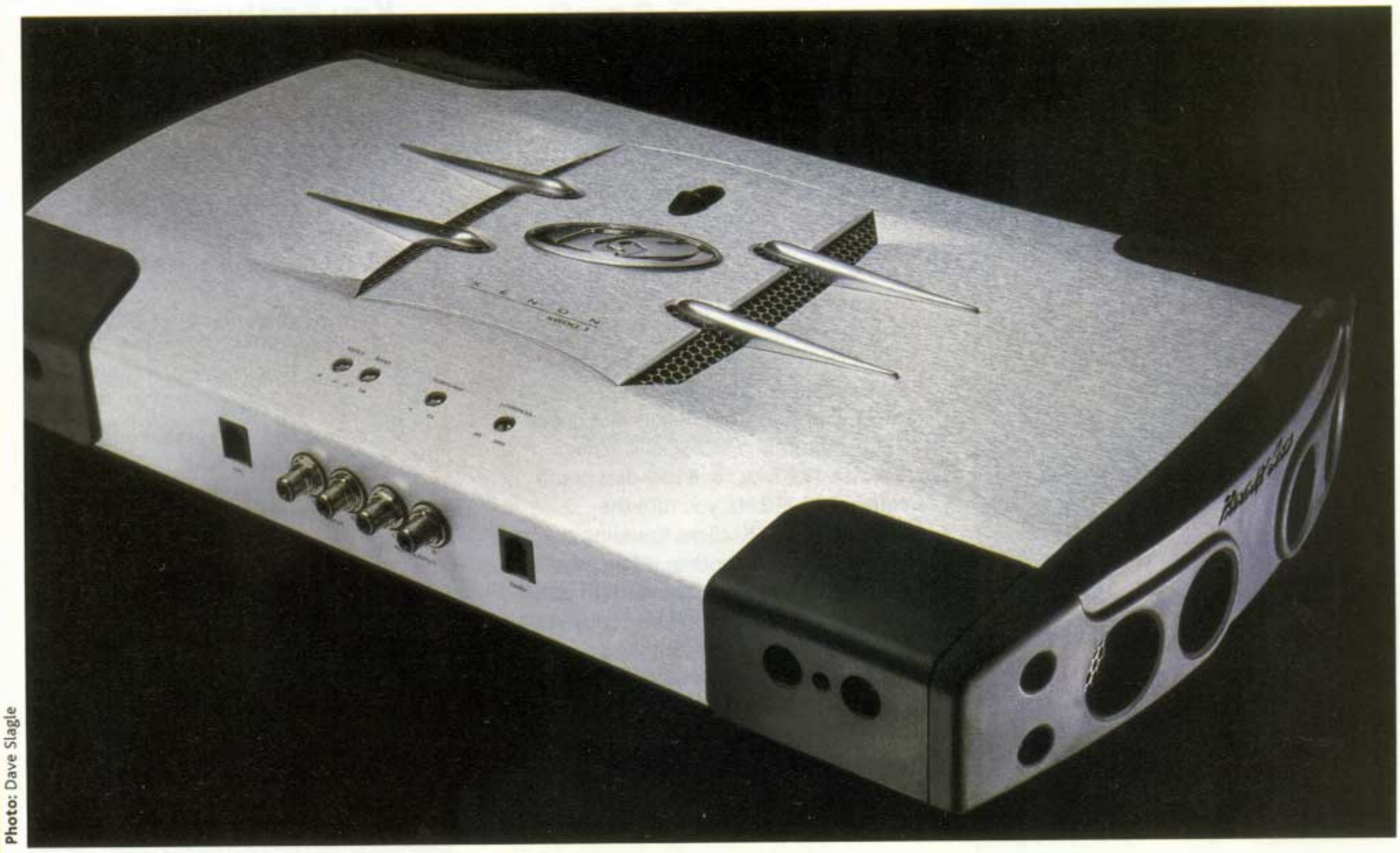

Photo: Dave Slagle

# POWER PRINCESS

*Phoenix Gold's Xenon X600.1 monoblock amplifier is a true power warrior ready for the battle down low, pumping up the bass for subwoofers and offering Xe.tune detent clicking for filter adjustment.*

BY LESLIE SHAPIRO

I GOTTA TELL YA: At first, the Xenon X600.1 amplifier from Phoenix Gold knocked me right off my horse. Finally, a powerful monoblock amp designed especially for Xena, me, and other warrior princesses. (Cue the fabled Xena battlecry: Ay-yi-yi-yi-yi!)

