

ISSUE 10 // AUGUST 2015

THE ECHO

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ASSOCIATION *of* SOUND DESIGNERS

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Showcase: 1984

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Editorial



GARETH FRY, CHAIR, ASD

Welcome to The Echo issue 10.

We had envisaged this issue for January 2015 but it's taken a little while longer than we planned. However, we've been busy with a few other things in the meantime...



We're pleased to announce a couple of new schemes. We have partnered with Sennheiser and the National Theatre to offer a new **EQUIPMENT LOAN SCHEME.**

This allows ASD members to get access to recording equipment that would be too expensive to obtain otherwise. For a £15 admin fee (to cover insurance costs and merchant fees) and a £50 deposit, you can borrow a Nagra 7 recorder, a Sennheiser Esfera surround/stereo mic and a Neumann KU100 binaural head. By contrast the only place we've discovered where you can hire a KU100 charges £450 per week. Excluding VAT!

So this scheme offers the opportunity to play around with binaural, stereo and surround recording with high end kit at minimal cost. Sennheiser's Esfera mic is a very interesting system: it starts with a very compact stereo mic using MKH8040 cardioid capsules in an XY configuration inside a windshield. Recordings from this mic can be used as is – or they can be

fed through the Esfera processor, a 1u rackmount unit, which will then generate a 5:1 output.

We're very grateful to both Sennheiser and the National Theatre for supplying equipment and running the physical side of the scheme. You can book kit at www.associationofsounddesigners.com/kitloan.

We've also made a fancier website for the public to find out about the ASD - with a snappier web



address: **www.theasd.uk**. Our previous website - www.associationofsounddesigners.com - will continue to exist as a portal to the members-only content, and to manage your membership and book events.

We are also launching a **MENTORSHIP SCHEME**. This will be for people who are at an early stage in their career, have been working in the industry for at least three years, who will have a sense of where they want to go and how someone could help them get there.

At this stage we are looking for volunteers to be Mentors – people who have been in the theatre sound industry for at least 10 years. This scheme isn't just for designers – it's for production engineers, operators and whoever feels they could benefit from a Mentor.

More details can be found at www.associationofsounddesigners.com/mentorscheme



**Location sound
recording and
the law: or
rigidly defined
areas of doubt
and uncertainty**

Location recording with a
KU100 binaural mic and
DPA 5100 surround mic
Image: Gareth Fry



JOHN LEONARD

If you've heard me talk about recording sound effects, you might remember a little incident involving a late night recording of trains passing, a public-spirited dog-walker and a bunch of armed policemen. I wasn't actually doing anything wrong and the whole thing was very much a case of mistaken identity, the concerned passer-by mistaking my rifle microphone for an actual rifle and nipping smartly home to inform the boys in blue that there was a sniper next to a railway line, preparing to shoot at the trains.

We were able to laugh about it at the time and the lead policeman was very impressed with the recordings that I played him, but he did offer a few words of advice to the effect that in those troubled times (the IRA were busy bombing bits of London) it might be wise to inform the local odd if I was planning to do the same thing again. In the current troubled times, a policy of shoot first and apologise profusely later may well have been the outcome, but at least there might have been some interesting sound effects to add to the library later, albeit posthumously.

I was attempting to get some clean recordings to finish off a sequence for a show I was working on, having gone through all the legal channels with British Rail and obtained permission to record in a lot of other places, but

not close enough to get a decent fast pass of a train entering and leaving a tunnel. Actually, I could have done that, had I had the resources to pay for the nine-man safety team that would have had to accompany me, but I didn't, so I found a location on a public road near enough to a tunnel exit that would give me the results I wanted. As I was on a public road, not trespassing on railway property, causing a disturbance or an obstruction, I was pretty sure that I was legally within my rights to be there and it was the suspected presence of a gun that had alerted the police. But the simple fact is that the law seems to be incredibly vague when it comes to the matter of where, legally, you can make sound recordings.

When researching this article, an enquiry to the Metropolitan Police came up with the rather odd response of "we don't know: have you tried asking the BBC?" which struck me as a bit of a cop-out, if you'll forgive the pun. I did ask the BBC and they referred me to their general guidelines on privacy, which were not really of much help at all, but you can check them out here if you want to.

The law is reasonably specific about photography and video recordings in public places, specifically with regard to the Terrorism Act. For example, the police have to have reasonable cause to suspect



Paul Arditti recording aircraft and hiding from the police behind a cable drum, nr Mumbai

that you are involved in terrorist activities before they can stop and search you and they can't delete images or destroy video footage during a search, even if they do suspect you of being a terrorist, but, with very few exceptions, the law seems to be remarkably ambivalent about sound recording.

There are some places in which recording is specifically forbidden, a court of law being one of them, and recording in prisons or any other place of correction is almost impossible to obtain permission for but, as far as I can tell, the ubiquitous Terrorism Act and the Public Order Act, often used to circumscribe what you can and can't do in public, doesn't cover sound recording as being something that's likely to get you fined, banged up or shot at, and specific byelaws covering such sensitive areas in the capital as Trafalgar Square and Parliament Square make reference to restrictions on recording of visual images only. So, providing you're not causing a nuisance, an obstruction, or endangering other members of the public, it would seem that you can pretty much do what you like as far as sound recording goes: that said, what constitutes a nuisance, an obstruction or danger to the public may often rely on the circumstances and, of course, common sense should prevail with regard to things like laying cables that could constitute a trip hazard, or setting up microphone stands on pavements or

in the middle of a busy road. If you do get approached by the police, it really is not a particularly good idea to argue if you're asked to stop what you're doing and move along.

Recording on private property

This is a very different matter, complicated by knowing what constitutes private property, which can be difficult, if not impossible to ascertain without some serious research. You might think that places to which the public has access, such as a railway station, airports and shopping centres constitute public spaces, but almost all of them are privately owned. Even London's South Bank Centre and the pavements and walkways around it are private property and in order to record in these places, you will need specific permission from the owners or managers of the site, which may not always be easy or cheap to obtain.

