

# R.S. Muth Guitars

New York State luthier builds innovative steel-string flattops.

By Jason Borisoff



Luthier Randy Muth works the side bender in his shop.

**BASED JUST DUE SOUTH OF HAMILTON**, a small town in picturesque central New York State, Randy Muth builds beautiful guitars in a modest basement shop in his home. At first glance, his auditorium-size guitars (he rarely builds dreadnoughts and jumbos) look like many other luthier-made instruments, but under the hood, there are innovative design elements gleaned from many hours of scientific research.

Having earned a PhD in organic chemistry, Muth discovered that his steady industry job didn't offer the level of creativity he was looking for. After teaching himself basic woodworking skills while remodeling his basement in 2004, Muth decided to merge his passion for music with his talents as a builder. Corresponding with other luthiers, reading books on guitar making, and working on guitars through a process of trial and error eventually provided Muth with the confidence to go into business. "I like to be on the steep end of the learning curve," he says.

## Finding a Match

Working in a very small shop and with a basic set of tools, Muth spends many hours a day experimenting with nearly every element of traditional flattop guitar design. "My guitars have a lot of clarity, and they're pretty articulate, so they appeal to fingerstylists," Muth says. "But I also build for people who flatpick or just like to strum. It's a matter of knowing how to build the guitar to each need." For example, heavy-handed players need a guitar with a lot of dynamic headroom,

while fingerstylists who play with a lighter attack tend to prefer a responsive guitar with a light top. "It's like a speaker, though; you can overdrive it," Muth says. "It's about choosing the right wood and working with it. That's the fun part."

## Tradition Meets Innovation

Muth has great respect for tradition, and while he uses many conventional design elements in his instruments, he always has an eye out for potential improvements. The first unique thing a casual observer might notice about his guitars is the grafted headstock. "It's a Spanish V joint, typically seen on classical guitars," Muth says. "It's really strong—the strings are pulling the joint together." His necks also include two carbon-fiber rails under the fingerboard that run the length of the neck, splayed out parallel to the outer edges, and a hard maple dowel extending down through the heel to prevent flexing. This design aims to provide a strong, stable playing surface.

Drawing again from classical guitar design, Muth adapted the Spanish foot to transfer some of the neck's tension to the back of the guitar. But unlike traditional Spanish foot construction (in which the sides are glued into slots in the neck block), Muth uses a floating bolt-on neck. "Normally, the fingerboard extension is glued to the top, and it's playing a structural role there," Muth says. By leaving the neck extension independent of the top, and supported more from the back via the adapted Spanish foot, he claims that the tension that can cause soundboard deformation is reduced, and the neck can function solely as a playing surface.

## Adventures in Bracing

Muth uses carbon-reinforced A-frame bracing to support the top of the guitar as well as the fingerboard extension, which increases the overall strength. But the A-frame is just part of a larger bracing structure. The bridgeplate is fashioned of carbon fiber and spruce, which makes it



more durable, preventing damage from the strings' ball ends and deformation from string tension, and provides extra clarity and pop to the sound. Muth's unique lower-bout bracing pattern combines elements of X and fan designs, an approach he arrived at through extensive experimentation. "I don't have all of the explanations yet," he



The Ascent model's hybrid X- and fan-bracing pattern.

says. "The discovery came before the explanation. All I know is that it works!" The neck and bracing design are hallmarks of Muth's guitars, and come standard in his S models, which are available with 14-, 15-, and 16-inch lower bouts and have a starting price of \$4,000.

### Ascent Series

Muth's Ascent Series models, which start at \$4,500 and are available in the same sizes as the S models, also use his distinctive bracing pattern but break even further from conventional flattop design,

**Muth adapted the Spanish foot design to transfer some of the neck's tension to the back of the guitar.**

displaying the luthier's innovative tailpiece. The result is an instrument that visually resembles a Maccaferri Gypsy guitar, but is much different in both sound and design. "I had been interested in building a flattop with a tailpiece, but the problem is, in order to get enough break angle, you have to brace the top really heavily," Muth says. "What you end up with is more of a Gypsy jazz sound." Needing a way to achieve the break angle in the strings without adding excessive downward force, Muth found the

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solution in a patent for a stress-free bridge by luthiers Ned Steinberger and Steve Grimes. Muth adapted the design, which achieves the break angle parallel to the face of the guitar rather than perpendicularly, allowing him to control the amount of downward force to the soundboard. Rounding out the guitar is the use of an elegant tailpiece designed by luthier Erich Solomon. “Now we have a guitar that isn’t going to cave in, and it gives me the latitude to do whatever I want with it,” Muth says.

Due to the glued bridge and unique saddle design, the Ascent Series produces the rich tones associated with pin-bridge flattop guitars, despite having a tailpiece. Like most flattop guitars, the top is excited mostly by torque rather than downward force, like the tops of Gypsy-jazz or archtop guitars.

### Tonewood Choices

Muth uses a variety of woods in the construction of his instruments. He likes to use Lutz spruce (a hybrid of white spruce and Sitka) for his tops, but he works with many other species as well, including Italian and Adirondack spruce. For the back and sides, he uses a wide variety of woods—including

East Indian rosewood, mahogany, Australian blackwood, koa, hormigo (a highly-figured South American wood typically used in marimba construction), and walnut—chosen for visual as well as tonal characteristics. “I get in trouble, because I’ll buy a piece of wood that looks and sounds good, but if it’s not a standard wood, I might not be able to sell it,” Muth says. “People tend to be conservative with the back and sides.”

Muth prides himself on building guitars that fit the individual needs of his customers. When someone approaches him about building an instrument, the correspondence usually starts with a long musical conversation. If possible, Muth likes to listen to his customers play. “I can get a pretty good sense of what



Randy Muth’s Ascent model includes his unique bridge design with an archtop-like tailpiece.

they’re trying to do with the guitar when I hear them play,” he says. By noting the customer’s tone, speed, and attack, Muth can tune the guitar to complement his or her individual style.

Muth’s customers tend to play a wide variety of styles, including fingerstyle, bluegrass, and straight-ahead jazz. He steadily churns out about 15 instruments a year, and if you’re interested in your own custom Muth guitar, the list is about eight months long. But it’s worth the wait! **AG**

**Jason Borisoff** of Syracuse, New York, splits his time between writing for *Making Music* magazine and performing with acoustic folk and jazz bands.

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