

**David Crowder Interview: Make Room for Creativity!**

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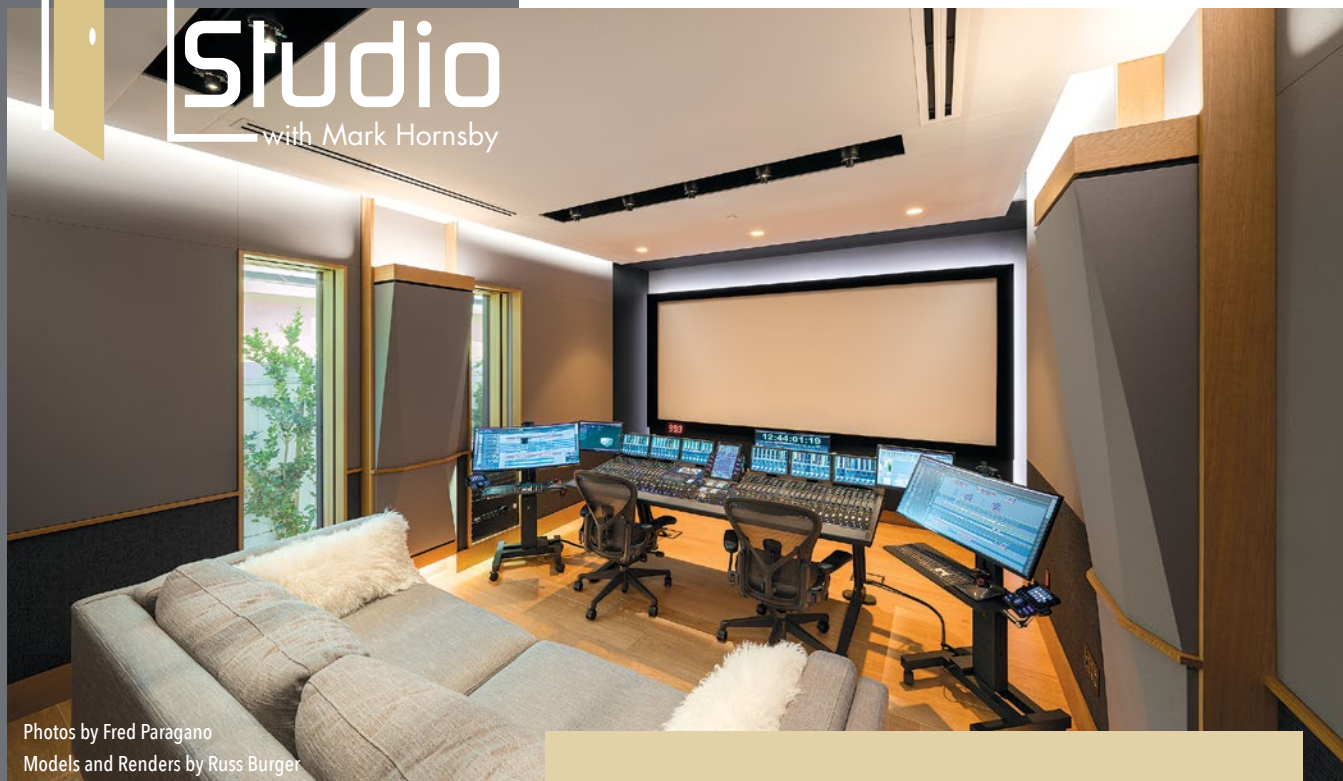


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# Inside the Studio

with Mark Hornsby



Photos by Fred Paragano  
Models and Renders by Russ Burger

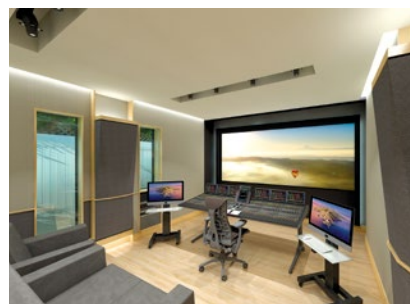
## Paragon Studios 2.0

With the growing popularity of Dolby Atmos™, many people are making a move to adapt their home studio into an immersive environment. Spatial audio has also changed the game with the need for new, more intricate studio designs. In both scenarios, you now have to deal with many more considerations. Building a room for stereo mixing can be somewhat straightforward, but once you utter the word, “Atmos”, your spatial real estate becomes a priority. Even beyond the cost of gear, to really do it right, finances come quickly into play. And so far, I’m just referring to music rooms.

