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"AS THE DANGER RISES, SO DOES THE BRILLIANCE."
CHICAGO SUN-TIMES

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Greetings,

This summer has been a long journey and I have found solace in the selflessness of many on our Board and in our membership who reached out seeking ways to better our world. As we mediate the full lasting effects of COVID-19 in establishing a new “normal” and become more cognizant of the experiences of others through the broadening of the #BlackLivesMatter movement, there is much on the horizon for which we can look forward.

Many unions, including Local 695 & 700, studios, and private facilities, are presenting comprehensive policies and swift logistical changes to encourage a safe return to work. The government is easing restrictions to help us get back to an economically sustainable future.

We are at the precipice of a pivotal historic moment for our industry. A safe return to work will require the participation of every individual in the community. Right now, the health and survival of our friends, colleagues, and neighbors, quite literally, rests in our hands and on our faces.

I implore you to please follow CDC-recommended guidelines and take the recommendations and policies of your workplace seriously.

We, as individuals, wield immense power in everything we do. From the microcosm of our world, we can discourage division and protect well-being by showing empathy and consideration. The industry at large relies on your allegiance.

These past few months, our industry and membership have made me very proud with their ingenuity and resourcefulness. Manufacturers moved the production of equipment to that of face masks and PPE. Large swaths of our membership have gathered in online discussions about the craft. Our outreach to students has expanded through our efforts under the Student Recognition Award and our sister organization, EIPMA (Entertainment Industry Professionals Mentoring Alliance). We have moved our Summer Event Series to an online platform and continued fantastic discussions of products and projects.

I am honored by the efforts of members to stay connected. We are the Cinema Audio Society because we recognize the power of cohesion. When we embrace the power to lift each other up, we all rise.

Thus, this is perhaps the perfect time to plan a celebration of our achievements as storytellers through sound at our 57th Annual CAS Awards on Saturday, April 17, 2021, in Los Angeles, California. Your Board of Directors is working hard to determine details of how this celebration will need to manifest. But we can assure you our focus is to achieve a safe and health-conscious celebration worthy of your achievements as sound mixers. We cannot wait to celebrate you.

Thank you.

Karol Urban CAS MPSE
President
FROM THE EDITOR

Our organization is comprised of people of practically all ages and at all levels. From the early-in-their-studies academic members to the Oscar/Emmy/CAS Award-winning veterans whose talents are on display in our favorite works, the common thread is a love for audio. While some of us are currently paused due to the pandemic, we can still share with and learn from one another. The CAS Quarterly hopes to be just one avenue to do this.

With this in mind, we have some excellent insight coming your way this issue. Ever wonder about the sound for major broadcast awards shows? Steve Venezia CAS gives us an overview in his article “Sound Mixing for Live Awards Shows.” On the topic of capturing lots of people live, Tod Maitland CAS shares his experience building the perfect sound cart for the upcoming Steven Spielberg-directed musical West Side Story. Patrick Spain CAS lays out some of the common approaches for recording dialogue for animation while Ben Adams shares his experience working on the production and post-production sides of a popular spatial audio/VR YouTube channel. G. John Garrett CAS interviews sound utility and CAS Associate Jenny Elsinger, and Devendra Cleary CAS shares some thoughts on the future of production sound in his opinion piece “How Will COVID-19 Change the Way We Mix Production?” Karol Urban CAS MPSE looks into the unique sound design tool Kyma through an interview with sound designer Sylvain Lasseur, and some of the post team from the TV show Treadstone discuss the challenges of creating a cinematic-quality mix on a TV schedule—and budget! As always, be sure to read about the happenings of your fellow members in the “Been There Done That” and “The Lighter Side” sections.

Thank you to all of our contributors for volunteering their time and sharing their insights with us. If you’re interested in contributing or have an idea for an article, let us know by emailing: CASQuarterly@CinemaAudioSociety.org. Also, know that our sponsors are professionals like you who understand the business and the needs of our industry—even during these really crazy times. We encourage your commitment to them.

Finally, thank you to all who are tending to the health, well-being, and safety of others and to those trying to find solutions for the numerous issues the pandemic is causing. Be sure to do your part and follow local social guidelines.

Matt Foglia CAS
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INCLUDING
8
OUTSTANDING
DRAMA SERIES
SOUND MIXING FOR A COMEDY OR DRAMA SERIES (ONE HOUR)
MICHAEL RAYLE, MARK PATerson, WILLIAM FILES, CRAIG HENIGHAN
SOUND EDITING FOR A COMEDY OR DRAMA SERIES (ONE HOUR)
CRAIG HEYRIGAN, WILLIAM FILES, KRAy COLE, RANDY DEAN WILLIAMS,
ANGELO PALAZZO, KATIE HALLIDAY, DAVID KLOTZ, STEVE BAIN

“THE BEST
IN THE SERIES”
SCREENRANT

“★★★★★”
BBC

“A PIVOTAL
SEASON.”
Boston Herald

STRANGER THINGS
3

FYC.NETFLIX.COM
For more than 50 years, I have been an active contributor at all levels of our audio recording industry. “I have survived the changing waves” fits my profile perfectly—so I thought until these last couple months!

“Life is what happens to you while you’re busy making other plans,” John Lennon sings in “Beautiful Boy.” Within the first week of lockdown, three major green-lighted projects in film and TV were canceled. One after the other—New York, London, and Los Angeles. For an independent, this is major. When we received the “stay at home order,” I was in the midst of mixing a Euro Disney theme park show for composer Jonathan Barr. Jonathan needed to get on a plane ASAP to Prague before all flights were grounded. I was left with the decision to completely halt the mixing or to finish it. I chose the latter. Masked and gloved, my assistant Spencer Guerra and I plowed through to the end of the mix. With the advantage of technology so readily available, mixes were sent electronically, approved by the composer, and signed off by Euro Disney France—while we were on the other side of the world.

For the next two following weeks, I found myself bewildered and not knowing what my next move was! Stopping completely was not an option. It is never an option. With no prospect of work resuming anytime soon, thinking outside of the box was the only option.

As luck would have it, at the same time, a project I produced 30 some years ago was re-discovered—perhaps “discovered” would be a better word as it was never heard the first time around.

In Live Nation’s June Amplify Music Mag, an article was released stating: “WORLD GOES ROUND, a supergroup which formed in the late ’80s but whose recordations were never released ... released a never-before-heard track titled “Big House” on Viper Records...”

Who knew? The band was ahead of its time but perfectly suited for today’s world. Now, with the demand of future release dates and the need for songs, I had no studio to record nor mix. I have built many studios for many artists over my career, but somehow never found the time for myself. Plus, the idea of working from home was never appealing. This was no longer an option.

I decided to join forces with Marshall Barnes to set up a complete home studio. Marshall began touring the world at the age of 18, working along DJ AM, Steve Aoki, and Travis Barker among others. His song placements have made it from TV to the big screen, including Spider-Man: Homecoming, Spider-Man: Far from Home, Hustlers, and Blockers to name a few. We share a passion for mixing in the analog and digital world. By converging our generational experiences, we brought our own unique tools to the process with one goal in mind; to produce, record, and mix music for all genres. That is pretty exciting.

We wanted to be ready to record sessions and mix any projects. So, we designed a hybrid studio, equipped with a NEVE 5060 center console, which gives us the best of both worlds. We installed a number of different audio workstations, including Pro Tools, Logic, and Ableton, equipped them with lots of plugins and sample libraries, and got some analog synthesizers for good measure. We topped it with some of my favorite PMC 228 monitors to achieve our sonic goals.

As timing would have it, Big Phat Band, with whom I’ve recorded and mixed several albums, decided to produce a complete COVID-19 big band recording. The entire band recorded their parts from home, sent me the recorded files, and I mixed it as if recorded together in the same room.

Right before lockdown, Maurice Patist of PMC selected our latest album, Gordon Goodwin’s Big Phat Band The Gordian Knot, to mix in Dolby Atmos. Mixing an 18-piece big band in stereo tends to limit some of the nuances that expand the arrangements in the Atmos platform. Steve Genewick and I mixed it at PMC’s Highland Park Studios and completed the final touches in mid-June for an upcoming release.

Artist Filippo Perbellini from Verona, Italy, with whom I produced his last album, Almost Midnight, which was recently released in Japan, is currently working on new material which will be up on our board as soon as the WORLD GOES ROUND project is completed.

From Sherman Oaks, CA, to Carlsbad, CA, Boston, MA, to London, UK, to Verona, Italy, we continue to work through this pandemic and beyond.

If I had any words of wisdom to share, it’s that the music keeps on playing—even if they are simply labors of love.

Overcome the obstacles!

Tommy Vicari CAS
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**WATCHMEN**
Outstanding Sound Mixing for a Limited Series or Movie

**DOUGLAS AXTELL**, Production Mixer
**JOE DeANGELIS**, **CHRIS CARPENTER**
Re-Recording Mixers
(“This Extraordinary Being”)

**WESTWORLD**
Outstanding Sound Mixing for a Comedy or Drama Series (One Hour)

**GEOFFREY PATTERSON**, Production Mixer
**KEITH ROGERS**, **BENJAMIN L. COOK**
Re-Recording Mixers
(“Parce Domine”)

**LAST WEEK TONIGHT with JOHN OLIVER**
Outstanding Sound Mixing for a Variety Series or Special

**STEVEN WATSON**, A1 Production Mixer
**CHARLIE JONES**, Supervising Music/Production Mixer
**JOHN KILGORE**, Music/Recording Mixer
**STEVE LETTIE**, Front of House PA Mixer
**PAUL SPECIAL**, Music Mixer
**TONY ROLLINS**, Monitor Mixer
**DAVE SWANSON**, Pro Tools Playback Mixer
**JAYSON DYER SAINSBURY**, Pro Tools Music Mixer
(“Episode 629”)

**Congratulations to our Emmy nominees**
**Ben Adams**

Ben Adams has 10 years of production sound experience mixing and recording for film, commercials, and live events. Over the past five years, he has helped create immersive spatial audio for more than 100 virtual reality concerts and 360-degree film productions. Ben continues to collaborate on projects with Oculus, Samsung VR, Supersphere VR, Media Monks, Hear360, and many others.

**G. John Garrett CAS**

G. John Garrett CAS is a Los Angeles-based production sound mixer who is currently mixing Season 2 of *Schooled* for ABC. He is an Executive Board member for IATSE Local 695 and a frequent contributor to the CAS Quarterly. He joined the CAS as an Associate member in 1999 and became a full member in 2008.

**Devendra Cleary CAS**

Devendra Cleary CAS is a Los Angeles-based production sound mixer who is currently mixing Season 2 of *Schooled* for ABC. He is an Executive Board member for IATSE Local 695 and a frequent contributor to the CAS Quarterly. He joined the CAS as an Associate member in 1999 and became a full member in 2008.
He is currently in his third year as an adjunct of sound professionals, and taught sound seminars, written articles, trained a multitude of libraries over the years, and given co-founded The Hollywood Edge Sound CAS Lifetime Achievement Award. Tod also Dennis Maitland CAS, who received the 2009 CAS Lifetime Achievement Award. Tod also co-founded The Hollywood Edge Sound Effects Libraries and, over the years, has given seminars, written articles, trained a multitude of sound professionals, and taught sound. He is currently in his third year as an adjunct professor at NYU.

Lisle ENG Le CAS, an Emmy-nominated sound editor, re-recording mixer, and musician, is internationally recognized for his expertise as a sound industry veteran. Born and raised in Savannah, GA, he graduated from Boston University before moving to Los Angeles to pursue a career as a rock vocalist and musician. His love for post-production sound evolved naturally. From 1991 until the present, he has collected countless film credits, including *Vanilla Sky*, *American Hustle*, and *Monster’s Ball*. His innumerable TV credits include *Mad Men*, * Arrested Development*, *Riverdale*, and hundreds more.

Lisle continues to actively pursue writing and performing his original music, while sharing his talent with storytellers in television, film, and music. Lisle is currently a re-recording mixer at Warner Bros. Sound, as well as his own TFK Studios.

**Lisle Engle CAS**

Tod Maitland CAS was born into the industry he loves, with over 100 feature film credits and four Academy Award nominations, Tod’s career spans four decades on films as recent as *Joker* and *The Irishman* to *T 2: Judgment Day*, *Seabiscuit*, *JFK*, and as far back as *Tootsie*. Always at the forefront of technology, Tod is continually searching for the best ways to record sound, with a focus on musicals and music-based films. His music films span the spectrum from *The Doors* to *Across the Universe*, *The Greatest Showman*, and Steven Spielberg’s *West Side Story*. Tod is currently working on his 10th musical, *Tick, Tick… Boom!*, directed by Lin Manuel Miranda.

Along with his three siblings, Tod grew up in the business training under their father, Dennis Maitland CAS, who received the 2009 CAS Lifetime Achievement Award. Tod also co-founded The Hollywood Edge Sound Effects Libraries and, over the years, has given seminars, written articles, trained a multitude of sound professionals, and taught sound. He is currently in his third year as an adjunct professor at NYU.

**Tod Maitland CAS**

**Mace Matiosian** is a veteran of 43 years in post-production sound as a sound editor, sound designer, and supervising sound editor. Mace has worked at Ryder Sound, Glen Glenn, Modern Sound, Larson Sound, Soundex, RH Factor, Todd-AO, and Warner Bros. He has been a supervising sound editor for over 30 years and his professional achievements include seven ATAS Emmy Awards with 18 nominations, nine MPSE Golden Reel Awards with 29 nominations, and two Hollywood Post Alliance Awards for sound editing. Working closely with producers, directors, and writers, Mace enjoys the challenge of helping them achieve their creative goals while also fulfilling his personal vision for the project. He attributes his success to a keen sense of observation and sensitivity to his surroundings, along with a dose of spontaneous creativity and anticipating the needs of the producers before they are even verbalized.

**Mace Matiosian**

**Patrick Spani CAS**

15 years of his career in the UK working for the BBC and various independent facilities. He’s spent the last 15 years in Los Angeles, with 12 years at Warner Bros. Studios, working as a feature and television supervising sound editor and re-recording mixer. Outside of WB, Matt spends time as a musician and music producer, and also has his own private mix stage, The Manor.

**Matt Vowles CAS**

has had an extensive career spanning 40 years in live production and post-production for music, film, and television. He worked in both live music and studio recording, with numerous artists, including Frank Zappa, The Pretenders, Dire Straits, Chaka Khan, INXS, Howard Jones, and Tom Waits. He’s also worked on the audio production for 17 Oscar broadcasts.

Steve was Sr. Director of Worldwide Production and Post-Production Services at Dolby for more than 20 years. He worked with the Advanced Television Systems Committee on the audio standards and launch of digital television. More recently, he worked on the development of Dolby Atmos for cinema and broadcast.

**Steve Venezia CAS** has had an extensive career spanning 40 years in live production and post-production for music, film, and television. He worked in both live music and studio recording, with numerous artists, including Frank Zappa, The Pretenders, Dire Straits, Chaka Khan, INXS, Howard Jones, and Tom Waits. He’s also worked on the audio production for 17 Oscar broadcasts.

Steve currently serves as Vice Chair of the Television Academy and as Vice President of the CAS. He is also a member of the Academy of Motion Picture Arts and Sciences.
CAS Associate Jenny Elsinger, a sound utility who has been in the business for two decades, has worked on programs such as *Sleepy Hollow*, *The Resident*, *Stranger Things*, and *Outer Banks*. I sat down with her (on the other side of an internet connection) while she was holed up with her family, north of Dubuque, Iowa.

**Where did you go to school?**

I grew up in Northeast Iowa, and I’m home on the family farm right now. I went to school at the University of Iowa and graduated with a communications degree. I focused on broadcasting and film and minored in anthropology, which, believe it or not, really goes together. For me, it always goes back to the idea of storytelling. Anthropology is the study of human beings and their stories throughout history, and that’s what we do on film sets. I was interested in the film business in general before sound. I liked the idea of writing and making movies and I always wanted to be a storyteller, but I didn’t know exactly what I would do in the business.

**Did you stay in Iowa after graduating or did you leave immediately?**

After I graduated, I ended up in Wilmington, North Carolina, and that is where I really came up in the film business. I had done a little bit in Iowa, but there really wasn’t much going on. I PA’d a little bit on some tiny shows and was even a stand-in on a Hallmark movie. I ended up working on a show in Kansas City, Missouri, and met lots of people and so many of them were out of Wilmington, NC. To be honest, I’d never heard of Wilmington, NC. I thought “Wilmington, Delaware,” I’d heard of that.

This was at the time, I was told, that Wilmington was number three in the United States for filmmaking—behind LA and New York. This was in 1998, and that’s where I first met all these great Wilmington people. They said, “There’s this great film industry there.” I was out of college and sort of dreading the idea that I had two choices—New York or LA—if I wanted to continue in the film business. Growing up in a rural area and loving it, loving nature, and the outdoors, I just dreaded the idea of going to New York or LA. I’d never been to either of those cities at that point, and when I heard about this third option, I thought, “This might be the answer for me,” and it absolutely was. It was just the best decision I probably ever made. It was a great, busy time, and during those years you could just drive onto the lot at Screen Gems. They had a guard, and you could say, “I’m just trying to get on a show,” and they’d say, “Okay!”

