"The Single Most Impressive Component I’ve Heard in the Last Decade . . .

...it blew me away to a point I thought I was too jaded to experience."

Frank Doris, The Absolute Sound, Issue 100†

Valve Amplification Company
807 Bacon Street, Durham, North Carolina 27703 USA
Telephone 919-596-1107 / Fax 919-596-2037

†Quoted with permission of the Absolute Sound®
When I first started buying records at the end of the 1950s, I had this vision of the typical recording engineer: A sound wizard wearing a white lab coat rather than a cloak festooned with Zodiacal symbols. He (it was always a “he,” of course) would spare no effort, no expense to create a disc (LPs and 45s were all we had) that offered the highest possible sound quality. At that time I also believed that Elvis going into the Army meant the end of rock’n’roll, that my teachers knew everything, that politicians were honest, that socialism was the best form of government, and that talent and hard work were all you needed to be a success. Those ideas crashed and burned as I grew up, of course, but other than the long-discarded white coats, each new record I bought strengthened rather than weakened my image of the recording engineer.

And with good reason—giants walked the studios in the ’50s and ’60s. Although their names were almost never found on LP sleeves, Bob Fine at Mercury, Rudy Van Gelder at Blue Note, Bill Porter and Lewis Layton at RCA, Kenneth “Willie” Wilkinson, Arthur Haddy, Gordon Parry, and Christopher Raeburn at Decca/London, Christopher Parker, Geoff Emerick, and Norman Smith at EMI, Larry Levine with Phil Spector, Glyn Johns, Eddie Kramer, Bruce Botnick, George Chkiantz, Wally Heider, Phil Ramone, Roy Halee, and many others turned out a never-ending succession of recordings with high-quality sound, each one sounding as good if not better than the previous one.

But a wrong turn was taken somewhere in the ’70s, even as the hi-fi market underwent its biggest period of growth and the High End sprang into existence. Maybe it was the influence of the cassette, where the concept of quality was almost irrelevant by definition. Or maybe it was the growth of the bean-counter mentality at record companies, where “good enough” replaced “as good as possible.” Whatever, the quality of each album I bought became a crapshoot: Not only did the sound of each new LP not improve on the last one I bought, most of the time it sounded worse.

I was reminded of this both when I attended the 1996 Audio Engineering Society Convention last November—you can read RH’s and TIN’s reports in this month’s “Industry Update” (pp. 39–51)—and by Bob Ludwig’s comments in this month’s “Letters” column (p. 11). When the specification for the CD was fixed in 1979, it was felt that 16-bit word lengths and a 44.1kHz sample rate were good enough for a consumer medium. And they almost are—provided that the full dynamic range is used and never like that. Yes, there are a few digital engineers—like Tony Faulkner in the UK, Bob Katz at Chesky, Jerry Bruck at Posthorn Recordings, Craig Dory at Dorian, and David Smith’s team at Sony Classical—who adhere to the old paradigm of keeping the resolution as high as possible for as long as possible. (With appropriate respect paid to those professionals, it is also the philosophy I adhere to in the production and engineering of Stereophile’s recordings.) At AES, companies like Nagra, dCS, PrismSound, Apogee Electronics, Benchmark, and Sonic Solutions introduced new tools for such old-school engineers to do things the high-quality way. But in his letter, Bob Ludwig reports that producers still send him “over 99% of their digital masters on 16-bit, 44.1kHz DAT.”

And as fellow mastering engineer Steve Hall of Future Disc Systems recently said, “If someone comes in with a 16-bit DAT, the destruction has already been done…they have pretty well deteriorated the signal to its least usable form.”

But if that is the case, all the engineer can do is try to conceal that damage. One famous engineer at AES, for example, said that when he records rock to a 16-bit digital multitrack, he routinely mixes down to analog tape to smooth over the digital nasties, then reconverts to digital for the final master. And you wonder why so many CDs sound the way they do! As Chip Stern said in last month’s review of the Mesa Baron amplifier, “You can’t polish a turd.”

Larry Archibald reports in this issue’s “The Final Word” (p. 242) his reaction to comparing the 20-bit Nagra-D master of our Sonata recording with the 16-bit, noise-shaped CD and the test pressings of the LP, due to be released next month. I feel we squeezed as much quality out of the consumer media as possible, and I am proud of our sound. But if only you could hear the original! That is what excites me about DVD—at last, audiophiles would have a source equal to the demands of the best playback systems!

\[1\] This is not meant to be a definitive list. If I’ve left out someone you admire, write to let me know.

\[2\] See “Practical Digital Recording,” Hi-Fi News & Record Review, August 1979.

\[3\] Mice, December 1996, p. 66

\[4\] Stereophile, January 1997, p. 165.
You Need More Than Just Cable.

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In the accompanying graphics, you can see a three dimensional representation of the sonic image created by an audio system. The blue, red and yellow areas represent the image size while the musical note represents the image focus.

In the first room, using ordinary 12 gauge cable, we can see that the image size (the blue ball) is very small and defocused—the note is blurry and undefined. In the second room, using conventional 'high end' cable the image has become slightly larger and has moved forward between the speakers, but still lacks lifelike size and absolute focus (the note is still blurry). In the third room, the system is wired with MITerminator 2. The superior Final Energy Component and superior Efficiency provided by the MIT Terminator technology provides a lifelike, focused, three-dimensional image. Only MIT's patented Terminator technology can achieve this level of performance in your system.

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Stereophile, February 1997
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Funny
Editor:
Thanks for running Ken Askew's piece on judging political candidates by their audio systems rather than by their statements or behaviors ("Is Pat Buchanan a Heil Man?," November 1996, p.80). It was laughing-out-loud funny. He forgot to mention the Green Party's perennial protest candidate, Ralph Nader, whose system consists of budget picks from a 1976 Consumer Reports list of recommended components.

Barry Willis
San Rafael, CA

Not funny
Editor:
Ken Askew's "Political Audiology" was not funny.

No name supplied
tareitz@michiana.org

Really not funny
Editor:
A short comment regarding Richard J. Rosen's column in the October 1996 Stereophile (p.93) on Gin Sound being unable to spell "Stereophile" correctly. If I made remarks regarding his inability to write or speak Korean, I'd be considered a nut. Writers like Rosen are the reason why you can cancel my subscription.

Chaz Stevens
Hilo, HI

Not correct
Editor:
While Russian words are notoriously difficult to spell (even fearless Sam Tellig stumbles from time to time), it hardly becomes your renowned magazine to spell our modern composer Boris Tischenko as Tischenko (Vol.19 No.12, p.131).

Sergei Tarasov
Audio Magazine, St. Petersburg, Russia
ari@hi-flmailport.ru

A fine magazine?
Editor:
A fine magazine indeed! Harley on affordable High End in December. Right on the button! One bone to pick: Being a former flatlander (Chicago, Illinois) and now a cheesehead (Kenosha, Wisconsin), it's nice to see neighbors in "Letters." However, Mark Angloletti in every other issue?!! If you guys like him, hire him. Let us new kids on the block say something once in a while, thank you. If you have some guts, print this missive ("Letters" has been a bit tepid lately, anyway).

By the way, your caption on p.208 for the Parasound tuner had a typo.

Brian Bohmert
Kenosha, WI

Thank you, Mr. Cofer and Señor Serrano. The making of our latest recording Serenade, recorded live at the 1995 and 1996 Santa Fe Chamber Music Festivals, was described in full in January '97 (p.91). And Sonata will be released on 180gm vinyl in March. —JA

Product of the Year
Editor:
Congratulations on selecting the Nagra-D as Stereophile's 1996 Product of the Year. We use the Nagra-D at Gateway Mastering Studios to play back tapes made by Jerry Bruck and Peter McGrath (and others), and to store the output of our dCS 882/96kHz A/D converter as well as other 24-bit digital signals.... This machine has the most accurate clock reference frequency and lowest jitter of any digital gear we have measured. The Nagra-D is also one of the safest ways we have of archiving digital material. It is a stunning piece of gear, in my opinion.

At Gateway Mastering, we are privileged to serve the elite of the record industry. It boggles my mind to report that, as 1996 grows to a close, producers still send over 99% of their digital masters to us on 16-bit, 44.1kHz DAT. There is no reason why professionals can't use professional formats like the Nagra-D, and it pains me that they don't.

Bob Ludvig
President, Gateway Mastering Studios
Portland, ME

Not!
Editor:
I am a long-time subscriber to Stereophile and enjoy reading it from cover to cover every month. This is the first time I have ever written regarding the contents of the magazine, specifically the "Products of the Year" feature in December 1996. I am in total disagreement with your nomination of the Nagra-D 4-channel tape recorder as Product of 1996. I know JA reviewed the Nagra when he used it to record the Stereophile CDs, but it does not belong in this magazine. No matter how good it is, the Nagra is a professional instrument.

It is fine to write an article about a revolutionary piece of electronics, But it is not fair to the manufacturers of home equipment, who try hard to produce...
Individual Reactions May Vary

Some people appreciate the difference between compact disc players. So do we. Audition the critically acclaimed Sony CDP-XA7ES.
top-quality stuff, to have to compete against an item that is in a totally different category. I'm sure that the components that win these awards get increased sales. The high-end industry deserves the help a win of this type can provide.

A. Diaz, M.D.
Miami, FL
mdiaz@lchenet.net

Anomalies of the Year

Editor:
It seems a bit strange that the 1996 "Products of the Year" in December did not include the Krell KAV-300i integrated amplifier or the B&W CDM1 loudspeaker. Since these are the least expensive components in their classes in Stereophile's "Recommended Components," I thought that they would be contenders. And since the $1565 McCormack DNA 0.5 SE amplifier and the $950/pair PSB Stavus Mini were the top Budget Components, the complete absence of the Krell and B&W is even more curious.

This brings up another issue that I had otherwise slipped over. In JA's June 1996 review of the PSB Stavus Mini and the B&W CDM1, I could not tell from the way it was written that the B&W was on a different level (Class B) from the PSB (Class C). I was surprised to see the difference in the "Recommended Components" listing a few months later.

Mark Danese
Columbia, MD
mdanese@welchlink.welchfhu.edu

When I reviewed the B&W and PSB, as good as the Canadian speaker was, I thought the CDM1 had the performance edge, hence the difference in their "Recommended Components" ratings. But for "Products of the Year," only components that have garnered sufficient nominating votes from the magazine's writers and editors are eligible. Like the Krell integrated, the B&W CDM1 didn't get enough votes to be a contender. Both are still excellent-sounding products, however, and we recommend them highly.

JA

Timing problems

Editor:
A Japanese audiophile. When John Atkinson reviewed the Mark Levinson No.31.5 CD transport last October (p.240), did he connect the No.31.5 to the Genesis Digital Lens? If so, did he remember the indicated value of the absolute sample-rate error? When I connected my No.31.5 to the Lens, I got a very large reading, "189ppm," while Robert Harley quoted the error for the No.31 as only "8ppm" (July '96, p.129).

Is this due to some linking problem between the Lens and the No.31.5, and the reading of 189ppm is normal? Or is it simply a trouble in the No.31.5?

To tell the truth, I have another problem with the Digital Lens. When I added the Lens to my system (No.31.5 and Spectral SDR2000 Pro), although its signal-lock indicator lit, the Spectral did not output an analog signal. When I tried the Lens on my friend's system, it worked perfectly!

Masami Kumaogai
kumaogai@libert.brl.net.jp

When I used the Levinson No.31.5 with the Genesis Digital Lens, it displayed a sample-rate error of "24 ppm." However, a point that was not emphasized in Robert Harley's review of the Lens was that its sample-rate error display shows not the absolute error but the difference between its nominal "44.1kHz" sampling frequency and that of the transport. It will depend on which device has the more accurately calibrated crystal oscillator to which is closer to a true 44.1kHz rate. Certainly there does seem to be a problem with Kumaogai-san's transport or Lens—the fact that the Spectral would not work with it hints that it might be the Genesis—but it is impossible to fully diagnose the situation at a distance. I would recommend he enlists the support of his dealer in trying second samples of each component.

JA

Where is Oracle?

Editor:
Do you have a phone number and/or address for Oracle turntables? Where can I get parts? Also, I have trouble finding silicone damping oil for my Signet tonearm. Any suggestions?

Janet Moss
Janet_moss0109@okievi.com

The original Oracle company went out of business in December 1995. However, one of the principals, Jacques Riendeau, has since established Agenche commerila ACI Inc. to manufacture and distribute Oracle's turntables, tonearms, cartridges, and speakers. Their address: 1879 Sherbrooke St., Magog, Quebec, Canada J1X 2T5. Tel: (819) 868-0284. You should still be able to get spares for your Signet tonearm from Audio-Technica USA, 1221 Commercial Drive, Stow, OH 44224. Fax: (216) 688-3752.

JA

More than you might think

Editor:
I enjoyed Jonathan Scull's November article on reproducing pianos. You might be interested to know that there is a museum in Sylmar, California that has three reproducing pianos, including a Steinway D and a Bossendorfer Concert Grand (with the extra bass strings). They also have a Wurlitzer, which is played by a computer. I suspect there may be more of these instruments throughout the world than you might realize.

Roger A. House
Claremont, CA

Everest got there first?

Editor:
I enjoyed the November article on Mr. Fostie's efforts to record the performances of early 20th-century pianists from piano rolls. However, I would like to call attention to a parallel effort made some 30 years ago. We have in our records collection an LP my wife purchased in the late '60s: Everest Records' Archive of Piano Music: Ignace Jan Paderewski Plays Chopin. The jacket describes briefly the Steinway/Duo-Art reproducing piano and the recording techniques used for the album. It mentions that this is one of a series from Everest; perhaps your readers might know the extent to which this had been accomplished.

S. Thomas & Sharon McKay
Keevuk, IA

Earwitness

Editor:
I thoroughly enjoyed "Earwitness to Earwitness," Jonathan Scull's interview with D.W. Fostie, in the November issue. What a wonderful chance to hear the pianists of yesteryear in great sound!

I do want to correct a slight error that D.W. Fostie made regarding the capabilities of the acoustic recording process: He is far too generous to that brave little system when he credits it with a "signal/noise ratio of 30dB" and "[0.01%] a frequency response with a 7 or 8kHz top end!" The true capabilities of the system were 20dB S/N ratio and a frequency response of 300Hz-3kHz. Gain control was by physical restraint — by playing or singing more softly in the loud passages and more loudly in the soft passages. Often, when a singer had trouble restricting his/her dynamic range for the acoustic process, someone would be employed to physically move the singer away from the recording horn and then back again, as required! I don't know what they did with pianists...

We didn't get the 8kHz top end until

Stereophile, February 1997

13
Art meets technology.

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electrical recording was introduced around 1925, and more likely not until feedback was invented in 1927.

Ron Rosoe
ronoe@uinit.edu

Eyewitness
Editor:
Great “Eyewitness” article on D.W. Fostie and his historic re-creations.
Many thanks.
I live in Sydney, not Chicago, so cannot listen to WFMT’s broadcasts of the recordings. I could live with that up to the point in his postscript (p.105) where he mentions the Busoni adaption of the Chaconne from Bach’s Violin Sonata in D. In my humble opinion, this work is the pinnacle of writing for the piano forte. I cannot live without this recording. Please, please tell me where/how I can obtain this. Cost is no object (well, almost). Thanks in eager anticipation. Mel Davis
Sydney, Australia
davisin@baxter.com

We understand that CDs of the “Earwitness” series were to have been available by the end of 1996. For more information, contact Madrigal Audio Labs, B.O. Box 781, Middletown, CT 06457. Tel: (860) 346-0896. Fax: (860) 346-1540. Internet: http://www.madrigal.com.

False witness
Editor:
I read Jonathan Scull’s article about the Earwitness recording session in the November ’96 Stereophile with great interest and even greater amazement. Interest because I worked on the project. Amazement because, in the entire eight pages, Jerry Bruck was mentioned just once (as a Schoeps dealer). I find this to be, if nothing else, a monumental oversight.
For the record, I was an assistant to Mr. Bruck, who was, in fact, the chief recording engineer — and, for that matter, the only recording engineer for most of the 10-day session. I was present for only the first two days and the wrap.
Mr. Bruck designed the mike setup and recording chain, assembled all of the equipment, and, with my help, set it up. All technical direction concerning the recording came back from Mr. Bruck.
However, I found the photo of the mike array improperly credited to Don Fostie particularly disturbing. The smaller sphere was developed and built by Mr. Bruck. Mr. Fostie was extremely helpful in locating woodworkers who could produce a sphere to Mr. Bruck’s exact specifications. The sphere, along with the bidirectional capsules, through the use of the mid-side miking technique, create a true four-channel surround-sound pickup pattern. This method was also devised by Mr. Bruck. Mr. Fostie, like many producers, is guilty of hyperbole when talking about his project.
As one who knows and admires Mr. Bruck and who is familiar with his vast experience and outstanding reputation, I am deeply offended by his omission from this article.
The Earwitness recordings are indeed groundbreaking, and for Mr. Bruck to not be properly credited is not only shabby reporting, but an injustice. I hope you will correct this situation.

Michael Karas
Montclair, NJ

It does indeed look as if we owe Jerry Bruck an apology.

—JA

Ultrasonic hearing
Editor:
Several years ago I read in Electronics & Wireless World about an experiment where people were asked to describe the difference between percussive sounds — i.e., coins clinking, etc. — passing through a wideband system (with response flat to 20kHz and beyond) and through a system with narrower frequency response (filtering frequencies above 15kHz, if my memory serves me well). The experiment showed that people in their 50s (or older) could perceive when the filter was in or out of the signal path.
The hypothesis was that our hearing system is sensible over the 20kHz “theoretical” limit for percussive or complex sounds; i.e., sounds with high harmonic content. This could give an explanation about the “golden ears” who can find differences in sounds reproduced through different high-end amplifiers using music as a test signal.

Osaldo Pines
Argentina

The estimable JGH’s hearing
Editor:
This is in response to J. Gordon Holt’s December response (Vol.19 No.12, p.15) to Walter Wo’s November letter (Vol.19 No.11, p.21). The estimable JGH is correct in distinguishing between the two mechanisms for pitch distinction, but makes a few simplifications in his descriptions. One of these points may help explain how, despite presbycusis (progressive high-frequency loss associated with aging), JGH retains the ability to be irritated by “digital nasties” well beyond his measured hearing limits.
The “volley” principle does, indeed, involve the conduction of a burst of nerve impulses whose frequency corresponds to the pitch of the original signal, and this mechanism does contribute to pitch perception from the low bass up into the region of 2–4kHz. At very low frequencies, one can record from a single auditory nerve fiber an impulse corresponding to each cycle of the signal. This, however, is not possible for higher frequencies because the auditory axons (nerve fibers) cannot fire more than once per millisecond. Thus, above a few hundred Hertz, the frequency of the signal must be represented (encoded) by the activity of a population of nerve fibers, and this provides some protection from random loss of receptors.
The “place” principle does involve the position (place) of the maximum vibration of the basilar membrane, and posits that a signal from each particular “place” represents a particular frequency to the brain. As above, it is a bit more complex. Vibration of the basilar membrane is initiated by pressure at the oval window (closer to the cardrum) regardless of frequency. This vibration is conveyed along the basilar membrane as a traveling wave, which will have a maximum amplitude at a single site. This “place” of maximum amplitude is, indeed, correlated with the frequency, but portions of the basilar membrane above and below are also stimulated in the process. Conversely, the “place” 17mm from the oval window shows a maximum displacement for a frequency of about 1500Hz, but it will respond, to some degree, to frequencies from about 100Hz to 4500Hz.
This latter observation, I believe, may contribute to the abilities of people with presbycusis, like JGH, who still perceive the effects of high-frequency events without being able to hear fundamental tones at those frequencies. Even though the receptors for these high frequencies are dead and gone, the extended envelopes of stimulation should ensure that the remaining population of receptors will continue to respond in distinctive patterns to complex signals. In other words, with musical signals, the high-frequency harmonic information should continue to affect how auditory receptors for the fundamental frequencies send signals to the brain. Considering that JGH’s presbycusis has barely a half-octave lead on mine, I certainly hope so.

Kalman Rubinstein
New York, NY
IN UNISON

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Kal Rubinson's hearing

Editor:
It was a pleasure to read the first American review of the AudioLab 8000CI/D/M-8000I/DAC by Kalman Rubinson in the December Stereophile, but it was confusing. I am 70 years of age and have worked at home for about 45 years, listening to music all the time. I have owned 30 different loudspeakers during that time, and four different CD players; I now own the AudioLab units.

It is logical for me to question the opinions of Rubinson, from my experience. While he praised the D/A converter, he felt the transport... was not as fine as other comparable transports. Of course, he may be right... I can quote various English published opinions on these units, and this is why I am puzzled: 'What Hi Fi?' (October 1996): "Our reference system..."

Hi Fi World (August 1994): "...it's another high quality product from AudioLab."

What Hi Fi? (1994 Hi Fi Awards): "AudioLab has a two-box player of remarkable prowess, capable of challenging the finest from around the world."

Gramophone (August 1994): "...and you have a product which does not earn a recommendation so much as demand it."

What Hi Fi? (September 1994): "Couple this with meticulous attention to detail, and you've got the perfect music-making tool. No matter what we threw at it, we just couldn't trip it up."

It seems to me that each time one reads a review, the critic as well as the product is under review. One would hope that the critic is responsible in his understanding, but being human, that is not reliable.

Ronald Clyne
Brooklyn, NY

I agree with KR that the AudioLab 8000I/DAC is a fine-sounding piece (and an excellent value at $1099), but if he says the matching transport was not to the same standard, so be it. It may, of course, be possible that our review sample was not performing at its best. The distributors, Auditech, are sending a new transport for a Follow-Up. —JA

Theme—and variations

Editor:
There was an interesting theme to the December '96 Stereophile, between Robert Harley's review of the Rotel RA-970IBX (among others), Sam Tellig's and Michael Fresner's monthly musings, and the letter on p.23 from reader Paul Brietzke — this theme being the question of component costs and how audiophiles (and others) decide what to buy, once we descend from the dizzy realms of Krell Audio Standards.

Mr. Brietzke does not seem convinced by The Economist's assumption that stereo equipment buyers are deeply rational; I would say that they are. The real question is the cost-to-benefit ratio resulting from a cash outlay. The path of least resistance is some piece of rubbish from Circuit City — it is cheap and there are low opportunity and information costs. Once you decide that you want high-quality sound, then it becomes a question only of how much time and money you can (or will) plow into finding and acquiring that dream system. Provided you have the means, it is not strictly less rational to spend vast sums of money on a system as long as it satisfies your criteria of "better."

The real problem is wanting decent sound and not having very deep pockets. As a graduate student my resources are extremely limited, and I appreciated the review and columns devoted to integrated amps and reasonable turntables. I recently bought a Rotel RA-970IBX, and I am just tickled by it. Although not the last word in audio, it does a great job with the CDs I listen to, and is sufficiently capable that I could (dream, dream) put in a Marantz CD63 SE and JMLab Micron Carats without fearing the consequences.

Maybe after grad school I will be able to consider a better-sounding integrated amplifier like the YBA Integré — it should replicate the FWA factor (future wife acceptance factor) enjoyed by the Rotel. Unfortunately, I suspect that the old cost-to-benefit question will prevent my following Michael Fresner's orders and switching back to vinyl. Much as I like the sound of vinyl, as well as the associated rituals, I simply can't afford to do it in the short or long term. Vinyl may yet survive as a format, but now that it is a marginal medium, I doubt that aspiring audiophiles can save it.

Colin McLaren
Providence, RI
Colin_McLaren@brown.edu

Time for his medication?

Editor:
Hey, am I turning into a grumpy old audiopharr... or what? Lately, a whole bunch of Stereophile stuff, which never bothered me before, is starting to tick me off. No, really! I didn't notice it at first, because I seem to forget a lot of stuff lately. Nonetheless, one of the things that irritates the heck out of me are the upright correspondents who snivel and whine about the fact that Stereophile reviews lots of obscenely expensive audio toys instead of riveting reports on $300 rack systems.

Excuseuusue me? Do these nerds bitch when Road & Track road-tests a megabuck Ferrari? I don't think so! And I suppose they write angry letters to Playboy and Penthouse because the nekkid women aren't flat-chested and don't have huge cellulite divots on their derrières, right? No waaaay.

Now nerds, repeat after me: "When you see or read about something in Stereophile you can't have...fantasize!"

And what about reviewers who tweak the hell out of everything before they evaluate a product? That one definitely pinches my ticker. Would it hurt to take the component out of the box, plug it in, burn it in, and tell us how it sounds? And then, in a sidebar, tell us how much tweaking, tube rolling, cable fondling, and Shun Mooking is required to extract the best (acceptable!) performance. Does that make sense, or am I getting grumpy?

And why not, as the automotive enthusiasts' magazines do, quote a "price as tested" in the review? May I suggest that "price as tested" should include the sum total cost of the component under review plus the cost of all the add-ons like power cords, after-market tubes, magic hockey pucks, Seismic Sticks, air bags, cable condons, Tiptoes, and anything else placed under, around, or attached to the product under review. Is that too much to ask? Isn't information about the price as tested (actual cost) as important to the prospective consumer as the cost of the "Plain-Jane base model"? I don't know, maybe I just need more bran in my diet.

And what about the cost of the entire system in which a product is reviewed? Don't we need to know that too? "System cost" would include all the electronics, loudspeakers, cables, interconnects, tweaks, room treatment, ribbon chairs, and anything else used or added to produce, control, or modify sound in the listening room. A simple statement like this should do nicely: "The $79.99/ pair Mini-Monitor IV loudspeakers were reviewed in a $150,000 reference system." Is that too much to ask? Am I getting grumpy? Is it time for my medication?

Finally, if a reviewer changes his "reference system" from review to review, to what does he or she refer? More importantly — much more importantly — how does a reader evaluate a reviewer's opinions from one component to another if the reference is seldom the same?
Robert Harley's reviews, for example, are of interest and value because his reference system remains relatively stable—too bad there aren't a lot more like him. But if the reference is continuously changing...? Would it be too much to ask your reviewers to maintain the same reference system for a couple of years?

I have to feed the pigeons and practice my mumblin' now. John Arrington
Eureka, CA

Time for a change?
Editor:
I would like to second the thoughts in Michael C. Johnston's November '96 letter (p.13). I, too, would like to see more reviews of less expensive equipment.

To give a car analogy, I subscribe to both Car & Driver and Road & Track. I very much enjoy reading their reviews of Ferraris, Maseratis, etc. However, both magazines are very careful to make sure they also review the more powerful versions of family cars like the Ford Taurus, Toyota Camry, etc. It is to those reviews that I turn when it is time to buy a car. (I can dream, but reality is a four-door sedan.) Similarly, I enjoy reading reviews of expensive stereo gear, but I doubt I'll ever get to audition it, much less buy it. (College tuition for my kids comes first.)

What I would love to see would be several suggestions for complete matched systems at each of several different total prices (say, $2000, $3000, and $5000). I find it hard to determine what amplifier(s) would go well with which speaker at a given total system price, and which interconnects would complete that system. Making suggestions like that would help people make intelligent choices and presumably end the majority of letters to you asking for detailed component advice.

Lewis Golovin
Parisippany, NJ

Think about it, will ya?
Editor:
I can't say that I was positively impressed by Daniel Brown's "Let them eat cake" letter in the September '96 issue (p.11). Suppose we take a moment and try to bring the matter of affordability into some kind of focus.

In September's "As We See It," John Atkinson stated that value is a subjective judgment, but I don't think that's what we're talking about here. Stereophile seems to have paid a pretty good level of attention to this attribute already. But "good value" could apply to components at any price level, all the way to the top. Probably what we're talking about is: "I have hundreds to spend on a component, but not thousands. What are some good choices?"

No reasonable person suggests, as Mr. Brown claims we do, that Stereophile desert the High End! The High End is where many interesting things happen, and nobody else could discuss it with anything near Stereophile's expertise. However, it would be useful and encouraging to the majority of your audience (and potential audience) if the magazine showed some small coordinated effort on the budget front. One reliable person, one consistent column, added to your present mix of coverage, would do it for me.

Consider the benefits: You would be free from the complaints from us commoners. You would open up another layer of readership. And another layer of advertising. Your traditional high-end editorial block would continue as it is. Your magazine would be that much more interesting...I mean, look at the budget gurus you've had so far: Sam, Corey, Kristen...

And best of all, the column would, in time, become a specific arena and inspiration for innovation among designers. Not only would competition within the budget field warm up, but we can reasonably expect a wave of cost-saving inventions to rise through product lines just as technical features now flow down.

You'd have to nurture this baby for a year or two, but the payoff sure seems to be worth it.

Think about it, will ya?

Hilary Paprocki
Rochester, NY

'Nuff said?
Editor:
First of all, please let me get something off my chest that has been gathering weight like a black hole gobbling a stray star for the nearly 13 years (haven't missed an issue!) that I've been a Stereophile co-dependant: I am terribly sick and tired of hearing people from all levels of the audiophiles strata complain about Stereophile journalism. "You guys only test exotic stuff!" "You guys only test cheap stuff!" "You guys are idiots because of what you said about this/that component!" "I know more than you guys, because I am a musician, audio dealer, shaman, omniscient, etc...."

To these people I would like to give a collective "Lighten Up!" Do these Stereophile readers have any clue as to how extraordinarily dense the world of high-end audio really is? Imagine how difficult it must be to journalistically target both the Wilson/Audio Research/Forsch reader and the "makes-Samel-Tellig-look-like-Donald-Trump" cheapskate like me? What other journal even approaches the thoroughness, critical specificity, general competence, and just plain fun of Stereophile? For that matter, what other journal would even print letters so critical of itself?

I have the perfect solution for the grievances of all these fragile-ego'd audio-crabs: Julian Hirsch. 'Nuff said.

Kelly Sanborn
Woodridge, IL

It's the music, stupid!
Editor:
After reading Richard J. Rosen's interview with Les Paul (October '96), and Barry Willis's excellent article, "Illusions, Riddles, & Toys" (November '96), there's not much more to say. It's the music!

Donald Klink
Mill Valley, CA

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1 Dishonest Debater Trick Number 17: Accuse your opponent of holding an extreme caricature of his actual beliefs. When he denies your accusation, you can smugly assert that you have not only won the argument but converted the opponent.
Discover the incredible sound of patent #4,076,098.

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"...In the end, I was delighted with the performance of the KEF Reference Four...

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"...This speaker has a degree of slam and overall dynamic range associated with the best at two or three times the price..."

Martin Colloms, Hi-Fi News

"...The Model Four's response within 30 degrees of the axis is extremely uniform in both the horizontal and vertical planes; KEF's Uni-Q speaker systems are easily the best I've measured in this respect...

"...be prepared to enjoy yourself a lot..."

D. B. Keele, Audio magazine
Can't fool the cat
Editor:
Having just purchased a pair of Spica TC-60s and a Velodyne subwoofer, I was (for a very few hours) ignoring Barry Willis's convincing advice: "If you don't get Critical Listening Syndrome under control, you will die broke and unhappy." I had exhausted the normal repertoire of [audiophile] discs and was turning to more fun things, including a very well-recorded thunderstorm. I was listening at respectfully high levels when my cat decided to pay me a visit. It didn't strike me as particularly odd, as she often sits in my lap as I listen, but then it struck me: Since she was a kitten, she has had a paralyzing fear of thunderstorms, and always hides at the first flash of lightning. Yet here she was, asleep, in the middle of what I would have claimed to be a wonderful rendering of nature's violence.

What's missing? The sound was all there, wind and rain included, but it didn't make any difference. What can a cat sense that distinguishes the sound of a thunderstorm from the storm itself? I don't know. But it's an interesting example of some of the incredible hurdles our hobby must cross before we can declare what we are experiencing to be "realistic." In the meantime, I will follow Mr. Willis's advice and allow myself to get swept up by the wind and the rain. Even if my cat scolds.

David A. Sadd
Sewickley, PA
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Can't beat the real thing
Editor:
I've been listening to recorded music, going to classical music concerts, and buying audio equipment for nearly 50 years. You know what? Despite all the advances in technology, for me the most basic area in sound reproduction still remains distant. Experienced concert-goers and musicians themselves will recognize it. The recording process and/or reproduction chain cannot accurately reproduce the unamplified sound of strings in general, and violins in particular, in forte passages.

When the strings are playing various degrees of piano, the modern technology is pretty darn close to giving us the sound of real string timbre. But oh what a difference when the strings, particularly the violins, play forte and at higher frequencies! Instead of getting a mellow and gutlike sound as heard live, we hear the strings artificially bright at best, and harshly strident at worst. And this holds for playback on the most sophisticated equipment. And with the mostly highly rated of recordings.

This timbral inaccuracy can be readily heard. Try any Mozart piano concerto where an orchestral tutti suddenly hits. Or how about the sudden forte shift of the violins in the first movement of the Sibelius First? Worst-case scenario: recordings of string quartets. Has there ever been an LP or CD that accurately rendered the sound of a string quartet playing forte?

The culprit, I believe, in keeping us from hearing accurate timbral presentation of forte strings is the microphone. Lewis Lipnick, once Stereophile's Musician in Residence, attacked the microphone a few years ago as perhaps one of the weakest links in the audio chain. He told of how rare it is to see any published frequency-response graphs. However, he did not call upon microphone manufacturers to launch an all-out research-and-development program. Furthermore, I do not recall any audio publication that has called for such a program. One is needed. Certainly the area of timbral accuracy is the single most important one in sound reproduction. After all, don't we all want instruments and voices to sound as close as possible to the real thing? That takes priority over imaging, soundstaging, ambience, and all the other adjuncts to audio.

Stanley Slone
Granada Hills, CA

To hell with purity!
Editor:
In Barry Willis's anti-realism article (November '96), he asks, "Have you ever heard a recording that was not obviously a recording? In other words, have you ever been fooled into believing you were hearing a live musician?"

I hate to burst Mr. Willis's philosophical bubble, but I have. Many times.

I admit these occasions were rarely two-channel playback of commercial recordings. Only one in 1000 classical CDs (maybe) has a real sense of presence or "life."

The realistic playback occurred when I played B-format Ambisonic recordings I'd made myself, or when I used an ambience synthesizer (such as the Yamala, Lexicon, or JVC). Making your own recordings is out of the question for most listeners. But ambience synthesis is not.

(I'm talking about "real" ambience synthesis, with four speakers added to the usual stereo pair. I'm not referring to the bastardized variation, common in CD players and receivers, where the synthesized ambience is dumped into the main channels. This is psycho-acoustically incorrect; it really mucks up the sound. I also have no objection to using a delayed difference signal — which JGH is fond of — other than the fact that the quality of the effect is wholly dependent on the quality of the source material.)

The addition of synthetic ambience contributes mightily to the illusion that one is hearing a musical performance, rather than a mechanical reproduction. The brain is accustomed to hearing ambience, so it interprets the enhanced ambience as enhanced realism, even if the synthetic ambience does not exactly match the ambience of the recording venue.

It's unfortunate that most listeners view ambience synthesis as somehow destroying the "purity" of their playback systems. To hell with purity! Most recordings don't capture the original ambience fully or correctly in the first place, so the listener is fully justified in restoring or fixing what's wrong. You don't have to run the main channels through the processor, so there is no loss of sound quality in the main channels. Ambience enhancement works with almost any source material, including 50-year-old mono recordings. Not surprisingly, the more natural the recording sounds by itself, the more the ambience synthesis enhances it.

Once you've heard good ambience synthesis, you would never want to go back to plain stereo. Instrumental timbre is more natural and the overall sound less "mechanical." Older recordings sound like a decade or two has been subtracted from their ages. And — most important of all — you are less aware of the equipment and more in touch with the music. That's what we want, isn't it? ("Sure, we all do," chirps Sally Struthers.)

Most listeners say they want more realistic reproduction, but they adamantly refuse to move away from two-channel stereo. In the early days of stereo, there were holdouts who hated stereo and called it unnatural. Anyone who categorically rejects surround-sound is every bit as much a hidebound ignoramus as the dimwits who didn't like stereo.

To put it in simple terms: Two-channel stereo absolutely, positively cannot sound "lifelike" because regular stereo is psychoacoustically incapable of delivering the sonic cues that tell the brain this is "live" sound, not reproduced. Worse, it screws up the directional cues it does present in a way that actually degrades the sound.
Be prepared to eat
way too much take out food.

Bring Parasound home and you might never want to leave again. Which is just fine, since we offer a complete menu of high-end products to satisfy any musical taste. You see, we insist on the best designers and the finest ingredients. People like the renowned John Curl, whose audio designs have time and again set the standard for life-like reproduction of music. And premium parts that far exceed what you’d expect to find in components priced from $250 to $2,250. All of which means you can now enjoy incredible sound, and still afford to order that extra topping on your pizza.
No amount of improvement in regular stereo (however desirable) is ever going to give us "lifelike" reproduction. That is fact, not opinion. The audio industry needs to stop digging lint out of its bellbutton and start paying attention to what has been learned about directional hearing.

Remember, people — live sound is the only valid reference.

William Sommerwerck
Bellevue, WA

**LETTERS**

What live orchestra?

Editor:

Does a $100,000 speaker system plus $100,000 in amps sound as good as a live orchestra?

What live orchestra? Soon they will be all gone.

Maron Horonzak
St. Louis, MO

The Dialectics of Audio Integrity

Editor:

As you know, some of the greatest minds — *ie*, profound audio speculators — come to The Triode Guild meetings and argue, debate, and philosophize about the shifting tides of the audio arts.

At a recent meeting Kant, Darwin, Sartre, Poe, Heningway, Marconi, and Einstein had a spirited dialog, and I wanted to share their insight.

Their chosen subject was the multi-dimensional metaphor of integrity in the audio arts, and how digital technology caused the emergence of its antithesis, directly heated triode single-ended amplifiers. There was universal agreement among these heady, savvy, savant solder-slogers that we are in the midst of another one of those typical artistic time conundrums: As we stumble toward the 21st century and are trying to get digital technology right, an audio technology that reached its zenith in 1938 is defining the modern high ground for musical magic. The collision between the worldwide dream energy that caused the reintroduction of the 1938 Western Electric 300B tube and the dream energy devoted to fixing digital — *ie*, creating a new digital format that may achieve the artistic competence of a 1970s vinyl system — is one of America's most delicious art paroxysms.

Poe was so enthralled by this drama that, right there on the spot, he wrote this completely original poem to describe the digital dilemma:

*Humpty Digital sat on the wall.*
*Humpty Digital had a big fall.*
*All the King's horses and all the King's men*
*Couldn't put Humpty Digital together again.*

According to these men, the integrity here is the integrity of the audio arts, which is all about the integrity of the audio signal. There was complete agreement among these learned that the Eternal Golden Rule of audio design is: Preserve the integrity of the audio signal. The corollary obviously being: "What is dis-integrated can never be perfectly re-integrated again." Which explains the dilemma of digital audio, which chops up the audio signal in more ways than my Grandma Bella chopped chopped liver. Never in the course of audio history has any technology chopped up, processed, and reprocessed the audio signal more.

But now look at single-ended amplifiers... the world's simplest audio circuits, whose claim to the high ground is... we are the champions of signal integrity... we alone shun the use of signal path of four parts that is 6" long and usually paved with pure silver [st]. Triodians wear hair shirts, believing in their humility that it is arrogant to claim that, once you dis-integrate an audio signal, it is possible to put it back together again without serious damage. In their youthful arrogance, the Digitalians believe that some day soon, because of their new technology, they can accomplish what, up 'til this point, only God, in Her Infinite wisdom and power, could do: destroy an audio signal, and then later on down the audio chain bring it back to life in its original form.

At this point Kant said, "I wish Hegel could be here now; he would be smiling all over. It's such a shame that he prefers the NFL to high-end audio."

Here we have the divine dialectic of art: The best way to experience the digital dilemma is with single-ended triode amplifiers, because they are the ultimate in midrange transparency and clarity — the most revealing of the artistic challenge facing all digital designers. To really make this paradox smoke, we Triodians are suggesting that any digital designer not using a single-ended triode amp as a reference midrange amp is deaf, dumb, and blind to the digital dilemma. Every other kind of amplifier makes a big quantum of digital's midrange discombobubility.

