Making Broadway Rock

By: David Barbour

The Hell's Kitchen audio rig features d&b audiotechnik's XSL compact line array series, flown above the stage and configured for use with Soundscape. "I'm glad we kept Soundscape for Broadway because it works brilliantly," Owen says. "I feel that *Hell's Kitchen* might be the best system I've done from a clarity and precision point of view."

On *Hell's Kitchen* and *The Who's Tommy*, Gareth Owen is Broadway's King of Pop

In the last quarter-century, musical theatre has been radically reshaped by an increasing reliance on existing pop song catalogs as opposed to original music and lyrics. The foundational hits of the genre are *Mamma Mia!*, which fashioned an original story around a parade of ABBA hits, and *Jersey Boys*, tracing the history of The Four Seasons, which helped to kick off the bio-musical genre. Such shows come with special requirements for sound designers; nobody knows this better than Gareth Owen, who, over the last decade or so, has become the go-to guy for shows with pop-music scores, including the Beatles tribute show *Let It Be* (2013); *Summer* (2018), a bio-musical about disco queen Donna Summer; *MJ* (2022), the blockbuster Michael Jackson bio-musical; and *& Juliet* (2022), the currently running Shakespearean spoof that draws on the hit list of music producer Max Martin. (To be sure, he has done many other types of shows, including a revival of Stephen Sondheim and Hugh Wheeler's *A Little Night Music*, the smash hit *Come From Away*, and the currently running *Back to the Future*.) This season, he opened *The Who's Tommy*, based on the famous concept album, and *Hell's Kitchen*, a semi-autobiographical account of Alicia Keys' teenage years in the Manhattan neighborhood of the title.

Interestingly, both shows focus on characters featuring coming-of-age struggles. The title character of *The Who's Tommy* witnesses his father murder his mother's lover. Traumatized, the boy loses the ability to see, hear, and speak, ultimately demonstrating a preternatural skill with pinball games that makes him a media sensation. Recovering his senses, he becomes a kind of messiah figure to troubled young people, a turn of events that leaves him feeling even more lost and alienated.

Ali, the adolescent heroine of *Hell's Kitchen*, lives in Midtown's Manhattan Plaza with her overworked, overprotective single mother Jersey. Her existence is rocked by two figures: Knuck, the slightly older street drummer who

Photos: Marc J. Franklin

becomes her first lover, and Miss Liza Jane, the fierce, focused pianist who awakens Ali's musical talent.

It's one thing to design the sound for musicals featuring songs composed with the theatre in mind. It's another thing to work with pop scores featuring lyrics that don't directly address the plot and melodies so familiar that they risk jolting the audience out of the story. The complications abound: Audiences may arrive at the theatre with an unbudgeable sense of how a song should sound. Such songs may be not written to be performed with the clear diction demanded of musical theatre performers. And they may require a level of amplification beyond what is acceptable in the theatre.

Also, sound designers may find themselves working with composers who come to the theatre with little experience and a distinct set of assumptions. Speaking from long experience, Owen says, "There is a high expectation that the show will sound a particular way. Some people have spent their lives in perfect studio environments two meters away from studio monitors. And, of course, they have a lot of touring experience." In an especially delicate twist, these musicians must deal with their signature hits being performed by someone other than themselves. "One thing I struggled with in my early days, after I transitioned from rock-and-roll to theatre, was that, in these shows, the client isn't onstage," Owen says. "The client is now in the auditorium. When you're mixing Aerosmith, Steven Tyler is your client; he isn't in the stalls, standing next to you. A lot of pop and rock artists don't have that much experience with what their shows sound like out front. Also, to add a little extra spice to the mix, some of them have spent a lot of time in front of excessively loud studio monitors and their hearing might not be quite what it used to be."

The Who's Tommy is a special case because it is the revival of a show that was, in many ways, a technical landmark in 1993. Still, Steve Canyon Kennedy's original sound design was, necessarily, very much rooted in the analog world, and, then and now, Pete Townshend, of The Who, was very much involved.