They had Panavision on the lot, and they were crewing for a tiny little movie. At the time, I had never done sound, just PA’d and done intro stuff on movies. But I had worked as a camera PA on my last show in Iowa, and I thought, “Well, that’s perfect, that’s what I want to do. There’s nothing more central to filmmaking than camera department!”

**Steering toward camera, how did you end up in sound?**

At that time, sound had not occurred to me, I just didn’t know anything about it. I was literally walking into Panavision when someone was walking out who had just gotten the camera PA job, he literally got hired as I was walking in. It was a very low-budget movie and I was just looking for experience, I didn’t care about the money. I was so bummed because I thought that was my best shot at getting on something. Because I knew I had no experience, I was specifically looking for little tiny movies because I didn’t have anything to offer other than my good attitude!

So, I was walking out and I still had my résumé in my hand. And this is a moment I will never forget; I ran into Jeffree Bloomer CAS, and he was based out of Columbia, South Carolina. I think I was standing there trying to decide whether to go left or right—literally, “Well, now what?” He was down there, too, prepping his gear for the same show. He said hello and I told him I was trying to get on
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ALEX ALTMAN

RE-RECORDING MIXER
DOUG ANDHAM, CAS

RE-RECORDING MIXER
JOE EARLE, CAS

ADR MIXER
JUDAH GETZ, CAS

“CAMP REDWOOD”

AHS/1984
with camera and he said he was looking for a sound intern. It was a tiny movie and he had a boom operator but no budget for a utility. I didn’t know anything about sound, so I probably wouldn’t have felt right about getting paid anyway. I remember I was overly-honest and I said, “I know nothing about sound,” and he goes, “That’s okay! Got your résumé?” Of course, there was basically nothing on it, but he looked at it and he liked that I had worked on at least one show with camera. Jeffree said, “Well, you’ve at least been on set, not on the fringe, you worked with the camera department and you’re not just coming off the street.” Anyway, that’s what started it all. It was a movie called The Pavilion, shot on Bald Head Island. We stayed in little cottages and all our transportation was in golf carts. It was about a four-week shoot, and everything really clicked for me because I went from never having considered sound to, “Oh, this is perfect for me.”

So, you transitioned pretty easily?
I loved everything about it. It’s a department of three. I liked that we weren’t on radio, and we had our own little closed-communication system. I wasn’t very outgoing so, for me, it was better just working with two people—and I liked the stealthiness of it. It really defined how the rest of my career went because he was the first sound mixer I’d worked with. Jeffree’s a great guy and we had a wonderful time. I think something in my brain said, maybe for me, personality-wise, it just seemed to be a better fit.

Looking back, if you ask what got you interested in sound, my favorite toys growing up were walkie-talkies, and my dad had this tabletop tape recorder that he had in his office. As kids, we would get to play with it sometimes. I remember it had a little plugin microphone and, hands down, that was the all-time favorite toy; recording things, playing them back. So, there was this fascination with sound that I didn’t even really register. At one point, I went through this stage where I had one of those voice-activated micro recorders that I would hide in places and pretend I was a detective and spy on people and then go listen to the tape and see if I picked up any good stuff. Usually, it was my mother discovering it and going “Jenny!” (laughs).

So, that film started my professional work in sound, thanks to Jeff Bloomer. It was very busy in Wilmington at the time, and he referred me to another show. I don’t think I had a day off in-between. That was a show called O, a modernized version of Othello. It was shot in Charleston, SC. Robert Maxfield was the sound mixer, and that was my first real paid gig. I thought, “This is great, I’m making money!” And then it was onto the next one and the next one and the next one.

The film incentives went away in North Carolina and devastated the business. Was that part of your reason for moving to Atlanta?
That was 100 percent the reason that I and at least a third of the crew based in Wilmington ended up in Atlanta. I was on Sleepy Hollow with Fox, and when they got renewed for the third year in 2015, they announced, “We’re making the move to Atlanta and anybody who wants to move there, you’ve got a job.”

At the time, it was so busy in Atlanta that they didn’t have enough crew. It’s caught up now, but they knew they couldn’t crew all the shows. The union local reached out to the Sleepy Hollow producers and said, “Your crews are welcome here, and we will make it a simplified process to transfer into the local and they can continue on with their jobs.” I still work a lot with production mixer Michael Rayle, and we all sat down and talked about it. I said, “If you want to make the move, then I’m going to transfer too. We’ll be on Sleepy Hollow and that will ease our transition to Atlanta.” We were so lucky using the boom pole to hold down a piece of flapping tin. Not always a glamorous job, but important nonetheless.
20 EMMY® NOMINATIONS

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OUTSTANDING SOUND MIXING
FOR A COMEDY OR DRAMA SERIES (ONE HOUR)

MATHEW PRICE  CAS, PRODUCTION SOUND MIXER
RON BOCHAR  CAS, RE-RECORDING MIXER
GEORGE A. LARA  CAS, FOLEY MIXER
DAVID BOULTON, ADR MIXER

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to have that because it ran for two years there. It was the right decision. That first year was really, really tough, because Wilmington is so easy, it’s so pleasant, everything is 15 minutes away, everybody knew everybody, and we all helped each other out, regardless of department because it’s a mixed local.

I’m so thankful for those years. I had a solid 10 years when I came up in the film business, and I’m so grateful to work with wonderful people and lifelong friends. It was so nice when a bunch of us went at the same time to Atlanta. We’ve all stayed together and tried to work together. Of course, you branch out and meet new people as well.

**Did you do any mixing in Wilmington?**

No, I’ve always been a sound utility. I’ve stepped in from time to time for my boss. I enjoy it, I’ve had a lot of fun with it, but at one point I had to make the decision about whether that was the route I was going to go. I really thought about it because I really enjoy mixing, but you can’t do it halfway. It’s a huge financial commitment, and I really like the freedom I have by staying as a utility. My work is very varied. I do a lot of second boom, I get called to boom or mix as a day player with another mixer’s gear. So, I kind of get the best of everything—not to mention that you become very in demand as you have more and more experience.

I’m very lucky and thankful to stay very busy. I truly do love my job. I never sit down during the day. There’s always something to do and I like to stay busy. There’s all that fun and problem-solving, fixing stuff, coming up with creative solutions. I love the freedom, too. The sound mixer is very often trapped with the cart, and the boom operator has to stay on set, and I like to run around kind of behind the scenes. I also like the variety of the other departments that I work with because, as the utility, I’m really the go-between with props, costumes, grips, and electrics, too. And from my department, I’m the one who gets sent to get stuff.

It’s so important to respect everyone else’s job. I want them to have a good day too, whatever department they’re in. When I need something, it’s not for me, it’s for the show, for the actors, for post-production, and I think everyone gets that. I’m truly interested in everyone else’s job. I’m one of those people who loves to pick your brain and see how you do things. The entire process of filmmaking fascinates me from the ground up. I said from day one when I went to school that I wanted to learn the nuts and bolts of it because I find it all fascinating.

**Has TV changed a lot since you started?**

There are some series now that are shot like they are features. I did Season 3 of *Stranger Things* and that was primarily a one-camera show. It was really something to behold. Every shot means something and is important. It’s not like, “Oh, we’ve got three cameras? Put one here and the other two, you find something. Because we all have to shoot all the time, and we’ll sort it out later.” Every shot is beautifully composed and shot and there’s a reason for it. Whether it’s the way it makes you feel, whether it’s the angle of the camera or the width or how they have the actors stacked or not; I’m very impressed with that show.

**And you also have to worry less about wide and tight!**

Right, very rarely. Very rarely, I remember for me it was a little frustrating at first because I don’t think my boss pulled up a wire for the first two months. Now, everyone was wired, because that’s how we do it now. Especially in the world we were coming from, everyone’s wired because you never know when it’s going to get silly. I was just not used to not hearing them. I would be a little worried and be like, “Are they OK? Are you checking them? Do they sound all right?” And Michael always checks the ISO’s because he still wants the wires to sound good, too. But it was a little unnerving at first.
EMMY® NOMINATED
FOR
OUTSTANDING SOUND EDITING FOR A COMEDY OR DRAMA SERIES (ONE HOUR)

WADE BARNETT
Sound Supervisor

DAVID BARBEE
Sound Effects Editor

MASON KOPEKIAN
Foley Editor

BRIAN DUNLOP
Dialogue Editor

RYAN BRILEY
ADR Editor

CHRIS NEWLIN
Music Editor

CHRISTOPHER BROOKS
Music Editor

JOE SABELLA
Foley Artist

JESI RUPPEL
Foley Artist
On *Sleepy Hollow*, it was just the opposite. They had three full-time cameras, and sometimes four and five when they wanted to catch up. We sometimes would go two or three days and never hear a boom. It was nothing but wires with five or six people and everybody talking. It’s a great opportunity to tune your ears and really learn what works and what doesn’t. You get really good with wardrobe and material, that sort of thing.

**There’s always a creative solution, isn’t there?**

Right, and often there’s not one solution, there are lots of little solutions. Michael is always fond of saying, “Pieces and parts!” At the end of the day, we got everything. They’re going to have to put it together from all the pieces and parts, but we can say we did our jobs and certainly did the best we could. There are days when you turn out some excellent sound and days when you’re, “Eh, well, we got a scratch track!” It’s not my favorite, but we’re there for so many reasons other than just recording brilliantly perfect sound. There’s the bigger picture and you’re working for an entire process. Sometimes it is about camera, and they will come and say, “Sorry guys, yes, we are going to bone you on this one, but it’s about the picture,” and that’s OK. That’s their choice.

**Sure, as long as everybody understands what’s happening.**

Right. A good sound mixer will listen and go, “OK, I’m just doing my stuff and I’ll explain to you what the consequences are, and if you freely accept them, great. I’m going to support you all day long, I’m then going to suggest we get wild lines afterward. I’m still going to try to help you out.” That way, when it comes to post, you can still have some ease of putting it together.

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**Upcoming from our partner EIPMA**

Entertainment Industry Professionals Mentoring Alliance (EIPMA) is scheduling a monthly series of panel discussions themed on specific industry crafts. They will explore topics such as music (live recording, music production, engineering, and mastering), picture editing for cinema and broadcast, re-recording mixing, production mixing, sound editing, post-production engineering, camera, and cinematography.

EIPMA is also engaged in an innovative new program called “Speed Mentoring.” It is designed to connect students with industry professionals over the web in a series of short, one-on-one question-and-answer sessions.

You can read more about this event and how CAS members contributed here: [https://cinemaaudiosociety.org/cas-participates-in-speed-mentoring-in-partnership-with-eipma/](https://cinemaaudiosociety.org/cas-participates-in-speed-mentoring-in-partnership-with-eipma/)
# CAS AWARDS

## COVID-19 TIMELINE ADJUSTMENTS

The Cinema Audio Society timetable for the 57th Annual CAS Awards is outlined below. As a result of the industry shifts resulting from the pandemic, the CAS Awards timeline will be adjusted for this year. We look forward to celebrating with the recipient of the CAS Career Achievement Award and the CAS Filmmaker Award honoree. The CAS Awards recognize Outstanding Sound Mixing in Film and Television, along with Outstanding Products in Production and Post-Production and the CAS Student Recognition Award recipient. We also look forward to welcoming the new 2021 CAS Board members.

## 57th CAS AWARDS TIMELINE

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| Entry Submission Form available            | online on the CAS website at www.cinemaaudiosociety.org  
Entry Submissions due                      | online by 5 p.m. PT, Tuesday, January 19, 2021                                                                                                                                 |
| Nomination Ballot Voting Begins            | online Thursday, February 11, 2021                                                                                                                                                           |
| Nomination Ballot Voting Ends              | online 5 p.m. PT, Wednesday, February 24, 2021                                                                                                                                              |
| Final Nominees in each category announced  | Final Nominees announced Tuesday, March 2, 2021                                                                                                                                              |
| Final Voting Begins online                 | Final Voting Begins online Thursday, March 25, 2021                                                                                                                                           |
| Final Voting Ends                          | online 5 p.m. PT, Tuesday, April 6, 2021                                                                                                                                                      |
| 57th Annual CAS Awards                     | 57th Annual CAS Awards Saturday, April 17, 2021, Los Angeles, California                                                                                                                   |

## Podcast

The Cinema Audio Society presents the next episode of our podcast series, *In Conversation*, moderated by Peter Devlin CAS. Episode four features retired production mixer Tommy Causey CAS.

This podcast was recorded in May 2020 remotely due to the COVID-19 pandemic. Our thanks to Phil Palmer CAS and Chris Hall of Icemen Audio for their work on the podcast.

http://cinemaaudiosociety.org/podcasts/

## FOLLOW THE CAS ON SOCIAL MEDIA

Stay up to date on the latest CAS news, events, and exclusive offerings. Be sure to check your email inboxes and follow the CAS on Twitter, Facebook, and Instagram.
CAS SUMMER EVENT SERIES:
Audio Repair & Restoration, powered by iZotope

On Saturday, May 16, 160 CAS members from around the world joined a panel of iZotope super-users as they dove into some of the best-known features in the Emmy-winning RX 7, the CAS Award-winning Dialogue Match, and the powerful Insight 2 metering software. Panelists discussed features and best- and worse-case scenarios while answering questions live from the audience. Moderated by re-recording mixer Bob Bronow CAS, the panel included supervising sound editor and re-recording mixer David Barber CAS MPSE, iZotope social care specialist Dominic Delore, re-recording mixer Sherry Klein CAS, Pro Tools expert Mike Thornton, and iZotope customer care agent Rolla Campbell acting as the chat moderator. Thank you to the panel for sharing its expertise and for all of those who watched live. If you missed it, watch the event and view highlights from the chat discussion at https://cinemaaudiosociety.org/cas-summer-event-series-2020-audio-repair-and-restoration-powered-by-izotope/

Bob Bronow CAS
Moderator – Re-recording Mixer and CAS Board Member

David Barber CAS MPSE
Supervising Sound Editor and Re-recording Mixer

Dominic Delore
Social Care Specialist iZotope
Sherry Klein CAS
Re-recording Mixer and CAS Board Member

Mike Thornton
Sound Designer, Producer, Editor at Pro Tools Expert

Rolla Campbell
Chat Moderator – Customer Care Agent iZotope
INTRODUCTION
This is a discussion on how the COVID-19 pandemic shutdown and re-emergence could change how we mix production sound going forward. There’s a myriad of official discussions and plans about protocols, best practices, disinfection of equipment, etc. This discussion instead will be about the drastic decisions in technique that we may or may not have to make. Overall, this is a complicated and multilayered topic. With that in mind, I want to focus in on just two main points of contention regarding two different pieces of methodology. One is more fundamental, and one is more technological and both have valid data, preference, and value behind them.

First is the idea of whether we drop the use of talent radio mics and switch to exclusively employing the use of boom microphones to capture dialogue. I want to make a fair argument for, as well as against this idea. The second is whether we take the extreme physical distancing option and set our main recording workstations beyond our wireless capacity—hundreds of meters away from the set via network or fiber-optic means. Whether this should be something we are required to do or something we retain the option of doing. Combining the philosophical side of the discussion and the technical side of the discussion, I’d like to make my cases here.
How Will COVID-19 Change the Way We Mix Production?

An Opinion Piece by Devendra Cleary CAS

THE ARGUMENT FOR BOOM USE ONLY

What a dream this would be? What a simplification and consolidation of duties that would allow my team and me to focus more on contributing our technical skills to the overall artistic nuances of the job. We would have way less frequencies to coordinate inside our shrinking spectrum, we’d really get to hone-in on the task at hand and my utility sound technician would be allowed a lot more leeway with time management and not get spread so thin. What a dream? What makes this possible is that this approach was how it had to be done for years, mainly because of a technique status quo and a limited scope in robust RF equipment options. Pulling out radio mics in years past was as rare as the camera department pulling out the Weaver Steadman.

What a dream! What a satisfying feeling it would be to walk away from a hard day’s work only having listened to brilliantly positioned boom microphones during close-ups and brilliantly positioned specialty plant mics and never, ever hearing a lavaliere mic? Essentially, booms still sound better and more natural. Lavs available in decades past were more unmistakable in how differently they sounded versus the boom. Currently, we do have lavs that are more dynamic than ever. Tiny microphone capsules that amazingly capture near-field dialogue without mismatching—and the listener will never know how tiny they are. I may sound like I’m already cross-examining this portion of the discussion, but I promise I’m still litigating for the boom-only defendant. Even though lav mics from many manufacturers sound “better” than they did two decades ago, they still don’t sound quite like a well-positioned boom microphone. This natural cinematic ear candy is the best way to capture this material, and is still what translates best to the screen.