Now that is what I call great sex. What an unlikely love affair. We are talking about the Montagues and the Capulets. Mr. Romeo dating Ms. Juliet. But let's face it, the most interesting romances are the ones where opposites attract. There will be no progress in the 21st digital century until young arrogant Digitalians are able to mature and embrace the genius of America's Golden Triode Age, the 1930s.

At the end of Kant's, Hemingway's, Poe's, Marconi's, and Einstein's spirited dialog, Jean Paul Sartre stood up, tried to focus his eyes, and in a charming and lovable Jonathan Scull accent, said:

"Dudes, don't try too hard to make sense of audio technology, because none of it is intended to make sense. Single-ended triodes don't make sense, digital audio certainly doesn't make sense, tube amplifiers and transistor amplifiers don't make sense, a vinyl record doesn't make sense. No, gentlemen, none of this stuff makes sense, because it is intended to make magic."

At that point Einstein got up and went to the Garrard 301 turntable to put on an original 45rpm vinyl of "Chain of Fools," Marconi broke open a sixpack of Bud, Kant set up an epicurean's table with bowls of corn chips, cheese dip, onion dip, and salsa, and they all danced the most joyous dance into the wee hours of the night. A good time was had by all at The Triode Guild, where the sign above the door says, ASCEND TO MICROPWATER.

Harvey "Gizmo" Rosenberg
aka: Guildmeister, The Triode Guild
Thermionic Techno-Shaman
Exalted Punjab of Vinylmaniacs
Grand Wizard of Spekarmaniacs
The Bruce and Seventh Earl of Clan McMinnay
Stanford, CT

We need warning labels

Editor:

Here's a thought that I think is very detrimental to people getting a better understanding of CD sound quality.

The government makes all food suppliers print their "Nutrition Facts" on all of their product labels, so why not make recording companies do the same for CDs? I mean, the sound quality of some CDs out there is absolutely disgusting — and you don't need a super-high-end system to prove it to someone. As a matter of fact, something as simple as a Walkman will do the trick. When I get the attention of my friends who are not really audiophiles, they all basically say the same thing: Man, I thought that CDs are supposed to sound all the same and not crappy like some of them (scratch that, most of them) do. Likewise, when they hear a properly mastered recording, they are all amazed at the sound quality, especially when played through a revealing and neutral system (Wilson WTTTs, Krell KSA-300S and KPS-20i, Transparent Audio).
So here's the idea — make the record companies put on the following information:

1) To begin with, what kind of mikes, how many, and the position of them?
2) What kind of resolution and master are/were used (if analog, cool; if digital, what bit resolution)?
3) What generation master tapes were used for the final cut?
4) Where was the CD or album pressed?

I remember way back, when "they" said that all CDs will display that AAD, ADD, or DDDD symbol indicating the "quality" of the CD. Now, of course, all of us know that that isn't, wasn't, and certainly never will be the case. However, if record companies are required to put down the information above, people will hopefully start realizing what kind of crap they are buying, and thus force them to make higher-quality recordings.

I don't think that it has anything to do with pricing, since I bought the Eagles' 'Hell Freezes Over' and U2's 'Rattle and Hum' for the same price, yet the quality of the recordings are worlds—more like galaxies—apart.

So there it is — I hope that we, as audiophiles, can make a statement that will hopefully be paid attention to some day.

Dejan Milojvic
Manhattan Beach, CA

It's a 12V world

Editor:
After reading Wes Phillips's "Car Tunes" in Vol.19 No.11, I felt the urge to write my first letter to *Stereophile* in all my 20 or more years of reading... Having spent all of my adult life in and around audio retailing at different levels, I am delighted to see that a fine "high-end" automotive manufacturer such as Precision Power is finally getting the press they have so long deserved. Their amplifiers are without equal in the mainstream of offerings. 1 I was quite pleased to be able to offer my Threshold, Forté, and B&K owners something rivaling the quality of their home amplifiers for the commute. Driving loudspeakers from companies like a/d/s/ or MB Quart, these amplifiers offered the very best in mobile performance.

In the closing of his piece, Mr. Phillips mentions that two of his associates from IASCA were establishing a

1 One exception of note: Blaupunkt's BMA 5350B, a 5- or 6-channel behemoth (in terms of size, not power), which sold for $900 in the spring of 1990. It was unique in that it was designed and built by California Audio Labs—alas, the circuit boards were. I could never get anyone at Blaupunkt to talk about that amplifier!
“reference system,” and lauded them on the plan. I second the motion. This idea is long overdue! In fact, as a Sound Quality judge for auto-sound competitions — I started judging in 1987 when the sanctioning body was CAN, for Car Audio Nationals; IASCA came years later — I was initially appalled at the lack of knowledge and experience exhibited by most of my fellow sound-quality judges. Most of them at that time were installers who were chosen as judges solely for their ability to show up for the events. That early, I was preaching the standardization of training of SQ judges!

In the early days, there was no compensation for judging the events, so most judges came from the store or manufacturer sponsoring the event! Few had any working understanding of, let alone significant experience with, things like soundstaging, image, frequency separation, clarity, and sound linearity, which were the criteria being assessed. I knew a few very good SQ judges like Tony Roselli (one hell of an installer, by the way), and my good friend and brother Matt Eggleston. In those early days I was spreading my philosophy about the need for a good deal of time in front of a high-end reference system, and follow-up testing to verify that the time had been well spent, in order to be permitted to sit as a Sound Quality judge. But at the time, it fell on deaf ears, no pun intended! But certain IASCA officials (no names here, you know who you are) quelled my efforts, and even avoided inviting me to key events for a while, because I talked openly with other judges about this concern. Fortunately, my reputation was enough to overcome this adversity in a short time. Oh well, at least it looks as if the idea will finally have its day!

It was and still is my belief that, as the caliber of the judging increases, so will the quality of the systems that show up at the events. After all, when a judge is able to tell a competitor specifically and unambiguously what needs attention or what is flawed, the competitor has a much better chance of causing an actual improvement in that system.

As an example, take Randy Evans, owner of a great 12V shop called Goosebumps, in the Pittsburgh area. Randy had built a basically good performing car. His largest obstacle was that his rear fill speakers were constantly too loud, drawing attention away from an otherwise fairly realistic soundstage. I had pointed this out to him at each of several events I had judged in Region 2 during the 1991 and 1992 seasons. He would always ask me what I meant. When I explained that the rear fill was too loud if you could identify the fact that it was there, he would always throw up his hands and say I didn't know what I was talking about. After several of these incidents, he finally listened to the further explanation that the rear fill was supposed to enhance the depth and space of the front stage only, not to impose on the overall sound of the system. Early 1993 brought some changes to his contest car. Among the changes, which included the upgrading of crossover components from electrolytic caps and ferrite-core inductors to “audiophile”-grade devices, was the careful level matching of the rear fill speakers. Guess what? That season he placed (if memory serves me correctly) third at nationals in his class!

I want to wish you a hearty “Well done!” Keep informing the people that good — and I mean damn good — 12V mobile audio systems are more than possible, they are available to anyone who takes the time to search them out. Sometimes the search can be long and frustrating. But then again, so is the quest for the “perfect” home system, isn’t it?

Greg Weaver
Positive Feedback magazine
Leonardtown, MD
analyz@nix.net

What it’s all about
Editor:
Hey, I’m over 50 — 10 years over, to be exact — and I like Wes Phillips’s “Car Tunes” column, dadgummit! My similarly aged colleagues who don’t must be getting old and grumpy at a pretty rapid rate if they can’t appreciate good tunes as they amble down life’s highway at 40 mph in the left-hand lane.

I just finished the installation of an Alpine-a/d/s/-Soundstream system in my beautiful 1974 BMW 2002ti, and it makes killer sound. It isn’t the same as my Merrill-Ar/vdH/Cal/Audio Research/Fore/Thiel home system, but it sure sounds good while speeding past those old yogis in their block-long Cadillacs and Lincoln Town Cars. It keeps me happy and stress-free while driving, and isn’t that a good bit of what it’s all about?

Michael Lesser
San Francisco, CA

Keep it rollin’
Editor:
Even though I am part of the Over-the-Hill Gang (55+), I was pleased to see Wes Phillips venture into Auto Sound. I have been enjoying Auto Sound for about 10 years now, and will continue to do so until I can’t get behind the wheel anymore. My job requires me to cover an area from Chicago to northern Minnesota, sometimes spending as much as 10 hours a day on the road. There is nothing like tune-ing down a snoooooth road with good sounds — like Janis Ian’s Breaking Silence or Dead Can Dance’s Into the Labyrinth — the car seems to be floating. Or cresting the top of a hill and seeing what appears to be the whole Mississippi River Valley spread out in front of you with Richard Bunnemer’s Reunion. It makes what used to be a dull chore into something I look forward to.

Granted, the imaging and resolution I get in the car is not like my home system’s, but I am constantly improving it to reach Audio Nirvana. Latest change: modify Denon head for digital output into Audio Alchemy DDE v12. What a difference. Many thanks to Dusty and Richard at Audio Alchemy. Now if I could only get my DTI 2.0 in there...

Keep it rollin’, Wes. Ken Lehman
St. Charles, IL
klehman@Amp.com

Okay, one more on CD demagnetizing
Editor:
I am truly sorry to add more confusion to the debate about CD degaussing. There is, however, a point that I have been waiting for someone to bring up. Since I have yet to see this discussed, I guess it’s time to speak up and add fuel to the fire: Aluminum alloys are not non-magnetic.

Please note that I said aluminum alloys. I very much doubt that CDs are made of pure, unalloyed aluminum. Formability and reflectivity (two important things for this application) can be improved by adding the correct alloying elements, which can include iron in quantities near 1%. Given this, it is relevant that the cold-working involved in stamping a CD could well magnetize it to some extent. Anyone who doubts this or wants to duplicate it can take a scrap piece of aluminum alloy (I used 4041-T4) and cut it with a hacksaw. If you sweep the filings into a pile, you will find that you can make them move by waving a magnet over them, if not actually pick some of the filings up.

What this means to CD playback, I have no idea, but it certainly means that a tape eraser will have an effect on a CD.

Keep telling us about tweaks, even if they have no obvious explanation.

Ian McQueen, PEng
Ailsa Craig, Ontario, Canada
http://www.wolfbmu.com
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Ever wish you owned a movie theater?

You'd sit in a different seat each time, with your feet up. The theater would only serve your brand of cola, and popcorn would come in one size — silo. If a movie had a great soundtrack, you'd have the projectionist turn it up until the booming bass made the plaster cherubs that ringed the high ceiling tremble.

At NHT, we've always known a big part of the magic of movies was in the sound system. And we've captured it in the VT-2, a no-holds barred home theater system that at the flip of a switch also provides optimal music performance. Designed for the latest digital technology, and with a built-in subwoofer, the VT-2 makes motion pictures come alive. So now you can come home to your own movie theater.

Or if you're like us, simply never leave.
**INDUSTRY UPDATE**

**UNITED STATES**

**John Atkinson**

In the November ’96 “Update” (p.33), we reported that amplifier manufacturer Mondial Designs was to acquire digital audio manufacturer Enlightened Audio Designs. It appears that our story was in error. While the two companies were indeed involved in serious discussions about forming a strategic alliance, EAD’s Lewis Denbaum tells us that EAD was never going to be acquired by Mondial and “at present, there is no agreement between EAD and Mondial and no ongoing discussions about an alliance.” According to Mr. Denbaum, however, it is possible that EAD might design products for Mondial in the future. Our apologies to EAD and to Mondial for the misinformation.

**JAPAN**

**Robert Harley**

We recently reported that the venerable electrostatic headphone manufacturer Stax Industries was no longer in business. Since that report, Stax has been resurrected by an employee buyout. The new company, Stax Limited, is producing a limited line of electrostatic “earspeakers” and servicing products in the field. Morishita & Associates Limited, the former Canadian distributor of Stax products, will now handle all North American sales and service. Morishita & Associates, 2857 Jerry Road E., Suite 713, Mississauga, Ontario, Canada L4T 1A6. Tel: (416) 244-6200. Fax: (416) 246-0829.

**UNITED KINGDOM**

**Paul Messenger**

Robert Trunz, Chairman of B&W Loudspeakers, has left the company and sold his substantial shareholdings to the other principals, primarily in order to concentrate on his music-recording activities.

Trunz, who joined B&W in 1980, inherited and took over the running of Britain’s leading hi-fi speaker manufacturer following the death of co-founder John Bowers in 1987. Because B&W is a private company, Trunz was immediately faced with massive estate taxes just as Britain was about to plunge into one of its longest recessions ever. But despite this and personal health problems at the time, Trunz’s achievements since have been quite remarkable. The export-oriented strategy he adopted has met with great success, especially in Germany and the Far East.

The last decade has seen massive changes in the UK hi-fi speaker industry, with mergers and takeovers galore. Throughout these turbulent times, B&W has retained an oasis of consistency and stability, enjoying very healthy growth and continuing to maintain a large research-and-development facility quite separate from the production and engineering divisions.

While B&W’s mainstream products have continued to reflect the company’s 30-year reputation for building accurate monitors, the last decade has also seen extraordinary diversity and creativity in design, from the subwoofer Silver Signature, to the Rock Solids and Blue Room Minipods, to the sublime Nautilus.

In January 1994 Trunz brought in a partner to assist further growth. Extra management enabled him to become increasingly interested in the B&W Music side of the operations. The continuity of B&W Loudspeakers management will therefore be retained, while Robert takes over the music division, now renamed M.E.L.T. 2000 (“Musical Energy and Loud Truth beyond 2000”), concentrating on the exciting music coming out of South Africa. He is also keeping control of B&W’s Blue Room brand, with the ultimate intention of

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**CALENDAR**

Dealers promoting manufacturer and designer seminars should fax (do not call) Debbie Starr the when, where, and who at (505) 983-6327, at least eight weeks before the month of the event—ie, if you’re putting on something in April 1997, you should get the information to Debbie no later than February 1. Mark the fax cover sheet “For the attention of Debbie Starr—Dealer Bulletin Board.” Promoters of hi-fi shows and audio societies promoting manufacturer visits should also fax Debbie the details as soon as possible.

**ARIZONA**

- **February 24, 7:30pm:** LISTENheart, a newly formed society for musical enjoyment based in Phoenix, is sponsoring a lecture by Water Lily Acoustics producer and engineer Kavi Alexander on non-Western traditional music forms and the analog recording process. Joining Alexander is Dan Meinwald, US importer for EAR Electronics and West Coast representative for Diapason loudspeakers. Meinwald will demonstrate the new line-stage, phono-stage, and integrated amplification from EAR with interconnects and speaker cables from Hovland. Contact Alan M. Kaffon, 940 East Cavalier Drive, Phoenix, AZ 85014, Tel: (602) 277-0799 for more information or to reserve a seat. Location to be determined.

**CALIFORNIA**

- **February 27, 6-8:30pm:** Monday, January 27, 6-8:30pm: The new Berkeley location of Music Lover’s Audio (1995 Eldorado, off Shattuck near the Albany Tunnel) is presenting an audio and video cable seminar with Doug Blackwell of Transparent Cable. Seating is limited, so call (510) 841-7166 for reservations.

**COLORADO**

- **February, TBA:** Denver’s Audio Unlimited is having a Saturday open house featuring Garth Leerer of Benz-Micro/Musical Surroundings, and Art Manzano of Axis Distribution. Musical Surroundings products showcased will be the new Basis Model 2001 turntable, the new Graham Model 2 tonearm, Benz Micro phono cartridges, Aesthetix preamplifiers, Record Research Labs cleaning fluids, Shakti Audio Innovations, and Transfiguration phono cartridges. Axis products will include the new Air Tight phono prepam, Accuphase electronics, and Arotec.
The Faraday ring may look insignificant. But it's this tiny component that gives the A Series its huge dynamic range.

By counteracting rising impedance in the voice coil, it allows more power into the tweeter. And with more power going in, you get more power out.

Even the highest frequencies sing out loud and clear, making the A Series the ideal speakers for the faithful reproduction of today's digital music and film recordings.

The Faraday ring is just one of many small, but vitally important components that make the new A Series so special. And there's only one place good enough for it. The beautiful box we put it in.
creating the Volkswagen of loudspeakers and selling it via the Internet.

Since the arrival of Joe Atkins (chief executive), Evert-Jan Huizing (marketing director), and Paul Sanforth (UK operations director), B&W has continued to go from strength to strength, with a current annual sales of $45 million (£72 million). The last year has seen a dramatic increase in UK activity, with the successful mainstream 600-series models and new budget Prism 300-series looking set to double the company's UK market share. Hopefully this more aggressive approach will still find room for the whimsical design creativity that has long made B&W one of the most interesting companies around.

UNITED STATES
Barry Willis

Major electronics retailers posted worse earnings for the 1996 pre-Christmas season than for the same period in 1995. The retailing picture overall was strong, especially in apparel, but the bottom dropped out for the big electronics chains. Best Buy's and Circuit City's sales were down 8% compared to last year's, and Tandy Corporation, which operates RadioShack, Computer City, and Incredible Universe stores, was down two points. RadioShack as a separate entity was off 5%. The decline was apparent in most sectors of the consumer electronics market — computers, video, and audio were all down, with the only bright spots being video games and digital satellite systems. [Factory Home Theater product sales were actually up in the third quarter of 1996, spurred by the popularity of systems "in-a-box." Video sales were reported as being "shaky." — Ed]

Terrence McEnvoy, an electronics industry analyst with the Wall Street firm of Janney Scott Montgomery, laid the blame on consumer complacency. "There's no new product to prod consumers to buy. There's no software to get people excited, either," he told The Wall Street Journal. McEnvoy predicted a "tough Christmas."

The previous year saw the release of Windows 95, a new generation of multimedia computers with ultrafast processors, and a slew of flip-phones, small camcorders, and other innovative products. But this past year, both prices and margins on most types of consumer electronics slipped as public interest waned. Ann Collier, a Circuit City spokeswoman, admitted that the industry has been weak "for some time." In 1995 many mass-marketers offered overly generous discounts and extended payment plans ("One Year Free — No Interest" was a popular come-on) which purchasers were just beginning to feel as the annual holiday buying season rolled around.

The widespread hope among retailers and manufacturers is that the Digital Versatile Disc will rescue them from the doldrums. In order for that to happen, the DVD is going to have to hit the market with much more force than it appears capable of generating at this point. In order to make a significant difference to the health of the industry, DVD will have to be perceived by the vast majority of the buying public — not just by a few sophisticated technophiles — as far better than existing technology. It could likely be perceived as simply one more gadget vying for the consumer's buck.

UNITED STATES
Muse Kastanovich

Nelson Pass has reconsidered his decision to stop publishing his DIY amplifier designs (see "Industry Update," October 1996, p.39). When another company marketed copies of his Zen SE power amplifier and Bride of Zen preamplifier, he was so angered that he indicated his refusal to ever publish any of these designs again. After much consideration, he has decided to continue publishing these projects, but with a different approach. In addition to submitting articles to The Audio Amateur & Electronics magazine as before, he will also publish future projects at the pass Labs Website (under construction) at http://www.passlabs.com.

Upon first learning about the Zen copies, Pass turned to his attorneys to help rectify the situation. However, after some investigation it became clear that US copyright law does not actually cover manufacturing a copyrighted design. It turns out that the only truly effective protection for a new design is to apply for a patent. Costing upward of $10,000, a patent is difficult to justify for an amateur circuit that the designer gives away for free. Nevertheless, to prevent further design theft, Pass will apply for patents where possible. The changes in

cables. Call John Barnes at Audio Unlimited, (303) 691-3407, for date, time, and reservations.

DELAWARE
● Friday, February 14, 5pm: Overture Ultimate Audio/Video (2423 Concord Pike, Wilmington) will host Mark L. Schiffer, Vice President of Genesis Technologies, for an open discussion of several Genesis products and design philosophies. He also will be at the store on Saturday, February 15, 10am-5pm, to meet with customers and offer new Genesis consumer-financing options. For more information, call (800) 838-1812.

GEORGIA
● Sunday, February 16, 2-5:30pm: The Atlanta Audio Society (Hellenic Center, 2124 Cheshire Bridge Road, Atlanta) is hosting Albert Von Schweikert in a seminar featuring the Von Schweikert Research VR 3 and 4 series audio and Home Theater loudspeakers. For information, call Chuck Bruce at (404) 876-5659, or e-mail Greg Kelso at gkelso@uga.cc.uga.edu.

ILLINOIS
● Sunday, January 19: The Chicago Audio Society is hosting Jack Shafton of Paradigm, who will present the company's reference, top-of-the-line Eclipse loudspeakers and their newly introduced reference servo subwoofer. For information, call (847) 382-8433 or (847) 843-2554, or e-mail 73707.5553@Compuserve.com.
Extraordinary attention to detail, unequalled performance, and a modular design that allows a component to preserve its state-of-the-art status even as technology evolves, combine to define a Mark Levinson® Reference product. After four years as the standard against which all high performance digital transports are measured, the N°31 Reference CD Transport is now updated to the N°31.5. A look inside reveals a measure of refinement which guarantees its stature as a true reference standard well into the future. Retaining the innovative three-stage mechanical isolation of the earlier Reference, the new N°31.5 adds Madrigal’s proprietary Closed-Loop Jitter-Reduction™ system and a new balanced drive for the digital output, yielding a dramatic improvement in the quality of the outgoing signal. In addition, the N°31.5 incorporates significant new digital signal processing capabilities that optimize the digital signal prior to its being sent to the digital audio processor, for further improvements in both clarity and dynamics. And, in accordance with our definition, the N°31 maintains its Reference status via cost effective update to N°31.5 options. Discover how meticulous attention to every detail results in uncompromised performance at your Mark Levinson dealer soon.
City Musical Audio Society will hold two open meetings, both preceded by the customay Chinese banquet starting at 7:15pm. At the February, all-analog meeting, Joseph de Phillips will discuss the Clearaudio reference turntable, Souther/Clearaudio tonearm, Clearaudio cartridges, and the de Phillips Discovery Plus-Four interconnects and Signature speaker cable. In March, Merlin Music Systems will present their full product line, including the TSM and VSM loudspeakers. For further details, or to reserve a spot, call David Nemzer at (718) 237-1094.

- Sunday, April 13, 10am–4pm: The Western New York Audio Society will hold a Swap Meet at the American Legion Stephen Sikora Post #1222, 950 Payne Avenue, North Tonawanda (across from Mid-City Plaza). Admission is $2. For more information, write WNY Audio Society, P.O. Box 312, North Tonawanda, NY 14120, Attn: Swap Meet Committee.

VIRGINIA

Gifted Listener Audio (5700 Pickwick Rd., Centreville) is pleased to announce the following events. Doors open for refreshments at 7pm; presentations begin at 7:45pm. Reservations are required: call (703) 818-8000, or e-mail GLAmc@aol.com.
- Thursday, January 23: Representatives of Linn Hi Fi will discuss the latest developments in 5.1-channel sound and demonstrate the complete AV51 system.
- Thursday, February 6: Chris Russell of Bryston will present and explain the newest developments in audio electronics, specifically the ST series of amplifiers and Bryston's new integrated amp.
- Thursday, February 20: Charles Hansen of Ayre Acoustics will travel from his laboratory in Boulder to answer questions about the Ayre V3 amp and the upgrade now available as well as the new K1 preamp. Joining him are Gregg Evans of Thiel, who will explain the technology behind the new Thiel CS6, and Doug Blackwell of Transparent Cable, who will discuss audio and video cables.
- Thursday, March 20: Michel Reverchon will arrive from Geneva to show all that is new from Goldmund, especially the new Minnes 39DA CD player and the SRMono amplifiers.
people were making rosy pronouncements. Intel Corporation's Manager of Computer Technology Policy Paul Misener, who helped negotiate the deal, said, "This is a big moment. It's really the beginning of the computer industry entering the consumer electronics business." Gary Shapiro, head of the Consumer Electronics Manufacturers Association, was quoted in The New York Times: "This gives the certainty that manufacturers need to begin designing sets." CBS senior VP Martin D. Franks, who was also involved in the discussions, said, "The real winners are American television viewers, who will get the highest-quality digital television service."

Broadcasters were reported to be generally unconcerned about the new format's ultimate technical specifications.

No comment was made, in any of several news stories, about the need to get the entire planet on a single standard, although it is possible that the North American version will become the de facto global standard. Nor was there any mention of the obvious fact that the intellectual and artistic level of most of the content to be distributed over the new system will be as low as it is now. The orgy of commercialism and superficiality to be found throughout the Internet is a mere foreshadowing of what's just over the horizon.

The FCC's encouragement of the adaptation of an entirely new paradigm is a sea change for that institution, and is evidence of the recognition, at the highest level of government, of how rapidly technology has changed in the past few years. (Vice President Al Gore, a most technio-savvy public servant, has worked quietly and diligently behind the scenes to make these new developments possible.) The FCC previously required all new technical developments to be backward-compatible with existing formats: color TV was designed to be compatible with the old black-and-white standard, as was FM-stereo radio with monophonic. Improvements were approved only if the effects of their operation were transparent to old hardware. This time, no such requirement was imposed; however, for a minimum of seven years after the introduction of HDTV, broadcasters will continue to send analog signals on their original channels. One imagines a cutoff date sometime in the future—say, December 31, 2006—when all analog television sets will at once become obsolete forever.

One major mystery in the whole affair is how digital broadcasting licenses will be assigned. Will they be given to existing broadcasters, or will they be auctioned off? The jury's still out. Senator John McCain of Arizona, the likely next chairman of the Senate Commerce Committee, is reportedly in favor of an auction, which could mean that cash-rich corporations like Microsoft might suddenly find themselves in the broadcasting business.

In 1997 the FCC will probably allocate a second digital channel for every broadcaster in the nation, who will then be able to apply for a separate license to begin digital transmission. Digital and analog channels will probably share bandwidth. During the transition period from all-analog to all-digital, broadcasters and consumers will make use of both formats.

One major mystery in the whole affair is how digital broadcasting licenses will be assigned.

Expect the first HDTV sets to go on the market in early 1998. It is predicted that they will be priced in the $1500 range. (National Public Radio's Marketplace reporter Michelle Breyer hedged her bets, saying, "The new sets are expected to retail somewhere between $1000 and $3000."") Prices will vary with features, of course, but should drop rapidly as second and third generations of product come onto the market. New technology traditionally debuts with at least a few glitches and bugs, so in the beginning, the wisest use of your home-entertainment dollar will be to put it in an interest-bearing account, hunt along with your dinosaurs a little while longer, and let your neighbors be the first ones on the block to enjoy HDTV.

A parallel development on the other side of the world didn't figure into most reporting on the HDTV breakthrough: the endorsement of a free-trade resolution by the 18 member nations of a Pacific Rim trade organization called the Asia-Pacific Economic Cooperation forum (or APEC). The meeting at Subic Bay naval base in Manila was considered so important by Washington that President Clinton, rather than a member of the diplomatic corps, attended in person to sell his fellow statesmen on the idea. APEC agreed in principle to phase out tariffs on high technology over the next few years. The proposal is expected to be ratified at the annual meeting of the World Trade Organization, which takes place in Singapore in early December.

Free trade within the Pacific Rim group will mean lower prices in America for most varieties of consumer electronics: telephones, answering devices, fax machines, VCRs, car and home audio, and myriad small appliances such as calculators and clock radios, most of which now carry a 6% import duty. For American industry, it could mean a huge increase in revenue from exports. According to the American Electronics Association, approximately $76 billion in information and related-technology products is exported annually from the US (including, presumably, a considerable amount of the output of domestic high-end audio manufacturers).

High-tech industry executives, who had pushed the tariff-reduction agenda for well over a year, were overjoyed at the announcement. Michael Malbach, VP for government affairs at Intel, the world's largest chip maker, said of Clinton's performance, "I thought he'd get on base, but I never expected he'd hit it out of the park." Developed nations such as Canada, Australia, and Japan backed Mr. Clinton, but emerging nations such as China and Malaysia, who protect their tender new technology sectors with tariffs ranging from 5% to 30% on foreign products, backed away from firm deadlines for implementing the agreement. Some members of the WTO—like Brazil and India, with large markets and high tariffs—are unwilling to sign the agreement, which was "flexibly" worded to give industries in developing nations a chance to get up and running. Although the gradual free-trade proposal bodes well for the American electronics industry, it is no guarantee of increased market share anywhere in the world. Japan and Europe are notably xenophobic about certain products.

The nations of APEC account for 50% of the goods and services produced in the world, and 80% of trade in high technology—worldwide, a $1.8 trillion economic sector—occurs among them. There are about 200,000 export-related jobs in the US. Clinton is campaigning for zero tariffs worldwide, which would strengthen an already healthy US economy. In many respects, the present is pretty good and the future looks better.

However, these two developments are going to interact in many ways, some of them foreseeable, some not. A few predictions: Since almost all consumer-grade (and most industrial-grade) audio and video gear is made in Asia, HDTV (by the time it hits the market) will be
By emphasizing performance over buzzwords and value over frills, Rotel makes the digital decision easy.

Shopping for a CD player might well be one of the most bewildering of all human experiences. With 16-bit, 18-bit, 20-bit, 1-bit, and all the rest, it seems the rush to sell buzzwords sometimes obscures the original intent — musical reproduction.

At Rotel, we take a different approach. We won’t tell you that one, and that only one, type of digital technology is the best, because it’s simply not true. All of the available technologies can work well, if properly designed and implemented. Each has its strengths and weaknesses.

That’s why we aren’t locked into a particular design; we select from all of the available options to maximize the performance of each model. Research and development is applied to the total package – the combination of transport mechanism, laser pickup, D/A converter, filtering, power supply, and analog circuitry that will work together in unison to provide the best possible sound quality and reliability. We call the Rotel approach “Balanced Design.”

Our product philosophy is the reason we consistently provide some of the most musical, reliable, and easily affordable high-end CD players money can buy. From our least expensive RCD-930 to our top-of-the-line RCD-975, your ears will tell you that you made the right decision.

Balanced Design applied to Rotel CD Players.

So how does Balanced Design affect the performance of critical source components like CD players? All you have to do is listen.

With Rotel CD players, you hear the difference Balanced Design makes as sharper focus on musical details and a subtle sense of air around the instruments.

The RCD-930 is a music lover’s bargain, providing superb musical reproduction at a very affordable price. Featuring a 1-bit Pulse Width Modulated D/A converter and second order Delta Sigma noise shaping, the RCD-930 excels at resolving the low-level musical detail so important for precise imaging. In addition to its performance, the RCD-930 provides an array of features and full remote control.

The more sophisticated RCD-950BX adds an impressive sense of depth and delineation to the 930’s tuneful presentation. Of course, you’d expect that of a player with the latest generation of D/A converter technology. Featuring the Philips TDA1305 D/A converter with Continuous Calibration to virtually eliminate low-level conversion errors, the RCD-950 provides true high-end performance at a mid-fi price.

Or, for state-of-the-art digital sound without the NASA price tag so common today, take a listen to the RCD-975. Building on the Continuous Calibration technology, we add dual-differential D/A converters, which can actually detect and cancel conversion errors, and a precision CDM-9 single-beam laser transport. But, the beauty of Balanced Design is that you don’t have to know buzzwords or study abstract theories. You just have to remember the name Rotel. After that, the music just comes naturally.

What the reviewers are saying about Rotel.

RCD-975BX. “Whoever is searching for an audiophile player without paying an out-of-this-world price must really consider the RCD-975. It can be favorably compared to other much more expensive models... Briefly stated, an excellent purchase.” Nicolas Maranda, Quebec Audio, November/December 1995.

RCD-930AX. “Now, the sound. Drop this sweetheart into a high ticket audio system and I dare you to guess its price tag.” Tom Miller, The Audio Adventure, Vol. 2, Issue 11, November 1995.
From The Wall To Your Ears, We Connect It All.

You Paid Good Money For Your System. Why Screw It Up With Lousy Cables?

Get The Best.

You Paid Good Money For Your System. Why Screw It Up With Lousy Cables?

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...great cable sound and very good dynamic range with excellent imaging and detailing...

...the TIEC-6 is... some of the most vivid, well-balanced spectrums I've ever seen on any system...

...These guys know cable... The TIEC-6 is an exceptional product and the TIEC-6 is designed to compete with the best...

...Off all the interconnects I know well, my top choice is Esoteric Audio's TIEC-6...

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cheaper than anticipated, especially if countries paying slave wages can produce reliable product. This will hasten its acceptance. The decline and ultimate demise of analog broadcasting will thus be shorter than anticipated. In the early part of the interim period (the next 24 months), video-dependent home-entertainment retailers will crash hard as consumers balk at buying obsolescence.

Those in the market for new video equipment will wait for HDTV. We might see an increased sales effort toward high-end audio, as retailers look for ways to take up the slack. Audio will do okay—playback is already a mature technology. The prices of analog televisions, VCRs, and assorted peripherals will bottom out. Retailers will cut back orders on such equipment to almost nothing out of fear of getting stuck with unsaleable goods. Manufacturers and distributors will feel the impact. Some marginal businesses will close. There will be an increase in bankruptcy filings. As the new digital video age dawns, there will be a small but vocal anti-digital backlash. A fringe element will cling to the old technology as truer and more meaningful. As broadcasters make the permanent changeover to digital, tons of broadcast-quality studio gear will be dumped into an underground economy populated by loosely affiliated networks of various political and lifestyle persuasions, and independent artists on subsistence incomes. From this underground will emerge some truly original and effective video art, as well as some truly horrific and hateful propaganda, but the overground and underground cultures will mingle and coexist.

The near totally interconnected digital lifestyle may be upon us as soon as five years from now. Its real complexity and its apparent simplicity will increase simultaneously. Many products of dubious utility and value will vie for your dollar. The Internet terminal called the network computer is one such product. Beware. There will be major shakeups in the electronics industry, but technology stocks will continue to do well. Buy now.

Most inexpensive consumer electronics will be deemed disposable commodities, as many already are, and except for upscale items (say, over $500 retail) manufacturers will dispense with repairing them out-of-warranty as not cost-effective. The replacement of defective products, no questions asked, will become commonplace in the next century. Upscale products will become more long-lived, but will ultimately suffer catastrophic failure. The skilled labor needed to repair them will price itself out of the market, and out-of-warranty repairs for upscale items will also become, for consumers, not cost-effective. The disposal of inoperable and obsolete electronic equipment will become a serious ecological issue.

The tendencies toward lighter weight, greater versatility, and ever-increasing large-scale integration will continue. Electronics of all kinds will interface easily with each other (unless, of course, they're high-end audio products): cellphone with computer, computer with television, television with satellite. The world will become one interconnected village, an electronic hive, as Marshall McLuhan predicted over 30 years ago. His theory that the means of communication have a greater effect on people than the information conveyed has already proven true. Tomorrow will resemble today, but greatly intensified. Virtual experience will become increasingly realistic, increasingly addictive, increasingly expensive, and will supersede narcotics as the preferred escape. We've only begun to dabble with the plug-in drug. Happy New Year.

**UNITED STATES**

**Wes Phillips**

In an agreement with Riccardo Kron, Northstar Leading The Way (P.O. Box 3763, Durango, CO 81302. Tel: (970) 259-6722. Fax: (970) 259-2727) has been appointed exclusive importer and distributor in the US for the amplifiers and preamplifiers manufactured by KR Enterprises, makers of VV (Vacuum Valves) tubes. KR Enterprise's products include the VV52B single-ended monoblock amplifier, which features the VV52BX blue tube with its titanium plate, as well as the VV62B SE monoblock and the VV32B integrated amp. The new VV1 preamplifier makes use of the replicated Marconi VV1 preamp tube. Superlinear VV52BX and VV302B blue tubes and the VV1 blue preamp tube are available only in KR Enterprises components, although clear VV tubes or VV300B blue tubes are available for end-item use or OEM applications from Welborne Labs (P.O. Box 260198, Littleton, CO 80126. Tel: (303) 470-6585. Fax: (303) 791-5783).

**UNITED KINGDOM**

**Paul Messenger**

Rega Research is the last of the established British full-range hi-fi specialists to take the CD plunge. Best known for its Planar turntables and ancillaries—sales of which have been growing steadily again these past three years—Rega still considers vinyl the inherently superior music medium, but recognizes that CD is now much more commercially significant. It felt sure it could build a high-performance machine to sell at a very competitive price.

Even in the specialist component sector, the modern trend is strongly toward complete systems with cosmetically coordinated electronics—the Planet CD player was an essential accompaniment to Rega's Radio tuner and four amplifier models.

Reviving the name of one of Rega's earliest LP turntables, the Planet has just hit the market and looks like an overnight success—the initial 5000/year planned production is already being increased by 20%. Independent UK dealers are particularly pleased to have another midprice specialist British player to display alongside Arcam (and not just because of irritation at Arcam's recent decision to supply the large and aggressive Richer Sounds chain of stores)—the Planet neatly fills the price gap between Arcam's Alpha 7 and 8 models.

The Planet is a striking-looking player built into Rega's ultraslim cast-alloy casework and incorporating a top-loading mechanism—a feature unusual at twice the price. A particularly neat trick is the way the manually operated lid is executed: A double-hinge arrangement carries the cover back as well as up. Close tolerances allow the stabilizing puck to be an integral part of the lid and come into operation automatically. You can't stack other equipment directly atop the Planet, of course, but the mechanism allows the player to be used in an equipment rack with shelves spaced 6" or so apart. All else being equal, a top-loading mechanism ought to offer greater mechanical integrity.

The Planet follows the example set in Rega's Planar turntables in its disc drive being mounted rigidly within the case, supported in turn by controlled decoupling anti-shock feet. The Sony disc drive, manufactured in Alsace, was designed specifically as an upmarket OEM compo.
Powerful single-word descriptions of what great audio components should be... and, accurate descriptions of ULTECH components.

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Case in point... the new ULTECH UCD-100. An exceptional all-in-one CD Player with built-in HDCD® decoder. A rival to separate components with the ease of use only a unified player can give. Simplicity in execution. Sophistication in sound. Priced affordably at $895*.

We invite you to audition the UCD-100 at your nearest ULTECH dealer. We believe you will be pleasantly surprised.

AVAILABLE IN JANUARY 1997.
ment for high-end audio applications, and combines high performance with guaranteed long-term supply continuity.

Rega has been working closely with Burr-Brown on the D/A converter implementation for some years, eventually tackling the digital filtering from an analog perspective. The filter requirements were first defined in the analog domain, after which the digital equivalent was created. A fully isolated S/PDIF digital output is available, but Rega is currently un convinced that external DACs offer any advantage.

GERMANY
Markus Sauer
The Euro Hi Fi Show planned for Essen in September 1996 didn't happen — the organizers had to pull the plug at the last minute because of low industry support. Thankfully, the established Frankfurt show isn't jeopardized. The '97 edition of the Frankfurt High-End Show will take place May 8-11. Location will be, as usual, the Kempinski Hotel. There are only two small changes from last year's event planned, both designed to lower costs for exhibitors: There will be only one trade day, but with opening time extended to 8pm; and on Sunday the show will close at 4pm, to give everyone a chance to pack and leave their rooms on the same day. For more information, contact the High-End Society Marketing GmbH, Hatfelder Strasse 161-163, D 42 281 Wuppertal. Tel: (49) 202-70 20 22. Fax: (49) 202-70 37 00.

UNITED STATES
Wes Phillips
Francis L. Reed, cofounder of loudspeaker manufacturer Boston Acoustics, Inc., died Saturday, November 16, 1996, after a heart attack. In 1979, after having held financial and sales management positions at Dunn & Bradstreet, Diamond International, KLF, and Advent Corp., he helped form Boston Acoustics. His partner, Andy Kotsatos, referred to him as “a consummate leader” highly regarded by his colleagues and competitors. Said Kotsatos, “Frank was an extraordinary guy. He was a mentor in the truest sense — he taught a generation of specialty dealers how to be good businessmen.”

UNITED KINGDOM
Paul Messenger
The Mana Acoustics Sound Tables have built up a powerful cult reputation among British hi-fi cognoscenti — indeed, many magazine reviewers have bought them with hard cash, and use them as a matter of course.

