

Vol. 1 No. 4

# SPAMPZILLA

EXEMPLIFYING EVERY FACET of Ampzilla's now traditional circuitry is the new Son of Ampzilla. Included are outstanding Ampzilla circuit features such as its ALL—COMPLE-MENTARY design from audio input to speaker output, modular electronic packaging to simplify servicing, extensive output-transistor heat sinks (over 1000 sq. in.) to enable continuous 4 or 8-Ohm operation, integrated-circuit bias system to provide negligible crossover notch at all signal levels as well as throughout all normal operating temperature ranges.

Other traditional Ampzilla features include epitaxial-base transistors throughout providing a high-frequency response extension five-fold that possible with conventional output transistors, and low-level class A operation of the output stage which results in minimum distortion at most-frequently used operating levels. This important operating characteristic, at levels of 1 Watt and lower, is one which often distinguishes Ampzilla and the Son of Ampzilla from many competitive amplifiers in A/B listening comparisons as well as with distortion-analyzer test comparisons.



Specially featured in the Son of Ampzilla is its TWO-Ohm operating capability. This feature is particularly useful for multiple (parallel) speaker installations. Capability of over 11 Amperes output current per channel (250 Watts at 2 Ohms) is provided in the Son of Ampzilla by 8 total output transistors (4 in parallel per channel). In spite of the generous usage of transistors in the Son of Ampzilla, its circuitry is uniquely elemental with just three definable stages (1 — input amplifier, 2 — driver amplifier, and 3 — compound Darlington-connected output amplifier). The resulting reduction of higher-order distortion components is readily discernible with careful listening. Circuit stability considerations are also simplified with this reduction of stages to enable unconditionally stabile performance with all reactive loads — capacitive or inductive.

Rear-lighted left and right channel power-output level meters are supplied with both output Wattage calibrations and VIJ

Reprint courtesy of

# JANUARY 1976

**VOLUME 26, NUMBER 1** 





# Ampzilla—A Monster with a Silken Touch

Ampzilla as we built and tested it. As currently supplied it has a pushbutton on/off switch and a more restrained logo.

The Equipment: Ampzilla stereo power amplifier with output-level meters for both channels, in metal case. Dimensions: 17½ by 7 by 9 inches, plus clearance for connections. Price: \$799. Warranty: five years parts and labor. Manufacturer: The Great American Sound Co., Inc.

panel is a switch that increases the sensitivity of the meters for full-scale deflection at 0, -10, -20, or -30 dB (200, 20, 2, or 0.2 watts). The holders for the loudspeaker fuses (a necessity with an amplifier such as this) are stacked vertically just below the aforementioned switch and are flanked on the right by the manufacturer's logo.

one's ears or the loudspeakers. Distortion specifications (which are unusually rigorous at 0.05% THD or IM for full power or below into 8 ohms, 20 Hz to 20 kHz) were met handily with two almost insignificant exceptions: THD for 2 watts (1% of full power) at 10 kHz and above (where 0.1% was the highest distortion recorded) and full-power IM at 8 ohms (where the excess is a minuscule 0.013%). Power

The allusion to driving an electric motor with an amplifier is not really facetious, for loudspeakers are just that—motors. And they are not particularly efficient either. Add to this the fact that each doubling of the subjective level of a reproduced sound requires a tenfold (10-dB) increase in power, and it becomes clear that 200 watts per channel—far from being wasteful and ridiculous excess—at times may be indispensable.

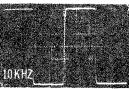
Ampzilla surely cannot be described as your basic shy, retiring stereo component, ready to fit smoothly into every decor. Frankly, it is not even discreet. The front panel virtually leaps forward, dominated by a pair of meters (calibrated for 0 dB at 200 watts and including both scales) with the aggressively stylized name inscription between them. Below these and at the left is a pushbutton (push on, push off) that controls the AC power to the amplifier and switches the cooling fan. Toward the center of the

signed to protect the unit when subject to severe use or high ambient temperatures.