However, when I looked up "xenon" in the dictionary, I learned the cold hard truth. Xenon is in fact a gas derived from liquid air that lights up with a super-cool blue color when charged. While disappointed that this amp wasn't totally warrior-princesscentric, I was still excited to see how it sounded when charged up and ready for battle.

The X600.1 ($600) is part of Phoenix Gold's new Xenon line of amplifiers. These amps share some features, and they're available as monoblocks (for subs) and 2- or 4-channel models (for component and/or coaxial speakers). The Xenon X600.1 is a mono amp rated to pump out 600 watts of power into one or more subwoofers. Phoenix Gold lists the power rating as 600 watts into 1 channel at 4, 2, or 1 ohm. That rating complies with the new CEA-2006 standard, and that's a good thing. Frequency response is rated from 20 to 300 Hz ±1 dB, and signal-to-noise ratio is rated at greater than 90 dB. Given its power rating, the X600.1 is fairly compact, measuring only 10½ x 2½ x18¼ inches (w/h/l), its small size perhaps explained by its Class D topology.

You can't judge a book by its cover, but one look at this powerful weapon had me judging it a winner. The look of the Xenon line was inspired by exotic sports cars — not swords or armor — but I still think it's one very attractive power amplifier. The main chassis is made of stamped, anodized aluminum, with accents made from a proprietary rubber. The top of the X600.1's chassis has slightly recessed intake cooling vents for its internal variable-speed fans. The air exhausts out of the vents on both end

## The Vitals

**Price:** $600. **Warranty:** 2 years if installed by an authorized dealer; otherwise, 1 year. **Manufacturer:** Phoenix Gold, Dept. ME, 9300 N. Decatur St., Portland, OR 97203; 800-950-1449; www.phoenixgold.com.

caps. An extruded heatsink is in the bottom of the amp. Four rubber gaskets on each of the corners cover mounting screws and wiring terminals, creating a gorgeous install.

With a nod to Xenon gas lamps and headlights, a brilliant blue LED is mounted on the top of the X600.1's chassis. When the amp's receiving power, the light glows steadily; it blinks if the amp is in a protection mode. The protection circuitry doesn't just shut the amp off when it overheats; instead, it lowers the output by less than 2 dB until the X600.1 cools down to a normal operating temperature. In other words, the music never stops, no matter how hot the battle gets.

The basic controls are also on the top of the chassis. Four slightly recessed straight-edge screw potentiometers control SENS, BASS, SUBSONIC, and LOWPASS. What else does a killer sub amp need? The sensitivity control is adjustable from 8 to 0.2 volts. BASS controls a boost centered at 45 Hz, variable up to +18 dB. The SUBSONIC controls a high-pass subwoofer-protecting filter that is adjustable from 5 up to 55 Hz. Many amps use a filter starting at 20 Hz, so this amp has a huge advantage, letting you protect your subs appropriately. It allows your subs to get — if they can take it — all the way down to 5 Hz. This is especially impressive considering that the filter has a sharp 24-dB-per-octave slope.

Finally, a low-pass filter is variable from 30 to 300 Hz. This also has a 24-dB-per-octave slope. Both the SUBSONIC and LOWPASS filters use an interesting adjustment technique called Xe.tune. Instead of a smooth sweep as you turn the screw, it has subtle detent clicks. The owner's manual offers a chart of click numbers and their corresponding frequencies. For example, to protect your subs from frequencies under 30 Hz, you turn the SUBSONIC screw clockwise 18 clicks. For a low-pass cutoff frequency of 116 Hz, you turn the LOWPASS screw 20 clicks. Counting can be tedious, but it's better than wildly guessing. I think it's the best way to set cutoff points (unless you have some serious test gear or something like the Helix X-Just).