Recording on London Underground, for example, means applying for a permit from Transport for London and could, if they're not feeling generous, cost you £500 for the day: even then, you're limited to a pre-agreed location and specific times of day. Somewhat surprisingly, audio recording in London's Royal Parks is also subject to permission being granted and fees being paid, with a whopping £280 for four hours being the going rate although, as with TFL, that

Surprisingly, audio recording in London's Royal Parks is also subject to permission being granted and fees being paid

can be the subject of negotiation. Personally, on the occasions that I've recorded the gun salutes in Hyde Park, often with the knowledge of the Parks Police, no one has ever mentioned payment of a fee, but there's always a first time.

There can still be problems, even if you have secured the necessary permissions and paid the fee: you may come into contact with an over-zealous member of security staff, who might have difficulty in accepting the facts, even with documentary evidence. This happened to me in a museum in the USA where, although I had permission to record, a security guard with, it has to be said, little command of English, refused to let me use my compact Rycote and bag set-up. When I pointed out to him that people all around were recording using their cell-phones, he told me I could also use my phone, but not the microphone. In the end, I pretended to film with the phone whilst letting the recorder in the bag run, with the microphone sitting on top of the bag on the floor. Not ideal, but better than nothing and

infinitely better than getting into an argument and wasting valuable time.

Had I known that I was likely to be challenged, despite having written permission, I'd probably have deployed one of my stealth systems to make the recording, as I have done in other circumstances. But when is a stealth system justified and what constitutes a stealth system?

I have four set-ups, three of which are very similar and use DPA lavalier microphones: a phantom-powered 4061 pair lives outside our balcony window and is very successful at collecting close up birdsong and various weather effects. They've been camouflaged in a pair of Rycote Mini-Windjammers and a generous coating of cobwebs for about five years now, and show no particular signs of fatigue. The other two pairs are battery-powered systems, one using ex-musical theatre 4061s and the other, Core Sound's High End Binaural set, a matched pair of black 4060s with black windshields that effectively disappear when

clipped onto a black bag or a baseball hat. Coupled with a pocket recorder with an external microphone input, I use these to collect ambiance recordings, mainly in public spaces, when I don't want the distraction of the big windshield, which inevitably leads to the intervention of curious passers-by wanting to know what television program I'm working on.

The other stealth system is a bit bigger and I rarely have occasion to use it, but it comprises a Soundfield ST450 connected to a Sound Devices 788T and hides in plain sight on top of and inside a roller bag. The 788 can be controlled remotely with an iPhone app and the monitor output is connected to a Bluetooth transmitter. My IEMs are connected to a Bluetooth receiver and as far as anyone else is concerned, I'm sitting down by my luggage, checking my phone and listening to music.

Do I use these where, legally, I shouldn't? Yes, sometimes I do, when I'm sure that it's not going to inconvenience anyone or cause embarrassment or harm. Because I tend to carry one of the stealth kits around with me all the time, there are occasions when I find myself in a location that is effectively private property, but where there are good sounds to be recorded that can't be identified as being from anything other than a generic location: for example, a



concert or theatre audience murmur, a train station at rush-hour or a shopping mall background, where there are no identifying features to be heard. Of course, in these situations, even if recording legally, there are pitfalls that need to be avoided.

We're surrounded by music in many locations, whether from passing cars, whistling workmen, buskers or background music in shops and restaurants and 99% of it will be in copyright and will be liable for performance payments through one of the collection agencies if you use it in your show, or in my case, offer it for sale. I've had many really excellent recording opportunities made invalid by the intrusion of

music from sources beyond my control and the looks of hate I got in one shirt factory when I managed to get the background music turned off for five minutes still haunt me today. Other external sounds that need to be avoided include public address announcements generally, including those from stations, airport and unless you have obtained permission from the person whose voice is being heard (tricky to achieve) and private conversations. When I released my collection of airport atmospheres, I included some announcements from sessions where I had been given permission to record, but generally, these are not particularly useful as foreground sounds.

This short article can't be a definitive guide as to where it's legal and illegal to make effects recordings, mainly because no one seems to know, but also because local byelaws vary widely across the country. It's also only relevant to the UK and great care should be taken in other countries where the law is often far more restrictive and penalties can be severe. The best advice I can give is, when in doubt, ask someone who appears to be in authority and, if the answer is no or a police officer tells you to move along, it's probably best to retire gracefully.

MORE INFO

www.bbc.co.uk/editorialguidelines/page/guidelines-privacy-introduction

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THOUGHT CRIMINAL



Showcase: 1984



GARETH FRY

Venue: Playhouse Theatre, London
Director: Robert Icke and Duncan Macmillan
Sound designer: Tom Gibbons
Associate sound designer: Pete Malkin
Production Engineer: David Gregory
Sound Operator: Richard Bell
Original Production Engineer: Giles Thomas
Original Operator: Hannah Rhymes-Cole

1984, based on the book by George Orwell is clearly proving itself topical: it's just starting its second West End run following a national tour. The novel written in 1949 is a horrifying vision of the future, where the population is held in check by a brutal government through the use of surveillance, propaganda, control of the media and threat of being 'unpersoned' or harsh physical violence. The book took its inspiration from what had happened in World War II and what was beginning to happen in Stalinist Russia, but imagined how that could be helped with technology. Even if you've not read the book many of its inventions are now well known to popular culture, from Big Brother to Room 101. Of course, the versions in 1984 are somewhat harsher than the polite TV shows named after them: Big Brother is a camera in every room, monitoring your words and actions for signs of nonconformity or dissent, punishable by a one-way trip to Room 101 where you will be electrocuted, psychologically and physically tortured with whatever is your worst phobia until you break down, repent your rebellion and are shot in the head! Spoiler alert: 1984 does not have a happy ending!

