

INDUSTRY UPDATE

AUDIO NEWS & VIEWS

US: FLEETWOOD, PENNSYLVANIA

Julie Mullins

Jonathan Weiss doesn't do things the ordinary way. Nor does he follow the usual audio industry processes.

In 2006, Weiss founded Oswalds Mill Audio (OMA), manufacturer of a range of high-end loudspeakers and other products with exotic, vintage-inspired approaches and designs. Serious handcraft and bespoke materials, from solid hardwood enclosures to leather from luxury makers Hermès and Jean Rousseau, are behind OMA's upper-echelon pricing.

Stereophile readers might not be familiar with his speakers, for a couple of reasons. Weiss doesn't do audio shows (at least he hasn't for the last several years), and he rarely submits products for reviews.¹

Weiss recently launched a more accessible companion brand, Fleetwood Sound Company. The name is not a Fleetwood Mac reference; rather, it nods to something older: the Fleetwood Metal Body Company, where early high-end automobile coaches

were made during the first few decades of the 20th century, at a time when some cars were made by custom order. Four years ago, Weiss purchased a 42,000-square-foot factory space in Fleetwood, Pennsylvania, near that historic manufacturing company.

"I saw the potential to expand, to bring the woodshop in-house and to be able to mass-produce so that we can bring the price down," Weiss said by phone from his Brooklyn showroom.

Compared with his OMA "extreme" speaker designs, for which prices can rise to six figures, the smaller-scale Fleetwood Sound lineup is intended as a less costly entry point.

The use of horns can suggest classic, even old-timey speaker designs. Indeed, Weiss has a collection of antique cinema and studio audio equipment, dating back to the 1930s, housed at Oswalds Mill Audio's namesake 200-year-old mill building in Eastern Pennsylvania.

"Sound is not something that technology can change, right? Sound waves—once you have an ideal loudspeaker, that ain't going to change,

SUBMISSIONS: Those promoting audio-related seminars, shows, and meetings should email the when, where, and who to stletters@stereophile.com at least eight weeks before the month of the event. The deadline for the January 2021 issue is October 20, 2020.



ever," he told me. "What is going to change are the electronics that run it, the source that feeds it. ... I have speakers, monitors from the 1930s

¹ *Stereophile* has reviewed some of Weiss's products in columns, including the specially plinthed Technics SP10, which currently sits on *Stereophile's* Recommended Components list, p.37.—Editor

and '40s, that are fantastic things, just incredible-sounding; they just don't have any power-handling."

Before developing the Fleetwood Sound line, Weiss visited the stores of some hi-fi-dealer friends.

"I'm looking around, and what am I seeing?" he recalls. "It's 90% two-way, standmount, and floor monitors. They all have rubber surrounds. They all have a dome tweeter. Now some of them, very few, might have an AMT or a ribbon tweeter, but mainly it's domes. So I thought, what would we need to do if we wanted to come into this ecosystem?"

Weiss wanted to keep his preferred horns to make the speakers as efficient as possible. "So we made a high-efficiency version [of a two-way]," he said. "We made it with professional drivers, and we made it out of real wood, and we made it with a real horn and a real compression driver so it would have power-handling."

The result is the DeVille stand-mount speaker, which features solid, conical, torrefied wood horns. According to Weiss, it will retail for under \$10,000 per pair, without the stands. A slightly larger, active speaker, the Excelsior, is forthcoming. The Fleetwood Sound website touts its wares as "The last loudspeakers you'll ever need."

That's a bold claim. What's behind it?

Weiss likens his solid wood speakers to an heirloom musical instrument or furniture: They are made of hardwoods that are meant to age and last.

"A good piano is something for the ages," he said. "Because it's made out of natural materials, and the way it's made and finished, if you scratch or dent a piece of furniture that's got an oil and wax finish on it, you just put oil and wax on and sand it out."

After talking about how wood naturally ages, Weiss described torrefaction, a process that "cooks" wood to "age" it.

"In Scandinavia over the last 20 or 30 years, they've developed a process where they put wood into an oven and turned the temperature up to the point where it would catch fire. But it didn't catch fire because they took all the

of decades and centuries. You know, you can't copy a Stradivarius or an old Martin guitar because the wood has aged. It's gotten darker, it's gotten drier. The tonality changes."²

Weiss mentioned another technological development that will be utilized in Fleetwood Sound's forthcoming products: the use of gallium nitride (GaN)³ transistors for amplification. "We developed our GaN amplification. It's not off-the-shelf anything," he told me. "It took us two years. So we'll be coming out with our own GaN amps, and the Excelsior will be the active speaker using that."