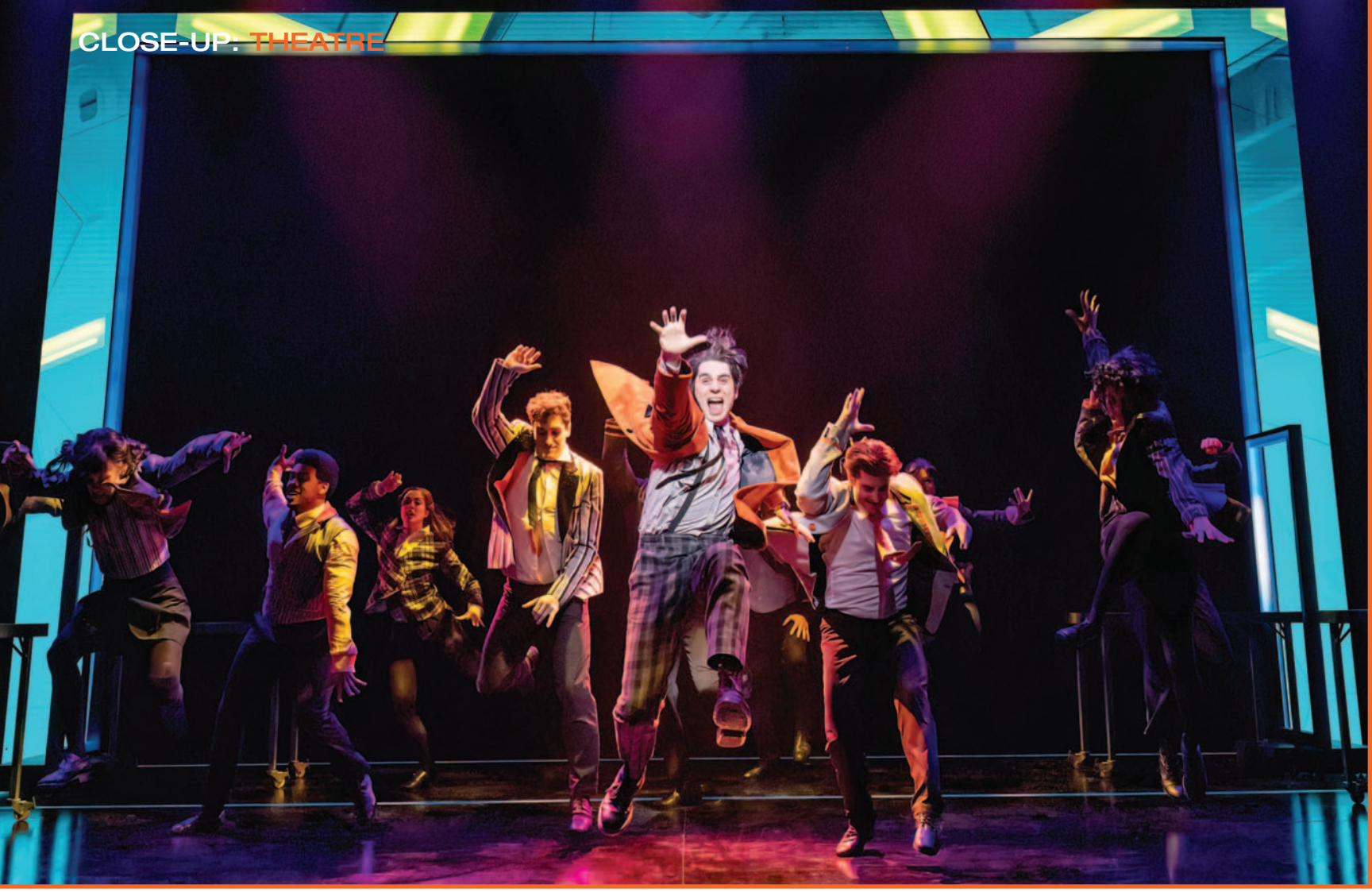
"*Tommy* and *Hell's Kitchen* [above] are two very different sounds," Owen says. "*Tommy* is very rock-and-roll, not too precise because we don't want to lose the raucous soul of The Who. Alicia is precise, exacting, detail-orientated. That's what the design of *Hell's Kitchen* reflects."

"The biggest challenge in *The Who's Tommy* is keeping the balance," Owen says. "It's got to be a rock-and-roll musical, but you can't alienate the Broadway audience. There are die-hard Who fans who want the paint peeling off the back wall as, indeed, do some of the people on the music side. But there is the critical fact that you need to hear the words. I consider this to be Sound Design 101: If you don't hear every word, you've failed."

Owen points out that definitions of loudness are relative depending on the situation. For example, in the theatre, "When people say they want things loud, they don't mean Bon Jovi in Wembley Stadium loud. People often ask me, 'Why does *MJ* sound like it does?' It's because the producer and director didn't lose their nerve. They wanted a show that sounded like a concert, and we never had that come-to-Jesus moment after the third preview where somebody says, 'We've been thinking maybe we need to turn it down a bit.' People often say they want something, but they don't really mean it."

