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WSDG
WALTERS-STORYK DESIGN GROUP

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Designing a Podcast / Broadcast Studio

GRAEME JUDD VOICEOVER STUDIO
Calgary, Canada

Questions with Josh Morris of Walters-Storyk Design Group

Interview by Paul Vnuk Jr.

WSDG (Walters-Storyk Design Group) are well-known studio designers behind Electric Lady Studios and The Church Studios as well as studios for clients ranging from Alicia Keys to Green Day, Jay-Z, etc.

With the recent pandemic and rise of professional podcasting, WSDG has found themselves designing A LOT of rooms in residential spaces the past few years and often at scales (and at price points) that are more attainable than you might expect.

We sit down with COO Josh Morris, who just designed the TEC Award-winning podcast studio for Spotify in Los Angeles. He will tell us about the techniques utilized on these big projects and how those can be sensibly downsized for someone trying to get the most out of their own room.



GRAEME JUDD VOICEOVER STUDIO
Calgary, Canada

What (if any) are the main differences between a traditional recording studio or mixing room, and a podcast or broadcast-style studio?

The main difference between these two types of studios is really in their end goals. Obviously, they have a lot in common in that they are purpose-designed spaces for creating audio (and, increasingly, video), and many of the same principles go into designing them as far as acoustic considerations, ergonomics, vibe and system integration are concerned. Both project types can have similar isolation, treatment, quietness and cooling/HVAC requirements.

How these considerations come into play for the end result is where we start to see distinctions. In a traditional (tracking) recording studio, you are creating a space that can capture the full spectrum of electric and acoustic instrumentation. And, depending on how much space you have, that may play into *how* you want that to be captured. Do you want all of the players in the same room at once? Do you need iso booths? Are you trying to capture large ensembles? How much backline do you have? How much flexibility do you need? Classical studios tend to want larger volumes, whereas hip-hop studios generally require less.

In terms of podcasting and broadcast studios, typically, the needs are much more direct in that the human voice is the primary and sometimes the only concern. It essentially comes down to how many people you want to record simultaneously and how they want to communicate, i.e., at a table or in a more relaxed setting. Given that, you have fewer decisions to make in that regard because the spatial requirements are less dynamic. You still want a room that is acoustically appropriate, but aside from your potential “set” (desk, chairs, coffee table, hot tub), user goals/use case doesn’t really vary as much as with a traditional recording studio.

All of that being said, we see a lot of crossover. Many of the major podcasting studios we’ve designed—such as Spotify At Mateo, Gimlet, and Stitcher—incorporate the requisite full-frequency flexibility of a tracking studio because the operators see the value in having versatility and often creating this content requires more than just the narration. Generally speaking, if it works for a recording studio, it will work for a podcasting studio, but not always the other way around.

Investing in the right solutions
the first time will save you
headaches—and money!—in the future

What are the first steps or considerations in designing a professional podcast/broadcast space

It’s important to focus on what the user goals/cases for the space are as a starting point. Knowing what sort of content you want to create and what you need to accomplish is important. Even if you may not have the money for everything you want straight away, that should not stop you from planning the full breadth of the project. Once you have that, it’s reasonable to break it into achievable steps as money or space, or time becomes available. **Master planning** is invaluable, and it will help ensure you do not paint yourself into a corner.

While planning, confirm your maximum simultaneous **population**—are you recording an individual or an ensemble? Is this a personal project for you or a corporate space for a group? Do you only need a single room that serves both as a control room and recording space, or do you need multiple rooms to serve possibly as other shared control/recording spaces, or perhaps as a more traditional studio space to track music used in the content creation process? Are your podcaster/broadcasters going to engineer the session themselves, or will they focus on the podcast while an engineer or engineering team handles the recording functionality?

It is also important to understand your quietness needs as that translates into your **isolation requirements** or how your space is bothered by or bothering adjacent spaces. Not all projects will require any enhanced isolation. Maybe your site is surrounded by a quiet forest, or you are not going to operate loud enough to overpower your existing boundaries. Or maybe you can operate off-hours (a “social” solution), or perhaps minor sound intrusion is not critical to your storytelling. Maybe you simply cannot make any changes, either due to budget constraints or building limitations—no matter what the conditions are, you should understand them and understand them **BEFORE** you start construction.

Even if isolation is not a factor in your project, how your room sounds inside—which really has nothing to do with how good or bad the room boundaries are—will be vital to your workflow. **Internal room acoustic behavior**, expressed in metrics like reverberation time, clarity, and noise reduction, governs the quality of the sound captured by your recording system as well as the auditory “feel” of the room. Whether tracking a string quartet or a single podcaster, the sound of a room can make or break a session, either inspiring and lifting or having to work against the room to get what you want.

