



ACOUSTOLOGY 11/2003

by Jeff D. Szymanski, Chief Engineer

This month: *Low Frequency Devices ("Bass Traps"), Part 2 – Venus*

[Venus™ Bass Traps](#) are actually the predecessor to the LENRDs®. They are quite simple in design – a 2'x4' panel with 12" deep acoustical wedges. There are a number of details that we should talk about, but first I would like to share an exchange I had with a customer just this week. In it, I pointed out some of the differences between LENRDs and Venus. I felt the points I covered were more than adequate to get this month's *Acoustology* rolling!

Inquiry from Auralex Customer:

"Does the VENUS do everything the LENRD does, and more?"

I have a corner that could use the venus <sic> for heavy low end node <sic> control. Will I be giving anything up that I would get with a VENUS, or will the LENRD do everything?"

My response was as follows:

"Thank you for your interest in Auralex..."

...There has been a lot of talk on what low frequency treatments do and do not work. The truth of the matter is that no matter what you pick, they all have good points and bad. WRT LENRDs and Venus, the most basic differences are:

- LENRDs are designed to help the 75 to 300 Hz range of build-ups in corners.
- Venus helps in the same range - and goes lower.
- Due to the increased thickness, Venus - if placed well - can help as low as 40 or 50 Hz.
- LENRDs are 'compact': corner installation keeps the treatments 'out of the way.'
- Venus are much more bulky. They are 12" deep and can take up quite a lot of space in a room. If you have the space, this is not a big deal. Some folks plain do not. This is where Auralex can help the most. If you are considering Venus and have some space for them, we should absolutely have discussions about where in the room they're going to help you the most.
- LENRDs are perfect for situations where you are using nearfields *only* to monitor your mixes. (Anything producing - or claiming to produce - accurate sound below about 60 or 70 Hz will require a more 'Venus' approach.)
- Venus are most appropriate when you have the space *and* the need for them. If you aren't using large nearfields and/or a subwoofer in your room, you are probably best off spending the money on LENRDs. Also, <if> your room (or budget) is very small, LENRDs are also probably a better bet.

I hope the above and the attached help answer your questions. However, I am sure you will have more. So do not hesitate to contact me should you need more information or answers.

Best regards,..."

There were some follow up questions. Suffice it to say, this customer was using very good reference loudspeakers and – with the help of Venus – should be able to help in the range below the 75 Hz rolloff of LENRDs.

The important thing to remember about the above exchange is the point I made about placement. If you put Venus in the corners, they will help a lot. However, more often than not, LENRDs are already being used in the corners thanks to their compactness and plain ol' ease of installation.

This is where Venus and LENRD diverge.

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Venus traps can be mounted on strategic parts of flat surfaces in the room – typically on walls – so that they can address those dreadful axial modes down to 40 or 50 Hz. And sometimes only one pair is all you need! The only thing you really need to be mindful of is that we will frequently (but not always) want you to place them at ear level. This means losing 12” – or even 24” if a pair are placed one across from the other – of precious length and/or width. If you have the space and you really need the help in this range, then Venus Bass Traps are one of the most cost-effective ways to go!

Some other things to note:

- The larger the room, the higher the cost *and* space effectiveness of Venus Bass Traps.
- If you are using *truly*¹ full-range “nearfields” and/or if you have a subwoofer as part of your system, then Venus are probably a great option for enhanced low frequency control.
- Venus will absorb mid and high frequencies as well as low. So be sure to adjust the amount of Studiofoam accordingly.
- We do not expect you to be the expert when it comes to placement for maximum Venus benefit. There is some science behind it and there may even be some added mounting considerations; either due to modes below 40 Hz or due to ceiling requirements. Please, contact us. Either as part of a full [Personalized Room Analysis](#), or simply to say – as the above customer did – that “I have some Venus Traps and need to know where they go.” If you want to get me (live and – virtually – in person) you can e-mail appsupport@auralex.com.

As a final thought, I would like to address some of the not-quite-complete information that is being perpetuated on the Internet. One of the statements I’ve run across is something to the effect of “foam doesn’t work at low frequencies.” This is *not* true. We test all our products in the strictest possible accordance with national standards on acoustics. We also base product design on decades of combined room acoustics experience. The most telling fact: Virtually everyone here at Auralex has used these products, including Venus and LENRDs. They work the way we say they do. I can certainly delve into the science more if prodded, but it’s probably enough for this column to say: “It’s physics, man!”

Low frequencies are a tricky business. They’re not like mids and highs where you can just “throw some Studiofoam on the wall” and notice a difference. (There is more science behind *that*, but I’ll cover it in a future column!) An improperly placed or poorly designed low frequency absorber will not function very well. This is why I cannot stress enough the importance of getting us in the loop if you are considering “more than LENRDs” for your room.

Next month: *Part 3: “Mega-“ Bass Traps and other low frequency control methods, techniques and tips.*

¹ Many “nearfields” are only accurate down to 50- 80 Hz. At or below this range, there could be as much as 8 dB of “swing” (or more) in the actual response. Be very sure of what your monitors are capable of before considering Venus Bass Traps.