



Speakers With Soul

With little mechanization but plenty of know-how, Totem Acoustic builds extraordinary speakers in its Quebec workshop.

Text and photos by **Brent Butterworth**

I've toured countless speaker factories, but this one looks unlike any I've ever seen. "Where are the assembly lines?" I wonder. "Where are the conveyor belts? Where are the computer-controlled routers?" I spy nothing here that you wouldn't find in any well-equipped professional woodshop. If I didn't see the speakers being produced, I would have thought I was in a custom furniture factory.

Kris Sand, who manages the cabinet shop for Totem Acoustic, prefers to talk about the skill of the artisans in his facility rather than the tools they use. "We have people who have been with us for 40 years," he says, "And I've personally inspected all but about 500 of the speaker cabinets that Totem has ever produced." But how does this surprisingly traditional shop produce such a polished product? "We do our woodworking the same way my father and grandfather did," he replies. "The most modern machine in this shop is older than I am."

Surely there must be more to Totem's production facilities than this modest woodshop, I insist. "We do the engineering and the final assembly at our headquarters back in Montreal," explains Vince Bruzzese, who founded Totem Acoustic 20 years ago, "but the fanciest thing we have in our assembly shop is an electric drill."

An operation like Totem's is almost unimaginable in this day and age. Almost all speakers are now produced in Asian factories by machines or semi-skilled workers; there's no more craftsmanship in them than there is in a cell phone or a plasma TV. Practically everything Totem Acoustic does runs counter to this trend.

"There are nine hours of North American labor in that speaker," Vince says, indicating a Model 1 Signature bookshelf speaker in his office. "CNC machines have precision, but there's something about the feel of handmade."

Anyone who hangs out in Vince's office for more than 15 minutes is likely to hear him utter the phrase "lock mitred" at least once. It refers to a woodworking method in which a zigzag pattern is routed into the ends of two panels before they are glued together at a 90-

degree angle. It's one of the features that distinguishes Totem speakers. "Lock-mitred construction makes a cabinet four to five times stiffer," Vince says. Audio engineers consider stiffness perhaps the most important trait in a speaker cabinet because it minimizes extraneous vibrations that negatively affect a speaker's sound.

"The MDF panels we use to build the speakers are all veneered on both sides," he continues, noting that this procedure—even though it's invisible to the consumer—makes the cabinet panels less likely to warp and more likely to keep their looks for decades. "The speakers age beautifully, like fine furniture. We had a 15-year-old pair come in for repair a few days ago, and they still look like new."



Various models of Totem speakers (left) greet the visitor at the company's Montreal-area headquarters. The workshop that builds Totem speakers (right) incorporates only basic woodworking machinery.

"It's not that we're necessarily 'old school,'" cautions North American sales manager Nico Bruzzese. "It's a combination of fine craftsmanship and modern technology, such as the borosilicate damping material we use inside the cabinets."

Like the speaker cabinets, the circuit boards for the crossovers rely on seemingly anachronistic construction methods that demonstrate a striving for maximum performance rather than a rejection of modernity. Most speaker crossovers use printed circuit boards, which comprise a thin substrate with a matrix of copper traces underneath; all of the capacitors, inductors, and resistors are soldered to the copper traces. Totem, in contrast, assembles crossovers using techniques that date back to the early days of electronics. Components are secured to a thin piece of fiberboard, then connected directly to each other rather than to copper traces.

Why not use a printed circuit board? "PCBs are often exposed to contaminants," Vince responds, "and that changes their electrical properties. If anything in a speaker changes, the magic starts to fall apart."

Most of Totem's crossovers don't even employ soldered connections. Instead, screw terminals provide the interface between components. "Solder takes away from the sound," Vince explains. "We prefer to use mechanical crimping where we can."