He adds, "The interesting thing about *Tommy* is that it gets progressively louder as it goes on. The start isn't as nearly as loud as people think it is. We're sculpting a journey that starts at a level that feels loud when you've been sitting in a relatively quiet theatre, and then we build and build. If you were to walk in five minutes before the end of Act I, you'd be, like, whoa, that's really noisy. But you don't feel it as you travel along with it."

As Owen has often noted, none of Broadway's vintage houses—including the Nederlander Theatre, where *The Who's Tommy* is housed—was designed for amplified sound. It's a situation that makes choosing the right gear especially important. In terms of loudspeakers, the designer is a confirmed fan of d&b audiotechnik. He allows that he briefly considered going with L-Acoustics gear, which he remembers fondly from his concert touring days, to capture *The Who's*



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Tommy's big rock sound. But, he says, "I know how to get results out of [d&b] speakers. Because they have one person whose job is to decide how all d&b speakers should be voiced across the entire range, I never have to worry about making two speakers sound the same." If I mix and match brands, "not only am I worrying about the acoustics of the room, I also worry about the different sound of makes of speakers. If I stick with one brand, I only have one problem to deal with."

Owen even prefers not to mix model numbers if he can avoid it. "PRG [the production's sound gear supplier] had a load of old [d&b] J-Series speakers for a massive, rock-and-roll PA but, unfortunately, there was no feasible way to get J-Series onto the proscenium. We could have done J-Series for the mezzanine and V-Series for downstairs, but my associate Matt Peploe and I decided it made more sense to stick with one PA upstairs and downstairs. It comes back to the idea that if you keep everything as similar as possible, you have a pretty good idea of the sound you're getting in every part of the theatre. We ended up with V-Series upstairs and downstairs."

Both *Tommy* and *Hell's Kitchen*, Owen notes, "have surround systems that we can also mix music into. This involves building something time-coherent enough that you don't end up with massive disparities depending on where you are sitting in the audience. Based on how close you're sitting to your main arrays versus how close you're sitting to the surrounds, there will always be differences in timings or arrivals. But if you design a system to make music work in surround, you try to reduce the distance between the audience and surround speakers wherever possible; the last thing we want is to be sitting in a meeting at the end of a show when the music supervisor says, 'The guitars sounded really loud' but you've written yourself a note that says the guitars sound really quiet—and that's because you're hearing different things depending on where you are in the theatre. Getting consistency everywhere is really, really important."

This, he adds, is especially true when working with "very demanding musicians. When you get a note, you have to trust that you were all hearing the same thing. If you can't trust that, then you've got problems: One, you don't know what to do and, two, pretty quickly they work out that they are

Photo: Matthew Murphy and Evan Zimmerman

hearing something different based on where they are sitting, and their trust in you can diminish pretty quickly." To be clear, he says, "Anyone who says the show sounds the same in every seat is lying. But you can make it balanced and consistent throughout the house. It might be quieter at the back of the mezzanine than the front of the orchestra. But you want the same balance between guitars versus drums versus vocals, even if there's a slight tonal difference depending on where you sit."

Tommy's main PA consists of 26 d&b V8s plus two V12s and two E8s; the center rig includes six V8s plus two d&b AL60 augmented array speakers. Providing outfill are four Y7Ps, two E8s, and four E6s; an additional eight E6s handles infill. Delays include 18 E6s and six Y7Ps. The surround system comprises 30 E6s, two AL60s, and eight Q10s. Providing low end are four J-SUBs and two SL-Subs. For foldback, Peploe selected eight Meyer Sound UPJuniors; offstage singers are covered with a pair of d&b E6s; the pinball machine's effects are conveyed via an E8. Located in the wings are eight Electro-Voice S40s. Amplifiers are a mix of d&b D6, D20, and D80 units.

When it comes to mics, Owen says, "I'm been lucky to have demanding musical people who can win the argument about which type of microphones will be used." This essentially means choosing miniature boom mics over mics tucked away under wigs or unobtrusively attached to hat brims. "Most of the big musical personalities are pretty technical," he says. "They've spent their lives in studios, and they get that you need to sing into a microphone, not hide it somewhere on the top of the skull. They have strong opinions about vocal quality, so I don't have to be the bad person with the director or costume designer when it comes to mic positions."