The sample of Ampzilla that we had tested by the CBS Technology Center was built from a kit, a form in which—unfortunately for do-it-yourself enthusiasts—it is no longer made. (You may still find kits at some dealers if you hurry.) Though the kit was somewhat difficult to assemble, its performance sets a high standard for factory assembled units.

Trying to drive this amplifier into audible distortion is simply a waste of time. Something always intervenes first—the protection circuitry, if the amp is driven grossly beyond its ratings or, more likely, distress signals from

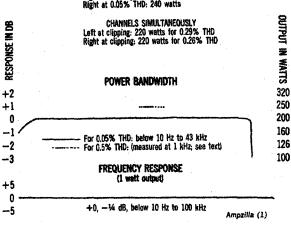




Square-wave response

# POWER OUTPUT DATA

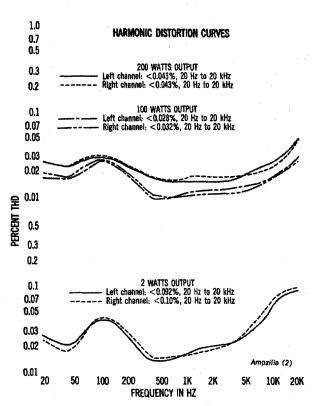
CHANNELS INDIVIDUALLY
Left at clipping: 250 watts for 0.22% THD
Left at 0.05% THD: 240 watts
Right at clipping: 250 watts for 0.29% THD
Right at 0.05% THD: 240 watts



1K FREQUENCY IN HZ 10K 20K

10 20

100



will let the lab data speak for itself. The unit is, of a not cheap. But, considering its outstanding perforr its price seems very reasonable, if you are in the mar a monster power amplifier, you would do well to co Ampzilla. It is, in a word, superb.

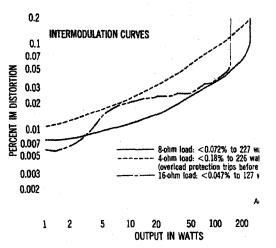
REPORT POLICY Equipment reports are based on laboratory me and controlled instering fests. Unless otherwise noted, test data and measure obtained by CBS Technology Center, Stamford, Connecticut, a division of Colucasting System, Inc., one of the nation's leading research organizations. The equipment to be lested rests with the editors of High Epicity: Manufacture permitted to read reports in advance of publication, and no report, or port may be reproduced for any purpose or in any form without written permit publisher. All reports should be construed as applying to the specific sam neither High Fige.try nor CBS Technology Center assumes responsibility performance or quality.

# Ampzilla Additional Data

Damping factor 100

Input characteristics (for 200 watts output)

Sensitivity S/N r
1.65 mV 110 dE



print courtesy of



ummer (2)

1975

For the High-Fidelity Stereo Perfectionist



# stereophile reports



Stereophile Reports are primarily subjective reports, based on actual use of components in the home. Components for testing are taken from dealers stock or, when not available locally, are obtained from the manufacturer, and only one sample is tested unless indications are that it is defective. If a retest is necessary, our experience with both samples will be reported. The manufacturer is sent a copy of the report prior to publication, and may if he wishes append a manufacturer's comment. He cannot, however, demand that the report be changed or that it not be published. Stereophile Reports are copyrighted, and may not be reprinted or quued without the written permission of the publisher.

scription rates in the US or to US Possessions are: \$7 for 4 ues, or \$20 for 12 issues. (First-Class mailing is \$2 extra per ssues.) To Canada: \$8 for 4 issues or \$23 for 12 issues. To other eign countries: \$9 for 4 issues.