Quite why Mana tables make hi-fi gear sound so good remains something of a mystery, but the empirical evidence is hard to ignore. Plenty of hard-bitten cynics have found themselves signing on the dotted line, and at hi-fi shows the Mana rooms have become essential refuges of good, loud music for those trapped by show insanity.

Now the Mana habit is beginning to spread into the even less easily impressed world of pro audio. Cerebral, be-suited British delegates to the recent Los Angeles AES Convention were surprized to recognize Mana's hairy and leather-jacketed Damien prowling the corridors, and even more surprised to find a plethora of Mana tables supporting Sony's new DSD digital archiving system in one of the biggest, most significant demonstrations at the convention.

Sony wasn't interested in advertising Mana's Sound Tables, but it was interested in getting the best possible sound quality out of DSD. The point of contact was James Guthrie, producer for Pink Floyd, among others, and a confirmed Mana convert. Sony asked his advice, he set up a demonstration, orders were placed, and Damien flew out to LA to set everything up. He had a wonderful time — and Sony was reportedly delighted with the results.

UNITED STATES
Robert Harley
The Audio Engineering Society held its annual convention in Los Angeles last November 8-11. An AES convention is a combination of trade show for professional recording equipment and scientific conference where leading-edge research is presented. The AES usually avoids controversial topics in its convention agenda, but this meeting included a workshop on high-bandwidth digital audio, specifically the need for frequency extension beyond 20kHz. The panel consisted of workshop chairman Bob Stuart of Meridian Audio, Peter Craven of Algol Applications, John Paulos of Crystal Semiconductor, David Smith of Sony Music Studios, Mike Storey of Data Conversion Systems, and Takeo Yamamoto of Pioneer Corporation. Each panelist gave a presentation on various aspects of high-resolution, wide-bandwidth digital audio. Bob Stuart focused on relating technical parameters of any new format to human hearing mechanisms and psychoacoustics.

Audience member Louis Fielder of Dolby Labs asked the panel why the audio world should go to the trouble and expense of providing bandwidth beyond 20kHz when there's a preponderance of evidence in the literature that such extension is sonically important, or even perceptible. The panel's consensus was that we can perceive the difference between a signal that has been bandlimited to 20kHz bandwidth and one with extension to 40kHz, even though we can't hear sinewaves above 20kHz (16kHz is probably a more accurate figure for most of the population). Dr. Yamamoto, who is particularly responsible for Pioneer's 96kHz-sampling DAT machine, reinforced this premise in his presentation. He cited the landmark AES paper "High-Frequency Sound Above the Audible Range Affects Brain Electric Activity and Sound Perception," presented by a group of Japanese researchers at the 1991 New York convention. Several panelists made the point that although we can't hear 30kHz sinewaves, the ear responds differently to the steepness of a transient that implies such a wide bandwidth (the wider the bandwidth, the steeper the transient that can be reproduced). The panelists described the sonic effects of wide-bandwidth signals, which included more precise image focus, a more defined sense of space, and, surprisingly, tighter and deeper bass.

Indeed, the idea that bandwidth beyond 20kHz confers a sonic improvement is one of the foundations of High Definition Compatible Digital (HDCD)°. HDCD encoding and decoding has the ability to preserve transient information that would otherwise be lost in conventional 44.1kHz encoding. HDCD can't encode sinewaves at 30kHz (that would violate Nyquist), but it can encode the steepness of transient information that would be present in a 40kHz (approximately) bandwidth channel. (See my report on the HDCD paper below.)
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The all-tube VK-P10 reference phono stage with its unique Flying RIAA™ circuit unlocks hidden performance in virtually any cartridge.

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An innovative i-series brings even greater sonic transparency to the new VK-3i and VK-5i line stages. By markedly improving our superb shunt volume control, BAT delivers remote convenience without compromise. And i-series upgrades are available for both the VK-3 and VK-5.

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The dynamic VK-200 solid-state power amplifier features the same two-stage single-ended bridge topology as our reference VK-500 in a more compact 100-watt-per-channel format.

**Continuing Innovation**

A mini-debate ensued when Michael Pflaumer, co-inventor (with Keith Johnson) of HDCD and an audience member, suggested that Bob Stuwart's hearing models were in error because they assume the ear/brain acts as an averaging device. Pflaumer contended that the human auditory system reacts differently to instantaneous signals, and in a way not predicted by models based on steady-state assumptions.

High-Resolution Digital Audio in Practice: Several manufacturers exhibited products in anticipation of the coming move toward high-bandwidth, long-word-length digital audio. The theory discussed in the workshop was implemented in new professional tools for making high-resolution digital recordings. Sonic Solutions, maker of Macintosh-based digital audio editing workstations, introduced their "DVD Creator" for mastering in the various DVD formats. The system will accommodate 96kHz-sampled data with up to 24-bit word lengths. In addition to making audio-only DVD masters, the DVD Creator is an entire DVD authoring system for all DVD formats, including movies (with MPEG-2 video encoding, video processing, and AC-3 and MPEG-2 audio encoding), multimedia, and DVD-ROM.

Nagra and Data Conversion Systems (dCS) teamed up at AES to show the world's first commercially available 24-bit, 96kHz recording system. The system uses a Nagra-D open-reel digital recorder (Stereophile's 1996 Product of the Year), along with a dCS 902D A/D converter and dCS 952 D/A converter. The system will also operate at 88.2kHz sampling frequency. With two Nagra-D machines, you can record four channels of 88.2kHz, 24-bit digital audio. This system was first demonstrated at the recent HI-FI '96 in New York.

Sony unveiled their new PCM-3348 HR 48-channel digital multitrack recorder. The machine is a "high-resolution" version of their popular 48-track deck, with the ability to record up to 24-bit samples, but not at 88.2kHz or 96kHz. The machine has 2-bit A/D and D/A converters. Price: $295,000.

Elsewhere on the convention floor, Acoustic Sciences Corporation (ASC) demonstrated their new Attack Wall in conjunction with loudspeaker manufacturer Westlake Audio. The Attack Wall is a configuration of ASC's stand-mounted Studio Traps absorbers around a mixing console with a pair of Westlake BBSM-10 monitors mounted in Traps. The result is a small, portable acoustic environment that sounds good, even when placed in a room with poor acoustics. To prove their point, ASC and Westlake had the Attack Wall set up in the middle of the convention floor. It's difficult to imagine a more hostile acoustic environment, but in the brief audition I heard (with my own CDs), the system did the job. I heard pinpoint imaging, deep bass (the organ on John Rutter's Requiem), and a smooth balance. The Attack Wall should be a boon to anyone who needs to hear accurately in less-than-ideal conditions, such as location recording.

From the perspective of many mastering engineers, artists, record producers, and QC supervisors at record companies, manufactured CDs don't sound as good as the master tape from which the discs are made.

CD Manufacturing Workshop: A workshop on how CDs are made turned into a free-for-all confrontation between panelists and audience. The panelists represented CD manufacturing plants, and were there ostensibly to describe the CD manufacturing process. But the audience, which included mastering engineers and several quality-control people from big record labels, largely turned the workshop into discussion about changes in sound quality between a digital master tape and CDs made from that tape.

This subject is a hot potato in the CD manufacturing business. From the perspective of many mastering engineers, artists, record producers, and QC supervisors at record companies, manufactured CDs don't sound as good as the CD master tape from which the discs are made. From the CD manufacturing viewpoint, the replicated discs contain the bit-for-bit identical data that they received on the master tape. The finished CDs meet—and usually far exceed—the physical and performance specifications dictated by Sony and Philips in their "Red Book.

The conflict boils down to this: CD plants are manufacturing polycarbonate discs. Engineers and record companies are creating and selling music. This gulf between the two camps stymied any resolution of the conflict. The panelists explicitly stated that if the discs are functional and meet "Red Book" specifications, they've done their job. One panelist detailed the rigorous quality-control procedures involved in CD manufacturing, but conceded that they don't include sound quality among their tests. Under questioning from an audience member, he said that his factory had no listening facilities.

The more vocal members of the audience found the CD factory's lack of a listening room appalling. The manufacturing representative reiterated that if a disc plays and meets "Red Book" specifications, they've met their responsibility. Moreover, they argued, manufacturing plants shouldn't be put in the position of deciding what sounds good enough for a particular client.1 Audience members responded that the CD factories have an obligation to research the problem and find solutions.

The possible causes of differences in sound quality were discussed, and related to differing mastering techniques. Some CDs are cut in real time, others at double speed to reduce mastering time. Some are mastered from 8mm Exabyte tape, others from CDR or 3/4" U-Matic tape. There was no consensus among the audience about which method is best, but all were skeptical of double-speed mastering. Most attributed differences in sound quality to jitter in the CD itself, although many audience members lacked technical backgrounds and were repeating the buzz on the street. Jitter in a CD is caused by slight variations in the nine discrete pit and land lengths that encode the data.

One theory raised at the workshop proposed that CD test samples provided to artists and record companies aren't representative of the entire manufacturing run. It is usually these test samples that listeners compare with the master tape — and complain about. But because these discs are the first ones off the injection-molding machine, they are not a fair representation of the final product.

1. My first job in a CD manufacturing plant was evaluating incoming CD mastering tapes and preparing them for glass mastering. If a tape had technical or audible problems, I would notify the record company so they could send a better-quality master. One master tape I evaluated had gaps several seconds long during a song, along with a few seconds of gross wow apparently caused by someone accidentally rubbing against the analog tape reel during the transfer from analog tape to digital. After I'd explained these problems to the head of the record company (a very independent label), he said, "If you put the disc in a player and sound comes out, that's good enough." At his insistence, we manufactured CDs from this tape.
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not made as well as the mass-produced discs. An injection-molding machine that has just been loaded with a new stamper is cooler than one running continuously. The first discs, made before the machine reaches temperature, can suffer from "plowing" and excessive birefringence.

Plowing refers to the way molten polycarbonate flows into a cold stamper chamber, with a thickening at the leading edge of the flow that forces the polycarbonate behind it to push the cooling polycarbonate into the mold edges. In a warm machine, the polycarbonate flows more freely.

Birefringence is an optical phenomenon that occurs in CDs when the polycarbonate has been stressed, such as by plowing. These stresses create local variations in the polycarbonate's refractive index, which causes a distortion of the playback beam. Complaints of poor CD sound quality may be partially attributable to cold stampers making the reference discs for record companies.

What's really needed to sort out these questions is a serious research project to determine if there are indeed differences between CDs containing identical data. If sonic differences are found to exist, then the mechanisms should be researched and resolved once and for all.

To the workshop participants, differences in sound quality between CD pressings were more than an intellectual curiosity; they are of practical commercial concern. The way in which the workshop was overtaken by the controversy illustrates how important an issue this has become. This topic not only dominated the CD manufacturing workshop, but was also discussed extensively in the History of Mastering workshop described later in this report.

Fortunately, the workshop audience included Ian Dennis and Julian Dunn of Prism Sound, authors (with Doug Carson of DCA in Oklahoma) of a paper investigating sonic differences between CDs. After listening quietly to the debate, they told of their experiments with the effects of different mastering methods on sound quality. Their research, which is the most comprehensive and well-conceived to date, was presented at AES in "An Investigation of the Sonic Differences Between Numerically Identical Compact Discs."

In this paper, the authors sought to confirm or refute the claims of listeners in the music industry that CDs made from the same master tape sometimes sound different. The paper's assumption was that differences probably exist, although no known mechanism explains such differences. The authors propose several theories, including such easy explanations as data manipulation in preparing the master tape. For example, many digital audio workstations invoke digital DC-rejection filters or other processing that corrupt the data.

But if two CDs with exactly the same birefringence.

One of the most anticipated papers of the convention was Keith Johnson and Michael Pflaumer's "Compatible Resolution Enhancement in Digital Audio Systems."

The HDCC Paper: One of the most anticipated papers of the convention was Keith Johnson and Michael Pflaumer's "Compatible Resolution Enhancement in Digital Audio Systems," which provided a technical overview of High Definition Compatible Digital (HDCD). The paper first examines the need for wider dynamic range than 16-bit digital audio provides, stresses the limitation of conventional distortion and noise specifications, and hints at why frequency extension beyond 20kHz is desirable.

The paper goes on to explain the listening setup and methodology Pacific Microsonics used for identifying degradations imposed by digital encoding and decoding. By listening to A/D and D/A converters and measuring their technical performance, the authors were able to attribute certain sonic characteristics (grainy treble, for example) to specific technical performance. After correcting implementation problems in A/D and D/A converters (without storing or transmitting the digital signal), the authors then examined the degradation imposed by decimating a high-resolution digital signal to the 16-bit, 44.1kHz limitation of CD.

The paper includes detailed descriptions of the ear's physiological reaction to different stimuli, and relates these reactions to changes in the shape of the waveform imparting on the ear. Specifically, the need for brick-wall cutoff filters changes the envelope of the waveform in a way that adds artifacts. The paper mentions a hardness of cymbals and reeds, along with a "papery" sound on snare drum, that are attributable to the change in envelope shape introduced by anti-aliasing filters.

The correlations between convertor technical performance, human hearing mechanisms, and listening impressions are the theoretical foundation on which HDCD is based. In my view, this is exactly how audio technology should be developed. All too often, audio advancement is pursued along a single track (electrical engineering, for exam-
Critics have called the PSB Alpha "the makings of an audiophile legend."

Now the Alpha has become a remarkable family of speakers that extend the original Alpha idea to fit

(a) still smaller spaces,
(b) still smaller budgets, and
(c) the big demands of Home Theater.

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The Alpha Midi Center-Channel and the Alpha SubSonic 1 Powered Subwoofer are the final elements for enjoying extraordinary Home Theater sound with extraordinary ease at incredibly low cost.

We think this handsome, high-achieving, but eminently accessible family of speakers will soon be as much of a legend as its famed progenitor. You need to hear them to appreciate how far beyond expectations they perform.
HDCD encoding begins with a high-resolution A/D conversion of an analog input signal. Although it was not stated explicitly in the paper, I have reason to believe the sampling rate is 88.2kHz, the word length 24 bits. This is far too much data to store on a CD, so the HDCD encoder performs a real-time analysis of the signal to determine what sonically significant qualities will be lost by converting the signal to 44.1kHz and 16 bits. The algorithm identifies those signal components so that conjugate processing can be performed in the decoder (the PMD100 chip) to restore characteristics of the original high-resolution signal. The decoder receives the processing commands through a control code hidden in the least significant bit of the final 16-bit output words. The control code is inserted on an as-needed basis rather than continuously.

The decimation filter used to convert the high-resolution signal to 16-bit, 44.1kHz is unique. Rather than use a fixed filter, the encoder selects one of several filters, according to the characteristics of the program material. The encoder constantly switches between filters, choosing the best filter for the signal's dynamics and spectral content at any given moment.

The encoder also compresses peaks so that the entire signal level can be increased. The compressor begins acting gradually at 9dB below full scale, and compresses the program's loudest 9dB into 3dB in the final 16-bit output. The decoder then expands the signal in a complementary process to restore the original dynamic range. This feature can be turned off for recordings of narrow dynamic range.

Similarly, low-level signals are increased in level when they drop below a prescribed threshold. The gain, threshold, and other parameters of the low-level boost algorithm are chosen according to the program content. These parameters are sent to the decoder in the hidden control channel to restore the original dynamic range. It's important to remember that all these processes — filter switching, peak compression, low-level gain — are all invoked dynamically during the program based on the program's characteristics.

The result of this dynamic manipulation is reduced dynamic range when playing HDCD-encoded program without the decoder. The authors suggest, however, that this is a good thing for low-quality playback systems; the gain for low-level signals compensates for an inexpensive system's lack of low-level resolution — exactly what digital tends to destroy. The paper also argues that, because HDCD affects only the extremes of the signal and leaves most of it untouched, good compatibility is maintained with players not equipped with the decoder.

High-frequency dither is added in the reduction to 16 bits. The dither has energy between 16kHz and 22.05kHz, which leaves the noise floor flat below 16kHz. In addition, the PMD100 HDCD decoder/filter can be programmed to add dither during decoding to help linearize the DACs in a CD player or D/A converter. The chip also has a variable timing reference that reduces jitter at the DAC if the DAC can accept such a signal (the UltraAnalog DACs, for example).

Finally, the control code that tells the decoder what processes to perform on playback is generated and inserted into the 16-bit words' least significant bits. The control code, present less than 3% of the time (typically 2%), carries information about the control function, whether the peak extension algorithm is used, and the nominal gain value for the low-level compression algorithm. The whole system was designed to minimize the amount of data carried by the control code.

The paper provides much more detail than this summary; indeed, it is more explicit than I expected, considering Pacific Microsionics' history of secrecy. The treatise is also a more coherent view of HDCD than the patent application, which has been circulating among audio academics.

Other Papers: Although the coming DVD has massive storage capacity, it still isn't enough for the most ambitious audio-only DVD proposals. To address this problem, Philips engineers presented "Lossless Coding for DVD Audio." The paper describes a method of reducing the amount of data needed to be recorded on a medium (such as a DVD disc) without affecting sound quality. Such "lossless" coding simply encodes the data more efficiently, and doesn't change the ones and zeros of the original signal. This technique is in sharp contrast to "lossy" coding, also known as "perceptual coding" or "data reduction," in which large amounts of musical information are thrown away.

Commerically available lossless coding software, typically used to increase the storage capacity of a hard-disk drive, produces a poor compression ratio (127:1 to 1:41:1) when applied to a PCM audio signal. [There is also the fact that you need a different kind of algorithm for random-access music data compression. You can't just compress the entire music file — Ed] The proposed scheme achieves ratios of from 1:7:1 to 3:3:1:1. The compression ratio varies significantly according to the program content.

Ironically, such a lossless encoding scheme could have been used on CD to achieve 20-bit storage; now it's too late. But I'm glad to see such concerns addressed at AES, rather than the usual talk at AES conventions about how to throw out more and more music. Moreover, the Philips paper makes reference to the ARA proposal, which calls for lossless compression. It's encouraging to see that Philips is interested in a higher-quality audio format, and considers the ARA proposal a worthwhile goal.

A high-quality audio-only application of DVD was the subject of Malcolm Omar Hawkford's "Multi-Channel High-Definition Digital Audio Systems for High-Density Compact Disc." The paper largely reiterated Dr. Hawkford's position as presented in his excellent book "Back from the Abyss," published in the November 1996 Stereophile.

A method of conducting double-blind listening comparisons of car stereos was presented in "Subjective Evaluation of Automotive Audio Systems," by Daniel Mikat of Fujitsu Ten. A dummy head with microphones in its ears is placed in the car under evaluation, and the signal recorded on a pair of tracks on a digital multitrack recorder. The process is repeated for each car under evaluation, using the same music and keeping the tracks synchronized. The listener, wearing headphones, can then audition one of several car systems and switch between them instantaneously. To compensate for the sound absorption of the human body in the car, an engineer sits in the car and compares the direct sound of the system.
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A formal subjective assessment of audio codecs is a lengthy and tedious process. It is not unusual for an expert listener to spend an entire day evaluating a half dozen codecs.

functions separated, and the job of the mastering engineer emerged as a distinct, creative step in the making of records. But even after mastering had become a separate profession, it was performed in-house with little input from the artist or producer. The emergence of outside mastering rooms (including Sax's Mastering Lab and Grundman's Bernie Grundman Mastering, both pioneers in the field) changed the mastering engineer's role into what it is today.

Doug Sax related the story of the shootout more than 80 years ago between the Edison cylinder and Berliner's flat disc, when RCA needed to choose one format for their releases. Listeners heard the live sound, then the playback of that music from both the Edison and Berliner machines. Berliner's flat disc was judged to sound better and declared the "victor." Thus was born the RCA Victor marque, which lives on as Japan Victor Company (JVC).

Sax, the father of modern direct-to-disc recording, told how he became involved in mastering. His childhood friend, pianist Lincoln Mayorga, was getting good-paying performance and arranging jobs while still in high school. Mayorga, entranced by the wonderful piano sound he heard from 78s, wanted to use modern technology to re-create that sound for recordings of his own performances. While still teenagers, Sax and Mayorga recorded a direct-cut disc in the 1950s. This experiment evolved into The Mastering Lab, and later into the Sheffield Lab record label.

Discussion then turned to CDs that sound different from the original master tape, even though the ones and zeros are the same. Every mastering engineer on the panel reported hearing differences between CD pressings and between digital-to-digital tape copies.

Other discussions included why today's recordings don't sound as good as they could, differences between power amplifiers and cables, and what's wrong with digital audio.

United States
Thomas J. Norton
The meat of any AES is always in the various workshops and technical papers. At the 101st AES Convention in Los Angeles, it was the workshops I found most interesting, specifically three workshops dealing directly (or indirectly) with multichannel sound.

On the first day, Tomlinson Holman (formerly with THX, now with TMH Corporation) chaired "Audio for DVD." Panelists were Don Eklund, Sony Pictures DVD Center; Jeff Levison, Warner Hollywood; Jerry Pierce, MCA/Universal Studios; and Steve Thompson, Pacific Ocean Post. I learned here that while the peak DVD data rate for audio-video applications is 10.08 Mbit/s (total, for both picture and sound), the peak data rate for PCM audio on DVD is 6 Mbit/s (1-8 channels). (I later heard an unconfirmed report that the audio-only lower data rate was chosen because hardware manufacturers did not feel that they could currently build portable DVD-audio players that would run at higher than 6 Mbit/s!)

The bulk of the discussion in this workshop was about mastering film soundtracks on DVD. From the input of several of the panelists, it was apparent that a fair number of DVD titles have already been mastered. Whether or not any of these will actually appear on the market in the near future is a question you may be able to answer by the time you read this! There does seem to be a difference of opinion as to how to derive a conventional Dolby Surround matrixed output from a DVD with a 5.1-channel discrete mix (for users having equipment with only Pro Logic playback capability). Most discs will rely on circuitry in the players to combine the 5.1 channels on the disc into a matrixed two-channel mix, but Don Eklund (Sony Pictures) wants to put separate matrixed tracks on the disc, giving the mastering engineers control over just how to combine the

History of Mastering: "The History of Mastering" workshop assembled a powerhouse panel of mastering engineers—Bernie Grundman, Bob Ludwig, Glenn Meadows, and Doug Sax—who described the development of mastering and provided lively anecdotes. Grundman began by tracing the history of recorded sound, noting that, in the days of the Edison cylinder, the recording and mastering engineers were one and the same. The engineer performed the purely technical function of operating the machine. It wasn't until the advent of magnetic tape that the two

3 At a "Meet the Designers" session at Stereophile's 1989 High-End Hi-Fi Show in San Mateo, California, a panel of loudspeaker designers was asked about the need for rigorous double-blind listening evaluation and statistical analysis of the results to determine loudspeaker quality. Panelist and loudspeaker designer/manufacturer Richard Vandersteen said, "Hell, just open a bottle of wine and spend an evening listening to music with the speaker. You'll know if it's any good or not." That's one of my favorite audio quotes of all time.

Stereophile, February 1997
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"I can confidently say that the Von Schweikert Research VR-4s are the finest loudspeakers I have had the pleasure of hearing in my listening room. They hit all my hot buttons - deep articulate bass, timbral accuracy, fast, open, three dimensional soundstaging... you know what that means don't you? I'm buying the review pair!"  

Stuart A. McCreary, Positive Feedback, Vol.5 No.6, 1995

The Von Schweikert Research VR-4 loudspeakers offer breakthrough performance and outstanding value. Superb engineering brings Virtual Reality to the listener, convincingly portraying the passion and stage of the recorded performance. Visit a Von Schweikert Research dealer to experience the amazing reality of the VR-4s for yourself.
engineers who heard them sit up and take notice. DSD replay was compared with the 16-bit CD and an original (analog) master. DSD was very close to the original, and clearly more transparent than the CD. At the close of the demonstration, Sony played a brief excerpt of DSD as recorded on a CD. (The limited-capacity CD is not a practical DSD carrier for full-length recordings—DSD is—but the point here was the use of an optical storage medium.) It sounded superb.

In addition to the workshops, there was the usual spate of technical papers, some of them interesting and useful, some heavily academic. Three of the most interesting were given by David Griesinger of Lexicon. "Multichannel Matrix Surround Decoders for Two-Eared Listeners" discussed the mathematical design of a new decoder (and compatible encoder) claimed to overcome the limitations of current (Pro Logic) decoders by offering maximum lateral separation with music, precise placement of properly encoded material (including good surround separation), and music levels that are unaffected by steered sound effects. It is said to offer near-discrete performance with properly encoded material, and is also compatible with current Dolby Surround encoding—though it provides better performance with material recorded using the matching encoder. This matrixed format is actually the Logic 7 mode available now in Lexicon's new DC-1 surround-sound processor. (This was not formally stated in the paper because commercial promotion in AES papers is considered bad form—even though a majority of the papers at any AES are usually based on commercially oriented research.)

In another of his papers, David Griesinger discussed a new method of measuring the acoustics of a concert hall or other performing space with an audience present—the only way to take meaningful readings. The new system is said to be actually entertaining for the audience, rather than intrusive and irritating.

And finally, in perhaps his most interesting paper, Dr. Griesinger took on the subject of "Spaciousness and Envelopment in Musical Acoustics." In experiments using speech as a source, it was found that the apparent size of the sound image was sometimes broadened if there were strong lateral early reflections of less than 20ms (as, perhaps, with a nearby wall)—but not always. This broadening occurred only if the reflection arrived during the risetime of the phoneme (speech sound). If the reflection arrived after the risetime, image sharpness was unaffected. When some of the reflection delays exceeded 50ns there was an increase in the surround impression, but when all of the delays were under 50ms, there was not. But if only a single reflection was received, and it was longer than 50ms, it was perceived as a separate sound source (echo), not as an increase in spaciousness.

These results held up with music as a source (though the perceptions were less clearcut), but not with noise. The results of these experiments refuted the widespread association of spaciousness with early lateral reflections; instead, spaciousness was found to be a function of the reflections occurring at least 50ms after the ends of notes, with a secondary effect from the reflections occurring while the notes are held. Thus, the characteristics of the music itself strongly affect the perception of spaciousness.

On an entirely unrelated subject, in a paper entitled "Effect of Panel Damping on Loudspeaker Enclosure Vibration," Juha Backman of Nokia Mobile Phones in Finland studied the mechanical vibration of nine loudspeaker enclosures of similar dimensions and thicknesses, but made of different materials. The enclosures were glued together, and no internal bracing was employed (the writer wanted to isolate the effects of the materials, not evaluate bracing techniques). As the study was intended to explore only mechanical vibration, heavy sound damping was employed to minimize the effects of the internal acoustical radiations of the loudspeakers.

Readers will be surprised to learn that plywood, particleboard, and MDF were found to be poor materials, and to roughly the same degree. The best of the three was particleboard, but the best particleboard was the soft, low-density variety (large chips with little glue, resulting in high internal damping)—a material with poor mechanical durability and thus little commercial potential. The best material studied was two 9mm layers of plywood sandwiching a very thin, viscoelastic layer—thin enough that the overall thickness was still very close to 18mm. But two layers of plywood with a thicker damping sheet actually performed worse than the single damping layer, as did a layer of lead laminated between two layers of plywood. Backman also argues that damping material laminated between two structural layers is much more effective than damping material simply applied to the inside of the enclosure—the usual practice—though this was not part of the experimental results. (The use of the term damping here and in the paper refers to structural or mechanical damping of the enclosure walls rather than the fiberglass or other material used for acoustic damping on the inside of an enclosure.)

In addition to attending workshops and paper presentations, I spent several hours wandering the aisles of the main exhibit floor, and visiting the relatively few real demonstration rooms. Though I'm not particularly turned on by acres of multitrack mixing consoles, there were enough of them to make for an eye-popping spectacle for the typical recording engineer. I was more interested in searching out the latest in monitoring loudspeakers, to see just what recording engineers might be using these days. At last year's AES I found myself pondering that it might be interesting to actually review a few of the smaller, so-called nearfield monitors to hear how they compare with similarly sized audiophile favorites. In light of JGH's rave reviews of models from Tannoy and Genelec in recent issues of the Stereophile Guide to Home Theater, and interesting new models seen at this show from those manufacturers plus ATC, Spendor, PMC, and others, I might yet do just that.

**UNITED STATES**

**John Atkinson**

In the "Measurements" section that accompanied Robert Deutsch's review of the Vienna Acoustics Mozart loudspeaker in January (Vol20 No.1), we inadvertently published the wrong graph in place of the speaker's step response (fig.9, p.220). The correct graph appears here, along with the original text: "The mismatch between the tweeter and woofer polarities on the HF unit's axis can also be seen in the step response (fig.9). Usually, where the crossover's electrical phase response mandates inverting the tweeter polarity, the return of the tweeter's step output to the time axis coincides with the positive-going but slower start of the woofer's step. Here you can see that this is not the case."

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![Fig.9 Vienna Acoustics Mozart, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).](image-url)

*Stereophile, February 1997*
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* The information contained in this chart has been sourced from manufacturer brochures, reviews and physical examinations. It is accurate to the best of our knowledge, as of October 1st, 1996. Sonic Frontiers Inc. makes no warranty, either expressed or implied, as to the accuracy of this chart. Manufacturer specifications are subject to change. Contact them directly to confirm.

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I don’t know about you, but I used to get excited about buying LPs. I could spend hours in a record store—back when they actually sold records—just reading liner notes and kibitzing with some of the better-informed clerks. You could get a free music education. These days, when I run into a so-called “record store,” it’s for a specific item. I run out as fast as possible—most times, chased by hostile music.

The few times that I visit a record store now—and I used to visit a record store every day—I hardly see anyone else in the classical department. Sometimes when I visit the HMV store in Manhattan, at 46th and Fifth, I’m the only person in the classical department. As Samuel Goldwyn might have said, people are staying away in droves.

Not surprisingly, the major classical labels seem desperate to sell product. Any product. We have series like BMG/RCA’s “Out Classics,” featuring works by composers said (by BMG) to have been gay. But maybe not. Do you care whether or not Chopin was gay? I don’t. But if it can make more money for BMG…

Meanwhile, EMI has just released Chant III. And Philips falls all over itself to title Cecilia Bartoli’s new album Chant D’Amour. (Hey— the public bought Chants I, II, and III, maybe they’ll buy Chant Anything)

In The New York Times, James R. Oestreich, who writes regularly on recordings, referred to “an international classical-record industry in meltdown.” There were “years in which major conductors could blithely renew the war-horses, confident that buyers were ready to replace earlier versions, inevitably dimming on badly worn vinyl,” Oestreich wrote. “But the digital compact disc, the ultimate mixed blessing, has changed all that, making permanently available the successive generations of performances, often in excellent sound.”

Meanwhile, major classical record labels issue hardly any new stuff at all on their budget or midpriced lines—which might be a great way of shoring up their business. Today’s budget and midpriced lines are almost totally dedicated to reissues. There’s no equivalent to the old Nonesuch, Seraphim, or London Stereo Treasury, which used to offer lots of new stuff. Except for one independent—very independent—label.

When Klaus Heymann founded Naxos in 1987, the major record companies at first decided to ignore the label and its owner—maybe he’d run out of money and go away. When that didn’t happen, they tried to buy him out—perhaps with the idea of shutting him down. That didn’t fly either.

Now the majors have another big problem on their hands: great-sounding, newly recorded classical CDs selling for six bucks a pop—about what LPs used to cost 25 years ago. Already, Naxos offers the richest, biggest current classical catalog in the world in terms of repertoire. Not surprisingly, people are buying the discs.

Today, in some countries—the UK, Sweden, and Australia, for instance—Naxos is the best-selling classical label in terms of unit sales. I’ve seen record shops in the Czech republic where half the classical discs carried are Naxos. Naxos commercials run on Finnish TV.

Last February—for the R2D4 issue, to get your mind off all those $30 audiophile LPs—I told you about a bunch of terrific Naxos CDs you could buy for $6 each, or even $5 on sale. This year I’ve got another bag full of goodies, and an exclusive interview with the Nabob of Naxos.

Klaus Heymann was born in Frankfurt, Germany, in 1936. He attended universities in Frankfurt, Lisbon, London, and the Sorbonne in Paris, majoring in English, Romance languages, and literature. He lives most of the year in New Zealand with his Bose speakers and his wife, violinist (and Naxos recording artist) Takako Nishizaki.

During the Vietnam War Heymann found himself in Hong Kong, selling electronic equipment and other items by mail-order to the US military in the Far East. He eventually became the Bose and Revox distributor in Hong Kong. (He still is.) Klaus established his first record company in 1978, and the next year began recording Chinese classical music and rare Western classical repertoire on the Marco Polo label, which still exists under the overall umbrella of HNH International Limited.

In 1987 he established Naxos—“the first classical budget label of the digital era.” Being a small independent label, Naxos couldn’t afford to record warhorse repertoire with famous artists and orchestras. Klaus decided instead to build the Naxos catalog entirely with young or unknown artists and orchestras—at first in Bratislava and Budapest. He then held his breath and waited for the majors to try putting him out of business by launching competing labels. They didn’t. (A few fainthearted attempts, like Sony’s Infinity Digital, have apparently fizzled out.)

Klaus’s original idea was to price the CDs at the same price as LPs—as you’ll hear him tell in a minute—and he’s pretty much stuck to that. The discs re-
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Heymann: If no other company has recorded the work, we put it out on Marco Polo. Otherwise, we put it out on Naxos.

Tellig: Why aren't the major record companies doing what you're doing with Naxos?

Heymann: They tried to compete with Naxos with back catalog at midprice—but it didn't affect my business, it killed their own full-price business. [A gleeful look comes into his eyes.] That's actually the root cause of the current crisis of full-price—that so many great recordings of the past are now available at budget price and midprice.

Another company tried to imitate Naxos and started to make new recordings. But because of their cost structure, they had to record more cheaply than we do and, as a result, the artistic and technical quality was very often very far below Naxos's.

It's hard for a big company, with their cost structure and their overhead, to work as economically as we do. The number of people involved in Naxos is astonishingly small—on a worldwide basis maybe only 20 people, putting out 200 to 300 releases a year. [This includes Naxos sister labels like Marco Polo] We control our costs very carefully. We spend where we have to in order to get good sound, good performances, and good orchestras, but there's no fat, no big groups of hangers-on.

Tellig: Do you pay royalties?

Heymann: We don't pay royalties. We pay a flat fee. But in many cases our flat fee is higher than what people get today from other labels in royalties.

The with the full-price labels today, an American symphony orchestra gets roughly $1.25 in royalties for every CD sold. But nowadays they only sell about 8000 units worldwide—that's Boston Symphony, Philadelphia Orchestra, Cleveland Orchestra, and so on. That means they're getting about $10,000 in royalties. Well, that's what I pay orchestras as a flat fee up front.

American orchestras demand huge advances, which I would never recoup. But basically, what we offer in flat fees is equivalent to what other people get in royalties from independents and full-price labels.

Tellig: You pay it all up front?

Heymann: That's right. They don't have to wait. We pay all recording expenses up front. Very often, with the others, the clock starts ticking after the company has recouped their recording costs. I know cases where the artists get basically nothing, because their sales are small, the company deducts production costs first, and there is nothing for royalties. We pay everybody the same, we pay it in front, we pay all expenses, including hotel and air fares, everything.

Tellig: I noticed you recorded Berlioz's Harold in Italy with the San Diego Symphony Orchestra—an American orchestra. Same arrangement? [The San Diego Symphony Orchestra has since disbanded.—ST]

Heymann: We did four Berlioz recordings with them. They got a flat fee, we paid the production costs. They said it was more than they got before when they got only royalties but had to pay the production costs. Of course, it cost the orchestra a lot more. But no more American orchestras—it's unaffordable to record here.

Tellig: Who picked up the difference?

Heymann: Sponsors. Or some orchestras have what they call "media guarantees," where the recording income is part of the salary, and then the orchestra sells the recording rights at the highest possible price to the highest bidder. I guess that was the case in San Diego—they had a media guarantee.

Tellig: Any more American orchestras?

Heymann: There are many more coming now. Basically, apart from the five major record companies, and the five or six major American orchestras, all the other recording activity in the US is sponsored or subsidized. Nobody can afford to pay American union rates and make money, or break even, or not lose his shirt, or lose a fortune—

Tellig: What other American orchestras are coming along?

Heymann: We are negotiating with quite a few now because of the downturn in full-price business. Many are losing their contracts or have lost their contracts. Independents do less recording. But the only other one that's firm at the
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Recommended Component, Stereophile, April 1996 (Vol. 19, No. 4)

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Stereophile Guide to Home Theater, Fall 1996 (Vol. 2, No. 3), Robert Deutsch

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Recommended Component, Stereophile, April 1996 (Vol. 19, No. 4)

"I was expecting competent performance; what I got instead was magic,' enthused TJN [Thomas J. Norton] about the six-channel Carver... 'My favorite current multichannel amp."
moment is the Colorado Symphony. We're recording Barber with them.

**Tellig:** British, European orchestras?

**Heymann:** We now record with the same kind of orchestras that labels such as Chandos and Hyperion record—for instance, the Royal Scottish National Orchestra, National Symphony of Ireland, Bournemouth Symphony Orchestra, Polish National Radio Symphony, Orchestra National de Lille, Danish Radio Symphony, Swedish Radio Symphony. They are not the Vienna Philharmonic, not the Berlin Philharmonic, not the Chicago Symphony Orchestra, but they are good front-line orchestras in Europe.

**Tellig:** You have any future projects with the Royal Scottish?

**Heymann:** We are doing a Bruckner cycle with them—and a Bax cycle; and a Parry cycle.

**Tellig:** It seems to me that Naxos has an ability to match the right repertoire with the right orchestra. I know about the Royal Scottish National Orchestra's wonderful horn section from their Shostakovich cycle on Chandos with Neeme Järvi—that would seem to be a perfect match with Bruckner. Did you match them up on the basis of the horn section?

**Heymann:** No, but it is one of the finest orchestras in Great Britain. Bruckner is very important repertoire for us. In addition, the orchestra has most of Bruckner in their repertoire. Some of the cycle will be done in Ireland with the National Symphony of Ireland. We have already recorded Symphonies 2 and 8 there.

**Tellig:** Do you have contractual obligations to record certain artists with certain repertoire?

**Heymann:** No. I don't have to take the music director of an orchestra because we pay them a fee. So I don't have to take this English conductor to do French repertoire. We try to do French repertoire in France or with French conductors in New Zealand or wherever we can, to get the right flavor.

**Tellig:** Will people buy a symphony by a relatively unknown composer such as Parry from Naxos for $6, where they wouldn't buy a Parry symphony from Chandos at $15 or $18?

**Heymann:** Uh-huh. One of the great things Naxos has brought to the market is that we offer this enormous repertoire at an attractive price. It allows a lot of people who wouldn't have tried out something they didn't know at full price to try it at budget price. It's only $5.99. This composer, Hubert Parry...why not? And they will probably be very pleasantly surprised when they get home.

Or works by Sofia Gubaidulina, the Boulez sonatas, or the symphonies of Lutoslawski—the sound of these is spectacular. I met with two of the major American symphony orchestras; they looked at our sales numbers and said they hadn't seen numbers like these in years, and certainly not for contemporary music. Whatever we put out, goes, because people try.

**Tellig:** Do these less familiar works sell for you as well as the standard repertory?

**Heymann:** Yes, there is very little difference in sales—at least during the first six to 12 months after release—between a total rarity like the Karl Stamitz cello concertos and the Dvorák cello concerto.

What happens is that the rarities go down a little faster. A disc of Lutoslawski symphonies will sell probably 20,000 copies, and after go down to two or three thousand a year, whereas if we have a Beethoven symphony cycle, we will also do 20,000 copies of each disc the first 12 months but continue to sell

I met with two of the major American symphony orchestras; they looked at our sales numbers and said they hadn't seen numbers like these in years.

five to ten thousand a year.

**Tellig:** How many times will you record a Beethoven or a Schubert symphony cycle?

**Heymann:** Basically, we do everything only once. But the first Beethoven cycle I've done again because I wasn't totally happy with the first cycle, which came from the first year of Naxos. The new cycle with the Nikolaus Esterházy Sinfonia, conducted by Béla Drahos, has been very well received.

