

INTRODUCING SLEEPING BEAUTY MOVING-COIL STEREO CARTRIDGE

Great American Sound Company has long recognized the superiority of the moving-coil cartridge for optimum reproduction of sound from a phono disc. For many years, it has been the choice of professionals and serious audiophiles.

There are several inherent advantages in the moving-coil technology. The advantages include:

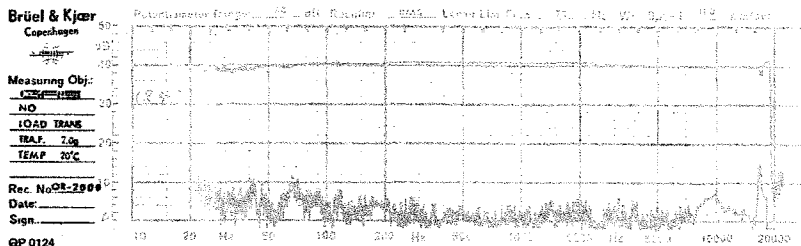
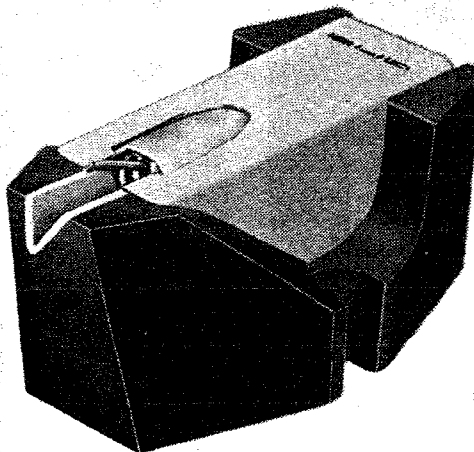
1. The low moving-coil mass extends the vinyl resonance to beyond the audio range.
2. The extremely low-DC coil resistance dampens the resonance rise in the response and its associated undershoot (near 10 KHz).
3. The low coil impedance makes the cartridge insensitive to electrical loading (long phono cables, etc.).
4. Because of the moving-coil cartridge's static magnetic field, FM tracing distortion cannot generate intermodulation distortion (which is heard as smearing).

The moving-coil cartridge's sole disadvantage is its low-output signal.

Typically, a moving-coil cartridge requires either a step-up transformer or a pre-preamp to match it to the conventional phono pre-amplifier. The subsequent performance is then limited by the multiple problems of limited bandwidth, hum, noise, and distortion. To overcome these difficulties, Great American Sound designed the Thaedra Pre-amplifier with an integral "Head Amp" matched for optimum moving-coil performance. The results speak for themselves.

G.A.S. Co. now offers the Sleeping Beauty series of moving-coil cartridges. The three Sleeping Beauty models differ only in stylus geometry and cantilever details. All feature a high-intensity-field, low-weight Alnico V magnet structure to improve tracking of warped records. The intense field produces an output voltage level capable of maintaining a greater-than-80 dB signal-to-noise level. The cantilever/stylus geometry has been tailored for optimum and extended, non-resonant response with minimum distortion throughout the critical high-frequency region. These features give Sleeping Beauty the capacity to provide a remarkable musical clarity and sonic definition that closely approaches a live performance.

Each cartridge is supplied with mounting hardware, installation parts, and individually-calibrated frequency charts showing the output performance of both channels.



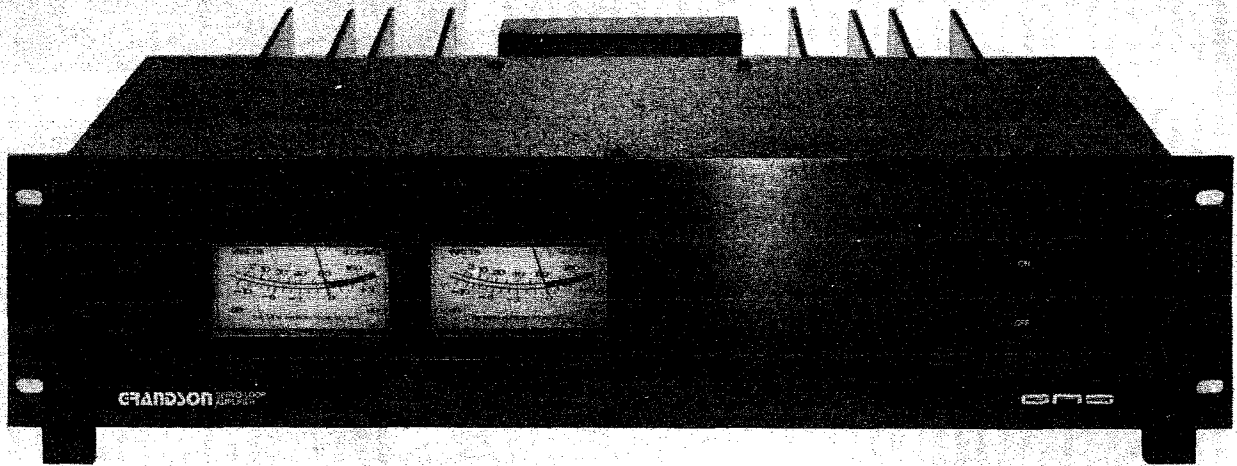
SPECIFICATIONS:

ALL UNITS: Load Impedance: 20-1000 Ohms.
Recommended Tracking Force: 1.8 grams.
Structure Mass: 5.5 grams.

Impedance: 6 Ohms.
Channel Balance at 1 KHz: 1dB.

