



The Three Tenors Live in the Forbidden City

A mystical location never before open to a foreign concert event, 35,000 international power brokers in the audience, an Olympic bid in the balance, a sound 'crew' learning on the job, and a scarily short set up time. All in a day's work for system designer 'Thorny', and FOH engineer John Pellowe. Christopher Holder finds a handkerchief to mop his brow.

When you think of the global heavyweights of concert touring, you'd probably think of The Rolling Stones, or perhaps U2. But spare a thought for the three big guys of classical – The Three Tenors. Every concert is a huge event attended by fans no less rabid about their heroes than their rock 'n' roll counterparts... perhaps even more so. The Three Tenors, since they first shared the same podium in Rome in 1990, have become an institution, and the two gentlemen I've interviewed for this story have been with them on the whole journey.

Alexander Yuill-Thornton II, or 'Thorny' to anyone who knows him, has made a living out of designing and/or optimising sound systems for critical and classical events for 15 years, while John Pellowe cut his classical teeth with a 20 year stint at Decca Recordings before taking control of FOH for The Tenors.

This concert event certainly wasn't the biggest in the history of The Three Tenors (35,000 people attended), but was certainly one of the more fascinating. The location itself (the Forbidden City in Beijing) added instant mystique. While the fact that this was to be the jewel in the crown of China's Olympic bid preparations

(with hundreds of international dignitaries attending) raised the stakes further.

But it wasn't all smooth sailing as we'll soon find out.

Bring Out The Best China

Christopher Holder: *Thorny, being the man to specify and configure the system you must have taken a good hard look at the Forbidden City performance space.*

Can you paint the picture for us?

Thorny: Perhaps the title 'Forbidden City' paints a deceptive picture. It's more of a walled and fortified compound which was the traditional seat of power for the emperor for centuries. There are a number of plazas in the city and we were in one of those. The site was 330m long and 100m wide, with both ends bordered by 15m high stone walls. At the sides were low single story buildings. It's a very popular site for both the Chinese and tourists, so we were not allowed to close the site off until the day before the show.

CH: *As well as popular, it sounds like quite a reverberant area as well?*

Thorny: As it turns out, they built their walls with a back slope to them.

CH: *That was very considerate!*



Thorny: Well, it was certainly of immense help to me.

CH: *So what were the main challenges of the space?*

Thorny: The main problem was I didn't have any say in most of the speaker positions. And the site was so long, I knew there wasn't a system in the world that would throw the 300m required.

Regardless, I can't pile loads of speakers at the stage position anyway. John uses an area mic technique (rather than close miking) on the orchestra and I would soon run into gain before feedback problems.

Furthermore, in this case, the stage was within a horse shoe-shaped set of walls, so I had to be careful about not slamming energy against that wall which could very well have hurt the sound in a number of very high priced seats.

So it was a matter of using various Meyer product to do what I needed. I used MSL6s at the stage – a pair on each side. I set up MSL-4s for down fills, along with UPAs. I used UM-100Ps for front fill and 650Ps for subs. And that was the main system. Then not too far down stage (maybe 25 or 30 metre) where the horse shoe walls ended, they put some direct view video screens for the public. I managed to get space in those left and right, where I started the M3D delay system. Unfortunately those speakers were probably a good 80 or 85 metres apart, and that's where things start to get a bit difficult. With that sort of distance (and the delay towers were even further apart – maybe 100 metres) trying to achieve an even sound is difficult, both because of levels and because of time smear.

CH: *So how many delay positions did you have for the M3Ds?*

Thorny: The original design included a total of 48 M3Ds in four positions each side of the space (including the M3Ds in the view screen positions). But after getting the system partially up we decided to see whether we could abandon the last two positions and found the M3Ds were able to get back there – we were able to get coverage 200m away from the M3Ds (and that's the diagonal distance from the centre of the back). This allowed us to design out the last row of delay speakers. This was a particular boon because we were struggling to get everything set up as it was.