But my closing argument in favor of switching our workflow to booms only is how it would simplify our portion of time allotment with the production. No more coordinating time for each speaking cast member to get outfitted with radio mics, plus fewer contact points with cast. No more negotiating with the costume department on how much we potentially see a mic or a pack. This would ultimately be a huge relief of workload on our already typically understaffed department on scripted projects. It would be a wonderful experience to boom everything, plant when needed, get a wild line when needed, and kick back and live the dream.

THE ARGUMENT FOR CONTINUING TALENT RADIO MIC USE

The reason I used the word “dream” so many times in that last argument is because that is a dream ... a pipe dream. There is no way this is going to fly. And as a huge proponent of booming everything every day, I can still attest to the fact that radio mics are not going anywhere. In years past, booms were the primary and sometimes only means of capturing the dialogue. But that doesn’t mean that we could do it that way today. Directors don’t design shots and scenes like they used to. Not only did they design shots that were often simpler, but they also took longer to pull off than today. Shots are not planned to be complicated. Shot are constructed as a way to progress, evolve, and innovate narrative storytelling. No one thought: “We have lavs now so let’s design this crazy walk-and-talk down the spiral staircase and through the spaceship ending on a high wide.” Then, sound departments stepped-up and adapted to the changing tides and found various solutions, including (but not only) radio mics in order to tell the director, “Yes, we can get that, you won’t have to ADR that.”
Now back to the part where my opposing counsel (me) mentioned how much better certain contemporary lav mics sound compared to their predecessor units of the past. Miniature capsule design has come a long way. Having mismatched lav mics now is a lesser concern. They sound “bigger” than ever. Additionally, there are post-production tools that allow for better tonal and timing matching. But perhaps the strongest argument in favor of radio mics is that post-production and production sound mixers have come to realize their practical advantages. Sometimes it is the only way to get a scene. There’s nowhere a boom could capture it. Dialogue on motorcycles or navigating an impossible wide-and-tight are examples. Besides, a lav can often capture a whispery line in a scene or a surprise improvisation from the other side of the doorframe away from the two boom operators.

Lavs have become essential tools even for the most hardened boom-only sound mixers. Production is used to the time allotment, post-production is used to receiving the lav ISO’s, and production mixers have really refined their use and exploited their magic. We’ve come too far to go back now.

**THE ARGUMENT FOR REMOTE WORKSTATIONS**

Now, switching gears to a completely different item of potential contention. This can be considered an RF best practice, as well as a recent potential necessity for creating maximum physical distancing. It is not a new concept. It has been done for many years by Mark Ulano CAS and Steve Nelson CAS. Mixing and recording equipment can be set inside trucks or trailers. Several hundred meters of network cables can be run to link by Aviom hardware with their RF modules or “FOH” (Front of House) carts on set.

The primary reason for doing this in the past has been to create a safer place out-of-the-elements for the equipment, as well as creating a quiet environment for the mixer. But for many types of production, this method is not always as practical or conducive ... until now.

If production on scripted movies and television need to separate themselves into these three zones: A: set; B: office, basecamp, off-stage truck installations; and C: outside world and teleworking; then this method could place the sound mixer into either...
the far-reaching outer fringes of “Zone A” or potentially even the inner perimeter of “Zone B.” This could possibly allow the sound mixer the ability to have almost zero contact with anyone else in production. The RF signals for both the reception of the talent and boom microphone transmitters and the RF transmission range for the IFB units will be at their most advantageous. Basically, there is a little robot right there on set closer than I’d probably ever set up my cart.

There are many developed and continuously developing networking tools we use that would allow us so much flexibility here. Depending on what wireless equipment you use in order to enter your signal flow into the Dante protocol can make your wireless components much easier to see and control. For example, Shure, Wisycom, Audio Ltd., Lectrosonics all make devices that allow for the audio stream to be embedded into a Dante network. In the case for Lectrosonics, they have a telemetry program called “Wireless Designer” that allows for the viewing, commanding, and coordination of RF signals. One of the downsides to placing the RF receivers far away from the sound mixer has always been the loss of visibility of this telemetry. But with a little network configuring, that concern could be moot when the digital commands for Wireless Designer are running down the same CAT6 pipe as the audio streams. A good example of this implemented in a setup is the Dante rack that Joe Foglia CAS shared with me. Three DSQD’s, one M2T for IFB, and a Glensound Dante interface for analog signals; all in a ready-to-run rack case and connected by one CAT6 cable.

A lot of these same needs could be performed by a system employing fiber-optic technology. Sound mixer Delroy Cornick was generous enough to share with me some of the components he uses to transmit RF, ZaxNet, and SDI video over fiber. The RF over Fiber (RFoF) modules are manufactured by RFOptic. Two modules take a 500 MHz dual RF signal from an RF Venue Diversity Fin, and a third module is for ZaxNet. They change that RF into light, which has none of the distance
loss of copper cable. For SDI video feeds, a Thor Broadcast SDI over fiber module is used. Identical, opposite modules are on the cart end. The T-FOCA (Tactical Fiber Optic Cable Assembly) pictured here was designed to be used in very harsh environments.

There are so many possibilities and they are constantly being further developed and updated. Like anything, this could be a double-edged sword, but I feel the advantages of remote FOH rigs like these may outweigh the disadvantages. If you’re already set up to operate this way, you may offer the producers a sigh of relief. You’ve already constructed a plan to put yourself far away from everybody; removing one more person from the inner core of “Zone A” and effectively becoming a crew member in “Zone B.”

THE ARGUMENT FOR CENTRALIZED WORKSTATIONS

I’ve never “begrudgingly” designed an audio workstation in my life until just recently. What I mean is, I had no intention of working with a remote FOH rig. But feeling a mounting pressure regarding scenarios that myself and colleagues were speculating, I decided to dive in and figure out my own plan on how my selection of RF and networking equipment would come together. So, on the opposite page is a diagram of my personal take on constructing a remote workstation ... before I make my argument against using it.

I just want to be prepared for the inevitable conversation with a producer during pre-production on how I plan to distance myself since it is impractical for my two booms to do so. With this in mind, I decided to put together something that required minimal additions to my existing inventory. The other criteria was that I wanted this FOH unit to be as compact and portable as possible. I based it off of a half-rack concept but with plenty of RF receiving and transmitting channel and hardline options. This is the outcome of my “begrudging” design process.

Now that I have gone through the motions, I can breathe a sigh of relief that I have a plan moving forward if this is a mandated mode of operation. But honestly, I do not want to work this way nor do I believe it would even be a necessity in order to provide the more-than-adequate amount of physical distancing that the normal operating, centralized “RF bubble” would allow. Meaning, in most instances, our wireless tools would offer more than enough range to both receive and transmit all of the needed RF audio signals adequately with just the placement of the sound cart on the outer perimeter and tucked around the corner of a set, whether on location or on a soundstage. Even the extra help from remote powered RF antennas 100 feet would offer more physical distance and not require the networked or fiber-optic FOH solution. And, even though I’m confident the FOH system would perform its task with minimal bugs, I still can’t help but know better that this method is adding fail points in a production-style audio system.

Specialty audio systems like ours are expected to perform at near perfect reliability. As much as the remote split of the sound mixing workstations is a very valid way of working with RF advantages and environment isolation advantages, I feel that this is ultimately something the sound department should have the choice in implementing. An “opt-in” approach, if you will. And for it to be production-mandated would be an uninformed mistake. But obviously, there is enough speculation out there to conclude that this may be a choice taken away from us as we’re placed on an adjacent soundstage. I can also assert that audio workstations with their wireless devices centralized by default, still effectively offer the sound mixer to production as a “Zone A” crew member for almost the identical reduced contact of a “Zone B” crew member.
CONCLUSION
My objective was to offer fair and balanced arguments for both sides of both issues. However, I can’t help but formulate a personal preference, as well as realistic expectations for both.

Would it be awesome to ditch the wireless talent lavs for boom only? For sure! Is it realistic and practical? No. Would it take tools away from the production sound mixer and have unintended consequences? Yes.

Are creating workstations that allow for remoting the RF portion of our tools a good idea? Absolutely! Would keeping our workstations centralized still give us a perfectly fine abundance of physical distancing as well? Completely!

But the option should remain in the hands of the practitioner. And, though adapting to change is challenging, it may not hurt to formalize a plan for splitting your production sound mixing workstation with a “Front of House” rig. Just keep all your options in front of you flexible and know you have the choice.

I hope everyone gets back to work in the safest way possible. Practitioners who are reading this exist in a profession that requires them to be natural and trained problem solvers. There’s no obstacle we can’t overcome with a combination of common sense, logic, technology, and ingenuity.
As I approached my 43rd year as a production sound mixer, I’d planned to fade off into the sunset pushing my good ol’ Cooper 208, Zaxcom Deva, a combination of boom and other mics, Audio Ltd. and Lectrosonics wirelesses, Comteks, IFB’s, and all my other trusty old equipment on the hand-built cart that supported everything for more than 30 productions.

All that changed with a phone call.

I’ve always marveled at how our lives pivot so radically with a single call. “We’re doing screen tests for West Side Story with Steven Spielberg and want to check your availability.” That was it. Little did I know the actors weren’t the only ones being screen-tested that day. Steven watched everything. He scanned us baffling the piano to balance the volume to set, double booming and wiring everyone, me trotting on set after a rehearsal to adjust a wireless lav and just as quickly to my cart. I guess I passed the test. At the end of the day, he offered me the film.
Soon after the screen test, I was sent Tony Kushner’s impressively large (that’s an understatement) security-encrypted script. It was a monster for sound. A literary masterpiece, of course, but a monster! Twenty-two characters talking, singing, dancing, and all in the same scene! And not just one scene, but a multitude of them! In addition, there were massive 10-plus page dialogue scenes that all seemed somehow to be in motion, walking, running, fighting. Then there were period cars, period props, machinery, and costumes... You get it. To top it all off, 85 percent were on location all over the streets of NYC (and New Jersey) in the heat of the summer! Obviously, the game changed. At that point I realized, to quote a famous Spielbergian quote, “I'm going to need a bigger boat.” I decided to go for broke (literally and figuratively) and build the Ferrari of sound carts; a state-of-the-art beast capable of handling what was to become a 78-day Broadway show performed on the streets of New York City. I'd never worked with Steven before but his reputation precedes him: a director who’s on set 15 minutes before call with a lens in his hand and expects the same dedication and competence from everyone around him. A level of work where there’s no room for error.

Evolution
So where do you start? The tools and priorities of what we do have changed radically since I became a mixer. Back when I first entered the business (when Moby Dick was a minnow), it was all about the Nagra, everything else was secondary. The Nagra was the Mercedes of the era and almost as expensive. The next major technical development was the multi-channel mixer: Sela, Sonasax, Cooper, which allowed us to mix multiple mics to a stereo Nagra two-track. In that day, no matter how many mics you were mixing, if you didn’t open the correct fader at the correct time, that sound wasn’t ending up on that quarter-inch tape. We weren’t laying down ISO tracks, we were mixing every mic to two tracks. The crazy thing is, just a few years earlier, production mixers were mixing everything to a mono track! If you needed more tracks, you had to use fatter tape. On The Doors and Private Parts, I used two-inch analog tape recorders to get the 24 tracks needed. It seems crazy now. Wirelesses were comparatively still young and developing, but fast becoming a necessary tool on every cart. The limitations of those wirelesses were many, including range, sound quality, distortion, overloading at the head, large transmitters, transmitters that ran hot...

The next addition to a production mixer’s arsenal came at the end of the ‘90s with the digital recorder. First was the prosumer DAT (which I hated because of its low bit rate, but did use it for effects due to its compact size). Then around 2000, discs made their entrance. First came the Fostex four-channel MiniDisc recorders, which were pretty good. From there, digital recorders developed rapidly, allowing eight-track recording. They are now one of the most reliable and least expensive components on a cart. For reference, today, a digital recorder costs about the same as one or two wireless channels. Lastly, digital mixers are beginning to make a strong showing in our field due to the need for more channels, physical size, weight, flexibility, and the potential of Dante connectivity.

Wireless
I hated wireless. As an analog mixer who loves nothing more than a boom in the sweet spot, I went kicking and screaming into the wire-everyone world, to the point where I’d talk the older established actors (who hated wearing wires) into saying they didn’t want to wear wires (unless, of course, I said it was necessary). But the world has changed. Big time! Production mixers today live and die by wireless. Everything is wireless; our booms, every actor wired, IFB’s, Comteks, earwigs, god mics, antenna systems, wireless speakers, and everything else.

So considering all that, the first building block of my cart—the heart and engine—would be the wireless system. But which one? Five months prior to filming, I sat down with Peter Schneider from Gotham Sound to plot our course. There is no one better than Peter to figure out technical complexities. The first step, he called all the big wireless manufacturers to give us private demos of their newest technology. Each demo lasted about 2-3 hours while Gotham Sound filmed each one. The great news was that each company has made leaps and bounds in advancements. It was a
fascinating and thoroughly educating process. We tested each for sound quality, range, headroom at the transmitter, frequency coordination, battery life, transmitter size and weight, and sweatproof-ability (not a real word, but a real problem on this upcoming summer in NY dance production). We tested ease of use, coordinating 24 channels at one time, the ability to make adjustments to transmitters from the cart, how many receivers per rack, DC/AC, power consumption, remote ability, and whatever else we could think of.

What amazed me was the company I least expected is the one I chose. We’ve all known Shure as a high-end music company and a prosumer electronics brand. But what Shure has accomplished in the world of wireless is a game changer in our industry. Shure’s Axient Digital system was our hands-down winner. The only catch; it had never been used on a feature film before. This scared the shit out of me. To go into battle on this of all films, with an unproven system seemed nuts. But Peter and I stayed on it, continuing our testing and education about Shure and its Axient Digital system. Some quick research about the company calmed me a bit. Shure is a Chicago-based family company that’s been around for 100 years. They were pioneers in early mic development and supplied most mics and headphone systems for WW2 (back when military standards really meant something). Shure has developed the most rigorous testing system I have ever heard of. Before any product is ever released to the public, that product is put through a year of hell.

Thanks be to the sound gods, we chose correctly. The Shure system saved my ass! The transmitters are tiny, light, sweatproof, don’t run hot, have no external antennas, and are ergonomically designed to work on actors. There’s no transmitter volume control. There were times when I had to do 40 dB swings on my pre-fader gain to capture the lows and pad the volume and it never overloaded once throughout the entire shoot. With Axient Digital’s integrated system of Wireless Workbench and Spectrum Manager, the system would pick out frequencies in overcrowded NYC RF zones. And with the push of a button, deploy those frequencies to all 24 transmitters with backup frequencies. The time savings were amazing. The system also allows the home base to talk to the transmitters to change frequencies and put them to sleep—and the battery level meter is accurate to the minute. No more touching actors or assaulting them with fax tones. YAY! Wirelesses were by far my deepest fear for this shoot, but throughout the entire 78-day shoot, we didn’t experience one problem with the entire system. No exaggeration.

Recorders
OK, enough said there. For recorders, most things being equal (some Cantar fans may argue this), I went with two Sound Devices 970’s. Part of that decision was the old school me that likes to see meters moving and the 970 has a nice big faceplate. They worked well apart from the software being a bit slow and clunky; I believe they’ve put most of that energy into the newer models.

Mixer
Choosing a mixing board wasn’t quite as easy. We obviously needed a digital board because of the number of channels required, but again, which one? It seemed that most production mixers using digital boards or desks were primarily using a Yamaha or Zaxcom, Cantar, and Sound Devices. I had already maxed out my learning curve on this new cart but choosing the right mixing board is a huge decision for a mixer because it’s where we spend most of our time. Thankfully at Gotham, one of Peter’s clients had an Allen and Heath SQ-5 board in their shop. Peter liked it because its design and ease of use made it easier for analog mixers to switch to digital. “That sounds like me,” I believe I said! After playing around with it and many others, I agreed with Peter; Allen and Heath it was.
Next came the IFB systems. I needed six discrete mixes for individual channels (which the Allen and Heath accommodated with room to spare). I needed one for my boom people, Mike Scott, Jerry Yuen, and Terence McCormack-Maitland; one for the general Comtek crowd, about 30 on this film; one for Steven so I could talk to him immediately after a take if needed; two channels for the music team; and the last channel for earwigs and our 12 battery-powered Samson XP 106 speakers. We’d Velcro one our IFB’s on each and deploy them like hand grenades throughout the sets.

Here again, Peter and I explored everything available in today’s IFB world. Second in importance to the wireless signal coming in is the wireless signal going out. We’ve all experienced when the Comteks/IFB’s don’t work. Directors love that! So, lots of testing went into this area as well. After a full run-through, the Shure PSM 1000 system was definitely our winner. The factors that affected our decision were primarily range and quality. Another big factor concerned that horrible spitting sound when an IFB gets out of range—especially when using speakers. When the 1000’s went out of range, there was nothing but dead air. Overall, these units outperformed the older units I had by far. They’re the same Shure system used for their high-end musicians’ IEM’s. When putting it all together, it didn’t hurt that the PSM 1000’s totally integrated into the Wireless Workbench program, allowing it to choose the best IFB frequencies while choosing the wireless mic frequencies. The PA 821B Antenna Combiner, coupled with the Professional Wireless’s Domed Helical Antenna, worked great for all of our IFB transmission needs.