Discussing both shows, he says, "We've tried various mics and models from various manufacturers but every time we come back to the DPA 4066. The Core modification of the capsule has improved it to some degree, but, fundamentally, we're talking about the same mic I used on my first sound design [a UK tour of *Godspell* in 2007], which was the DPA 4065. All these years later, we're basically using the same microphone capsule. Think about that: We're not using the same mixing desk; we're not using the same processing or speakers; we're not using the same radio mic receivers. It's remarkable that, with incremental improvements, it is basically the same product 20-plus years later." The *Tommy* microphone array also includes six Countryman B6 lavs for backups. All mics are on Shure's Axient Digital wireless system, which is also used on *Hell's Kitchen*. The orchestra is miked using a mix of gear from AKG, Audix, DPA, Neumann, Radial Engineering, Sennheiser, and Shure; a similar mix is used on *Hell's Kitchen*. (Comms on both shows feature Clear-Com's HelixNet and FreeSpeak systems.)

Owen remains a fan of the Avid VENUE S6L console, a product not seen much on Broadway outside of his shows; it is used both on *The Who's Tommy* and *Hell's Kitchen*. "There are some absolutely super mixing desks out there," he says. "But time and time again I come back to Avid. It has to do with the workflow and maybe also my familiarity with it—I can get the sound I want without having to think about it. The mixer technology doesn't get in my way, it does what I want it to do." Monitors on both shows are mixed using the Allen & Heath DM64 driving ME-1 personal mixers.

The Who's Tommy, Owen notes, features a distinct musical challenge. "There's a lot of dance orchestrations which are there to emphasize certain activities onstage. From a purely musical point of view, they feel like random bits of information, sticking out. It was something we struggled with; our first instinct was to pull these bits back and make them part of the mix. Peploe and I had to get our heads around the idea that there was an additional layer of sound that needed to be incorporated, and it was as important to the director and choreographer as the sounds of the guitar and drums. That was definitely a challenge."

A second *Tommy*-specific issue involved dealing with the production's extensive projection design. "There's an opening soundscape sequence, with a load of video, underneath the famous *Tommy* overture," Owen says. "We added sound effects to match the video sequence, which is designed to match the action onstage. What became apparent in Chicago [where the production tried out] was that the sound effects, video, and music were fighting each other because we hadn't laid the sound effects against the video, which didn't necessarily match the music. For New York, Matt took the sound effects sequence and adjusted it slightly so that it fitted around the music; now, we didn't have a bomber crash going off in the middle of a famous French horn line. We gave the adjusted sound effects back to video, and they adjusted to fit them. That was a big improvement."

Furnishing *Hell's Kitchen*

One thing linking *The Who's Tommy* and *Hell's Kitchen* is that both tried out at not-for-profit theatres. *Tommy* was produced last summer at Chicago's Goodman Theatre and *Hell's Kitchen* opened in December at New York's Public Theater, where many hit musicals, including *A Chorus Line* and *Hamilton*, got their start. (Another new musical, *Suffs*, which opened on Broadway in April, premiered at the Public two years ago.) *Hell's Kitchen* played at the Public's Newman Theater, which has an unusually long and narrow configuration. "It was quite a challenge to get right," Owen says, "If you put any speakers on the proscenium, you basically killed the sightlines for a quarter of the audience. That was the

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driving reason why we used [the d&b audiotechnik spatialization system] Soundscape," which gave him more flexibility in distributing sound around the room.

At Broadway's Shubert Theatre, the audio rig features d&b's XSL compact line array series, flown above the stage and configured for use with Soundscape. "I'm glad we kept Soundscape for Broadway because it works brilliantly," Owen says, "I feel that *Hell's Kitchen* might be the best system I've done from a clarity and precision point of view. To deliver what Alicia wanted, we needed to be crystal-clear and super-tight. No part of her world is mushy or indistinct. *Tommy* and *Hell's Kitchen* are two very different sounds. *Tommy* is very rock-and-roll, not too precise because we don't want to lose the raucous soul of The Who. Alicia is precise, exacting, detail-orientated. That's what the design of *Hell's Kitchen* reflects."

Owen also had to adjust his design for a greatly expanded orchestra on Broadway. "We went from eight musicians to 18," he says. "We added full string and full brass sections. In meetings at the Public, we said, 'What are we going to do with another ten musicians? We don't need them!' But [orchestrators] Tom Kitt and Adam Blackstone made fabulous choices adding real strings and brass. There's a real improvement in the music quality."