Model		SPHERICAL (S)	ELLIPTICAL (E)	SUPER ELLIPTICAL (X)	SHIBATA (B)
Frequency Response	(Hz)	10-30,000	10-35,000	5-40,000	5-40,000
Output Voltage (mV)	(5 cm/sec)	0.30	0.30	0.27	0.27
Separation at 1 KHz	(dB)	25	27	34	34
Compliance at 100 Hz	(cm/dyne)	13 x 10 ⁻⁶	13 x 10 ⁻⁶	15 x 10 ⁻⁶	15 x 10 ⁻⁶
Stylus Tip Dim.	(mil.)	0.6	0.3 x 0.6	0.3 x 0.6	Biradial

INTRODUCING GRANDSON



First AMPZILLA, then SON of AMPZILLA, and now the GRANDSON. GRANDSON is the most powerful 40-Watt (at 8 Ohms) amplifier in the industry. With 120-Watt capability at 2 Ohms and 80-Watts at 4 Ohms, GRANDSON offers adequate power reserve for varied speaker requirements including parallel speaker operation.

With the state-of-the-art sound characteristics normally found in much larger amplifiers, GRANDSON is perfect for apartment audio system installations, tweeter-driving in biamp applications, and use with high-efficiency theater-type speakers.

Following in the footsteps of its illustrious parentage, GRANDSON features fully-complementary circuitry operating in Class A up to 1 Watt and a DC-servo control to maintain less than 10 mV DC offset at the output.

Other circuitry similar to that featured in all GAS Co. amplifiers includes:

1. A bias-regulator integrated circuit which eliminates any crossover notch regardless of power or thermal level.
2. Phase-frequency characteristics tailored to ensure 100% stability with all-type loads including electro-static speakers (capacitive) and multi-speaker crossovers (inductive) or combinations

of these.

3. DC-coupled circuitry throughout except for a single input DC-blocking capacitor which extends the power bandwidth to below 0.1 Hz.

Grandson is available either with stereo power-reading meters as shown above, or in a utility version (not shown) without meters. Available as an optional accessory (at extra cost) is a rack-handle kit for use with either model.

Engineering excellence, quality of construction, and the use of premium components places GRANDSON in a league of its own.

POWER OUTPUT

2 OHMS Minimum 120 Watts per channel, both channels driven, 20 Hz to 20 KHz

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

8 OHMS Minimum 40 Watts per channel, both channels driven, 20 Hz to 20 KHz

TOTAL HARMONIC DISTORTION & I.M. DISTORTION

4 OHMS Less than 0.3% at any frequency or combination of frequencies, and at any power level to clipping.

8 OHMS Less than .08% at any frequency or combination of frequencies at any power level to clipping.

INPUT SENSITIVITY: 0.7 Volts R.M.S. for 40 Watts into 8 Ohms.

RISE TIME AT 8 OHMS:

Better than 2 μ seconds AT FULL POWER AT 20 KHz. Slew rate equal to 17 Volts per μ second.

TRANSIENT INTERMODULATION (TIM) DISTORTION:

At 4 or 8 Ohms: Less than .01%.

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

4 OHMS

Better than ± 0.2 dB, 1Hz to 30 KHz
Better than ± 2 dB, 0.1 Hz to 90 KHz

8 OHMS

Better than ± 0.1 dB, 1 Hz to 30 KHz
Better than ± 1 dB, 0.1 Hz to 90 KHz

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: Thermal breaker protects against OVERHEATING. 4B+, B- power supply fuses, 1 AC slow-blow power fuse.

NOISE:

Better than 95 dB below full power (unweighted, wide band).

SIZE:

19" (W) x 4 1/2" (H) x 11" (D).
47cm (W) x 11.2cm (H) x 25cm (D)



INTRODUCING THALIA



GREAT AMERICAN SOUND COMPANY announces the newest addition to our family of preamplifiers, THALIA.

Featuring fully-complementary circuitry and DC-servo control, THALIA incorporates many of the circuit design concepts present in THAEDRA and THOEBE. These advanced design concepts deliver the sonic performance that has earned the respect and acclaim of audiophiles and critics worldwide.

Thalia offers audiophiles a modestly-priced, low-profile, basic design of striking

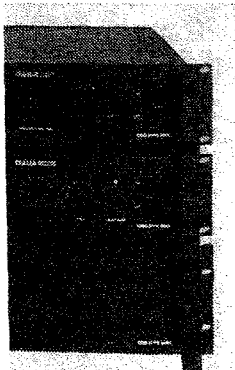
simplicity, yet exceptional performance.

Intended as a companion to GRANDSON, THALIA will also meet the needs of those who require a high-quality, basic control center with magnetic-phono and two high-level inputs. Provisions for the use of a tape deck and high-impedance head phones have also been included. Tone controls are 21-position switch type of discrete-film resistor construction. This provides for repeatability not possible with conventional slider-type potentiometers.

The level control is also discrete-film resistor construction with ± 1 dB balance between channels. A 10-Hz low-filter, mute-control, and stereo-mode pushbutton switches offer complete flexibility often ignored by competitively priced products.

Conceived and constructed in the GREAT AMERICAN SOUND COMPANY tradition, THALIA will prove to be the leader in it's class.

Audition THALIA at your GAS dealer soon.



and Grandson

MAGNETIC PHONO:

- GAIN:** 36dB to tape output
56 dB to main output.
- NOISE:** 1 μ V — 20 Hz to 20 KHz referred to input.
- DISTORTION:** Less than .01% at 2 Volts R.M.S. output at tape output at any freq. 20 Hz to 20 KHz.
- RIAA:** ± 0.4 dB, 20 Hz to 20 KHz.
- HIGH LEVEL:**
- GAIN:** 20 dB to main output.
- NOISE:** 2 μ V, 20 Hz to 20 KHz referred to input.
- DISTORTION (TONE CONTROLS FLAT):** Less than .015% at 2 Volts R.M.S. output at any freq. 20 Hz to 20 KHz into 600 Ohms.
- FREQ. RESPONSE:** 5 to 250 KHz ± 1 dB (Tone controls flat).