Additional Gear
For additional equipment, there are a few undisputed leaders. Everyone regales the Wisycom powered antenna system, and the Power Star system seems to be pretty standard for the DC plugin battery world. With all the artillery this cart needed, two Power Star systems were used to get the 32 amps it would need when everything was fired up. Unfortunately, two components of my cart were not DC adaptable (Allen and Heath, please adapt), so we added a Samlex Sine Wave Inverter. Other additions to the cart were two Comtek BST-25 base stations, one for Comteks and one for the 40 earwigs, and, lastly, a rack mount of two video monitors.

Cart
Finally, we had to decide which cart to mount everything on. Doing some quick math to calculate size and weight limited the possibilities right off the bat. My buddy Devin Donegan, a video playback engineer, recommended a Nebtek Nomad cart, which could handle the ridiculous 415-pound payload. Done.
Dante

I didn’t know a damn thing about Dante before embarking on this mission. But the amount of weight in copper Dante saved me is worth its weight in—well, copper. Dante has unlimited possibilities in connectivity, interconnectivity, and interfacing. It’s an amazing invention. In the process of adapting from analog to digital, Dante makes total sense. The only difficulty comes when something goes wrong. That’s when the concept of trying to follow a logical analog sound path goes out the window. In other words, it’s another operating system to learn. So, when things did go wrong, that’s when I’d call Terence—who’s in his 30’s and understands the digital interfacing world well.
Follow Cart

With every great sound cart comes the less distinguished follow cart. That is until now. Jerry Yuen, who’s worked with me for 15 years, built from the ground up a follow cart to lead all follow carts. He reimagined the practical uses and new uses posed by our new technology and came up with one cart that virtually covered the bases of three. Using 80-20, he fashioned drawers for the 26 transmitters, 16 PSM (IFB) receivers, 30 Comteks, 40 sets of headphones, blimps, other headphones, earwigs, batteries, adaptors, mic mounts, cables, boom poles, lav mic box with 50 various lavs and massive wiring kit, additional cart battery, umbrellas, and other weather covers. You name it, it was on the cart (see pic). The goal was to be a two-cart, independent, fast, mobile unit. For reference, on The Doors, I had a full truck of carts. On The Producers, I had six carts. For Across the Universe, we were down to five and with The Greatest Showman, it was four. But none approached the complexity and volume of the equipment needed for West Side Story.

Conclusion

I am so happy this Spielberg project kicked me in the ass and forced me into the future. To take all the information that’s been locked up in this analog head and push it into the expanses of digital is, as Jerry Garcia would say, mind-blowing. It took a while to embrace the new world but I have to say, it’s pretty damn good and I’d never go back. All the limitations we had in days past are gone. Sure, some may long for the old analog sound—Wylie Stateman and I brought Dolby SR to production sound because we loved that sound. I even dragged a 100-lb Dolby SR unit all over on The Doors, in Thailand on Born on the Fourth of July, and then JFK. So, if anyone has nostalgia, it’s me, but this new world is good.
CASE STUDY

TREADSTONE: CINEMATIC MIX

with a TV Schedule (and Budget!)

by Matt Vowles CAS, Lisle Engle CAS, and Mace Matlosian

Treadstone – Episode 103
Photo by Jonathan Hession/USA Network
Treadstone is an American action-drama television series based on The Bourne Identity film franchise. Our task was to make this broadcast hour-long TV show sound like a movie.

The majority of the re-recording mix took place at Warner Bros. on Stage 12 with dialogue mixer Matt Vowles CAS and FX mixer Lisle Engle CAS, alongside supervising sound editor Mace Matiosian.

Here, Matt, Lisle, and Mace share their experiences mixing a lot of show in a little bit of time.

Re-Recording Mixer Matt Vowles CAS on Dialogue & Music Mixing

The first episode was mixed at Roundabout in Burbank. The producers were still in London at this point, so we had to mix according to their time zone. This meant very early starts on playback days. Thankfully, by episode two, the producers had flown back to Los Angeles and a more normal schedule continued from that point on.

Budapest, Amsterdam, Paris, London, Greece, India, Africa, Taiwan, South Korea, and Colombia were the locations used in the show, meaning a vast production crew all over the globe. This also meant the usual challenges of location sound and inevitable ADR.

Although Treadstone was a huge show, Lisle and I pre-dubbed simultaneously on the same stage. With the show’s feature style, we still worked with a TV budget—we had three days per episode to complete the mix. I pre-dub dialogue, ADR, group, and music working on headphones and linked to the projector picture while Lisle would pre-dub FX, backgrounds, and Foley using the stage monitoring and the Pro Tools video. It’s a workflow and system that we have used since we started working together four years ago and, for us, it...
From left: Treadstone mixers Lisle Engle CAS and Matt Vowles CAS at the board.
makes total sense to work this way. Lisle, as he is mixing backgrounds and FX, needs the physical space of the room so, for him, mixing on headphones would be ineffective. It makes more sense for me to be on headphones as most of my elements are dialogue-driven. As we are not stopping, starting, and waiting for the other one to catch up, this simultaneous workflow allows us to work more efficiently and get through more footage in pre-dub—leaving more time to final. Always a bonus!

On day one, we like to be left alone to do our thing. Supervising sound editor Mace ensures all editorial is on stage and allows us to get on with it. We've mixed a lot of shows with Mace and have a great trust for each other. Jake Zuckerberg from Warner Bros. engineering would ensure the stage was pinked and ready to go and Greg Ortiz (and later Rick Santizo) would pull elements from the server and any remote links (from, say, the music editor Dan Raziel).

Lisle and I are both very hands-on mixers, so we import and build our own sessions rather than have the stage mix tech do it. I like to know what I’m going to be faced with each mix, so I import all my tracks from editorial. This way, I get to see what I have and if I need to re-map anything.

Our basic goal is to get through pre-dubbing everything by mid-afternoon on day one. I generally have 20 tracks of principal dialogue, 20 tracks of ADR, 30 to 40 tracks of group ADR, and about 40 tracks of score and source music. It’s a lot to get through in six or so hours. That time is spent very concentrated. And on a show like this, that means it’s also very loud! I actually have double-thickness ear pads that I sourced for my stage headphones, which help isolate what is going on around me a little more when there’s constant gunfire at 83 dB!

I am a big iZotope fan, I love that company. The way they’ve helped change dialogue sculpting is incredible. My go-to is Dialogue Isolate. Because the location production sound was recorded all over the world, on occasion, we had some pretty noisy exteriors. The dialogue was superbly cut by Jivan Tahmizian and always had a very consistent noise floor and great fill. But the best plugin in the iZotope arsenal has to be Spectral Repair. I can go in and remove bird chirps, low-frequency hums, high-frequency ‘singing’ of production lighting—and all those ticks and bumps we had to live with before.

ADR. Well, this came in from all around the globe. Some good, some not so much. I have a couple of go-to practices I like to do with ADR as it’s, for sure, the toughest and most challenging part of mixing. I usually have about seven reverbs on busses and then a bunch of offline plugins to help me. For me, it’s all about putting those room reflections back in that get lost on the ADR stage. Miguel Rivera worked alongside Mace in capturing ADR from around the globe and ensuring that we got the performances we needed to get us close to matching. If the performance is there, we can usually get things pretty close to the original production sound with all the tools we have these days.

We had a great score by Jeff Russo. It just worked perfectly for this show, which meant pre-dubbing and final-ing was so much smoother. The score worked with the action when it needed to and let it breathe when required so it didn’t become fatiguing. Live strings were recorded at Warner Bros. Eastwood Scoring Stage and really helped bring the show to life, giving it a more theatrical sound. We also had a lot of needle-drop source music in the show and much of that was diegetic. I’m a huge Speakerphone [plugin] fan, so this is my go-to for putting music in a ‘space.’

By the end of a pretty full day one, we have the last few hours to come together and put everything up on screen. Lisle and I have a very similar mixing style and sensibility, so we have a pretty good idea where the other is going to be. We’ll roll through the first part of the show before heading out for the day.

Day two is our day with Mace. We have the morning to roll through the show, just myself and Lisle, referencing the temp tracks to ensure we are not missing any moments that the producers will be looking for. After lunch, Mace has his playback and we get into his fixes.

Day three is “Producer Day,” which usually starts out with source music and VFX updates that have come in last minute. We’ll then have playback with co-producer Steve Welkie to address his notes and then another playback with executive producer Ben Smith and other associated producers, as well as the network. It was a very collaborative process with Ben. He’d come to the stage and we’d listen to source music ideas together and just try stuff to see if it worked. And if it did, it went in.

I’d have to say that the best part of this show was the crew. It was a mad schedule and challenge to get this huge show ready in three days. But with such a well-versed and experienced crew and being on such a great stage, it was worth it.

“OUR BASIC GOAL IS TO GET THROUGH PRE-DUBBING EVERYTHING BY MID-AFTERNOON ON DAY ONE.”

–MATT VOWLES CAS
Re-Recording Mixer Lisle Engle CAS on FX Mixing

The FX side of the mix starts with a massive delivery of elements for sound effects, Foley, backgrounds, and walla. The track counts are roughly 256 for effects, 32 tracks for Foley, 96 for backgrounds, and 24 tracks of walla. In addition to the traditional effects, backgrounds, and Foley stems, I also prep an ALT stem where any walla tracks with discernable English in them are split off for the benefit of the M&E mixer.

All of the editorial and design effects are done by the amazing Alex Pugh. How he is able to prepare all of the elements for such an incredibly busy show as *Treadstone* in a week is truly an amazing thing to witness. This group has done several shows together at this point, so I am very familiar with how everything will be organized and pre-dubbed on Alex’s end.

Setting up is then just a matter of playing a giant game of Tetris to pull all of the elements into their respective groups in the SFX mix template. I use eight main effects groups and four background groups, but nothing is exclusively dedicated to any specific type of sounds as there is so much going on in the show. We sometimes have to put things wherever we can shoehorn them in. We try to maintain as much continuity to the track arrangement as we can, but sometimes it’s just impossible to make that happen. I do my first FX pass without hearing any dialogue. We usually do a quick level check at the top of the first day to be sure we are monitoring at 83 dB and Matt will play a couple of bursts of mixed dialogue so that I can hear where things are sitting. And then it’s off to the races mixing separately.

Some people may wonder how we do this and end up with a mix that holds up. Well, we’ve each mixed hundreds of hours of television and it seems to have become second nature to us at this point. Being able to work independently gives us both much more time to tweak and we usually can get through our first pass of the show by 3 p.m.—not always, but most of the time depending on how busy the show is (it’s always busy). Then we do a playback for ourselves and address our own notes. That gets us ready to play back for Mace on day two.

It’s a highly refined dance between all the members of the team. We completely rely on each other’s expertise and experience to be able to get through such a complex

“IT’S A HIGHLY REFINED DANCE BETWEEN ALL THE MEMBERS OF THE TEAM.”

–LISLE ENGLE CAS
show in the allotted three days, yet still produce the feature-level quality that a show from *The Bourne Identity* series demands.

**Supervising Sound Editor Mace Matiosian on the Sound Editorial**

The *Treadstone* series sound editorial had many of the same challenges that most high-quality, high-expectation episodics have. The real challenge we faced was rising to the level of the *Bourne* franchise movies on an episodic schedule and budget. The fact that the show filmed in 11 countries—and international authenticity was essential—made for a stimulating challenge.

*Treadstone* is the Black OPs agency that reactivates the sleeper agents known as “cicadas” that were introduced in *The Bourne Identity* films to current day, while relating to their origins during the Cold War era. The international scope of the production and the juxtaposition of the timeline between 1973 Cold War-era Eastern Bloc Europe and current-day Europe, United States, and Korea was challenging. We wanted to be certain that the soundscape followed the timeline changes by using authentic time-accurate BG’s and FX to enhance those scene changes and transport the viewer to that era.

The sound design of the “Tone Poem,” which is the tonal audio element that activates the sleeper agents and is used repeatedly throughout the series, was challenging because the timing and circumstance of each use was different yet needed to maintain a similar theme of sound design. Ultimately, we used a complex blend of sound design elements and themed score that Matt and Lisle manipulated to provide an eerie, surreal, cerebral sense of awakening to accomplish this continuity.

The Foley was a very important element in the character and texture of the show, and these locations as well, and helped establish the gritty, creaky, oppressive nature of the 1973 Eastern Bloc Europe as opposed to current day. It also lends a very strong support to all of the action sequences. Foley artist Joseph Sabella and mixer James Howe provided the rich texture, grit, and energy that the series needed.
The international scope of production which took place in the U.S., England, France, India, Africa, Hungary, Greece, Columbia, Netherlands, Taiwan, and Korea allowed for creative sound design in a textural sense. Production crews varied considerably country to country and dialogue editor Jivan Tahmizian did a remarkable job evaluating tracks and providing Matt with a great dialogue sound build. ADR was extremely challenging with actors all over the world and, once again, the variance that comes with language, time zone, and facility issues. ADR supervisor Miguel Rivera and Matt’s ability to work all this international ADR into the final mix was an amazing feat. Group ADR played a huge role in Treadstone and group leader Joe Cappeletti did a remarkable job casting and directing the 14 to 16 loop group actors speaking 11 different languages and dialects. Coordination between the production dialogue editor and ADR editor was vital to the success of the editorial process.

Sound designer/FX editor Alex Pugh was indispensable in the success of this project and his tireless search for the perfect authentic sound needed. This is stressful when the clock is ticking. Again, the detail of
textural elements and the authenticity of period sounds made for a very rich sound experience. As previously mentioned, the Tone Poem activation sound went through many versions before it was approved. The sound design/FX build consisted of 96 tracks (six pre-dubs of roughly eight monos and eight stereos each, A and B were 12 monos/four stereos each).

The BG’s build consisted of 48 tracks (four pre-dubs of four monos and eight stereos each). Lisle’s ability to work through these complex tracks—and his good judgment—provided the energy this show needed to meet the extremely tight deadlines and was a key to success. Working with Matt and Lisle at Warner Bros. has been one of the most rewarding and pleasurable experiences of my career. These guys take the stress out of the equation.

*The sound mix of Treadstone was completed December 2019.

Left: Supervising sound editor Mace Matiosian

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Sound mixing for live awards shows

Grammy production mixer Tom Holmes told me: “This is not assembly line work like a car manufacturing plant where one person does their work, then passes it to the next person to add their piece. This is a symphony where everyone is playing in unison.” No single piece of work happens on its own. Everyone contributes to the others, while simultaneously requiring something back from them.

by Steve Venezia CAS

Audio rehearsal at the Grammys.
For those who work in production and post-production for film and television (not live), you all know the parts that make up the final audio mix. There’s production recording, working with talent, sound editing, music scoring and mixing, picture editing and changes, getting notes from producers and directors, final mixing and mastering. This mostly serial workflow can take place over weeks, months, or even years. Now, imagine all these pieces happening simultaneously, compressed to a three-hour period, LIVE (no do-overs). Welcome to the world of live music/variety/awards shows!

There are generally two aspects of live awards shows that drive and challenge the sound of a broadcast: musical performances and hosts/presenters/winners. Shows like the Grammys, CMA, and others are heavily weighted to the musical side with only a handful of awards given out. In addition, many presenters use handheld mics versus lavs. A show like the Oscars or the Emmys may have some performances, but are primarily awards heavy. These shows have a lot of presenters and winners on lavs and podium.

Both these types of live awards shows have unique challenges that post-produced shows don’t (music variety or otherwise). For starters, they’re LIVE. There’s no “Hold, we’re not ready,” or “Let’s take that again,” or every sound mixer’s favorite phrase, “We’ll fix it in post.”

THE OSCARS

A show like the Oscars is considered more of a talking-head show, with a few musical performances thrown in. On the surface that might seem true, but there is more to it than meets the eye—or ear!

The Oscars have a modest amount of audio elements compared to a music show. A combination of three podium mics (one on hydraulics that disappears into the floor when not in use), a number of lavaliere, an occasional handheld mic, and six to eight musical performances. The performances can be anything from a solo performance by Sting singing, “The Empty Chair,” Queen cranking out, “We Will Rock You,” the LA Philharmonic on stage performing to the In Memoriam segment, Cynthia Erivo singing, “Stand Up” with the orchestra and a choir, or the original cast from Les Misérables (some of whom had never performed musically in public before) singing the movie’s finale. OK, not so modest!