Jilla vs the Dyna Stereo 400

Jilla vs the Infinity switchamplifier proves to be as good as

(including us) suspect, the two
velisted amplifiers appear to be
sole contenders for title of Best
id-State Amp. Here's how they com3:

Sonically, the two are obviously in same league. Ampzilla has a very ghtly sweeter high end, but both e that unmistakable solid-state spness that some listeners hear as ail, others as a subtle hardness. two are virtually indistinguishe through the middle range, hough Ampzilla seems a hair better reproducing depth and perspective. ther, however, does this as well the Audio Research Dual 76. The Dyna has a tighter, drier low / than Ampzilla, and seems (to us) provide more satisfying lows from t dynamic speaker systems. Ampzilla, the other hand, produces a somewhat mer, richer, but slightly looser end, and the result is a somewhat lly bottom from many large systems. The Stereo 400 has, unquestionably, most comprehensive and effective eup of protective devices for both lifier and speakers of any amplitrically, very quiet, but mechanical noise from Ampzilla's cooling fan is faintly (and annoyingly) audible during quiet musical passages under certain conditions related to the surface the amp rests on and its proximity to the listening area. (The same would probably be the case were you to equip the Dyna with its optional cooling fan.)

In our opinion, neither is clearly superior, and we cannot really recommend one over the other. The choice must be the buyer's, based on sound (high or low end?), safety (protection) and price. Both, remember, are available in kit form, and upcoming legislation may kill discounting prohibitions.

### Ampzilla

Thank you for the review of my product(s) which, while certainly not lengthy, is relatively accurate.

I do agree that the Dyna 400 and Ampzilla are "in the same league," but that is where the similarity ends. I designed the Stereo 400 four years ago, and can state that most of the circuitry is what can be described as "old school" -- not in the sense of outmoded, but in the sense that the design embodied old tried and proven aspects plus a few new ideas.

totally new, although other manufacturers are also starting use the total push-pull (in to out) approach I developed. And I cannot agree that the sonic differences between the 400 and Ampzilla are as subtle as you state.

For example, your comments about the relative bass characteristics of the amplifiers sound like what I would have said a while ago, before I started hearing live music regularly again. I became instantly aware that amplifiers and speakers were moving in the direction of an unnatural, bigger-than-life impact having little relevance to the real thing. Their bass was becoming tighter and drier than live bass. Damping, in other words, can be overdone. It must strike an optimal balance, and I claim that Ampzilla is more accurate in maintaining proper control and balance in the low-frequency region.

With regard to depth and perspective in the mid range, I absolutely disagree. This love affair with tubes is most misguided. The Dual 76 is a fine amplifier (the 76A is not as good) as far as tubes go, but I think that matters should be set straight.

Because of their output transformer, tube amplifiers have inferior lowand high-frequency definition when compared with virtually any transistorized amplifier. However, practically all solid-state amplifiers, past and present, have sounded harsh, especially in the high frequencies, making them less than ideal. Since tube amplifiers do not have the wide power bandwidths and frequency responses that solid-state units have, the tubes have generally been preferred because they were more listenable and smoother. Since the response at the low and high ends is subdued in tube units, the mid range tends to be more apparent and to stand out, and I believe that this is where the myth regarding restricted mid range got started.\* It is a fallacy, plain and simple. As a matter of fact, the control that a tube amplifier exerts on a dynamic loudspeaker is so loose that it is possible that severe coloration due to the combination might tend to make the sonic result falsely richer. Quite obviously, tube amplifiers are a poor choice for dynamic speakers. This is not however the case for electrostatics and/or the Magneplanars (although the Magnepans still require the kind of power only solid-state units can deliver now). Tubes will perform quite

nicely under these circumstances as they are not presented with an advermotor response characteristic, therefore they can maintain control. Virtually no solid-state amp can handle electrostatic tweeters with the exception of Ampzilla because the volt, amp load line is disastrous. Ampzilla and the SAE Mk III CM were designed specifically to deliver in excess of 200 V/A at high frequencies and thus need not suffer from the effects of limiters and other protection circuits

Again it must be remembered that tube amplifier in existence can produce the V/A velocities into an electrostatic tweeter, and for that reason, most transistor amps do get blamfor being excessively "hot"-sounding when driving ESLs. This inability to deliver high-frequency power to ESLs definitely makes tubes sound smoothe (or duller, if you wish) through the

Being a professional musician myself, I prefer accuracy, and to me, the best solid-state amplifiers are better capable of this than the best tubed models.