TRANSIENT INTER-MODULATION (TIM) DISTORTION:

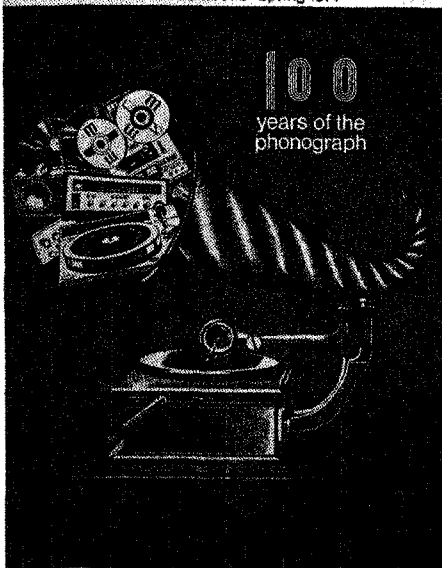
- Less than .01% at 2 Volts output.
- MAXIMUM INPUT BEFORE CLIPPING:** Phono: 225 mV at 1 KHz. High Level: 1 Volt R.M.S. (level control at max.)
- MAXIMUM OUTPUT BEFORE CLIPPING — ALL OUTPUTS:** 10 Volts R.M.S. minimum.
- TONE CONTROL RANGE:** Treble: +10dB, -12dB at 20 KHz
Bass: +13dB, -14dB at 20 KHz.
- POWER CONSUMPTION:** 115-125 Volts, 50-60 Hz, 25 Watts.
- SIZE:** 19" (W) x 3 1/2" (H) x 10" (D)
47cm (W) x 9.3cm (H) x 25cm (D)
- SHIPPING WEIGHT:** 12 lbs. — 26.4 Kg.

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T.M.



THE ABSOLUTE SOUND is an independent publication about sound and music for discerning audiophiles and musicians. Subscriptions for four issues are available for \$12 (sent via third class mail) or 4 (sent via first class mail) or \$16 (sent via air outside North America) from THE ABSOLUTE SOUND, C. Box 5, Northport, N.Y. 11768.

Ampzilla II

Manufacturer: The Great American Sound Company, Inc., 20940 Lassen, Chatsworth, Calif. **Source:** Manufacturer's loan. **Serial No.** A-102120-B. **Price:** \$909.

James Bongiorno, purveyor of oddly named audiobeastes, herewith introduces a newly designed version of his first independent entry into the field. No secrets held back, my friends: This is wonderful amplifier, likely to become classic of its time.

Had Ampzilla II been the product of another firm (particularly one blessed with a large advertising and commercial design budget), its appearance might have been attended by loud media ho-

sannas and sexy commercial photographs. But as it now stands, I have seen no advertisements—not even teeny ones—of its nativity. Even the product itself is hard to distinguish physically from the original Ampzilla: The only real external distinction, and a subtle one at that, is the addition of a pair of LEDs located just medial to the pair of large (and still very slow-acting) meters mounted upon what appears to be the amplifier's proboscis. These LEDs are supposed to light up whenever the amp goes into clipping, however instantaneously. At first I doubted this, thinking that they lit up only when Ampzilla II was grossly overdriven. But as I have gotten to know them, I found them immensely more helpful (confirming my own listen-

ing experience) than those gracefully undulating but otherwise useless meters. Other relatively obvious physical distinctions between the two generations of Ampzilla include a new extruded (vs. fabricated) heat-sink assembly, as well as II's greater weight (due apparently to a heavier power supply and associated hardware; the beefed-up power supply presumably explains another of Ampzilla II's properties: The meter lamps, unlike those in the elder model, don't dim appreciably when a loud surge happens by).

But the Ampzilla II comes to us with surprisingly modest pretensions. It costs \$100 more than its predecessor and has the same rated power output. Then why do I find Ampzilla II such a supergadget? The name of the game, my friends, is definition.

In the past couple of issues of The Absolute Sound, the listing entitled "Editor's Choice" has been prefaced by comments which established as prime requisites for editorial beatification a lack of distortion and coloration, particularly in the midrange. To my ears, Ampzilla II comes about as close to this ideal as any amplifier yet heard. But the way it does it is fascinating: Instead of being merely sterile (as implied by "lack" of distortion and coloration), it is almost surgically romantic. Imagine a musical signal so clean that you can hear every inner voice uttered with complete lucidity, even to the point of being a bit bare-bones. Imagine this quality being present to an almost razor-sharp degree which verges on dryness. But now forget about the bare-bones razor-sharp quality, and replace it with an upper-midrange just slightly bright, just slightly tinged with a certain silvery-sweet quality, like a peppermint drop after a big supper. Or let me restate it: Ampzilla II greatly eschews the kind of hash which so often passes for midrange sound in contemporary amps. At the same time it humanizes the sound by means of a slightly lush high end, a quality which obviously must be counted as a coloration, but a merrily euphonic one. It's nice to hear, but it probably would be enough to place Ampzilla II just a notch below state-of-the-art ranking.

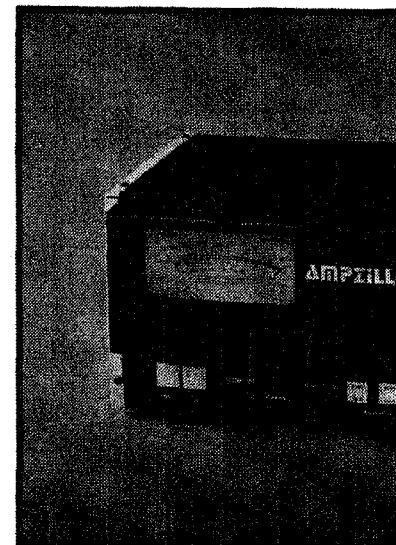
That not entirely vexing point aside, I really can find very little to complain about with this amp's sound. I truly believe it to be the most detailed I have ever heard with my Dayton-Wright MK I's (though even its 200-watts-per-channel

is not powerful enough to drive a pair of MK III's of my acquaintance to a satisfying level). Its low end is unexceptionable. As a matter of fact, this amp proved the most satisfactory of several currently on hand in driving full-range a pair of Infinity QLS-1s, which in their present incarnation virtually demand bi-amping if the bass is to sound like anything more than mud.

