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by Jeff D. Szymanski, Chief Engineer

This month: *A diversion into floating floors*

OK – I lied. Well, I didn't really. I said last month that I was going to write about more bass trap stuff this month. However, I have since decided that a break is in order. I follow quite a few of the Internet discussion groups on acoustics and studio design. I will probably cover these in a future column, but suffice to say that this month I would like to address a specific topic that has received a lot of attention in one group in particular: Floating Floors.

Auralex offers several different products to help you float a floor in your room. In particular, we offer the U-Boat™ Floor Floater as a cost-effective device for floating a permanent floor. There are a number of facts about U-Boats that I thought I would clarify, as well as some general facts about floating floors:

U-Boats were designed to replace costly rubber and compressed fiber isolators in floating studio floors. Some of the competing devices out there easily could cost you tens to hundreds of dollars each. We knew there had to be a better way! Enter the U-Boat. For a couple of dollars each, you can float any "2x" framed floor. The exact use of U-Boats is covered on www.acoustics101.com, so I will not go into specifics on application here. Instead, some facts about U-Boats:

- They are made of a material called "EPDM" rubber. This is *not* neoprene. EPDM is a rubber that will last longer and withstand harsher environments than neoprene. "SBR" is another rubber material you might have come across. Again, EPDM is better. While the vibration isolating properties of neoprene, SBR and EPDM are all very similar, the reason we went with EPDM for U-Boats is due to the "longer lasting" benefits. For example, neoprene will tend to crack and deteriorate over a period of about 10 to 15 years. EPDM will last at least 3 to 5 times longer.
- U-Boats are specifically designed to go around a "2x" framing member. (The narrow end.) By doing this, they prevent the framing members from shifting. If a framing member shifts – as it might if it is simply sitting on a puck of some sort – the isolator could short-circuit and become completely useless.
- Any isolators – including U-Boats – must be properly spaced according to their own physical properties and according to the mass they're supporting. If isolators are not spaced properly, coupling or even amplification could result. "Coupling" means that vibration passes through the isolator as if it is not even there. "Amplification" should be self-explanatory; the vibrations will actually be amplified as they pass through the isolator! For proper spacing of U-Boats, we have an [FAQ](#) that goes into more detail. For other isolators, the manufacturer should be able to provide you with the correct information. For "DIY" isolators that you make/build yourself, you are welcome to contact us to inquire as to their proper spacing. However, I will warn you that this is not "easy math" and – since we can't know the exact properties of the material you are using – we will probably not be able to "guarantee" results.

Here are some other questions we get from time to time concerning U-Boats:

1. *Can I float a concrete floor using U-Boats?*

Normally, this is discouraged. If you are pouring a concrete floor, there are better ways to float it than U-Boats.

2. *How much weight will U-Boats support?*

Again, we have a great [FAQ](#) for this one as well!

3. *What about using U-Boats when I build my walls on top of my floated floor?*

No problem. The only catch is that you should halve the spacing around the perimeter of the floor. In other words, if your spacing for the main floor is 24" on center ("o.c."), then space the U-Boats 12" o.c. around the perimeter to support the added weight of the walls (and possibly the ceiling as well).

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4. *Should I use SheetBlok™ under the U-Boats, over the existing floor?*

Normally, this is not necessary. If you have a very lightweight floor to begin with, it cannot hurt. But if you plan on using several layers of material to finish the floated floor – including SheetBlok – this is probably overkill. It should be noted, though, that SheetBlok under the U-Boats will not add to the “floating” very much. It is mostly acting as a sound barrier below the floated floor.

5. *Can I use Platfoam™ as a substitute for U-Boats?*

Not really. U-Boats are a product for permanent floors. Platfoam is designed to be used to float drum risers or other (non-permanent) isolated platforms.

6. *What about U-Boats and earthquake code requirements?*

Chances are you will have to install what are known as “snubbers” to make sure your floor meets any local earthquake codes. (This is only usually relevant on the west coast and in parts of Missouri and Illinois.) You should consult with a professional regarding this application as we cannot guarantee U-Boats meet any sort of earthquake code requirements.

I hope this clears the air on our U-Boats, as well as on some general floating floor issues. Should you have questions, please do not hesitate to contact me at appsupport@auralex.com!

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