> James Bongiorno Great American Sc

### REVIEWER'S ADDENDUM:

The tube-vs-transistor question, like all other matters of discrimination, is not negotiable. If one cannot hear the uniquely musical attributes of the best tube equipment, there is simply no point in discussified the matter. It is tantamount to arguing subtleties of color-film accuracy with someone who is color blind. And since Mr. Bongiorno is in the busines of making solid-state amplifiers, it is not surprising that he should take such a patronizing attitude towards tube equipment.

A designer of Mr. Bongiorno's experience must know that the "musicality" of reproduced bass is a function not just of low-frequency amplifier damping, but of the amount of damping designed into the speaker system, as well as its actual low-frequency response in the listening room. Practically any loudspeaker can be located in a room so that its low end tapers off, to produce what sounds very much like the excessive tautness of excess ive damping. Conversely, it is usual. possible to find speaker locations which excite standing waves in the room, producing the kind of overly rich, hangover-induced fatness that bespeaks inadequate damping. It is also, of course, possible to vary the amount of damning decimned into a

<sup>\*</sup> Who said anything about restricted

peaker system so that it is op-'u damped when fed by a relativeth source impedance (such as a umplifier) or by a very low : impedance (such as the Dyna , 400). There is, consequently, rrect" damping factor for an ier. There is only that which, opinion of the designer, is y correct for the loudspeakers igned it for, under room-placeonditions typifying those the er has encountered most often. explain the "depth and perspecin the best tube amplifiers as tion of attenuated low and highsponse is patently nonsense. unlifiers tend to underdamp ofers, producing exaggerated than attenuated low end. And iving tweeters that are known, surements, to have the most d high-end response, only the tubed amplifiers will produce ee, no highs....but there's an enough detail and sharpeaction that most audiophiles en exposed, after a hiatus, music. All solid-state amp-, including both the Stereo Ampzilla, tend to produce :h tweeters the "Hey man, to that high end!" impression stinguishes pseudo hi-fi from sic. And we do not limit this tion to electrostatic tweeters. seems to hold true with anu tweeter. which would seem to that it is not a matter of lvery. In fact, the outstandacteristic of a good tube or is that it can reproduce and woodwinds with the efforttness that is observed in the nd, yet can when required e a very respectable "hard" t from triangle, castanet 1s. That does not seem to sugditions of overload. We agree Bongiorno, though, in that olid-state amps we know of. does as nice a job as any na electrostatic tweeters. think tubes do better. : of course Mr. Bongiorno's e to consider us misguided in ctainly he is not alone in :hat solid-state amplifiers er reproducers of music than it we think it is significant a designers of perfectionistid-state amplifiers, in desnow fine their new products us that they sound as good as · than the Audio Research ones. d-state amps are in fact betfisher of the tare and

speaker systems, but we are still waiting for the one that can equal a good tube amp's crystalline middle range or natural top.

It is also worth noting that, every time there is a quantum leap forward in loudspeaker design, the system tends to sound better with tubes and rougher with solid-state amplifiers.

As far as we are concerned, the best attainable sound reproduction, in terms of sheer musical naturalness, still comes from tubed electronics feeding speakers that are good enough so as not to require inordinate amounts of high-end power or bass damping. The only reason we can think of for opting for transistors is when your speakers have neither the efficiency nor the refinement to be adequately driven by tubes, either in a monamped or biamplified mode.

Just as a footnote to Mr. Bongiorno's parting shot, we would suggest that those of our readers who know professional classical musicians pause for a moment to consider what those musicians listen to records on. Our personal experience has been that professionals know the sound of live music so well that their mind can re-create the full sonority of an orchestra from a reproduction that merely suggests the original sound. They are, in fact, usually less critical of reproduced fi than a typical untrained listener. Mr. Bongiorno's professionalism does not of course disqualify him as a judge, but it is not necessarily a valid qualification either.