Elsewhere in this issue I describe at length my experience with the new Audio Research Dual 100 amplifier, which arrived at these precincts around the same time as Ampzilla II. This synchronicity of events proved to be most fortuitous, for in two important sonic respects these units are practically the antithesis of one another. One of these respects, as you might by now have guessed, is Ampzilla II's clear superiority in matters of details and definition. The other respect I have found to be the source of some interesting recent dialogues between myself and other of our staffers. That is the matters of "dynamics range."

Since my colleagues' comments on my D-100 review take lively exception to my praise of that amplifier for its wide dynamic range, it might be worthwhile to mention that Ampzilla II was my most constant point of reference (and contrast) while writing the D-100 review. In other words, if the D-100 has a very wide dynamic range, then Ampzilla II's is very ordinary. Now let me be a bit more clear on what I mean by dynamic range as it applies to an amplifier. If I play a given recording (preferably classical) through each of these amps successively, leaving the gain setting the same throughout each playing (though not necessarily equal for the two amps), then I at least hear a much wider scale of contrast in dynamic levels, from very soft to very loud, from the D-100 than from Ampzilla II. Note that I am not talking about the two amps' maximum or minimum outputs relative to another, but rather the shadings of volume achieved by each within its available power reserve; its dynamic range, in other words.

In older and simpler times, it might have been possible to dismiss this apparent quality of the D-100 as being due not so much to actual power output as to a kind of fatiguing effect caused by distortion, so that, rather than actually hearing more volume, the listener simply had to work harder to keep from being annoyed by it. But this is by no means the case here. Though the D-100's opac-



ity in the lower midrange may in itself be annoying, annoyance does not grow as the volume increases. This quality is no doubt much enhanced by the fact that the D-100 clips in an astonishingly graceful fashion—almost as if there were no clipping at all! So one concludes that the Messrs. Audio Research have invented a sort of new wonder—even though some of my colleagues may not agree on this point.

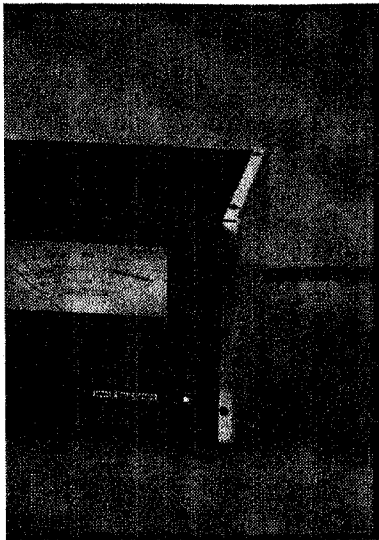
Now don't let me give you the impression that Ampzilla II is actually somehow deficient in this matter of "dynamic range," for it is at least the equal therein of other amps of similar power rating, being surpassed in my experience only by the D-100 and (to a lesser degree) by the Stax DA-300. Just how these two lower-power amps do it is beyond my ken. Had not the D-100 come along, I would have continued to suppose that the DA-300's Class A operation was the secret. Now I just don't know.

As for Ampzilla II's own clipping characteristics, this amplifier remains the antithesis of the D-100. While it is capable of putting out plenty of power, it will tell you for sure—both audibly and visually—when it is running out of steam. I mentioned before that I at first mistrusted those newly added LEDs: The tricky part is that when the amp is just beginning to exhibit distress, the diodes

Excerpts From High Fidelity Magazine, Feb. 1977

ED MILLER

"MEET THE PEOPLE AT GREAT AMERICAN SOUND CO."



flicker only very faintly and very briefly. By the time they begin to show a good solid red hue, your ears and the amplifier will both be considerably discomfited. But for this to happen at all requires either (a) markedly inefficient speakers or (b) a listener who likes his music a lot louder than I.

Hats off to you, Mr. B. Your new creature may be a bit berouged in the high frequencies, but I suspect that it's going to be my reference standard for a while.

—JWC

Manufacturer's Comment:

Thank you for your fine review on Ampzilla II. Although there is not much to add, I would like to clarify a few points...

With respect to the discussion of clipping characteristics, it is possible to introduce soft limiting to show the effect you describe. Unfortunately, soft limiting has its penalty, by any means that we have found.

The (apparent) extra dynamic range can be provided for the bass, but takes its toll of midrange and high frequency definition when it is in effect. We have chosen to hold all ranges at maximum definition right to the clipping limit. A comparison of limits is difficult to judge from here since apparently gain levels for playback were not equalized. It is absolutely imperative that the gain set-

tings be precisely matched, as the ear has no memory beyond a few seconds under a *direct comparison situation*. Using one D-100 with its soft limiting characteristic, it is possible to push it harder before apparent audible distress occurs, although with a loss of definition. Using two D-100's in bridged fashion is monetarily unfair (\$2,000) and unfair from a power standpoint, as this operational mode gives around 400 watts per channel into 8 ohms versus 200 watts for Ampzilla.

Although we have to work with specific technical matters in engineering terms and with the best available instrumentation, we are trying as hard as we know how to include trained-ears judgment in our decisions.

We value the (golden ears) types. They are valued aids in design, respected critics, and above all valued customers.

James Bongiorno

the absolute sound^{T.M.}

Editors Choice

The components listed here are the choices of the editor alone.

These listings are not divinely inspired. They should be read as a guide, not as any manifestation of a final authority. The editor has listed only those components he has heard, and he is solely responsible for the ratings. Cost has nothing to do with any of the ratings, but lack of coloration and distortion in the middle frequencies does (since the middle frequencies are most vital to the accurate reproduction of musical material). That is to say, the first place a component must excel is in the mid-range. Keeping this in mind will explain several seeming anomalies in these listings.

There is one more important point: The differences between Class I and Class II equipment are exceedingly small. This is especially true for the electronics and speaker systems listed. In most cases, the drop to Class III represents a considerable increase in noticeable colorations. You should remember that all modern-day components suffer from severe failings, especially

when you use live musical performances as the ultimate reference, that is, as the absolute sound. Even the best listeners cannot always detect colorations, if those colorations are common to most equipment and represent the best that technology can do in the endlessly complex procedure of transforming realities through several media. This is another way of saying that until a component that is noticeably less colored and more accurate comes along, we may not detect all the flaws in our equipment.

