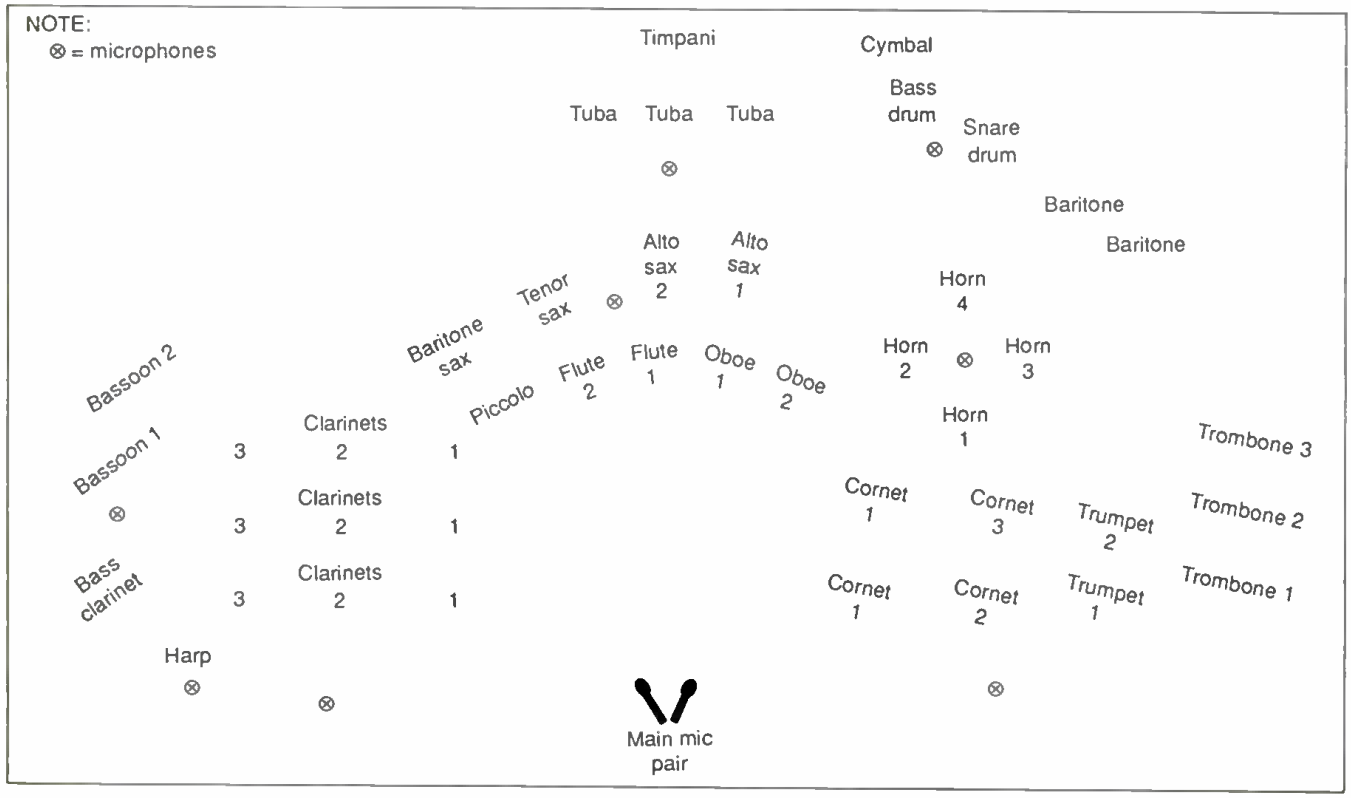

*Figure 2. Studio A control. John EArgle has his hand on the Neve, Adam Stern studies the score of the number being recorded, and Sandy Palmer minds the Sony DAT machines.*

the microphones can be placed at fairly close quarters, the basic pickup scheme for the New Sousa Band (four microphones overhead across the front) resulted in too much reverberant sound pickup.

"The only solution was to damp the room and, through the flexibility of the moveable ceiling, to decrease its volume. As a result, we had to rely basically on a qujite realistic*Concert Hall* reverberation program using the Lexicon 224X reverberation generator to produce the desired balance between direct and reverberant sound textures. A second consideration in damping the room was to reduce the high reverberant level in the studio itself and allow the players to hear each other comfortably. With forty-three wind and percussion players on hand, it is easy to see how acoustical levels could be quite significant."

*Figure 1* details the seating arrangement for the band showing Eargle's microphone locations. According to him, "The seating of the group emphasizes the reeds at the left and center and brass at right and center. Percussion is at the back, and the harp (!) is at the front far left. This is Sousa's own seating arrangement, with the sole exception of the harp. Sousa placed that instrument right in the front arc of the main seating."