Mixing film, TV and streaming content for immersive audio formats requires even greater considerations. Mixing a three-minute song is one thing. Mixing a long-form production with dialogue, music and effects is even more complex, as is creating the proper working space in an otherwise home environment—remember, traditionally this work is done in professional, theater-scale mixing stages. Still, similar to the shift toward home studios for music, advances in technology are now making it possible for people to mix immersive sound for film right in the comfort of their own home. With that, allow me to introduce Fred Paragano and Paragon Studios.

### Paragon Studios Then

Fred got his start working on records in New York and Nashville back in the 90s. In the early 2000s, he opened Paragon Studios in Franklin, TN (still considered Nashville to the locals). Paragon was a ground-up, multi-room facility designed by Russ Berger. The world class rooms attracted music and post-production clients from around the country and all over the globe.



Note: Fred recently sold the facility in January 2022 and moved all Paragon’s operations to Los Angeles.

Eventually, Fred found the majority of his work gravitating to supervising and mixing film and TV. This ultimately necessitated his relocation to Los Angeles in 2011. In 2020, shortly after the onset of the covid pandemic, many Mixers, Supervisors and Editors found their work moving into their homes. This move inspired Fred to build a professional dub stage inside his home. Once again, he teamed up with Russ to design a home studio capable of doing sound for film, TV and music in both stereo and/or Atmos.

# Inside the Studio

with Mark Hornsby

## Virtual Studio Modeling



### What's a Dub Stage?

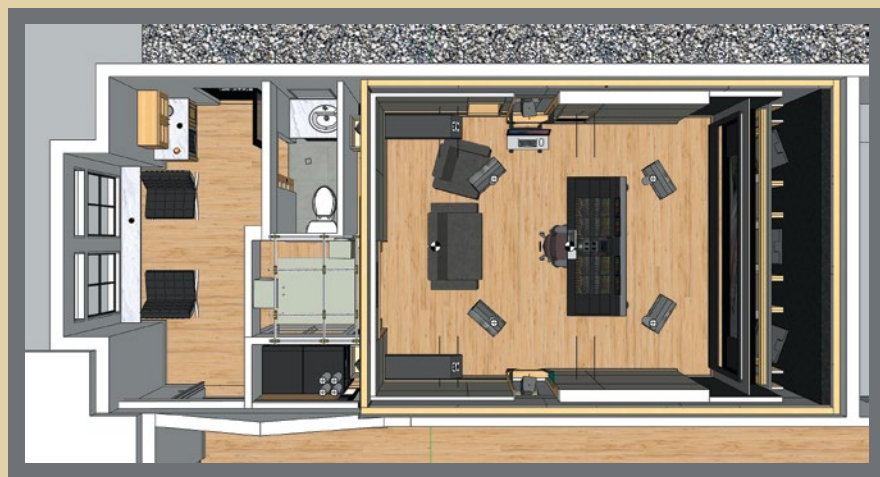
After the completion of Picture Editing, the 'locked' film cut is turned over to the sound department to begin sound editing. This is the process by which the Dialogue, Music and Effects are cleaned, positioned and prepared for the re-recording mixers. At this point, all the elements will be blended and balanced appropriately to achieve the Directors vision. This mix (called a "dub") usually occurs on a "dubbing stage."

The dub stage is where all of the final decisions are executed concerning the sonic elements of the film. As mentioned, this usually occurs in a theater-style space to give the director and other principals the best possible translation of how all the sound and visual elements work together. A dubbing stage looks like a traditional studio control room, and a commercial movie theater have married.

### Paragon Studios Now

Lucky for Fred, Russ has had extensive experience designing all of the above, from professional recording studios (large and small), to multimillion-dollar screening rooms overlooking Central Park—true story. Russ Berger has also been at the forefront of immersive audio and Dolby Atmos rooms long before the format made the jump to music.

Russ is also great at what you might call "creative maneuvering," and creating a dub stage in a home requires just that. Designing a proper Dolby Atmos room requires more than throwing 10 to 24 speakers around the room and just dropping some measurements into the DART (Dolby Audio Room Design Tool). Like any studio, this space also needs to work within and alongside the other space(s) in which it exists.