Describing his horn designs' power handling, Weiss used an automotive metaphor. "The limitation of all those two-way speakers is always the mid-highs; it's always the tweeter," he told me. "And I thought, well, why not give people something that has balls and that you can really put your foot on the gas and go somewhere? That's unlimited dynamic range."

The automotive analogy works another way: Weiss's products' evolution parallels that of the carriage-to-automobile shifts—of bespoke Fleetwood Metal Body to Ford's Model T. In the

case of Oswalds Mill, it's the switch from handmade speakers to Fleetwood Sound's more mass-produced approach, with customizable aesthetics but standardized parts.⁴

"The problem with audio is that it's like Henry Ford [said], 'They can have the car in any color so long as it's black,'" he said—although he acknowledged that some companies will paint their speakers whatever automotive color a buyer wants.

In addition to a standard range of

CONTINUED ON PAGE 191

² Torrefaction of the horns would seem to suggest that the woods the horns are made of are intended as tonewoods, but Weiss assured me in a follow-up email exchange that he doesn't view that torrefied ash—the DeVille's tops and bottoms are also torrefied—as tonewoods. Rather, he insists that all materials affect the sound, even if the effect is subtle, and he wants to make the DeVille's horns sound as good as possible. Plus, torrefaction stabilizes the wood—important in wood speakers intended to last decades.

Weiss also told me that a recent batch of DeVilles use torrefied ash for the whole enclosure, to good effect. Those will be a little bit more expensive.

—Editor

³ Although a fairly recent trend, manufacturers of Class-D amplification are increasingly embracing GaN transistors. Companies already using GaN include Panasonic/Technics, Merrill Audio, Orchard Audio, and LSA Electronics. —Editor

⁴ Volti Audio described a similar transition in Tom Gibbs's review of another horn-based wood speaker, the Volti Razz. See stereophile.com/content/volti-audio-razz-loudspeaker. —Editor

Relax.



Love tubes without worrying about them.

[Continued from page 15]

finish and wood options, Fleetwood Sound will offer customization for speaker cabinets: your choice of hardwoods and just about any custom cover, including leather, cork, crocodile, denim, Japanese paper—even an old pair of Levi's, Weiss said.

US: DRAPER, UTAH

Kalman Rubinson

The use of negative feedback to reduce distortion is one of the pillars of modern audio. The principle is simple: Take a portion of the output signal, compare it to the input signal, then subtract the difference, thereby removing the error, or part of the error. The result is that the output more accurately represents the input.

Loudspeakers often have distortion levels much higher than those of amplifiers, and there have been schemes for negative-feedback correction of loudspeakers (especially bass drivers), most in the form of a servo, a device that senses an error and uses negative feedback to correct it. Servos have been most common in subwoofers but have started to appear in modern active loudspeakers as well.

A key to making this kind of arrangement work is accurately (and affordably) measuring the position of a driver's diaphragm. The most common approach is to embed an accelerometer in the loudspeaker diaphragm; acceleration is *related* to position, so position information can be extracted. But there are problems with this approach. First, an accelerometer adds mass to the loudspeaker cone. Second, an accelerometer doesn't directly measure cone position, it infers it; it cannot detect drift over time in a cone's equilibrium position, and that can lead to increased distortion.¹

At CES 2020, subVo (subvo.com) introduced a new positional-sensor technology consisting of a proprietary carbon ink screen-printed on a thin film. In the usual configuration, the film is mounted between a loudspeaker's cone and any stationary part of the loudspeaker driver such as the frame or the magnetic structure. The resistance varies with the curvature of the film, and a voltage divider converts the sensor resistance into a voltage signal that is a linear function of the displacement. The output is similar to that from a laser-based position sensor: Both accu-

rately measure transducer movement, but, for the moment at least, the latter is restricted to the lab, while subVo can be embedded affordably in real-world loudspeakers in the field.²

Precisely monitoring loudspeaker excursion allows subVo's klaraT controller algorithm, which runs in the DSP, to correct distortion and make full use of a woofer—using it maximally while avoiding overdriving it. The result is deeper bass with less distortion. Keeping the excursion within limits protects the driver and extends its lifetime. And because it directly measures driver position, it can detect—and correct for—drift in a cone's equilibrium position.

I can see the innovative minds behind the new generation of DSP-powered active loudspeakers buzzing over having a tool like klaraT to further reduce distortion and enhance performance. I'll be pleased if it eliminates the controversy over burn-in, if only in loudspeakers. ■

¹ An existing alternative technology, which is just starting to be used in practical loudspeakers, utilizes ultrasound. See patents.google.com/patent/US8300872B2/en. Yes, there are new things under the hi-fi sun.

² See youtube.com/watch?v=coFkOVJqqog.