# \*\*stereophile

Summer (2) 1975

# Recommended Components ->

FEATURING ANOTHER STEREOPHILE FIRST: DO-IT-YOURSELF QUICKIES.

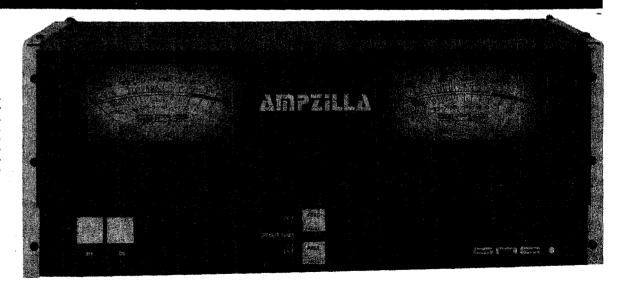
An entirely new approach to component recommendations, the listings which follow are followed by series of numbers, each corresponding to one of the numbered NOTES on the following pages. If you're only interested in knowing what is recommended, use the listings as you did our previous listings; just ignore the numbers. If you're interested enough in a component to consider buying it, take pencil and paper and jot down each of the numbered Notes pertaining to the component in question. The result will be a capsule "Quickie" report on that component.

### Amplifiers

- (A) Audio Research Dual 76 (80,88,91, 92,137,157,181,190) Paoli 60M (88,92,157,163,195)
- (B) Dyna Stereo 400 (77,94,125,136, 157,163,186)
  - Ampzilla (77,94,95,137,138,157, 163,186)
  - Epicure I (94,137,138,157,186)
- (C) Quad 303 (95,97,137,139,161) Harman-Kardon Citation 12 (94, 136,163,186) Crown D-60 (80,95,138,186,195)

- 77. Available in kit form.
- 94. Best with typical dynamic tweeters.
- 95. Under-damps low end of many dynamic woofers.
- 137. Rich, fat low end.
- 138. Very deep bass range.
- 157. Airy, open high end.
- 163. Crisp high end.
- 186. Slightly dry sound.

The much-acclaimed Ampzilla circuitry, recognized world wide for its outstanding performance and reliability, is now offered in a package restyled with a touch-operated power switch along with a more-traditional logo.



# STOCO Svolume 1 number 2

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# G. A.S. ampzilla

200 watt per channel Stereo Power Amplifier, Manufacturer: Great American Sound Company Inc., 8780 Shoreham Drive, West Hollywood, California 90069. Price: \$809 (\$600 in kit form). With Meters,

This reviewer is quite familiar with Ampzilla, the latest state-of-the-art audiophile amplifier. Having built a kit and tested three factory wired units at different times i feel perfectly at home adjusting its bias and DC offset, as well as replacing chimneys—the module which contains Ampzilla's electronics and heat sinks. I've used and abused the

Ampzilla-overheated it. blown its line cord fuse, and blown it up. This is one helluva well designed amplifier! I know of one at this time being used in a commercial installation to drive 4 JBL 4311 control monitors (about 3 ohms per channel) that is operated at clipping for 7 to 8 hours per day. It has not failed. It does, however, require a special high speed fan. James Bongiorno, 'Zilla's designer, sure seems to know his stuff. I mentioned 'blowing one up'. Technically this is not correct. The amplifier failed in one channel due to a pre-driver problem, not due to my abuse. More about this later.

My first Ampzilla was built from a kit. (For discussion of the kit, see Constructor's Corner, in this issue.)



For some reason I could not get the distortion on my kit to approach the factory wired units. (The kit ran around .03% harmonic distortion while factory wired units run .005%). Since both channels measured the same in both cases. I can't figure out what the problem was. Measurements were made at half power, around 100 watts. The first kit sounded good but a far cry from a good wired unit. I do know, however, of at least two completed kits that sound very good indeed. (Make that at least three-Ed.) So its not impossible to build your own successfully.