THE STAGE

Let’s start at the beginning. On stage are a team of A2’s managing orchestra and guest artist microphones, RF packs with lavs, wireless handhelds, and podium mics, while the stage monitor techs handle monitor feeds, including standard wedges, in-ear monitors, and side fills. Everything is patched to the main routing system for distribution throughout the audio chain. Helming things on the stage are the two stage monitor mixes. For the most recent Oscars, those duties were performed by Mike Parker handling the stage monitors for artist performances and stage fill, and Tom Pesa handling the orchestra monitors in the pit.
the house sound mix or broadcast mix. But the real balancing act is that if the artist is not comfortable, can’t hear pitch or time, or generally not feeling confident, the performance will suffer. A poor performance means the house sound mix will suffer. Both those factors mean the audience won’t connect to the performance and their reaction will suffer, compounding the artist’s confidence. All this then piles on the broadcast production mixer who would end up getting unwanted sound interference from both the stage and house, a poor performance from the artist, and no energy in the room. It’s a domino effect that mixers like Mike and Tom don’t let happen.

For the orchestra monitors, Tom Pesa has the job of supplying mixes to the 45-piece live orchestra and the musical director, most recently, Rickey Minor. Mixing monitors for a large orchestra is a slightly different animal than for a band, and not just that there are 45 of them in this case. Tom, like Mike, has to ensure that everyone in the orchestra can comfortably hear timing, pitch, and potential cues or click tracks. Tom gets sub-mixes from Tommy Vicari’s music truck, as does Mike. He also has to take elements from the stage performances, both singers and instruments, some of which may come as sub-mixes from the artist mix truck (more about that later).

Unlike the stage monitors, for the orchestra, Tom gives each member a single in-ear monitor. This allows them to hear the other elements in a performance while still feeling connected to the orchestra as a whole. He also gives the section leads (strings, horns, etc.) a small sub-mixer that they can use to blend certain sub-mix elements to the players in that section. Musical director Rickey Minor gets a full mix of the orchestra and any stage performance elements.

Here again, Tom’s job is to make sure the orchestra can hear timing and rhythm as they get their visual cues from Rickey Minor. There are occasionally some track elements in the Oscars audio presentation, though the vast majority of the music is live. When the orchestra has to play alone with track elements or a video like the In Memoriam, Tom also has to supply the click track in the mix for timing. Perhaps the most sensitive and crucial part of Mike’s work is when the orchestra performs with an artist on the stage. That’s where Tom and Mike’s mixes have to work seamlessly together so that the artist on stage and the orchestra in the pit feel connected. Musical director Rickey Minor noted how quickly these guys put these mixes together: “We start rehearsal of a section of the show and nine times out of 10, the mix is there, right out the gate. I’ve worked with these guys a lot, in some cases for over 30 years, not only on Oscars, but the Grammys, Super Bowl halftime, and others. These guys are the best in the business.”
THE HOUSE
Veteran house mixer Patrick Baltzell CAS has helmed the house mix duties at the Oscars for 33 years. Patrick shares the challenges of the stage monitor mixers in that he has to produce a mix that engages the audience, while minimizing adverse effects on the broadcast mix. In addition to the musical performances however, Patrick has to make sure that all the spoken words are clear to everyone in the house. This starts with the host (when there is one). If you can’t hear the joke, you don’t laugh. And if the audience isn’t responding to the spoken word, just like with a music performance, the broadcast won’t get energy from the room.

More challenging can be the presenters and the acceptance speeches. With presenters, you often have pairings that have very different tonality, vocal level, and projection in their voice. However, they are both on the same mic. This while they try to read a teleprompter, something they are very often not used to doing. And when it comes to winners, well, all bets are off. Every sound mixer watching the show has to cringe when a winner bends down and “swallows” the mic. Then followed by the person who stands in a different ZIP code from the mic. Patrick has to have a quick hand on the fader to catch the screamers or push the level needed for the whisperers, always trying to minimize the effect on the room tone the broadcast truck picks up. It’s a balance he walks with a delicate touch and fast finger on the fader.

Patrick optimizes tools for the challenge by carefully designing the sound system to minimize open mics picking up house sound. He gives the production the best advantage by designing the house PA so that the lowest boxes in the line array system are not fed by lav and podium mics. To cover the first rows of seats in the house, he instead uses strategically placed speakers built in to the staging, along the front or built in to the stairs. He also places speakers under the seats in the first five rows of the house. The main key to his design is zoning. If the host, for instance, walks into the house, he can pull down any zone in the proximity of that mic, staying well out of the way of the broadcast and avoiding feedback. This still gives the rest of the audience the sound they need to stay engaged. This zoning also helps stage monitor mixers avoid feedback potential.

For the orchestra, Patrick will get different sub-mixes from the orchestra truck, giving him an overall stereo string and horn sub-mix, while getting the percussion elements separate. For guest stage performances, he takes all feeds separately, creating a specific house mix of the band or artist. Patrick wants to get as powerful and emotional an experience as possible so the audience is engaged and provides energy and visuals to the broadcast. He also has to show restraint; understanding that, not only does he not want to compromise the broadcast mix, he also doesn’t want to fatigue the audience’s hearing. Patrick explains that “when you have to transition from a powerful band performance like Queen, to a comedy routine on lav mics, you have to be careful not to shut down people’s ears. You also don’t want camera shots
showing the A-list Hollywood audience members with their fingers in their ears.” Patrick has to be part diplomat and part traffic cop, understanding a performer’s needs and their inexperience in live television. He strives to make the artist happy, but has to protect the show as a whole. A single performance is important but it’s only one part of the overall show. Patrick is one of the best in the business, and because he knows how to walk that line, both the performer and the show shine.

In addition to all presenters and performances, Patrick also has pre-recorded playbacks throughout the show. Those pre-records can vary from stereo to surround playback of nominated clips. Playing back film clips in the Dolby Theatre surround system gives the audience a sense of sound movement and excitement about these being awards for motion pictures and the theatrical environment they were created for.

**THE MUSIC TRUCKS**

Stepping out to the broadcast compound behind the theatre are two trucks for sound mixing. The first is a music mix truck with two back-to-back mix rooms. One is the orchestra mix room where longtime Oscars music mixer Tommy Vicari works. The second is the performance mix truck where music mixer Biff Dawes handles the on-stage guest performances.

But before we go inside the truck, this work really starts across town over at Capitol Records. During the week ahead of the show, Tommy records every piece of music, including every cue, play-on, and play-off—more than 130 separate pieces of music. And yes, this includes each possible winner walk-up and walk-off theme.

This work has multiple purposes. First, it gives Tommy and musical director Rickey Minor the opportunity to rehearse the show. It also allows Tommy to set up and prep for the musicians and material specific to that year’s production. All the recordings are sent to Pablo Munguia, the Pro Tools playback mixer in the broadcast truck (more about this later). Though the orchestra plays live during the show, there is always a backup of pre-records done by the same orchestra and the same mixer in the event the music truck were to go down during the show.

As a side note, there have been a number of times in recent years that the orchestra played live during the show from Capitol Records. This was generally due to the producer’s desire to use the under-stage elevator system to bring set elements up and down during the show, thus making the orchestra pit unavailable. Aside from the challenges of managing audio latency to and from Capitol Records and the theatre, a large video monitor was mounted on the front lip of the first balcony, with a camera shot of the musical director. This allowed an artist performing with the orchestra to see the conductor as they would if they were in the pit below.

Now, back to the music truck. Tommy Vicari does the main orchestra mix. He creates a complete stereo mix which he sends to Paul Sandweiss in the main production mix truck. Marc Repp, Tommy’s second mixer in the truck, aside from assisting Tommy with mixing in additional guest artist band and vocal stems coming from Biff Dawes, creates the orchestra sub-mixes used in the monitor and house mixes.

Tommy works closely with Patrick Baltzell in the setup and miking of the orchestra. Patrick has to lay out the orchestra pit to work with the physical confinements of the under-stage pit, while miking appropriately for a live environment. While Tommy has the freedom at Capitol to use mics and placement that work best on the soundstage, Patrick has to use mics, such as string clip-ons, that will give both the tone of the studio, as well as allow the levels needed in the house during the live show. Tommy and Patrick work together to match the sound of the studio recording to the live orchestra feed from the pit.

Biff Dawes in the artist mix truck handles mixes for the guest musical acts and performances that take place on the stage, and creates the sub-mixes to send to Tommy. This recent addition to the music process was added several years ago and allows Biff to concentrate on performances, allowing Tommy to blend those elements into the main orchestra mix sent to Paul Sandweiss in the broadcast truck. This is especially important when artists perform with the live orchestra.

Given the limited rehearsal time with both the orchestra and guests artists, both Tommy and Biff record each individual input from the stage to Pro Tools (more than 100 channels) during rehearsal. These recordings are done untouched, no EQ, no compression. This allows both mixers the chance for playback in their respective trucks to refine their mixes during times when the live performances aren’t available. There are normally just three opportunities to rehearse live for the show: 1) camera blocking, 2) dress rehearsal (Saturday night), and 3) final rehearsal Sunday morning (show day). Tommy points out that “These are the best musicians in town, but you don’t want to tire
them out by over-rehearsing. It would be especially hard on the horn players.”

No matter how much pre-production work is done and plans and layouts drawn, it’s the Oscars. There will always be the last-minute adds. “They added a choir to the performance,” Tommy reflects hearing just as set up for a rehearsal starts. “We always find a way to make it work,” he says.

**THE FINAL BROADCAST TRUCK**

The last stop is the final production mix truck, the NEP Denali Summit truck. The sound team is led by Paul Sandweiss, the head production mixer and audio director.

For those who mix in a post-production environment, envision that while you’re mixing, there is constant audio coming at you from multiple sources. The final production mixer for a live show will be constantly switching monitoring from stereo to 5.1, making sure that the two common consumer listening modes are translating well. But at the same time, have a speaker on one side listening to the director constantly calling cues, a speaker on the other side with A2’s on stage or the music mix truck giving him updates or info on patch changes or readiness. And in the same tiny room, there’s a Pro Tools playback mixer and an audio sweetening mixer plus truck engineering staff working and interreacting with you and each other. And all this is going on simultaneously and constantly for some three to four hours. And yet if you were to stand in the back of this tiny audio room in the broadcast truck, it feels calm and steady, everyone moving like a well-choreographed dance.

For Paul Sandweiss, it’s all in a day’s work. For the Emmys, Paul has been the music mixer for many years. Paul really considers himself a music mixer at his core. For the Oscars, he sits in the lead chair mixing the final broadcast mix for the show.

For Paul’s mix, he gets discrete feeds of all the dialogue mics, podiums, lavs, handhelds, and voiceovers. He also takes discrete feeds of all the house mics for room tone and audience response. The music mixes from the music truck and Pro Tools playback mixer Pablo Munguia come in as stereo. Christian Schrader, the audience sweetening mixer, delivers Paul a 5.1 mix. Pre-recorded voiceovers and video packages come from the production truck playback servers, and may be 5.1 or stereo.

As the audio director, Paul not only does the final mix, he oversees all aspects of the audio team with regards to the broadcast mix. For the Oscars, Paul will tell you he has the easiest job because all the people that feed him sub-mixes are so good at their jobs. Paul’s main creative role, as any live TV production mixer will tell you, is to tie all the elements together in a seamless sound so it’s all one cohesive mix. As Paul describes it, “Our job is to put you, the home viewer, in the fifth row center of the Dolby Theatre.”

Paul explains one of his biggest challenges is consistency. Having the variety of mics used on stage, and again the variety of types of voices from host to presenter pairing to winners. These are issues he shares with house mixer Patrick Baltzell. Unlike Patrick in the house, however, Paul doesn’t just have to contend with the varying levels and tonality of the voices, he has to maintain consistent room tone. Regardless of his use of the room mics he has at his disposal, with the varying level he has to use for the different mics and voices, room tone is constantly changing. “Room tone is really important to the mix. I want to hear the room tone that represents the room for this show. That’s what makes it a live event.”

As part of maintaining room consistency, the sweetening mixer helps to fill in the gaps in audience participation. Awards shows like the Oscars are quite long and maintaining consistent level of audience response is sometimes a challenge. Paul, like all production mixers, wants to use a minimum of sweetening and will only add what is essential for the home experience.

Sweetening mixers like Christian Schrader and others who do this high level of shows have the subtle touch to both match the tone of the room and the moment, and at a level that would be only noticed in its absence.

Going back to the orchestra pre-records mentioned earlier, Pro Tools playback mixer Pablo Munguia works behind Paul in the production mix room. A large part of what Pablo prepares for, hopefully, won’t ever be used. That’s the pre-recording backups of every orchestra pre-recorded cue from Capitol Records. Pablo is the backup for any loss of signal feed from the music mix truck. He constantly tracks the show second by second so if at any point the music truck feed is lost, Paul and Patrick can seamlessly (or pretty damn close) fader-up Pablo’s feed, keeping the show running without missing a beat. Pablo, however, does

![Tommy Vicari CAS, Marc Repp, and Biff Dawes in the Oscars music truck.](image)
affects how well they can create a great mix that’s both like being in the room and also present in the sound quality. Paul also points out: “When you’re in audio, you have to work with every department. The set department, so you don’t interfere with the set look or needing to build a speaker into the stairs. Lighting, so you don’t cast shadows with microphones. Wardrobe, when you need to coordinate lav placement. Everyone from the director to the stage manager to the artists themselves know how they want and need things to be.” Throughout our discussion, Paul continued to reinforce at every point the highest quality of the people he works with on his team and how he could never do what he does without them.

Audio director and production mixer for the Oscars, Paul Sandweiss.

**The Schedule**
- Load-in begins about three weeks prior to the broadcast. Sound comes in about two weeks out to hang the PA, set up the monitor system, and begin the broadcast setup.
- The orchestra pre-record sessions at Capitol Records begin Sunday, one week before the show.
- Music performance rehearsals on set are Friday before the show day.
- Dress rehearsal number one is Saturday night (before the show) with the full orchestra and all music performances.
- Dress rehearsal number two is Sunday morning (show day).
- Then lunch and do it live!

**The Team**
- Audio Director and Production Mixer - Paul Sandweiss
- House Sound Mixer - Pat Baltzell CAS
- Monitor Mixer - Mike Parker (main stage)
- Monitor Mixer - Tom Pesa (orchestra)
- Orchestra live mix & Recording Engineer - Tommy Vicari CAS
- Music Performance Mixer - Biff Dawes
- Christian Schrader providing live sweetening
- Pro Tools Playback Mixer - Pablo Munguia (assisted by Oren Hadar, Larry Mah, Salvador Ojeda, Doug Mountain, Aaron Walk, and Marcus Sjowall)
- VO Recording Mixer - John Perez
- Production Audio Truck Systems Engineer - Hugh Healy
- Music Mix Truck Engineers - Marc Repp and Browning McCollum
- Capitol Studios Engineers - Steve Genewick, Chandler Harrod, Jeff Fitzpatrick, and Dan Vicari
- Audio Post-Production - Kristian Pedregon, Josh Morton, Emily McDonnell, and Shane O’Connor
- A2 Team - Steve Anderson, Bruce Arledge, Debbie Fecteau, Greg Ferrara, Brandon Gilbert, Alex Guessard, Eddie McKarge, David Mounts, Jeff Peterson, Larry Reed, Craig Rovello, Tom Streible, Ric Teller, and Phil Valdivia
- Communications - Keith Hall, Stephen T. Anderson, and Juan Gallardo
- RF Coordination - Steve Vaughn
- Dolby Technical Support - Tim Andrews, Andy Potvin, James Spezialy, and Gary Epstein
- Dolby Theatre Audio Head - Andrew McCartney and the IATSE Local 33 crew

**Facts and Figures for the 2020 Oscars**
THE GRAMMYS

Longtime producer Ken Ehrlich reimagined the Grammy Awards to become a celebration of music, “Music’s Biggest Night,” and not just an awards show. He gave the show its distinctive and unique “Tribute” performances—mash-ups of artists you’ve never seen perform together and likely never will again. It’s exactly that revolution that made the Grammy Awards the most challenging and technically advanced audio production ever attempted.

So, when it comes to sound mixing, are the Grammy Awards the same or similar to an awards show like the Oscars or the Emmys? The answer is definitely yes and absolutely not!

As we break down the Grammys audio team like we did with the Oscars, my answer will make perfect sense. The Grammy Awards are the flip side of sound mixing for live awards shows. It is a music show first and foremost. For fun, they throw in a handful of awards just to give them time to make staging changes for the next band. That’s not really true, but it is the music that rules the night at the Grammys.

THE STAGE

When we last saw our two caped crusaders... Interestingly enough, our two Grammy monitor mixers are also Mike Parker and Tom Pesa. Interesting for our comparison of these two shows, not surprising however, in that there is a small community of professionals who work at this high level of production and do these top-tier shows.

The Grammys concept is to have two main performance stages alternating back-and-forth. While Stage A is rehearsing or performing, Stage B is setting up, patching, and doing line checking. The two monitor setups work independently of each other, servicing both stages as needed. For the show, there are roughly 22 performances in the room. In addition to their stages, either monitor mixer might handle an occasional performance out in the house itself on what they refer to as the “dish stage.” There might also be the occasional remote performance from New York or Nashville.