We caught up with sound designer Tom Gibbons to ask about how he approached the production.

Tom: I had worked with Rob Icke the director only once before we started on *1984*, but we knew from that show (a modern re-working of *Romeo and Juliet*) that we shared the same taste in music, popular culture etc and we knew that whatever we decided for *1984* would be bold. Rob and the writer Duncan Macmillan had already put the main concept for the show in place by the time we started rehearsals but I don't think anyone realized how much sound that would entail at that point. Very quickly we realised that the sound wanted to be aggressive and oppressive to represent what Winston was perhaps being exposed to in the story. We certainly talked about putting the audience through an aural battering before they got to Room 101, and I suppose that's where all the digital sounds and glitches came from. The word exhaustion was used numerous times. A lot of that is from the Japanese artist Ryoji Ikeda whose album comes with a warning sticker for your speakers, which we may have neglected at

some points to our cost. This idea of aural exhaustion and disorientation didn't really come into it's own until we could get into the theatre and create enough level to make it difficult to listen to.

Associate sound designer, Pete Malkin: The main FOH system at the Playhouse is 6x Duran Audio Axys T-2115 and 4x B-07 subs. Tom decided to put these in last time we were there not only due to the sheer volume of some of the playback, but also the intricacy of the Ikeda sounds. We also originally used a pair of d&b Q10's flown onstage for the scene change to have some onstage presence, but now use 4x Duran Audio T-2115's in place of them, which can push out a lot of energy from the stage. The JBL Control 1's we used originally at the Almeida couldn't handle the volume we needed so we upgraded to EM Acoustics EMS-61s.

The book is a horrifying vision of the 'future', and the show uses a lot of horror film techniques to help tell the story - the dynamics of volume, the low and high frequencies, the child singing a nursery rhyme. Were there specific influences you took as a reference? There are a lot of subliminal sounds, tones and drones; and lots of loud sudden noises too, particularly during Room 101. Did you look into the methods of how sound is used for torture

and as a weapon? There are also some carefully chosen moments of stillness and silence too: how did you create the dynamic of the show?

Funnily enough I hadn't really seen the horror film comparisons until you mentioned them, but I guess it's obvious. I don't recall having a specific conversation with the directors about that genre, but it would make sense as *1984* and a lot of horror films try and employ then same visual techniques with things or people appearing/disappearing instantly. Usually accompanied with a loud sound! Not hugely subtle sometimes, but often effective. We certainly did talk about sound as torture and Guantanamo Bay etc. I think they play Kylie's version of *The Locomotion* endlessly right? Or they used to. But it also comes back round to audience exhaustion levels and with them identifying with Winston by the end. A lot of the very high-pitched tones in the show are interesting as not all audience members would be able to hear them due to usual age related hearing loss or the number of drummers/bassists in that night. They quite often underscored subtle lighting changes or an introduction of a character (Julia for example) and supported the idea that Winston could see/hear things that the other characters could not. It seemed to really enhance the idea of confusion and alter-reality that the directors were after in the adaption.

There certainly needed to be moments of still and relative quiet to make the contrast to high-level content work. The opening few scenes have some of the louder blackout cues in them so we didn't build into the dynamic of the show. One of the clever things about the way the adaption is written is that it explains a lot about the story half way through, once Winston and Julia get the forest clearing, making the first section of the show quite confusing if you don't know the book. I suppose this is the first time we have a real sense of calmness in the sound design, it's certainly the first time we hear any naturalistic outdoor sounds. This paves the way for stillness we experience whenever Winston and Julia and alone in the antiques shop.

George Orwell's book was written in 1949 as a vision of the future but here in 2015 the year 1984 seems a long time ago. You play a lot with the audience's sense of time with futuristic sirens and electronics noises but the music that is heard by the characters onstage is from the 1940's. The production and the sound design very cleverly dislocate our sense of when 1984 is taking place. We simultaneously believe it is in the future and in the past, which is of course Double-think!

The entire concept behind this adaptation is the question of when *1984* was written, was it real, who wrote it and why, and the possibility of

whether it still remains a reality today. It's the music that might be used if someone was to do a straight costume drama style version of the book, and as you say it dislocates our sense of when it was written. I think old 30'/40's music can be quite sinister.

As well as the period music there were a lot of other musical sounds from delayed piano to sequenced pulses. Was this something you created or found? How did you create the transition between the sound being static and noise, to becoming organised and musical.

After the forest section where Winston and Julia first meet alone, there is a lot of storytelling to do and we needed something that was musical to help that along but not be too loaded. I ended up composing all of the piano and gated synth sections that lead us from the video antiques scenes to the inner party quarters etc. It needed something slightly more theatrical than raw audio data [the Ryoji Ikeda] being blasted out of the system. Most of it was based on the theme tune to *Countryfile*, which is one of my favorite TV themes ever. After *The Sweeney*. As most of my compositions come out of a sound design world initially, there was always going to be elements of the static idea in the music and I think by chance that helps it integrate well with the show. The piano is deliberately in a minor key which gives it a

lonely quality to highlight where Winston and Julia find themselves. Perhaps if Winston does manage to overthrow the party, all the sound in the liberated world of Oceania will be musical as opposed to the data noise that exists currently. Written by someone else hopefully.

There is very tight synchronisation between sound, lighting and video - how did you achieve that?

The majority of the big sections, which involve all three disciplines, are controlled via MIDI Show Control from the QLab machine. Due to the quick blackouts and sheer number of sound/lighting cue's this was the simplest way of doing it correctly. We also trigger roughly 80 scenes on the Yamaha M7CL to control various microphones, as well as accepting a stereo feed of audio from the Catalyst machine controlling the Video. The MIDI took a while to program correctly in the initial tech in Nottingham, but once that was in place it made all the subsequent transfers much smoother.

