Ampzilla 2000 Second Edition

300W Mono Power Amplifier

2011 the absolute sound PRODUCT OF THE YEAR AWARDS

SPREAD SPECTRUM TECHNOLOGIES INC

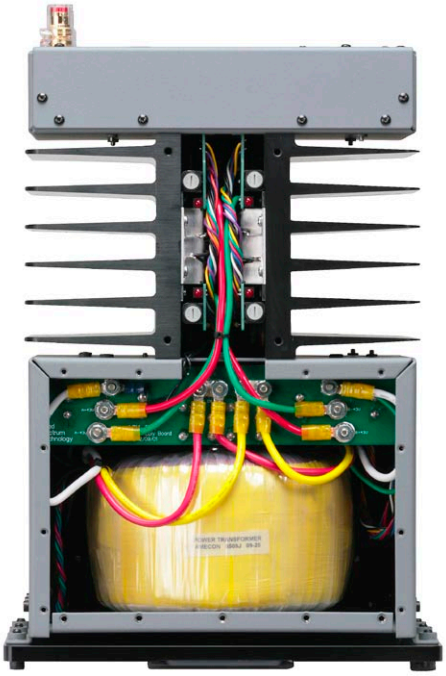
ジェームス・ボンジョルノ。その名を巨人といって異論はあるまい。SAE、GAS、SUMO、DYNACO などかっての名機が彼の手になるものであったことはすでによく知られています。再生される音楽の素晴らしさによって、それらをいまも愛用するオーディオファイルは少なくない。その彼がいま、長い沈黙と思考の末にこれまでにない着想を得て全く新しい回路構成によって復活。
ここに最新作の Ampzilla 2000 Second Edition を発表いたしました。ペアになるプリアンプ Ambrosia2000 も Second Edition としてリニューアルいたします。

Spread Spectrum Technologies Inc.(S.S.T. Inc.) からの第 3 作はちまたの高価格アンプへのアンチテーゼともいえるハイパフォーマンス価格のモノーラルパワーアンプ、第 1 作の Ampzilla2000 をよりシンプルに純化させ SN 比を改善、かつ 50% のパワーアップに成功しました。あの SUMO「The Power」のバランス・ブリッジ回路を発展させたアンプ回路の新しいリファレンスとなるであろうコンプリメンタリーフローティングアウトプットのフル差動バランスアンプ、基本的にノンフィードバック回路であり、シングルエンド入力に対する完全で比類のないアンバランス・バランスコンバーターを装備。

凝縮された極めて合理的なコンストラクションで、2000VA の巨大な電源トランスを搭載、100,000 μ F の電源フィルターコンデンサーを擁する出力 300W モノーラル・パワーアンプである。
その音は信号とパワーの時間軸上のズレを解消して、消え入るようなピアニッシモの吐息からフルオーケストラのフォルティッシモを完璧に再現、Ampzilla 2000 Second Edition、ここに再び新しいアンプの歴史が始まる。

New Featur
1. 出力：200W（8 Ω）から 300W（8 Ω）へパワーアップ。
2. SN 比（A 加重）：－ 120dB から－ 130dB になりました。
3. 前段の入力バッファ回路は最新の Son of Ampzilla2000 のように削除、シンプル化されています。全ての入力信号はシングルエンド、バランスにかかわらず、新設計メインアンプ部に直接送られます。
4. 入力サーキットは Son of Ampzilla2000 と同様で、僅かに高調波歪率 /THD を低くしています。
5. スピーカー端子はバイワイヤリング対応になりました。
6. フロントパネルは Blue 塗装から Black アノダイズの縦ヘアライン仕上げになりました。