The bottom left gasket covers the two speaker terminals, which are wired in parallel internally. There's a port for an optional $20 LPL44 Remote Low-pass Level Control knob that allows up to 20 dB of gain. A similar port is provided for the optional $60 Remote Voltage Display. Stereo RCA inputs accept a preamplified full-range or subwoofer signal. Full-range auxiliary outputs (left and right) aren't affected by the bass boost or any of the other filters. All other wiring is hidden behind the rubber gaskets. The power terminals are tucked under the gasket on the bottom right corner. I'll say it now, and I'll remind you again later: You must remember to thread the speaker wires and power wires through the corresponding holes in the gaskets before you connect them. Trust me, you'll thank me for that tip later.

## Key Features

- > For use with subwoofers only
- > 1 channel of power
- > CEA-2006-rated for 600 watts
- > Rated for loads as low as 1 ohm
- > Class D topology allows 80% efficiency rating
- > Bass boost of up to 18 dB centered at 45 Hz
- > Xe.tune Linkwitz–Riley low-pass filter
- > Xe.tune Linkwitz–Riley sub-protecting filter
- > Xe.flow cooling system with variable-speed fans
- > Xe.load automatic impedance match
- > Output-level reduction in case of unsafe temperature
- > Full-range line-level outputs
- > Port for optional Low-pass Level Control
- > Port for optional Remote Voltage Display

## LAB MEASUREMENTS
### Ken C. Pohlmann, Hammer Laboratories

All measurements made with 14.4-volt DC input and 1 channel driven into 4 ohms unless otherwise noted. **Power** (measured in accordance with CEA-2006 [see "The Lowdown on the CEA-2006 Power Standard," page 89, June/July 2004]; maximum output with 100 Hz at 1% THD plus noise): 615.2 watts RMS x 1 into 4 ohms; 722.5 watts RMS x 1 into 2 ohms. **Input Sensitivity** (for 1-watt output, with max gain): 33 mV. **THD Plus Noise** (at 100 Hz with 1 watt into 4 ohms): 0.13%. **S/N Ratio** (A-weighted, referenced to 1 watt at max gain): –63.3 dB. **Frequency Response** (referenced to 100 Hz): at 20 Hz, +0.2 dB; at 300 Hz, –2.0 dB. **Current Draw** (at rated output into 4 ohms): 50 amperes. **Low-Pass-Filter Cut-off Range** (–3-dB points): 30 to 330 Hz. **Low-Pass Filter Slope:** 24 dB per octave. **Sub-Protecting-Filter Cutoff Range** (–3-dB points): 5 to 55 Hz. **Sub-Protecting-Filter Slope:** 24 dB per octave.

**COMMENTS**

Although it's CEA-2006-rated for 600 watts into 4, 2, or 1 ohm, the Phoenix Gold Xenon X600.1 monoblock amplifier actually produced 15.2 watts more than that into 4 ohms and 122.5 watts more than that into 2. The 4-ohm number works out to 1.03 watts per dollar, significantly better than the median figure of 0.72, and good enough to put the X600.1 in the 81st percentile, making this amp a very good value. Distortion was below average, and frequency response was typical. Current draw was high, but that's to be expected with such a powerful amp. The cutoff frequencies of the filters essentially matched the markings on the amp's chassis; not only does the Xe.tune technique make it easy to set cutoff points, but the filters work as they should. —*KCP*

## INSTALLATION WARRIOR

The Xenon X600.1 is a great-looking amp, and I was more than anxious to hear it. Installation in my 2001 Acura Integra battlewagon was relatively straightforward. First, I removed all four gaskets to gain access to the mounting screws. Secured in my hatchback with adequate space on both sides for the exhaust vents, it was time to wire it up. I connected the speaker outputs to a Kicker 02VS8L5 8-inch subwoofer. I took the output from my Sony CDX-C780 head unit and connected it to the RCA inputs. I used the recommended 4-gauge wire for power, and I connected the remote-turn-on lead.