A number of the scenes take place offstage, appearing to us to be happening live in an offstage room relayed via video cameras and mics. How much of that was actually live and how much recorded, and why?

All the offstage video scenes are live filmed upstage on a 'sound stage' truck which is

revealed towards the end of the show. It was very important for the cast especially to keep it live: it allows the performances to evolve over the run rather than a pre-record being exactly the same each night. And with the amount of re-writes that occurred in the first few versions of the show, a pre-record would have been a nightmare. The mics for the film truck are worn on the actors and are mixed by the operator, and we tried to get as natural sound with them as possible - this was the biggest challenge - mixing in close proximity and making them as invisible as possible under video close up. The idea is that the audience is listening in to Winston and Julia's relationship but not in an oppressive CCTV kind of way. Well not initially anyway. An amplified voice can be very intimate especially in contrast to an evening of acoustic voices, and we found this very useful.

Associate sound designer, Pete Malkin: Generally the only mics in the film scenes are two radio mics worn by the two main characters which are used to amplify their voices and allow the audience to hear the props they use too. Visibility is absolutely an issue we ran into. Amongst the live film scenes, there's a number of close ups focused both on the front and back of both characters heads. Julia, who has long dark hair, hasn't been an issue as a mic can be hidden fairly simply amongst her hair, however,



Sound Operator, Richard Bell
Right: Sound designer, Tom Gibbons



this time in particular, our Winston had much shorter hair and so hiding the capsule or cable amongst his hair was useless. To get past this we noted the shots which were issues visually and ended up swapping his mic position to the right side of his head and using an ear hanger instead, which meant that it was, for the most part, not shown on camera at all, but it did throw up a few issues of closer proximity with Julia's character, which Richard Bell, our operator, dealt with brilliantly.

Tom: Two scenes have actors onstage amplified. Winston interacts with the Speakwrite computer (who's voiced by original DSM Amy Griffin) and that seemed like a good way of creating something more official, like he was playing the party game. And in Room 101, O'Brien is very slightly amplified as he tortures Winston into submission. It seemed right that his voice filled the room somehow and that he didn't need to shout at any point yet still be heard clearly. His character is all about a quiet danger and in contrast Winston's voice could sound slightly underpowered.

It's a very dense and detailed sound design - how long did it take you to create?

I was in rehearsals for the last three weeks of the first rehearsal period, which is usual for one of Rob's shows. We've just done the same on

Oresteia. As the show is very technical, it never really came together until we could get all the elements of the set etc. onto the stage. The sound for the big scene change was done in tech basically. That was the section that the cast had to integrate with the sound the most: it is very loud on stage during the scene change and they had to get used to that over time. Eventually they got earplugs, though it must be difficult doing it eight times a week. Over the course of the various transfers we've added more content here and there, made the radio mics on the sound truck much more stable, adding EQ changes for cast changes. The main change though has been that everything has got a lot quicker and tighter as you'd expect. This has meant changing times on MIDI cue's for blackouts and torture moments. The directors also get used to the levels very quickly so it's all got a bit louder.

What were the challenges of getting the show on?

Getting sound onstage during the first part of the show when there is a wall mid-stage and a ceiling was a challenge. In the end we put some E3's into the wall of the Bookclub set and dressed them as an old school library public address system. They worked well for telecreens and helped a lot with the image of the mics on the sound truck.

The associate sound designer on *1984* is Pete Malkin who is a total genius. He was a great calming influence in the face of a huge amount of changes and especially re-recording voice over's and video playback. With understudy re-records for the west end run, there is something like 15 different possibilities of cast combinations, which he took on like a pro.

The show has traveled around a lot and he's been key in keeping the sound consistent in various venues. The west end operators have been hugely important in the success of the truck mics (Hannah Rhymes-Cole and Richard Bell). Stage Sound Services have also been working with us from the beginning and have been hugely supportive and understanding when perhaps, in some instances, they needn't have been.

1984 is a hugely technical show on which creative collaboration has been vital. The LD (Natasha Chivers), Video (Tim Reid) and Set Designer (Chloe Lamford) have been instrumental in informing the sound design, and the success of the show can be directly traced back to their ideas and our fantastic working relationships.

MORE INFO

www.playhousetheatreondon.com/1984-play

Sound design tips and tricks: part 3



GARETH OWEN

In previous episodes of Tips & Tricks we have mainly focused on Sound Design. Looking at the ASD membership as a whole it's clear to see that a vast number of our membership consider Production Engineering to be their primary job role. On that basis I decided to reach out to several of the best for some insight in to the tips and tricks that make their lives easier.

Kicking off proceedings, touring and international Production Engineer Andy Green shares his thoughts on running a crew: “The first thing I do when I walk in to a venue is to try and get the local crew on side. A happy crew will work faster, neater and more diligently than an unhappy crew. They are sometimes paid a lot less than you, so don't get upset when they don't do things exactly right, it probably means you didn't explain it very well. I'd recommend the promise of beer at the end of the day. The harder you work the sooner you get beer. Everyone likes beer!”

Hennie Schwithal is a Dutch Production Engineer who has put more shows in than most of us have had hot dinners. He advises: “Get the names and positions of the local crew and make an effort to understand their working process and knowledge on the first day – they may have been here years and probably have a far better understanding of

how to make their space work than you do – feed on this knowledge, it can be quite useful!”

When working in foreign countries, Schwithal suggests: “Make sure to stay within the local crew's working hours and try to understand their local customs. Be aware that social and working processes are often different away from your home country. Most in-house crew have their own crew rooms – don't invade their territory unless specifically invited!”

Green picks up the thread: “Be a team player, particularly on larger shows. Don't be that department that goes for coffee with their cases left all over the stage. Trying to fit ten or twenty 45' trucks worth of set and flight cases onto a stage requires careful consideration by all involved. Take some time to find out the needs of others and they in turn will make your own life a lot easier!”