CH: *Why's that?*

Thorny: Well, although the Chinese were very eager, the infrastructure hasn't yet been developed to deal with events of this size. So it's not like doing a show in Australia or Europe or the US where there are experienced vendors who can do staging, who can do power, who can do lighting, etc. In this case we had people learning on the job... which presented challenges to us.

CH: *Would you concur with this John?*

John Pellowe: I would. We had tons of brand new gear coming in left right and centre from different suppliers. The main contractor and local producer, Central China Television (CCTV), wasn't really in the business of staging

concerts of this scale, and they really didn't have any staff who, frankly, knew what they were doing.

Thankfully, Meyer had the forethought to send over two engineers, Dave Dennison and Eddy Vermeersch, to help put the system together. We also had invaluable assistance from Hong Kong: Wango Lee (who supplied the new snake system) came with two of his staff. So between Thorny, myself, Dave Chou (the local supplier), and the rest of our newly formed team we got the show together, but it was very, very tight.

CH: *But apart from just not knowing where all the gears going to be arriving from, what's the problem with having a number of contractors?*

JP: The main one is that you can't be certain all the gear will be compatible, and that the full system has been carefully put together and serviced. For example, the mixer we were supplied with was a J-Type Cadac, which I was very pleased to see. But even though this desk was only five years old, when it arrived it was totally filthy. For such an expensive and lovely piece of equipment I was flabbergasted when I saw the state it was in. Cadac consoles come in a gold anodised finish and they normally look terrific... but this thing was black – it was covered in soot. Anyway, we cleaned it off, fired it up and, as I'd expect from Cadac, it all worked perfectly! But I must admit my heart was in my mouth for a while, because who knows what else had befallen it?

Orchestral Manoeuvres

CH: *John, before we get to The Three Tenors themselves, what's your approach to miking the orchestra?*

JP: I've always used Shoeps mics for several reasons. Firstly, they sound good – certainly there are other mics I might prefer to use in certain circumstances, but the Shoeps are supremely reliable, particularly in wet and humid conditions.

CH: *Why's that then?*

JP: The windshields that Shoeps use (which were origi-



Triple Treat: All three tenors are on Shoeps microphones.

nally designed especially for us for the first Three Tenors concert), have a remarkable and unintended quirk of design that protects them. The windshields have a plastic collar at the base that actually forms a waterproof barrier. And when you've got water running down a mic, it stops it running onto the capsule. In fact, I've worked in some appalling conditions where it's been, maybe, 40 to 43 degrees in the daytime, and very humid at night coming up to showtime, when you can find all the equipment is covered in water. But the mics still worked – I've never had one fail in a critical situation, so much so that I've only used one on each tenor in recent years. The other advantage with Schoeps is the remarkable consistency of output from mic to mic. We have a kit of 60 of these mics that have been bounced around the world countless times but I never have to listen to them to see whether one's a different gain over another – I know they're all exactly the same. So, if I've got a very short time to get things together, and I have to make a certain number of assumptions when I'm setting up the mixer – about what input gain or EQ to use – I can pre-rig my mixer without ever having to put a mic out. I know that when those mics are plugged in they're all going to sound okay. They've got a great product and they've always been very supportive.

CH: So what are the models exactly that you're using?

JP: I use a MK21 (sub cardioid) capsule on strings, and a MK4 (cardioid) capsule on the rest of the orchestra. They're all connected to CMC6 bodies, which is the mic amplifier.

CH: Given your experience recording classical music at Decca, miking up an orchestra in a live environment must be riddled with certain frustrations.

JP: I like to think of them as a challenges. I use a closer miking technique than I would in a classic recording environment, but I still try and get as much as I can of the same (studio) sound. There are compromises, I'm the first to admit it, but you can get a pretty good sound if you work hard at it.

CH: So how close are you placing the mics?

JP: I'm about three or four feet away from the violins and violas, maybe two or three feet from the woodwind instruments, cellos and basses. That sort of distance.