All of the components listed here are, at the very least, acceptable for those wishing to re-create some accuracy in the illusion of a musical performance, rather than for those who think home music systems should be, *sui generis*, musical instruments rather than music reproducers. Few are mechanically perfect. Not one component listed here is without sonic flaws.

Equipment that fails to perform properly is given a (c) conditional rating: It is subject to being dropped from future listings because of its unreliability. After all, who wants to spend a fortune on something that either won't work unless you're some sort of Great Expert, or something that varies so much from unit to unit that no two samples sound alike?

Several older components officially discontinued by their manufacturers (but still obtainable by the clever), have been listed here and are marked by a dagger (†). Other components have acquired a high ranking, but only when used with specific auxiliary equipment. These are so designated.

State-of-the-art is the category reserved for those rare components that are significantly beyond the best overall performance of nearly all other equipment (in terms of low coloration, low distortion and, in this instance, wide-band frequency response). **Class I** indicates components of very low distortion, with little in the way of coloration—but components that have one or more shortcomings when measured against what can be achieved by present technology. **Class II** indicates, in our opinion, considerably more coloration in more bands of the audio spectrum, but colorations which are euphonic and which may, when properly matched, add considerable realism to any given system. **Class III** includes components that may have very wide frequency response, or, failing that, rather accurate reproduc-

tion in certain parts of the frequency range, though with two or more major colorations elsewhere in that range. **Class IV** consists of equipment that is, for the money, faithful to the ideals of

musical sound reproduction (and beyond more expensive and more commercial brand names) with colorations that must be specifically matched to other and complementary componen-

STATE-OF-THE-ART	
Tuners	Sequerra Model One Yamaha CT-7000
CLASS I	
Turntables	Technics SP-10 Kenwood KD-500 Infinity Black Widow M&K/Rabco SL-8E (†)
Arm	Sonus Blue Label Grado Signature (c)
Cartridges	Audio Research SP-3a-2
Pre-amplifiers	Audio Research D-150
Amplifiers	Double Dyna 400 (Van Alstin) ReVox A-700
Semi-pro Tape Recorder	McIntosh MR-78
Tuner	Acoustat-X
Speaker System	
CLASS II	
Turntables	Sony 2251 LA Sony TTS-3000/3000a (†)
Arms	J-H Formula Four Mayware
Cartridges	ADC XLM/XLM Mk II (c)
Pre-amplifiers	Infinity FET Levinson JC-2 DB Systems Ampzilla II
Amplifiers	Audio Research D-76a Stax DA-300
Tuner	Onkyo 4055
Semi-pro Tape Recorder	Tandberg 10XD
Speaker System	Infinity Servo-Statik Ia (c) (†) Audio Research Magneplanar IIIa (†) Audio Research Magneplanar I-c (†)
CLASS III	
Turntable	Technics SL-110/120
Arm	Grace 707
Cartridges	Grado FTE +1 AKG P8SE Denon 103c Decca Mk V (elliptical) AEC (c)
Pre-amplifier	Levinson LNP-2
Amplifiers	Marantz Model 9 (c) (†) Luxman 3045 (c) Dyna Mk VI Epicure Model One
Speaker Systems	Dahlquist DQ-10a (w/DQ-1W sub-woofer)

High Fidelity Pathfinders

The Men Who Made an Industry

by Norman Eisenberg



TO MOST PEOPLE who know something of the history of the audio industry, the name of Ed Miller is associated with Sherwood Electronic Laboratories, Inc., which he helped to found in 1955. But Miller had already made his mark nine years earlier, at the age of twenty-five, at Radio Craftsmen—a manufacturer of truly classic components, though the name is virtually unknown to current audiophiles of less than middle age. It was there that he solved the "drift problem" then plaguing FM tuners by introducing an automatic frequency control into the circuit. The basic idea behind AFC was already in the engineering textbooks, but he was the first to incorporate it into an FM tuner.

Born in Cincinnati, Miller earned a degree in electrical engineering at the University of Cincinnati in 1943. Even as a student, he was a radio hobbyist with a penchant for FM. He held various jobs, including some time with Stewart-Warner, a stint as laboratory engineer with Naval Ordnance, and a period in the research labs of General Electric, before he joined Radio Craftsmen in Chicago in 1945. As he rose to vice president and director of engineering, he was largely responsible for that company's entry into the manufacture of high fidelity tuners and amplifiers, and by the mid-1950s it was among the largest producers of FM tuners.

Miller then joined forces with Emil Plank, John Snow, and John Clark of Elrad, a radio coil manufacturer. They started Sherwood—named after the Chicago suburb of Sherwood Forest where Miller lived.

Miller, as vice president and general manager, proceeded to direct the engineering and production of a long succession of tuners, amplifiers, and receivers that quickly gained a reputation as being among the best available. Providing the best possible value to the music-lover, rather than the best attainable performance in absolute terms, was the philosophy behind this reputation.

In 1970, Miller left Sherwood, partly because of a yearning for a change of scenery: He and his wife, Nan, decided they wanted to live in California.

The two forces coalesced into a de-

cision when Miller was approached by Morris Kessler, president of a small company in Los Angeles known as SAE (Scientific Audio Electronics, though the full name is seldom used), whose ten employees produced a line of amplifiers, preamps, and equalizers. Miller designed its FM equipment and a digital tuner, and soon became head of the SAE engineering department.

He left for a year to become engineering manager of Acoustical Control, reportedly the third largest manufacturer of public-address and music-performing amplifiers in the U.S. But the seeds planted at SAE bore fruit; the company grew, and he was asked to return in 1973. For a time he worked with a young engineer named James Bongiorno, who had replaced Miller during the year-long break from SAE and who designed its present line of amplifiers. They were a formidable team of technical talent.