For the Grammys, Mike and Tom start communicating with the artist weeks ahead of the show. Over the years, they have come to know many of the artists’ personal monitor mixers, as well as the artists themselves. This helps jump-start the process with a comfort factor. What is never the same on the Grammys is that the show is made up of so many tribute performances, where multiple artists, who have never or seldom performed together before, do. Often performing songs they’ve never done before.

Rehearsal time at the show can vary. Each act is given, on average, one and a half hours for a given performance. But that time is not just rehearsing the performance itself. It’s taken up by normal soundcheck duties like dialing in levels and EQ, camera blocking, and lighting. Just like any other live show they work on, Mike and Tom have to get it right and get it right fast. This is where technical skill meets diplomatic skill, especially with multiple artists in a performance, all having their own monitor mixer on site. Tom describes it this way: “Mike Parker and I kind of laugh sometimes at how big of an entourage can be surrounding a monitor console. You can have eight to 10 individual monitor mixers surrounding you waiting for their artist’s part in a song. I’ll go to the end to listen, accommodate requests and special needs and make it all happen for everybody as best I can. And with today’s technology, there’s no reason you can’t create a great environment for people. But I do have to take control as you quickly run out of time and production has to move on.”

In having to move so quickly during setup and rehearsals, Mike explains, “I’ve been doing this for close to 35 years. I know a lot of artists and their mixers who are pretty comfortable with me from the start. Tom and I will do a pre-dial or pre-mix before the artist steps on stage for rehearsals; what we think is right and start from there. But even then, every artist wants something different.” Mike continues, “Most of the younger artists only know in-ears. While some of the older school artists still want standard speaker wedges. And then there’s the artist who wears...
just one in-ear and also wants wedges, that’s a whole different deal. But if a band’s super comfortable on stage, that carries out to the house and the audience.”

It all does start with the stage. If the artist is comfortable with what they hear, they have a good experience. That carries through from the house to the broadcast, creating those great Grammy moments of people dancing in the aisles.

From rehearsals to show, Tom and Mike, and teams of A2’s, monitor techs, and stage crew, work a nonstop schedule. When their stage is not rehearsing or performing during the show, it’s setting up and testing for the next act. No downtime!

THE HOUSE

For the Grammys, there are two house sound mixers. One mixer that handles all the musical performances and a production mixer who handles all the dialogue microphones, pre-recorded video & audio playbacks, and announcers. For the 2020 Grammys, those duties were handled by music mixer Ron Reaves and production mixer Mikael Stewart.

For the music mix, all the performances will come to the one console. Reaves will use the console automation and recall to bring up the entire setup for each performance that was dialed in at rehearsal. Production mixer Mikael Stewart will handle not only all the handheld, lavs, and podium mics, but also all the pre-records for segments like the In Memoriam.

The Grammys are done in a large arena, like the Staples Center or Madison Square Garden—in many ways not unlike a normal concert. But they still rely on the monitor mixers to balance levels that both minimize interference with the house sound and enable the artist to deliver a great performance. Zoning of PA speakers is also a key factor in the Grammys front of house. This is especially true when performances take place in the middle of the room. Without zoning, having an artist perform in front of the main speaker arrays in the arena would be problematic enough for the house itself, not to mention the effect it would have on the broadcast sound and room tone.

The house sound mixers have to balance minimizing any negative effects on the broadcast sound while still creating a great room sound that the production mixer can use to put the home viewer in the room. This is a music show, a big-concert environment. They also have to generate the energy needed to engage the audience in the room to both excite the band and the viewers at home. And these folks have artist reps looking over their shoulders as well. No small feat!

THE BROADCAST MUSIC TRUCKS

The Grammys use two identical but separate music mix trucks. Music industry veteran mixers John Harris and Eric Schilling handle each truck respectively. Like the monitor mixers, they alternate performances, and like monitors, they work with the artist reps overseeing those performances.

John explains: “Ahead of the show, Eric and I will meet and go through the artists and performances to see if there are artists that clearly he or I should do because of existing relationships. We’ll also talk a lot about bass and reverb and things like that that are going to be the signature sound of the show. Other than that, we will just A/B the schedule. This allows time after each rehearsal that the artist can come into the truck and have a listen to see if the mix is going the way they think it should.”

Both trucks record each rehearsal direct to Pro Tools. Each channel is recorded separate and untouched, no EQ, compression, and so on. This allows for time to work on the mix and the automation for the show performance when time permits.

John talked about how artist reps get involved in his and Eric’s trucks. “When you have multiple artists in a single performance, maybe they’ve rehearsed prior or maybe they haven’t. But they’re not going to say how it would be in their normal show. Though they’re there to look out for their artist, they’re very cooperative with me because there’s a lot of trust built over my 30 years doing the show. Instead of talking theory of whether it’s supposed to be moody or blue or exciting or whatever, I’ll say to them, ‘Let me take it somewhere, then we can work on how we make it what it needs to be for everyone.’”

John says with great pride that “no one ever says, ‘Oh, I can tell that that was you or that was Eric.’ That’s a great compliment for us.” John also credits Tom Holmes, the main production mixer, for the consistency of the sound and how he blends their mixes with the house sound. To John, “There’s no one better at this than Tom.”

John Harris recalls: “Many years ago, the different audio crews functioned as autonomous groups, each managing their own part. It wasn’t a singular team. The Grammy Awards evolved a long time ago into a cooperative group and was really the first show to make it an ‘all for one,’ working together to make the show happen. Today, everyone understands the importance and how what they do affects everyone else.”

THE FINAL BROADCAST TRUCK

As mentioned, the final broadcast duties go to Tom Holmes, the show’s main production mixer. Tom is a veteran of the Grammys, the Emmys, and many others. Here we do find some similarities between shows like the Grammys and the Oscars.

Like Paul Sandeiss, Tom will constantly switch monitoring from stereo to 5.1. At the same time, he’s listening to the director calling cues and monitoring A2’s or the music mix trucks giving him updates.

Tom gets discrete feeds of all the stage dialogue mics and voiceovers. He also takes discrete feeds of all the house mics for room tone and audience response, the 5.1 sweetening mix, pre-
records, and video packages. For the Grammy performances though, Tom gets separate 5.1 music mixes from each music truck. Unlike the Oscars, all the music performances are done in 5.1. Tom’s job is to balance the mixes from each music truck and blend them in with the house ambience mics to create a cohesive sound that puts you in the arena. This show, after all, is a concert—a really big concert.

Over the last 20 years, the Grammy Awards have racked up 16 Emmy nominations and eight wins for sound mixing. Thirteen of those nominations and six of those wins were with a Tom Holmes production mix. Tom credits it this way: “It comes down to the performances sounding so good, which is to the credit of John Harris and Eric Schilling. Then, the great house sound and the quality of performances enabled by the work of the monitor mixers.” What Mikael Stewart and Ron Reaves put in the house helps him get the room sound he needs to tie it all together. He also counts on the monitor mixers to make sure the performers are getting what they need. “If the band is not enjoying themselves up there, then they’re just going through the motions. But when they hear stuff they want to hear and they get into their groove and they’re happy, they absolutely play better,” says Tom.

Tom continues, “With mixers like Eric and John in the truck, I think I’ve got the easiest job on the show.” With the high caliber of mixers who work in live television in all areas of the show, top production mixers like Tom understand how they can’t do what they do on their own. Professionals like Tom always credit their teams with the success of the production.

Sitting in the truck is also sweetening mixer Bob La Masney. And just like the Oscars, sweetening is a subtle touch that fills in the dips in the moment and helps maintain a consistent sound throughout the show. In most cases, there is not a ton of sweetening going on. Tom noted that the mosh pit in the front of the stage helps with the excitement of the performance. This is especially important as the main audience is made up of so many industry people, as opposed to an arena full of that artist’s fans.

Tom concludes, “The people I work with on the Grammys are great people. I love them all to death. There’s no better experience than when we come together and work on the same show.”

**Facts and Figures for the 2020 Grammys**

**The Schedule**
- General Load-in - Nine days before show
- Audio Load-in - Tuesday before show
- Rehearsals - Start Thursday morning and run through Saturday evening
- Dress Rehearsal - Sunday (show day) 11 AM to 2:30 PM
- House Doors Opens at 3 PM
- Show goes Live at 5 PM

**The Team**
- Production Mixer - Tom Holmes
- Broadcast Music Mixers - John Harris and Eric Schilling
- ATPB Mixer - Eric Johnston
- Audio Manager - Michael Abbott
- FOH Production Mixer - Mikael Stewart
- FOH Music Mixer - Ron Reaves
- Monitor Mixers (SL) - Michael Parker
- Monitor Mixers (SR) - Tom Pesa
- Sweetener - Bob La Masney
- Stage Pro Tools Operators - Pablo Munguia and JP Velasco
- ATK - Rick Bramlette, Jeff Peterson, and Andrew Fletcher
- Foldback Mixer Assistants - James Young and Andres Arango
- IEM Techs - Craig Robertson and Billy McKarge
- M3 Engineer-In-Charge - Peter Gary
- Pro Tools Operator/Horizon - Doug Mountain
- Mixer Assistant/Horizon - Robert Wartinbee
- Pro Tools Operator/Eclipse - Brian Vibberts
- Mixer Assistant/Eclipse - Marc Repp
- A2 Team - Steven Anderson, Craig Rovello, Bill Kappelman, Kirk Donovan, Peter San Filipo, Ric Teller, Mike Faustino, Mike Cruz, Phil Valdivia, Damon Andres, Eddie McKarge, Paul Chapman, Alex Hoyo, Jimmy Goldsmith, David Mounts, and Bruce Arledge
- Denali Audio Engineer - Hugh Healy
- Network Tech - Ian Gutierrez
- RF Coordinators - Steve Vaughn, Corey Dodd, Michael Hahn, Roderick Sigmund, and Christopher Nakamura
- PL - John Arenas, Niles Buckner, Trevor Arenas, and Bob Milligan
- IATSE Local 33 Stagehands

**WHAT YOU DON’T SEE**

This level of audio production doesn’t happen overnight or in a vacuum. People like Grammys audio manager Mike Abbott spend months designing the systems used in the broadcast. At these shows, teams of people manage RF allocation of frequencies, with 60+ channels being used just in the audio world. Teams of A2’s manage huge audio routing systems, like an LA freeway system (without the traffic jams), with massive amounts of two-way traffic connecting everything to anything.

In the new (hopefully soon) post-COVID world, what changes might we see? Will presenters want to pair up or be solo? Will sharing of podium or lav mics go away? Mike Abbott predicts that “Musical artists will always bring their own mics going forward, no one will share a mic.” Oscars audio director Paul Sandweiss wonders, “Will we go to using boom mics for presenters?” The story continues.
WRAP IT ALL UP

This was not a “gear” article. It was a people article. My background has been predominantly in live production. In writing this piece, I was reminded of how many perspectives and talents and work ethics there are in our business. I confess to a great affection for the many friends and colleagues I have made in live production over the years.

The people who work in live television, regardless of the craft, are a unique group. They are not prone to panic and stress. They are some of the most even-keeled and focused professionals you could ever work with. Everyone works and plans and rehearses to achieve a perfect show. But when it doesn’t go as planned, they figure it out, fix it, or work around it. And they do it really fast, often without saying a word to each other. As the old saying goes, “They finish each other’s sentences.”

Denali veteran truck engineer Hugh Healy, who works on both the Oscars and the Grammys to name just a few, described it best when he said, “As much pride as I take in things not going wrong, I take even more pride in how I deal with the unpredictable.” And that is a common thread amongst people in live television. We all have stories, regardless of our craft, of that time when “this” went wrong or “that” fell apart. No one ever sits around with friends and colleagues and reminisces about “Remember that time when everything went perfect?” They work to make the most imperfect world more perfect. But sometimes those imperfections are the most memorable moments of circumstance that makes live TV great.

I dedicate this article to the late Ed Greene CAS, who first introduced me to live TV at the Grammys back in 1986. Ed was a friend and mentor to so many.

A special thanks to all the people who took the time to talk with me in preparation for this article: Renato “Ron” Basile (Grammy Awards producer), Rob Paine (Oscars producer), Rickey Minor, Mike Abbott, Patrick Baltzell, John Harris, Hugh Healy, Tom Holmes, Mike Parker, Tom Pes, Paul Sandweiss, and Tommy Vicari. I only wish there would have been time to talk to everyone who works these shows. I could write a book!
“The Axient Digital system is in a world of its own, a game changer in our industry. Throughout the entire 78-day shoot on Steven Spielberg’s West Side Story, we did not experience one problem with the entire system. I’ll never do another show without Axient Digital.”

-Tod Maitland, CAS
For this edition of *CAS Quarterly*, I was tasked with writing an article exploring the mixing of production dialogue for animation. Further distilled, I was to write an article that spelled out the differences between the “traditional” style and the more contemporary style of these recordings. I thought, “Sure, I can do that.”

However, the more I thought about it, the more I realized I was in trouble. What did they mean by “traditional,” and what is this new school method? Weren’t they talking about some people in a booth yelling into a microphone?

So, I did some poking around and boy was I wrong. After several conversations with folks in the field, I would hazard to say that there are at least four different schools of mixing production dialogue for animation these days, and they themselves are in constant flux.
**Approach One**

Let’s start at the beginning with my “people yelling in the booth” scenario. They humorously represent, I hope, what we’ll call the “traditional” style.

I was lucky enough to speak with Jeremy Olsen on the subject. For many years now, he has been the production mixer for *American Dad*. What he described to me was a sort of best-case scenario for booth recording bordering on an organizational nightmare!

But I digress. Jeremy told me their recording space is a very dead, a small-ish (around 12x7 feet) room with a single large diaphragm mic (not the exact one you’re thinking of), in concert with a tried-and-true signal path developed over time, early in the show’s run. In essence, they have come up with a sound that works to highlight the humor of the show and they are striving to stick with it.

The best case, as I understand it, is that Jeremy has input on three full passes of each show during its creation. In essence, the whole production does.

The first pass begins with a table read. It is recorded as a reference, but not in the booth. This reference is an important record of things that went well during the read that need to make it into the show audio-wise. Then the actors come to the booth, mostly one by one, and the performances are recorded and assembled. That product goes to an animatic editor to be timed to the proposed visuals. The producers then vet the animatic and contribute their notes. Then a quick temp mix of the show is made. Around the same time, Jeremy is back at the booth recording voices again, this time for any songs that will appear in the show. This output is sent to the music composition team and animatic is locked.

Pass two is a bit of an accelerated version of pass one and the product of that is sent out to the overseas animation house. The last bit of this pass is waiting for months on end for that color animation to come back!

Pass three begins with reception of said color animation and a cleaned-up OMF/AAF. Around this time, Jeremy is back in the booth recording ADR, walla, and adding additional efforts, sighs, and laughter. All of this is then sent to the post-production audio team. Read: the folks who build out the sound effects, edit music from the scoring stage, and re-record everything into a tidy mix.

All of these steps are the best-case scenario of this process for *American Dad*. Jeremy went on to tell me he’s very happy to work on a show that is afforded the time to get things right! And, the process is clearly working.

The potential nightmarish part, to me at least, is that Jeremy can have a whole season of shows up in the air at the same time! He estimates that’s around ten thousand lines a year that he has to keep straight!
Approach Two

Next, I spoke with Ron Judkins. As a production mixer at the top of the game, he is probably most recognized for his work on many of Steven Spielberg’s films, as well as other high-flying directors. In the animation realm, he is credited with *The Adventures of Tintin*, *The Jungle Book*, *The BFG*, *The Lion King*, and many others. With all of these CGI animation titles, I assumed a great deal of this work was done in conjunction with the actors on a motion-capture (mo-cap) stage. This is our second style of dialogue recording for animation.

Right off the bat, however, Ron set me straight by telling me that *The Lion King* had no mo-cap and that, these days, the proper term is “performance capture.”

He went on to explain that in those early days, it was mostly the actors’ faces, completely stationary, that were marked with dots and recorded into the mo-cap stream. This was in the early 2000’s and Ron had the opportunity to do many experiments recording mo-cap dialogue in the run-up to what would be *The Polar Express*. While Ron did not work on that film as the production mixer, he said the experience set him up for *The Adventures of Tintin*, where things shifted.

It was the late 2000’s and the state of the art had morphed into performance capture. Now, instead of just faces, there were up to three individuals in full performance capture suits! Further complicating things, they moved freely around the soundstage! Ron and his team included three boom ops to follow the actors, as well as radio mics on each for coverage. In essence, much of the filming was shot like a live-action shoot, with three moving cameras, a wide camera, and the sound team.

Another consideration for this second kind of dialogue recording environment is fluidity of the work. Ron tells me everything has to be worked out entirely before actors arrive on set—even if the systems are new, and they often are. Accordingly, Ron and his team are involved in what are now three-month setup times. All this prep is to ensure that the actors can have as much freedom as possible. Acting without rehearsals, without blocking scenes, without hitting marks, and often wanting to go with the first takes. This, of course, behooves all of the technological players to have things well in hand before the shoot day!
Approach Three
For the third style of animation production mixing, I had the opportunity to chat with current CAS Treasurer and well-known production mixer Lee Orloff CAS. Lee’s work has ranged from *Terminator 2* to *Westworld* to *The Suicide Squad*. I wanted to talk with him particularly about his early work in the all-digital world of theatrical animation. In particular, the pioneering work on *Rango* which, like *The Adventures of Tintin*, also came out in 2011.