**Tellig:** What happens after you record everything?

**Heymann:** I was in the audience at a seminar in Germany at Klassikon, which is a classical music fair. There were representatives of BMG, Decca, Warner Classics, EMI, and a moderator from Bavarian Radio on the stage. The subject of the seminar was, "Has everything already been recorded?" The consensus after a half hour was that most things had already been recorded. So the moderator turned to me and said, "Let's see what Mr. Heymann has to say."

So I got up and said, "There are now 35,000 CDs in the Bilderdfer catalog. If, like me, you study Grove's and MGG, the German equivalent of Grove's, you realize—and I've done the calculations—that there are probably 1.5 million hours of music in these two encyclopedias. That means we have to record another 1.465 million CDs before we exhaust the repertoire. There are virtually thousands of projects I would like to do. I will never run out of interesting repertoire to record.

"Just think of Buxtehude. Think of Telemann. Think of a complete Vivaldi, every note he ever wrote. Monteverdi. The complete Haydn. All the 20th- and 19th-century obscure symphonists. All the piano music. The complete Godowsky. Complete Liszt. So much to do.

Dittersdorf wrote 100 symphonies. He wrote 1, think 20 violin concertos."

**Tellig:** So are you going to have a complete Karl Ditters von Dittersdorf?

**Heymann:** We're not going to do a complete Dittersdorf, but we will probably do 10 CDs, with two or three symphonies on each CD. And Leopold Hoffmann, the richest composer of Mozart's time, who wrote church compositions, lots of concertos and symphonies. We'll never run out of repertoire.

**Tellig:** Is there a dearth of classical performing talent in the world today?

**Heymann:** No, I think there is a lot more performing talent than ever before. A lot more countries provide talent. Just think of China, Korea, Japan, Taiwan, all the East European countries. The technical level and the level of instruction of young musicians today is higher than at any time in history. The orchestras play technically better, stylistically better than at any time in history. What is perhaps lacking are superstars—people with a lot of idiosyncrasies and originality. Although I think today a lot of those originalities would not be acceptable. A lot of people today accuse Furtwängler of distorting the music, just like some say Gardiner or Harnoncourt distort the music by playing too fast.

**Tellig:** Do you like recording chamber music?

**Heymann:** Chamber music used to be music for the house, for small salons, for the palaces. I like our Eastern European
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quartets, like the Kodály Quartet. It’s music—it’s maybe not always so absolutely technically perfect, but it’s beautiful, relaxing.

We are starting our own chamber orchestra in New Zealand. We do a lot of our recording there. Lots of string quartets, quintets.

Tellig: So what’s ailing classical music?

Heymann: There’s too much material out there, too many releases. The majors have killed their own standard repertoire business by releasing the same repertoire in great recordings of the past. Greed. The big-time soloists, conductors, and orchestras have been used to the big money, and it’s impossible to sell enough recordings today to recoup the fees.

Tellig: What’s the recording outlook for the major orchestras?

Heymann: The orchestras either won’t record, or they will have to raise sponsorship money, or the unions have to finally see the light of day and accept fees which allow record companies to recoup their investments. EMI used to pay the Philadelphia Orchestra $120,000 per disc as an advance against royalties. They sold maybe 8000, 9000 CDs. The orchestra never saw a cent in royalties because the record company never recouped the advance.

This cannot continue. A record company cannot afford to lose $100,000 on each release. The other American orchestras will lose their contracts unless they can offer the record companies more reasonable terms, and even then they will not do many recordings because there are too many out there.

Tellig: Is it more reasonable to record good second-string orchestras, like the Baltimore Symphony?

Heymann: These orchestras are just as expensive to record, because the union rate applies to every orchestra, whether it’s Indianapolis or Wyoming or North Carolina or the New York Philharmonic. It’s an absurd thing in the United States. This kind of union-dictated recording rate doesn’t work anymore. We have a similar situation in Germany.

Tellig: Is the classical music business really in decline?

Heymann: Classical music as a percentage of the total record business is going down. In the US it dropped below 3% for the first time. [To a 2.9% share of the total market, as reported by Allan Kozinn in the New York Times on December 8, 1996—ST] In the UK and Germany it dropped below 8%. The other problem is that people have everything. They are not willing to spend full price for another Beethoven cycle by a not really great talent. [According to the same Times article, sales of a new recording of Mozart symphonies with the Berlin Philharmonic conducted by Claudio Abbado “stalled” at a mere 200 copies.]

The classical record companies still doing well are those with interesting repertoire. Hyperion, Marco Polo, Chandos, to a certain extent. We are doing well because we offer people records they want to buy and can afford to buy. You see, the artists, especially the conductors and soloists, make their money from concerts. The big names are not knocking on the door. They say, “I don’t give a damn how much you pay. I get $20,000 a night in the opera house. I don’t care whether you pay me DM 5000 or DM 7000 for spending two dunned weeks in Budapest recording an opera. I make the money singing in opera houses.” It’s all subsidized, it’s government money. For them, making records is promotion, to promote their careers.

Tellig: So they don’t want to record.

Heymann: No, they’re grateful to record. Even big names, singers who sing for the major labels, come and say, “I don’t care how much you pay.”

Tellig: Have the major record labels tried to buy you out?

Heymann: Yes, I have offers regularly. But when I talk to them, they are not interested in the idea of building a catalog, in market share, in education projects, all the things we do. They are only interested in how much money they can make, because they have to have a return on investment, make a profit for the shareholders every year. For them, everything is short-term. There is no more long-term thinking like there used to be.

Why would I sell to somebody who says, “You make too many recordings. If you want to make a profit, you have to cut to 50 or 60 issues a year. Why do you have to record a complete Liszt? Why do you record Lutoslawski? It’s not profitable, because with copyright you don’t make money on Lutoslawski.” [The December ’96 issue of Gramophone included an open letter from Hyperion’s Tim Perry, representing many other major labels, pointing out how the music publishers’ refusal to cooperate on copyright issues could force record companies only to record safe, “classical” repertoire. —Ed.] Nobody says, “Klaus, what you do is really wonderful. We believe in what you do. We build the world’s biggest catalog, and maybe five years down the road you will start to make real money.” Nobody talks like that. Maybe then I would listen.

That’s why you have all these funny projects these days. Turbo-Charged Classics, Out Classics. The Three Tenors. The Monks. It’s hype.

Tellig: What do you think of Out Classics?

Heymann: It’s ridiculous. Some of the composers definitely were not gay. Whether they were or not doesn’t matter. What bothers me about these compilations is not that they make them—they could bring more people into classical music. But they are not making any effort. If you look at the booklets, there’s no attempt at building a bridge to the consumer, to educate them, to make them regular buyers of classical music. There’s no information about the composer and the piece so that the person can go buy the complete recording. It’s stupid. They make money from it, although it’s increasingly difficult because it’s the same pieces all the time.

Tellig: Have you ever thought about getting into classical music management?

Heymann: I have been toying with the idea of setting up a management parallel to Naxos, to manage artists who record for the label. But it’s a lot of work, and at the moment we don’t have the resources. We try to help people tour, but we haven’t set up management yet. Concert life is still monopolized by the major record companies.

Tellig: What can be done?

Heymann: As the major companies lose their grip on the orchestras because they can’t pay their fees any more, the orchestras will become more flexible, start hiring artists who record for other labels, not the house label. Why would the Boston Symphony Orchestra hire a Philips soloist if Philips doesn’t record them anymore? That will go out the door. [Decca/London has cut its project list with the Cleveland Orchestra in half since 1991. While Cleveland was still officially under contract to Decca/London at the time this column was written, unofficial word—i.e. rumor—is that future recording projects have been suspended. —ST]

Tellig: Do you have a good stereo—or even time to listen?

Heymann: I have a foot in the audio
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business because I am the Bose distributor in Hong Kong and China. So I have the best Bose speakers, the 901s, a listening room in Auckland, a lifestyle music system in Hong Kong, New Zealand is my second home.

Tellig: Why New Zealand?
Heymann: New Zealand is the most beautiful country in the world. It’s paradise on earth. It’s a country the size of England or Japan with only three and a half million people. No pollution, no space. People are friendly, highly trained, qualified labor force. Excellent, unpolluted food. Wonderful wines—New Zealand chardonnays are the best in the world. Superb sauvignon blancs… I cannot think of a better place in the world to live. [Grez, Klaus, neither can I! When do I visit?]

Tellig: Will Naxos be on DVD once the format has been set?
Heymann: We are now recording all major orchestral works in five-channel discrete surround, 20 bits.

Tellig: Is the future surround?
Heymann: There is a very big equipment base because of Dolby Surround, so it’s not like four-channel 25 years ago.

Tellig: So you can record the whole repertoire all over again?
Heymann: Nah, nah…that’s not the idea.

Tellig: Will DVD rescue classical recording — another technology fix?
Heymann: No, but I think we will produce some really spectacular-sounding things with huge forces. But I don’t think anything will bring back the golden days of yet another Beethoven cycle at full price selling 50,000 or 100,000. Sorry about that.

I’m just wild about Parry
While we’re waiting for DVD, I have another group of Naxos discs to recommend. There’s no need to pick and choose—you can buy all 11 for 60 bucks. Let’s start with British music.

Sir Hubert Parry (1848–1918), very famous in his day, was director of the Royal College of Music and then assumed the chair of music at Oxford. Naxos 8.553469 brings together three of his finest works: Symphony 2 (“Cambridge”), Overture to an Unwritten Tragedy, and Symphonic Variations in E. Andrew Penny leads the Royal Scottish National Orchestra. The “Cambridge” suggests the life and aspirations of a university undergraduate—ending, of course, with graduations. Listen as the RSNO brass (trained on bagpipes, no doubt) blaze forth in a rush of glory. The Symphonic Variations, too, is a marvelous work — inspired by Brahms and Dvořák. A must-have disc that would be a bargain at $16, let alone $6.

Arthur Bliss (1891–1975) is perhaps best known for his film music. He composed his first major orchestral work, A Colour Symphony, between 1921 and 1922. The four movements reflect Bliss’s perception of four colors—purple, red, blue, and green. (The result is more dynamic than this scheme might suggest.) Naxos 8.553460 couples the work with Adam Zeno, a score created for the Sadlers Wells Ballet. The English Northern Philharmonia is conducted by David Lloyd-Jones, and the recording is a stunner.

Sir Malcolm Arnold (b.1921) is better-known to classical audiophiles. Most but not all of the works on Naxos 8.553526 can be found on Lyrita SRCD.201, a long-time audiophile favorite, originally on LP; with him conducting the London Philharmonic in his English, Scottish, Cornish, Irish, and Welsh Dances. Andrew Penny here leads the Queensland Symphony Orchestra. Superb music-making, state-of-the-art sound. Even those who have the Lyrita disc will want this one for the Four Welsh Dances, Op.138.

Frank Bridge (1879–1941) is known by way of Benjamin Britten’s Variations on a Theme of Frank Bridge. The thematic comes from the second of Bridge’s Three Idylls, included on Naxos 8.553718 — Works for String Quartet, performed by the Maggini Quartet, which broadcasts regularly for the BBC. The disc is a delight, especially the “Irish Melody,” more familiarly known as “Londonderry Air.” Listen as the melody is anticipated throughout the piece, to fully emerge only toward the end. If you love chamber music, this disc absolutely belongs in your collection.

Antonín Dvořák needs no introduction, but recordings of his complete string quartets are relatively scarce. I have listened to two discs so far from a complete cycle by the Vlach Quartet of Prague. The first is Naxos 8.553371 with String Quartets 12 (“American”) and 13. I find even more appealing the second disc, Naxos 8.553372, possibly because the music is less familiar — String Quartets 8 and 11. Regardless of price, this may be the Dvořák quartet cycle to have.

The first volume of Leos Janáček’s complete piano music includes Books 1 and 2 of the autobiographical cycle Along an Overgrown Path, performed by Thomas Hlavatý (Naxos 8.553586). The work is one of nostalgia, of impressions, dreams, and memories reflecting the composer’s inner life. I love Janáček, so please don’t take this as a put-down. This is one disc I simply like to relax with. Just close your eyes and let the music roll over you.

Two Antonio Vivaldi discs make my list. Naxos 8.553204 brings together seven wind concertos performed by the City of London Sinfonia, directed from the harpsichord by Nicholas Kraemer. Naxos 8.550767 includes two choral works: the Gloria in D, RV 589, and Beatus Vir in C, RV 597. On the first, the Schlarantum of Oxford is conducted by Jeremy Summerrly; on the second, the Northern Chamber Orchestra is conducted by Nicholas Ward. The recordings are splendid — spacious and detailed — and the choral work is marvelous even if the soloists aren’t always quite top-drawer.

Naxos 8.553322 brings together two madrigals by Claudio Monteverdi, performed by the Cappella Musicale di S. Petronio di Bologna, directed by Sergio Vartolo. The first is Ballo delle ingrate, the second Combattimento di Tancredi e Clorinda. The texts appear first in Italian, then in English, rather than on facing pages, which makes following the words difficult if you’re trying to juggle Italian and English. Still, the music is not to be missed. This time the soloists are first-rate.

Finally, Naxos 8.553575 — The King of the Jews, by Alexander Glazunov, performed by the Moscow Capella and Moscow Symphony Orchestra, conducted by Igor Golovchin. This is an orchestral spectacle recording with stunning sonics. Glazunov wrote this incidental music for a religious drama written by the Grand Duke Konstantin, to be performed at the Hermitage. The music is very, very Russian and quite beautiful. Naxos has more Glazunov to come, including all the symphonies.

If you can’t find these discs in stores, you can order direct from (800) 75-NAXOS. They told me they’ll have a “Sam Special” — a package of all 11 discs recommended here. It should be as easy as ordering a sandwich from the deli.

Why aren’t the major record companies recording stuff like this for sale at budget price? Too busy popping out of the classics — I mean, closet — with Out Classics, or The Three Tenors, or Chant IV (by the time you read this), I suppose. Did I mention that all Naxos releases come with informative, well-written notes at least as good as any you get these days with full-priced releases? Klaus Heymann, after all, is something of a musicologist. The prices may be low, but Naxos is a class act.
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I'm not thin-skinned, I don't think. I dish it out and I can take it. So when a reader criticized me for souping-up my old Saab, I could handle it. When another canceled his Stereophile subscription, calling my very appearance in these pages "the last straw" without bothering to say why — as if it's obvious — I could take that, too. Even when a reader characterized my reviewing style as "undisciplined" and "jarring and out of step with the rest of the equipment section" (see December's "Letters," Vol.19 No.12, p.15), I could brush that aside because I know it's not true. I think my reviews are informative and meticulously done. I just try making them entertaining, too. I can take all that stuff in stride.

But when a fan comments on my height ("Letters," December '96, also p.15), calling me "Little Big Ear" — well, that hurts. Especially when he goes on to use my stature as the basis of an amateur psychoanalysis of why I am the way I am. Yes, at 5'6" I am "height challenged." But in the picture published in the September '96 Stereophile (p.57) I am standing next to a contest winner with a pituitary run amuck. He's big! So is Dennis Rodman! So what's his problem? Why does he "act out?"

So that I can overcome my hurt and move on with my life and this column, please indulge me one true story before I get to this month's analog agenda:

I was in Chicago a few years ago doing a public relations media tour on behalf of TDK, the tape company, proving to consumers that they couldn't hear the difference between a pop music CD and a cassette recorded in real time on a three-headed Nakamichi. (Most consumers, by the way, couldn't tell — much to their surprise.)

The "hook" that got me booked most of the time was the subject of old records and their monetary value. It was my pleasure to go on radio and television — including The Today Show — and tell people that records sound better than CDs, and that some of their old vinyl was valuable. This pissed off the local collectors and garage-sale addicts, but it made viewers and listeners very happy — especially the nonaudiophiles who called in after the show to say "Thank you! I was afraid I was the only one in the world who didn't like the sound of CDs. I bought a player and some discs and I hated what I heard."

Anyway, one afternoon I was supposed to be interviewed by a newspaper reporter at a fancy restaurant. She was late, so I sat down at the table, looked over the menu, and waited. Three women at the next table were having dessert and coffee and talking very loudly about personal oncology — specifically, the differences between ovarian cysts and tumors. No kidding.

"And then the doctor reached in," one was saying, "and felt it and said the cyst was roughly textured and tumors were smooth, so thank goodness mine were roughly textured...." I'm hearing this and reading about poisoned salmon and Caesar salad. I stood up and went over to wait at the bar.

When the reporter arrived, we reclamed our table, in hopes that the trio had moved on to a more appetizing subject. But no!!! They were into the biopsy phase of the story. After about a minute of this, and with my new female companion about to hurl all over the menu, I very discreetly and nicely turned around and said to the trio, who by now had finished their coffee, "Excuse me, but we're about to order our lunch, and you're finished — your conversation is not exactly appetizing, so could you please talk about something else until you leave?"

Which they did. We ordered our lunch. A few minutes later the trio got up and walked away. As they got to the bar — about 50' away — one turned and bellowed across the crowded room, "You know what your problem is, mister? You suffer from short man's syndrome!!"

Tweezers & a magnifying glass
As long as we're on the subject of small...

A few months back when I discussed two essential analog setup tools — a pair of tweezers and a magnifying glass — I alluded to the old onanistic locker-room joke about those two tools, which anyone who reached puberty late in high school — or worse, in college (guess which short man) — has heard in most excruciatingly personal terms.

I got a surprise package in the mail the other day from Steve Lauerman, the Rega Planar importer. Inside was a really neat analog tool: a combination magnifying glass/tweezer set. It can come in really handy when you're installing a cartridge or performing other intricate setup work. It's labeled "Splinter Expert" (it's really handy for removing splinters too), and sells for $3.50 at your local hardware store. Definitely worth picking up.

No more wish lists!
A few columns ago I asked you to send in your choices for reissue vinyl. I received hundreds of titles from dozens of readers, some of which we've already printed. What I've learned from your lists is that arriving at a consensus is almost impossible, though certain artists appear again and again — like Creedence Clearwater Revival, The Allman Brothers Band, and Dire Straits. One guy, who wrote that "most rock'n'roll (99.9%) is dreck," hit the jackpot by listing all three — plus The Cars and Pink Floyd's Wish You Were Here.

What it comes down to is, we have to take what we can get — or, if our tastes run wild, leave it. Meanwhile, if you like Creedence, DCC's Willie and the Poor Boys is a winner on vinyl and gold CD, as is Pendulum (so far available only on gold CD). But, as I suspected, hardly anyone wants synthesized music, and there wasn't much call for so-called "progressive rock." So thanks for your lists... but don't send any more!
Speaking of reissues

Patricia Barber’s intimate, jazzy Cafe Blue (Premonition PREM-737), which was a Stereophile R2D4 CD1 a while back, is now available on a superb 180-gram vinyl reissue (licensed by Music Direct) mastered by Greg Calbi at Masterdisk, plated at James G. Lee, and pressed at RTI, under the supervision of executive producer Michael Friedman and recording engineer Jim Anderson. Yes, it was a digital production—but with Jim Anderson at the board, it would sound great if it was done on a wire recorder. Believe me, you can check your “digitus” at the door with this one.

I A/B’d LP and CD using a remote-control preamp, and the major difference is that the LP has greater warmth in the midbass and less “crispiness” on top. With the DTI•Pro 32 out of the line between the Audio Alchemy DDS-Pro and the EAD-9000 Mk.3, the high-frequency transients on shakers and other percussion instruments took on an unfocused, “spitty” quality compared to the LP. But with the DTI•Pro 32 “enhancing” to 20 bits of resolution, the gap closed, though the CD still sounded brighter and more “etched.” A great LP, musically and sonically, and available through Music Direct and Acoustic Sounds, among others.

My experience comparing Classic Records LPs and gold CDs tells me that, timbrally at least, and with the right equipment, the two formats can sound almost identical. I conclude, then, that the balance of the Barber LP was purposely tipped down to favor our analog sensibilities. Good. I find the LP balance more pleasing, though in either format the Barber is a formidable-sounding recording, and highly recommended.

And speaking of Classic, the test pressing of Duke Ellington’s Jazz Party in Stereo (Columbia/Classic 8127) is spectacular! Better than the original, and much better than the Columbia Special Products reissue. The Duke does Dick Schory is a “must have”!

More news on the reissue front: Ying Tan, formerly Mike Hobson’s partner at Classic Records, recently announced ALTO/Analogue, a joint partnership between the German Alto High Fidelity label and Tan’s UK-based Quality Music and Entertainment. The goal will be to release “the very best rock, pop, jazz, and classical titles possible,” using original analog sources, the best mastering facilities in Europe and the US, and 180gm “Super-vinyl” (their terminology).

The new company’s first release will be a limited-edition Ataúlfo Argenta boxed set (due April 1997) consisting of the late conductor’s seven best-sounding, most collectible out-of-print mid-to-late-’50s stereo Decca/London recordings with the National Orchestra of Spain. The seven-LP box will be strictly limited to an edition of 2000 numbered sets, and will include a color booklet with a specially commissioned essay on Argenta in English and German. The records will be mastered—

Bright Star’s Air Mass 1 equipment stands support up to 99 lbs and cost only $100 each.

What’s in them, an inner tube? Yes.

“for the first time,” says the press release—from the original Alhambra tapes stored in Spain, and will feature the rare, original issue, Spanish-label covers. The records are:


Bretón: Andaluzian Scenes. Argenta, Orquesta Sinfonica (CS 6148).

De Falla: El Retablo de Maese Pedro; Concerto for Harpsichord, Flute, Oboe, Clarinet, Violin, & Cello. Soloists, Argenta, NOS (CS 6028).

De Falla: The Three-Cornered Hat. Argenta, NOS (CS 6046).


Preludes and Intermezzi. Argenta, Orchestra Camara Madrid (CS 6152).

If you have to ask how much this will cost, you can’t afford it.

Up the sandbox

One of the things I really like about Bright Star’s Barry Kahn is that when he sells you a sandbox, he tells you it’s a sandbox. Then he prices it so reasonably that, even if you could build your own and build it as well, it’s not worth your time to do it. I use a big Bright Star sandbox under the VPI TNT turntable and two smaller Big Rocks on the TNT’s bare-metal-strut equipment shelves. Big improvement in focus and image solidity with tubed preamps.

Kohan recently went into the trendy air-support business. He sent me a pair of Air Mass 1 stands to try out. They support up to 99 lbs and cost $100 each. Only $100? What’s in them, an inner tube?

Yes! Kahn takes one of his sand containers, inverts it, and glues what looks like the inner tube of a golf-cart tire to the bottom. He pops the valve, adds an extender that protrudes through the side of the box, and reinserts the valve there for easy access when the tire loses pressure. You rest the inner tube on a flat surface, place the Big Rock on it, and the component on the Big Rock. Then you pump in air using the supplied hand pump, until the unit floats.

If you’ve ever sat on an inner tube, you know it’s not exactly a stable ride if your weight’s not centered. The same is true here: If your component’s balance is off-center—say, because of a transformer’s location—the unit will list. With most components, a slight shift from center is all that’s required to level the system. Kahn suggests topping it off with one of his Little Rock isolation pods.

With the TNT stand, adding the Air Mass means you also have to add an adapter platform, which rests on two metal rails. I tried the Air Mass under some phonos sections—if you didn’t know what was really lurking under the platform, you might think it was an active system, so closely does the inner tube mimic the approximately 15Hz low-frequency horizontal and vertical resonance points of such devices.

Does the combination work? Yes. The Air Mass damps out floor- and airborne vibrations, while the Big Rock deals with internally generated ones and the Little Rock mass-damps the component’s chassis. Could I hear a difference? I had to. It’s my job.

 Seriously, this is an ingenious, inexpensive, and effective product. You could probably achieve similar results using a hemorrhoid ring, but they’re a pain in the butt. And they don’t look so good. Rinds, that is.

Remember that amplifier you told me to buy . . . in 1984? If you’re like me—help! heaven help you if you are—all of your friends come to you for hi-fi advice. Some actually take it. Others waste hours of your time, and later, when you ask what they bought, say, “Well, I told the salesman what you recommended, but he disagreed, so I went with what he suggested.”

Such people are permanently enrolled on my personal shit list, but so are the ones who call during dinner to whine, “Remember that amplifier you
For well over 60 years, the name Tandberg has been associated with flawless, faithful sound reproduction. Whether the components were professional grade reel-to-reel tape recorders, audiophile-quality cassette decks or high-end electronics, Tandberg invariably established new standards of excellence.

The new 4000 Series continues this unbroken tradition. The unique, stackable, top-loading transport of the CD Player, the Zero Negative Feedback and Discrete Class A circuitry of the Control and Power Amplifiers, the Dual Gate MOSFET and Class A circuitry of the FM Tuner are packaged in a museum-grade, fully remote-controllable system as pleasing to use as it is to view.

Tandberg achieves the best of both worlds by integrating old world craftsmanship, world class industrial design and the latest audio technologies. In the process, Tandberg has once again created audio components that transcend traditional hi-fi to become one of your most prized possessions.

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The sound of the Sonographe components is, well, heavenly. But the price is very down to earth at just $995 each for the SC26 remote-controlled line-stage pre-amplifier and the SA250 power amplifier. Using premium quality parts, both units are built to Conrad-Johnson's rigorous high standards. The Sonographe series might be our least expensive electronics, but like all Conrad-Johnson components, they sound like music. They just sound right.

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told me to buy in 1984? Well, one channel doesn't work, and I've got some people coming over later, so could you take a look at it... now?" With these folks, you are a living, breathing, lifetime warranty card.

I accept such behavior from close family like my sister, for whom I built a (still working) Hafler DH-200 in 1980. I mated it with an NAD 1020 preamp and a pair of mirror-imaged Dahlquist DQ-10s (picked up used for $500). I added a used Technics direct-drive turntable (sorry) and Grace F9E cartridge, and the combo sounded pretty darn good.

A few years ago my sister's living space shrunk and the DQ-10s had to go. I sold them for $500 (who said high-end gear's value tanks after you buy it?) and got her new DQ-20s. During the 1980s I bought hundreds of great LPs—Japanese and British pressings, drilled MoFis, some of Sony/CBS's outstanding Bruno Walter reissues, assorted Living Stereos, and the like.

She enjoyed her records until the dreaded five-CD changer arrived, and she went digital with a vengeance. When I pointed out that she used to actually sit down and listen to music, but that since going CD she'd kept the music playing while performing other tasks, she wrote it off to "lifestyle changes," to not having sufficient time (she's a shrink). She even asked me if I could help her sell her collection of close to 1000 LPs. Instead, I brought over the Rega Planar 3 I wrote about in December.

Guess what? She's back with her LPs. Can't believe what she'd been missing. Can't believe that now she's finding the time to sit down and really listen. Can't believe how much better the records sound. How much more involving they are.

That's what she thought—until the cleaning woman decided to dust the turntable....

Back to our story

In the January "Analog Corner" I recounted how, in the late '80s, Analogue Productions' Chad Kassem became a very successful mail-order dealer of drilled Mobile Fidelity LPs. The next question I asked him during last summer's visit to RTI's pressing facility (where Kassem and Don MacMinn have teamed to start Acous-Tech Mastering) was, How did he go from dealing MoFis to used RCA Living Stereo and Mercury Living Presence LPs? After all, classical music was not exactly his bag.

In his disarming style, Kassem explained that, aside from what he read in The Absolute Sound and Stereophile, he "...owes everything to my customers. Not only have they bought [explicative deleted] from me, they taught me how to make catalogs, what else they wanted to buy, taught me about classical music, about performances. I learned all this from the customers." Others pay millions for market research. Kassem answers the phone and listens.

So Kassem began hunting down RCAs by advertising in Goldmine and by doing what we all do: going to used record stores, Goodwills, and garage sales. Of course, luck also played a part. One of the first titles the record hunter found at a used record store was RCA LSC-1817, the rare and much coveted Gâte Parisienne. He paid $17. If you want to hear what the fuss is all about, you can pick up the Classic reissue for $30. Or you can pay $500 and up for an original copy, if you can find one.

At this point, Kassem was also buying cutouts of all sorts of music. Mind you, he was still working as a short-order cook for five bucks an hour. "I'd sell the heavy metal to the dishwashers, the country to the waitresses, the soul to the busboys... you know what I mean?"

Kassem went from that job to working for Manpower Inc., where he landed a part-time job at a Philips light-bulb factory. Making a living in the record business was the last thing on his mind. But pretty soon Kassem found himself making as much money selling records as he was working his day job.

Every day Kassem visited UPS with boxes of records. Eventually the light bulb went on: Working at Philips was keeping him from making money! It was okay to not work a 9–5 job. Soon Kassem was selling MoFi gold CDs and buying new stock from "one-stop" distributors.

"The natural progression was, 'Hey, start doin' your own records,' you know? Do what people wanted to hear. And at that point nobody was doing it. There were, like, five years of no new vinyl coming out. Now it's being flood-ed. The whole time I was trying to convince everyone [Chesky, MoFi, etc.] to do some records. Beggin' em. Do [Muddy Waters'] Folk Singer, do blah blah blah. I was just being the voice of all of my customers."

Others pay millions for market research. Chad Kassem listens to his customers.

Kassem's first reissue was the much-sought EMI recording of Massenet's Le Cid (licensed to Klavier, KS 522), with Louis Fremaux conducting the City of Birmingham Orchestra. Mastered by Doug Sax, played by the late Sid Tobin at Gee Lee, and pressed at RTI, it set the precedent for almost a decade's worth of reissues from Analogue Productions and many other labels. Thousands sold quickly, and the title continues to sell. Kassem estimates that, between the original reissue and the later 180gm issue, he's sold over 10,000 copies of Le Cid. Kassem was off and running in the vinyl reissue business, aided and abetted by the good taste of his customers.

He followed Le Cid with some rather obscure but much-sought-after Vanguard titles, including Virgil Thomson's The Plow that Broke the Plains, conducted by Leopold Stokowski (AP 001), and Canteloube's Songs of the Auvergne (APC 002). Both titles have sold well, despite some controversy in The Absolute Sound about whether the reissues measure up sonically. Kassem told me he'd only seen two original Songs of the Auvergne in his life; what was the point of arguing over which sounded better?

Today, Kassem's Acoustic Sounds mail-order business and Analogue Productions record label have grown into a multi-million-dollar business. Kassem's reissue catalog is rich with outstanding classical and jazz titles from Contemporary (Sonny Rollins' Way Out West), Riverside (Bill Evans' Waltz for Debbie), and other labels, as well as blues and folk classics.

In 1994 Analogue Productions issued its first original title, Jimmy Rogers' award-winning Blue Bird (APO 2001), produced by John Koenig, son of Contemporary founder Lester Koenig. That was followed by another outstanding Koenig production, Nancy Bryan's Lay Me Down (APO 2002A). Next year the label will issue a hard-rocking record by Jimmy's son, Jimmy D. ("Little Jimmy") Lane.

Which brings us to the present end-of-the-century vinyl glut. Kassem and RTI's Don MacMinn are partnered in Acous-Tech Mastering, with Stan Ricker at the cutting-lathe controls; the Analogue Revival Series, an eclectic collection of $17 blues and jazz titles, is rolling; and Analogue Productions' first multi-record set—the five-LP Miles Davis Prestige Quintet box, with annotations by jazz critic Bob Blumenthal—is about to be released. As Kassem puts it, "Things are kickin.'"

Next month: Stan Ricker reminisces.
Life is stressful. You could spend a few thousand dollars rushing to a weekend getaway at a rejuvenating retreat. You could mortgage your home for one of those "quiet as a recording studio" motor cars you've seen on television. Or you can keep the family fortune and relax in the sanctity of your own home with a pair of Sennheiser headphones.

Discover the ultimate in surround sound... at a budget you can easily afford.
When I mentioned to Dynaudio's Al Filippelli that I was going to the IASCA (International Autosound Challenge Association, Inc.) Finals in Greenville, SC, he made me an offer I couldn't refuse. "Why don't you fly up to Chicago and drive to the Finals in our Jimmy? We've totally changed it from last year, and it's even better. That way we can talk and you can get a chance to spend some time with a really good system—at least, I think it is."

Now, most people might not find an 11-hour drive that tempting an offer, but I'd heard Dynaudio's—that is to say, Al's—Jimmy in Dallas last year, and I'd been very impressed by it. I've got to admit that listening to car stereo while standing still feels a little strange to me—especially when the owner politely puts you in the driver's seat. A long trip is when autosound comes into its own, in my opinion.

Which is how I found myself leaving Chicago on a late, gray, November afternoon, heading into a snowstorm that was turning the Midwest countryside the same icy color as the sky. As we boomed along toward the sunny—we hoped—South, we cranked up disc 2 of the Beatles' Anthology 3 (Apple CDP 834451 2), brand new at the time, and still in heavy rotation on my personal playlist.

Al—and Steve Baggio of SoundWorks, his partner in the installation—had totally changed the Jimmy's system. This year's model used a McIntosh front-end (MX-4000 transport, MD-4000 DAC, and MCI 410 six-disc changer) feeding into a heavily customized Linear Power XO3 active crossover, which in turn drove three Linear Power 2502 IQ amplifiers. Speakers were, of course, Dynaudio. The main array consisted of a pair of MD-100 28mm soft-dome tweeters (1") and a pair of MD-140 75mm soft-dome midranges (3") mounted in kick-panels down in the foot-wells, a pair of MW-170 20cm (8") midbass drivers mounted in the doors, and a pair of MW-190 300mm (12") woofers mounted in their own enclosures in the back. Switchable auxiliary drivers were also employed: an additional pair of MD-100s, padded down 18dB, were mounted in the far corners of the dash; and a pair of MW-170s, brought down 12dB, were fitted in the rear.

The fit'n'finish of the system was exceptional, reminding me that IASCA is part car show, part sound competition—the Linear Power amps were mounted in a fanned array in the rear of the truck.

Dynaudio's Jimmy was astoundingly well-isolated. We heard a little rush of air around the upper door seals—less obtrusive than the compressor on my refrigerator in the next room on my home system.

under a tinted sheet of plate glass, and illuminated with neon tubes. When you consider the passive crossover networks, customized switching systems, sound-damping materials, and hand-molded interior panels that went into the project, the system must have required more than 600 hours of work.

It showed—cr, sounded. Both, actually. As we drove through the snowstorm and dusk, I was entranced by the sound. The soundstage, big and expansive, grew even more so when Al activated the auxiliary speaker systems. It was a dramatic effect, but not overdone.

I couldn't get over how "heads up" the image was—I know that you mount the drivers in kick panels in order to get acoustical paths of equal lengths, but it's still counter-intuitive that speakers all the way down there can put the sound up so high and away from themselves. And transparent? My oh my, you could tell what the singer had eaten for lunch. And transparent? It couldn't have been clearer.

If the car had been noisy, we would have missed many of the subtleties—such as the fact that the reverb on the harmonics in "Because" was so obviously electronic—but the car was astoundingly well-isolated. We heard a little rush of air around the upper door seals—less obtrusive than the compressor on my refrigerator in the next room on my home system, if you want to know the truth.

Wes offered to trade straight up for the Great White Rhino, to no avail.
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So whether you’re in the mood for Schubert or a shoot-out, music or mayhem, it’s time to stop compromising.

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At Last. Home Theater For Audiophiles.
Nor have I often met people hungrier for good music. Whenever we played something that moved the audience, pencils and pads were whipped out immediately. We had several people weep at the beauty of the “Pie Jesu” from John Rutter’s Requiem (Reference Recordings RR-57CD). And the judges kept coming back all weekend long to recharge their batteries and retime their ears. It was gratifying to watch.

Many shall run to and fro, and knowledge shall be increased

The IASCA Finals are huge. There were two vast garage areas—one for Tweak & Tune, the other for the judging lanes—and an even larger open-floor exhibition hall where companies set up demo cars and product displays. The Tweak & Tune area was sedate—people were polishing their wax jobs, or checking circuit continuity, or fine-tuning EQ. Occasionally, someone preparing for unlimited-spl drag-racing would let out a thunderous belch, but for the most part it was quiet and intense.

“Intense” wouldn’t even begin to describe the judging lanes. People had their game-faces on, and woe betide the man or woman who tried to cut a jig amid the serious business going on. Doug Winker, one of the installation judges, graciously showed me around on Sunday afternoon after the judging was completed, and introduced me to many contestants who allowed me to listen to their systems. I didn’t hear a single one that wasn’t first-rate, well-balanced, and musical. Forget your prejudices about boomy bass and distorted sound: The IASCA finalists know what music sounds like and, by gum, their systems were, without exception, extremely musical.

After a year of hearing people talk about it, I finally heard Earl Zausmer’s BMW. Earl has welded B&W 801 woofers into the frame of his car; 801 midrange drivers and Silver Signature tweeters rise out of his dashboard, driven by tiny motors; and the system is powered by Milbert tube amps. Now I understand why Earl’s system has received so much press coverage—the installation job is extremely sophisticated and the system sounds spectacular. Although it has a bit more of a “first-row orchestra” perspective than is to my personal taste, the sort of detail and impact Earl has achieved is awfully seductive.

For the second year in a row, I got to experience Mike Minco’s IROC. I can’t be as specific about Mike’s setup—the windows are tinted, and it’s dark in there. Plus, the man is obsessive about detail—all speaker grilles are milled out of heavy aluminum stock so they won’t rattle. It’s a real stealth system. The soundstage is vast—I think it stretches at least out to the horizon—and music was sooo effortlessly dynamic.

I could have stayed in the judging lanes forever. The cars were truly works of art and labors of love.

If an ass goes traveling, he’ll not come home a horse

Then there was the exhibition floor, which was another world entirely. To begin with, it was loud. No, “loud” is the wrong word. Sometimes Insane loud; sometimes I even play my stereo loud. The noise level in the exhibition hall was offensively loud—to the point of being physically painful. Sunday afternoon I wandered by the Audio Control booth and watched an spl meter register the background noise level as 115dB, before pegging 123dB when a big van stuffed with speakers let loose a tyrannosaurus fart that shook the entire building. This was not an isolated incident—you could hear those noises every 20 seconds or so. I couldn’t stay on the floor for more than 15 minutes without becoming physically fatigued and irritable. People working the exhibits were in serious danger of losing hearing acuity.

Al Filippelli told me that he couldn’t demonstrate at all—even inside his cars, he couldn’t escape the din. “If you weren’t selling bass or volume, no one could hear what was going on,” he said.
Introducing the Evolutionary New THIEL CS6

The exceptional sonic performance of the new CS6 is the result of an evolution in speaker design unlike any other in the audio industry. It is the culmination of years of painstaking development of a lineage of the world’s most outstanding loudspeakers through innovative driver design, superior cabinet construction, and accomplished crossover execution. Experience the CS6 and fall in love with music all over again.

The suggested retail price of the new CS6 is $7,900 per pair.

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"I took people into my car just so they could hear me talk — I couldn’t do anything, that’s for sure."

I find the dichotomy between the prevailing ethos of the judging lanes and that of the zoo upstairs astonishing. To go by one set of standards, IASCA is serious about musical reproduction. However, in the main exhibition space, where many people get their first — and possibly only — impression of serious car audio, the industry and the organization pandered to exactly the negative stereotypes that they spend the rest of the year trying to convince me (and you) are not the norm.

"The problem is," one veteran of the scene confided in me, "that we are dealing with people who are not audiophiles — they are impressed by big and loud. That encourages them to get into competition. If all there was high-end car audio, nobody would ever get into it to begin with. At first they want loud, then they realize it sounds like poop, and then they start to look for ways to get better sound. But Unlimited dB Drag Racing is the thing that brings ‘em in."

"We’re talking about 17- to 23-year-olds here. IASCA doesn’t really give those people much else of a place to play. They get weaned immediately into high-quality sound. But to start with, they’re 17 years old and their hormones are raging, their testosterone levels are reaching maximum level, and the only thing that will play to them is LOUD — loud and BIG. That’s not what goes on in the judging floor — get onto the judging floor and you’re on a different planet."

I hate to admit it, but the loudest exhibits did scum to draw the largest crowds. Certainly, the Unlimited dB Drag Racing was the most attended event. Maybe the industry does thrive on boom and blat. Many of the biggest companies do — Lanzar, Kicker, Rockford Fosgate, and JBL all appeared to emphasize quantity over quality. In fact, they were among the biggest spl offenders — JBL’s late-model truck even had speakers mounted on the outside.