**The console also had the Lexicon 224X. Signal was fed through this, with its *Concert Hall* program turned on and set for a reverberation time of 2.4 seconds in the midrange and 2 seconds at low frequencies.**

Eargle continued, "The main microphone array consists of a pair of Neumann U89s in an ORTF configuration (cardioids 17 cm apart and angled at 110 degrees). Flanking these at a distance of about ten feet on each side were Sennheiser MKH 20 omni microphones. These four mics provided the main pickup of the group, and they were about eight-feet high and slightly behind the conductor.

"In order to get added detail," Eargle added, "the following accent microphones were also used:

- Lower pitched woodwinds at left, Neumann U89 panned left.
- Harp, Neumann U89 panned left.
- Saxophones, Sennheiser MHK20, panned slightly right of center.
- Tubas, Sennheiser MHK 20, panned slightly left of center.
- Snare drum and cymbals, Neumann U89, panned half right.

• French horns, Neumann U89, panned half right."

In the control room, this modest array (by rock standards) was fed to a fully-automated Neve. The automation was turned off as not needed for this application. The console also had the Lexicon 224X. Signal was fed through this, with its *Concert Hall* program turned on and set for a reverberation time of 2.4 seconds in the midrange and 2 seconds at low frequencies.

(The resultant sound, heard in the control room on near-field B & W 801 monitors, had an excellent feeling of both depth and breath, with fine instrumental detailing and natural-sounding ambiance. Ed.)

Eargle mixed the program directly to stereo and it was recorded on a Sony PCM-2500 DAT recorder, with a simultaneous clone running on a PCM-2000. BMGs Sandy Palmer, who was the assistant engineer, ran the tape machines, and served as liaison with the studio management.

As each selection, there were thirteen-such recorded this one day, came through the speakers, Stern sat with a conductor's score, marking sections for re-takes or completion as required. Accordingly, he would call for repeats of sections, or even a complete work, or go to the next number. Stern is well equipped for this, with a 1977 Masters Degree in music from the California Institute of the Arts.

**That evening, with the DAT tapes in his hand luggage, Stern headed back to California and the editing of the tapes that were to become the master for the CD and cassette release that Delos now has out.**

After graduation and several stints as a conductor, he drifted toward record producing and now has the title of Senior Producer for Delos and produces many of their releases. I wanted to know why this Los Angeles-based company had to come to New York and to BMG's Studio A. Stern replied, "Most of the musicians are New York based, so that dictated that. As for Studio A, we've done recordings in there before, and we like the room. There are really few subway-rumble-free large rooms in New York. It's as simple as that."

That evening, with the DAT tapes in his hand luggage, Stern headed back to California and the editing of the tapes that were to become the master for the CD and cassette release that Delos now has out. Because R-DAT still has no sophisticated editing systems, the tapes were transferred, in digital domain,

to a Sony 1630 machine. Editing was done with a Sony DAE3000 Editor.

Once the final versions of each Sousa selection were determined, it was also decided to add five re-mastered selections of John Philip Sousa conducting the U.S. Field Artillery Band, and bring the final release timings to over 60 minutes.

Delos has packaged the CD into a collectors' album since it also commemorates the 100th anniversary of Sousa's glorious decade.

*In July/August 1988,* **db Magazine** *featured an article on the reconstruction of the aging RCA complex into the new BMG complex. As a part of that, Don Frey of BMG, who was instrumental in the re-building, talked about Studio A and its special features.*

"All of this curvilinear design work was conceptualized by Dr. Harry Olsen, an acoustician who taught at Princeton," Frey said. "He called those curved shapes *polys*. You will probably notice that the polys are a recurring concept in this complex. Mr. John Volkmann was responsible for the implementation of Dr. Olsen's concepts.

It was John Volkmann who determined the number and size of the polys that were to be used at the original RCA complex. The polys are still the fundamental elements that give these studios such acoustic integrity. Even some of the control rooms utilize the poly as an acoustic-design building block. The studio ceiling moves. Those huge ceiling panels in the studio, lights and all, can move up and down, changing the characteristics of the room to suit any given project and taste.

That part of the ceiling back there (he points to the far end of the room) not only moves down, but tilts so that the back edge comes to the top of the partitions and the front edge stays where it is. The wall panels (polys) are on special casters so that they can come out from the walls to form gobo-like enclosures. Behind each of these wall panels are drapes that can be used to acoustically balance the ambiances and isolation as needed.

This (studio A) is three floors in height from the floor to ceiling. The three studios, A, B and C, are right on top of one another. Each studio is three floors in height, on the fourth, seventh and tenth floor. This studio (A) can comfortably seat two hundred to two hundred and fifty musicians," he said. db