CH: So using the violins as an example, where's the mic positioned?

JP: I put one microphone on a six foot stand per 'desk' (because they sit together in twos) and point it down at the instruments in the direction that they're facing. This method produces by far the best sound. The mic stand isn't directly in front of each pair of musicians – they have a music stand there – but I put it to one side. Because, if you're looking at a right-handed string player normally the projection of the instrument is off to the right hand side of the musician. And obviously it's positioned high enough to capture the instrument that's closest to the mic and the one sitting next him/her. That way you get a natural balance.

CH: What's your stance on compression and EQ in this setting?

JP: I rarely use compression on anything, and hardly any



“If I move Pavarotti’s monitor fader half a dB he picks it up”



John Pellowe (right) gets to grips with a Cadac R-Type at a recent Pavarotti concert in Hyde Park, London.

EQ. People who come and look at my EQ settings on the desk are sadly disappointed. I think on the entire Beijing show I switched in maybe three or four EQs. Certainly I use some high pass filtering – if we're outside and it's likely to be windy then the HPF keeps the low end under control – maybe a 60 or 80Hz roll-off. My philosophy has always been to put the right microphones in the right place. If you do that for classical music, EQ becomes largely unnecessary. That's my plan – and for a show with a same day get-in and a one hour sound check with a mixer I've never seen before, it puts me in a far better position on the starting grid.

CH: And The Three Tenors themselves, are they on Shoeps as well?

JP: Yes. I use the MK4 capsule and the CMC6 body. But we also use active tubes so as to give them a better look.

CH: Active tubes?

JP: Basically you unscrew the capsule from the microphone and the 1200mm active tube goes in between it and the amp which screws onto the bottom. The idea is that all the TV camera sees is a very small microphone – because the amplifier is at the end of the tube and out of sight.

CH: No EQ on The Tenors either?

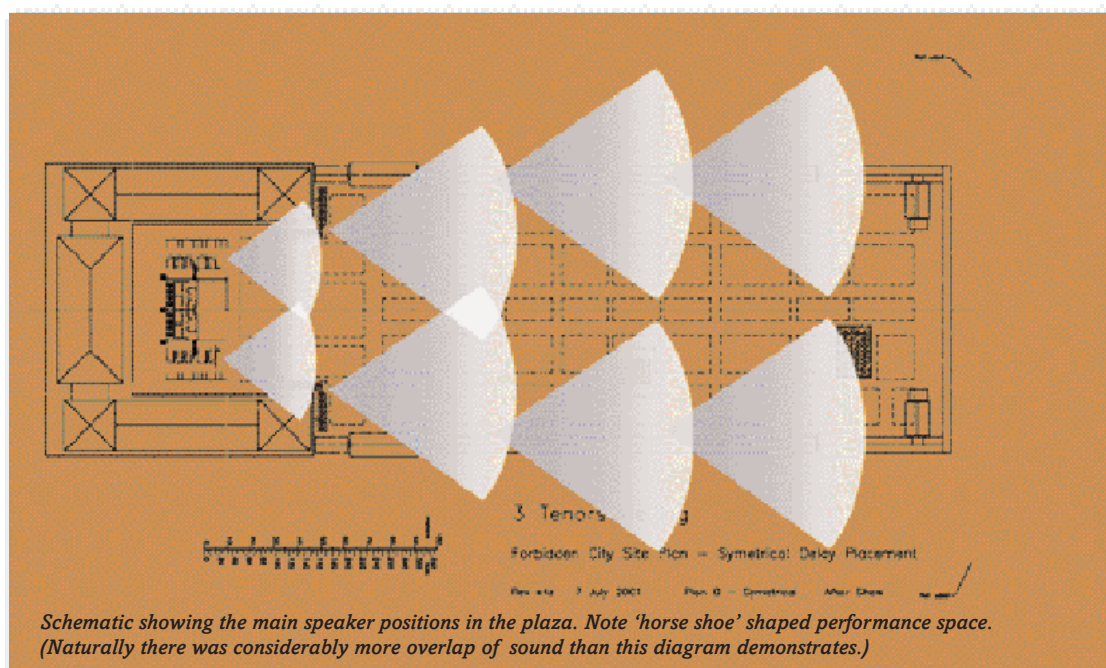
JP: I don't use any EQ on The Tenors and I never have done. There's never been any need. People find it amazing, but I just say, come and have a look at the desk. I just don't.