But unlike that other, early, all-animation show, this was done with no motion capture or performance capture of any kind. In fact, all of the on-set performances were filmed to create an elaborate guide for human animators! The only thing recorded during these performances that made it into the final film were the lines recorded by Lee and his team.

With the audio being made such a priority on set, Lee and his team had a fair amount of say in terms of where mics could go and how to treat the set. Lee tells me they had an entire stage at Universal carpeted! There were no walls of any kind either, the space was wide open. After the lighting team had lit everything evenly, Lee was able to have curtains brought in to cover the walls and hung baffles to create tighter acoustic spaces when necessary.

Lee tells me that *Rango* director Gore Verbinski referred to the process as “emotion-capture” for the purity of the performances created by actors outside of a recording booth. Performances that allowed interacting with actual objects, other actors, and Gore himself.

Approach Four
So, to explain the fourth style of animation dialogue recording, let’s pop back to my conversation with Ron Judkins, and recount where we’ve been. We’ve spoken about the traditional, the performance capture, and the emotion-capture styles of production recording for animation. But in that quick interview with Ron, it became clear to me that there was a fourth variation; one we would come to call a hybrid style—one that Ron is seeing more and more of.

For all intents and purposes, this hybrid form is an amalgam of the previous three.

For example, Ron described *The Jungle Book* as a half-performance capture and half-CGI animation shoot.
Meaning half the show was shot on a soundstage as described above, and the other half in a recording booth across the globe! He also described recording both acrobats and puppets on the performance-capture stage, and using their grunts and efforts to build out the recordings. Most interesting to me, Ron depicted parts of the performance-capture/live-action shoot where interactions between the main character and speaker system off camera were done. The records from around the globe would come in, be edited into the current scene of the film, and played back at eye level to Neel Sethi (the boy playing Mowgli).

Ron moved on to tell me that the technology is changing so quickly that every shoot is different. He explained that in the run-up time to a shoot, he needs to get on the stage and gauge the new technology being rolled out. There are invariably new systems with banks of computers and hardware built with no consideration for sound. He has to get in the room and figure out a way to mitigate those systems’ sound levels. More and more, he is distributing audio dailies to editorial and also directly into the capture team’s stream live. In short, things can get complicated and being able to roll with the punches and still deliver is an important skill set. Ron expressed that he particularly enjoys this kind of shoot because it poses so many challenges; it keeps him on his toes and allows him to get creative.
Welcome to the Wonderful World of Sound Designer and Kyma Artist: Sylvain Lasseur

by Karol Urban CAS MPSE

As a re-recording mixer, I am always looking for clues as to the sonic style of my clients and new ways to achieve creative solutions. One of the best ways I have found to do this is to stay close with the entire sound team. Supervisors hear the notes directly from the clients in spot sessions and sound designers, both dialogue and sfx, receive these notes and manifest them in what they deliver to stage. I find it is near impossible to create a masterful mix without masterful editorial and design.

So, today we spend a moment with sound designer Sylvain Lasseur to learn more about how he uses Kyma to create elements for the mix and how he interacts with his mix and editorial team, as well as clients.

Los Angeles-based French sound designer and Kyma artist Sylvain Lasseur has many accolades. He has been nominated for a César (French Oscar) for his work on the French police thriller 36 Quai des Orfèvres (36th Precinct), starring Gerard Depardieu and Daniel Auteuil, been senior sound designer on The Hateful Eight, Deepwater Horizon (both Oscar and Golden Reel nominated), Godless (Emmy nominated and winner of the Golden Reel Award), and Once Upon a Time … in Hollywood (Oscar and Golden Reel nominated). He is a unique talent with a unique approach to design.

You work both in Europe and in the U.S. How would you describe your relationship with the rest of the sound team in both countries? Is there a cultural difference in your role as a sound designer and your connection with the sfx mixer, based on where you are working? Do you have a different relationship with the client in one country versus another?

There are evident differences between French and American cinematic production.

These differences are both economic and cultural: Economically, French cinema is principally sold in Europe while American cinema is sold throughout the world (which considerably influences production budgets). French production budgets are substantially smaller. Culturally, the differences reside in history, as the history of Europe, and of France in particular, is not that of the United States. Therefore, the way films are produced in Europe is very different.

In France, 90 percent of the time when I work on film production, I function simultaneously as the sound supervisor, the sound designer, and the sound FX editor. In short, I am responsible for the team which is comprised of myself, a sound editor, and a dialogue editor. Being the sound supervisor, I have a privileged relationship with the production company, as well as the director, with whom I share the economic imperatives, as well as all artistic demands of the film.

During the mix, I am generally the only representative of the sound team. Thus, my relationship with the mixer must be straightforward and rich with options, especially as the time dedicated to mixing the film (3-4 weeks) is much shorter than it is in the U.S.

In the U.S., 90 percent of the time I work as part of a team comprised of more numerous sound professionals, which is managed by a sound supervisor. My work on films in the U.S. is more specialized and specific. I function only as the sound FX editor or the sound designer (not the sound supervisor). Therefore, I have a lesser relationship with the production company and the director. In the U.S., I do not have to manage the financial imperatives, and the artistic desires are communicated to me directly by the sound supervisor.

In addition, as I only occasionally attend the mix, my relationship with the mixer is much less crucial than it is in France. Wylie Stateman and Harry Cohen (two talented professionals who have worked together for many years and with whom I have had the good luck and honor to work) take charge of that part of the process.

Having “tasted” both methods of working, I am still not sure which one I prefer. That being said, the second method does offer me the advantage of staying 100 percent concentrated on my specific FX mission for the film.

In both cases, I remain convinced that open and fruitful communication with the mixer is essential. Without a doubt, that open relationship allows us all to elevate the final product, even if at times, the outcome does not preserve 100 percent of my initial intent as a sound designer. The purpose is to best serve the needs of the film.
Kyma seems to operate more like an instrument than a plugin. Could you generally explain the unique structure of Kyma?

This is how Carla Scaletti & Kurt J. Hebel (the creators of this sound design tool) define the Kyma: “A language is a set of words and a set of rules for combining those words into expressions. Despite the fact that both the set of words and the set of rules are finite, the number of expressions you can generate by combining the words is infinite. Kyma, too, is a language, a language for creating and manipulating sound. It provides a vocabulary (a set of basic modules) and a means for combining those elementary modules into an infinite number of arbitrarily complex sound.”

Since Kyma is a language, Kyma is unique. But, as with all languages, using Kyma demands a certain amount of time to master and express yourself correctly. Additionally, like a musical instrument, using Kyma effectively demands regular practice and creation to progress. I would also add that, for me, Kyma is a rich and generous toolbox that I use to build and create my own plugins (or complex sounds) and thus develop my own style and esthetic.

What are the specific unique benefits you feel Kyma adds to your arsenal? What freedoms does it give you as an artist?

I have been using Kyma for sound design for the last 15 years. Throughout those years, I have created multiple complex sounds, with the imperative that the results be as organic sounding as possible. Most of these complex sounds did not exist as plugins at the time (and for many, that is still the case). This makes Kyma the perfect complement. Even if there is an equivalent plugin to the Kyma module, I will choose the effect that gives me the best desired result, depending on the circumstances. With Kyma, I can also adjust and perfect my complex sounds regularly, which is not possible to do with a plugin unless you buy the update.

Additionally, I control Kyma through MIDI, with a [Haken] Continuum Fingerboard, which is a multidimensional surface controller. The keyboard resembles a flat piano keyboard with the notes drawn on rather than raised, which allows you to go from one note to the next in a continuous manner, from one end of the keyboard to the other. The control is also multidimensional, with horizontal (X), vertical (Y), and is reactive to the pressure applied (Z). This allows me to assign an X, Y, or Z parameter from one of my complex sounds, such as the pitch to X, the frequency of a low-pass filter to Y, and the amplitude to Z, and then control them all simultaneously.

Lastly, and most importantly, Kyma has allowed me to think in “music” and to pursue my “obsession”: A master sound (orchestra conductor) can control its slave sound in amplitude and frequency.
For example, let’s take a Master Wind (orchestra conductor) which has interesting music but lacks enough bass. I can choose a deep bass wind (the slave), relatively steady for best results, and apply to it the amplitude and the variation of the fundamental frequency of the Master Wind. Thanks to my “obsession” and Kyma, I have created multiple complex sounds by applying this idea in different ways: Amplitude Analyzer, Frequency Analyzer, Vocoder, Morphing ... always with the same imperative—the result must sound as organic as possible.

How much time, if any, do you spend with the director or producers to learn their vision?

In France, it all depends on the director. Some directors want to be thoroughly involved, others are less present. And when you are working on the third or fourth film with the same director, confidence has usually been sufficiently established so that there is no need for daily communication. That said, I try to watch the entire film at least once with the director to understand their artistic desires and to listen to the sound with them, under the best conditions, as soon as each reel is “in good shape,” as Wylie Stateman says. This way, the director has the opportunity to make all their comments and to absorb and “own” the sound editing before arriving at the mix.

In L.A., all information is typically communicated to me directly by the sound supervisor. The same process generally ensues, but the sound supervisor has replaced the director of the film.

When you deliver tracks to the dub stage, do you have a nomenclature or structure of delivery that you adhere to help communicate your intention with your re-recording mixer? Do you name your Kyma-manipulated tracks by a particular name? Do you group them on a different bank of tracks?

In L.A., I deliver my work directly to the sound supervisor. With Wylie Stateman, each member of the team transmits their sound work and Wylie builds what he calls a “Super Session.” Each sound professional has their structure, which is the same for each reel.

For my own sessions, I adopted the simplest possible structure: a certain number of 5.1 groups, each containing an LFE track, a center track, an LR track, and an LsRs track. Each track has a 5.0 pan (except the LFE track) and a seven-band filter. This way, the mixer can modify a pan or a filter as they wish, if necessary. Additionally, each 5.1 group has its own VCA. Finally, each group is named “BG” or “Design.” All the tracks

From top: A Virtual Control Surface; a Complex Sound in Kyma
are balanced together so that the mixer can listen to my original intention before any modifications. So, I don’t necessarily group the sounds made with Kyma. However, each sound made with Kyma is labelled with a Kyma tag.

One of the things I notice about your work is your keen ability to create constant, ubiquitous atmospheres that feel very textured and specific. They become extremely emotionally descriptive and almost alive. Could you describe your process creatively when approaching such long sections of atmosphere?

I have always considered cinematic sound as being like music, with its pianissimos, its mezzo-fortes, its fortissos, its tempo, and its silences. So much so that, when I approach an atmospheric scene, I think: music. That was specifically the case with The Hateful Eight, for which my mission was to create the blizzard for long sequences with the imperative of preserving the actors’ dialogue.

Before editing any sound to picture, I created a large library of gusty winds, each of which, in my view, could be used as the “orchestra conductor.” I also created a library of steady wind, of all ranges, that the “orchestra conductor” could pilot, as it chose, thanks to Kyma. Then, during a first pass through the film, I chose my “orchestra conductor” for each sequence; using criteria that would give it the right climate (range and tempo), the right wind gusts (forte), and lengths of pianissimo necessary to protect the actors’ dialogue. In short, I find the sound that has the right music to integrate the picture, before even beginning any editing.

This often brought me to the point of pitching the sounds, cleaning up the false notes, filtering or de-noising the wind to retain only the range that was interesting to me. Once this was done, I edited my “orchestra conductor” to picture, to place the pianissimos, mezzo-fortes, and fortissos in the right places (in other words, between the dialogue).

Then, during a second pass, I chose the steady wind(s) that completed the “orchestra” in range in order to augment the orchestration by passing the steady winds through Kyma so that they would follow the “conductor’s” in amplitude and frequency.

Finally, during a third pass, I edited the “soloist’s interventions” here and there, wherever necessary. Most of these “soloists” were created in the same way as the entire “orchestra.”

For the snow, I worked with relatively steady sounds of sand, bird seeds, and debris, also controlled by Kyma.

This method allowed the mixer to have the latitude to modify the balance of the “orchestra” by rendering it deeper, more medium range or higher, as all the components were on separate tracks.

I really like the terminology of Kyma and can see how it would put you in a “musical” mindset. I also appreciate how, as a sound designer, you create your sounds around principal dialogue. I can also see how your sfx re-recording mixer would love to get those separate tracks to manipulate and how your dialogue re-recording mixer would enjoy the fact that the atmospheres already have a shape that naturally—through amplitude and frequency—hug around the character’s words. Indeed, former CAS President and three-time Oscar-winning re-recording mixer Mike Minkler, who has mixed on many projects with you, comments, “The effect that Sylvain is able to achieve is to give his effects personality. He is able to create tension, suspense, and even comedy using organic material without inducing artifacts; avoiding what could be interpreted as obvious manipulation.”

After many years of working with this amazing tool, I have found that Kyma is the perfect complement to traditional sound design tools. If you can imagine a sound and have enough experience creating modules for Kyma, you can literally create anything your inspiration invents. It is a specialized tool that has allowed me to create not only organic, complex, and unique sounds, but has afforded me the opportunity to work with some of the best sound professionals in the world. Whether you are crafting long sequences, such as the blizzard in The Hateful Eight, or creating interesting and unique sounds used to punctuate the soundtrack at key moments, Kyma has proven to be the perfect tool for sound design.

Learn more about Sylvain Lasseur here: http://www.sylvainlasseur.com/
The way that we consume media is rapidly changing and the creative process and the tools we use must adapt to the times. Modern media content started with the photograph, then silent films, then it incorporated sound, followed by television, video games, the internet, and now immersive media, including virtual reality (VR). VR and other immersive mediums are not brand new, but with advances in computing power, they are becoming easier to create, distribute, and are much more entertaining experiences overall. To borrow from Marshall McLuhan, “The medium is the message,” and immersive media lets us be involved in the story, blurring the lines between reality and fiction. Feeling like you are part of a scene rather than a passive viewer is a powerful emotional tool, and one major way to achieve that agency is spatial audio.

by Ben Adams

Some experiments are louder than others. Fire grenades in action.

Spatial Audio: Production & Post
About five or six years ago, I was brought onto a project through a referral and it ended up being a VR art installation with music artist Björk and legendary music video director Chris Cunningham. Instantly my mind was blown, and I wanted to be involved in this new, highly creative and highly technical field.

To my surprise, many of the skills, workflows, and gear that I was already using for traditional media served as a solid foundation for my work in VR. The last project I worked on before the COVID-19 lockdown was Slow Mo Guys VR with Oculus. The basis of their original YouTube channel is two guys who do crazy experiments and use a high-speed Phantom camera to film it in super slow motion. Gavin Free and Dan Gruchy have a lot of fun making these videos that are both highly entertaining and educational. It’s a nice mix of science, technology, and camaraderie that has garnered more than 13 million subscribers on YouTube. For this new series, they would be repeating some of their classic sketches but this time in 180-degree VR, with a 3D Phantom rig and headtracking spatial audio.

I was lucky enough to be brought on this project as both production sound mixer and post-production sound mixer, which happens far more frequently for me in VR than in traditional media. This allowed me to be more involved in the pre-production process so I could gather intel on the shooting style and address some of the challenges specific to this medium. The most notable difference for sound capture is the 180- or 360-degree camera can see everything and you (usually) cannot boom because you would be breaking the frame. Most of the time it’s “roll sound,” then run and hide! The producers settled on shooting with the K1Pro by Z CAM, a 180-degree stereoscopic (3D) camera, so crew and staging would be able to set up behind the camera. They would also film their experiments with a dual Phantom rig with one camera shooting down into a mirror for super slow-motion stereoscopic footage that would be played back and reacted to. My plan for capture ended up being two lavaliere, an ambisonic mic at camera position, and a pair of shotgun mics positioned behind camera for backup and to pick up specific sounds during the experiments. I also wanted to record as much wild track as possible to make life easier in post.

Since VR is still considered niche, not many people have a lot of experience making this type of content. There tends to be a learning curve with, not only the new technology, but with the concept of not merely telling a story but immersing the viewer in the story. In the sound department, we are doing more on set than just recording actors; we are helping sound design the scene! If there is an object making a sound in a scene, the common thought would be to minimize that sound and focus on dialogue. But in VR, I may pull out another wireless plant mic and add it to the soundtrack. Most find the challenge of the medium exhilarating and compare the creative process to sculpting an object instead of painting on a flat canvas. I could tell this crew was up for the challenge. The Slow Mo Guys are a very DIY bunch, so...
“Most of the time it’s ‘roll sound,’ then run and hide!”

Some experiments are wetter than others. Falling into a bathtub.
Gavin will configure the cameras while Dan does all the setup of the experiments. In addition to the talent, we had a small crew consisting of a producer, stereographer, editor, and myself.