Ampzilla has undergone 3 changes since its introduction. These are mainly related to the bias circuitry. All three reportedly sound good but somewhat different. I will review the latest version.

In sound quality. Ampzilla is just

about in a class by itself. It is extremely neutral, imparting very little sonic coloration. It has none of the dry qualities of the DC-300a and none of the metallic hardness that is sometimes evident in the Phase Linear 700B. It seems neither bright nor dull, merely neutral. Bass is less tight than a Phase 700B but more neutral with most speakers. Grain is less evident than in any other solid state amp of which I am aware, including the Marantz 500. Highs are clean and beautifully defined with less evident hardness than any of these other designs. Midrange is superb; vocalists were far more natural on switching over from the other amps. For the first time I got the feeling that 'this is the way the human voice is supposed to sound'. The Ampzilla seems to be the amplifier for the Dahlquists and Magnaplanar's bass and midrange panels. It is also the amp to use with Dayton Wright's electrostatics, at least within its power capabilities. (We understand that G.A.S. intended Ampzilla's big brother 'Godzilla'-at 1000 watts mono into 2 ohms-to be king of the Dayton-Wrights.)

Probably the most impressive comparison I've seen with Ampzilla involved powering of 4 (very well equalized) JBL C-50 control mon-

itors in a high intensi sound system. A Pha 700B normally runs t when Ampzilla was sv the night the different ible and absolutery ov For the first time the 'JBL sound' was gone heard a disco system and finely detailed! lieve (partly on the ba experience) that the b speakers are quite am Certainly this incident speak quite well of A the latest Phase 700B' good sounding amplifi go on much longer ab great a unit Ampzilla and other reviewers ar ears with that. One r of interest is: how al Audio Research Dual G.A.S. product? My sions are that Ampzill the 76 in both bass as about 90% of program properly adjusted, how end of the Dual 76 is sweeter. The problem that 75 watts per chai sufficient with many o

There are several of need to know about / that it is handled only and its \$800 price tag fully controlled. Anothpredriver problem prev tioned. It seems one transistor was giving so first due to a design ( manufacturing difficult reportedly correcting t no Ampzillas have fail this cause. In the eve does fail, dealers are s extra chimneys which changed in about 10 r this subassembly conta all the electronics exce supply, a new chimner virtually a 'new' powe fective chimneys are t to the factory for repa is so quick and easy v someone didn't think more waiting for warra

All in all, Ampzilla is fairly well established as current king of power amps. How long it will remain that way remains to be seen. Some sources place it above a number of new designs in sound quality a factor we will hopefully confirm or deny in these pages in upcoming issues. There is a great deal of activity in the power amp field of late. But I have not yet heard a better sounding amp. Incidentally, a matching preamp-Thaedra- is coming out; it is so interesting and advanced on paper we can't wait to hear it (G.A.S. has promised one for review as soon as production is up to speed-Ed.). And yes, its just about as ugly as Ampzilla!

. RT

I have to agree completely that Ampzilla is an exceptional sounding amplifier. There is a smoothness to the sound throughout the audible range that makes it without question the unit to beat in the high power sweepstakes. And if prices on high end products keep escalating the way they have been lately, in a few months an \$800 power amp will be considered a bargain!

I bought my own Ampzilla and built the kit when RT proferred the information last fall that the amplifier was soon to be sold through dealers. As the direct order price of the kit was then \$375 with meters, the handwriting was on the wall pricewise and I immediately ordered the kit. The bargain price was partially outweighed by the construction problems encountered with the early kit. For more on this see Constructor's Corner, in this issue.

A couple of clarifications are in order. First, since the final wiring on my unit was completed by the factory, it is not entirely representative of the results (sonically) that you will get from a kit. But I will so classify it and add my unit to the ranks of superbly performing kits that RT mentioned. There may have been early kits that did not quite measure up to the factory

wired units, but I feel mine leaves very little to be desired. Second, my Ampzilla is not entirely without problems. One channel makes a loud crackling noise when it is run without a preamp or if said preamp is not turned on. The other channel is without this malady. When the preamp is turned on, the same channel emits a crackling, frying egg sound that is audible two to three feet from the speaker. With no program playing it can even be heard from the listening location with fairly efficient loudspeakers, a quiet room, and a keen ear. This is clearly not normal; if and when I feel I can spare the unit for two or three weeks the chimney will be returned to G.A.S. for replacement. There are, unfortunately, no friendly G.A.S. dealers in this area.

