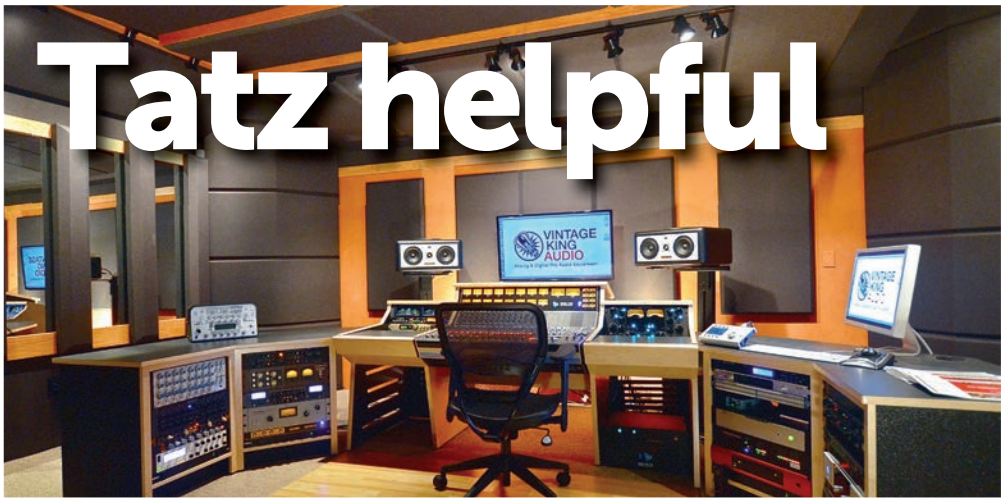
# Tatz helpful




As a follow-up to the 'How-To' article in the May issue of *AMI*, studio designer **Carl Tatz** explains why his Null Position Ensemble should be adhered to when arranging monitors in a control room.

There are many elements to consider when setting up a control room monitoring system, such as room symmetry, proper placement of absorption panels at the monitor's first reflection points, acoustic treatment to calm down reverberation and ultimately subwoofer integration and digital processing.

However, if I were to be asked what one 'desert island' do-it-yourself piece of advice I would share with an audio professional, it would unquestionably be what I have coined The Null Positioning Ensemble – the acoustic trinity between the speakers, console and listener. Nothing you do will offer a more impressive result than applying this concept to your existing set-up, and is an important element to Carl Tatz Designs' proprietary monitor tuning protocol, the PhantomFocus System.

The accompanying diagram is fairly self-explanatory. You will want to pick up a large 60/30º triangle and use some console tape stretched between the outside corners of your speakers while you place the triangle between the speakers and tape as you work towards getting your 30º angle. The operative word here is 'work' because as soon as you change the angle on one speaker, the distance between the two tweeters will change and a sort of see-saw effect will have you quite busy for a while. It takes my assistant and I an entire day to lock them in using a four-laser system we've developed. You should be able to get them reasonably close within a couple of hours or so. Remember it is critical that the tweeters are adjusted to the engineer's sitting ear height – usually around 48-50in.

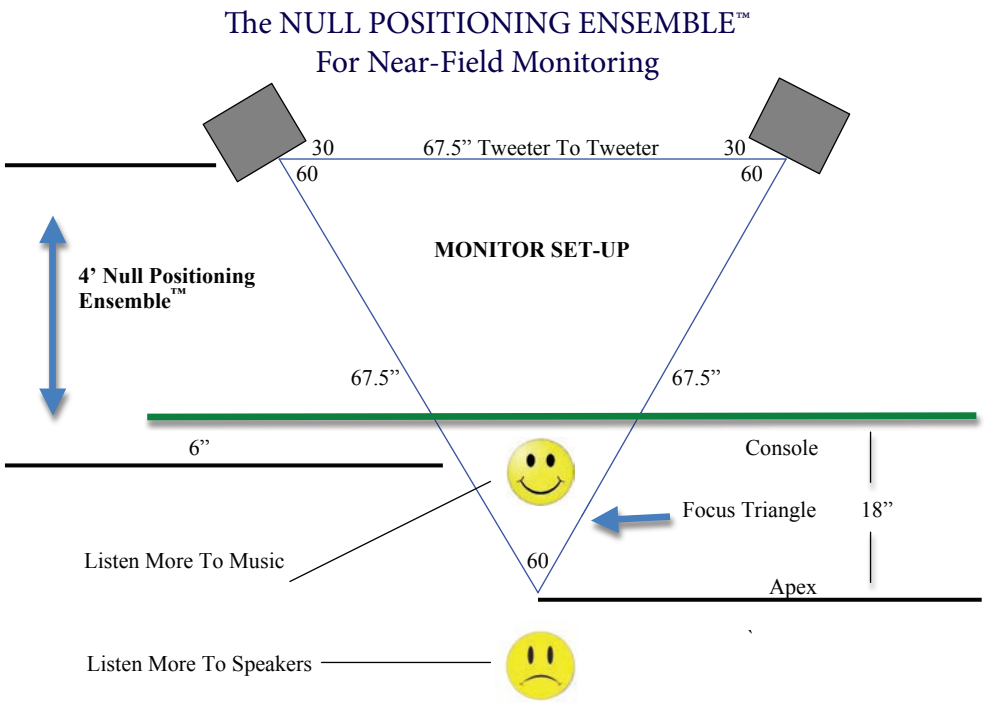
The apex of your 67.5in triangle should be 18in in front of the console bolster. The listening position is approximately 6in in front of the console bolster as indicated in the diagram. Placing a mic stand at the apex will facilitate getting your distance. Of course, before you start you will want to make sure the console is centred in the width of the room and that your apex is positioned at the centre of the console.

Incidentally, I am frequently asked about the specific 67.5in distance from tweeter to tweeter and how I arrived at the measurement. Frankly, this measurement could deviate an inch or two without having the protocol collapse. It was originally distilled from the meter bridge near-field mounting position on an SSL 400G Plus console. We've found that it works quite well with any console or workstation and the reason we keep to the exact measurement is because it allows all our near-field PhantomFocus System installations to be totally consistent all over the US.

Most of you will be using speaker stands and you will likely need to have your speakers cantilever over the console or workstation to get them into position. A suggestion here is that you find a way to adhere your monitors to the stands with some sort of no-slip rubber or even two-way tape, otherwise the speakers will be constantly moving around as you pull the tape across them and you will be chasing your tail.

Careful adherence to the specifics in the diagram is required to experience the desired results. Ball parking the angles, height and distances won't render the 'pop' that you're looking for. Like finding the pocket for the vocal or guitar in a mix, you'll know when you've found it.

If you have taken into consideration the other elements mentioned earlier – in the May issue of *Audio Media International* – about your control room acoustics, then the results of your labour will be the best imaging possible because you have obeyed the laws of symmetry and physics. The centre image will be very strong as the speakers will seem to disappear and your recognition of pan positioning will be accentuated. This is the way stereo was intended to be experienced and renders a very useful tool for mixing.




Monitor tweeter height should be approximately at ear level or slightly above – typically between 48in and 50in

**Carl Tatz**
is the award-winning studio designer and principal of Nashville-based Carl Tatz Design.
***www.carltatzdesign.com***