One wrinkle in Robert Brill's scenic design is that the orchestra, located in tower units at stage left and right, also travels up and downstage. However, Owen says, "The bigger problem onstage is that [the onstage orchestra] has something like 29 mics on it, with no screening or Perspex for protection and then we have a big cast who need to hear through onstage foldback speakers. Alicia is not shy about demanding when the cast needs to hear more bass or more drums or some such. Neither are Adam, who is Justin Timberlake's musical director and the musical supervisor for the Super Bowl, or Tom, who has written a lot of Broadway musicals. But we've got a full drum kit onstage and microphones everywhere, plus foldback speakers. It was all a bit of a headache, if I'm honest."

Given the elaborate production design, finding locations for foldback speakers wasn't easy. Most of the time, Owen says, he regards the stage north of the proscenium as his fellow designers' bailiwick and he is glad to work around whatever ends up onstage. "With *Hell's Kitchen*, I rather regretted it," he says. "They had so much stuff in such a small space that what I was left with was horribly compromised. The good news is, when we moved the show [to Broadway's Shubert Theatre], everyone had learned how Alicia felt about onstage foldback, so we all worked together to achieve some great positions. To be clear, this had nothing to do with [scenic designer] Robert Brill not giving me space. It was more about my general attitude of letting the other departments have what they need onstage. Ninety-nine times out of 100, it's fine. This one time, I regretted it."

Again, Owen relies on a d&b rig. The main PA consists of 25 XSL8s, ten XSL12s, and two E8s. Covering the balcony are 18 Y8s and ten Y12s with eight E8s each for outfill and nine E6s for infill. The delay system includes nine Y10Ps, nine E8s, and nine E5s. The surround system comprises 54 E6s, four Y7Ps, two Q7s, and two Q10s. Providing low end are 12 V-Subs and four GSL-Subs. The main foldback system includes two V7Ps and eight Y7Ps with an additional six E5s for front-line coverage. Two E6s handle offstage singing positions with four more E6s as spot monitors. Located in the wings are 12 Electro-Voice S40 units. Amps are a mix of d&b D20s, D40s, and D80s. Sound Associates is the production's audio gear provider.

For *Hell's Kitchen*, Owen also employs Shure's WAVETOOL, which offers a centralized solution for remote listening and viewing of every audio source while simultaneously monitoring RF and battery levels. The software's

Photo: Matthew Murphy and Evan Zimmerman

custom-built algorithm detects and flags faulty sound sources. “It was developed by Timo Leski, a lovely guy, and I got involved with it early on,” Owen says. “He has created a universal radio mic monitoring tool with a lot of unique features, some of which I’m proud to take credit for; it allows you to monitor RF audio levels and find problems. One feature, which idea I’m proud to take credit for, is that it records the audio for the last 60 seconds so, if you’re looking for a problem with a radio mic, you can go rewind the audio and find that crackle or other bad noise.” He adds that WaveTool works with many manufacturers’ products; for example, he uses it on *MJ* with a cast wearing Sennheiser 6000 mics. (In certain sequences of *Hell’s Kitchen*, Ableton Live provides a click track for bits of orchestration that can’t be played live. Also, vocal samples of Keys and other singers are occasionally worked into the overall mix.) Another product that Owen helped birth is transform.engine, from Fourier Audio, which he co-founded. A Dante-connected server designed to run VST3-native software plug-ins in live environments, it, too, is used in *Hell’s Kitchen*.

This year has been tumultuous for Owen as the London and New York theatre worlds have been overtaken by a frenzy of activity. He kicked off 2024 with *Just for One Day: The Live Aid Musical*, at the Old Vic Theatre. Next came *The Who’s Tommy*, which opened in March, followed by *Hell’s Kitchen* a few weeks later. He spoke to *LSA* from London’s Troubadour Park Wembley Theatre, where he was working on the first major revival of Andrew Lloyd Webber and Richard Stilgoe’s *Starlight Express*.

The preponderance of assignments suggests that Owen must be doing something right. He chalks it up to a working method that combines innovative technology with tried-and-true products, a superb team of people around him, plus his experience in many different forms of music as a whole. When an interviewer notes that Owen, who has been involved in developing several new products, often seems to act as the industry’s official greeter for new technology, he replies, “I think I suffer from a fear of missing out. I like to be on the bleeding edge of technology. At the same time, I play it safe. If I’m drawing up the spec for a show, the rental company can guess what 80% of it will be before they see the list. We’re trying to create the perfect model of a sound system and then constantly evolve. And, of course, we modify designs, depending on the show, to suit its particular needs. It’s a constantly evolving organism that we’re constantly trying to improve.”