In late 1974, Bongiorno decided to go out on his own. The first product of his Great American Sound Company (he has neither confirmed nor denied that he chose the name for its acronym GAS) was a kit for building a high-powered amplifier. A year later, he succeeded in persuading his old working partner to join him at GAS. There was a brief period when Miller worked for both companies at the same time, which probably is something of an innovation in a highly competitive industry and also perhaps indicative of a new spirit of technical fraternity abroad in the audio field in recent years.

GAS has since ceased to make kits and is now making fully assembled preamps and power amps, of which the Ampzilla (definitely intentional humor) is probably the best known. Miller reports that the company, of which he now is part owner, "is growing like wildfire" and may produce a tuner in the foreseeable future.

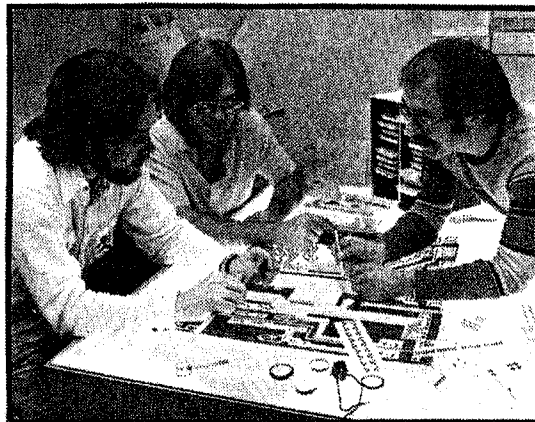
Tall, lean, and athletic at fifty-five, Miller retains all the enthusiasm for high fidelity sound that drove him in his salad days. His sole hobby is botany, and the results of his work in this area enhance his reputation as a man with an exceptional ability to make things grow.

Great American Sound Company has experienced remarkable growth in its short life. Companies do not grow without dedicated and talented people. We at GAS Co. believe we have a group of such employees who are dedicated to build and serve you with the best possible audio products.

EDWARD MILLER (President) — One of the GAS Company's Founder-Directors, Ed has for two years been the man behind the scenes organizing GAS Co.'s production, purchasing, material control, and more recently has fulfilled the duties of General Manager. Ed's many years of background with several leading high-fidelity manufacturers has provided the experience necessary to put it all together. (See the reprint from High Fidelity).

DAVID RIDDLE (Chief Mechanical Engineer) — Dave has been with Great American Sound Co. since its inception. He is our resident mechanical wizard whose expertise and ingenuity has enabled him to create the most efficient and effective design solutions in GAS Co. product construction. Our impressive production test facilities and module life-test stations are examples of Dave's creativity and insight into human engineering.

ANDREW HEFLEY (VP/Engineering) — With remarkable electronic understanding and insight in his youth, Andy was Jim Bongiorno's engineering protege at SAE. One of the GAS Co.'s Founder-Directors,



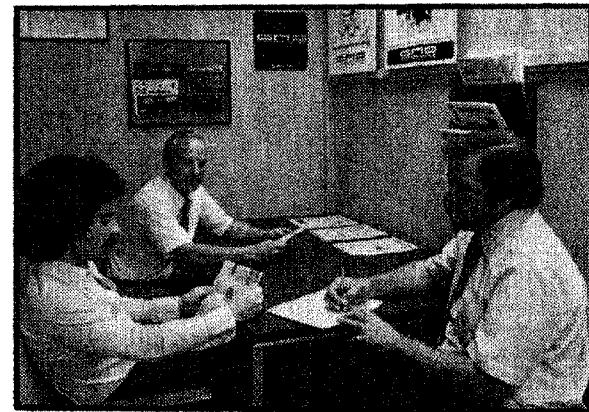
Dave, Andy and Adam

Andy has detailed the circuitry for the Son of Ampzilla and Thoebe, and more recently Grandson and Thalia. Andy's never-ending search for electronic circuitry that provides better sound motivates our engineering program to ever-greater product achievements.

ADAM ZAREBA (VP/Marketing) — GAS Co. Founder-Director with a degree in Mechanical Engineering, Adam has a sense of esthetics developed in graphic arts and accentuated by his continental heritage. His 5-year previous association with SAE brought to the GAS Co. extensive expertise in electro-mechanical packaging, manufacturing processes, styling and all aspects of graphics. Adam's most recent responsibilities include sales and advertising.

JOHN SULLIVAN (National Sales Manager) began selling audio equipment in Los Angeles 15 years ago. Then, with Xerox Corp., he spent several years selling digital computers. Later, in 1975, John organized his own audio marketing business on a part-time basis while promoting microwave electronics for the Bunker-Ramo Corporation. John is now back into audio full time bringing with him the marketing expertise of two of the largest sales oriented electronics firms in the nation and a knowledge of audio that has been 20 years in the making.

VINCE DELLAMONICA (Export Sales Manager), Vince is our genial



Vince, Bob and John Sullivan

expert on product availability and is one of our earliest employees. He is always helpful and ready to serve our dealers or customers no matter what the problem or how difficult the challenge. Just ask for Vince — He is everyone's friend-at-the-factory.

BOB HEFLEY (Secretary/Treasurer), a GAS Co. Founder-Director, is our financial wizard with many years' background in electronic manufacturing, including Burroughs and Universal Computing Co. where he was a divisional General Manager. Bob has been our financial guide through our most difficult, formative years. His experience and contacts in the financial and legal environment have proved invaluable.

JOHN EVANGELINOS (Electronic Design Engineer), who earned his degree in Electronic Engineering at California State University, can be found hard at work completing the details on our new Charlie the Digital Tuner. In the near future, you're sure to see some of John's intriguing digital solutions to analog problems as they appear on new GAS Co. products.

ED SERRA (Material Control Manager) who recently joined the GAS Co. He previously was the manufacturing manager at Compunetic Devices, Inc. Ed has already made significant improvements in our material-procurement operation.

Space limitations here preclude additional introductions for the many supervisory persons who are required to keep GAS Co. products flowing flawlessly to our customers.



