

Equipment Profile

MARANTZ 15 AMPLIFIER

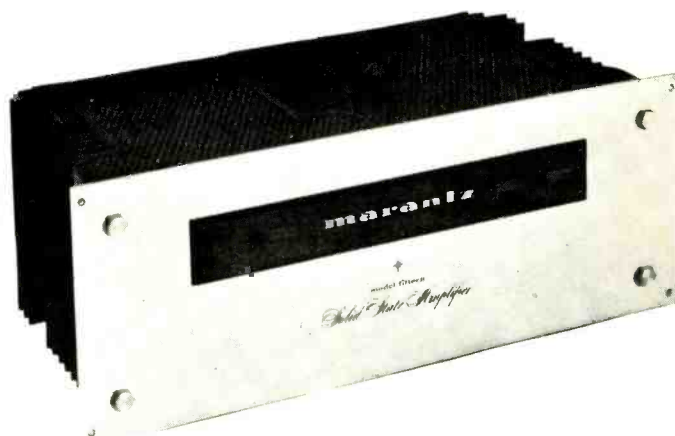
If there is any belief remaining that solid-state amplifiers still leave something to be desired when related to the best vacuum-tube units, we can only suggest a careful examination of this new all-transistor-operated amplifier from Marantz.

We received neither technical information nor a schematic of the unit—this sample is one of the first off the production line at the new Marantz plant in Woodside, New York. So there is little that we can tell you beyond what physical examination reveals.

It is well known that stereo amplifiers suffer from an interaction problem at the power supply. Heavy demands by one channel leave little reserve should the opposite channel require like power. This is the reason why it is standard to test stereo amplifiers with both channels operating simultaneously (even though you are only measuring one at a time). This results in a somewhat lower power rating than would be the case if one channel were operated while the other merely idled. Just how much of a difference actually exists is a function of the quality and regulation of the power supply. We suppose that the perfect power supply construction would show no differences, but this would be prohibitive in cost.

Marantz, mindful of this problem, solved it in the most obvious way. The Model 15 is not, strictly speaking, a stereo amplifier. Rather, it is two separate mono units, each with its own power supply right up to the power transformer. The two are bolted together with a common face plate.

Fig. 1. The Marantz 15 stereo basic amplifier.



Needless to say such an arrangement means that there is no crosstalk. And testing one amplifier is the same as testing both together. (Marantz is making one unit alone available as a mono amplifier).

A weakness of transistor amplifiers has been their sensitivity to damage from short- or open-load conditions. The 15 has dual automotive-type lights in the output circuitry that absorb short circuits without damage to solid-state devices. We placed a short across the output while driving the amplifier to full power at 20 kHz. The output dropped to zero and the lights came on brightly. With the short removed the lights faded out and power quickly came up. No damage, and hardly any delay in power restoration.

The lights shine through dual lenses around the pilot lens on the front panel.

There are two such sets, since there are two amplifiers. These lights will also glow while the amplifier is operated at high power into 4 ohms. But they have no effect on power output.

Figure 2 shows power response and frequency response. Note that the maximum power is dependent on load with the highest at 4 ohms and the lowest at 16 ohms. Marantz specifies the unit to provide 60 watts at 8 ohms. This the amplifiers do. In fact, each one provided 69 watts at 8 ohms; 80 watts at 4 ohms, and 42 watts at 16 ohms. Our graph only shows 8 ohms; the other two impedances present identical curves.

In fact the similarity of performance between the two amplifiers is quite astonishing. We would have expected close approximation knowing the Marantz reputation. But the fact is that we could not find any significant differences between the units. Channel A measured 69

