



PHOENIX GOLD RSD ROADSTER 66

BY GARRY SPRINGSAY

MEASUREMENTS: COGENT AUDIO LABS

PHOTOS: CASEY THORSON

One morning a few weeks ago I got a call from our esteemed technical editor Casey Thorson, asking if I would like to check out a new limited edition amplifier from the people over at Phoenix Gold. Having poked around the inside of their RSD series amps before and liking what I found, I thought about it for oh, 7 milliseconds, and said, "Sure!" He told me the amp would arrive in a few days and to keep my eyes open for the big brown truck. As it turned out, they really did need a big brown truck. When I saw the gigantic box this thing ships in, I knew this wasn't a "normal" amp. Inside the outer shipping box were two more protective boxes and finally, inside that was a long and slim silver case.

Using the thoughtfully provided handle, I pulled out the handsome aluminum case and noticed the "Limited Edition" logo screened on it. Like an eager kid unwrapping a present at Christmas, I snapped the three catches and opened it up. Inside a layer of protective foam was the biggest Phoenix Gold amp I've seen since the Route 66 of years gone by. The limited edition Roadster 66 is a big, heavy, good-looking, 5-channel amplifier. The four fullrange channels are a throwback to some of the legendary Phoenix Gold amps of 10 years ago, using the same Triple Darlington output stages, but this time accompanied by a Class D mono channel under the sizable chassis. The amp is rated to deliver 75 watts x 4 and 400 watts x 1 into 4 ohms, or 135 x 4 and 650 x 1 into 2 ohms.

The Roadster 66 measures 31.75" long by 11.5" wide by 3.25" deep. The amp looks like an expensive piece of home gear. It's finished in a great-looking black-anodized brushed aluminum with massive solid cast aluminum end panels almost 10mm thick. Weighing over 25 pounds, it has four specially made heavy-duty cast-aluminum mounting feet to hold it down. These mounting feet each take two screws and are adjustable for location, as they are fastened with set screws and can be slid up and down the chassis of the amp to accommodate the constraints of an amprack. The fit and finish is typical of the RSD series and, that is to say, very good. A round PG badge lights up in blue when the amp is turned on, and all of the connections and controls are found on the front edge of the product. The power connectors easily accept 1/0-gauge cable, and the speaker connectors are large enough to accept 10-gauge speaker cables. Four 40A ATC-style fuses provide over-current protection.

FEATURES

The controls found on the front panel of the Roadster 66 are about what you'd expect—no fancy frills, gadgets or doodads—just the crossover, gain and bass boost controls for the front rear and sub channels. Two pairs of aux outputs are also included for sending signal to additional amps. The front and rear channels can be set for fullrange, highpass or lowpass with 40Hz to 400Hz frequency limits. All of the crossovers use -18dB per octave slopes.

The subwoofer channel uses crossover points from 30 to 300Hz and includes a 5Hz to 55Hz subsonic filter to prevent woofer damage. An optional Lowpass Level control can be connected to adjust the volume of the subwoofer channels by remote control, which is a handy feature when your source unit doesn't have a subwoofer volume control.

Each set of channels also has a bass boost control that provides up to 18dB of boost at 45Hz. The "Q" of this boost is also fairly high, producing a narrow band of boosted frequencies centered on the 45Hz mark. This "narrow range," or "high Q" design, means it's much more useful (and better sounding) for bumping up the bass than some of the "Bass EQ" controls that seem to boost everything from 30Hz to 500Hz.

My only gripe with the feature set of this amp, and also with many other 4-channel designs these days, is that they lack a signal routing switch allowing the user to drive all the channels with a single pair of RCAs.

DESIGN

One of the major hurdles that an engineer faces when trying to build an amp housing both fullrange and Class D topologies is noise. Any Class D amp generates a lot of noise from the switching output stage. When the amp is only connected to a woofer through a lowpass filter, noise isn't an issue but keeping this noise out of

the fullrange channels in the same chassis is difficult at best. The Phoenix Gold Roadster 66 takes a different and clever approach that I haven't seen in a long time. Inside the single chassis are basically two completely separate amps. The PCBs are separated by several inches and each PCB has its own dedicated power supply. Having two separate power supplies in an amp like this is a good idea because with a single supply, when the bass hits hard, the amp will be "current starved" and generate distortion in the fullrange channels. By using totally independent supplies for each type of output, the Phoenix Gold engineers eliminated this problem. This method provides maximum noise isolation as well and betters thermal performance by spreading the heat from both amps over a wider area of the heatsink.

Inside, the amp is nicely laid out, and the high-current PCB traces are wide and well isolated from the low-level signal carrying sections. The PCB itself is a double-sided, plated through affair, eliminating jumpers and noise-inducing sky wiring. The parts inside are good stuff too, with thru-hole type 1 percent tolerance metal film resistors and poly caps for sonic excellence. The soldering and general build quality also looked good. The cabling, where signal is routed to a daughter board for signal processing, is short and distanced from the high-frequency switching noise of the power supply. Overall, nice attention to detail like this results in a better sounding and more reliable product. The Class D section uses the expected complement of high-current Mosfets and large, fast high-temp capacitors provide ample energy storage.

The fullrange side of things uses a tried-and-true Triple Darlington configuration that has been the backbone of many well-respected designs over the years, including the highly regarded Phoenix Gold amps of the early '90s. The design is stable and highly regarded as a good-sounding platform.