This image is bound to take its toll. One woman, slumped against the wall and looking abused, explained that she had accompanied her boyfriend to the Finals because he was thinking about building a competition car. "But after this," she said, gesturing around the convention-center floor, "I really hope he doesn’t."
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Thus, the problem of transformer saturation by idle current does not arise in push-pull amplifiers. Some call this a liability, stating that the magnetizing force in a single-ended amp biases the transformer higher up the B-H curve, thereby improving its ability to transfer low-level signals to the loudspeaker. This, and crossover distortion, is the basis for the so-called “first watt” defense of the single-ended theorists. Reference to fig.39 shows that there is some truth to this claim.

Fig.39 B-H curves at minute levels of magnetizing force (Timbie).

Careful choice of core material, however, will minimize this problem. The nickel Permalloy material, for example, clearly excels at responding to low-level magnetic energy. In any case, it is possible to produce a DC component in a push-pull amp simply by unbalancing the output stage [82]; which, in turn, biases the transformer up the B-H curve. Of course, doing so will cause premature clipping, thus reducing the maximum power output. The imbalance needed to overcome the magnetic reluctance will be exceedingly small for nickel Permalloy, however, and the corresponding power loss will not be great.

The push-pull signal currents will behave rather differently from the idle currents. In fig.38, the iₖ currents indicate the phase-opposed even-order products; iₚ indicates the phase-aiding effect of the odd-order products [83]. The tandem, push-pull action of the two odd-order plate currents doubles the effective length of the load line (fig.40) and sets up a composite operating point within the magnetic circuit (shown as “composite Q” in fig.41).

B.J. Thompson of the RCA Research Laboratory first showed how to obtain the composite characteristics in 1933 (fig.42) [84]. Taking into account mutual inductance, Thompson explained the beauty of push-pull in one simple sentence: “In fact, at the optimum conditions, each tube oper-

Fig.40 Composite characteristics for a pair of idealized triodes (Gray).

Fig.41 The resultant or composite waveform of the push-pull half-cycles (after Ryder).

Fig.42 Composite load line drawn across Genalex KT88 beam tetrode characteristics. One set of curves has been inverted and placed beneath the other (curves by M.O. Valve Co.).

29 A few transformer manufacturers create hybrid cores using both steel and nickel laminations.
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*Sam Tellig, Stereophile – October 1996 Recommended Components
ates into an effective load resistance equal to its own internal resistance at every point throughout the cycle."

In 1948, H.L. Kraus corroborated Thompson’s results both analytically and experimentally [85]. Kraus concluded that, due to the constant impedance match that push-pull provides, a pair of tubes in push-pull can produce about 11% greater power output than a parallel pair of those same tubes in single-ended mode. Of course, this considers only the class-A condition. Class-AB is a separate case in which much greater power output is obtainable. [86]

In push-pull operation, the tandem plate currents hand-off at the center-tap (corresponding to Ebb in fig.40). This hand-off is the distinguishing characteristic of push-pull operation; and it is this singular fact that most disturbs the single-ended theorists. The hand-off, however, is part of what allows the distortion to be reduced. We shall first see how this occurs; then we’ll take a close look at the hand-off itself.

The magnetomotive force in the output transformer is proportional to the net plate current, $i_{b_1} - i_{b_2}$ times the number of turns on the coil, $N$. Thus, $m_{mf} = N (i_{b_1} - i_{b_2})$.

The sign of the $i_{b_2}$ current is considered to be negative due to the phase relationships. Substituting working figures into this equation for the magnetic circuit will confirm that: 1) the DC idle current of the composite tube is zero; and 2) the AC signal swings are symmetrical about the operating point. This implies straight-line characteristics, as depicted by the dotted diagonal in fig.43.

The area under the curves represents even-order distortion. Due to the equal but opposite areas, cancellation occurs. The net effect is a straight line intermediate to the two curves. It can be seen that any difference in these two areas due to imbalance will cause even-order distortion to appear in the load.

The push-pull problem

It is left only to account for the odd-order distortion.

Expanding the equation for the magnetic circuit to include harmonic terms gives

$$N_i \left(2B_1 \sin 1\nu t + 2B_3 \sin 3\nu t + 2B_5 \sin 5\nu t + \ldots \right).$$

Notice that the even harmonic terms are missing from this series. They have been canceled by the push-pull action. Fig.44 shows how the second-order harmonics line up in such phase as to cancel out. The same rule applies to all other even-order harmonics. The induced voltage, $E$, across the secondary, $s$, will be pure odd-order:

$$E_s = k \left(2B_1 \sin 1\nu t + 2B_3 \sin 3\nu t + 2B_5 \sin 5\nu t + \ldots \right).$$

Thus, odd-order residue appears in the load even for straight-line conductance characteristics. It follows that the residue that remains must result from the uneven spacing between the otherwise linear characteristics.

Push-pull distortion will be pure odd-order due to the symmetrical operation. Compare the symmetry of the composite operation in fig.41 to the asymmetrical operation of the single-ended amp in fig.34. If the characteristics were evenly spaced — as well as parallel and straight — harmonic distortion would not arise in either type of amplifier, and the transfer characteristic would be a straight line in each case.

One of the more important advantages of triodes over pentodes is the relatively uniform spacing between the characteristics. Fig.45 shows the family of 2A3 characteristics. The 2A3 is a directly heated cathode tube much favored by single-ended designers. It is easy to see why: The conductance curves are particularly even in their spacing.

Fig.46 shows the characteristics for a KT88 beam tube. The unevenness here is quite severe by comparison. When

30 Given identical operating characteristics and an optimized load impedance for each mode.
31 The definitive statement regarding push-pull operation came from M.A. Melchey in 1957 loc. cit. Melchey’s paper presented an elegant mathematical analysis “applicable to all classes of operation of the push-pull amplifier assuming nonlinear tube characteristics.” Melchey uses differential equations to show the instantaneous relationships of the push-pull voltages and currents.

32 Push-pull operation affects only individual pairs of characteristics. The spacing between the pairs is unaffected. As unlikely as this sounds, there is a similar relationship in push-pull amplifiers between power output and power dissipation [87]. When the load line crosses over unevenly spaced characteristics, the input waveform will be altered, and harmonics will arise. Since the uneven spacing will be symmetrical about the zero-axis, the distortions will be odd-order.

33 The 2A3 transfer curve is analyzed up to the fifth harmonic by Hutcheson in his article, “Graphical Harmonic Analysis” [88].
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the beam tube is wired for triode operation (fig.47), however, the characteristics even out (fig.48)\(^3\) They also shift vertically. This vertical shift indicates reduced internal impedance and thus lower output impedance and greater damping.

The ultralinear connection that superseded triode output stages during the 1950s is a special case that falls partway between the triode and the pentode (fig.49). It can be seen from the ultralinear curves that the tubes rebel against this technique to some extent. The peculiar bends in the curves were explained by Cocking in his 1955 editorial for Wireless Engineer\(^3\) It quickly shows whether distortion

\(3^\) Which is what prompted Williamson to remark, of the KT66: "Triode-connected it has characteristics almost identical with those of the PX25 [a natural triode]." [89]

\(3^\) Perhaps herein lies a clue as to what motivated the resurgence of interest in triode amplifiers in the mid-1980s.
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products will be low- or high-order. An S-shaped transfer curve (as in fig.50) indicates dominant third-order distortion; a parabolic curve (as in fig.51) indicates dominant second-order distortion [91]. These are the typical transfer characteristics for a pentode and a triode, respectively. Note, however, that the high-order products increase in both types of tube as the power output is increased (see fig.19, Vol.20 No.1, p.131). This occurs because the conductance characteristics are more curved (or more crowded) near the extremes of operation.

Although the triode produces a parabolic transfer curve in the single-ended amp, the parabola becomes an S-curve in the push-pull amp! That is because the composite plate characteristics create a composite transfer characteristic (i.e., one transfer characteristic sits, inverted, atop the other). In spite of the S shape, the composite transfer characteristic moves closer toward the ideal straight line (fig.51).

Fig.44 helps explain why. In the composite tube of the push-pull amp the C and E waveforms will be absent, leaving only D (third harmonic) to add energy. The net result is that the waveform becomes less peaked than in single-ended operation. This will occur on both half-cycles due to the symmetrical operation. Negative feedback straightens the transfer characteristic still further (fig.52).

The feedback also moves the plate characteristics more toward vertical (fig.53) [92], thus lowering output impedance. Since the operation is symmetrical, adding feedback does not shorten the lower end of the transfer curve as it does in the single-ended amp — therefore no power is lost in the push-pull amp when feedback is applied.

**Phase-splitters**

In push-pull amplifiers there is a synthesis of two alternating signals. In single-ended amplifiers, no such synthesis occurs — the complete cycle is produced by one tube. In push-pull there are two tubes that “take turns” to form a composite...
ANDREW WONG, THE STAR, OCT 1996

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WES PHILLIPS, STEREOPHILE
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signal. This pair of complementary tubes is known as the “composite tube” (not unlike the “composite man” created by a two-man saw).

A distinguishing feature of the push-pull amp is the phase-splitter. This stage is needed to convert a single-ended input signal into a pair of balanced signals that can alternately drive the two sides of a push-pull output stage.

One of the advantages often touted for single-ended amplifiers is their simplicity. Indeed, this feature is often alluded to as the source of the single-ended magic, or “deep structure,” as it is sometimes called. While it is true that the phase-splitter is not used in the single-ended amp, it is important to realize that the phase-splitter is not necessarily an added-on stage. That is because the phase-splitter can be made to substitute for a normal gain stage.

The ideal phase-splitter will accomplish three tasks in one operation: 1) it will clone the input signal; 2) it will phase-invert the clone; and 3) it will provide voltage gain. There are at least two topologies that approach the ideal phase-splitter: 1) the long-tailed phase-inverter [93]; and 2) the cross-coupled phase-inverter [94]. Of the two, the cross-coupled inverter gives the best gain symmetry. For this reason it is often seen in wideband instrumentation circuits. In audio amplifiers, however, the two circuits can be made comparable. The long-tailed phase-inverter (fig.54) entered the audio hall of fame when it was selected for use in the Marantz Model 9 monoblock.

The additional gain stage seen in many push-pull amplifiers is used solely to provide excess voltage gain (recall that Cocking’s original amplifier did not use an excess gain stage). The excess gain is then used to allow the use of negative feedback. Amplifiers that use little or no feedback can get away with fewer gain stages — whether single-ended or push-pull.

One of the myths about phase-splitters is that they divide the signal in half. The signal is not cut in half — it is cloned. The antiphase signals alternately drive the push-pull output stage first positive, then negative. The output tubes then “take turns” by handing the alternating plate current back and forth through the output transformer primary. The two currents overlap in the primary to some extent to form a single, composite waveform.

There is nothing unusual about composite waveforms; indeed, they are a thing of nature. Bear in mind that any complex signal is inherently a composite waveform. Consider, for example, that a composite signal may contain the harmonic currents of a full symphony orchestra. These currents emerge from the various instruments as independent acoustical entities — until they merge in midair and begin multiplexing. The multiplexed air currents then form a single composite signal at the input to the microphone.

The microphone output signal varies as the rate of change of the composite pressure in the recording venue. Indeed, the signal remains in composite form until it reaches the inner ear — where it is then “exploded” along the basilar membrane (somewhat in the manner of a zipped computer file).

The crux of the issue in push-pull operation is thus not whether the composite signal at the output is a valid waveform, but how smoothly that signal was put together in the output transformer — and this is purely a function of the degree of overlap of the two half-cycles. The transition will be smooth so long as there is sufficient overlap about the zero-crossing. The overlap may be described as: 1) complete (class-A); 2) partial (class-AB); or 3) none (class-B). The confusion of operating classes by designers is lamentable, especially as the classes have been well established for more than 50 years (fig.55) [95].

The “long-tail” (large value cathode resistor) is common to both tubes. The signal of the first tube thus appears as a clone at the cathode of the second tube. This results in two outputs. Both outputs produce a complete waveform. There is no “splitting” per se, but rather a cloning, and a phase inversion. The two antiphase signals then overlap within the output transformer, producing a composite waveform at the output.

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Fig.54 Classification of amplifiers in terms of the fraction of each input cycle during which plate current flows (Daley).

**Classes of amplifier operation**

In fig.56 it can be seen that the signal swings about the composite operating point, Q. In a class-B amp [96], each tube conducts for precisely 180° (ie, half of a complete cycle). The two half-cycles then hand-off precisely at the zero-crossing (Q = 180°). The abrupt current transfer results in crossover distortion [97, 98] at low power levels, and notch distortion [99, 100, 101] at high power levels. Class-C operation (conduction = <180°) is so distorted that its use is effectively limited to tuned transmitting amplifiers.

In a class-AB amp there will be overlap between the two waveforms (fig.57) because both tubes conduct throughout

36 The splits-load phase-inverter used in the Williamson amplifier fulfills 1) and 2) but not 3). It is otherwise excellent when direct-coupled to a gain stage.
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Regardless of the class of operation, an increased input swing will produce a corresponding increase in the output swing; that is, a longer segment of the load line will be traversed. In fig.55 it can be seen that the input swing is made progressively larger as the class of operation moves toward class-C. Since this increases the (Δv × Δt), greater power output results. This is the main benefit provided by class-AB operation relative to class-A. More excursion is available in class-AB because the plate current is allowed to cut off during the negative cycle. Enhanced class-AB will not be far below class-A in quality.

Due to the increased excursion of class-AB, there will be a penalty of increased distortion. Fig.42 shows why distortion continues to increase with excursion: The spacing

the hand-off phase (>180°, <360°). The overlap is necessary to overcome the curvature at the bottom of the conductance characteristics that would otherwise introduce crossover distortion (fig.58). The curvature near the bottom of the load line represents the turn-on characteristic of the tube [102, 103]. Once this curvature is overcome, the negative half-cycle is allowed to cut off [104]. The class-AB waveform, given sufficient overlap, does not produce a "staircase." A staircase arises in the push-pull amp only when crossover or notch distortion is present.

In a class-A amp the plate current conducts throughout the full cycle (π, 360°). True class-A gives total overlap and thus no hand-off per se; which is why, in the class-A amp, there is neither crossover distortion nor notch distortion. The class-A push-pull waveform is an uninterrupted entity; which, from the standpoint of linearity, is a close replica of the input waveform.

In addition to creating overlap, increasing the idle current straightens the transfer curve (because increasing the idle current moves the operating point up the load line and away from curvature). Idle current also improves the slew-rate. Interwinding capacitance in the output transformer is the primary cause of high-frequency distortion in tube amplifiers. Increasing the idle current allows the tubes to charge this capacitance with less effort. Thus, class-A operation reduces distortion not only for midrange signals, but, in particular, for high-slope signals. The downside of class-A operation is inefficiency. Power output must be reduced due to the need to control plate dissipation. Tube life will also be compromised.

Fig.56 Composite curves for a pair of 2AS triodes. One set of curves has been inverted and placed under the other. Q1 and Q2 are the operating points of the individual paths of operation; Q is the composite operating point. The output signal current begins at Q and moves outward toward each extreme simultaneously. The polarity then reverses and the signals then retract toward Q (Ryder).

Fig.57 The overlap of the two half-cycles is shown by the crosshatched areas (after Ryder).

Fig.58 Crossover distortion occurs at the zero-crossing. It is due to simultaneous plate-current cutoff in both tubes (after Millman and Hallias).

37 A caution: Idle current cannot be arbitrarily increased by the end-user; it must be designed in from the start, otherwise the tubes may be overloaded.

38 See M.O. Valve Company life ratings for tube type KT77 (Issue 3, April 1977, p.4).

39 Enhanced class-AB operates with an idle current midway between class-A and class-B.
between the characteristics widens as excursion increases. Class-A operation does not directly reduce this problem. Due to the need to conduct throughout the complete cycle, class-A operation merely places a cap on input excursion, thus limiting the output excursion to the less widely spaced regions of the characteristics.

Only negative feedback directly reduces the distortion arising from spacing variations. Feedback works by superimposing the inverse wave shape onto the audio signal. So long as 1) the phase angle is kept at or near 180°; 2) the compensation provides critical damping; and 3) first-stage headroom is adequate, feedback literally reshapes the output waveform into closer conformity with the input waveform. When the conductance characteristics of an equivalent tube with feedback are plotted on a graph, it can be clearly seen that the spacing variations are less pronounced (fig. 59) [105]. Compare the dotted characteristics of fig. 59 with the ideal characteristics of fig. 40.

![Figure 59: The dashed lines show the linearizing effect of local-current feedback (Middleton).](image)

**Conclusion**

We have seen that, in order to obtain musicality, high-order distortion products must be reduced below audibility. Triodes, as they produce low-order products at all but the highest output levels, are a natural means to this end. Hypothetically speaking, the ideal amplifier will push all distortion products down into the noise floor, thus allowing the ear to dwell solely on the harmonics of the music itself. The push-pull amp may be viewed as a constructive step toward this end.

Due to the selective nature of push-pull operation, however, other techniques must also be incorporated, several of which have been suggested here. One approach is to reduce odd-order distortion products by selecting a tube or other active device according to how uniformly its conductance characteristics are spaced. Another approach is to apply negative feedback—preferably local—to the output stage, since this is where the majority of distortion arises.

An alternative approach is to deliberately increase the even-order distortion by unbalancing one side of the output stage. In this way, a more euphonic spectrum may be obtained. In addition, a DC component arises in the output transformer primary, so as to bias the iron upward on the BH curve. The subtlety of reproduction associated with single-ended operation is often linked to its DC-biased output transformer, to its absence of crossover or notch distortion, and to its continuous class-A operation. The downside is that these very strengths become weaknesses at higher power outputs. The key, then, is to keep the excursion about the operating point small. This dictates highly efficient loudspeakers, or else increased power output and the attendant massive output transformer.

One rather obvious solution is to eliminate the output transformer. Transformerless single-ended amplifiers of large power output can drive conventional loudspeakers to normal listening levels provided that the amplifier output impedance is not too high. The transistor, with its relatively low output impedance, has been successfully used in this manner [106, 107]. It should not be inferred, however, that a single-ended transistor amp will, ipso facto, sound like a tube amp. Too many other variables are involved.

Single-ended amplifiers of either type must avoid the negative-cycle curvature that gives rise to second-harmonic distortion. This will immediately provide a more symmetrical operation. Symmetry is desirable if the goal is to alternately push and pull the loudspeaker driver equal amounts inward and outward. Our intuition tells us that the inward movement of the driver should be the exact inverse of the outward movement if the object is to remain faithful to the input signal. Only two kinds of amplifier displace the driver equal amounts inward and outward: 1) a distortion-free single-ended amp or 2) a balanced push-pull amp (regardless of whether odd-order distortion is present).

More than anything else, consonance and harmonic richness define musicality. Many other qualities, however, are needed to fully evoke the life of the concert hall. Generally speaking, qualities unrelated to consonance—for example, signal definition, image localization, image scale, transient response, dynamics, and damping factor—are unlikely to be improved by single-ended operation. Neutrality, for example, implies an absence of spurious harmonics.

The great advantage of the single-ended triode amp is that it need not be purged of its distortion products to sound musical. The composite consonance of the distortion spectrum, along with its similarity to the ear's inter-aural harmonic spectrum, has been suggested as a possible explanation for this phenomenon.

The riddle posed on the cover of the January 1994 *Stereophile* reads: "If either of these amplifiers is RIGHT... the other must be WRONG." When we consider that recordings are yet imperfect, the answer to the riddle becomes clear: Neither amp is right. One approach pursues truth, while the other pursues beauty.

This antithesis toward products that tend to beautify recordings, and products that often make only flawless recordings involving, has become a persistent force of change within the audio community. The utility of the latter is that they point the direction toward further improvement in the art. The utility of the former is that they act as a control to prevent things from getting out of hand.

The current focus by audiophiles on single-ended sound serves to check the tendency of the industry—ever anxious in its desire to achieve perfection—to move too far into sterility. Thus, progress in the art proceeds in a kind of retrograde motion: two steps forward, one step back. It's fine to be swept along during a period of breakthrough. It's right, 40 Odd-order distortion will not affect the symmetry of operation because, in a balanced push-pull amplifier, the distortion will be identical in the two half-cycles.

94 Stereophile, February 1997
"...a digital reference tool of the first order..."

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Martin Colloms, Stereophile, September 1996, Vol. 19, No 9, p. 162

"As I heard at the 1995 Hi-Fi shows, the complete Ensemble system – speakers, amplifiers, digital source – sounded seamlessly coherent, spacious, very tightly focused, airy, and articulate, with clean, tuneful bass."

Martin Colloms, Stereophile, September 1996, Vol. 19, No 9, p. 165

"In many ways, the Ensemble system is to audio today as was Marantz and Quad back in the early days of the art."

Martin DeWall, Bound for Sound, 1996, No 1, p 14
As you may have noticed, the "high-end" audio world tends to congregate in small sects around many "gurus" who preach unbelievable creeds about wholly unbelievable technological breakthroughs. True to our tenet, following the teachings of our first official Danish Holyman, chief tester St. Erik "The Ear" Nielsen, we feel compelled to prevent further adoration of Golden Calves, comparable idols, and other profane fallacies.

Hence, "The Book of Truth", a musical bible containing such towering commandments as: Thou shalt not listen to speakers with undersized voice-coils. Thou shalt not listen to speakers plagued with phase response problems. Thou shalt only listen to speakers that employ one-piece MSP (Magnesium Silicate Polymer) woofer cones. Thou shalt only listen to speakers that utilize complete absorption of evil, backwards-radiated energy, and allow for virtuous, echo-free sound reproduction.

To further indulge in these and other truths from Skanderborg, Denmark, please call (847) 288-1767 or fax us at (847) 288-1853, to receive a missionary copy of our small masterpiece of true audiophile literature. In the meantime, you may ponder seeking refuge in the heavenly sounds emanating from our meticulously handcrafted speakers (like the Contour 1.3 our company raccoon, Knudsen, is preaching from), whilst on a pilgrimage to one of our few true dealers. Consequently, you may even consider recycling your former speakers as well.
on the other hand, that reason should prevail during a period of check and control; this is merely the prelude to progress.

REFERENCES


HI-FI '97 is happening in San Francisco at the legendary Westin St. Francis Hotel. May 30–June 1, 1997.

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o musicians have the worst systems? It's astonishing to me how much truth resides in this by-now-familiar saying. It holds up for many of the musicians I've known. Even the most famous, who can afford the best, often choose their playback systems with little apparent attention paid to sound quality. How can those who create the recordings we love so much, who live and breathe music, consider the means of its reproduction so much less a priority than we do? Is it simply a case of the shoemaker's children going barefoot? Are musicians better able than amateurs to "fill in the blanks" of a musical presentation? Are they less interested in emotionally connecting to music than in analyzing technical details? I've heard a lot of theories, and I'm still not sure.

John Lee Hooker appears to be one of these musicians. And what a musician! He's been making killer electric blues records for more than 50 years. Every British and American blues-rock guitarist worships him like a god, and today he's selling more records than ever, with an A-list of rock'n'roll stars lining up to do sessions with him.

"John Lee, how did you end up getting this stereo equipment?"
"You mean the machines?"
"The machines, yeah."
"You mean, the record player? Well, we just went out and... got it."
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You know, just bought it. The system in his San Francisco home is all Technics. For those keeping score at home, the lineup is as follows: SL-PC14 multi-CD player, ST-K50 tuner, SL-B27 turntable, RS-TR167 dual-cassette deck, SH-8017 equalizer, SB-A51 three-way loudspeakers.

There's one in each house—I got a new house in Los Altos with the same setup. I can just sit around, and just use it whenever I want to. I like the way it sounds. Sometimes I put on earphones, when I want to be private. Just listen to stuff, just all kinds of stuff.

"You work in studios and in other places that have very expensive equipment, you know, state-of-the-art..."

"I don't care about that."

"You don't."

"Long as I get a good sound. Good funk. Yeah. The funkier, the better."

"Do musicians have the worst systems?"

"They sure do say that. [laughs] They have the worst systems. Well, mine ain't too bad, but it's all right. It ain't the best, but mind you, it gets done what I want it to do, so it pleases me. Sit back and listen to it. I got pretty good sound there. They do say that. [laughs] Well, a lot of times it's true. I looked at it a lot of times, that musicians just have the worst systems. I couldn't figure it out."

"You would think it were the opposite."

"Well, maybe...I don't know, maybe it's easier for musicians to put everything together in their head, you know? In fact, when I hear it, I got in there, everything...but the whole everything, right in that little head you got. The minute I hear music...[snaps fingers]...I really hear it."

"Do you think that as a professional musician you listen differently than someone else when you put on a record?"

"If the music is good, I'll listen to it. Don't matter whether you're a professional or nonprofessional, if it's something that's good. But if it's not too good, I don't want to listen...it's simple."

"You don't think a musician has a unique way of listening?"

"That's true. I do hear different things. I feel different things. If it gets my attention, I listen to it. It just depends on what they're doing. If it's my style of music, I'm going to listen to what they're doing, in my head, you know?"

"I'm curious about how listening to music fits into your life."

"Well, I'm listening to music most of the time. I listen at home. Mostly at home. In cars as I'm riding around...different kinds of music. It's just my hobby, music. I'll be playing my guitar, listening to myself, and a lot of other people, too. I listen to all kinds a little, but mostly soulful rock with a funky beat, blues, and some jazz. I mostly listen to good blues, like B.B. King and myself. Eric Clapton and Stevie Ray Vaughan are two of my favorites in the blues field."

"It seems like what you do is the real blues..."

"It is."

"...and what someone like Eric Clapton does..."

"Synthetic. I know. They kinda copied it off of the real stuff like me and Muddy Waters. But I know what they're doing, see? I know where they got it from. I know it's watered down and it's not original. They took it from the roots of what we do. I still enjoy it, though, because I know those guys so good."

"Well, they probably learned everything they know from listening to you, right?"

"Yeah, I'm sure they did. They admit it, too. [laughs] They do."

"And you listen to yourself, as well?"

"Oh, yeah. I listen to myself. Like this new album I've got, I'm very pleased with it. I've listened to it quite a lot."

"That's funny. A lot of musicians don't listen to their own stuff. Some feel like it's over and done with."

"No, I don't feel that. I see what I did right and what I did wrong. I try to do better next time. There's always space for improvement, you know."

"At this stage of the game, I didn't think you did anything wrong anymore.

"No, I don't really. I don't really, but I always listen to it to see...Hey, this sounds...this is all right, you know? I like to listen to myself and say...Aww...hey, that's all right.

"Do you listen to your old records, too?"

"Oh yeah. A lot of that I do over, that old stuff. Re-mix a little bit. I love listening to my old stuff. I've got a lot of old stuff to listen to, too."

"That's for damn sure. You've recorded so much material for so many labels. I was just listening to 'Boom-Boom'..."

"Me and Bonnie Raitt, or was it the old version...?"

"The one from a few years ago. The first time I heard that record, I was at the Consumer Electronics Show in Vegas. Someone was using it to demon..."
strated how good their equipment sounded. I just wonder for you how that sounds different from the original, how it's..."

"Well, it's a big improvement. Like I say, it wasn't no better. But there was a little more pep to it, new punch. The younger generation today, they can dance by it. But I wouldn't say it's no better, because the first version was a big hit, too. But to go with the times, roll with the times, I kind of... snap it up, you know? We just up-tem-po'd it a little bit. It's just got a get-up-and-go, it really... [snaps fingers]... really kicks! If you want, I can play you a cut off the new one, the name of it is called, Don't Look Back. You know 'Dimples'?

"Sure."

"I got a new version with Los Lobos, and they really kick it out. Those guys play a lot of funk, they play some of everything. They kick. I see them all the time. They call me up, get some ideas from me, too, they say. I'm proud of it, they dig my stuff enough to do it, you know? If they like it, I know I'm doing something right... make me feel good."

We sat on the couch in the wood-paneled living room of Hooker's home and checked out the new and improved "Dimples" from Don't Look Back. He really does enjoy listening to his own music, judging from the way he beat on his leg and snapped his fingers. I've rarely seen someone so animated in his listening, appearing to get deeply "inside" the music so immediately and just enjoy it.

"I see what you mean by the updated sound, John Lee. It's got a very clean kind of CD feel."

"Very clean, yeah. [sings...] 'Feel real good... Neighborhood... every day I see you in my neighborhood... every day... I got my eyes on you.' A good funky beat, huh?" [laughs]

"Absolutely."

The sound? What with such a great tune and the infectious grooving of Mr. Hooker, I hardly noticed. Okay, it's an electronics-store rack system. So the bass was on the bloated side and the highs a little etched by audiophile standards... I had no problem getting a great deal of musical enjoyment from it.

"The people who read Stereophile, they're very into their systems. They spend a lot of money on equipment—$10,000, $50,000..."

"That $10,000 isn't much. A drop in the bucket. I know that kind of stuff is expensive... very expensive."

"But you don't need that."

"Oh, no. [laughs] No, no, no... mine's not expensive at all, but, you know, it pleases me. It's got a good sound to it. It's got a good funky sound. Real good speakers. The speakers is what makes the sound anyway."

"Right. You know so many musicians, do you ever visit them and hear some-

thing really great...?"

"Yeah, but I don't go to someone's house that often. I don't go nowhere. Stay home. I had surgery on my prostate."

"Ouch, that sounds tough."

"Music helps the healing process. Having the surgery's not too bad, just... make you a little nervous, getting on the table, you know. But they numb you so dead, you don't feel nothing. I was talking to the nurses while they were doing it. They had my CD up there, they were just playing it. And the girl was dancing on the table. And I'm just popping my fingers like this. After a while, I said, 'When you all getting started?' They said, 'We through, just about, Mr. Hooker.' 'Oh... thank you.' But now I got that off my mind. My mind's clear. Just sit down, and listen to music."

"You obviously dig staying home and listening, but the best way to hear music's got to be live, right?"

"You can't beat the live. If it's live music, you can't beat that. In other words, if it's live, you're looking at those people, that's why I like that better. When you're looking at the people, you see what they're doing."

"Do you hear it the same way, though? You hear it as well?"

"Well, that's a good question. I think I hear it better on the record, but I would rather see it live."

"That's interesting. A lot of people would say the opposite, that..."

"People got a different opinion. That's my opinion. It's easier to hear everything with the record. They're not getting louder and louder, just one steady thing. Ain't going up and down when you hear a record. But still, I see what they're doing when it's live."

"Do you consider your records as a completely different thing from hearing you perform?"

"Yeah, I think about that when I'm making the records. I say, I'm making what people can enjoy in their home. People listen to what you're saying,
telling the story. They listen to the music, but they want to hear the lyrics. Just, 'Oh, honey, yeah, he tell the truth on that.' Good lyrics. When I write a song it's got to make sense. You write about people. When I sing the blues... it's just life. You don't sing about cattle and animals, but people, the way the world is."

"When you make a record, how does the sound of it change from when you played it live?"

"I go into the studio, I don't have it on no paper. Just you got to have it up here, and in here. I go in there, and just do it. I don't think about what it's going to sound like, this or that, or what you just said. But it always...well, it always comes out right. The best times I just feel it and then I do it. I don't take after take. I get it, I got the groove, the feeling. I'm rolling it on and on. Hit it while you're strong, and you're hip."

"And when you hear it at home, what's the difference?"

"When I hear it...it's like going to the studio. It gets back to it, just...it ain't much different. I don't think so. It gets me right back to when I was playing it."

"You've been recording for such a long time, how have the recordings changed?"

"Yeah, I'm just like the old song, like 'Ol' Man River,' never die, keeps on rolling. Well, it's a big difference with the new stuff. It's more clear. It's more electronic, which we got to have now in these modern days. But to me, I liked the old stuff, the old way, you know. You sit down with your guitar. I used to play coffeehouses a long time ago. It was just my guitar and me. I used to play a place called Folk City, in New York."

"Oh, sure. I noticed you have a lot of LPs as well as CDs. So you still listen to records. How are they different?"

"There's a big difference. CDs are more clear. More handy. You can put them in your car, stuff like that. You can carry them with your earphones. So there's a big difference, it's better that way. I like the CD. It's much clearer."

"I love the LPs, John Lee."

"I love the LPs, too. But when you're riding along in your car, you can't play no LP."

"This is true."

"But I play LPs all the time. I've got the turntable, put them on there, they're good quality. But what I said, we got to roll with the times. They change, so you got to be able to change with them. They change, I change. Because you got to follow the different generations and everything. And I'm pretty good at that."

"I should say so."

"Like I said, I love LPs. I love the way they sound...I love the big-band sound, too. Too bad they can't bring that back. I love music, period. That's my life. That's what keeps me going. That and God, and my music. When I got that, I'm happy. You don't need no expensive equipment. Put on some good music, and just listen to it...mmmh."
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When I first heard about "Records To Die For," I had to laugh. "Desert Island Discs," maybe, but Records To Die For? Laying down your life for a record? World-class hyperbole. Throw yourself on a sword for a glob of petrochemicals? Not me. If your house was burning down, would you a) grab your child, b) grab your photos and other irreplaceable items (cats, loved ones, etc.), or c) grab your records?

Gee, now that one made me think. In fact, the more I pondered, the closer these once-amusing examples came to my own life and its lamprey-like obsessions. When I moved to Santa Fe, for example, I had to carry not one, but two boxes of CDs on the plane—because I didn't trust the movers. And then there's memories of obsessions past—me at age 13 trading half my collection for an original MC5 Kick Out the Jams album, or the object of my pubescent puppy love who drew a line in the sand: Turn off Goodbye Yellow Brick Road or else. Guess which one I chose.

Final proof that this was serious business came from perusing the Sunday New York Times and other paragons of fine writing and after-the-fact culture, where the expression "to die for" has become a favored form of so-mannered-it's-hip slang—as in, "Oh, their toasted polenta with gorgonzola sauce is to die for."

Sobered by the realization that while I wouldn't die for a disc, I might sustain a not-too-disfiguring wound for an original 78 of Robert Johnson's "Hellhound On My Trail," I now, in the proper spirit of obsessive music geekiness, welcome you to the 1997 edition of Stereophile's "Records To Die For." I want to thank all the writers who racked their brains to come up with two records they would wrestle the grim reaper for. Choosing just two can be difficult, so I urged everyone to shoot from the lip, write off the top of the head, and most of all, have fun. Hopefully, you'll feel the same way reading.

—Robert Baird

**LIKE AS A HART: Psalms & Spiritual Songs**

Joseph Flummerfelt, Westminster Choir College of Rider University


I'm not generally one to recommend records from audiophile labels. To some extent that's because audiophile releases get a lot of attention...
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In these pages without my contributions—but it's also because most audiophile CDs fail to capture my interest. I wouldn't go so far as JGH—"the better the recording, the worse the performance"—but I just don't find myself turning over and over again to most audiophile releases. Like as a Hart, from Chesky, is different. It consists of 17 pieces of choral religious music of tremendous variety, starting off with Staat Cervat, a Palestrina piece I once sang myself (for personal rather than artistic edification) and ending with Autiphon, by Vaughan Williams. Two more different pieces could hardly be imagined, which is characteristic of the entire disc. Palestrina is intimate and confessional, Vaughan Williams proclamational and ecstatic (with a great organ thrown in). Sonics, as typical with Chesky, are excellent. The performances vary from ethereal to exciting. The liner notes provided, however, are more to die from than for. No information is provided about any of the 15 different composers, nor are any dates provided for the individual works, thereby missing an easy approach for a short course in the history of religious music. Too bad—but not so bad as to keep you from relishing this disc.

John Lee Hooker: Don't Turn Me from Your Door

I couldn't figure out why I liked this disc so much until I began reading the liner notes for this write-up—originally recorded in 1953, released on LP by Atco (Atco 33-195) in 1962, then later by Atlantic (Atlantic 2250) as Demo Special. Does this mean it might be mono? Well, possibly, but it sounds just as good with your preamp set for stereo.

John Lee is a great artist, and this disc captures him at a time when his raw energy was at its most virulent. He was born in Clarksdale, Mississippi, a part of the Mississippi Delta I lived near for about a year back in 1964. It is an exceedingly tough part of the country, particularly during the time John Lee lived there. I could call attention to favorite songs, but there's not much point—the whole disc is a blues meditation in which pain is nuanced through both vocal and guitar inflection. Sound quality is good to excellent, with few apologies needed for the early recording date. This disc was remastered by Black Suede (Fantasy F-24722), a hooker double LP originally recorded in 1959 and 1960 and released on Riverside 838 and 321, but I don't think it's available on CD. It comes closer to the evil side of Hooker—truly scary. Four great sides of Hooker, if you can find it, with even better sound quality than Don't Turn Me from Your Door. It may be in stereo, not that it matters.

Nathaniel Rosen: Reverie: Romantic Music for Quiet Times

As I approach 50, I find that pure beauty of sound alone no longer does it for me when it comes to the music I turn to in the solitude of my listening room. String quartets, solo piano pieces, and cerulean pieces like Bach's Art of the Fugue increasingly find their way on to the Levinson No.31 or the Sondek LP2. It is some surprise, therefore, that the first piece of my 1997 picks qualifies on terms of sonic beauty. This 1996 collection of transcriptions from the classical repertoire features that most vocal of instruments, the cello, lovingly caressed by "Nick" Rosen (even if he does take the first Satie Gymnopede a little too athletically for my taste), occasionally joined by violin and soprano.

The booklet notes state that Reverie was recorded with a Schoeps "Sphere" stereo microphone and a Naagra-D by that canny master, Jerry Bruck. However, in Jonathan Scull's interview with Rosen, Marks, and Bruck in the January '97 Stereophile, it was stated that four microphones were used to capture the soundfield. Whatever, the sound of Rosen's 1738 Domenico Montagna instrument is robust yet not too forward, vibrant yet not over-aggressive, and set within the luminous acoustic of the large Recital Hall of the Performing Arts Center at Purchase College, SUNY. The piano is positioned farther back within the soundstage, yet it is not too reverberant/sounding and has its full measure of body.

There is always the danger with this repertoire that it could be confused with salon music. That is definitely not the case here. In that January interview, Rosen quoted his teacher, Gregor Piatigorsky, as saying, "I have made a vow that I will never play one uninspired note in a recording studio." I can vouch that there are no uninspired notes on this disc.

Dvorak: Romance

Too often the typical classical recording is, in the phrase used to describe Oscar Wilde, "a butterfly pinned to a wheel." While the dead object is still in some macro sense the same as it was when it was alive, the essential beauty associated with its living vitality has always been dissipated, most often destroyed. But with this outstanding 1993 CD of some of the most beautiful pieces written for violin and orchestra, recorded in London's Henry Wood Hall by legendary English engineer Tony Faulkner and noise-shaped to 16-bit resolution with the Meridian 618 processor, the butterfly still takes breath. Though in absolute terms the soloist is a little too forward-balanced, the orchestra peaking behind her shoulders, the lush sound is otherwise deliciously true to reality, and captures that necessary fragility of the real thing.

Everyone will be familiar with the Mendelssohn, with its dangerously sensual slow movement, but the outstanding cut on the disc for me is the Vaughan Williams. The beginning of Lark features a sustained pianissimo E on the double bass, while the upper strings play a rising dotted folksong figure resulting in a luminous-sounding E dominant-ninth chord, lacking any third, over which the solo violin’s birdsong enters, rocking from D to E to A. Against the hushed stillness of this astringent yet sweet tonal ambiguity, the lark and the listener are lifted high above England’s somnolent summer countryside. In the words of novelist and poet George Meredith, who was Vaughan Williams’s inspiration for this work: "And he the wine which overflows / To lift us with him as he goes / Till lost on his aerial rings / In light, and then the fancy sings."

Robert Baird
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tongue sax), and the innimine man himself leaned back and had a ball. Best of all, the sound here, unlike most Fess recordings, is rich and well-balanced. This disc, perhaps the finest nugget in the otherwise Chicago blues-oriented Alligator catalog, also contains definitive versions of oft-recorded Neil Young classics like “Hald Head,” “Big Chief,” and “Her Mind is Gone.”