When you read later about the LCR speaker screen wall, keep in mind the kitchen for the main residence is positioned on the opposite side of that wall. When listening to content at calibrated reference level, the rest of the home is not impacted by moments of high dynamic volume, allowing a worry free work environment for Fred and his family! When you look at the model versus the final build, you'll also notice that they look almost identical. This is due to Russ' innate sorcery abilities to predict the future—don't ever play poker with him. Russ's renderings were an invaluable tool during construction. The 3D model allowed multiple layers to be peeled back so that the contractor had clear understanding of the sound isolation details as well as the final aesthetic look of the space.

### Fred's Room

Fred earmarked a section of his home that was originally two spare bedrooms with a shared bathroom. He wanted a space that was accessible from the rest of the house, but one that was also its own separate environment, not only for him but for guests and clients.

The main dub stage is 21' long by 15' wide. The entrance to the stage showcases the machine room equipment racks behind  $\frac{3}{4}$ " glass doors. Support spaces include a lounge area, bathroom and a dedicated entrance door to the outside—avoiding the need for clients to access the rest of the home thereby maintaining privacy for Fred and his family.

### Wait! Where Are the Speakers?

One thing you'll notice when you look at the room is what appears to be an absence of dozens of speakers scattered around the room. This is because the speakers are covered by acoustical fabric and effectively hidden from view. When your client can't see the speakers, they only pay attention to the mix—NOT whichever brand box you are using and/or focusing on from which one(s) the sound is emanating.

### The Gear

When you're mixing music, typically, one DAW and a fast computer will set you free and can be all you need. Film sound is a bit more complicated. Fred's system incorporates five separate computer systems



to operate the room. Three of the systems are dedicated Pro Tools|HD systems. The first system handles the dialog and music, the second system is dedicated to FX, the third is a stem recorder that receives all the discreet stem mixes and Atmos objects from the source machines. The fourth machine is a dedicated Atmos renderer (RMU).

Finally, a Mac Mini (running DADman) oversees the routing and I/O for the entire system, which incorporates three Avid MTRX interfaces. MTRX 1 is fitted with eight Digilink Pro Tools connections allowing for 192 I/O for all three Pro Tools systems. MTRX 2 handles MADI (Multi-channel Audio Digital Interface), Dante and analog I/O. MTRX 3 is equipped with additional MADI cards and room for future expansion. In total, the system allows for approximately 4,500 points of audio routing! There are three Avid Sync Xs clocked to an Antelope OCX HD house clock, which simultaneously feeds a Brainstorm DXD-8 for video reference. In addition to word clock and video reference, one of the cool features of the Brainstorm is its ability to use a CAT6 connection to also clock a Dante network.

## The Speakers

The entire room is a 7.1.4 Meyer Sound system—yes, the same company that makes line arrays for live sound and high end cinema loudspeakers. Meyer also makes a cinema product loudspeaker line called Bluehorn, which is very popular in the film world. Paragon's LCR screen channel setup consists of three Meyer Bluehorn speakers paired with three Meyer Bluehorn X-400C subs for LCR bass management. An additional three Meyer X-400C subs are also installed below the screen channels to reproduce a discreet LFE channel. The surround and height speakers are Meyer ULTRA-X23 monitors with two additional Meyer 210p subwoofers in the back corners of the ceiling for surround bass management.

As you can see, an Avid S6 modular control surface is in the center of the room. The console is equipped with a Master Post Module and a DAD-MOM monitor controller. All room tuning was done within a Meyer Bluehorn processor for the L, C, R, LFE and an additional Meyer Galileo GALAXY processor for the surrounds. Both units are running Meyer's dedicated Compass software.

## How's it Sound?

I was fortunate enough to be there during the tuning of the room. Upon the completion of Dolby's tuning of the system, Fred literally had to jump right into pre-dubs for an upcoming feature film. Suffice to say, the room sounded great, and Fred was able to get right to work without missing a cue. His final mix continued at another facility and translated perfectly.

## Roll Credits

Whether it's mixing albums or film, you need two things to be successful in the world of Atmos: a good room and someone who knows what they're doing. Fred's attention to detail in his work is second to none, and the aforementioned studio whisperer Russ Berger has been designing rooms since "Star Wars: Episode IV – A New Hope." Put the two together, and you've got movie magic. ☺

*Mark Hornsby is an award-winning producer, audio engineer, musician, studio designer, educator and film buff.*  
markhornsby.com

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