Then, I wanted to close up the gaskets.

Shoot. I forgot to thread the speaker wires *and* the power cables through the holes in the gaskets. I had to disconnect everything, pull the wires through the gaskets, reconnect everything, and then seal up the gaskets. Feel my pain? Don't make the same mistake, because now that you've been warned, you'll feel even sillier when you do it yourself.

Wiring chores complete, I adjusted the amplifier sensitivity to get optimal sound-pressure levels without introducing distortion. I cranked up the volume of my head unit until my metal Frisbee started to rattle, turned up the sensitivity just until it edged on distortion, and then backed it down just a bit. I started out with the SUBSONIC speaker-protecting filter set at, if I counted clicks right, 14.7 Hz. The low-pass filter — again, if I counted right—was set at 129 Hz, or 22 clicks. Leaving my warhorse in the stable, I prepared to hit the road.

## Preaching on the Road

With the Xenon X600.1 properly installed, I loaded up Wyclef Jean's *The Preacher's Son* (J Records), a collection of songs with a guest list to die for, including Missy Elliot, Monica, Patti LaBelle, and Cassidy. With music legend Clive Davis in the role of executive producer, *Son* is a truly impressive album. For a sub-amp test, nothing beats the steady beat of "Industry." This reflective rap has a deep bass that's doubled an octave down to give a massive foundation for a song that tries to take the blame of society's woes away from hip-hop. The X600.1 amp was completely transparent, having absolutely no problem conveying the lower octaves of this mix. Adding just a few clicks of bass boost rounded out the response enough to make the rear-view mirrors and my armor rattle. Now *that's* my kind of bass.

> "The X600.1 amp was completely transparent, having absolutely no problem conveying the lower octaves of the mix on Wyclef Jean's bass-heavy reflective rap, "Industry."

### Pros & Cons

- ⊕ Punchy and musical
- ⊕ Powerful
- ⊕ Power specified in accordance with CEA-2006
- ⊕ Lots of watts per dollar
- ⊕ Sub-protecting filter adjustable down to 5 Hz
- ⊕ Very efficient cooling
- ⊕ Detented filter controls for accurate setting
- ⊖ RCA inputs could be hidden
- ⊖ Installation is a little tricky
- ⊖ Noise and distortion could have been better

Diva supreme Patti LaBelle joins Mr. Jean on "Celebrate." This song has a real clear bassline that remains distinct from the steady kickdrum. At 2:18, a new, deeper bassline is added that could stress an amplifier, but the X600.1 had no problem keeping up the power. The sound was clean and accurate. "Baby Daddy" (featuring Redman) has a real musical bassline, and again, the PG X600.1 amp conveyed the complexity of this bassline with finesse. I was blown away by the musicality and punch of this amplifier. What more can you ask for?

## Conclusions

The Phoenix Gold Xenon X600.1 mono amp is more than adequate for most subwoofers, pumping out more than 600 watts in accordance with the CEA-2006 power standard. (And, of course, if you want stereo bass, just buy two X600.1s; for more subs, you can buy more amps.) With its advanced variable-speed fans and ventilation system, the X600.1 ran cool throughout a rather long afternoon of auditioning, even under the hot sun.

While I was initially skeptical of the detent potentiometers for filter adjustments, they really proved beneficial (and the filters were accurate!). If I wanted a cutoff of 122 Hz, I knew exactly how to dial it in. If I wanted to try more, I could move it one click up, and then precisely return to where I wanted it.

The look of the Xenon amp is exceptional. It would add panache to any mobile system. Better yet, the Phoenix Gold Xenon X600.1 monoblock amp has the divine sound to back that up. Any warrior princess would want this amplifier to pump up her bass. If you disagree, I'll threaten you with my sword and cudgel. Ay-yi-yi-yi-yi! ME