CH: And similarly, is compression a no-no?

JP: I try not to use compression, The Tenors have a very wide dynamic range – especially when they're singing at full tilt, but I generally prefer to control them with faders. I do use it from time to time with certain other singers. Sometimes I've had some sopranos who have very prickly voices, with a wide dynamic. Instead, when I mix, I drive the faders up and down all the time with my hand. I generally know exactly what's coming next so I can preempt the orchestra and The Tenors and make my fader moves when I need to.

CH: Sounds like you could do this show in your sleep. Do The Three Tenors keep you on your toes in any other ways?

JP: Well, I do their monitors as well, and they're very exacting in this department. They all require very different monitor setups, and they all want to hear very different sounds, depending on their perception at the time. It's never the same two days running. You know what artists are like... what works today may not work tomorrow, and it's nothing to do with you, it's the fact that an artist may be in a different mood.



Schematic showing the main speaker positions in the plaza. Note 'horse shoe' shaped performance space. (Naturally there was considerably more overlap of sound than this diagram demonstrates.)



One of the Meyer M3D delay towers.



Forbidden City slicker: Thorny, on site.

CH: Would 'temperamental' be the word?

JP: They certainly can be. That's what I've made my career out of: dealing with temperamental artists! They're certainly not nasty people, on the contrary, I like all three of them very much, but they're very demanding. They're not the 'that'll do' type of people, everything has to be perfect. And that's why I get so freaked out on these shows when things are going slowly – I would like half a day to get the monitors right for them before they even step on stage. I need a lot of time. It's a very meticulous process. The reverb algorithms need to be absolutely perfect for each one... there's no shortcuts.

CH: I imagine their ears must be incredibly honed.

JP: Yes. For example, if I move Pavarotti's monitor fader even half a dB he picks it up.

CH: Ouch!

JP: I know. I'm very careful... once I've got the monitors to their liking I don't touch anything. That area of the mixer becomes a total 'no go' zone.

Tenors In Stereo

CH: How important is a stereo image in a show like this? Do you do a lot of panning of the orchestral sound?

JP: I try and do stereo shows wherever I can. Although once we get into to the delay systems there's very little point in doing stereo. You get to a certain distance from the stage and doing stereo would be pointless – a lot of people would hear only one channel just because of the way the loud-speaker delays are positioned. But at the front of the stage I like to produce a big, fat, lush stereo sound. And I do that just by panning it in the same way as you would in any other situation. I don't block all the first violins together, I don't block all the second violins together or the cellos etc, I pan things out, so they're spread across the stereo spectrum, that way there's a far

better perception of space.

CH: Do you pan The Three Tenors when they're singing in unison?

JP: Absolutely, I always pan them when they sing their medleys. Domingo is always on the left, Carreras is always in the middle, and Pavarotti is always on the right – not hard left, centre, right... but I do spread them out. And if you listen to The Three Tenors recordings I mixed for the Rome, LA and Paris concerts you hear the same thing.

CH: So you were responsible for doing the live recordings as well?

JP: That's right. For the very first performance in Rome in July 1990, my Decca colleague Jimmy Lock mixed FOH while I handled the recording and live broadcast. We remixed the tapes together.

CH: There's a recording that enjoyed some modest success if I recall correctly!

