



DIGITAL PLAYERS: Designed in Canada but built in China, the Raysonic CD128, plus a DVD player that decodes HDCD for just \$80!

WE ALSO REVIEW: The Moon LP5.3 phono preamp, the new Castle Richmond 7i speaker, a power filter from Audioprism, and two terrific upscale cables

PLUS: The problem of contrast in video images, the acoustics of speaker placement, and full coverage of the two Vegas shows

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Cover story: The Raysonic CD128 player, reviewed in this issue. Behind it: Enceladus, one of Saturn's smaller moons, which however may have water, making it a possible market for the audio industry. Or not.

ACOUSTICS

- The Acoustics of Speaker Placement** 18
by Paul Bergman
 What really happens when you move your speakers over a bit

CINEMA

- Image contrast** 22
 How do you get maximum contrast in your home theatre image? It turns out that "contrast" has two different meanings.

FEATURE

- Two Shows in a Vegas in Transition** 26
by Gerard Rejskind
 CES and T.H.E. Show in words and pictures

RENDEZVOUS

- The Electrostat Man** 38
UHF talks with a pioneer in the development of electrostatic loudspeakers, Roger Sanders

THE LISTENING ROOM

- The Raysonic CD128** 40
 Designed in Canada, assembled in China, this hunk of brushed metal and blue light delivers

- The VisionQuest Vision** 44
 Can you believe this? A reasonable movie player, plus an audio player that decodes HDCD, and all for under \$80!

- The Castle Richmond 7i Speaker** 46
 It's been a couple of years since a UK bank changed the locks at the Castle plant. But the marque is back, from a different continent.

- Moon Phono LP 5.3** 50
 As the vinyl disc picks up unexpected steam against the shrinking CD, Simaudio offers an upscale link from phono cartridge to preamp

- The Audioprism Power Foundation III** 53
 In our last issue we found this filter to be pretty good. Now we unlock all its goodness.

- Two Upscale Cables from Atlas** 55
 Atlas challenges the state of the art. and convinces us to make another change to our reference

SOFTWARE

- Placido Domingo** 65
by Reine Lessard
 A third of The Three Tenors, but so much more!

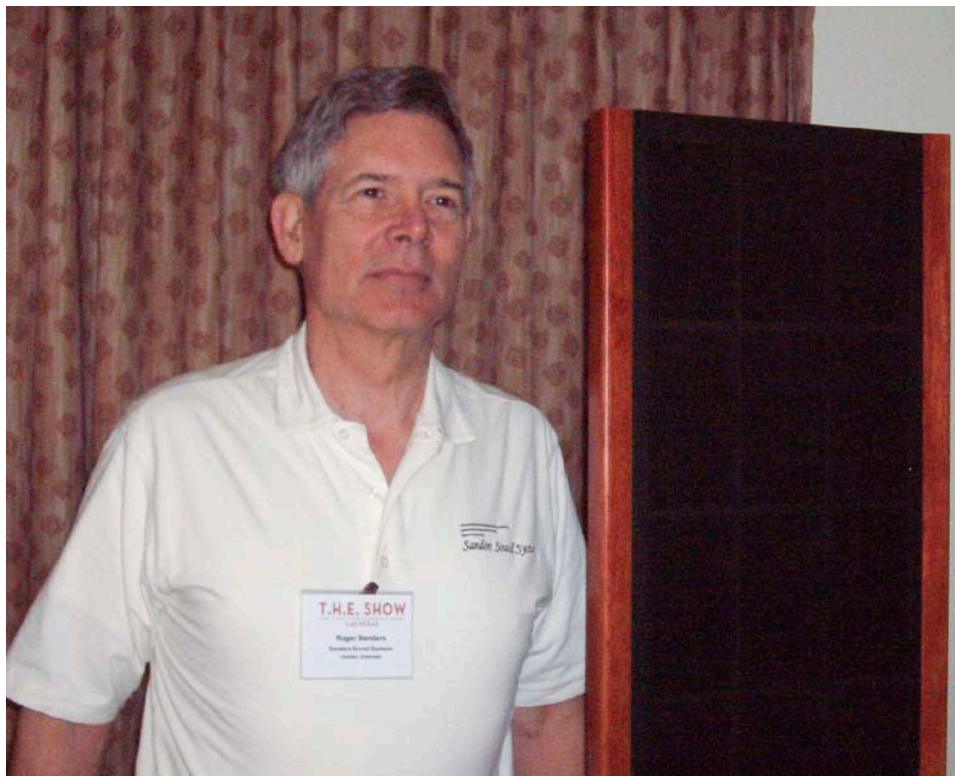
- Software Reviews** 72
by Reine Lessard and Gerard Rejskind