**PRODUCTION**

Once we got to set, the realities of new workflows made the pace extremely slow at first, which is common. Because the shot is super-wide and there are no other angles to cut to, typically, scenes in cinematic VR are much longer and also need more rehearsals. If talent, camera, audio, or props mess up during a take, you need to reset and take it from the top. In this way, shooting for VR is much more like a live-action stage play than shooting for TV and film. The first three days we shot two episodes. But by the end, after a rhythm was established, we were shooting episodes in a half day or so. It also didn’t help that the first two episodes we shot were the most complicated: exploding airbags that shot colored powder in the air and falling back into a bathtub filled with water in the vein of *Inception*.

The bathtub episode pushed me to the limits of my skills as a location sound mixer. In addition to the constraints of shooting for VR, we were also in an empty rock quarry in the middle of Texas with major wind. Several times during the episode, Dan falls back in a chair from an elevated platform into a bathtub full of water and paint. During pre-production, we discussed that he wouldn’t be talking immediately before or after being submerged. But once we were on set, we realized if we stopped down every time, the reactions wouldn’t be authentic and the viewer would lose immersion.

I rigged up the transmitter with Nexcare tape, added a couple layers of plastic bags, and used a safety pin and a Hush lav concealer to affix it to the inside of Dan’s shirt upside down so water wouldn’t fill the capsule of the DPA 6061. Because the wind was so gnarly, I had Bubblebee WindBubbles on both guys, which really saved the day because they did a great job of blocking the wind and the open-cavity design allowed water to flow out, so they only got slightly waterlogged. I didn’t love the wet sound, but it was useable and didn’t break the scene.

There was also a Sennheiser MKH 416 in a Spacer Bubble by the camera to help pick up the splash sound and some of the dialogue—which was a lifesaver later in post. We even had a conversation on set about painting the boom out, but the idea was rejected because there were lots of moving clouds in the background, a harsh shadow from the sun, and being a stereoscopic camera means they would have to paint it out twice. After each scene, I would de-mic Dan, air out the capsule, and dry off the pack. Dan also had to refill the tub (by himself), so I was afforded enough time to be ready for the next take. Gavin joked to me, “You are really up against it with this one,” and I answered, “Uh, ya!”

There ended up being eight episodes shot over three separate weeks of shooting, each with its own obstacles to overcome. The second week, I was on another shoot with Oculus and unable to make it, so I reached out to local Austin mixer Siegen Bretzke to fill in. He was briefed on how we shot the first episodes and what challenges there were and did a great job recording in a difficult situation. I took another trip back to Texas in early March to wrap up shooting the final episodes and then dove into post-production.

**AMBISONICS**

Like with any project, you need to find out what the delivery specifications are for the platform that it will be released on. In this case, there were eight episodes ranging from 12 to 16 minutes, and the final mix for Oculus was an ambisonic spatial mix with a stereo head-locked file. Ambisonics is not channel-based audio like stereo or 5.1, but is an encoded...
spherical image of the sound field, including height information. The ambisonic mix, when played back in the Oculus headset, would render the output to head-tracking binaural audio based on the positional data from the headset.

So, when you hear something coming from your left and then turn to look that direction, now the sound is in front of you. A simple First Order Ambisonics (FOA) signal will be four channels designated W, X, Y, and Z. The first channel W is an omnidirectional pressure-gradient channel, X axis is a front/rear figure 8 pattern, Y axis is a left/right figure 8 pattern, and the Z axis is the top/bottom figure 8. Building off FOA, Second Order Ambisonics (SOA) is nine channels, Third Order Ambisonics (TOA) is 16 channels, and so on. As the channels and order increase, so does the spatial resolution and accuracy. Ambisonics is both a type of microphone for recording, as well as a multichannel delivery format. We used ambisonic microphones like the Core Sound Octomic (hybrid SOA) and Zoom H3VR (FOA with built-in recorder) for recording ambisonics in sync with picture—and also for wild ambiences. I decided to use Pro Tools Ultimate and Facebook 360 Spatial Workstation as my primary tools working in TOA, along with plugins such as Harpex-X, Blue Ripple, Flux EVO Channel, DearVR, iZotope, and FabFilter.

POST

The post process starts the same as traditional media: receive an AAF/OMF file and picture-locked video from the editor. In this case, I also got SFX stems that had some slow-motion sounds. The video reference file would get converted to DNxHD to use in Pro Tools, and also an MP4 version to later preview inside a headset after mixing and encoding.

First steps are always to bring in the files and organize the session to make sure you have everything and are set up for success. Then I will meticulously go through the dialogue and edit it so there is no bleed between the lavaliere. It is vital that the lavs are as clean as possible because when I later go to spatialize the sounds, you will hear sound coming from the wrong directions if there is bleed. On set, I had this conversation with Gavin and Dan to try their best to not talk over one another. They tried their best, but there are many times when they are reacting and joking with each other that there is “steppage.” Once the dialogue feels clean enough, then I will start balancing music and SFX stems. Then we are ready to start moving things around in the spatial environment.
On each track inside the Facebook Spatial Workstation, I place a Spatialiser plugin if I want to move that sound around within the sound field. Inside the plugin, you can also load a video file so you can pan the audio source on top of the video source for the Y and Z axes. With another pass, you can change the distance (X axis) or use volume or clip gain to simulate distance. In many cases, you can also use ambisonic reverb to help with localization and sense of the space and distance. However, for this series, they were in the middle of an open quarry, so little to no reverb was used.

Using automation to record the panning, I would take a full pass of the episode with soloing each lavaliere channel, and then another pass with both to adjust levels for distance. This was very tedious and took a lot of time, but vital for the viewer to feel like they are standing in the middle of the quarry with Gavin and Dan. Next, I would take the slowed-down SFX from the editor and spatialize them during the 3D Phantom footage, which played as a picture-in-picture (PIP) within the 180-degree frame. The talent would sometimes be in a small PIP and would pan their audio respectively. If the talent PIP went away or was simply VO without picture, I would send that audio to the stereo head-locked track so it wouldn’t move in the space even if you turn your head. Music was another element that was sent to the stereo head-locked master channel.

Some of the ordinal recordings were FOA and SOA tracks. In order to be able to use them, they need to be converted from raw A-format to B-format. Once in B-format, the ambisonic recordings are now in a spherical image and able to be manipulated in a lot of very powerful and creative ways. Next, I would go through the 180-degree footage and add sound design like splashes, explosions, footsteps, etc., to sweeten the original recordings. Another pass to balance and fix anything I missed before printing and sending off for approval. The final prints that I send the editor are a master TOA AmbiX 16-channel 3D stem with a head-locked stereo stem.

The approval process is much different than traditional media because you must watch the final product using the delivery platform. There are many platforms in VR, and they all have different specs and often I will have to remix for each platform. For this project, the editor, director, and client all needed to have Oculus headsets. The editor took the master TOA mix and the stereo head-locked stem into the FB360 encoder to mux the audio and video together and add proper metadata. The resulting file is then sent to the director and client to side-load into their headsets. I would do this process on my end as well to check my work. If all the steps are done properly, then playback will be smooth and audio will be in sync and have the proper spatialization. After the first episode, we got into a nice rhythm and the director and client were able to review easily from the comfort of their own homes with their own headsets. In late March, I delivered the final mix for episode eight and the next day, the series went up on the homepage of Oculus TV.

So, where is virtual reality going? Is it a fad or the next big thing? Whether it’s called VR, AR, MR, or XR, the future of immersive content is on the rise. I have done many VR concerts, athletic events, livestreams, festivals, music videos, travel series, and art installations that utilize spatial audio. The gaming industry is leading the way with VR games. Experiences are created in game engines like Unreal and Unity where you have six degrees of freedom (6DoF) movement within the scene and interactive spatial audio. Some content gets shown in a headset, or in a dome, or in a haptic chair like the Positron. The “8D audio” viral sensation of music moving around your head is proof that people want to be entertained in new ways and spatial audio can be very captivating even when gimmicky. After working primarily in VR for the past five to six years, it’s hard to say the exact direction immersive media is going, but there is no denying the creative freedom, the power of the technical tools, and the emotional connection to the content.

“The Bathtub Episode Pushed Me to the Limits of My Skills as a Location Sound Mixer. In Addition to the Constraints of Shooting for VR, We Were Also in an Empty Rock Quarry in the Middle of Texas with Major Wind.”
This award is intended to encourage students’ interest in audio production and post-production sound mixing, and to recognize individuals with exceptional and demonstrated passion for the field. The selection criteria will focus on the student’s responses to questions via written or video application, as well as the professor’s recommendation letter.

Five finalists will be selected and invited to attend the 2021 awards dinner as guests of the CAS where the Student Recognition Award winner will be announced. (Travel expenses are not included) The Award recipient will receive a $5,000.00 cash award. All 5 finalists will take home a gift bag filled with a variety of outstanding tools of the trade contributed by top audio manufacturers.

Eligibility for the Student Recognition Award is open to any student in good standing currently enrolled at an accredited college or university. Students may be pursuing any major but should have a demonstrated interest and some experience in “sound mixing” for audio production and/or audio post-production for film and television. (*sound editors/designers will not be considered)

Please encourage all qualified students to apply.

Sincerely,

Karol Urban, CAS President
CAS STUDENT RECOGNITION AWARD

CAS will begin accepting applications on June 2nd 2020. All applications must be completed and submitted online no later than November 16th 2020. The CAS Student Recognition Award will be announced at the 57th CAS Awards on April 17th 2021.

ELIGIBILITY

Students must be enrolled in good standing at an accredited college or university during any school term between Jan 1, 2020 and Dec 31, 2020. Students at US or international institutions are eligible provided the school is accredited. All application materials must be submitted in English. Applicants cannot compete for more than 2 years consecutively. Student applications must be accompanied by a recommendation from a professor or instructor.

SELECTION CRITERIA

The CAS Student Recognition Award is given to an individual based on the recommendation of an instructor or professor at the student’s college or university. The award is given on the basis of the student’s accomplishments, enthusiasm, and demonstrated potential in the field of sound mixing and/or sound recording for film and television. It is not an award of excellence based on a specific student project. This award is intended for those students who have aspirations in furthering their audio careers, this is not an award for those seeking a career in film-making or sound editorial.

APPLICATION REQUIREMENTS

1. Students must submit the following materials online:
   A. Unofficial transcript (please highlight and explain relevant coursework).
   B. List of projects in which you were the primary person responsible for production and/or post-production sound mixing.
   C. Either written or video application.
   D. Once you have completed and submitted your portion of the application, a link will automatically be sent to your professor (via the email provided) to write their recommendation. *We highly recommend that you follow up with your professor on receipt of this link! (Applications without recommendations will be considered incomplete).

   Shortly after submitting your application and required documents, you will receive an email confirmation that your materials have been received.

   5 finalists will be selected and then be asked to submit a 5-minute example of their work and a short explanation of the submission and their role in it.

Applications and all accompanying documents must be submitted no later than November 16th 2020 at 5:00 pm PST. Incomplete or late applications will not be considered.

Please check the CAS website for student nomination list on November 25th 2020.

ADDITIONAL INFORMATION

- The CAS Student Recognition Award will be announced and presented at the 2021 CAS Awards Dinner. Five finalists will be invited to attend the Awards Dinner as the guests of CAS. Any related travel expenses are the responsibility of the student nominees.
- $5000.00 will be awarded to the selected student. Any related tax liability is the responsibility of the student.

Please visit our webpage for the online application.
CinemaAudioSociety.org/student-recognition-award-eligibility-and-criteria

*Any related tax liability is the responsibility of the individual.
BEEN THERE DONE THAT

From **David Abrahamsen**
CAS: Had a lot of fun covering ADR with Amanda Peet for the whole second season of Dirty John. Really enjoyed mixing a special episode of Oak Island, hosted by William Shatner, and also episodes for The Curse of Skin Walker Ranch in its first season.

Happy everyone is doing well on cable.

**Gavin Fernandes** CAS has finished The Bold Type for NBC/Universal. As he awaits Blood and Treasure for CBS, he is mixing from home the Quebec adaptation of Brooklyn Nine-Nine. That’s it!

**Matt Foglia** CAS is mixing the new Travel Channel paranormal-theme series featuring Ozzy Osbourne called The Osbournes Want to Believe.

**Sherry Klein** CAS and **Scott Weber** CAS recently completed Silent Retreat for Miramax on Stage 5 at Smart Post Sound in Burbank. As with most everyone, we’re in waiting mode to start Season 5 of Queen of the South, which was shut down the first week of March, as well as start dates for Season 3 of New Amsterdam. Scheduled pilots … who knows?

**Karol Urban** CAS MPSE and **Kurt Kassulke** CAS buttoned-up some final work for Grey’s Anatomy Season 16 and exercised our sweet Atmos stage at Westwind Media. Meanwhile, **Marti Humphrey** CAS and Karol mixed a non-theatrical feature for Hulu’s Into the Dark series called The Current Occupant at the Dub Stage. Karol also just mixed the indie film Younger for rising director, Denise Dove. Looking forward to a swift and safe return to work for so many in production and the deluge of dubbing that will inevitably follow.

**Stephen Tibbo** CAS has been supervising and re-recording the indie film Baby Money, and also doing ADR for a number of projects.

**Paul Zahnley** CAS moved quickly (as many did) to gear up the home studio after he was sent home packing on March 16 due to San Francisco’s shelter order. He scrambled for faders, speakers, and plugins! For the following weeks, he mixed Across for Mathew Riutta, Unity Temple for Lauren Levine, and The Fabulous Filipino Brothers for Dante Basco and Rawn Erickson.

Checking in from NBCUniversal StudioPost Sound Operations…

Mix team **Jon Taylor** CAS and Frank Montaño are back in the Hitchcock Theater mixing the Universal feature film Nobody for director Ilya Naishuller and producer Kelly McCormick. Up next, the team will finish Fast 9 for director Justin Lin.

**Mark Fleming** CAS and **Myron Nettinga** CAS (Mix 1) wrapped a Marvel project and have begun mixing PANIC S1 for Amazon.

**Keith Rogers** CAS and Ben Cook (Mix 2) wrapped the third season of Westworld for HBO.

**Peter Nusbaum** CAS and **Whitney Purple** CAS (Mix 5) wrapped Will & Grace S3, Last Man Standing S8, grown-ish S3, black-ish S6, mixed-ish S1, Good Girls S3, and AP Bio S3.

**John Cook** CAS and **Bill Freesh** CAS (Mix A) wrapped Briarpatch for the USA Network and Space Force for Netflix.

**Robert Edmondson** CAS and Reuben Ripley (Mix B) wrapped FBI S2 and FBI: Most Wanted S1.

Todd Morrissey and Eddie Bydalek (Mix C) wrapped Chicago Fire S8 and Chicago P.D. S7.

Derek Marcil and Gregory Watkins (Mix G) wrapped Chicago Med S5 and SVU S21.
We cross paths with many people over the course of a career. Some are quick acquaintances, some become regular colleagues, while still others we are fortunate to call friends.

Our condolences extend to our friends and colleagues in the sound community who are integral to the continued growth and success of our craft and passion.

*Mike Draghi MPSE*
Re-recording Mixer and Supervising Sound Editor

*Ennio Morricone*
Film Composer

*Carl Reiner*
Actor, Writer, Director, and Producer

*Joel Schumacher*
Director

For detailed biographies, please visit the CAS website at CinemaAudioSociety.org
Adam Howell CAS shares, “My 5-year-old son takes a cartoon break from home school during the COVID-19 lockdown and puts my sound blankets to good use!”

Amanda Beggs CAS and CAS Associate Ben Greaves have been using their skills to set up sound amplification systems for multiple Black Lives Matter protests across LA.

Silent Retreat wrap day on Smart Post Sound Stage 5 Burbank with (L-R) Mark Freidgen (sound sup.), Sherry Klein CAS (re-recording mixer), Todd Strauss-Schulson (director), and Scott Weber CAS (re-recording mixer). We applied the three-second rule for the photo op: hands vs. paper.

Gary Bourgeois CAS and Ben Wilkins are social distance mixing on Stage A at Roundabout/Southlake Studios.

Karol Urban CAS MPSE and Kurt Kassulke CAS are on Stage 3 at Westwind! Happy to be back at the helm.

Samuel Buckner CAS is feeling very lucky to get out on dirt bikes with his son Aidan in southern Utah.

Mark Fleming CAS and Myron Nettinga CAS are mixing up playback approaches from in-person screenings pre-lockdown (Ep. 1) to remote reviews (Ep. 8) on Dirty John. Keeping it safe at NBCUniversal StudioPost!

Keeping things safe and “sound” at NBCUniversal StudioPost with (top row) Rick Camera, Keith Rogers CAS, and (bottom) John Cook CAS and Brian Dinkins.
We take care of our own.

MPTF provides a safety net of social and charitable services including temporary financial assistance, counseling to navigate difficult times, and referrals to community resources. Learn more at mptf.org.
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