Got a tip or trick to share? Email us at admin@associationofsounddesigners.com

Be a team player, particularly on larger shows. Don't be that department that goes for coffee with their cases left all over the stage

Orbital's David Bartholomuez elaborates,

“During a fit-up, be sure to plan things well so that everybody's time is used efficiently and effectively. You can help the in-house crew by labeling everything correctly - flight cases, speakers, cables etc - so that pointing them in the right direction is all you have to do.”

Schwithal also considers pre-production to be the key to a smooth fit up:

“Have multicore runs measured to the centimeter before prep, especially those that will be close to a hundred meters in length - extending a four way 100m BNC run is not something you want to do onsite and will add an additional point of failure to your system. Make sure you know the fire rules before you get onsite - in some countries you are not allowed to run power cables without encasing them in steel ducting. In others you cannot run power through the audience or the orchestra pit. Knowing these things in advance



Image: Gareth Owen



Fitting up the Bakkhai at the Almeida Theatre
Image: Paul Arditti

can save you and your team a whole load of additional work!”

Bartholomuez continues, “For smaller shows, plan your load-out from the get-in, making sure that empties are put somewhere you can remember but out of other departments way. If there are cases going back to the rental company, make sure you have a list of what you need to send in order to get everything back to them in one-piece. Remember that damaged equipment is often charged back to the producer, a bill that you may never see, but they won’t forget in a hurry.”

Dickie Bower, production engineer for numerous London and touring shows continues with the team working theme: “The most important thing I find is to have a good relationship with the other departments - We’re all here to achieve the same goal, be it fitting speakers into the set or negotiating that last bit of space around lights. Wigs and wardrobe can help us with mic and radio pack placement, and stage management often have the answers to many of the tricky questions. The more you work together, the quicker and more pleasantly things happen, and most importantly, the sooner you can get home to your family.”

Bower believes that looking after the hire company can provide huge benefits. He

When allocating outputs on the mixing desk and patch system, be sure to reserve some feeds for in-house delays and fills

explains: “As Production Engineers we have a tendency for being great at telling the rental shop when they’ve failed to achieve something. Not everything we need for a show is available off the shelf, and with contract agreements between hire companies and producers happening later and later we need to be ready to confirm exactly what we need based on their particular infrastructure. The more we can do to help the shop the easier our life will be when we make a mistake or the creative team change their minds over something.”

Last years ProSound Award winner, Chris Mace believes communication with the hire shop is key, not only with regard to prep, but in terms of the whole show. He explains: “The secret to a smooth clean prep and installation is in the detailed planning. This can start very early on, firstly with discussions about the equipment lists and methods the Designer would like to use, and secondly with the hire shop. I believe it is invaluable to have a good working relationship with the rental company – a good understanding of the goals you are both trying

to achieve in the time frame can save a lot of heartache later. Time creating paperwork is rarely time wasted – sharing the knowledge with your team can relieve you to worry about the bigger picture as opposed to answering hundreds of ‘where do I plug this in?’ questions...”

Mace also considers CCTV to be a priority: “Check the latency time on the MD camera and monitors before the musical director enters the building! It only takes half a second for the music department to decide the CCTV system isn’t good enough – but it will take you hours and hours to solve it for them. Far easier to make sure its all good before they get there. While you’re at it, discuss what the DSM requires in terms of comms and CCTV before the beginning of tech. The chances are you’ll both want the same thing, but they like to be asked and kept in the loop – as with so many things in theatre, get them on side and your whole life will be much easier.”

Veteran Production Engineer Andy Hedges has

a couple of specific technical ideas to share:

“When rigging cameras on a circle front bar, isolate the bar and the camera rigging with electrical tape. This will help to eliminate the classic rolling humbar symptom on your DSM monitor which is caused by more than one ‘ground’ or ‘earth’ between two pieces of equipment. A couple of minutes spent at the rigging phase can save you hours of tears later.”

Hedges and Mace continue: “Always measure your mains supply (whether from venue or generator) as follows: phase-neutral = 230v, phase-earth = 230v, neutral-earth = 0v. If there is any variation, ask the house electrician to double-check it for you. You’ll need a good quality multimeter to measure this, and obviously only start sticking your hands in power supplies if you are confident in your electrical knowledge and skill. There are many courses in basic electrical installation that you can attend.”

Schwital also has some thoughts on power, based on his experience installing shows in strange countries: “Check the voltage and power supply thoroughly, not only at the feed but also at the final destination. Many newer buildings have started to install so called Ecopower/Greenpower conditioners inline before the CEE outlets – these bring down the power to 220v which, on the other end of a long

cable run, could well be low enough to make your UPS kick in. For kit that requires a high current (think Cadac Power Supplies), you may need to look at thicker power cable.”

Dan Bailey, Orbital Production Engineer, believes in labels: “Every cable gets a label! It might seem excessive at the time but once you and all the other departments have run a pile of stuff in it suddenly becomes very difficult to remember what everything was and where it goes. It’ll be sods law that the comms feed to the follow spots will stop working at beginners on press night and you won’t be able to trace it through enormous runs of cable and patch panels. An extra ten seconds with a roll of tape and a sharpie can save you literally hours later on! And then of course you can get yourself a P-Touch machine...”

David Bartholomuez also agrees that comms are key to a happy life for the P/E: “Just remember how important good working comms are to everybody. The sound department might only have them on from time-to-time, but other members of the crew and creative team will wear them for up to 12 hours a day. Having a buzz free communications system working at its best will always win you brownie points.”

For touring shows Bartholomuez has the following advice: “When allocating outputs on

the mixing desk and patch system, be sure to reserve some feeds for in-house delays and fills. Patching into these, especially on speedy one-day fit-ups, can save a lot of time and save you a potential headache.”