製品仕様
■定格出力：Mono 300W（8 Ω／ 20Hz ～ 20kHz)、500W（4 Ω／ 20Hz ～ 20kHz)
■入力インピーダンス / 感度：1V R.M.S.(50k Ω /300W/8 Ω Balanced), ± 1V R.M.S.(± 70k Ω /300W/8 Ω Unbalanced)、バランス / アンバランス入力切替スイッチ付属
■周波数特性：8 Ω /20Hz ～ 20kHz（± 0.2dB 以内）4 Ω /20Hz ～ 20kHz（± 0.3dB 以内）
■定格出力帯域幅：20 ～ 20kHz
■ SN 比（A 加重）：– 130dB 以下（フルパワー / ショートインプット時）
■全高調波歪率 / 混変調歪率：0.05% 以下（4 ～ 16 Ω／ 20Hz ～ 20kHz)
■ダンピングファクター：250 以上（20Hz）
■電源：100V（50/60Hz)、10A（UL/CSA 規格）
■プロテクション:サーキットブレーカー付パワースイッチ、インジケータ付 4DC パワーサプライフューズ、ピーククリップインジケータ LED、サーマル LED
■シャーシ：#14 ゲージスチール、パウダーコート仕上
■外形寸法：267W × 206H（パネル H /182）×400D(端子含む）mm
■重量：24.1kg/1 台



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2011
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PRODUCT
OF THE YEAR
AWARDS

• SOLID-STATE POWER AMPLIFIER OF THE YEAR

Spread Spectrum Technologies Ampzilla 2000

$7500/pr.

James Bongiorno, one of the legendary characters of high-end audio and also one of its most accomplished designers, was inactive for over twenty years owing to a debilitating illness. But he has now returned with a pair of state-of-the-art contenders in the Ambrosia preamplifier and a new edition of the Ampzilla 2000 amplifier. What rocked PS's world about the performance of these components was their total, all-encompassing naturalness, free from electronic artifacts, wholly neutral, with tubelike body and dimensionality, and surpassing vitality, life, and lifelikeness. Allied to these are outstanding transparency, fabulous dynamic range, and vanishingly low noise. The 2000 generates 300 watts of rock-solid stability that coast through big stuff like Mahler symphonies or Wagner operas, yet have the finesse for the most delicate and nuanced chamber music and jazz ensembles. *PS (219)*

Spread Spectrum Technologies Ampzilla 2000 Monoblock Power Amplifiers and Ambrosia Preamplifier

The Return of James Bongiorno

Paul Seydor

"It's not a come back, it's a *return!*"
—Norma Desmond, *Sunset Boulevard*

The pioneering days of high-end audio certainly had no shortage of what my mother used to call "real characters": colorful, larger-than-life men[1] with outsized personalities to match their outsized talents for invention and innovation, not to mention the intensity of their passion for the reproduction of music in the home. Among these there was surely no greater character than James Bongiorno, the very embodiment of a *big* personality: the gravelly voice, including an infectious laugh that verges on a cackle; the outrageous dress—he's notorious for lime-green or tangerine suits that evoke a distinct zoot look, with wide-brimmed hats to match (in both senses of the word); and a manner of speaking, with a strength of opinion, that does not know understatement. Here he is on the Thaedra preamplifier: "30 YEARS AGO, IN 1975, OUR DESIGNER JAMES BONGIORNO, UNLEASHED ONTO THE WORLD, THE THAEDRA, FROM GREAT AMERICAN SOUND. AS OF THEN AND EVEN NOW STILL, THIS WORLD-CLASS PREAMP HAS BEEN REVERED FOR ITS PERFORMANCE. THERE HAS BEEN NOTHING SINCE, TUBE OR TRANSISTOR, TO EQUAL THE MAJESTY OF THAT PREAMP." Relentlessly unvaried caps and all

[1] No issue of chauvinism intended here, since as a matter of literal fact these designers were without exception men. Wilma Cozart Fine must by any reckoning be considered a pioneer in the history of recording, but her considerable accomplishments are not in the area of audio design.

that, comes directly from the beginning of the new Ambrosia preamplifier's instruction manual. As I said, the man's incapable of understatement.

If this also suggests a pride in his own accomplishments that goes all the way to boastful, well, why shouldn't it? He's got a list of accomplishments that would do anybody proud. He founded or was otherwise deeply associated with Dynaco, Scientific Audio Engineering (SAE), Great American Sound (GAS), Sumo, and now Spread Spectrum Technologies, his latest company. Designs or products for which he can claim either full or consulting credit are the Hadley Laboratories 622C power amplifier, Marantz Model 15 power amplifier, Dynaco Stereo 400 power amplifier and AF-6 AM/FM tuner, too many SAE products to name, and every product (including the moving-coil pickups) from the three companies he founded (GAS, Sumo, and Spread Spectrum). According to Robert Harley, Bongiorno was one of the consultants on the stellar Constellation electronics reviewed a few issues ago, and some of Bongiorno's designs have achieved classic status, notably the original Ampzilla amplifier as well as the Thaedra. In TAS Issue 13, John W. Coolidge judged the Ampzilla essentially the equal of whatever was the reigning Audio Research at the time.