TOM WAITS: Heartattack and Vine

Choosing one disc from Tom Waits’s incredible canon isn’t easy. For crazy, blinding genius, or what Waits himself called “junkyard orchestral impressionism” we have to go to Soundtracks from Tom Waits’ Rain Dogs. For my favorite tune, “Oh ‘S,’ I’d have to choose Close Up Time. But forced to choose one, I opt every time for this collection. Explaining why is another matter. But then, why doesn’t one like any Tom Waits album? Style—or, more correctly, styles—has to be part of the answer. A deceptively talented actor—from Down By Law to Ran in Coffey’s Dredda—that Waits’s musical persona has assumed many guises. Of all the Waits albums, I’ve enjoyed this final flowering of his guyesy, growly, slightly funky cabaret-singer best. Tunes like “Jersey Girl” (did Zeus make Waits write it for Springsteen, or what?) and the stunning masterwork “Saving All My Love for You” are among the best things he’s ever written. This album also marks the last time Waits actually tried to sing. From here on it was yelps, howls, conspiratorial growls, and other inhuman noises. There is no one whose work and personality interest me more than Tom Waits.

JIMMY SCOTT: All the Way

Does music get any more bittersweet and wondrous than this? I don’t think so. Oh, and don’t forget sexy—Jimmy Scott’s triumphant comeback album is one of the sexiest sessions ever committed to tape. Blessed with a gift for phrasing that surpasses that of nearly every singer except his old pal Hillie Holiday, Jimmy Scott is the very picture of vocal splendor. Often mistaken for a woman because of his high, piercing tones, Scott survived racism, sexism, his own foibles, and a lot of narrow-minded people to make this treasure. Filled with class arrangements, a group of top players, and standards like “Embraceable You,” “Every Time We Say Goodbye,” and the title tune (which has since become his signature tune), this disc is the album Jimmy Scott was always destined to record. Turn down the lights, pour the wine, and let Jimmy do the rest. (XVI-1)

THE REPLACEMENTS: Pleased to Meet Me
Sire 2555-2 (C) only. 1987. Jim Dickenson, prod.; John Hampton, Joe Hardy, engs. ??: TT: 33:54

Like the Waits catalog, choosing a favorite from the ‘Mats body of work is a challenge. While Don’t Tell a Soul is full of appealing tunes, Hootenanny has the more energy, and Let It Be gets the prize for inviting unconscious comparisons (not to mention the classic “I Will Dare”), this is the cracked gem that, in the end, gets the nod. Recorded at Memphis’s storied Ardent Studios [Big Star] and ably produced by Memphis legend Jim Dickinson, this is essentially a trio record. Just before joining the band as guitarist Bob Stinson for the addictive behavior that eventually killed him in 1995. Paul Westerberg took over all guitars (along with vocals and songwriting), and the band somehow cranked out this, their masterpiece. “LOU,” “Alex Chilton,” “The Ledge,” “Can’t Hardly Wait”—all became cherished parts of the band’s enduring legacy. Forget the Beatles, the Stones, Rockpile, or any other rockin’ band you may harbor unreasonable affection for— the Replacements were the best bar band ever, bar none, and this album may be their finest recorded half hour.

CARL BAUCHER

THOMAS RAPP/PEARS ALL BEFORE SWINE: City Of Gold

“A city of gold is built of promises: personal, national, spiritual, kept and unkept... it comes down to whether we are, brick by brick, building a city of gold or tearing it down,” So said Tom Rapp in the liner to his most philosophical and brazenly spiritual album. Pearls Before Swine existed for what seems like an instant in the late ’60s and early ’70s, leaving behind a legacy of great albums on ESP, Reprise, and Blue Thumb. Opening with a country arrangement of Shakespeare’s Sonnet 65 (really!), this 1971 album also offers one of the finest country/folk songs of any time, the title track: “I have crawled across the burning sands, to the city of gold... Nobody basted Rapp’s poetic imagery then, and nobody’s done it since. “Once Upon a Time” is a jaunty, piercingly beautiful ballad, while the timeless grace of “Casablanca” is hauntingly lyrical. Sonics are warm and honest, especially on the white-label promo LP. Backed by Nashville’s best, Rapp was at his best on this brief, beautiful album. Reprise plans a CD reissue of some of this material, but it’s doubtful the whole thing will be digitized anytime soon.

CAPTAIN BEEFHEART & THE MAGIC BAND: Liek My Dcals Off Baby

Despite the almost universal acclaim rightfully afforded the apocalyptic Trout Mask Replica, 1970’s Best Of Don Van Vliet’s best album, Trout Mask boasted the unmistakable stamp of producer Frank Zappa, but Dcals was Beefheart all the way. The Magic Band never sounded better than on these classic, wildly creative tunes. Lugging forward like a rickety wagon, then spinning and stopping on a dime to play intricate, lock-step, written lines, the band was consistently amazing. The album’s sound is also the best in Beefheart’s discography: very little studio processing, and detailed as hell. Reissued in 1976 on a German LP twofer with The Spotlight Kid as 2 Originals of Captain Beefheart (WEA/Reprise K84006), it was also briefly available on the generally excellent-sounding Enigma Retro CD) and a subsequent Rhino CD. To my knowledge, the album is once again out of print. “Mana, mana... mana... mana... come Doctor Dark / Horse clippin’, clappin’ ‘n his ol’ hooves makin’ sparks.” Brilliant, original, and completely essential, Dcals is the most representative recording from one of popular music’s most eccentric geniuses. (XII-3)

LES BERKLEY

1996 was a big year for me. It was the year I jumped fences on the thoroughbred daughter of a Kentucky Derby winner, discovered the poetry of Stan Kunitz, and found out who Kathie Lee is! It’s thus fitting that I found some great music at the same time, including...

DEAD CAN DANCE: Into the Labyrinth

It’s true enough that lots of groups are doing the mystical World Music thing these days, but Brendan Perry and Lisa Gerard were among the very first, and they still do it as well as anyone. WP has already told you how great the CD sounds; I just try the array version—a beautifully manufactured two-LP set with dead-quiet surfaces and all the long end they used to roll off on vinyl. Hard to find, but way worth it. (XVII-7, XX-2)

HILDEGARD VON BINGEN: Complete Works, Vol.1
Sinfonie, Steve Wishart, dir. Members of the Oxford Girls’ Choir

I’ve recently said my piece on this one, but to sum up: the best Hildegarde performance on record, with Tony Faulkner’s finest engineering job to date. Need I say more? An if thou sipst the Web, thou mayst find more: http://www.harmonies.com (including ordering information, if your dealer won’t get it for you).

LONNIE BROWN

THE SILOS: The Silo

I’ve had discussions with other serious listeners as to whether or not this is an “audiophile” album. If you see that genre as being populated by recordings of somewhat dubious musical content, but with flashy, impressive, and only occasionally really sound-sounding voices and instruments, then you probably won’t classify this as an audiophile album. However, if a record that sounds like a live band, using only their own amps and not some horrid house PA system, performing songs that are at once well-crafted and charmingly loose, with a feeling like the Stones on holiday, is more your idea of a Classic or Mod reissue, then, yeah, you’ll call this an audiophile album. I do.

SOUTHERN CULTURE ON THE SKIDS: Dirt Track Date

A note here about this fine album ought to hit the...
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few readers who haven't already read the raves that I (or our Interviewer of the Stars, Rick Rosen) have already given it. What we've got here is great amplified, guitar-pickin', just-right-there drummin', goofy-cool singin', and songs that ride that narrow but nutritious line between The Cramps (voodoo rockabilly) and the B-52's (campy/surfy pop), with lyrics that are none too deep but are, like Gilligan and his pals, sure to raise a smile. This is my feel-good album of the past couple years. It'll turn your hi-fi into a rockin' machine.

DANIEL BUCKLEY

PJ HARVEY: 4-Track Demos
Island 314-518 450 (C3) only. 1993. Pj Harvey. prod. ???: TT: 47:40

Harvey's is a cut-throat, raw-nervy effort, at once chilling and warpedly erotic. As the title suggests, these were 4-track cassette recordings made as sketches for her also-inspired "Rid of Me." Despite the funky sound quality, there's a knife-edged intensity and a dense concentration of elements that makes this among the nastiest rock records ever made. Also, two of her best songs — "Reeling" and "Hardly Wait" — appear here only. Amazingly, it's Harvey alone on all tracks! (XVI-12)

ROBERT ASHLEY: Private Parts (The Record)
Lovely Music Ltd. 1001 (C3) only. 1970/90. Robert Ashley and "Blue" Gene Tyranny. prod. ???: TT: 45:59

The Ashley is something I often recommend when people are having trouble in their lives. It never fails to find personal connection and bring peace, no matter who listens. Like the 1 Ching, it has a mystical quality that is all-inclusive. Ashley's soothing narration is a hodgepodge brad of eastern mysticism and everyday western life, focusing obliquely on two men on a park bench and a man alone in a hotel room. "Blue" Gene Tyranny's ripping keyboards and "Kris's" tables provide expansive, changing-sky-like accompaniment to the cinematic verbal imagery. This is no new-age, cosmic-buildit, noodle-fest. It's deep, transcendental art.

TOM CONRAD

JOE LOVANO: Quartets: Live at the Village Vanguard
Joe Lovano, tenor, soprano, and G-melody sax; Tom Harrell, trumpet, flugelhorn; Mulgrew Miller, piano; Anthony Cox, Christian McBride, acoustic bass; Billy Hart, Lewis Nash, drums
Blue Note CTJ 8 29125 2 (2 CDs only). 1996. Joe Lovano, Michael Cuscuna, prod.; David Baker, eng. DDD. TT: 207:40

The best place in the world to record jazz is the Village Vanguard, because the acoustics are magical and the walls breathe with spirits who inspire living artists to go beyond themselves. Joe Lovano embodies instrumental virtuosity, passionate commitment to the great tradition, and a burning need to push that tradition's envelope. Quartet is his most representative recording: two hours of torrential creativity from two different Vanguard gigs and two ensembles, one with the sublime Tom Harrell. When you get those tenor-sax-crowns, Quartet is like mainlining a pure dose. And the recorded sound brings a time and a place alive. (XIX-9)

TIGER OKOSHI: Two Sides to Every Story
Tiger Okoshi, trompet, Mike Stern, electric guitar; Gil Goldstein, acoustic piano; Dave Holland, acoustic bass; Jack DeJohnette, drums

This album was the "Recording of the Month" in the February 1995 Stereophile. It was my review, and I am now embarrassed that I raved about the sonice quality. I have just heard JVC's new "XRCD" process. (The "Extended Resolution Compact Disc" lavishes fanatical TLC and technology upon the mastering and manufacturing process.) The improvement is stunning. Two Sides to Every Story is now a reference for recordings of small jazz ensembles.

But it wouldn't be a "Record To Die For" if the music didn't kill. Tiger snakes every song, propelled by symphonies of rhythm swirling forth from Holland/DeJohnette. (XVIII-2)

ROBERT DEUTSCH

RAGTIME: The Musical

In my full review of Ragtime, I called it my personal Recording of the Year, so I'd be less than consistent if I didn't also choose it as one of this year's 21st Century. I will find Ragtime an exciting and at times profoundly moving work. Despite having listened to the CD at least a dozen times, I am apt to find tears coming to my eyes during the reprise of "Whips of a Dream" in the final. Great performances from the large cast, and the recording, while multi-miked/multi-tracked, is unusually fine-sounding. If your CD buying budget for this year allows for only one show-music recording (pity!), make it Ragtime.

OFFENBACH: Les Contes d'Hoffmann
Joan Sutherland, Stella, Olympia, Giuseppa, Antonietta; Plácido Domingo, Hoffman; Gabriel Bacquier, Lindorf, Coppélia, Departamento, Dr. Miracle; Huguette Tourangeau, La Muse, Nicklausse; Chorus: Radio de la Suisse Romande, Pro Arte de Lausanne, du Brassett; André Charlet, chœur master; L'Orchestre de la Suisse Romande, Richard Bonynge London ORA-13180 (2 CD's, JVC; 1972/1996). John McFerrin, prod.; James Lock, Colin Moirfoot, eng. AAA/AAD. TT: 2:21:26

Les Contes d'Hoffmann has had a recorded version, but, for me, none eclipsed the 1972 Decca/London set. It conforms to the interpretation that Olympia, Antonietta, and Giusseppe are different facets of Stella, and thus should be sung by the same soprano, and that the same baritone should sing the four villains. The soprano roles have sufficiently different vocal requirements that it would take, say, a Joan Sutherland to do justice to them all. Of the recording does have Sutherland, and she sounds simply glorious. Domingo, too, is at the top of his form, and Gabriel Bacquier makes a powerful impression as the villains. Bonynge maintains the musical and dramatic thrust of the piece, and sound quality is up to the best from Decca/London's Golden Age of Analog. The CD transfer is pretty good, but, as followers of Michael Friedman's column won't be surprised to learn, the LPs sound better. (XVI-2)

DOUG MACLEOD: Come to Find
Doug MacLeod, vocals; Charlie Musselwhite, harmonica; Bill Stave, acoustic bass; Jimi Bott, drums; Black Cherry, backup vocals
AudioQuest Mystic AQ-1027 (LP), AQ-C-1027 (C1) only. 1995. Joe Harley, prod.; Michael C. Ross, eng. AAA/AAD. TT: 52:27

Come to Find is the first of what I hope is to be a continuing series of outstanding albums pairing producer Joe Harley of AudioQuest Music with Doug MacLeod's special gift for the blues (the second record from this series, You Can't Take My Blues, was released last year and could just as easily be my choice.) All but two of the 11 songs here were penned by MacLeod — and there's not a weak number among them. With cuts like "Master's Plan," "Lost Something This Morning," Willie Dixon's "Bring It On Home," or the title cut, it's hard to go wrong. My favorite seems to be whichever one I'm listening to at the moment.

The project was recorded live, direct to two-track, in two days in January 1994 at Ocean Way Recording under the steady hand of Michael C. Ross, followed with mastering by Bernie Grundman. The LP portion of the project received the best of care, the late Ed Tobin handling the plating chores, and pressing by RTI. Not surprisingly, by today's standards, the audio - "audiophile" music at its best, and a record I wouldn't be without. (XVIII-6)

SHOSTAKOVICH: Cello Concerto I, Piano Concerto I
William De Rosa, cello; Valentina Lisitsa, piano; Sarah Caldwell, Ekaterinburg Philharmonic Orchestra Audion JCD-72060 (C1) only. 1996. Julian H. Keeper prod.; Peter McGrath, eng. TT: 52:46

I must admit that, with the exception of a few pieces, Shostakovich has never been among my favorite composers. These two concertos, played with consummate virtuosity and gorgeously captured in one of the best examples I've heard of Peter McGrath's minimalist recording technique, now join the select few of the late Russian composer's works that I truly admire. Mr. DeRosa's renowned skill on the cello is in full display here, as is the remarkable talent of young Russian pianist Valentina Lisitsa, whose rendition of Schnittke's Cello Suites, also captured by McGrath and Audion (CD-72054), knocked me out during an audition of Audio Artistry's new Beethoven speaker at last year's CES.

The Ekaterinburg Philharmonic is one of those outstanding Russian orchestras long closed off to the outside world (the group hails from Boris Yeltsin's hometown). Sarah Caldwell, artistic director of the Opera Company of Boston, here shows off the close relationship she's developed with this orchestra in recent years.

The natural perspective, realistic dynamic range, and musical clarity on this recording are simply superb. Listen to the beautiful tonal character of the massed strings (a sore point with so many classical recordings), and the incredible dynamic interplay between Ms. Lisitsa's fiery piano and the horns during the latter part of the
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Thomas J. Norton
Stereophile, February 1995
Vol. 18, No. 2

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piano concerto. This CD, combined with the earlier Liszt recordings by Audionof, prove that McGrath really knows how to capture a piano!

No noise reduction, limiting, or signal processing were used in the mastering process, and while such purist steps don't always work out as planned, they do here. This is a recording that really demonstrates the refined virtues of a high-resolution playback system.

MORTIMER H. FRANK

BRAHMS: Piano Trio, Op.8; Piano Quartet, Op.60

Arthur Delmoni, violin; Marcus Thompson, viola; Ronald Thomas, cello; Christopher O'Byrne (Op.8), Milia Lee (Op.60), piano

Northeastern NR-244 (CD only). 1990. Ronald Thomas, prod.; John Newton, eng. DDD. TT: 70:43

The more I listen to this CD, the more I'm struck by the stylistic musicality of the playing and the exceptional naturalness of the engineering, the latter suggesting a relatively forward seat in a moderate-size hall. Captured in wide dynamic range with balances carefully gauged to avoid (as sometimes happens) the swamping of the strings by the piano, the playing is animated yet unhurried. Expression is achieved not through arbitrary fussiness but from being attacks, long, soaring lines, and a rhythmic elasticity that never violates a basic pulse or structural integrity. Many celebrated names have recorded this repertory, but none that I know has ever done it greater justice than is done here. (XVII-3)

SCHUBERT: The Late Piano Sonatas

Sonatas D.958, 959, 960; Allegretto, D.935; Three Piano Pieces, D.1346

Maurizio Pollini, piano


These are among the most satisfying recordings in the piano literature, projecting the wide emotional range and stark originality of this haunting repertory. Purging the music even of a hint of the sentimentality sometimes imposed on it, Pollini offers aptly creasy, tensile readings that suggest the influence of Beethoven on Schubert while conveying as well the ethereal delicacy that reflects Schubert's debt to Mozart. Nothing is exaggerated or understated in these flexible yet tautly unified performances, and Pollini's tone (which in some recordings has seemed thin and brittle) here has a more rounded, less percussive sonority that complements the music perfectly, and is captured in a relatively close perspective that is intimate without becoming claustrophobic. (XII-3)

MICHAEL FREMER

ANN ARBOR BLUES & JAZZ FESTIVAL 1972


Hound Dog Taylor, Koko Taylor, Bobby "Blue" Bland, Dr. John, Junior Walker, Bonnie Raitt (with and without) Sippie Wallace, Howlin' Wolf, Muddy Waters, Freddie King, Luther Allison, Johnny Shines, Otis Rush, and Sun Ra & His Solar-Myth Arkestra — all recorded live outdoors by Jimmy Douglas and mastered by George Piros. The first I don't know. If it has been, get it if not, hit the used-record bins. Don't expect to find it, though; I've seen only one copy in my life — mine. Sound? Your walls and ceiling disappear, leaving you in the great outdoors. Vinyl reissue, please!

SMALL FACES: Ogdens' Nut Gone Flakes

(British) Immediate IMSIP 012 (LP). 1968. Steve Marriott, Ronnie Lane, prod.; Glyn Johns, eng. AAA. TT: 58:30

This rightly beat out Sgt. Pepper in the 1968 NME poll. The famous round cover apecs a tomato tin, but that's not what those Small Faces were smoking when they made that! Steve Marriott had the best banjo-pipes in rock. On "Lazy Sunday" you'll hear the deepest, most dynamic bass and the sweetest, most top-open end you've ever heard on a rock record. The rest of it is just Glyn-Johns-brilliant — but only on the Brit original. Skip the limp, pathetic American first press. Squeezing this sonic monster onto a CD (Sony Music Special Products AK 46964) is like trying to put your mouth over the Grand Canyon. If you can't find the LP, open wide!

LARRY GREENHILL

JAMES HORNOR: Jumanji (original soundtrack)

Epic Soundtrax ER 6724 (CD only). 1995. James Hornor, prod.; Shawn Murphy, eng. AAD. TT: 51:08

Jumanji is my third R2134 choice in the past four years for an original movie soundtrack by the composing-engineering team of James Horner and Shawn Murphy. The movie, a masterpiece of computer-generated special effects, is improved by Hornor's remarkable score, which befits this science-fiction tale of magic, horror, and childhood. The score was very much in the background when I saw the movie, so I would never have known how brilliant it is without hearing this CD.

Hornor has captured an incredible range of divergent moods here: the playful, summery themes of the children, the sinister music-box-like central theme depicting the enticing but deadly Jumanji game, and the final horror of a conglo jungle drum mixed with a wailing male voice — a soul damned to be trapped in the game forever. Like the Paintor Games and Clear and Present Danger scores I selected for earlier R2134 entries, Hornor and Murphy exploit the entire dynamic and tonal spectrum. Contrast the subwoofer rumblings in "First Move" with the clanging, cacophonous percussion mixed with old auto-horns and band-organ effects in "Monkey Mayhem." Switch then to the beautiful, lilting melody for flute and clarinet in the 11-minute title track. This mix is a new departure for Hornor, who has moved from driving, riveting, pulsing action-movie themes to using the power of the orchestra to create a full palette of emotional moods, from joy to horror.

MICHEL JONASZ: La fabuleuse histoire de Mister Swing


Torren Acoustic's Vicente Bruzzone introduced me to this set at HIFI '96 in New York. Michel Jonasz's solo vocal "Si Si le Ciel" on this all-French live concert album stopped me in my tracks. Even though I knew better, I just sat and enjoyed this high-energy vocalist, backed up by a wonderful group, "the angels," with Stephan Montanaro and Larry Cohn on keyboards, Arno Lucas on drums, and Reggie McBride on bass. Jonasz writes his own lyrics and music, though I can't say the songs on this double album adhere strictly to any concert format I'm familiar with.

SMALL FACES: The Anthology (1965-1967)


With the brass of early Kings, the rhythm toughness of Ray Charles, and a melodic sense approaching the Beatles', Small Faces were a true pop supergroup, though virtually unknown in the States until their albums were a blend of continuous songwriter and muscular musicianship, best evidenced in the transcendent singles like "Sorry She's Mine" and "I Can't Dance With You," as well as on instrumental like "Almost Growin'" and "You Own." The proof is in Ronnie Lane's massive bass, Steve Marriott's archetypal vocals, Ian McLagan's keys, and Kenney Jones's Keith Moon-inspired drumming. We all know that critics can at times be overdramatic, but this set is truly something to crow about. One of the year's best reissues. BOBBY FULLER: Shahdown! The Texas Tapes Restored


With alternate versions of "I Fought the Law," "Nancy Jean," and "Nervous Breakdown," as well as home recordings and rare studio takes, Shahdown! is a great (and official) anthological sendoff to the West Texas rocker once poised to inherit the Buddy Holly crown. Recorded between 1961 and 1964, the 50 tracks here include all seven of Fuller's Texas-label singles — every master take of the unreleased material, in addition to alternates. It's a thoughtful, often revelatory compilation that serves to enlarge Fuller's standing in the all-time pantheon of rock.

ROBERT HARLEY

MOZART: Piano Concertos 21 & 24, K.467 & K.491

Eugene Istomin, piano; Gerard Schwarz, Seattle Symphony Orchestra


Stereophile, February 1997
Robert Greene
THE ABSOLUTE SOUND
Vol. 18 Issue 89
Summer 1993

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Robert Greene THE ABSOLUTE SOUND Vol. 18 Issue 89 Summer 1993

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Steven Stone STEREOPHILE Vol. 19 No. 12 December 1996

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This is one of those rare recordings of the highest musical and sonic integrity. Pianist Istomin's bold interpretation of these two colossal works infuses the music with a wonderful expressive quality. The Seattle Symphony is also in top form, developing an agreement with Istomin that brings life and vibrancy to the pieces.

If there's one recording that demonstrates the awesome sonic quality of the High Definition Compatible Digital (HDCD) process, it is this. When played back through an HDCD-equipped CD player or processor, the piano is focused, in perfect proportion, and completely free from glassy edge. The strings and woodwinds have a reality of timbre that I didn't think possible from the CD format. In fact, this is the finest orchestral recording I've ever heard. What a treat that music of this quality has been given such a transparent canvas on which to express itself. (XIX-5)

RONNIE EARL: Eye to Eye
Ronnie Earl, guitar; Willie "PineTop" Perkins, piano; Calvin "Puzzy" Jones, bass; Willie "Big Eyes" Smith, drums; and 13 others.

A true craftsman at work esides an unhurried ease, understated confidence, and a relaxed—yet totally focused—air. With no need for braggadocio or bombast, the master craftsman simply gets down to business. Getting down to the business of the blues is exactly what guitarist Ronnie Earl's Eye to Eye is all about. Although billed as a Ronnie Earl release, Eye to Eye belongs as much to blues legends PineTop Perkins, Calvin Jones, and Willie Smith, who comprised Muddy Waters' rhythm section from 1974 to 1980 (and played individually with Waters on and off since the '50s).

Listening to Eye to Eye is like watching master craftsmen at work. The music has a relaxed, almost lingering case that makes it seem to hang behind the beat. The players have a total mastery of their art, both individually in solos and the way they lock together rhythmically. Earl's sparse and expressive style fits the mood perfectly. Although getting on in years (PineTop at 80), these musicians are as sharp as ticks. Listen, for example, to Smith's crisp fills on the driving Willie Dixon tune "Shake for Me." Eye to Eye's sound quality is an audiophile's dream—clean, dynamic, and free from glare or fade. This is an exceptionally well-served, with a sense of ambient air around his amplifier. Best of all, the sound gets out of the music's way, leaving you to revel in this modern blues gem.

RAMIREZ: Miss Criolla
Jose Carreras, tenor; Coral Salve de Laredo; Sociedad Coral de Bilbao; Jose Luis Ocejo.

After six years of seeking recordings that capture the ultimate in sound quality with the ultimate in performance, the pickin's are gettin' slim—there just aren't that many ultimates out there. But this vaxin of a recording is tie-me-to-the-mast seductive, and needs no apologies for having been around for a long, long time. I finally selected it for R121. The music is ecumenically sultry, if you'll pardon the contradiction, and the performance is impassioned. As for the sound, an immense standstage and startlingly natural timbres are an audiophile's virtual reality. (XIV-1)

PROCOL HARUM: A Salty Dog

I don't listen to much popular music, but this bit of nostalgia has a lot more memories of younger days going for it. A warmly recorded "concept" album about seafaring, A Salty Dog is one of the greatest rock recordings ever. The music is crony with sea salt, thanks to tone colors like the marini- boa and bound's whistle, and to Keith Reid's alter-nately lackeyed and ephemeral lyrics. It's got symphonic rock without pretentiousness, and it's got hard-driving blues. Most of all, it's got a hold on the human heart. "In starting out, I thought to go exploring / And set my foot upon the nearest road. / In vain I looked to find the promised jour-ney / But only saw how far I was from home."

J. GORDON HOIT

STRAVINSKY: The Rite of Spring, Le Sacre
Eric Kusjawksy, Redwood Symphony, Oakland Symphony Chorals.

This ugly, barbaric, staticistic Rite has the dubious distinction of being the loudest in the ballet repertoire. It also has the ability to arouse the most primitive emotions underlying our veneer of gen-tle civilization. Few listeners, hearing it at home, can refrain from pacing back and forth and furiously beating time like madmen, driven by a savage urge to do something really violent as long as nothing gets broken. That's how it should be, but it's not the way it usually is.

Hobbled for 40 years by a cultural climate that demanded that a performance illuminate the music's structure rather than its emotional content, the work has not been properly recorded since Muti and the Philadelphia's electrifying reading on EMI—and even that was hampered by a mediocre recording with restricted dynamic range. Now there's one that does Rite full justice. Don't be put off by the unfamiliar performers; what matters is how familiar they are with the music, and they know it inside out. This is a stunning Rite, and the recording will blow your socks off. The average vol-ume is low to make room for the loud parts, so don't crank it up until you know how loud it's gonna get. The bass drums could trash your woofer's.

Let's get a little gem for four pianos, percus-sion, and strings: Beethoven's Novelette well performed and recorded, and a perfect way to unwind after the Rite's emotive bashing. (XIX-2)

HEROLD/LANCHBERRY: La Fille Mal Gardée

A long-time collector's LP because of its melodic score, delightful performance, and outstanding sound, this is a welcome addition to Classic Records' CD catalog.

La Fille Mal Gardée is a frothy little ballet about what happens when widowed farm-owner mana, who has arranged to marry her daughter to the son of a wealthy vineyard owner, falls to keep her forty daughter under lock and key. Badly guarded, she falls in love with a common farmer. It all ends well, but of course!

The CD sound very much like the LP, except that it's quieter, cleaner, has deeper and more solid bass, and more dynamic range. And with all that sand who would take an LP to a desert island? (XV-2)

BARNABAS JAHN

PROKOFIEF: Romeo & Juliet, Op.75; Cinderella, Opp.95 & 97; 3 Pieces for Piano, Op.96

FREDDIE CHI, piano

If you've always considered the piano to be a percussion instrument, then this disc will make you think again. Admittedly Prokofiev made these transcripts and was a stunning pianist with a reputation for "steel fingers, steel wires, steel bicpes, and steel triceps" that wasn't totally unfounded, but you'll find none of this here. Freddie Chi is living Romeo and Juliet's anguish, and the seductive, hauneting emotion he draws from the piano is easily as emotive as the full tonal palettes of the symphony orchestra. So, not only will you be excited by the sheer virtuosity of this artist, but you'll also be amazed by the range of expression and concentration he can command... and Harmonia Musica has captured this sublety to perfection. What more can I say but I hope you'll be tempted to give it a try?

FALLA: Nights in the Gardens of Spain
ALBIGENZ: Rapsodia Espanola Op.78; Concerto Fantastico Op.78
TURINA: Rapsodia Sinfonica Op.66
Jean-François Heisser: piano; Jesus Lopez-Cobos, Orchestre de Chambre de Lausanne

You can almost smell the heady perfume of these Nights in the Gardens of Spain; you can virtually hear the Andalaskan peasants singing in the Rapsodia Espanola; and, if you're willing, Turina will lead you by the hand through the beauties of his coun-tryside under a starry sky. And when you're tired of basking in the luxury of such exotica, you can listen to Albenga speaking a foreign language in his Con certo's escape from all things Spanish. All this, captured in the finest 20-bit resolution, is the stuff of pure fantasy, with more than a little provocative persuasion thrown in to help things along. If you need to relax and escape for a while, go on... pampers yourself. (XVIII-9)

MUSE KASTANOVICH

SOUNDGARDEN: Badmotorfinger
A&M 75801-53742-2 (CD only). 1991. Soundgarden, Terry Date, prod.; Terry Date, eng. AAD. TT: 57:49

Matt Cameron's drumming is reminiscent of Will Calloum's (Living Colour): a sonic boom with the dexterity of a hummingbird. Chris Cornell has one of the best voices for hard rock ever. Kim Thayll's and Cornell's guitars have that chunky drive like Metallica's. Ben Shepherd's bass looks in with it all perfectly. Not to mention their kickass songwriting abilities. I used to play a cassette of this album over and over in the car—unusual behavior for me. Normally I get bored listening...
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to the same music, playing those albums I haven't heard in the longest time. But this is one of those rare ones that is just so incredibly good that it has to be played every day for a couple of weeks!


Choosing only two albums was turning into the assignment that would never end, so I let the sound quality do the choosing for me. This disc is a shining example of how to correctly record a rock band (some of the songs are more acoustic). It is realistic, present, dynamic, instrumentally and spectrally well-balanced, with both a quick edge and a velvety smoothness similar to live originals. These wonderful and rare qualities would be wasted, however, if the music didn't give you goosebumps. I have long been a fan of Suzanne Vega's incredible conceptions, voice, guitar playing, lyrics, and choice of band members. She has a focused fire in her eyes when she performs that mesmerizes, as if she were peering directly into your psyche, looking for something. This is indeed one of her best albums.

ROBERT LEVINE


The Band's second album is a perfect integration of rock'n'roll, rock, R&B, blues, hillbilly, country, and folk music, and it sounds even better now than it did in 1969. It's a people's history of America in music, crafted with enough road-sea-soned love, joy, and talent that you'll never tire of it. "We wanted...a kind of woody, thuddy sound," says Robbie Robertson. They got it—even the electric instruments sound as if they saw duty in the Civil War. And chops alone will never create woe like those of Helm, Manuel, and Danko, let alone the magic of their blend. The CD sounds better to me than my 27-year-old-but-still-pristine LP; some more clarity, but not at the expense of The Band's annual, seps-a-toned warmth. One of the top five rock albums of all time.

EMILY BEZAR: Moon in Grandadine Emily Bezar, vocals; electronic keyboards: Morris Ascevedo, guitar; Andrew Higgins, bass; Steve Rossi, drums. With: Chris Gady, trumpet; Dave Barren, tenor sax. Denax DAX19009 (CD) only, 1996. Emily Bezar, prod.; Rob Iolas, Mike Cresswell, engs. mix. HHCD3. TT: 64:27

"Not for everyone," I cautioned in my review of Bezar's dazzling debut CD1 (May '94). But Moon in Grandadine's textures are a bit less dense than Grandmother's Tea Leaves! brilliantly deployed keysboards, string quartets, and avant-garde electronics, and Bezar's voice is a really a Jazz quartet. Her voice veers from childlike intimacy to womanful operative cry, and her piano chops are awesome (she's conservatory-trained in both). Songs never go where you think they will ("Rain in Calgary"). In short, it's a lovely make up in hothouse insularity, invariably what they lack in straightforwardness. Think Amos or Bush backed by Zappa ("Gingerbread") and you'll be right, if not nearly right enough. Bezar's intelligence is overwhelming—there's enough richness, rigor, strut and sun to thinking all next year. A bit of digital harshness, but otherwise Moon in Grandadine sounds far better than Tea Leaves—

which missed being Recording of the Month by just that much. (XVII-3)

RECORDS TO DIE FOR

The Respighi work that closes out this CD is a fine bonus, though the Saint-Saëns is, for me, the real attraction here. Both works are technically "Christmas music," but you'll be just as happy to hear them in July as in December.

GILBERT & SULLIVAN: Here's a Howdy Do! The King's Singers RCA 68385-2 (CD only) 1993. Daryl Runswick, prod.; Hand Jacob, eng. DDD. TT: 54:52

Here's a chancy recommendation. Both The King's Singers and Gilbert & Sullivan provoke extreme reactions, pro and con. But if you have a weakness for either of them—and I do for both—you'll want this recording. G&S purists will likely blanch at some of the arrangements, but it's hard to deny that they bring new life to material that more than occasionally suffers from an excess of "tradition." Nevertheless, the music here is timeless, and G&S's social satire holds up as well today as ever. The recording is first-rate: clean, open, dimensional, and detailed. Unlike most King's Singers recordings, there is subtle instrumental accompaniment in several of the tracks. Both harmonies and voices are well served. If you're an old G&S hand, this recording will refresh your palate. If you don't know them from Ren and Stimpy, well, here's a howdy do.


I don't know, exactly, how to characterize this music. It certainly isn't rock, and you'll find it hard to boogie to. I've described it to friends as "Middle-East Celtic," which seems to fit. There are luscious, brogue-tinged vocals here, but much of the music seems to come right out of an Istanbul bazaar—certainly a combination I've never heard before. While much of the writing here is Dead Can Dance's own, there are notable exceptions, particularly Bertold Brecht's lyrics to "How Fortunate the Man with None." The recording venue—Quayville Church—complements the vocals and instrumentals perfectly. The ambience of the Church environment sounds like the real thing—though it isn't always possible to tell for certain today. The sound is simultaneously rich and detailed; this does not sound at all like your typical over-engineered pop mix. Into the Labyrinth is a strange yet strangely compelling recording. (XVII-7, XX-2)

THOMAS J. NORTON

SAINT-SAÉNS: Octeto de Noël RESPIGHI: Laudi per la Natività del Signore Brit-Marin Arduini, soprano; Anne Sofie von Otter, mezzo; Ing-Mari Landin, alt.; Erlaud Haggard, tenor; Ulf Lundmark, baritone; Mikaela Chamber Choir, Anders Elwy Proprius PRCD 10657 (CD only) 1981. Karl-Göran Långström, prod.; Bertil Alving, eng. TT: 57:43

In the late '70s and early '80s, a series of remarkable choral recordings were released by Proprius, a small Swedish label. The effort here dates from 1981. It has long been a favorite of mine on LP, and while this CD does not erase the memory of that accomplishment, it does substantial justice to the superb accomplishment of engineer Bertil Alving—who was responsible for the high sound quality that has so unfairly attained for some of those Proprius choral triumphs. Those familiar only with Saint-Saëns's bombastic "Organ Symphony" and perhaps Samson et Dalila will be astounded at the beauty and subtlety of his writing here for choruses, soloists, organ, and strings. The interplay is superbly rendered in the recording, which also convincingly captures the acoustics of St. John's Church in Stockholm, where it was recorded.

MILES DAVIS: Kind of Blue Miles Davis, trumpet; Bill Evans, Wynton Kelly, piano; John Coltrane, tenor sax; Julian "Cannonball" Adderley, alto sax; Paul Chambers, bass; James Cobbs, drums Columbia CK 40579 (CD only) 1959/1967. Tso
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Macero, prod., digital remix prod.; Larry Keyes, digital remix eng. *** TT: 45:09

Not only does Miles Davis's pensive masterpiece Kind of Blue feature some of the best-known, instantly recognizable pieces, it also boasts one of the greatest all-star ensembles—with an incredible front line of the leader joined by John Coltrane, Cannonball Adderley, and Bill Evans—to ever congregate and collectively improvise in the studio. In Davis's priceless collection, from Evans's short piano intro and bassist Paul Chambers's melodic line in the opening measures of "So What," to Davis's yearning trumpet lines and Coltrane's tenor-sax soul on the alluring end piece, "Acknowledgement," what's even more remarkable is the fact that Davis conceived the compositional sketches only a few hours before the tapes rolled. (XV-2, XIX-2)

JONI MITCHELL: Blue

A little over a decade after Davis's disc, pop singer/songwriter Joni Mitchell recorded her bitter-sweet magnum opus, Blue. With her guitar, piano, and dulcimer providing the bulk of the spare instrumentation, Mitchell delivers a deeply honest, richly poetic collection of tunes about heartbreak, romance, unrequited lusts, and longings for freedom. She's in the title note that "songs are like tattoos." Likewise, her melodies here—prime examples are "Carey," "California," and "River"—are indelible. Plus, she offers such poignantly memorable lyrics (on the subjects of regret and affection, respectively) as "I wish I had a river I could lake away on" and "I could drink a case of you / And I would still be on my feet." The only dated moment in the entire collection is Mitchell singing "I'll even kiss a Sunset pig" ("California."). (XIV-1)

THE NEW MUSIC CONSORT: Pulse: Works for Percussion & Strings

Henry Cowell was the first American composer to advocate both unorthodox instrumental techniques and the assimilation of non-Western cultural influences in his music. These compositional trademarks became strong influences on much of the music of Cowell's two most famous students, John Cage and Lou Harrison. Following Edgard Varèse's footsteps, Cage began, in the late 1930s, to compose for his own percussion ensemble, which drew heavily on Asian music and freely used an unorthodox battery of Western and Eastern percussion instruments. Cage's Third Construction and Cowell's Pulse, both written for Cage's ensemble, date from this period, and were featured on a spectacular 1985 New World recording by the New Music Consort. The performances on this sonic blockbuster (the percussion pieces test a system's transient, dynamic, and soundstaging capabilities) are riveting; it's difficult to listen to the unusually accessible Cage without dancing around the room. Classic Records has now reissued the recording on vinyl and gold CD. When comparing the reissue to the original vinyl, I preferred the sound of the reissue slightly for its quieter vinyl. And Classic's gold CD sounds damn close to their vinyl. This reissue is a must-buy for anyone remotely interested in 20th-century or percussion music. (XIX-9)

DAVID CHESKY: The Fantasies

I am particularly enamored with works by "young" composers who are not afraid to incorporate their life experiences with nonclassical forms into their music, whether it's jazz, rock, or ethnic folk music. Take David Chesky, for example. Although Chesky is most known in audiogeeks circles as a researcher of classical audiofile warhorses as well as a promoter of accessible Latino pop music having the purpose of putting food on the Chesky table. Deep down, his first passion is classical composition. And this collection of slow piano works draw as much from jazz (gg, Keith Jarrett) and strict Latin musical forms as from the influences of Gershwin, Ravel, and Bach. Chesky remains in the strict tradition of piano fantasie composed through the last two centuries—the pieces embody total freedom of expression, and provide a platform to demonstrate technical virtuosity and improvisatory skills. He approached the task of first by performing them via the score, then by listening to the recording. I was at once taken by Chesky's use of unorthodox, dark harmonic tensions in the lower register, dazzling arpeggiated sweeps, polychromaticism, and rapidly shifting meters and phrasing as reminiscent of John Zorn as of Scriabin. Sonically, Chesky's Rösendorfer is produced with intimacy, warmth, and drama, albeit with a slightly dark perspective.