Andy Green has further thoughts on ensuring a smooth running tour: “System design is a critical part of the sound of a show. That long hang of line array you had in production is never going to fit in a small Matcham theatre so a good working relationship with the sound designer and a well spec’ed, flexible PA based around the venues the show is touring through, allows you to keep the show sounding great in every venue you visit. Save array calculation files from every venue but always question them when you return to the theatre – skills and techniques evolve over time and you may well find you can do a better analysis second time around.”

Finally, Hennie Schwital shares some thoughts on phase, not just for speakers, but also for the entire system: “Check the phase of the entire signal path, not just of the individual speakers. A microphone in an orchestra pit may travel through a dozen connectors before it hits the desk and each and every one of these has the potential to be miss-wired. Much as we would like to assume that a designer should be able to spot this with their ears, it’s always better not to give them the opportunity!”

Mini profiles



HAYLEY GOLDMAN

What is your current project and role?

I am touring Hong Kong, China and Jakarta as Sound Technician on the International tour of *The Sound of Music*.

What is the favourite part of your work/process?

I love touring and seeing it all come together during the tech period and overcoming the challenges which are unique to different venues. I also love being a No. 2 - I love the social elements of liaising with the cast and the orchestra while at the same time I enjoy getting my head around learning the mix.

What would you change about your work and the industry?

I love what I do, so in the actual job role very little. However, I think there is a huge variance in the price some employers put on sound engineers. I know it very much depends on the engineers themselves whether they would work for an amount but if there were a guideline to quote from (which I think the ASD is working on) it would be incredibly useful.

What's your top trick/tip?

Be friendly yet professional with everyone. The sound department has interactions with every other department at some point so being able to collaborate and work together makes the job a lot easier.

What are you listening to at the moment?

Meagan Trainor's *Title*.



ANDREW JOSEPHS

What is your current project and role?

I'm just about to start PEing for Bakkhai at the Almeida, and then after that I'm off designing *You won't succeed on Broadway...* at the St James, and *Sunset Boulevard* at the Yvonne Arnaud.

What is the favourite part of your work/process?

Trying out new pieces of equipment/software/firmware, and finding ways to implement them to improve the sound systems you build.

What would you change about your work and the industry?

Work: Quiet time that doesn't start at 10pm.
Industry: I think the disparity of pay, specifically on smaller productions and for people new to the industry, is an issue. The research the ASD is doing on this at the moment will hopefully help to inform producers of the average rates and level the playing field.

What's your top trick / tip?

Tip: Paperwork and labeling; being organised makes everything easier and is invaluable when building and troubleshooting complex systems.

Trick: NTi's XL2 is a lifesaver when quiet time is in short supply.

What are you listening to at the moment?

Muse's new album is fantastic; I've also started listening to a band called Jungle.



A FEW OF MY FAVOURITE THINGS



COLIN PINK

When the ASD asked me to talk about my three favourite things, I was excited about the chance to let my 'inner geek' free and wax lyrical about the latest tech. However, when I started to think about it, I felt that although I have some favourite equipment, the most important thing is the people who set it up and get the best results out of whatever kit we are using.

With this in mind, my three favourite things (for a show) are:

This industry is about people... It's about working together to create something bigger than the sum of the parts

Production Sound Engineer

The 'PE' gives you the tools to do your job as a designer. They take your ideas and make them work in the space. I always find that while they are installing everything, they notice/come up with other options and ideas that can help you get a much better result in the space. They are also a great second opinion, as they can remain cynically technical and not get absorbed in to the art.

Operator

Obviously you can have the best sounding system in the world, but it means nothing if the person controlling it is not up to the job. I think the difficulty of the operator's job is often overlooked, as it's often the case that the better they mix, the less they are noticed (one of the downsides of trying to make your work invisible). It's never just a case of 'correcting the problems you hear', it's all about anticipating what the performers are going to do, depending on how the show is going that night and how the audience are reacting to it. I always think that psychology is a bigger part of mixing than hearing itself, as ultimately 'if it feels right, it will sound right'.

Musical Director

At the end of the day we are trying to tell a story and get the emotion of that story to the audience. The music team are invaluable in helping you understand the journey through the show, so you can get the emotion across. When it comes to rehearsing, they know the music so well that they are great at spotting the layers that are missing in your mix (it's very easy to hear if something is too loud, but if you can't hear it, you might not realise that something is being played). It speeds the process up, which gives you more time to refine the details.

This industry is about people, whether on or off stage. It's about working together to create something bigger than the sum of the parts. Technology can help, but it's the imagination and skills of those involved that makes all the difference.



STANDING
ON THE
SHOULDERS
OF GIANTS

£

Royalties explained



SIMON BAKER

Several weeks ago I somehow got tangled in an email chain about royalties. It struck me that for those entering the industry the whole notion of royalty payments can seem frustratingly confusing. I also fear that there is a lot of misunderstanding around about how royalties work. I thought I'd try and shed some light on the matter. Others in the industry and indeed in this association may have very different views. What follows is based upon my experiences, and from talking to numerous producers to check my maths and understanding.

Years ago - let's say the 1700's. Shakespearean England. Theatre owners had cash flow issues - yes, even then. One might ask a playwright to take a smaller fee but a share in the box office takings (a split). A pretty simple idea. The percentage of profit was instead of paying the full amount for the script. The principle is marginally the same now. Well almost.

What's being described here is a percentage deal of the box office take. The absolute method of doing this is on a nightly basis but a more common approach in theatre has been to calculate the box office over a week, which would be the Gross Weekly Box Office (GWBO). Today this is the holy grail of royalty deals because it's a pure split of the ticket price. However, like a production engineer re-pinning a cluster with a smile, it's so rare it hardly exists. This deal was popular during the days of the mega-musical - which would explain the stories of creative teams and follow-spot operators on *Cats* buying private islands but days were different then.