In addition, Bongiorno has released four CDs on which he plays a respectable jazz piano (described by a very jazz-knowledgeable friend of mine as "nothing more than easy-listening jazz, but nothing less either"). As if all this weren't enough, he has survived a long-term battle with liver cancer that would have destroyed any number of lesser men and that effectively put a stop to his design career for well over two decades. It's not hard to have patience with the pride, even the boastful pride, of a man who's been through all that yet managed to return with a pair of products that are ready to challenge anything on the market regardless of design type, complexity, or price.

Inasmuch as Robert Harley's interview with Bongiorno accompanying this review will no doubt take up technical aspects of these designs, I shall get right to their functional and sonic aspects. The Ampzilla 2000, a monoblock rated at 300 watts into eight ohms and costing $3750 ($7500/pair), is a second edition, with some improved circuitry, of the 2000 originally introduced in 2002. The Ambrosia ($7500) is a true full-function preamplifier of exceptional flexibility and usefulness. The styling of Bongiorno's products tends to match their colorful names, and these new ones are no exceptions. A large, parabola-shaped graphic, intended, I assume, as a stylized "A," made from real gold foil, adorns the center of the faceplate of each product. The chassis are gray with deep blue front panels (black is also available). The graphic is stuck on, not anodized into, the chassis, so it's easily removable (indeed, the one on the Ambrosia fell off all by itself). Otherwise, the look is what might be called domestic industrial and will not be to everyone's taste (including my wife's). My only disappointment is that the blue is not as bright and vivid as it appears in the Web site photographs; instead it is deep and rather muted.

Despite the stick-on graphic, construction is rugged and confidence inspiring, which also extends to the quality of parts. The back of the amp sports two pairs of WBT connectors for bi-wiring. Sure to raise eyebrows among those who have strong feelings about such things—and something I've not seen since the Sunfire amplifier about ten years ago—is a *captive* AC cable, far thicker than is typical. When I asked Bongiorno about this, he replied that no way would he ever release an amplifier of this power with a detachable line cord!—and yes, the exclamation point is his. (The Ambrosia, however, has the standard IEC AC jack.) Inside the 2000 is one of the largest toroidal transformers I've ever seen (see the sidebar for more on this). Replaceable fuses are located on the top panel.

The Ambrosia preamplifier is physically large, heavy, and unquestionably a gauntlet flung at our minimalist age, when preamps seem to get smaller and smaller and less and less useful, while prices climb vertiginously higher. Not only is the Ambrosia anti-minimalist with a vengeance, it's flexible and feature-laden such as I've not seen since the great McIntosh C46 and C2200, and before them...well, you'd have to go back a quarter of a century. It has balanced and single-ended outputs, one pair of balanced inputs, plus single-ended inputs for CD, tuner, auxiliary, and a spare XLR with adaptors that make it singled-ended. There are two complete tape-monitoring loops that can cross-feed each other independent of the source selector and a superb built-in headphone amplifier with front-panel jacks (Bongiorno loves headphone listening). Completing this retro identity is a pair of built-in phonostages, one for moving magnets, the other for low-output moving coils, each of which has its own output for recording. The mc stage, Bongiorno proudly points out, is a *single-gain* circuit that amplifies low-output mc's to line level. The mm is loaded at the standard 47k ohms, the mc at a fixed 1k ohm. As with everything else, Bongiorno has strong opinions about loading mc's: If they're already flat and their resonance is pushed high enough and sufficiently damped, he believes there is no advantage to loading them equivalent to their internal impedance.