JAMES BROWN: Live and Loudown at the Apollo, Vol. 1
Solid Smoke 8006 (LP). 1962 AAA.

A banner stretching across the bottom of the Solid Smoke reissue (my King original was nearly totally flayed of its grooves through constant play more than 20 years ago) proclaims this to be the greatest live show ever recorded. Who am I to argue? From the MC's exhortation of the crowd ("Now, ladies and gentlemen, national and international known as the hardest working man in show business...") to the final audience accolade, this record re-creates the excitement and superlative musicianship—a seamless, all-shownmanship—that personalized the Godfather of Soul before the schtick began to hinder. Other people may fantasize about traveling back in time to post-war Paris or tura-of-the-century Vienna—I'd give anything to have been in Harlem this October evening in 1962. Live and Loudown takes me nearly all the way there.

DUKE ELLINGTON: The Ellington Suites

For me to choose just one Ellington record is akin to being asked that I save my favorite finger—I don't rightly have any I feel I could do without. But I do return, time and again, to The Queen's Suite. In 1958, Ellington took his orchestra to an arts festival in Leipzig. There, he was introduced to Queen Elizabeth at a reception, and each party appeared to be charmed by the other. Upon his return to New York, Ellington decided to express his admirations in his own regal way—he recorded The Queen's Suite at his own expense and had a single pressing made and delivered to Buckingham Palace. He never sanctioned the recording's release during his lifetime.

In his autobiography, Ellington stated that The Queen's Suite "modeled after the most beautiful moments in his life. Certainly the writing, arranging, and playing personify beauty and wonder. It would be hard to point to a single defining moment, but the duet between Ellington and bassist Jimmy Wood — "The Single Petal of a Rose"—is both personal and passionate. Side 2 has an additional pair of suites recorded in the early '70s. They're all right, but all of the magic resides on side 1.

ROBERT J. REICH

GEORGE REICH

George Reich

J.S. BACH: Cantatas 78 & 106
No.78, "Jeux, der du meine Seele"; No.106, "Gottes Zeit ist die allerbeste Zeit, BWV 106.

They say moving to a new home is as trying as a death in the family. Since I'm surrounded by boxes and since this is "Records To Die For," my selections have a rather morbid tone. This Angel blue-label LP from the mid-'60s (I estimate) is a sonic delight, and my current benchmark for Bach cantatas. Crass is particularly effective. His "Heute, heute, wirst du mit mir" in No.106 is spectacular. As he's contemplating his imminent death and salvation — "today, today, you [God] shall be with me" — the chorus emerges from the soundstage to wrap around him in a beautiful, God-like embrace. Another winner is No.78's soprano/tenor duet: Mathis and Mitchell swoop and soar like synchronized dows. The recording seems miniaturized, but it's smooth, not too compressed, and spacious.

JOY DIVISION: Closer

Closers was recorded in 1980, shortly before Jü's leader, Ian Curtis, committed suicide. (They've since worked as New Order.) Not surprisingly, Closer plays like a guided tour into the abyss. Surprisingly, it works. Unlike their many imitators (Trent Reznor probably got through high school on this album—and then stole its title), Joy Division is believable. Curtis was not posing when he wrestled with life's Darwinian, existential underside: "Atrocities Exhibition" is about deformity and monstrosity ("For entertainment they
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High Performance Review, Winter 1992/93

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watch his body twist ...) and why we love it ( ... behind his eyes he says I still exist)). By side two, we’re looking at the other side of the mirror, only to find nothing but ourselves. Curtis struggles against psychic fragmentation (“Heart and soul, one will burn”), and drops us finally into “hell’s darker chambers,” where we “watch the scenes of [our lives] replaying.” Curtis could not stand what he saw, but he must have loved what he heard. Hannett used all the tricks of his trade to turn JD’s simple arrangements into shimmering, elegant productions. Even on my US LP release (I’d love to hear the UK equivalent), they jump out of the speakers and — like Curtis’s visions — dance into the room.

RICHARD J. ROSEN

JOHN COLTRANE: My Favorite Things
John Coltrane, soprano & tenor sax.; McCoy Tyner, piano; Steve Davis, bass; Elvin Jones, drums
Atlantic 1361 (LP); Nesuhi Ertegun, prod.; Tom Dowd, Phil leilbe, engs. AAA. 1961. TT: 41:26

JOHN COLTRANE: The Heavyweight Champion — The Complete Atlantic Recordings

The title track of My Favorite Things is easily one of my fav — well, you know. Who else could take such an unlikely, sickly-sweet standard and turn it into something so deeply soulful? Play it for your friends who don’t like jazz. Everyone knows the song, so everyone has the reference tools required to make the exquisite beauty almost instantly accessible. As a special bonus, for the rest of your life, whenever you hear the tune, it will no longer be “that song by Julie Andrews,” but “that thing Coltrane does.” Isn’t that enough? Oh, and you may as well get the Rhino boxed set, on vinyl if you still can — you’ll be needing it. (Heavyweight Champion, XIX-3)

THE METERS: Look-ka Py Py

I can’t even think about this record without shimming my Neanderthal bone. This was the second LP from one of the great session bands of the ’60s and ’70s, back when they were tight, tight, tight. Kinda like New Orleans’ answer to Memphis’s Booker T. & The MGs, they’re the band on the greatest albums by the Neville Brothers, Dr. John, and just about any cut of distinction from the Big Easy you might care to name. The Meters bridge the gap between traditional New Orleans music and modern funk. Original vinyl is as rare as a bat as well as a red-capped Nashville politician, but the Rounder reissue sounds fine. Think of it as instant bons temps rouler.

WALAMAN ROBINSON

JORDI SAVALL: La Lina d’Espafia
The Medieval Fiddle, 1100-1400
Jordi Savall, lira, rebec, violes; Pedro Essevan, percussion. Avuida/Austré E 8547 (CD) only. 1995. Anne Fontigny, Manuel Mohino, prods.; Nicholas Bartholomew, eng. DDD. TT: 54:53

I have long been a fan of Jordi Savall’s music-making, and this disc is a distillation of his skills, knowledge, and sympathies. He has arranged a series of suites, from Italian and Spanish sources, to represent the music of Hesperia, the ancient Greek name for Italy and the Roman name for Spain. The pieces are lovely, ranging from the reflective to the joyful. Playing reproductions of period instruments, Savall and his engineers permit us to hear the distinctive resonances of each — the bite of the bow, the accenting percussion — with revealing but natural clarity. Perfect music for a quiet, but certainly not sleepy, evening.

OPENING NIGHT: French Overtures & Ballet Music

The premise here is that theater music was written to be performed by 40-50 musicians, not by a symphony orchestra of 100+. From the lyric opening of Mignon (Thomas) through the rollicking conclusion of Orpheus in the Underworld (Offenbach), we hear these chrestomus with fresh ears, thanks to the braceing performances. Bruce Lee’s engineering continues his impressive series with Klavier, offering the bold re-creation of a pit orchestra with a small band of virtuoso strings and heroic winds and brass. Imaging is explicit, and the bass remarkably solid. As the liner notes say, “Sit back, close your eyes, and listen as we transport you back in time to a Paris opera house for a festive ‘Opening Night.’”

ALKAN: Piano Music
Marc-Antoine Hamelin, piano
Hyperion C1946794 (CD) only. 1995. Andrew Keenir, prod.; Tony Faulkner, eng. DDD. TT: 69:39

Hamelin’s playing is so astounding that I gasp for breath every time I listen. He plays this demonically difficult music with such assurance and éclat that one can approach the spirit behind Alkan’s explosions of notes. The opening Grande Sonata depicts “Les Quatre Ages” of life, and so begins in grave youth. With each movement, as age succeeds age, Hamelin’s uncanny control conveys the progressive slowing. There is no let-down in the other pieces, and the program ends with a vigorous and flexible Le Festin d’Espe. The well-known Faulkner/Keenir team have provided a clean, fairly reverberant sound. It is natural at reasonable levels, but what a blast when you turn up the wick!

ARNOLD: Arnold for Band

I hesitate to include this because audiophiles already acclaim Arnold’s Lyrica recordings, and his Tan O’Shanter on the RCA (and now Classic Records) Witches’ Brew LP. (If you didn’t know these, then I slipped in a few extra R2D4s over my limit) Well, folks, this is more good stuff. In addition to band arrangements of the English and the Four Scottish Dance, I particularly relish the witty Padstow Lifeboat and the riotous and gripping Tan O’Shanter. This sonic spectacular demonstrates the benefits of HDCD processing, and contains delightful music played with power and finesse. If your woofers can handle it, turn it up and revel!

THE WILD WEST MUSIC OF BUFFALO BILLS WILD WEST BAND
Anceous Brass Band, Plenty Coups Singers

Available only from the sponsoring historical society, this re-creation of turn-of-the-century theatrics is introduced by Buffalo Bill himself, and features razor-sharp resolution of brass, winds, and percussion played with precision and verve. It offers one of the last of the popular (1887-1906) shows, from “The Star Spangled Banner” through marches and two-steps, traditional airs, Handel, Offenbach, authentic and pseudo-Indian pieces, and concludes with a solemn tribute to the soldiers of the Civil War, “Tenting Tonight on the Old Campground” — all accompanied by fascinat- ing brochures and photos. This is a rare disc that can give you a wonderful sense of times long past through the open window provided by dedicated artists and pellucid sonic qualities.

JONATHAN SCULL

PATTI SMITH: Gone Again

I love Patti Smith. (Kathleen first, of course.) Then Laurie Anderson. I was electrified by Pant’s performance with such notables as Allen Ginsberg and Philip Glass at the Tibet House benefit this past Winter. She was... resplendent. Visceral, yet spiritually way out there. The booklet artfully displays her poetry. I imagine the pages, enlarged, hanging in a SoHo gallery. The music is powerful and compelling. I can’t remember when last I paid such attention to lyrics. Play “Wing” and try to stay composed. “Raven” picks you up and leaves you smiling, happy inside. Don’t miss this album. A consummate work of art. (XIX-9)

LOU REED: Set the Twilight Reeling
Warner Bros. 46-5392 (CD) only. 1996. Lou Reed, prod., mix; Steve Rosenthal, eng., mix; Bob Ludwig, mastering. ?? TT: 50:56

Another album whose booklet is the key. It’s encased in a deepest-blue jewel case, making all behind it dark and mysterious. The true life and color, when unfurled, are shocking. We’re not talking weasly lyrics, either. Try this on for size: “I was thinking of things that I hate to do / .. Something faster and uglier than Rush Rambo / Something more disgusting than Robert Dole / Something pink that climbs out of a hole / And there it was — sex with your parents...motherfucker!” Say no more! Fantastic album, perfectly terrific sound, vintage Louis, and even a touch of backing vocals by girlfriend Laurie Anderson. So, lemme ask you...what’s not to like? (XIX-5)
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Harry Pearson,
The Absolute Sound Magazine
Issue 107, 1996

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DUKE ELLINGTON: Duke Ellington and his Famous Orchestra, Fargo, North Dakota, November 7, 1940

Duke Ellington, piano, arranger; Ice Stewart, cornet; Wallace Jones, Roy Nance, trumpets; Joe "Tricky Sam" Nanton, Juan Tizol, Lawrence Brown, trombones; Barney Bigard, clarinet; Johnny Hodges, alto sax; Otto "Tuba" Hardwick, clarinet, alto sax; Ben Webster, tenor sax; Harry Carney, baritone sax; Freddie Guy, guitar; Jimmy Blanton, bass; Sonny Greer, drums; Louis Armstrong, Herb Jeffries, vocals; Verve (2 CD's: VJ93-94). 1940/1991 Jack Towers, eng. AAT: TT: 234:38

HI, while we’re waiting on 24-bit digital, anyone for direct-to-disc? Out of a series of anonymous one-nighters by the Ellington band in fall 1940, recording engineer Jack Towers found himself in Fargo, North Dakota one fine evening with a disc-cutting machine. Decades later, Towers himself remastered it all down to 2½ hours’ worth of material, and the results are of historic import for jazzos and audiophiles alike. With the possible exception of Ellington’s mid-50s juggernaut, this was the composer’s fairest ensemble — one of the greatest orchestras in the history of American music playing some of their leader’s most notable arrangements. When the PA bites, the leader’s piano and the vocals can disappear in the disc-cutting work, and of course there’s sure face-wise, but Towers has not only rendered the sound of hard-to-record instruments such as the drums and acoustic bass with uncommon clarity and dynamism, he’s captured their overall balance with the brass and reeds alike. This is a remarkable example of how the band and their most celebrated soloists actually sounded 50 years ago, and you are there.

BELA BARTOK: Concerto for Orchestra, Music For Strings, Percussion and Celesta

Fritz Reiner, Chicago Symphony

RCA (red Seal 5624; 2-CD) (C1 only). 1955. Richmond Mohr, prod; Leon Layton, eng. AAT: TT: 6507.5

I was a little boy when Reiner’s classic recording of Bartok’s Concerto for Orchestra was first released in 1955, and I was captivated by its dark lyricism, startling dynamics, and relentless rhythmic thrust. Some four decades later, the Chicago Symphony’s performance of this seminal 20th-century work remains the standard by which all other recordings must be judged. As a movement, Reiner brought a unique perspective to the work of his Hungarian contemporary, and a subtle rhythmic thread wends its way through the dramatic contrasts of the first movement, the spare martial mystery of the second, the somber gravity of the third, the folkish airs and cheeky parodies of the fourth, and the exultant, dance-like exchanges of the finale. Bartok treats the orchestra like a giant polyrythmic, polymorphous percussion instrument (much as Delius did with La Mer), and Reiner recognizes this as few contemporary conductors do. (Bartok deals even more explicitly with this type of rhythmic treatment in Music For Strings, Percussion and Celesta. This early stereo recording offers a very dreamy perspective with stylized room ambiance, pronounced channel separation, rich, silky strings, and warm, hifing brass — all of which add to the mystery of the music and beckon the listener to become more involved. (XVIII-2, 6)

SONNY ROLLINS: Saxophone Colossus

Prestige (C1-319-2) (C1). 1956/1987. Bob Weinstock, original session prod; Rudy Van Gelder, engineer. TT: 39:58

Rollins walked into a New York studio in June, 1956 and created — despite his later feelings to the contrary — musical perfection. Two jazz classics are debuted: the irresistible undulating calypso "St. Thomas," where the tenor saxophonist banters gaily with drummer Max Roach, and the eloquent slow drag, "Blue Seven." The standards are, likewise, wondrous. "Morrat," or "Mack the Knife" to most of us, has undeniable sizzle and pop, while the three tempos of "You Don’t Know What Love Is" present Rollins as Picador-ish cubist, examining his vehicle from every angle. Throughout, his sound is brilliantly gruff.

CHARLIE PARKER: Confirmation: The Best of the Verve Years


This is splendid for your ears, heart, and mind. Collects many of Bird’s grandest goodies made between 1947 and 1953 for such labels as Mercury, Clef, and Verve. For sheer bebop wizardry — that rush of tempo that can cause shivers — there’s “Kim,” and “She Rote.” For three-hanky, catch-your-breath bravado, there’s “Embraceable You” or “Lover Man,” the altoist’s grieving sound singing every note. Parker’s ever-astonishing melodic grace lights up “Just Friends” and “The Song Is You.” Finally, there’s the bebop anthem “Confirmation,” with its twist-turns and plain feel-good attitude where Bird’s lines flow with characteristic exuberance: Timeless stuff, all.

TULARE DUST: A Songwriters’ Tribute to Merle Haggard

High Note HNC-8058 (CD only). 1994. Toni Russell, Dave Alvin, prod. AAT: TT: 50:45

It’s so damn hard to winnow down all the great releases on my shelves to two worthy for inclusion in this year’s “Records To Die For.” An anthology like Tulare Dust makes the selection process a trifle easier since it includes many fine performances by exceptional artists. Initiated by producers Tom Russell and Dave Alvin, this project features a collection of “roots performers” doing their favorite Merle Haggard songs. There isn’t a bad cut on the disc.

HOMER & JETHRO: Songs My Mother Never Sang

RCA LSP-2286 (LP, n.a.). Chet Atkins, prod; Bill Porter, eng. AAA. TT: Long enough to die laughing.

To most people, Homer and Jethro were merely country clowns. In fact, they were musical gods, and one listen to Songs My Mother Never Sang should convince you. Both of them were great swing players — almost any Jethro Burns mandolin solo ("Will you Love Me?" is a peach) is the equal of work by 23ango Reinhardt, Les Paul, or Charlie Christian. In 1977 Flying Fish released Jethro Bonita (FF-042), a superb LP of jazz instruments. Homer (née Henry) Hayes was a fine singer and a quite respectable guitarist — just listen to his intro conning on "Tattooed Lady." Before song-banter and occasional screwups are included — the beginning of "I Love Your Pizza" includes backup singers laughing so hard they can’t sing (one even says herself, "think of something sad . . ."). Produced by Chet Atkins, who also plays guitar fills and an occasional solo ("Will You Love Me?"), and engineered by the legendary Bill Porter. This disc sounds as good as anything that ever came out of RCA’s Nashville studios. In other words, it’s a killer. Vocals are natural, the soundstage is immense, and the string bass blooms like a string bass should. If you’re stuck on a desert island, this disc will certainly make a nice sun-bath or, make you laugh out loud.

CLIMAX BLUES BAND: FM Live


As one of the most underrated English blues bands from the ‘70s, you’d have been hard pressed to find a harder-working group than the Climax Blues Band. seasoned like ever since a major rock band was coming to town, CHB was the opening act. Although they released a fair number of studio albums during their career, FM Live — recorded live in 1973 at the Academy of Music in New York and broadcast live on WNEW-FM — shows CHB doing what they did best: playing in front of a large, engaged audience. Offering a generous mix of originals (“All the Time in the World,” “I Am Constant”) and covers (“Seventh Son,” “Goin’ to New York”), Peter Haycock (guitar, vocals), Colin Cooper (bass, vocals), Derek Holt (bass, vocals), and John Cafferty (drums) take control of the crowd and don’t let go until the final track — a rocking version of Cream’s “White Rabbit” — is ended. This album hasn’t left my turntable since I rediscovered it four months ago. Whatever happened to these guys?

JONO MANSON: One How’s Town

Independent recording (CD only). 1994. Jono Manson, Paul Fraser, Tony Viscardo, prod. Enos; Mike Dysinger, eng. AAT: TT: 50:48

A couple of former co-workers used to come to my office on Monday mornings and rave about some local singer/guitarist named Jono Manson. I finally got a chance to hear him myself and ended up with a copy of his debut album, One How’s Town. With help from some studio heavyweights (Ian Wallace on drums, the late Nicky Hopkins on piano) and an occasional guest artist (Blue’s Traveller’s John Popper on harmonica),
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NICHOLAS PAYTON: Gongbo Nouveau
Nicholas Payton, trumpet; Jesse Davis, alto sax; Tim Warfield, tenor sax; Anthony Wonsey, piano; Reuben Rogers, bass; Adonis Rose, drums
For his second album, trumpeter Nicholas Payton (b. 1973) has chosen some tunes he grew up hearing and playing in New Orleans—including "When the Saints Go Marching In," "After You've Gone," and "St. James Infirmary." As he writes in the notes, "I have done all types of gigs ranging from jazz, rock, fusion, R&B, rap, Latin, and even heavy metal. All have apparently influenced his music. Payton likes this melding of influences to a gumbo." You start with a roux, which is the foundation. Then you add many different ingredients together that blend into a homogeneous mixture called gumbo." Don't worry, though—this is a traditional jazz album, not some fusion mishmash. Payton is one of the best young talents in jazz — hard to believe he was just 22 when he recorded this disc. It sounds like he's spent years honing his skill. He has the Right musicians are impresive, too. The recording quality is excellent.

CHICO FREEMAN: Chico
Chico Freeman, tenor sax, flute, bass clarinet; Richard Abrams, piano; Cecil McBee, bass; Steve McCall, drums; Toshi Nakamura, guitar
India Navigation ID 1031 (LP/CD). 1977. AAA.
I might have chosen Chico Freeman's late-70s recording Spirit Sensitive, which has been reissued by Analogue Productions; or Freeman's more recent India Navigation disc, Still Sensitive. What Chico offers here is a more wide-open framework for improvisation, beginning with his long duo with bassist Cecil Mcflee on "Moments," Freeman's tenor sax is clear and full of body: he has presence. So does Mcflee's bass — this is one of Mcflee's greatest records, and the one that best captures his sound. Freeman's bass clarinet playing is a bonus. I'm something of a bass clarinet junkie: The complex but controlled, crying sound of the instrument seems so human. I considered The Intimate Ellington (Pablo 2310-787) for this issue merely for the astonishingly vivid sound of Harry Carney's bass clarinet on the wonderfully simple blues "Intimate Intertlude." A masterpiece both as music and as a recording. "Intimate Intertlude was only one cut, though, and most of the others weren't up to the "dying-for" standard. Chico is a wonderful recorded small-band session of vividly played, lyrical, often free jazz, it's a winner both on LP and on the recent CD.

ELLA FITZGERALD: Sings Songs from Let No Man Write My Epitaph
Ella Fitzgerald, vocals; Paul Smith, piano
Verve V-4103 (LP). 1966. AAA.
What I mostly remember about the suddenly confusing movie Let No Man Write My Epitaph is, of course, the presence of Ella Fitzgerald. Was she there because, in the producer's mind, jazz and the drug-drenched world of the movie seemed to go together? Or was Ella included just to add a touch of class? (Remember Carmen McRae in Hotel?) Anyway, I bought the record, and Ella's intimate, supple renditions of some of the best Tia Pan Alley love songs has made it one of my favorites. The recording captures every nuance of her voice, its sudden vibrato, occasional expressive hoarseness, its warmth and essential cheerfulness. There's none of the showboating here that I find disturbing in some of her live performances. Singing "Black Coffee" at a crawling tempo, the still swings, but lightly. I'm listening to the wonderful Classic Records reissue — like the original, it preserve Ella and accompany Paul Smith so convincingly they seem right in the room. These are tight laws like the weird momentary resonance at the beginning of "Melancholy Baby" — but who cares? I heard Ella Fitzgerald live several times when she didn't sound this good — or this "real.

LEON SAM & THE SAM BROTHERS: Leon's Boogie Is Back
MTE 5054-2 (CD only). 1996. Jay Miller, exec. prod.; Leon Sam, prod., eng, mix; Eddie Bodin, mastering. TT: 49:18
MTE is Master-Tune Enterprises, 413 N. Parkum Ave, Cowlmpy, WA 70526. Tel (318) 788-0773.
As Wes Phillips might ask reviewers — and does — "Do your speakers boogie?" Find out with this zesty CD featuring Leon Sam on accordion and vocals. Calvin, Ronnie, Carl, Glen, and Rodney Sam back him up, along with Curtis Andrus and Andre Deshotel. Hey, I'm no zydeco buff (yet), but this must be one of the hottest zydeco records ever recorded. Leon Sam is a fine blues singer, too. Listen as he belts out, "Two O'Clocik in the Morning." Everybody — well, nearly everybody — needs to boogie sometime. Make it this one. The recording quality is well, beside the point. Variable, actually: adequate in places, excellent in others. Superb kick-butt bass throughout — I guess that's what matters.

MUDDY WATERS: Live at Mister Kelly's
Class C113-9338 (CD only). 1965. Tom Wilson, prod.; Val Valentim, eng. AAD. TT: 60:29
In addition to his skills as a songwriter, guitarist, and bandleader, Waters was one of the best blues vocalists in history. He did as much to influence rock and popular music as any other blues musician, singing with savage yet calculated emotion and controlling a fierce beat effortlessly. This live album, recorded in a Chicago nightclub, shows Muddy at the top of his form, backed by Willie Dixon on drums, Calvin Jones on bass, Joe Perkins on piano, and James Madison and Samuel Lawhorn on guitars. Check out "Country Boy" and "C.C. Woman.

THE MOTHERS OF INVENTION: Freak Out!
Though Mstislav Rostropovich's previous recording of this symphony with the same orchestra (DG 2532 076, LP) preserved a distinctive, personalized interpretation, this equally insightful remake is better recorded and more confidently executed. From the eerie, vibratoless violins of the opening, through the Adagio's sustained breadth, to the incisive, tightly disciplined Finale, the conductor firmly considers every phrase with respect to balance, dynamics, and expressive nuance. The music thus presents a broad range of emotions, but all within a straightforward, cohesive framework, never indulgent. The symphony might by itself on a CD isn't the greatest by far, but if you love the music, you'll find this a worthwhile journey — one of the few or five really essential performances around.

SHOSTAKOVICH: Symphony 5
Mstislav Rostropovich, National Symphony Orchestra Teldex 94555-2 (CD only). 1996. MartinFcagot, prod.; Eberhard Seelig, eng. AAA. 13110; TT: 60:07. Beautiful, in fact breathtaking, astonishingly gorgeous. The Bohemian Zdenek Fibich (1850-1900) shares with his better-known contemporaries Dvorák a gift for melody, losing off appealing, colorfully orchestrated tunes in almost bewildering profusion. In Symphony 1, Neeme Järvi maintains a consistent forward flow, springs the rhythms nicely, and shapes phrases with point, making it sound like one of the great masterpieces of Slavonic music. The first two installments of Smetana's patriotic cycle here sound freshly minted: Vysehrad unfolds majestically, while Vitava is simply magnificent — steadily flowing, with an unusually dancelike central section. Chandon's recording is a bit better than life, but the luscious sonorities are certainly seductive, and inner detail registers without obvious spot-
lighting. Given Järvi’s pronouncements for recording music in big batches, I’m looking forward to further installments of a complete Fidich cycle (and a complete Milhaud).

J.P. Wearing

VERDI: Requiem, Quattro Pezzi Sacri
Elisabeth Schwarzkopf, soprano; Christa Ludwig, mezzo; Nicolai Gedda, tenor; Nicolai Ghiaurov, bass; Philharmonia Orchestra & Chorus, Carlo Maria Giulini
EMI C3JCB 47257 2 (2 CD's only). 1964. NOT LISTED, eng. AD1D. TT: 207:38
At my hopefully very distant wake, I’m having Giulini’s version of Verdi’s Requiem played. Even after 33 years, it really is that good, and remains the absolute yardstick for all other performances. Giulini is at one with Verdi’s score, and provides a thoroughly idiomatically interpretation. Soloists, choir, and orchestra are magnificent, giving almost unbelievably dramatic and committed performances. Even Schwarzkopf’s quirky vocalization are endearing. The one blemish is the occasionally distorted sound. There are other fine recordings, but they simply cannot supplant Giulini’s sublime and visceral account in my affection. I’ll be a grand send-off.

MAHLER: Symphony 8
Heather Harper, soprano; Lucia Popp, soprano; Arleen Augér, mezzo; Yvonne Minton, alto; Helen Wann, alto; René Kollo, tenor; John Shirley-Quirk, baritone; Martti Talvela, bass; Vienna State Opera Chorus, Singverein Chorus, Vienna Boys Choir, Chicago Symphony Orchestra, Georg Solti
London 444 493-2 (2 CD's only). 1972. NOT LISTED, eng. AD1D. TT: 79:34
Everything about Mahler’s Eighth is stunning—its composition in 10 weeks, its innovative content, and the numbers required for performance. It also needs a conductor with an architectural vision to bring its musical, philosophical, and dramatic elements together coherently. Soloists is such a visionary. His dynamism is sustained through to the inspirational climax of Part Two. Solti is here blessed with every exceptional soloist, and equally top-notch choirs and orchestra, all of which respond to his every demand. The amazing 1971 sound is as good on CD). Just crank up your gear, rattle the windows, shake up the neighbors, and create your own superlatives.

BARRY WILLIS

STAN GETZ/JOAO GILBERTO: Getz/Gilberto
Stan Getz, tenor sax; Joao Gilberto, guitar, vocals; Antonio Carlos Jobim, piano; Tommy Williams, bass; Milton Banana, drums; Astrud Gilberto, vocals
STAN GETZ/CHARLIE BYRD: Jazz Samba
Stan Getz, tenor sax; Charlie Byrd, guitar; Reuter Ians, bass; Gene Byrd, bass, guitar; Buddy Deppenschmidt, Bill Reichenbach, drums
A two-in-one entry; conjointed twins may have different names, but the same blood circulates in their bodies, brazalian jazz took the world by storm in the wake of the phenomenal film Black Orpheus, winner at the 1959 Cannes film festival. In the 1960s these recordings were heavy rotation on the turntables of jazzheads on every side of the Iron Curtain, and for good reason: “Desafinado,” “Corcovado,” “Samba de Uma Nota Sois,” “Samba Triste,” “Vivo Sohando,” and the immortal “Gari from Ipanema.”

Jazz Samba was recorded in audio vide by Ed Green at All Souls Unitarian Church in Washington, DC in February 1962. Getz/Gilberto is a studio recording from the following year by Phil Ramone, who wisely abandoned his “wall of sound” technique for a warm, intimate acoustic.

Ella Fitzgerald/Louis Armstrong: Ella and Louis
Louis Armstrong, trumpet, vocals; Ella Fitzgerald, vocals; Oscar Peterson, piano; Herb Ellis, guitar; Ray Brown, bass; Buddy Rich, drums
Set the wayback machine for a more innocent time: August 16, 1956. Caught at the top of their game, Louis, Ella, and their quartet of ace musicians greeted辽宁 through 11 wonderful old standards by Irving Berlin, Hoagy Carmichael, the Gershwin brothers, and others. Some of the original tape has survived on the CD, but the hi-fi is hi, warm, balmy, and enigmatically reassuring. The performers seem to be having a genuinely great time playing genuinely great music. Love graces every note. Can anyone sit through “A Foggy Day,” “The Nearness of You,” or “Check to Check” and remain unhappy?

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Stereophile, Oct. ’95

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Stereophile, Feb. ’96

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A CELEBRATION OF GREAT MUSIC

These live performances took place over two seasons at the famed Santa Fe Chamber Music Festival. Musicians include Carol Wincenc, world-renowned flutist. Julie Landsman, principal horn of the Metropolitan Opera Orchestra. Sheryl Staples, violin, associate concertmaster of The Cleveland Orchestra. And—in the Dvořák—conductor Heichiro Ohyama.

- Mozart's Flute Quartet in D Major, K 285, provides the players with a chance for brilliant display. The flute is spotlight in the central Adagio—a long-breathed aria accompanied by plucked strings. It's truly breathtaking!

- Brahms's Trio in E-flat Major for Horn, Violin, and Piano, Op. 40. This is gentle, beautiful, pastoral music—written in memory of Brahms's mother. The slow movement evokes the composer's happy childhood memories, while the concluding Allegro con brio is reminiscent of hunting-horn calls and closes in a blaze of color and excitement.

- Antonin Dvořák's Serenade for Winds and Strings in D Minor, Op. 44, hints at folksy Bohemian origins. Both the performance and the recording seem to be almost illuminated by sunlight.

Stereophile's John Atkinson used two pairs of time-aligned B&K microphones to capture the musicians in space and the reverberant soundfield. The CD was recorded and mixed with 20-bit resolution. As Sam Tellig said after hearing this recording, "There's palpable presence... there's a lot of there there!"

We guarantee you'll agree. Total timing on the disc is a generous 70:27. The CD is available immediately—the sooner you order, the sooner you'll enjoy! Buy extras for friends—makes a great gift.
Even though I’m that analog guy, like most of you I listen to more CDs than LPs. Surprised? You shouldn’t be. The ratio of new music issued on CD vs LP is probably 1000:1 or more, and since I review more music than audio equipment, and since I’m always interested in new music, that’s how it has to be.

But I remain more digiphobe than digiphile. Not once in my life have I sat down with anticipation to listen to a CD. The music? Yes. What I know I’m going to get from the sound — and get? Not once. Never. I’m neither proud nor ashamed of it. It’s just a fact.

I do sit down and listen to music on CDs now — something I couldn’t do a few years ago, when most CDs sounded harsh and gritty and dull and lifeless, and not with walls full of much-better-sounding vinyl staring me in the face! New CD music was background music; old vinyl music was turn-out-the-lights and-listen music.

Now, with better hardware and much-improved software mastering, I can sit down and listen to a CD-generated soundstage and enjoy what I’m hearing — at least on an intellectual level. I hope you non-vinyl-owning readers get to hear Mighty Sam McClain’s Give It Up to Love, remastered using JVC’s XRCD system, when it becomes commercially available, so you can compare it to the original and hear something much closer to both the analog master tape and the LP. Still, when I want to feel the blood rush to my head and my heartbeat speed up or slow down, when I want to be amazed and refreshed — it’s vinyl for me.

There are of course, committed digiphiles out there — people who don’t just accept CDs but love them. (Maybe you’re one of them.) They think CDs are a giant step up from LPs, and they don’t miss anything about vinyl. They’re not so obtuse as to believe that nonsense they read on certain Internet sites, and in a few “mainstream” publications, which proclaims that digital was “born perfect” — that it sounds no better today than it did in 1983, and that a Sony PCM-F1 was and is sonic perfection — so they’re constantly looking for ways to upgrade digital sound.

I don’t believe an all-in-one box like the $4100 Naim CD2 will hold much attraction for those folks. After all, you can’t change transports or processors or digital interconnects; you can’t add jitter reducers, RAM buffers, or resolution enhancers. You’re stuck with a box that plays CDs.

But if you’re a hold-your-nose-and-play-‘em kind of CD listener, a one-box unit like the CD2 has got to be the way to go. If CDs are anything, they’re convenient. Why let anything get in the way of that, especially since, no matter how you play them, you’re going to be left unsatisfied?

After spending a few months with the Naim CD2, I’m convinced it’s a player worthy of every digiphile’s attention, and it could be all the digital gear even some committed digiphiles might need if they’re willing to let go of all the potshka-ing and tweaking.

What’s in a Naim?

I once ordered John Hiatt tickets from one of the phone services. When I couldn’t get the seats I wanted, the woman said, “I can give you C-section.” “C-section? I’m not even pregnant.” She howled.

“Do you mean to tell me no one’s ever used that on you before?”

**EQUIPMENT REPORT**

**Nothin’ Says Music Like CDs from the Oven:**
The Naim CD2 CD player

**Michael Fremer**

**Description:** One-box multi-bit CD player. Frequency response: 10Hz–18kHz. ±0.1dB. De-emphasis error: ±0.1dB referenced to main response. Maximum output level: 2.0V RMS at 1kHz. Output impedance: 10 ohms (minimum load impedance, 10k ohms). Phase response: linear phase, absolute phase correct. Distortion and noise: <0.1%, 10Hz–18kHz at full level.

**Dimensions:** 17” (430mm) W by 3” (76mm) H by 11.8” (300mm) D.

**Weight:** 25 lbs.

**Serial number of unit reviewed:** 118583.

**Price:** $4100. Approximate number of dealers: 30.

**Manufacturer:** Naim Audio Ltd., Southampton Road, Salisbury, Wiltshire SP1 2LN, UK. Tel: (44) 1722-332266. Fax: (44) 1722-412034. US distributor: Naim Audio North America Inc., 2702 W. Touhy Avenue, Chicago, IL 60645. Tel: (773) 338-6262. Fax: (773) 338-6202.

**Stereophile, February 1997**
"Nope," she replied.
I couldn't believe it. Well, that's why I used "What's in a Naim?" Obvious, but maybe no one's used it. Maybe no one's used "The Naim Game" or "Naim that Tune" or "Naim Brand" or...
Okay, I've gotten them all out of my system. That leaves me with a Naim CD2 in a no-Naim system (oops). But my system isn't a Naim system, and Naim products are designed to be used in a Naim system. Naim amps, preamps, tuners, CD players, and speakers, each is a matching piece of a puzzle that adds up to a particular sound: The Naim sound.

**Rhythm is their business**
What is the Naim sound? I've heard a complete Naim system, and if it's about anything, it's about rhythm and pacing and ironfisted control and bass dynamics and a solid kind of liquidity that results in tenor sax sound like tenor sax and alto sax sound like alto sax. It's about the excitement of music. It's not about low-level resolution, "air," space, gigantic soundstages, or glittery shimmer on top. Naim speakers are designed to go against the wall: So much for deep soundstages. If that's of paramount importance to you, listen elsewhere.

But if you want to hear a listless recording snap into focus and jump into your lap; if you want to be surprised and drawn into recordings you thought you knew; if you want to suddenly "understand" for the first time a recording you've heard a hundred times, "unraveled" not by resolution but by rhythmic transformation — try playing it on an all-Naim system. I don't care how much you like "resolution" and air and space and depth and soundstage width — you'll be impressed by a Naim system even though it doesn't do all of those things as well as some others. It may even seduce you into chucking all of your preconceived sonic notions and do an end-around.

End of Naim commercial.

**What's in a Naim**
The CD2 looks identical to every other Naim electronic product: understated, solid, monolithic, and black, with green LEDs and backlit Naim logo. Four buttons — Play, Stop, Next, Previous — plus a simple display are all you get on the front, other than the oven door.

The CD2 is a top-loader based on the Philips CDM-9 transport (same one Krell uses), which here is suspended via a springy elastomer and built into an extremely solid, ultrarigid, swing-open, single-hinged door. You will never confuse the rock-solid Naim door with one of those plastic, spring-loaded motorized trays!

A low-mass, low-inertia magnetic puck effectively clamps the disc onto the transport's spindle. All of the surfaces around the disc are light-absorbent to improve the performance of the optical system — which, as Naim points out, does not output a digital signal, but rather a "complex radio-frequency analog waveform that has to be deciphered into digital code. The fidelity of this RF signal is dependent on the transport and its support."

The rear of the chassis is equally simple: an on-off switch, an IEC AC jack, and a 5-pin DIN socket. Yes, a DIN socket. DIN-to-DIN is the Naim way for grounding and other reasons. For those outside the fold, Naim will supply a 4-long DIN-to-RCA plug cord made by Chord for about $80 (other lengths are available). Of course, you're free to make your own, or have one custom-made by your favorite cable company. I used the Chord cord.

When you unpack the CD2, you have to remove a few transport locking bolts — which are not connected to the transport at all. Rather, they hold the circuit board steady during shipping. Removing them frees up the three-spring suspension that isolates the board and reduces microphonic noises that Naim says are otherwise measurable at up to 40dB above the noise floor.

I removed the heavy, rigid outer case to have a look-inside. What I found was a really neat layout with the servo chip (Philips SAA 7310) and initial digital data electronics built into the bottom of the swing-out door and connected to the main board via a short length of flat flexi-cable. A magnetic door catch holds the tray in place when it's in the play position.

Proponents of single-box units (of which Naim is one) claim that a short digital signal path and avoiding the S/PDIF interface are the two best ways to avoid jitter. Once the data reach the main board, they encounter standard chips: the Philips TDA1541 multi-bit DAC and SAA7220 oversampling digital filter. But there's nothing standard about the juice, which features 15 individually regulated low-noise power supplies.

In other words, Naim's game is not based on new technology or new chips, but on what the company sees as superior implementation of proven technology and meticulous attention to detail — especially when it comes to mechanical stability, power-supply regulation, and grounding.

**Naim recognition**
What does all of this fastidiousness add up to? The efficacy of the drawer mechanism — or lack thereof — is an open-and-shut case: It's the fastest, most convenient, and easy-to-use access system I've ever used. And it just feels better. Granted, a true top-loader can be equally fast and convenient. The only problem is it restricts the player to a top shelf. The CD2 goes on any shelf.

Drop the disc on the spindle, pop on the magnetized clamp, close the oven door, and press Play. Before you can blink, the disc starts playing. Had enough? Pop open the drawer and the disc stops. For music reviewers, this is an incredible convenience. For normal people, it's still the best way to go. Try it and you'll want it — until you misplace the clamp! You can't play anything without it, so watch where you put it.