John Evangelinos and Dan

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HIFI BUYER'S REVIEW

January 1978

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GREAT AMERICAN SOUND Thoebe Servo Loop Preamplifier. Serial no. A511174. Source: loan from private owner. Retail price is U.S. \$495. Manufactured by Great American Sound, 20940 Lassen St., Chatsworth, CA 91311.

This attractively styled preamp offers exceptionally accurate sound with more features than we would expect for its modest \$495 retail price. From a sonic standpoint, the Thoebe outperformed every other preamp except the Paragon 12.

Features the Thoebe has in abundance since one comes to expect minimum flexibility from a top-quality preamp as with the DB or Paragon E, both of which are priced at \$500 and do not offer tone controls, etc. We found the Thoebe's volume control to be poorly positioned and the horizontal slider for balance less convenient than a rotary switch.

The two spiffy relay switches for power had a nice feel to them. On the left of the front panel is a brace of 15 push button switches — 5 for inputs including 2 phono, a handy stereo reverse, an interesting three-position low-frequency filter and a variety of tape and mode switches. Front panel jacks are provided for tape and headphones, which is handy.

We would characterize the sound of the Thoebe as extremely clean and open but tending toward the bright side, particularly in the upper mid-range. Bass was impressive — deep and well controlled with good definition. It was a close second to the Paragon 12 in this respect, and a shade better than the Rappaport. The Paragon had a little less punch in the mid-bass but was slightly better in definition.

Thoebe's imaging was excellent and equal to the Paragon and Rappaport. Transient response was exceptionally good, again, the equal of the best we have heard.

In the mid-range, the Thoebe had that richness in the lower mid-range area that gave body to the sound of a cello, a quality which we found missing in the SP-4. We were bothered by some smearing in the mid-range of the Thoebe as well as a bit of raspiness in the upper mid-range area. Neither quality was noticed on the Paragon 12.

Considered on balance, the Thoebe represents an excellent value. It offers close to the best performance we have heard from a preamp in this price level.

GAS

The oddly-named "Son of Ampzilla" amplifier is made by the equally odd-named "Great American Sound Company" and, as the name implies, it is a scaled-down version of an amplifier called the "Ampzilla." Rated output of the S.O.A. is 80 watts per channel into 8 ohms and 150 watts into 4 ohms. The output stage consists of a bank of four transistors for each channel

..... so, it will work quite happily into loads as low as 2 ohms, putting out some 250 watts!

It uses a push-pull circuit throughout and the protection circuitry is designed to be effective without causing peak clipping or spurious oscillations at high power levels. The model selected for review measured 19 by 9 by 5 inches high and is suitable for standard rack mounting but a more domesticated version with a 17 inch panel is also available. No controls

are fitted and the panel is bare with the exception of a pair of power meters and a tiny indicator—plus the handles. The unit is completely finished in anodized black with the heat sinks (over 1000 square inches) projecting from each side of the chassis. Input connections (standard RCA sockets) are at the rear with the loudspeaker screw-type terminals and a single fuse. Four DC power supply fuses are located inside and there is also a thermal breaker switch. Weight of the S.O.A. is 35 lbs.

The frequency response, measured at the standard 1 watt level 0.05% IM and THD was 92 watts. Distortion did not increase signifi-

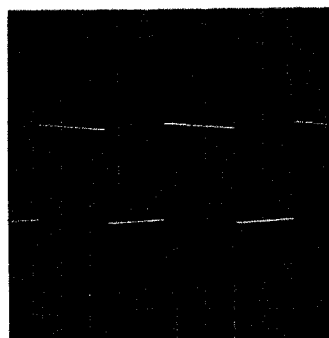


Figure 1

was 1 dB down at 3 Hz, while the upper 2 dB point was at 100 kHz. Power output, both channels driven with 4 ohms loads, was a maximum of 175 watts per channel as shown in figure 1. THD was a low 0.05% at 165 watts, falling to less than 0.02% at 155 watts. IM was 0.05% at 160 watts. With 8 ohm loads, output at

cantly over the audio spectrum, so a graph is not shown. Square wave resolution was excellent and with only a trace of rounding at 20 kHz and it was well maintained down to below 20 Hz.

Figure 2 shows the 20 Hz waveform and it will be seen that there is little "tilt" and the rise time is exceptionally fast. (This may well be academic, but I am not getting into that argument now!) Stability was checked with a variety of loads, using a high level 20 kHz square-wave signal and these tests included electrostatic loudspeakers as well as my own standard systems which use a dynamic bass driver with midrange electrostatic screens plus piezo-electric transducers for the highest frequencies. Quite a complex load in fact. Finally, hum and noise was checked out at 104 dB (ref. full rated power, input shorted and unweighted) which means that any background noise contributed by it would be totally inaudible. Input sensitivity was exactly 1 volt for full output—well within the capabilities of most preamps.

For the listening tests, the amplifier was connected to a Soundcraftsmen PE 2217 equalizer preamp and a Sony 2000F with two phono cartridge combinations, a Sony PS-X6 quartz-locked turntable with a super Sony moving coil cartridge (HX-55) and a Rabco ST-7 fitted with an Ortofon MC 20. Loudspeakers were Infinity Quantum 2's, Dahlquist DQ-10's and my own standard systems described earlier. Well, it was apparent within a few seconds after switching on

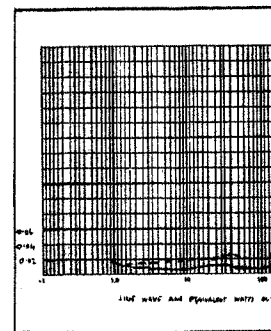


Figure 2

that the S.O.A. was a ve amplifier—smooth as silk as to listen to. Compared with standard amplifier, a Phase 400, the bass seemed slightly damped and "fatter"—if that's the right word—and transients to be sharper and more cle. The effect was a subtle one i so audible with the Infini DQ-10. The reason why an that measure the same may slightly different is not fully stood, but there is no dou the interface with complex has something to do with 400 has more power of cout the S.O.A. can deliver arou watts per channel with most er systems and, well, if you need more power—there's the Ampzilla Senior which c double the output if it is a like the Son, it should fantastic amplifier! Finally, i to sound a warning: the runs quite hot and it doe good ventilation.