A GWBO can strangle a production very quickly. The problem is that this type of deal doesn't take into account the capitalisation of a show or how much it might cost to run - the weekly running cost - or Nut if you're on Broadway. This means that royalty holders could make a lot of money before the show had turned a profit.

A quick illustration

Show takes £280,000 a week and costs £250,000 a week to run. The royalty participants take 15% (which is divided up - Author 6%, Director 1% etc). So this show would have a weekly operating profit of £30,000. Royalties would be due on the £280K box office, which would be a total of £42,000. This means that the show lost £12,000 that week. This maybe right or wrong depending on which side of the table you sit on but in truth it's why this system stopped working. Shows by the mid 1980's had become very expensive to produce and success wasn't guaranteed.

You may find that Authors and Underlying

Rights Holders (another phrase you might see. If it's a movie adaptation then the current owner of the property. So for *Brief Encounter* it was the Noel Coward estate. It could be a film company or the original author.) still attract this type of deal. This is often why there are now two pools being run. If you always want to get a royalty on box office split then write your own hit show - it's the only way.

OK, a few things. Capitalisation is the amount of money needed to get the show on (commissioning the script, rehearsals, designs, set construction, fees, anything that's about putting the production up on its feet until it has its first paid public performance) - the initial investment. The people who invest this money are going to want it back and like any investment they are going to want more back than they put in - a return on their investment.

The weekly-running is just that, all the costs associated with running the show on a weekly basis. This is sometimes given as a percentage but in my experience that's a meaningless figure.

Very few shows are selling tickets at their face value - the show may have audiences at 90% capacity but the take is only 65% of the theatre's potential income due to ticket offers, group

bookings, comps etc. This is why commercial shows rarely do comps: if you are a royalty holder and you see a load of free tickets being given out you're going to get cross pretty quickly. Box Office figures and stats are easily assessable in the US - they are published weekly online (although there's often doubt as to how truthful these really are) but in the UK box office figures are pretty closely guarded.

Much more common is the ever-complex royalty paid off the Net Operating Profit or NOP. Broadly, this system is fairer to the producer and investor. You take the GWBO then subtract the Weekly Running to leave you with the Net Operating Profit.

This profit is then divided up between an agreed pool. For example, you may find that the profit pool is split 60% investors and 40% royalty participants. These percentages are much negotiated, as is every stage of the royalty pool. Pre- or post-credit card commission is my favorite page of the royalty deal memo - excellent reading. However, as the sound designer, you are almost at the very bottom of a very large pyramid scheme. At negotiation you or your agent are dealing with very small amounts of movement. The job here is to get the most amount of money the producer has in the pre-determined budget.

You might find this referenced as 'points' in the pool. You need to find out how many are in the pool as it varies, only then do you understand what your bit is worth. Alternatively some producers may express it as a % point over the entire NOP or the royalty pool - it'll be in the contract but get your agent to explain it. If they can't explain it look for another agent!

The question you're asking/shouting at this point is what kind of point/percentage should I be getting? Honestly - I don't know. For a sound designer I guess at anything from 0.30% to 0.75%. (Now before you all go running to your agents, this is just an average of what I've seen. I have five or six shows out currently and everyone of them pays a royalty in a different way - some % GWBO, some are fixed, some % of NOP).

Lets look at a few examples

Show 1

You receive half a point in a pool of 15
GWBO: £280,000
Weekly Running: £250,000
Net Operating Profit: £42,000
Investment pool would get: £25,200
Royalty pool would get: £16,800
15 points in the pool so each 1 point is worth £1120
Sound designer gets half point share: £560

Show 2

You receive a 0.4% point in the NOP pool

GWBO: £510,000

Weekly Running: £360,000

Net Operating Profit: £160,000

Sound designer gets royalty at 0.4%: £600.00

The figures above are just illustrations rather than real figures from shows. They do illustrate some key things - keeping your running cost low is a good thing.

A producer will always want to recoup the initial investment as quickly as possible. Makes sense, the quicker a show recoups the quicker it can solidify its position and the safer it becomes. Remember that a show in the West End can be given notice by the landlord of the theatre if it fails to sell enough tickets to meet its weekly running cost for two consecutive weeks. This results in a lack of job security for those working on the show, but if you take a broader overview it's a good thing: a bit like chucking out a drunk gambler at a casino. It's responsible.

Not always - some shows have shut early with healthy advances but in my experience a theatre owner will rarely give notice on a successful show. Safe shows paying their bills on time are much more likely to keep running, selling tickets and doing well. You want to work

It'll be in the contract but get your agent to explain it. If they can't explain it look for another agent!

on one of those. For those working on a show it is better to have the show close early and get paid, than for it to rack up debts and not be able to pay you when it eventually closes a month later.

To speed up recoupment the royalty pools may shift around in what is called pre- and post-recoupment.

In the pre-recoupment stage - before the show has paid off its capitalisation - the amount of money in the royalty pool, and hence being paid out to you, may be smaller in order to speed up investors getting their money back out. Again, you may see this as unfair - and when it's happening to you it is (I've been there a lot). However, my experience is to play the long game. A show that recoups has a better chance of running a long time. And a producer that recoups a show has a better chance of funding the next one.

Often you may see recoupment at 125% this

means what it says, 25% more money needs to be made than it cost to capitalise. This is normally to give the producers some leeway or cash reserve that might see them through a re-cast, marketing push or for the floor to be replaced. It's sensible. Sometimes it provides a cushion for weeks that don't do as well, like the week after Christmas holidays for example. Shows should always be budgeting a reserve - even big hits have their losing weeks.

You may also see another figure that is another move on the pool, this time in your favor. Recoup at 200%. The royalty holders get more and the investors a bit less. Rare but possible.

When a show is making so much money there may be a royalty cap imposed - an upper limit as to how much the pool will sustain. A problem everyone would like to have.