SPECS & PRICING

Ambrosia Preamplifier
Frequency response: Line, +/-0.25dB 20Hz–20kHz; phono,+/-0.5dB, 20Hz–20kHz
Inputs: CD, tuner, Aux, one balanced, tape monitor, plus one XLR combo jack
Output: Balanced and unbalanced, 10V maximum unbalanced
Distortion: 0.01% maximum
Phono: MM (47k ohm); MC (1k ohm)
Price: $7500

Ampzilla 2000 Mono Amplifier
Power output: 300 watts/8 ohms; 500 watts/4 ohms; 150 watts/16 ohms, +/-0.2dB 20Hz–20kHz, 0.05%THD
Input impedance and sensitivity: Unbalanced: 1V RMS/50k ohms for 200 watts/8 ohms; balanced +/-0.5v/50k ohms for 200 watts/8 ohms
Damping factor: 250 at 20Hz
Noise: -120dB referenced to full output
Weight: 50 lbs.
Price: $3750

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ampzilla2000.com

The front panel is simplicity itself, with only an on/off switch, five buttons, and a large knob. But this plainness is deceptive, for there is a microprocessor that offers control of balance, bass, treble, filtering, mode, and source-selection. Bongiorno is pleased beyond himself with the remote handset he has devised, and rightfully so: It's the easiest I've ever used, at least for one that affords this much functionality. To begin with, except for on/off, which is confined to the main chassis, the handset mirrors the front-panel controls, including the large rotary knob. Bongiorno hates remotes with, as he puts it, "a gazillion buttons." Instead, the Ambrosia uses a single large knob in tandem with the five buttons to control all operations: one vertical pair for moving up or down through the menu; the other vertical pair for "mute" and "enter." Between the two pairs is a button marked "memory." Status is registered by a large alphanumeric display on the front panel easily read from across the room, thank you very much.

The remote always defaults to its volume mode, which is displayed numerically as a plus or minus value from zero. (The volume pot, by the way, offers unusually fine resolution and outstanding channel-to-channel tracking.) Pressing the upper select-button sends you to balance, which is displayed numerically with arrows left or right. Pressing the lower button takes you to source-selection; pressing it again gets you to mode (stereo, stereo reverse, mono); next come bass right, left, or left-plus-right; the same for treble; and so on. When you reach an item in the menu, you use the large knob to select a setting, then press the "enter" button for the setting to take, whereupon the knob defaults to volume. Should you decide to alter your last setting, rather than having to descend through the menu in order, the "memory" button returns you to the last item you adjusted. The only catch is remembering to press "enter," though this wasn't a problem for me, perhaps because, being a photographer, I have to do the same with my Nikon.

Functionally speaking, I find almost nothing to complain about in the Ambrosia and everything to like. It operates flawlessly. The only peculiarity is that when adjusting the balance, you are required to turn the knob to the left when you want to raise the right channel and vice versa, which is surely counterintuitive. (Bongiorno says this will be corrected in a future run.) The bass and treble controls worked excellently, though I initially wondered at the choice of turnover frequencies. The bass ones are at 270, 330, 400, 515, the treble at 2.7k, 3.2k, 3.9k, and 5k. The upper three for bass strike me as rather high, extending well into the lower midrange, while the treble ones fall likewise into the upper midrange and presence region. I personally would have liked one centered at 40–50Hz, another around 100–150Hz, and a treble at 8–10kHz. On the other hand, the way Bongiorno has configured these, you can make them come close to mimicking the tilt control on the Quad Series 99 preamp, which in seesaw fashion tilts the entire 20Hz–20kHz spectrum +/-3dB around 1kHz. This proved very useful for restoring a more natural tonal balance to many recordings.

But even using the controls conventionally proved satisfying for problematic recordings. As I am writing this, I am listening to the Sony SACD reissue of George Szell's famous Wagner program of *Ring* cycle "bleeding chunks" from the seventies with the Cleveland Orchestra. As classical music listeners of my generation know, whatever the considerable virtues of Szell's conducting and his recordings in Cleveland, expansiveness, warmth, and sonic naturalness are not among them. Indeed, they tend to be rather lean in the bass (this also to some extent owes to Szell himself, who seems to have liked things trim and tight) and to my tastes entirely too bright. A 2–3dB boost of the bass at 270Hz and a 2dB cut of the treble at 5kHz worked wonders toward creating a convincing impression of warmth and naturalness without in any way softening the incisive attack and or blurring the clarity of line of which Szell was an almost peerless master.