"Son of Ampzilla"

CREAM OF THE CROP

Preamplifiers:

- Paragon 12
- GAS Thoebe
- Rappaport (t)
- Levinson JC-2 (now ML-1)

By NADINE AMADIO

IN recent months I have become increasingly interested in pick-up cartridges. I have reasonable equipment of my own and I am regularly lent the latest audio items for testing.

However, to quote Dylan Thomas, let us "begin at the beginning," because that is so often where the sound first suffers.

I was therefore extremely pleased to have the opportunity of hearing the first imports of the new moving coil cartridge from GAS (the Great American Sound Company).

The GAS company is well known for its range of amplifiers which encompass the most advanced circuit designs. The company was founded by engineers, who are also audiophiles and musicians, with the sole purpose of reaching new levels of sound reproduction.

One of its first amplifiers, Ampzilla, has received the greatest acclaim from leading American audio journals — virtually responsible for setting state-of-the-art standards in audio throughout the world. This is the GAS company's first essay into the cartridge area.

I recently purchased the new German EMT XSD-15 moving coil cartridge. It was expensive but until last week it was the best cartridge I had heard.

I had become convinced, after difficulties with the Stax electrostatic cartridge, that the moving coil cartridge had the qualities I most admired.

I still retain a fondness for some of my magnetic cartridges and I still regret the unreliability of the promising Stax but as I am listening to records several hours a day, the need for the highest clarity of sound becomes urgent.

The new GAS cartridge has the cleanest, clearest sound I have yet heard from any pick-up.

The GAS company has given this new cartridge the romantic title, Sleeping Beauty. Perhaps this is a reference to the potential of the pick-up when it has received the "kiss of life" from the amplifying system.

It is, in fact, a most

Sleeping Beauty: a most 'awake' pick-up cartridge



Rossini whose string sonatas assume new dimensions when played with equipment fitted with the new cartridge.

"awake" piece of equipment with depth, vitality and a realistic sound image.

I listened to the cartridge through three different turntable and three amplifying systems. In each case the cartridge was compatible and behaved in top form.

Unlike other moving coils the Sleeping Beauty is very lightweight physically (5½ grams) and the high mass of many arms could somewhat reduce the quality of this fine cartridge.

Three types are available in the Sleeping Beauty range,

Music

super-elliptical, elliptical and spherical. I tried the top of the range, the super-elliptical, which has a frequency response of five to 40,000Hz.

This week I had wanted to mention the Argo label which has recently joined EMI for Australian distribution. I listened through an Argo selection with the new GAS cartridge.

Argo is the prestige label in the Decca company and deals with outstanding classical works performed by major artists. Their special areas are contemporary music, early music and the spoken word.

EMI is now issuing a huge range from the catalogue and most material is imported.

A test in beautifully played string sound are the sparkling performances of Rossini String Sonatas from the Academy of St Martin-in-the-Fields directed by Neville Marriner. These come on two separate recordings.

The first and most popular (ZRG 506) contains Sonatas Nos 1, 3, 5 and 6. The second (ZRG 602) has the Rossini Sonatas No 2 and 4 and the Donizetti Quartet in D arranged for String Orchestra.

Played with the GAS cartridge, the bite and attack of the strings was breathtaking. The double bass sound on (ZRG 506) was astoundingly realistic.

To carry through the sustained smoothness of the playing of the Academy the GAS cartridge provided a most satisfying stability of image. This proved true throughout the range of recordings I

heard. To test the sound of the speaking voice I played the Riddle Scene from Argo's superb recording of Tolkien Hobbit (ZPL 1196/9) as read by Nicol Williamson.

Williamson's vocal characteristics on this set are irresistible and this reading is one of Argo's great contributions to the Spoken Word catalogue. Williamson's voice has enormous presence with the GAS cartridge and the Gollum's hissings came across with a chilling clarity.

No doubt, to a Gollum, the Sleeping Beauty would quickly become a "precious."

The bright focused sound of the brass with the GAS enhanced the sound on the excellent Argo recordings of the Philip Jones Brass Ensemble. Recommended recordings are Classics for Brass (ZRG 731) Golden Brass (ZRG 717) and Renaissance Brass (ZRG 823).

The haunting, isolated sound adventures that make up the exciting music of contemporary composer Peter Maxwell Davies were made vivid and urgent with the new clarity of the GAS cartridge (ZRG 712) and (ZRG 758).

Argo's contemporary catalogue is well worth investigating. Many of the best British composers are represented. There is also an excellent collection of Messiaen.

To test the voice, particularly in operatic context, I turned to the new Decca recording of Massenet's Esclarmonde which I chose as my record of the year last year. It was here that the GAS cartridge shone.

The magnificent Sutherland voice, so hard to record in all its dynamic splendour, is certainly more released and revealed with the finest equipment. The GAS exposed the luminous clarity of her top register and the surprising depth of her voice in the upper mid-range.

The thrilling edge to the high ardent voice of tenor Aragall was clear and the full orchestral spectrum of this richly textured work had a cleaner etched sound (Decca set 612-4).

New developments such as the GAS cartridge are essential in matching the progress in recording techniques.

I felt something of the same pleasure I felt with my first Ferranti in testing and discovering new extensions in those hidden magical sounds on the record tracks.

Reprint courtesy of THE AUSTRALIAN FINANCIAL REVIEW, April 1977

PREVIEW OF COMING PRODUCTS

"Charlie the Digital Tuner"



- ± .004% crystal-controlled digital FM readout.
- 5 tuned-circuit varactor, fly-wheel-assisted tuning.
- Selectable FM tuning/digital time display.
- All-complementary audio output circuitry.
- Wide/narrow bandwidth switch.
- New phase-locked-loop negative-feedback stereo multiplex circuit with 19 KHz pilot cancellation.
- New Surface-Acoustic-Wave low-phase-distortion IF filters.
- Mono/blend/stereo switch automatically selects