In case you are wondering about it, the high speed fan mentioned by RT is not needed in any conceivable domestic circumstances. I have seen and heard this fan and it would not feel overworked in a small vacuum cleaner! Incidentally, the standard fan, even in the low speed mode, is clearly audible if your listening position is near the amp, a factor to consider if this sort of thing bothers you.

I'm probably a minority of one but actually like the looks of Ampzilla. The stark black and white is a pleasant change from brushed gold or silver aluminum. Additionally, the location of the heat sinks in Ampzilla means there are no fins sticking out the rear of the unit—it needs no walnut case to look attractive in the open. The chassis is also nicely rounded and easy to carry around. This seems like a trivial point but believe me, if you've ever tried to maneuver a Crown DC-300a without the dress cabinet you'll appreciate it!

This amplifier has received some 'bad press' recently, for reasons which I find hard to understand. I have heard it drive Infinity loudspeakers with Walsh tweeters, ESS systems with Heil tweeters, Dahlquists, and full range electrostatics (both Dayton-Wrights and Koss' new full range). With quality program material, I could never possibly describe its sound as in any way hard, harsh, grainy, or brittle.

The only possible 'criticism' I could have (and I'm not sure that is the right word) is a low end that is slightly less tight than other solid state amps I could name—such as the Crown. But have no doubt the G.A.S. Ampzilla is one exceptional amplifier!

g.a.s.

Thank you for your fine review of our Ampzilla(s). Since you've been rather thorough, I have but a few comments.

Actually, there have been only two major changes in the amplifier - neither involving circuitry. The first change was in mechanical layout which was done to make our production and the kit-builders assembly much easier. The second change did involve the bias circuitry and only involved temperature compensation. It is true that there are small sonic differences between these units but certainly not disqualifying ones.

Concerning Godzilla, it has not actually been released yet and will not be released in its originally intended form. It has been redesigned and is now a stereo amp instead of a mono amp. It has the capability of driving 2 ohm loads easily; however, since it has the same power supply as for the original mono version, it will not put out quite as much power. We will rate it at 300 watts per channel into & ohms; and, needless to say, it should do exceptionally well on the Dayton-Wright's as that was half of the design purpose. Its retail price will be \$999.00, which is much more economical than \$160000 for two monos.

incidentally, we have found to our surprise that Ampzilla does very well on the new MK III Dayton Wrights. I drove to a friend's house who recently received them and spent hours driving Ampzilla with no limitation. Also, several other people who have the new MK III's have also informed me that they find no problems. A slight caveat, I still have some reservations concerning the older MK II's,

Concerning the low-frequency performance of amplifiers, in general, I feel that some people are being mislead down the wrong path. A great many people overly react to low frequency sonic impact, and I believe that reality sometimes gets left behind. After spending 25 years of my life inside concert hall, clubs, etc., as a working musician and a listener, I can flatly

state that stereo systems, in general, are terribly unreal in the area of low frequency reproduction Explosive, powerful, bottom end is not always the true answer. Also, the room, loudspeaker, and amplifier are all part of the effective damping link and must not be overlooked. As a matter of fact, the size and length of wire is just as important and most people might be blown away to find out that it is detrimental to have zero resist. ance between the loudspeaker and the amplifier. I suggest that someday, when you have time to, tr experimenting with cable lengths and sizes as you might be very sur orised.