If your room exists, testing—either by a professional acoustician or just by experimenting in the room—can be performed to reveal any deficiencies. If the room has yet to be built, modeling software can be employed based on volume and used to help determine treatment strategies.

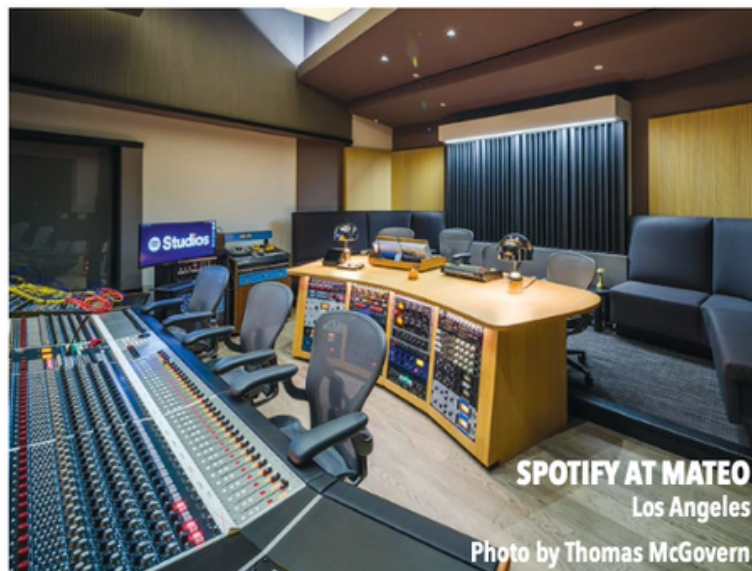
Finally and perhaps most critically, you must fully comprehend the **budget** needed to bring this project into reality. You want to ensure that you understand all the various angles going into it and how much it will cost so you can bring the studio together. Knowing where you can get the most bang for your buck is important—online forums are good for this, but they’re also perilously full of tall tales, snake oil and questionable advice. Both DIY and engineered solutions can yield successful results, but generally speaking, an engineering solution will reduce risk and ensure the viability of your new studio for the long haul. Investing in the right solutions the first time will save you headaches—and money!—in the future.

Designing a Podcast / Broadcast Studio



Most professional podcast rooms do double duty as a voice-over (VO)/tracking room and a mixing/editing room. Do you recommend vocal booths or separate dedicated rooms or doing it all in a single bigger space?

It really depends on the business plan and the way that you need to work in the space. If you work alone and record guests remotely, a multipurpose single room can be an effective use of space. We've been privileged to design quite a few of these—internally, we call them E-Studios—and over the course of the pandemic, we've evolved our techniques to take advantage of the latest science and technology to make the most of these small rooms. For example, we've developed proprietary software called NIRO (Non-Cuboid Iterative Room Optimization), which we use to help us predict the most effective size and configuration of these spaces, allowing efficient use of space while simultaneously evaluating hundreds of boundary configurations. Accessible projects that WSDG has designed for Solo Wang and Mark Rashotte are prime examples of successful E-Studios.



For larger studios, having one large tracking space can allow for larger ensembles of musicians or group discussions but can come at a premium. Our recommendations for facilities like this are typically informed by the needs of the project and the available space. It all goes back to the primary goals of the project. Oftentimes projects will evolve as these needs become more apparent, so it is best to look at how you plan to create content from all angles—even aspirational ones—to ensure that you're giving yourself a space that can meet all of those needs in both the present and the future.

Designing a Podcast / Broadcast Studio

When a person decides to take podcasting/VO/post-production to the next level and sets up a dedicated space, be it a bedroom or home office, and they aren't able to build out or modify the physical space, what advice do you have? Perhaps you can give some do's and don'ts for those who may rent or share space?

Firstly, I think someone should consider whether they are planning to do just audio recording or if they want the space to be suitable for video production as well. Live streaming has become so commonplace now it makes a lot of sense to be conscious of that when designing any room like this. The main consideration here is making allowances for lighting to ensure the picture looks as good as the room sounds.