I will never understand the thinking of audiophiles and reviewers who insist that everything should be played flat. So I shouldn't listen to my favorite *Appalachian Spring*—Bernstein on Columbia—at all or suffer through fiercely bright strings when a fast, easy, and repeatable remedy is available? Let the purists suffer as they wish—far be it from me to get between a masochist and his pain—but I'd rather enjoy my favorite recordings without having to grit my teeth.[2]

The bass turnovers on the Ambrosia also make for an unusually sophisticated kind of "loudness control," which proved both invaluable and irresistible for late-night listening sessions. As everybody knows, at very low levels, bass frequencies virtually disappear. How rewarding it is to have the ability to boost them, thus bringing a welcome balance back to the entire frequency spectrum. One night a close friend and I listened well past the midnight hours, comparing recordings of Beethoven string quartets, enjoying the full warmth of the cellos, without disturbing anyone else in the house. Even more gratifying were the weight and power of the basses with which Bernstein doubles the cellos in his incomparable recording of Opus 131 with the strings of the Vienna Philharmonic.

The treble controls are equally effective at the other end of the spectrum. Audiophiles who regularly attend live *unamplified* musical performances know that many recordings are way too bright owing to how they are miked. Add to this the current preference among far too many speaker designers for rising top ends and you have a formula that can make listening to recorded music…well, let's just say that the resulting sound is notable neither for musical naturalness nor for realism of timbre. A good set of tone controls can go some distance toward correcting this state of affairs. Bongiorno says he would never consider designing a preamplifier without them, nor would I choose to own one (the same goes for a balance control, which I consider a particular necessity when it comes to vinyl playback).

That all these features and flexibility are accomplished with digital circuitry should be no cause for alarm, as the digital circuits go to sleep when they are not in use and are completely outside the signal path (which, by the way, has no mechanical switches from input to output or output to input). Though I have no way of measuring noise and distortion, I can report that these are breathtakingly quiet components. At no point, at any volume level, even with my ears close up to the speakers, did I

[2] Back in the day people used to marvel at the sound Peter Walker got at demonstrations of Quad electronics and ESLs. Most of the time he ran them with a mild cut from the 33 preamp's 7kHz filter! Why? Because it sounded better–more natural, more realistic–that way.

hear electronic noise—*none*, and this includes even that single-gain mc stage (I doubt I've heard lower noise from even battery-powered phono preamps). One reason may be that Bongiorno supplies shorting plugs for every unused input and the manual warns that *they must be used.*

I shall not be coy when it comes to the performance of the Ambrosia and the Ampzilla 2000: These are, simply, great components. I've never heard better electronics in any system of mine with which I've had long familiarity, while the shortest of short lists would be sufficient to contain the few that seem to me in the same league. There are, to begin with, no tonal anomalies, but this is true of almost all well-designed modern solid-state electronics unless they've had a specific characteristic built into them (e.g., the mild, broadband presence dip of Bob Carver's Sunfire amps). In other words, the Ambrosia and Ampzilla are dead, flat-out neutral. But it's not the kind of neutrality that results in colorlessness or diminished involvement. On the contrary, there is an almost impossible-to-describe impression of quite exhilarating vitality.

This impression has several constituents. First, there is an extraordinary recovery, replication, and resolution of instrumental and vocal textures and colors. Take Ben Webster, he of the legendarily voluptuous tenor sax: You'll hear it in all its wet, fat, lush glory on *Ben and Sweets* (especially in Classic Records' 45rpm vinyl reissue). But go to his outing with Oscar Peterson (Verve) and you hear a completely different Webster: still recognizable, but how he reigns in his usual expansiveness and limits his colors to marry his tone to Peterson's cooler style—Paul Desmond was scarcely capable of greater delicacy. The Spectrum combination presents the contrast in texture, style, tone color, and expressive nuance to perfection.

Second, hand in hand with color and texture is that elusive impression of substance, weight, solidity, palpability—in a word, *body* to the presentation. I know I talk a lot about this in reviews and I apologize that I can't articulate the concept better except to say that once you become aware of it, it's difficult to accept reproduction that lacks it. This is one reason, I believe, there are so many die-hard tube addicts. Almost by nature, as it were, tubes seem to provide this impression of body, and it can be so addicting that many audiophiles will put up with a lack of tonal neutrality and of really outstanding transient response and bass extension. For much of their history, solid-state electronics have excelled in those very qualities but have never been able quite to match that impression of body. While this is by no means true any longer—as electronics by companies as diverse as Quad, McIntosh, Boulder, Croft, Innersound, and more amply demonstrate—there are nevertheless leaders and followers of the pack. These new electronics by Bongiorno are certainly leaders, so much so that I've heard no tube units that I would choose over them for this specific aspect of reproduced sound.