It's in another area, though, where Totem really takes its construction philosophy to extremes. As Nico walks me through the assembly area, I notice a huge rack of wire in various gauges, types, and colors. I doubt my local Home Depot offers so many varieties. glued together at a 90-degree angle. It's one of the features that distinguishes Totem speakers. "We use 20 different kinds of wire in our speakers," Nico explains. "Each of the wires is made specifically for a particular driver, in order to maximize the performance."

There's a comforting, supernatural aura about Totem Acoustic and its products, and it's more than just the pretty wood finishes and the Native American decor and candles displayed around the company's headquarters. It's a sense that there's something going on that you know is good, but that's difficult to fully grasp.

For example: Many of the company's speaker models seem similar, yet every one is made differently, using different woofers and tweeters, and subtle variations in dimension. A speaker aficionado has to wonder why the collection includes many seemingly similar speakers—and why so many older models are still in the line after a decade or more on the market.

"We have a different philosophy," says Lucy Lentini, Totem's vice president of sales. "We don't built a series of speakers, and we don't change them after five years just for the sake of revamping the line."

Most speaker lines start with a single design and grow as larger and smaller models are added; oftentimes, many of the later models do not live up to the sound of the original. With Totem, every model is singular, with no underachieving brothers or sisters. "All of our products are optimized to sound as good as they possibly can," Nico says. "The design isn't driven by a marketing or finance department."

Vince elaborates, "All of our speakers—even the Dreamcatcher, which is only \$450 per pair—have drivers that are custom-designed to suit them. We seek synergistic woofer/tweeter combinations. We don't use the same tweeter or woofer throughout the line."



Totem founder Vince Bruzzeze evaluates home theater speakers in the company's Native American-themed theater (left). The speakers' crossovers (right) use no solder, only mechanical connections.

When asked to explain what philosophy or sound characteristic ties all of Totem's speakers together, Vince explains: "The sound of our speakers doesn't change much as you walk around the room. They're almost omnidirectional. Before, you had to sit in "praying mantis mode" in front of your speakers, in just the perfect spot, or they didn't sound good.

"A speaker should be like a human voice," he continues. "If you hear my voice from straight on or from 45 degrees off, it sounds natural either way."

As I listen to various pairs of Totem speakers set up in Lucy's office, Vince's summation—"The speakers are technically incredibly strong, but have the capability of translating emotion"—rings true. None of the speakers exhibit annoying sonic colorations. Male voices sound deep but never bloated, and female voices sound clear but never reedy. All of the speakers throw broad, deep soundstages in front of me, creating a

lifelike ambience—and the fact that Lucy's office has no acoustic treatment doesn't seem to bother the speakers one bit.

If there's a sonic signature common to all these speakers, it's in the tweeters, which sound exceptionally smooth and inviting. When Vince plays some of his favorite jazz CDs, I can't decide if it's the glowing finishes of the cabinets or the sound of the speakers that calls to mind the warmth of a wood fire in wintertime, but the emotion he spoke of before is evident. Many speakers with this sort of sound tend to obscure the subtleties of delicate instruments like flutes and cymbals, but with the Totems, they're all there.



Lock-mitered joints (left) enhance the stiffness of Totem's speaker cabinets. All of the speakers are hand-finished (right).

I do notice, though, that the character of the speakers varies subtly, as might the same wine or cigar produced in different years. Each seems to have its own personality, whereas in most speaker lines, the products sound pretty similar except that the larger ones produce deeper bass. Outside of the difference in bass response among Totem's speakers, it's tough to pinpoint what makes them different from each other—perhaps a slightly airier, more delicate sound in one, a somewhat more robust, focused sound in the next.

"Each speaker has a different personality," Vince stresses. "It makes it hard to recommend a certain speaker for a certain customer. We suggest they listen to several of our speakers and just pick the one that seems right. They might end up choosing a less expensive model instead of one of our higher-priced units, but that's OK—we just want them to be satisfied."

"With Totem, the speaker chooses you," Lentini adds.

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