

# Your Fiddle's Secrets Revealed—for a Price and with Hi-Tech Tools

Instrumental Insight wants to give you a more complete picture of your instrument's true nature

By [Patrick Sullivan](#) posted September 2012 ★★★★★



Terry Borman and the CT machine, left, and a scan of a violin, showing many crack-stabilizing cleats.

Imagine you're buying a house. You're about to fork over \$300,000—or maybe three or four times that. Do you close the deal without having an independent expert use the latest techniques to determine whether the building has a termite infestation or a damaged foundation?

No way, says Arkansas luthier **Terry Borman**. “And if the seller of the house said, ‘I’ll take care of the appraisal—let’s just close the deal,’ I think most people would be uncomfortable with that,” Borman says. “Yet that’s often the way it works for stringed instruments right now.”

His solution is **Instrumental Insight**, his new business that uses computed tomography (CT) scanning, as well as dendrochronology and ultraviolet varnish analysis, to examine violins, violas, cellos, and virtually any other instrument made of wood. “The purpose is to give a completely independent evaluation,” he says.

A trip to the hospital kicks things off. “We have access to CT equipment in just about any city in the world, so we go to where the musician or dealer is,” Borman explains.

After placing the instrument in a foam cradle and scanning it, Borman's team uses specialized software to turn data into thickness maps, elevation maps, and other images. This analysis can reveal important secrets that otherwise may be difficult to find, such as a top with areas of thinning wood or a soundpost patch beneath a breast patch.

"Patches fail," Borman says. "But if you didn't know about patches underneath patches, you wouldn't even know where to look to fix a problem like a buzz." Borman's company also offers dendrochronology reports, which use tree-ring analysis to establish the earliest probable manufacturing date, and UV varnish analysis, which can reveal where touchup varnish has been applied, for example.

"CT scans have their uses," appraiser [Philip Kass](#) notes. "Many, if not most, repairs will show up on one. This isn't to say that these same repairs won't also be visible to the naked eye, but there have been a few cases, primarily involving larger veneer patches, where the repairs were very deliberately made hard to spot."

Still, Borman acknowledges that CT technology has limitations—a thought echoed by other experts. For instance, CT scans don't help much when judging authenticity is a concern, Kass adds, because the CT images don't reveal such critical information as the type and origin of the wood used for the body, purfling, and internal blocks and linings; the shape and structure of the soundbox; and the type and quality of varnish. "Most of the details that distinguish one maker from another are tied up in the small details of construction and finish—how did he create this, what steps, and in what order—that a CAT scan can't reveal but a hands-on physical inspection by an experienced and knowledgeable expert can," Kass says.

Ultimately, the added cost may be a factor in deciding to have a report compiled. [Condition reports from Instrumental Insight](#) are \$5,000 for each instrument, plus a one-time charge for travel and other related expenses, which Borman estimates at \$700. Dendrochronological analysis adds another \$700. UV varnish analysis costs vary depending on the instrument. "It's not inexpensive," Borman acknowledges of the Instrumental Insight service. "But for instruments above \$100,000, it starts to make a lot of sense."

Musicians and collectors may cast the deciding votes on whether it's justified. "I think many shops welcome the opportunity because they want more transparency," Borman says. "But they're also saying, 'Why should we spend additional money unless musicians request it?' That's true, why should they?"

"When musicians realize what's at stake, they'll start asking for this," he adds. "Once you've seen an instrument scanned, you think it's crazy to buy without doing one."

[See samples at Instrumental Insight.](#)

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