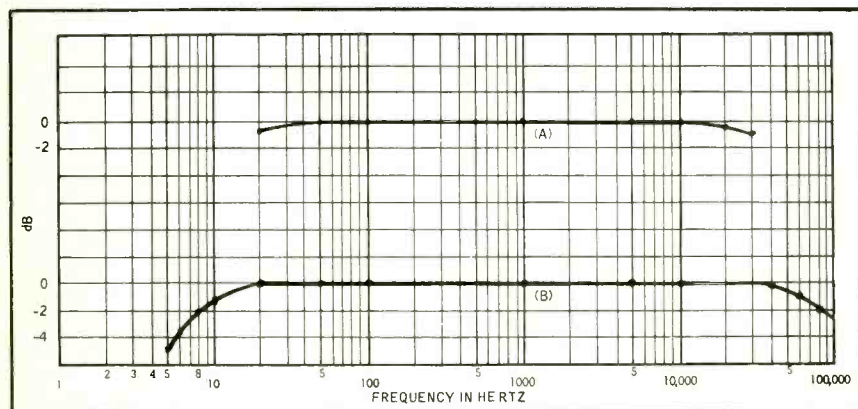


Fig. 2. Power response (A) at 60 watts into 8 ohms and frequency response (B) at one watt.

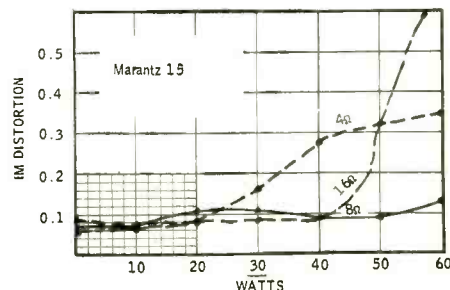


Fig. 3. An expanded scale display of IM distortion at the three nominal impedances. Note that there is no camelback hump at low power. Up to twenty watts the distortion is close to instrument residual at all three impedance load measurements.

watts and channel B measured 69 watts.

IM curves are also identical for the two amplifiers. These may be seen in *Fig. 3* and show the three load-impedance measurements. They are close to the residual of our meter—certainly they are without quarrel no matter what standards you want to set.

We failed in our attempt to measure signal-to-noise. Failed only because it is well in excess of the 100-dB range allowed by our meter. That is below rated output—noise is certainly no problem here.

Square-wave observations showed some tilt at 50 Hz. This would conform to the bass rolloff of the amplifier. A 10-kHz wave showed slight rounding of the leading edge but absolutely no fuzziness or roughness. Not even when we placed a capacitor across the output. Rise time is 4 μ sec.

Marantz is asking a pretty price for this unit—\$395.00. But it is one of that select few amplifiers that are completely characterless. The sound it produces is the sound fed in. No more and no less. Combine this with a listening quality that simply confirms what we hear and we must report this unit for what it is. Simply a nearly indestructible, nearly distortionless, amplifier. In two words, nearly perfect.

CIRCLE 1

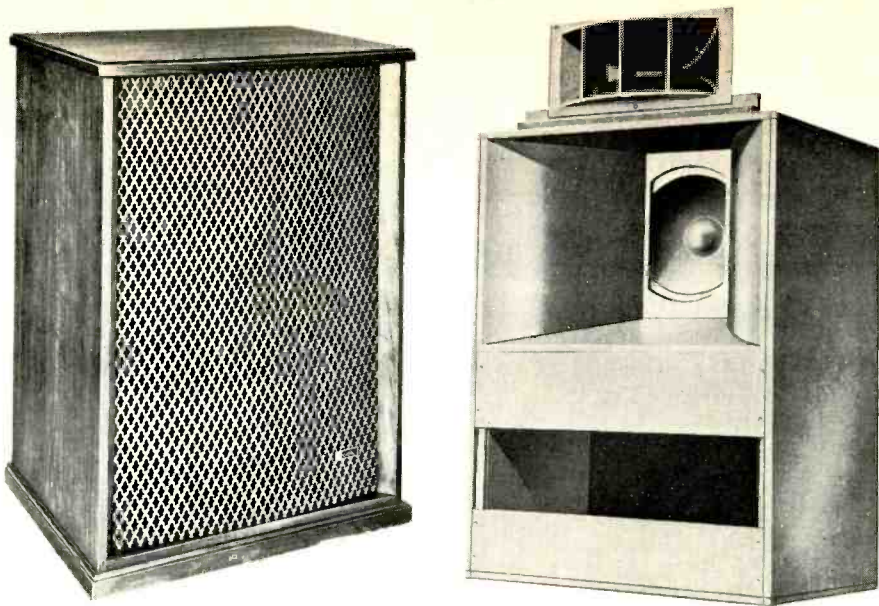


Fig. 4. The complete Altec A7-500W speaker system (left). At right is the inside view with the 800 Hz horn atop the unit.