



**MS 2250**

# PHOENIX GOLD MS 2250

by Chris Lewis

**T**he Phoenix Gold MS 2125 gets ragged on as being too big for a 2X125-watt amp. Larry Fredricks will quickly tell you that's how big it has to be for all of the primo parts to fit inside. Not only that, if you load it down, it will bang out over a 1000 watts, and you better be huge to shed that much heat and stay cool. He's right ya know. Just suppose you rewind the transformers for higher voltage and make changes to

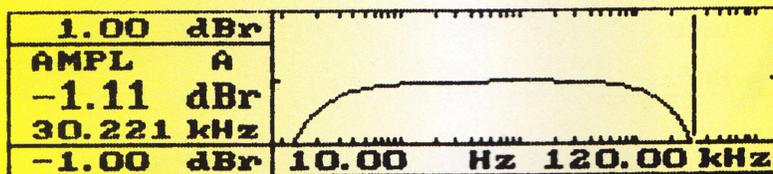
the filter capacitor ratings so as they don't blow up? Do you think you could get 1000 watts into four ohms bridged mono? Brethren, I BELIEVE and after this article you WILL BELIEVE in Phoenix too. The MS-2250 is a MS-2125 optimized to drive four and 2-ohm loads LOUDLY. It is just about the biggest amp to enter my shop, at 3.25 tall by 11.25 wide and 25.5 inches long, it weighs 26 pounds. The seemingly odd shape is the righteous conversion of a

2125 turned upside-down and shrouded with a triumvirate fans (for the uneducated heathens out there, that means a group of three). What the fans do for you is just short of miraculous, ye olde Wakefield data bible shows that airflow causes most heatsinks to double in effectiveness. The heat test I run normally causes amps to run at about 160 degrees Fahrenheit. The Phoenix only heated up to a 120-degree average. Guys, this fan shroud is cool and may save your amps from burning in Texas. The power supply is full of those primo parts Larry loves to preach about. Two power supplies, actually two by two, of everything: 60-amp fuses, transformers, controllers, capacitors. There are four pairs (two again) of IRFP054 MOSFETs rated at 70 amps each driving the transformers. Two-by-two rows of three super-low ESR capacitors

10 watts, and 0.0033 percent at 1100 watts bridged into a 4-ohm load. Power consumption runs as high as 190 amperes, how can this be delivered? This Phoenix is the first amp I have witnessed with terminals that accommodates 2-gauge wire for both power and ground. The speaker connections are 7-gauge of similar design, and Phoenix is thoughtful enough to supply the Allen wrenches.

The amplifier section is a classic bipolar design of the triple Darlington class AB type. What is not classic is the choice of output transistor, which is three pair of the large case Toshiba's. These are some of the newest and the greatest, and can replace twice their number of lesser transistors, a veritable cornucopia of parts.

Noise is not a problem. With the gain control set at min-



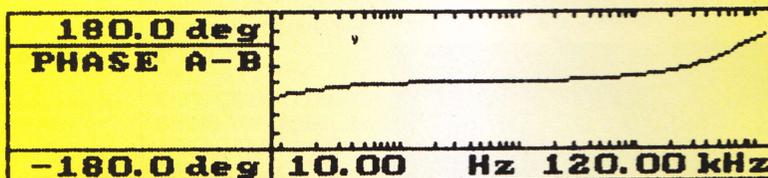
Ap

0 dBr = 2.030 V

UN-WTD <10 Hz - >300 kHz

GEN:SINE 315.0 mV

Ap



Ap

-180/+180

AVERAGE

GEN:SINE 315.0 mV

Ap

(2200u/16v HFZ) and a common mode toroidal noise filter purify the 12 raw feed. The power amp high-voltage rail filters consist of two sets of two 6800u/63v caps, one set per channel. The few common parts shared between the left and right channels include the low-level power supply for the input stage and tone control.

When I tested this 2x250 watt amp I got 2x280 into four ohms and 2x505 into two ohms. While this meets spec, it did not match the performance data Larry sent down from the mountain. Communicating with Ben in engineering solved the problem. Two resistors were the wrong value, and once changed the Phoenix was transformed, putting out 437 watts per channel in 4-ohm stereo mode and 630 watts per channel in 2-ohm stereo. This angel in white is also blessed with very low distortion, 0.0058 percent at one watt and 1kHz dropping to 0.0025 percent at

imum, the noise floor is -86dB below one watt and needs 6.48 volts to reach full power. (This allows an easy match to the high-voltage processors available.) Things get worse though if you need more gain. Larry also preaches about the total lack of transients at turn-on or turn-off, he's right ya know. Damning, oops I mean damping factor relative to four ohms is 286, which is more than enough. The owner's manual was at the printer, but Ben in engineering told me that it contains; diagrams of controls and explanations on their use, passive crossover component values and the warranty from Oregon. Get this, 30 days if you install it, 18 months if the dealer installs it, 60 months if the dealer installs it and you send in the warranty card and a copy of your sales receipt. Hop through the hoops and receive an eternity (well, five years anyway) of peace of mind. DO YOU BELIEVE YET?