Third, though solid-state, the Ampzillas and Ambrosia evince absolutely none of the electronic artifacts that tube stalwarts still claim to hear in any transistorized gear. In many respects, the basic sound here reminds me of the Quad 909 amplifier and Series 99 preamp I favor so much owing to their lack of any sort of electronic signature, though these Spectrum units go much deeper in the bass, are much more powerful, and somewhat more transparent. Relative to the last named, one thing I really admire is how they achieve a state-of-the-art transparency without a top end that sounds etched, hyped, rising, or otherwise noticeable as such. There is every possibility that if you listen to them next to a good many solid-state competitors you might initially think the highs lack extension. Not so. I put them through every brutal high-frequency test I could find—the bells on the first track of Sheffield's *The Name is Makovich*, the same label's *Drum Test Record,* "Mercy Street" (with its rain sticks) from Christy's Baron's *Steppin'* (Chesky), Harmonia Mundi USA's *Bitter Ballads*, with its harp and psaltery, and countless others. What I hear strikes me as thoroughly natural, with absolutely no tendency to call attention to itself and invite adjectives like "brilliant" or "scintillating" or euphemisms like "extended" or "pacey."

Fourth, dynamic range is sensational. Part of this has to do with the vanishingly low noise and distortion. This is not just a matter of power—though with 300 stable watts per Ampzilla, power is not likely to be an issue for most users, even those with very inefficient speakers—but an ease, freedom, confidence, and composure when the going gets tough on big stuff like Wagner operas, Mahler symphonies, or, for that matter, pianos, still one of the most demanding of all instruments to reproduce with tonal truth and dynamic realism. I found it possible to play James Boyk's *Tonalities of Emotion* (Performance Recordings, SACD), maybe the best recording of a piano *qua* piano I've ever heard, at levels suggestive of a recital hall, even on my Quad 2805s. Rarely have I heard them more persuasively embody Peter Walkers' ideal of a "window" onto the concert hall than when driven by these new electronics.

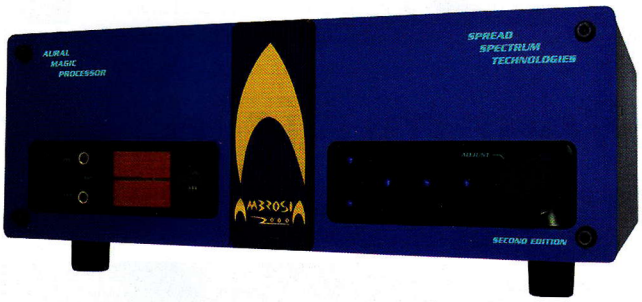
If I seem to be slighting such usual audiophile concerns as imaging, soundstaging, detail, resolution, and so forth, it's because I want to emphasize the sheer unfatiguing naturalness of these components, how relaxing yet involving their presentation is. Resolution and inner detail? I've never heard more or better from any other components of similar neutrality.[3] Imaging and soundstaging? The latter is Cinerama when called for, the former as precise and rock-solid as you could want. Depth is neither exaggerated nor foreshortened. In the SACD version of the Anonymous Four's *Gloryland* (Harmonia Mundi USA), you not only can locate each of the singers precisely in space, but also readily hear her distinctive vocal qualities. One especially attractive characteristic of these Spectrums is the way they locate the front of the soundstage ever so slightly *behind* the plane of the speakers, so that you never feel as if the images are glued to the monitors. Of course, if a recording is miked this way, that's how you'll hear it. Otherwise, the presentation renders dimensionality and space with rare integrity.

I used only the mc phonostage of the Ambrosia with my reference Ortofon Windfeld. Regular readers familiar with my strong feelings about proper loading will no doubt be as surprised as I that I found it to be outstanding, even without loading capability. I don't know what alchemy Bongiorno has wrought to render the loading issue moot, but at least with the Windfeld (which is by definition flat, with a resonance that is well out of the audio range and extremely well suppressed) I'm

[3] I put it this way because it is very easy to convey a false impression of greater detail by slightly tipping up the top end.

happy to declare a provisional truce on the subject. How other mc's, where the loading may be more critical, might fare, I have no idea. By the way, the dynamic range of this phonostage is fabulous!