JP: The Rome recording is the biggest selling classical album ever sold – 15 million copies. Of course at the time we had no idea what we were letting ourselves in for. We knew the importance of the artists, but we had no idea it was going to turn out to be the multi million dollar sensation it did. We had quite primitive equipment, no backup mobile recording van... For the subsequent recordings, such as for the one for the World Cup in LA four years later, I had three mobiles – I had one mobile running purely as a spare just in case one fell over. I think I had six 48-track machines in LA... I'm afraid I leave nothing to chance with those really big productions now.

CH: Have you had any major scares with equipment failing?

JP: No. We've been very close. I think the closest shave I've ever had was on that very first Three Tenors concert in Rome. Two hours before the show the mobile's power stabiliser and the main transformer just went bang. Fortunately our UK-based FOH sound supplier, Sound Hire, had a huge auto transformer with them, and that actually got us going. But if it hadn't been for that transformer we wouldn't have recorded that show which sold 15 million records.

Meyer M3D – A Classic?

CH: Thorny, what's the difference between designing a system for a classical concert and designing a system for a pop concert?

Thorny: Pop music is primarily a product of the studio, and that's not to take away from it at all, it's just that artists tend to do their work in the studio and then bring it to the public after the albums have been released. So the sound of it really depends on what you're listening to it on. Classical music, on the other hand, grew up as an acoustic art form. Most people who attend our concerts have at one time in their lives experienced a live classical concert, so they have some idea in their mind as to what they expect to hear. And certainly those who are avid classical music aficionados have a very clear idea of what they expect to hear. So that puts someone like me in a difficult position. Because, in the first place, we're trying to cover lots of people in

non-traditional or non-appropriate venues and my goal must still be to not disappoint those people who are coming to hear an 'acoustic' concert. I need for them to forget the fact they're listening to amplified sound and to connect with the artists on stage. If they're distracted by the sound, they'll never connect with the artist, and that's not what they paid their money for.

CH: *So the goal is absolute sonic purity?*

Thorny: Absolutely... I'm looking for absolute purity!

John and I endeavour to produce as transparent a sound as we can. To make it as unobvious as we can.

CH: *So is Meyer's M3D line array part of the solution or part of the problem?*

Thorny: There's a lot of things that attract me to the M3D. The big one is that it's part of a large range of Meyer speaker products and it integrates happily with any of the other self-powered speaker systems. I've been involved with V-DOSC a number of times over the years and it's an excellent system, but I like the fact that the M3D is just one part of the over all group of speaker systems and that I have all these other options available to me to solve problems – just like I did in the case of the Beijing concert.

CH: *So you found the M3D quite easy to integrate and set up without too much tweaking and DSP trickery?*

Thorny: Well, yeah. But let's talk a little about philosophy for a minute. For lots of reason to do with my history, I treat speakers as black boxes and not a 'blank canvas' for me to get and tinker with. I have been involved in aligning a lot of systems but it's a very critical task, and one that should really only be undertaken with the speaker designer at hand. Because, really, that's the only way of finding out what their intention was. As you go through the box and set crossover points and set all of the variables that are needed to really

make a speaker work well, it's the designer who can give you an idea as to what they had in mind and what choices they made. So I try never to be involved with playing those games in the field. There isn't the time and the environment generally isn't appropriate to making accurate measurements. So I think of a speaker as a black box that I put a line signal into and let it go to work. And if I need to fix it, I fix it with an EQ upstream of the speaker. So having lots of DSP trickery is all very nice and lots of people are doing it, but I try and avoid it. Again to keep things as simple as possible.

CH: *I suppose that's in keeping with the Meyer philosophy as well – you're never presented with too much opportunity to get 'inside' the box and tweak.*

Thorny: That's right. V-DOSC and JBL's VerTec (and others) use external crossovers and amps, and it's been my experience that everyone wants to get their fingers in there and tweak it. Sure, I know some people who can do better than the factory setting but there's a whole lot of other people who can't. I know one of the things that upsets a number of people about Meyer, is you can't get to it. Even in the early days with the processed stuff the only thing you could do was change amplifier gains, and Meyer has now taken that away from people. Some engineers find that frustrating but I think, quite frankly, it's to their benefit.

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