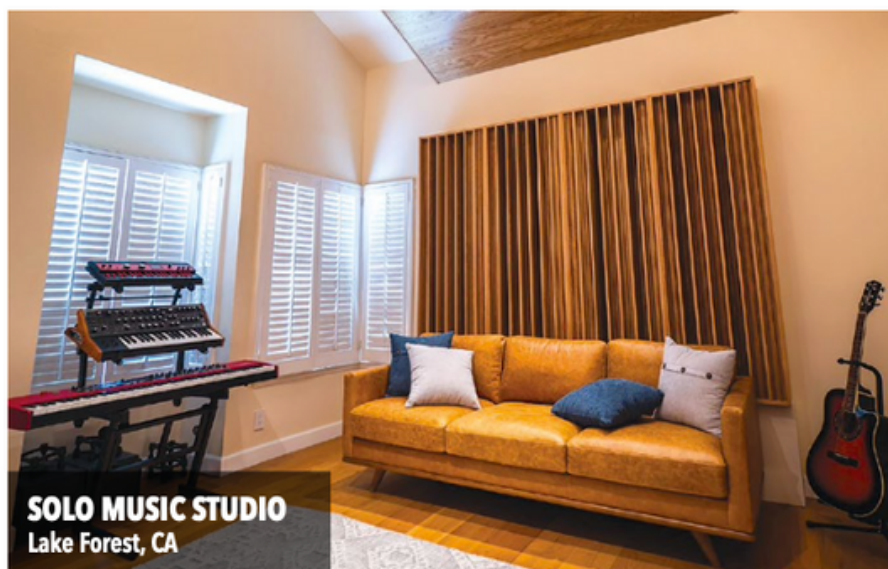
Secondly, even if video is not a consideration, the vibe and comfort of the room are vitally important. In any creative space—be it the corner of your bedroom or a multimillion dollar recording complex—you want to feel inspired and safe to create. A lot of factors can play into this—lighting, seating, the design aesthetic of the room, the relative privacy from the rest of the house—but the end result should be a space where you and any potential guests or collaborators feel good being in. The more comfortable people are, the better art they tend to create or the better stories they tend to tell.

I suggest you play with the room/furniture layout and pay attention to circulation, i.e., how you get from the entry door to your seat. Is it awkward? Can you orient to see the view out your window? It's nice to be able to take an eye break and look away from a screen from time to time. It's one part feng shui and one part workflow. Stay with it until it's right, and don't be afraid to experiment or tape things out on the floor.

And even if you cannot change walls or doors, there are plenty of light touch and affordable solutions that will improve your sound quality, from prefab panels to thick curtains and furniture.



SOLO MUSIC STUDIO
Lake Forest, CA

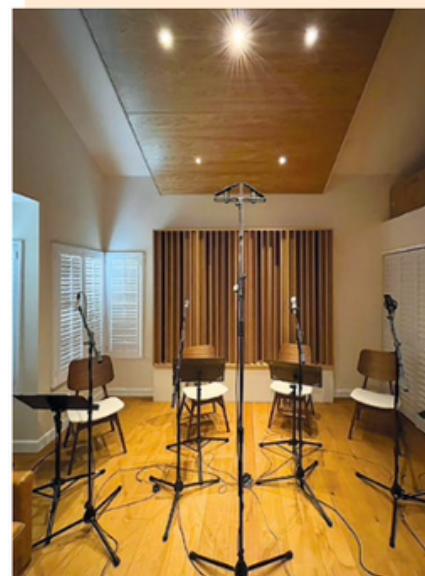


SOLO MUSIC STUDIO
Lake Forest, CA

Just try and balance out the treatment types to include thicker treatments that will soak up lower frequencies—not just thin absorption that will kill your high-end and do nothing anywhere else.

What are the biggest mistakes you see people making when designing a podcast/broadcast-style space?

Going back to the last question, underestimating the potential of video and lighting is definitely a mistake we try to help people avoid. Video has become so critical to everything, and even if your end goal is audio, you may find yourself live streaming over YouTube or creating social media content in multiple formats to promote your podcast. Ensuring that your studio has enough room



SOLO MUSIC STUDIO
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STITCHER STUDIOS
New York City
Photo by John Muggenborg

and a flexible lighting scheme to ensure that you can do this easily is, in my opinion, vitally important to content creators working now.

Having a room that is properly isolated (which, again, doesn't necessarily mean fully decoupled, it just means that your boundaries allow you to work when and how you want) and properly treated so that you are not stuck with unwanted audio artifacts or spending a lot of time in post on cleanup. This will streamline your workflow and allow you to focus on your art, rather than getting to your art.

Expanding on my point above, ignoring a full spectrum treatment solution is a classic issue. Due to the nature of sound, it is easiest (cheaper) to address high-frequency sounds with thin fiberglass or foam treatments. But these high-frequency absorbers do nothing for mid, low-mid, or low frequencies. They are generally employed liberally just because they are lighter and cheaper, and they do make a noticeable difference, but once in place, the high frequency is squashed while everything else remains untreated, and the room takes on a muddy, tubby quality. Using treatments that diffuse (scatter) the sound, as well as treatments that address



STITCHER STUDIOS
New York City
Photo by John Muggenborg

mid and low frequencies, will help balance the space and make it feel more natural—lively but controlled.

Anything else our readers should know or consider?

If your song or story is compelling and important, it deserves the best possible chance to reach its maximum potential as well as an audience. Having a space that

enhances your art rather than forcing you to make excuses for quality is something you owe yourself and your creative process. We are storytellers, and having an inspiring platform that encourages and supports us to do our best work is always a worthwhile investment.

Thanks, Josh!

Thank you, Paul. 🙌