There is a great deal more I would like to say about these splendid products but space limitations mandate a wrap up. In my younger days as an audiophile, I never had occasion to use or otherwise hook up, as current parlance would have it, with James Bongiorno's designs. That has made this assignment an especial pleasure, the adage better late than never rarely more personally apposite. The Ambrosia and Ampzilla 2000 are by any standard statement products that can take their place among the finest amps and preamps money can buy. At $15,000 the combination is far from inexpensive, though that figure does include *two* excellent phono preamps and a headphone amplifier. Reflect, too, that there are competing electronics exceeding $100,000 that give you far less of everything. To those who find it impossible to believe components priced as reasonably as these can possibly be as good as those costing a whole lot more, I say only, "They *are*. Please audition with your mind as open as your ears." If I were closing up shop tomorrow as a reviewer, I would buy them and live happily ever after. **tas**



Singing Transformers

The only problem I experienced was occasional physical humming of the large toroidal transformers in the 2000 amplifiers. I've had this happen from time to time with other amplifiers, so I know it's something from the AC lines, not the components themselves. In my location, it manifests itself as a mechanical hum that swells and diminishes rhythmically at what sounds like a 60-cycle frequency; when it occurs the circular LED on my DirectTV DVR also dims and brightens in time with the humming. It's a sporadic problem in my neighborhood, sometimes several days going by without recurrence, and it fortunately rarely seems to happen while I'm listening to music. This sound is entirely physical, i.e., you can hear it with everything turned off but the amplifiers, and the speakers disconnected, and it is neither part of nor does it affect the audio signal or circuitry. Bongiorno informs me that out of about a thousand amplifiers, fewer than ten owners have experienced the problem. (I should add that when whatever crud on my power line is causing this problem isn't present, the transformers are so quiet I can't even hear them with my ear pressed to the chassis.)

I asked Bongiorno if he'd explain the issue in greater detail. He wrote me an e-mail titled "A Pox on AC Lines," of which the following is an edited version: "The two most basic and prevalent coretypes used in large power transformers are EI laminations and toroids. EI-lams have for the most part a large 'gap,' while toroids have virtually no gap. But the hysteresis curve of an EI is much wider and softer, which makes it much more immune to asymmetrical 'junk' on the AC line. The hysteresis curve of a toroid is very narrow and steep, which renders it much more susceptible to asymmetrical crud from the AC line. This manifests itself as a vibratory buzz that is sometimes audible enough to be annoying. Bear in mind that this is a mechanical vibration only, not an electrical problem that in any way affects or infects the audio signal as such, nor is it audible as hum through the system.

"When this condition occurs, the blame lies squarely with the power company, whose AC lines are dirty. Until power companies literally clean up their acts, there are basically three solutions. The first is to redesign the transformer so that its flux density is much lower. Alas, the only way to do this is to increase the overall size of the transformer, which would affect everything else in the product, thus adding substantially to the cost of everything including the shipping carton and the freight. In my opinion, this 'solution' forces the majority of consumers to 'fund' the very few with the problem.

"A second solution, also expensive, is to find an original PS Audio Power Plant, the one with the built-in regenerator. I am under the impression that PS Audio's current units do not have this feature, which if true makes them of a no help. Nor are any of the currently popular line conditioners and filters useful in addressing the issue.

"The third solution is the most practical and cost effective: the use of a little device called the 'Humbuster,' also originally from PS Audio though no longer made. But it's easy enough to make one (or two for a pair of monoblocks) with parts from Digikey, Mouser, or even a local RadioShack. It would consist of a couple of 25-amp bridge-rectifier assemblies, a few capacitors, and a small Bud box with an AC input and output jack. I'll go one further. Anyone who is interested should contact me at jamesbongiorno@ampzilla2000.com and I'll email the schematic as a PDF file at no charge. Meanwhile, rest assured that Spread Spectrum will assist any Ampzilla 2000 owner who has this problem until it is solved."

I managed to find a PS Audio Humbuster and can report that once I plugged the amps into it, the problem never recurred and the fine performance of the amp is otherwise unaffected. **PS**