DEPARTMENTS

- Editorial 4
 Feedback 7
 Free Advice 10
 Gossip & News 77
 State of the Art 82

RENDEZVOUS

THE ELECTROSTAT MAN



Roger Sanders was one of the founders of Innersound, known for its tall electrostatic speakers, but he is now building speakers under his own name, and selling them directly (in the picture above he's standing next to a 10A, which costs \$13,000). He is, by the way, not related to Gayle Sanders, president of MartinLogan, though he claims to have invented the curved electrostat (ML speakers are curved, the 10A is flat). We listened to a pair of 10a tall panel plus their built-in conventional woofers, and noted their killer image, aside from other virtues. They were playing in a rather small room, not the sort of space in which you would think to put tall speakers like the 10a's.

We listened to several recordings, ranging from popular music to world beat to opera, and we talked with the speakers' creator about his long experience with electrostatics.

UHF: You use transmission line loading rather than closed boxes or reflex loading.

Sanders: Yes, because they're all reso-

nant enclosures, and the real problem is to stop this heavy woofer. Pretty much all woofers have overshoot and ringing, due to their poor enclosure designs. A transmission line solve that problem. It damps the woofer so that it comes to a stop when it's supposed to. This is further improved by a custom-built woofer design with a magnetic damping system. It's biamplified too. A 600 watt amplifier comes with each speaker. I use a low-mass, low-Q driver, to get the transient response in the bass needed to match the transient response of the electrostatic panel, which — being massless — is virtually instantaneous.

UHF: An electrostatic panel isn't truly massless.

Sanders: No, but its mass is swamped by the mass of the air. It's like trying to ring a bell under water — it just won't do it. So even if you have a vinyl record that has ticks and pops, those ticks and pops are not exaggerated by an electrostatic as they are by a normal tweeter, so you

have all the highs without the problems of surface noise.

In addition, I've worked for 40 years to develop a panel that's very efficient. It's arc-proof, humidity-proof and bug-proof. We've had no failures with this design over the last 20 years, even in Asia, where it's very humid.

One other lovely thing about electrostats is that you can play them quietly and still hear all the detail.

UHF: You no longer use a curved panel.

Sanders: I invented the curved panel that Martin-Logan uses. After three years working with them, I came to the conclusion that they just weren't good. I decided to go to a highly directional speaker, to deliberately limit high-frequency dispersion, to eliminate room acoustics. No room sounds good, and if you listen to all these delayed reflections from all directions you cannot get accurate phase information, to give you a three-dimensional holographic image. This system does, because it eliminates room acoustics, and allows you to space the speakers as wide as you want without ever getting a "hole in the middle." The speakers kind of disappear, and it's like listening to giant headphones.

UHF: What's the crossover point between your electrostatic panel and your dynamic woofer?

Sanders: It's 360 Hz. It takes very good woofer performance to do that. One of the biggest weaknesses of electrostatic speakers is poor output, poor "slam" and punch. They just don't have the impact or headroom, or the ability to produce loud stuff live.

UHF: In that percussion sequence you played for us, there's an interesting height effect. Some drums seem higher up than others.

Sanders: Yes, it's interesting. They'll really reproduce the recording technique very clearly. You can hear when multi-miking has been used, because it sounds as though the instruments are in a giant pipe. It isn't very natural, but it sure can be nice.

UHF: And they do play loud...

Sanders: They sure do. A Quad could never do that!