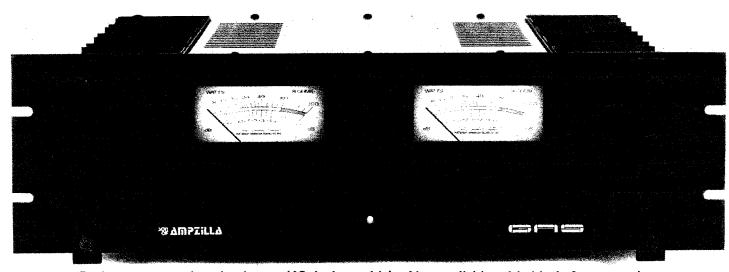
I think I might have a good explanation for effective damping, and it goes like this. Let's say that I had a situation involving a car travelling at a certain rate o speed. If there were suddenly a barrier in the road ahead (unsuspected), and I had to stop the car there would be three ways to do so. Assuming the brakes were misadjusted, the car could stop to: quickly, promptly throwing you through the windshield. (I hope you use seatbelts.) If the brakes were poor, you might not be able to stop; therefore, you might smash right into the barrier. Obviously, the correct braking would be betwee these two and would allow you to stop short of the barrier. A woofe can be compared to this situation. Too much damping will, of course, result in a floppy sound with considerable overhang. I strongly urge listeners to experiment and to go t more live music situations in order to achieve a better, more aurally rational perception of the real thing.

The only thing that I take issue at is, of course, the description of the course, the description of the course, the description of the course of the course

Since we didn't know about it be cause you didn't tell us, we would like to have your Ampzilla module for service. After all, we can't bear the thought of any of our products being neglected without repai

James Bongiorno
President
Great American Sound Company, Inc.

Reviewer's Comment: RT reports having tongue stuck in cheek concerning looks of THAEDRA!



Rack-mount panel style shown (19 inches wide). Also available with black front panel (17 inches wide) and standard model with top meter cover a la Ampzilla (16 3/4 inches wide).

# OMPARE THESE & AMPZILLA SPECS

# **POWER OUTPUT**

4 OHMS

Minimum 150 Watts per channel, both channels driven, 20 Hz to 20 KHz

8 OHMS

Minimum 80 Watts per channel, both channels driven, 20 Hz to 20 KHz

16 OHMS

Minimum 50 Watts per channel, both channels driven, 20 Hz to 20 KHz

(Industrial rack-panel mount version provides 250 Watts per channel at 2 Ohms)

### TOTAL HARMONIC DISTORTION & I.M. DISTORTION

4, 8, & 16 OHMS

Less than .05% at any frequency or combination of frequencies, and at any power level to clipping.

INPUT SENSITIVITY

1.0 Volts R.M.S. for 80 Watts into 8 Ohms.

**INPUT IMPEDANCE** 

75K Ohms

### **CROSSOVER NOTCH - NON EXISTENT**

FREQUENCY RESPONSE (Power Bandwidth) at rated power or any level less than rated power.

8 & 16 OHMS

Better than ±0.1 dB, 20 Hz to 20 KHz Better than ±1 dB, 1 Hz to 100 KHz

RISE TIME AT 8 OHMS Better than 2µ seconds. AT FULL POWER AT 20 KHz.

Slew rate equal to 40 Volts per  $\mu$  second.

### **HEAT-SINK DIMENSION**

& DUTY CYCLE

Over 1000 sq. in. total, providing continuous operation

at ambient temperatures up to 125°F.

STABILITY

100% stable into any load angle 0° to 90°, capacitive or inductive, regardless of waveshape-sine, square, or triangular. No oscillations or modulation noise evident.

# **OVERLOAD PROTECTION & FUSING:**

Transistorized dynamic short-circuit protection. Thermal breaker also protects against overheating. 4 B+, B- power

supply fuses, 1 AC slow-blow power fuse.

NOISE

Better than 100 dB below full power (unweighted, wide band). 112 dB below full power (wide band with R.F.

filter).

SIZE:

17" (W) x 5" (H) x 9" (D).

SHIPPING WEIGHT:

35 lbs.

PRICES:

STD.

W/BLK. FRONT PANEL

W/BLK. RACK MTG. PANEL