The other phrase or term you may come across is deferment. This used to be pretty unpopular with producers as this means that the producer



doesn't have to pay out on the pool until certain conditions are met - maybe recoup at 125%. Sometimes there can be a sliding scale of deferment. I don't like these kinds of deals. Producers used to not like them, as they become a burden to the show if it starts to make money - the royalties have been deferred rather than waived so they suddenly have a backlog of royalties to pay out. It's hard for a show to get to profit when it's saddled with royalty debt. Yet it does seem to be coming a trend.

The guaranteed royalty

In the early stages of a show it often might not be making money so a pool has no money to payout. In normal circumstances your royalty point would be worthless, but in order to sign you to do the show the producers will guarantee some kind of payment, which is then seen as an advance against the royalty when and if there is one. This can get complicated. Generally, this means that you get something and if a show does turn a profit one week then you might get a bit more.

So, in our last example above, the show that's due to pay you a .4% royalty may agree to always pay you £350.00 per week regardless of what it does at the box office. But if it has a good week and it goes over your minimum then it will pay you more. The guaranteed royalty

figure you calculate is most significant in the early weeks of the show when it's not making a profit yet, and the end weeks of the show as its audience and profits fall away.

One of the areas hotly debated is the period over which the NOP are calculated. Producers want to set this at four-week cycles so they can cushion bad weeks with good weeks. Some clever producers (and most are clever) will try and spread their weeks to suit. The Christmas period is always the argument. Shows can make a lot of money over those two weeks in the build up but drop off significantly in the early weeks of January. A clever producer will not want December to be a four-week cycle but the last two weeks of December and first two weeks of January. There's little that can be done but it's worth looking out for.

If a show is in trouble the producers will come back and ask you to 'waive' your royalty, or at least reduce it. Most producers will want to reduce the running costs to keep the show going, as will most authors who are generally the largest royalty participant. They may approach the hire company and try and negotiate a reduction in hire charges for example. A show that's running is better than a closed show if you're on a royalty - even a reduced one. Most old school producers will be

coming to you very late in the process to ask you to waive. They should have gone to theatre owner for a reduction in the rent first, then the author. By the time they get to the sound designer almost everyone else will have said yes.

A tip here: it's worth calling around your creative team colleagues. Some more cheeky producers out there will tell you that everyone else has said yes when in fact they are waiting for a response. Sometimes they've not even done a deal with a theatre. It's always worth asking what else is being done to reduce the running costs. However, if they are asking you to waive you really have very little option.

That leads us un-neatly to the fixed royalty deal rather than a percentage relating to profit or box office split.

This has become popular particularly for limited run plays in the West End and is often used by the subsidised houses and not-for-profits to bolster fees and aid cash flow. In the US this is governed by the collective agreements of USA 829 and is called AWC (Additional Weekly Compensation). Each LORT theatre has a set amount it pays to its creative team. The thing here is to see this as the minimum. Like most things in the UK there is no standard and some theatres pay something, others pay nothing.

Some pay on second outings of a production. What I believe to be true is that no subsidised or not-for-profit theatre pays out a royalty based on NOP or GWBO to creative team members - they may have deals with authors or rights holders but that's a different thing. The reason being that there is no real money to share a profit in.

I'm prepared to be wrong here but in the subsidised world you're dealing with a mix of box office receipts, arts funding and philanthropy to keep a theatre going. It would be hard to split the profit up - even if there was one - or even define what a profit was. The only time this work can be monetised is if the show is sold or exploited for commercial gain. i.e. a transfer to the West End or a commercial tour.

Even this isn't clear cut these days: some commercial producers both here and in the US will develop a show at a subsidised theatre and 'uplift' or 'enhance' the budget then exploit it commercially if deemed worthwhile or viable.

The really confusing decision is when you are offered a choice - this is happening more and more. A gamble if you like. A percentage of the NOP or a fixed guarantee. I can't tell you how to decide - let your agent guide you here if you have one.

The whole process of negotiating a show is grim and not why any of us got into this. I just wanted to make the TARDIS sound effect on a reel-to-reel so the business side of this I leave to my agent. I only got interested in the math because I like understanding how shows are put together on a fundamental basis. Remember - 90% of this is only applicable in the commercial sector - i.e. when the point of doing the show is for someone else to make some money. Subsidised theatre works in a very different way as the motive for doing the show is (or at least should be) very different.

I tend to work on teams that are very close knit. That doesn't mean we all know what we get paid but we all generally know what the outline terms of the deals are. It's hardly collective bargaining (although, it's been done and I've certainly benefitted from that on shows) but more favored nations. Most producers are honorable - or at least the ones I've worked with have been (with one key exception).

There's often talk at the ASD about parity with the lighting designers. Whilst politically I of course agree that sound should be recognised in the same way as lighting, both as an contributing creative factor and in terms of financial recognition, but remember that it's *your* deal.

My advice is to ignore what you think the lighting designer or designer might be on. Do your deal so that you're happy. It's possible that you get more than the lighting designer (it happens). If you're not happy with the deal then walk away. Always be prepared to not do the job, just make sure you've weighed up all the pros and cons and they are usually not about the money. Once you've done the deal just do the job and never think about it again.

My wise mentor and advisor once told me to never accept a job where they refuse to fly you business class. This doesn't apply to working in the subsidised sector but in the commercial sector - obviously - but he was absolutely right. It's an excellent marker to what the budget will be like. It doesn't mean you won't do the job but as a signifier it tells you lots.

The above is really my understanding of how the various royalty schemes work. Some may argue. I'm sure I've missed some things. It's hard to do the math because UK theatre figures are kept under close guard. The more you do the more you can have an educated guess. I have had big hits with great royalties and epic fails that still owe. The more you do this job the more you get to know which ones won't make money - it doesn't stop you doing them though. If you're only in this for the money, get out now.

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