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**Associated Equipment**

**Analog front-end:** VPI TNT Mk.3, Immedia tonearm, Crown Jewel cartridge.

**Digital front-end:** AudioAlchemy DDS+Pro transport, DTI-Pro 32, Enlightened Audio Designs DSP 9000 Mk.3 HDCD processor.

**Preamplifier:** Audible Illusions Modulus 3A, FM Acoustics 122 phono section.

**Power amplifiers:** Cary 805 SE triode, VTl Signature 175.

**Loudspeakers:** Audio Physic Virgo, Audio Physic Terra subwoofer.

**Interconnects:** Yamamura Millennium 5000, A.R.T., XLO Signature, XLO Type 3.1 Signature, Precision Interface Technology.

**Speaker cables:** A.R.T.

**AC cables:** Transparent, A.R.T., Marigo, WireWorld, TARA Labs.

**Accessories:** Power Wedge 116 line conditioner, Bright Star Audio Big and Little Rock platforms, Townshend Seismic Sinks, A.R.T. "Q" dampers, D.J. Kasser Black Diamond Racing cones, Harmonix tuning feet, Yamamura Millennium Bearing speaker supports.

— Michael Fremer
Naim's remote is basic and easy to use, though it includes many useless buttons when the CD2 is used in a non-Naim system. The Previous and Next buttons allow you to move forward and backward from track to track; after pushing CD, you can access tracks by number. There's also Stop, Pause, Program, Repeat, and Fast Forward and Back. The "Disp" button changes the LED display from track number to track elapsed time. In other words, Naim covers the basics while avoiding all that gimmicky stuff most of us never use.

The Naim Sound
When I played my first disc (don't remember what it was) on the CD2, I was immediately wowed by the sense of quiet. Yes, noise on CDs is already at the vanishing point — way down from any LP rig. Why, then, is there a sense of continuous glide through a groove? This is why some audiophiles hate CDs and others can listen only in short sessions. Others don't seem to be bothered by the CD problem, but it exists as surely as do allergic reactions to peanuts. Is it all in my head? And yours? Who knows? All I know is, when I switch from CDs to LPs, I feel myself relax and sink into what with the CDs appeared to be an invisible wall of chaos. The Naim CD2 brought me closer to that sense of analog calm, and put a larger void of darkness between the music and the perceived noise floor, than any other digital rig I've heard — though, admittedly, that's not too many.

The next thing I noticed about the

**Naim covers the basics while avoiding all that gimmicky stuff most of us never use.**

calm and quiet with LPs, and feelings of subtextual madness when listening to CDs? Does the brain sense the billions of real-time digital calculations needed to create the music is a stylus's smooth, low-level linearity, more recent DACs — such as the Burr-Brown PCM63 and PCM1702 (and Ulta Analog D20400) — have better intrinsic linearity than the Philips TDA1541 used in the CD2. Note that the CD2 features the S1 "Crown" version of the TDA1541, the highest grade.

The CD2's reproduction of a 1kHz, -90dB undithered sinewave is shown in fig.6. The waveshape is overlaid with audio-band noise, but is symmetrical. This almost looks like a dithered signal, but the test track was of an undithered

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**Fig.1** Naim CD2, frequency response (top) and de-emphasis response (bottom) (right channel dashed, 0.5dB/vertical div.).

**Fig.2** Naim CD2, crosstalk (R–L channel dashed, 10dB/vertical div.).

**Fig.3** Naim CD2, spectrum of dithered 1kHz tone at -90.31dBFS, with noise and spuriae (16-bit data, 1/2-octave analysis, right channel dashed).

**Fig.4** Naim CD2, spectrum of digital silence (16-bit data, 1/2-octave analysis, right channel dashed).

**Fig.5** Naim CD2, left-channel departure from linearity (2dB/vertical div.).

Stereophile, February 1997
CD2 was its bass power, its almost totalitarian control and rhythmic thrust. Disc after disc, the CD2 focused and clarified bass lines and presented music with uncommon warmth and intimacy. Taut but not inelastic, the CD2's bass reminded me of how quarters bounce off a bed made with hospital corners is one whose sheets are only sloppily tucked in.

Even though there was plenty of bass energy, the CD2 never swelled or bloated it—it always laid the bass rhythm bare, creating a framework around which the rest of the musical picture was hung with uncanny clarity.

In many ways, the CD2's sonic presentation was much like that of the VPI JMW Memorial tonearm: smooth but not soft, and though it lacked sparkle and air—not dull. Like the arm, it held the whole picture together in a harmonically convincing way. Instruments sounded like themselves. Massed strings on such CDs as Classic's gold trove of The Royal Ballet (LDSCI) 6065) had a creamy smoothness, but also a nice "bite," without sounding harsh or edgy. Brass was burnished and warm, winds expansive without sounding wispy.

If your audiophile jollies include resolution of inner detail and soundstaging width and depth, the CD2 probably won't be to your liking. Playing disc after disc on the CD2 and then on the Audio Alchemy DDS Pro transport/DYTI Pro 32 jitter-reducer/resolution-enhancer and EAD DSP-9000 Mk.3 H1D2CDI® processor, it was clear that the CD2 offered a narrower, flatter soundstage, with a somewhat concealed sense of the distinction between the event and the reverberation—whether natural or artificial.

The Naïm focused and clarified bass lines and presented music with uncommon warmth and intimacy.

waveform. Driving the CD2 with a full-scale mix of 19kHz and 20kHz produced the intermodulation distortion spectrum shown in fig.7. This is excellent performance; the 1kHz difference component (20kHz minus 19kHz) is below -100dB, and the rest of the spectrum is clean.

Using the Meitner LIM Detector, I measured the CD2's word-clock jitter at the TDA1541 DAC. Ed Meitner has improved his jitter analyzer by adding some operational refinements and greatly lowering its noise floor. This allows more sensitive jitter measurements, particularly of products with low intrinsic jitter. The last year has seen a large and nearly universal reduction in CD-player and digital-processor clock jitter; the new Meitner LIM Detector helps in measuring low jitter levels.

The CD2 runs at 4x-oversampling, not the usual 8x. This means the word clock has a frequency of 176.4kHz, not 352.8kHz. Fig.8 is the CD2's jitter spectrum when playing a 1kHz sine-wave at full scale. The spectrum is clean, but with a few periodic components. Overall, this is a good-looking jitter spectrum. The RMS jitter level, measured over a 400Hz-20kHz bandwidth, was 55 picoseconds. With a test signal of all zeros, the spectrum was even cleaner (fig.9), and the RMS level dropped to 48ps. The CD2's clock jitter had the spectrum of fig.10 when decoding a 1kHz, -90dB sine-wave. We can see a strong signal-correlated sinusoidal jitter component at 1kHz, but the rest of the spectrum is free from periodic jitter. The RMS jitter level rose to 68ps.

The CD2's bench performance was excellent. The unit had high channel separation, no power-supply noise in the audio, low IMD, and relatively clean jitter spectra. Only the highish linearity error marred the CD2's technical performance.

Robert Harley
It was easy to synch up duplicate copies of sonic CDs and A/B the two setups. The AA/EAD combo pushes the front of the stage back and the back of the stage even farther back. It widens the picture and places individual instruments more clearly in defined spaces. The differences are not subtle. The Naim player presented a more dynamic and muscular picture, with better-defined rhythmic drive, tauter bass, and a warm, lush overall timbral balance—all at half the price.

The AA/EAD combo excelled at presenting a bigger, wider, airier soundstage. It unraveled subtle inner detail missed by the Naim—especially events taking place at the back of the stage. Reverberant trails that seemed to drop off into the Naim’s warmsunshadows continued to echo through the more expensive combo, helping to create a larger sense of space on such live recordings as Belafonte At Carnegie Hall (Classic LSQCD) 6006 or The Weavers: Reunion At Carnegie Hall (Analogue Productions APFCID 005). Which sounded closer to the vinyl? Spatially, the AA/EAD. Timbrally, the Naim. How’s that for a copout? It’s what I heard.

What about HDCD?

AudioQuest recently issued Doug MacLeod’s new album, You Can’t Take My Blues (AQ CD1041), as a two-CD set: One disc is HDCD, the other—the same music—was mastered using the Apogee A/D 1000 20-bit encoder with its UV22 redithering process. When I A/B’d the two machines, playing the HDCD disc on the HDCD system and the regular disc on the Naim (which does not have the HDCD decoder chip), the differences were dramatic. I can’t hear how anyone would not be impressed with HDCD when properly decoded: The sound was smoother, more liquid, and luxurious; better nuanced, and totally free of grain, grit, and harshness. Soundstage depth and image specificity were clearly superior.

The HDCD disc played on the Naim—a player that exuded warmth and smoothness—sounded harder and more “digital,” exhibiting more of the “crunchies,” the edginess and brightness digiphobes complain about.

A few months ago, when it seemed as if DVD and a DVD audio standard were in the offing, I discounted HDCD as a nonstarter. But the number of HDCD discs is growing dramatically—everything from Joni Mitchell’s Hits and Misses (two separately released CDs) and the Neil Young catalog to Cyrus Chestnut’s solo album Blessed Quietness and, apparently, the entire Elektra catalog. With more encoders in the hands of the indus-

The CD2 offers genuine musical pleasure and a surprising degree of satisfaction I don’t associate with the CD medium.

Conclusions

If HDCD is a nonissue for you, and if you’re not interested in playing with digital interconnects, jitter reducers, and resolution enhancers, Naim’s CD2 is most certainly worth auditioning. It’s easy and convenient to use and exceptionally well-built, with meticulous attention paid to the mechanical and electrical details. Drop in a disc, drop on the clamp, close the door, press Play, and in a few seconds it’s off and running.

More important, the CD2 offers genuine musical pleasure and a surprising degree of excitement and satisfaction I don’t associate with the CD medium. While the CD2 does have a particular sound, its musical fidelity proves that there’s more than one way to skin the digital cat! I have no doubt that excellent measurements will confirm what I heard.

For anyone tired of tweaking the CD medium in the search for a musical satisfaction that, given the current digital standard, may simply be unattainable; or for a digiphobe who’s finally ready to take the plunge, the Naim CD2 may just be the ticket—until we get true 20- or 24-bit, 96k-sampled sound.

It’s Here!!

The new Parts Connection Catalog and Resource Guide, Volume THREE is now available. Volume 3 is packed with even more kits, tubes, parts, transformers, chassis, tools, cables, connectors, controls, and books. The best part is the expanded resource section, with building and soldering hints, tube data and design theory, and other helpful formulas and references.

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I'm about to out Yves-Bernard André as one of the great unknown tweakers of high-end audio. (My own predilection for stepping into uncharted tweakwaters is well known.) Yves-Bernard, his wife and partner Ariane Moran, and importer/distributor Daniel Jacques of Audio Plus Services seemed perfectly sanguine about letting the cat out of the bag. And why not? In a singular way, the YBA audio solution encompasses both the super tweak and the more-casual-about-equipment music lover.

The YBA CD 1 Blue Laser (or Lecteur CD 1, as it's known at home in France) breaks new ground. It is very French in that it's individualistic in the extreme, and perfectly embodies current thinking chez YBA regarding music playback in the home. Its design dates back to 1991, a point Yves-Bernard takes pains to point out in the manual.

The most fascinating element of the player's design is the blue LED that rides outboard of the dual-rail linear-tracking three-beam laser read assembly. Most Stereophile readers are digitally up to date and aware of today's requirement to dither down (or noise-shape) from the typical 20+ bits of the master tape to the 16 bits of current commercial media. In a similar process, YBA treats the data to a massage of sorts as it is read—a form of predithering, if you will. The additional LED bathes the underside of the CD in an eerie blue light while the red read laser does its thing.

According to Yves-Bernard: "It's been observed that the phenomenon of stochastic resonance allows random noise to amplify signals of small amplitude. This paradox, used in biology, astronomy, and physics, can also be applied to opto-electronics. It provides a quality of sound similar to analog and produces a level of information never achieved before. The blue laser diode actually permits better extraction of information from the digital medium with less reliance on the error-correction algorithms."

My wife Kathleen suggests that it's like being in a relatively quiet restaurant with a general low-level hubbub: You might better understand your dinner partner in such circumstances due to the randomized noise floor. (Have a look at my "Kind of Blue" sidebar for the complete lowdown on blue lasers and stochastic resonance.)

**Description:** Integrated two-box player with separate power supply, blue LEDs, belt-drive laser-diode pickup and transport mechanism, and nonmagnetic case (aluminum and polished stainless steel). Dual 18-bit converters. Analog outputs: one pair single-ended RCA. Digital outputs: TosLink and S/PDIF on RCA coax. Frequency range: 2Hz–19kHz (analog bandwidth >40kHz). Harmonic distortion: <0.07% at 1kHz. Maximum output voltage: 500mV. Output impedance: <20 ohms. Power consumption: 20W.

**Dimensions:** 17" (430mm) W by 3.75" (95mm) H by 13" (330mm) D.

**Weight:** (with power supply): approximately 16kg (35 lbs).

**Price:** $6000. Approximate number of dealers: 14.

**Manufacturer:** Phlox Electronique, Bures-Sur-Yvette, France. US Distributor: Audio Plus Services, P.O. Box 3047, Plattsburgh, NY 12901. Tel: (800) 663-9352. Fax (514) 493-4547.

**The visitation**

Setup of the CD 1 Blue Laser was further revealing of the endless attention to detail that marks the entire YBA presentation. Yves-Bernard and Daniel flew in from Chicago (yes, their arms were very tired...), where they'd been tending a client's monster YBA installation.

Yves-Bernard: "We are always there for our customers—by phone or by fax—so they are not alone when they set up their systems."

Our installation included the CD 1 Blue Laser under test and the Signature 6 Chassis Phono preamplifier. At $19,000, the preamp represents YBA's assault on the absolute state of the preamplifier art. They also brought along a pair of YBA Signature Alpha HC (High Current) monoblocks, $16k the pair, each rated at 100W.

We set the player on the top shelf of a Michael Green Signature DACRack, as we call it chez-10—a Signature Clamp-Rack dedicated entirely to digital processors. First, our reference Forsell Air
Bearing D/A, clamped as usual without its top cover in place; the YBA analog power supply on the shelf below (unClamped, thank you) on its bespoke footers; and the Ensemble Dichroino DAC on its anti-resonance Honeyplate™ stand.

The small but herniating Signature Alpha monoblocks were set upon two small Tuning AmpStands (nothing more than Signature ClampRack shelves with short, threaded corner posts which can be run “tight” with everything cinched up, or “loose” for interesting changes in sound). They sat close to and either side of Forsell’s hulking The Statement amplifier, and were hitched to the Avalon Ascent speakers (followed by Radian HCs) with TARA Labs Decade, then Synergistic Research Resolution Reference cables.

It’s a foot-fetish thing
Each YBA component comes complete with a trio of unusual footers anchored to the chassis. The rear pair are short, discrete, stubby metal shafts terminated in small nylon feet. The centered front footer features a similar shaft terminated with an aluminum square rather than the petite nylon foot.

Interestingly, the player section of the CD 1 was fitted with a chunky rubber nodule under its aluminum front footer, perhaps to further decouple the transport mechanism. Enigmatically, the 6 Chassis preamp sports round front aluminum footers on the dual mono control units, while the power supplies sit on “standard” aluminum squares. One can only conclude that a lot of thought has gone into this.

Now you see it...
As we confirmed connections and warmed up the system, Yves-Bernard began his ministrations.

Showing some regard for my credulity, he slipped small squares of black wool under the equipment footers while giving me questioning looks as I sat in the Ribbon Chair. Then he slipped small, thin-cut squares of lead under the wool pads. “What do you think of the sound now?”

We also listened with the CD bay’s sliding door open and closed. As indicated in the manual, the sound was better with it open; that is to say, more open-sounding.

Trying to absorb all this, I suddenly found myself on the receiving end of a short briefing on the wraparound effects of high-frequency speaker drivers. I eyed the two 6½"-by-7½" squares of black wool that Yves-Bernard had been waving around as he spoke. I removed the three Mpingo Discs that usually sit atop each speaker and watched as he placed a wool square on each of the Ascents, centered on the top surface and just touching the leading edge of the slant-back baffle.

He returned me to the Ribbon Chair and inquired as to which orientation of the squares sounded best. I put a cork in it (wiscracks bubble over in my mind...) and complied. In fact, given the circumstances, I did hear a difference in what seemed like upper-frequency linearity and extension, and settled on one particular orientation.

Yves-Bernard suddenly knelt down to run his open palm across the wool carpet between the listening chair and the speakers. “You are in the wrong orientation,” he declared. (Here we go again with the orientations...) “I will show you.” He helped us lift the carpet and reverse its direction 180° so that its nap ran toward the listener. This did indeed effect an improvement in overall smoothness and coherence.

Not yet content with setting the record for Maximum Number of Tweaks Performed During a Setup, Yves-Bernard did it again. “Do you prefer the sound like this... or like this!” Once again the very picture of debonair nonchalance, he quickly unscrewed four retaining bolts and lifted the entire top/side-cover assembly off the player’s chassis.

...now you don’t!
Fast as a scalded cat, I popped out of the listening chair for a quick look. Pretty (yes!) bronze-colored Roederstein capac-

Kind of Blue, or Everything You Always Wanted to Know About...

Jonathan Scull: Stochastic resonance, Yves-Bernard?

Yves-Bernard André: Yes, it is quite interesting that in adding some noise to the signal, we can actually get more information back.

Scull: How do you implement that in the CD 1?

André: We have a main diode that reads the information in the normal fashion. And a blue-laser diode that is giving atmosphere of light to the other laser, if you like.

Scull: The blue laser bathes the underside of the CD?

André: Yes.

Scull: Which adds a type of noise?

André: Exactly. But you don’t hear this noise when you listen...

Ariane Moran: No... it’s optical noise.

André: It permits the recovery of some information whose energy was not sufficient...

Scull: To drive a zero to a one or the other way around?

André: Exactly. Let me explain it this way. You take a box of eggs and you “shake” it with a soundwave. But the energy is not totally sufficient that an egg moves from one hole to another. If you look, you have no signal, because the eggs are not moving. Then you add stochastic noise. The energy of this noise is sufficient to permit the egg to move from one hole to another. And at this time you don’t see the noise, but you see the signal, which existed before.

Scull: Leaving the chicken coop for the lab, how does that translate into the CD 1’s operation?

André: We decided that the LSB—the Least Significant Bit—was a very important consideration. Here are two levels: the noise of the LSB, which is dither, and the noise we add with the blue laser in the analog domain. We apply the light—the treatment—as the laser reads the data, while dither is added afterward, of course.

Scull: What did you hear when you first tried it?

André: I was simply amazed, because I was getting more information, more sweet information. It sounded continuous, like music, with more harmonics. In the analog domain, you know, noise decreases slowly, continuously, so that even under the noise floor it is possible to retrieve some information. But with digital, under the LSB, there is no more information! A disaster. Not very natural-sounding at all.

Scull: Uh-hum... so all your existing customer units are upgradeable to the blue laser?

André: Exactly.

Scull: And you recommend that, no doubt.

André: Tremendously.

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itors (modified, I'm told) nestle close to YBA's own silicone-filled aluminum cylinder caps, all mounted on a substantial copper bus bar. (The caps are threaded to be slightly loose to avoid oscillation.)

Checking out the belt-driven, linear-tracking, triple-beam laser sled, I learned that it is sourced from Japanese belt navies C.E.C., and that the spindle motor is TEAC-derived. I also noticed the routing of the separate digital power supply (ground-lifted on its own power cord) right into a nice example of those dipped-in-fois-gras transformers YBA uses.

Despite YBA's claim that it's an integrated player, the CD 1 Blue Laser is a two-chassis affair. The second full-size chassis houses the analog power supply (500VA double C-core transformers), unbiblicled to the player. With a single-box unit, there's no S/PDIF interface and thus no jitter, avers Yves-Bernard.

YBA on the subject of separate transports and DACs: "The signal between transport and D/A converter is, of course, high-frequency and low-intensity. The connecting cable acts like an RC network whose resistance and capacitance depend on the length of the cable, which gives the cable its own impedance characteristics. That creates distortions and shifts in the time domain. Fiber-optic has the same faults. So we integrate them."

Pressed for details, both Yves-Bernard and Daniel were casual and rather opaque concerning digital doings in the CD 1 Blue Laser. (A growing trend—Ensemble's Urs Wagner recently proved similarly coy about his digital wares. But "just listen to the sound" is a compelling argument.) YBA: "You can say it's an oversampled 18-bit digital system with double converters."

I'm told the DACs are modified by YBA. Interestingly, there is no filter on the output. The CD 1 is similar to the Forsell D/A in that regard—and somewhat similar in sound. During the design phase, Yves-Bernard mentioned that he'd listened to a lot of off-the-shelf filters. Disliking what he heard, he simply listened with no filter— to baseline it, if you will. He reports that that's what sounded best, and without looking back (and shrugging off the great wringing of hands this will engender in Measurementville), he finalized the design sans filter.

"You know, Jonathan, measurements don't always correlate to the sonics," explained Daniel Jacques. My feelings exactly.

Another interesting design element is the player's low output voltage. YBA:

Before telling you about how the YBA CD 1 measured, I must report some serious problems with the measurement sample. First, the display flickered on and off, staying on only after I jiggled an unmarked rear-panel switch. Second, the CD 1 required repeated attempts to read the table of contents of some discs. Once the CD 1 read the ToC, it had problems searching certain tracks. The player would look for the track, not find it, then shut off. To search a later track on the disc, I had to skip just a few tracks at a time, wait for it to start reading data, then skip a few more tracks. On the CBS Test Disc, the YBA player wouldn't play through track 20; it would skip forward or start playing at 35 seconds. I suspect that the laser sled may have encountered a mechanical impediment at that disc radius.

Moreover, the CD 1 was the most ergonomically unfriendly CD player I've put my hands on. Using momentary toggle switches to control transport functions is ludicrous. The requirement that you push up a toggle switch twice to make the player read the ToC is equally annoying.

The CD 1's maximum output level was higher than specified but still low at 1.3V, a figure 3.7dB below the CD standard 2V output level. The output impedance at 17Hz was a high 750 ohms, a figure that decreased to 63 ohms across the rest of the band. At 31Hz, the output impedance measured 135 ohms. I measured a low 0.1mV of DC offset at the left channel output, 2mV at the right. Because the CD 1 wouldn't read the Japan Audio Society test disc, which has a positive-going impulse, I couldn't discover if the CD 1 inverts absolute polarity. When playing the Pierre Verany Test CD, the YBA mistracked at track 31, which is poor tracking performance.

When looking at the CD 1's output on an oscilloscope, I saw an unusual stair-step shape in the waveform. The waveform was also overlaid by very-high-frequency noise with a strong component at 220kHz.

Fig.1 is the CD 1's frequency response and de-emphasis response, shown using our normal scale. We can see some ripple in the frequency response, and the de-emphasis error is off the scale. Fig.2, the same data shown to different scale, shows the extent of the de-emphasis tracking error: a whopping 7dB at 10kHz, and 8.6dB at 16kHz. This suggests that the YBA doesn't actually correct for pre-emphasized discs at all! The CD 1's channel separation (fig.3) was rather low, measuring just 73dB at 1kHz and decreasing to 46dB at 16kHz.

A spectral analysis of the CD 1's output when playing a 1kHz, -90dB dithered sinewave (fig.4) shows that the player has a high noise level, particularly in the lower octaves. This noise is

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"Most CD players have a 2V output signal. This increases to 20V by the gain of the preamplifier. But an amplifier typically needs only 0.8mV to 1V for maximum gain. So a normal playback setting for a preamp’s potentiometer is at the 9 o’clock position.

"However, the volume control—an attenuator equivalent to resistance in series—will invariably sound worse at lower settings. With our CD players, the lowest output level will require a higher volume level, something around 12 to 2 o’clock. The quality of sound is improved by reducing the maximum length of the track of the signal within the volume control."

So, does God live in the details, as they say? Does an obsessive attention to detail and simplicity of design get you the slice of sonic heaven we’re all knocking ourselves out to find? We shall see...

**CONFIG.SYS**

After settling down with the system, we wound up removing all the little wool and lead squares except those under the phono stage MC modules. I found the wool’n’lead treatment to subtly darken the sound and somewhat minimize dynamics. I think this had much to do with the sound of the “tunable” box that is the YBA when it’s set upon the heavy, “woody” shelves of the substantial Signature Clamp-Racks.

Substituting small AudioPoints under the left’n’right rear of all the power-supply chassis proved helpful, tightening up a certain ponderousness in the bass and opening up the highs to a useful degree.

Imaging was enhanced with the ’Points in place. Based on audition, I left unmolested the center-front aluminum squares on all the YBA power supplies as the third point of contact with the shelf. We did leave the wool squares on the tops of the Radius, and triangulated the three Mpingos behind them. (Don’t faint. Next time you’re around a speaker with any flat top surface to speak of, try putting your hand there during high-decibel playback, especially toward the rear. This seems like quite a lively area even in the most expensive of speakers.)

 apparent only when the DAC is decoding a signal; a wideband spectral analysis (fig.5) made with a test signal of all zeros shows a lower noise level at low frequencies, but a higher noise level in the treble. Some DACs shut off when fed digital signal, to make their noise performance look better. The removal of DAC noise between figs.4 and 5 uncovers some power-supply noise at 60Hz, along with an odd energy peak centered at 7kHz. The latter is perhaps a DAC idle tone. It is also unusual to see such a wide disparity in noise levels between channels, along with the fact that the noise isn’t “white” in character, but instead has more energy in some octaves than in others.

I was unable to measure the CD 1’s linearity because it refused to play the fade-to-noise track on the CBS test disc, from which a player’s linearity is derived. I did, however, play spot tones, and manually measured the CD 1’s linearity at ~70dB, ~80dB, ~90dB, and ~100dB. At ~70dB, the CD 1 had a positive error of 1.1dB (left channel) and 1.6dB (right). This error decreased to 0.76dB at ~80dB (both channels). At ~90dB, the CD 1 had a negative linearity error of just 0.3dB (left channel) and 0.05dB (right). At ~100dB the negative linearity error increased to 2.15dB (left channel) and 1.7dB (right). This is relatively good linearity performance.

The CD 1’s reproduction of a 1kHz, ~90dB undithered sinewave (fig.6) shows an asymmetrical waveshape, a high noise level, and a negative DC shift. Fig.7 is the CD 1’s intermodulation distortion spectrum, made by playing a full-scale mix of 19kHz and 20kHz. This is the worst-looking IMD spectrum I’ve seen, with lots of IMD products and a high noise level.

I was unable to measure the CD 1’s jitter because its DAC is a surface-mount device located on the underside of the player’s main circuit board. The circuit board appeared to be supplied as a whole and not specially designed for the CD 1.

Overall, the CD 1 had poor bench performance, with severe de-emphasis errors, low channel separation, high noise levels, and an alarming amount of intermodulation distortion.

—Robert Harley
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SIGNATURE
The CD 1 and comparison digital front-ends were auditioned through the optimized, short-signal-path Tape In RCA jacks of the 6 Chassis preamp. Flipping phase on the YBA preamp (there is no phase inversion available on the CD 1) was more startling than I'd ever experienced before. In fact, for the first week or two, as things were settling in, we ran the CD 1 out of phase, not realizing that the player itself inverts phase. (As do its siblings, the 2 and 3.) Up to that point I'd thought the CD 1 had sounded... a bit unfocused. So don't be lazy about absolute phase; check it if you're paying attention to the sound.

Why is the phase function manifested in the preamp rather than in the player, you wonder? Well, as it happens, the phono stage does not invert phase. Ahhh.

But I'm not complaining. Yves-Bernard points out that many recordings are phase-reversed or scrambled anyway, so it really doesn't make much difference.

Out-of-phase recordings were somewhat soft in the bass, the midrange a bit thick, and the highs a touch out of balance. (The player was so balanced-sounding that these anomalies stood out like a Day-Glo frieze.) This adversely affected overall clarity — and thus imaging precision and air — along with a globbing-out of images.

Interestingly, this disturbed me more with the precise and oh-so-neutral YBA 6 Chassis preamp than with the volupitous and beckoning Graaf 13.5B tubed preamp that stylishly anchored the system from time to time during the review period. You might say that this $5500 Italian line-stage is the very corporeal embodiment of Anita Ekberg in La Dolce Vita — talk about attractive. But even with the Graaf, I preferred phase-correct as a starting point. Solution: Flip the phase at the speaker connections and use the phase switches on the 6 Chassis to correct for it when in use.

Audio is hell...

We wired up the system with Synergistic Research's new Designer's Reference interconnect. Rather dear at $1800/yard, this stiff, serpentine, oddly colored green cable secured line-level connections. I tried a lot of interconnects before settling on them, including YBA's own fine-sounding cables (in which you find the same wire as used throughout their components; no small consideration).

I'll try this latest Synergistic supercable with many more components before issuing any sweeping generalizations, but so far, it may be the best interconnect I've ever heard. It's like listening to music with no interconnect whatsoever.

Power-cord selection proved highly entertaining. YBA's own cords sounded very good indeed, if a bit discreet or restrained at times. XLO's viviparous Model 10 cords worked very well, adding a frisson of openness and excitement to the highs and improving the bass a touch. The sense of pace seemed better with them in line, and the imaging was improved. (Give the Model 10s the full 24 hours needed to smooth out and lose their initial overtone.) Synergistic Research AC Master Couplers also proved... synergetic, especially?

The suave

YBA Signature Alpha HC monoblocks gave their best sound on a trio of large AudioPoints.

when used in conjunction with Synergistic's cables — they produced a fine blend of speed, control, color, and solid imaging that I found very appealing.

The suave YBA Signature Alpha HC monoblocks — sporting the same shaft/footer assemblies — gave their best sound on a trio of large AudioPoints, a Shakti Stone centered on the top plates. Other amps in play included Forsell's The Statement (an inexorable match with the Radian HCs), and a lushly musical pair of newly arrived Cary SLM-200 monoblocks, sockets stuffed with the new Czechoslovak Tesla KT88s (a honey of a tube).

Cool weather having arrived, alternative thermionics were provided by our Jadis JA 200s, newly mounted with 10 matched pairs of Svetlana 6550Cs per side. Midas Tube Dampers were wrapped around the desirable Gold Aero German KT 12AU7 inputs and the Gold Aero 12AX7 drivers. The amps rested, as usual, on AudioPoints with a Shakti Stone on the power transformers.

Be advised: The Svetlana 6550C, first encountered in the VTL Wotans, is without doubt the finest 6550 I have ever heard. These superb Russian tubes transformed the 200s, which became my favorite amps for pushing the envelope of Best Sound with the YBA player. (In no small part facilitated by my shorting one channel of the Forsell Statement, having unwittingly crossed speaker terminals with some particularly huge and unwieldy cables, drat the luck.)

The Signature monoblocks remained true to their YBA birthright, and while capable of driving the Radions to stimulating levels, in general didn't grip the speakers so well as the macho Forsell had. Amps designed to peg the rev counter only when needed don't deliver quite the ease of presentation as do high-power class-A designs, in my experience.

The YBA amps delivered a somewhat drier, rather more distant and cerebral sound that I found a tad less involving than the warm, 3-D soundstage thrown up by the Svetlana'd Jadis amps when strapped for 4 ohms. So while I much admired the YBA's sound, and marveled at their transparency — especially when driven by their compatriots upstream — I ultimately preferred the Jadis JA 200s for their air, space, and refined palpability.

You sure this is digital?

Playing the CD 1 Blue Laser was entirely ritualistic. I began listening sessions by cleaning the read laser with the supplied air-brush. (YBA customers get a cute little plastic utility box filled with accessories.) Holding a CD by its edges, I used the special YBA-supplied cloth to wipe in small circular motions first around the data side, then the label side, followed by a quick swipe of the outside and inside edges, as demonstrated by Yves-Bernard. The CD is then set upon the rounded, rubber-topped spindle, followed by a small, magnetically positioned weight to top it off.

Even this weight doesn't escape intensive efforts to "maximize the pleasure," as Daniel Jacques amusingly puts it in the accompanying interview elsewhere in this issue. To wit, each weight has a small adjustment screw to couple it perfectly with its associated player, and a gold-plated prototype was rejected for sonic reasons. There's damping material applied to the weight's top surface... but of course.

Then, unless you're a lazy sod, and even if you do use the remote, you'll want to reset the buffer — the player's memory of the last ToC (Table of Contents) read — each time you change discs. (There's no "automatic" way of doing this, not even by opening the disc drawer.) Snapping the Play switch upward twice initiates the read. If you're running it topless, you'll see the motor rev up, and the laser sled, on its polished rails, dive for the center of the disc to read the ToC. (If the current CD has as many or fewer tracks than the one
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The Classic is shown in black satin oak. Also available in rosewood, walnut, medium oak and ribbon mahogany.
before, you can skip this procedure, but I always forced a read for each disc. It felt... très Polytechnique.

Next, touch Play, followed quickly by Pause. (Yves-Bernard suggests allowing the laser to take its position at the chosen track and settle down before Play.) While still in Pause, press Display twice. This selects the third display function, Elapsed Time. "The better sound is something to do with the voltage running around inside," shrugged Yves-Bernard when I asked him why. Still in Pause, the by now much-involved tweaky-type — again, in the interest of best sonics — will reach behind the player to snap the Display Off switch.

If you're one of those looking for the nth degree of refinement and openness of sound, and so run the unit without its top — as we did — then each time you reach back to toggle the display off, you'll find your smiling little audiophile face eyeball-to-eyeball with the player's fascinating inards.

With all these manipulations, I found myself more involved with the process than usual, not less. Suddenly digital was more organic and analoglike than an anonymous black box responding to invisible infrared commands. (Of course, our reference Forsell Air Bearing CD transport is hardly that either.) At night, in the dark, I looked for excuses to change discs and watch the CD's blue diode bathe the underside of a CD in its soft light.

But let's withdraw, if only for a moment, from the vortigernous precipice of Tweakdom. Understand, if you don't want to bravely flip your Ascot and play Boy Racers, you don't have to. Place your disc on the spindle of the fully buttoned-up player, leave the bay door open or closed as suits your fancy, don't bother with the display, and just snap the Play switch. You will, however, not pass Go and collect $200 in this fashion. (Nor will you achieve the CD 1's considerable sound.)

Let's make the point, then, regarding the entire YBA line. It is marvelously discreet stuff. Even the many-chassis'd preamp is quiet and self-effacing, with its flat black livery and old-money, antique-gold logos. No shiny stuff here, although the optional silver finish looks like liquid mercury and is crazy attractive. There's even an optional wood-vener finish that elevates them to Fine Audio Jewelry status. Feel free to stack a few YBA pieces on your Louis Quatorze commode, relax into your button-leather English club chair, sip a fine single-malt Scotch, and congratulate yourself on being so discreet... you forgot to breathe!

And the YBA components sound fine when merely plunked about. Their integral footers and the attention paid to interior resonance control guarantee good sound with only a minimum of concern about how they're mounted. But chasing the brass ring in Statement Product Land as we do, I tuned the hell out of it!

In fact, the way it wound up for Absolute Best Sound was atop a contraption called the Leonardo Base from the deep acoustic, instruments sounded sweet, very midrangey, and quite palpable. This sense of events taking place way back, well to the sides, and on their way to being wrapped around the listener was enticing and participatory.

I turned quickly to another disc simply entitled Francis Poulenc (Adda 590042), an all-digital French production. Track 7, Trio for Oboe, Bassoon, and Piano, was a wonder and a joy to hear. First impressions were of a special kind of palpability that seemed to originate in the sense of fullness of harmonic information rather than in sharp focus. This proved a hallmark of the Blue Laser's sound.

In spite of what I might begin to characterize as a slightly cerebral sound, you still might find yourself, as I was, lifted practically out of your seat with the loneliness and refinement of the oboe. The fade at the end of the movement revealed the system's fine transparency and resolution.

Listening to this CD and many others highlighted the particularly clean window on sound the 6 Chassis offered. This was manifested in its ability to render acoustic decay as it flowed out into the recording venue, perhaps lightly slapping the walls as it faded away into the noise floor. The remarkably pristine, large, and layered soundstage always revealed nuances of decay and reverberation that enhanced the musical experience.

I'm talking about the 6 Chassis, but also, by extension, the CD 1 Blue Laser. As they say, garbage in... If you don't retrieve the information to begin with, you can never re-create it later. And it's clear to me that the information the Blue Laser retrieves, dithered as it appears to be by the blue diode's optical noise, is in some profound way changed in the process. Stochastic resonance does indeed seem to be responsible for a more analoglike sound. A perfect way to examine its influence in detail would be with...

**Female vocals, or Take me, I'm yours...**

I found myself captivated by the charm, beauty, and illumination of female singers. This was the strongest suit of the CD 1 Blue Laser's presentation. Over time I've come to see that a component's ability to present female vocals reveals much about the openness and linearity of the midrange, upper-midrange, and above. Get the ladies right, it seems, and, most often, everything else follows naturally.

The notion of stochastic resonance...
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Poesy JVCXR-0006-2
Japanese flutist Nakagawa bridges the gap between classical and jazz while capturing the essence of both with incredible finesse and spontaneity.

SPIRIT TRAVELER
Playing The Hits From Motor City JVCXR-0007-2
This project features new versions of Motown hits performed here by Wah Wah Watson, Eric Gale, David T. Walker, Phil Upchurch, James Jamerson, Jr., James Gadson and Ali “Ollie” Woodson.

HIROKO
Pure Heart JVCXR-0009-2
Pure Heart is sparkling, uplifting, joyful music from pianist Hiroko with Michael Landau, Oscar Castro-Neves, Abe Laboriel, Alex Acuna, Gary Herbig, Chuck Findley and Larry Williams.

MISHA
Connected To The Unexpected JVCXR-0011-2
Misha’s unprecedented use of acoustic piano, trombone, spoken word and fresh urban rhythms is captured here, not only on XRCD, but through the three dimensional sound of the Spatializer Recording System.
M y name is Wes and I enjoy listening to music on headphones.

Hi Wes!

I guess it all started when I was a kid — I'd go to bed and tune my radio to faraway stations. That's where I first heard real R&B, Chicago-style blues, and hard-core honky-tonk. It was comforting listening alone in the dark and, well, sometimes I'd get really excited.

Such as the first time I heard Howlin' Wolf. Nothing in my white-bread upbringing had prepared me for that, let me tell you. I didn't know what to make of it, but somehow I just knew there had to be more where that came from — and I knew I had to get me some.

When I finally got a stereo of my own, the first thing I did was take it apart to see if I could add a headphone jack. I didn't have a clue what went on inside an amplifier, but that 'phones jones had me so completely in its thrall that I traced the circuit back from the outputs and discovered that it made sense. I breathed my first solder fumes that day.

That could well have been a pivotal point in my adolescence — after all, sitting in the dark and brooding is considered unhealthy, but sitting in the dark listening to music is socially acceptable. Sort of.

I was going to say that headphones saved my sanity when I lived in a college dorm, but that point could be considered debatable. Less arguable, however, might be their role in saving my life. I stayed sane by drowning out my dormmates' Grand Funk Railroad and Deep Purple records, playing my own Harry Partch, Edgard Varèse, and Stravinsky records through my Koss Pro 4AAs. Had I instead tried to blast the dorm with my stereo, somebody would have killed me for sure.

Ditto most of my later roommates. And, for all of her understanding and tolerance, my wife as well. Somehow, she's never been able to hear the point of Lou Reed's *Metal Machine Music* — least of all at high volume.

No one is more surprised by this turn of events than I. Somehow, I'd always assumed that being an adult entailed doing whatever you wanted — especially in your own house. (So, I'm not very observant — I never reckoned on such tiny details as jobs, mortgages, and kids. What can I say?)

You might think that my exposure to the best of the High End would have spoiled me for headphone listening, but thanks to companies like Grado, Stax, Sennheiser, McCormack, Melos, and HeadRoom, the best in headphone listening has kept pace. Considering that Sennheiser's Orpheus rig can set you back a cool $15,000, or that Stax's Omega represents an investment of $4500, it's obvious that I'm not alone in my solitary passion. However, those systems represent the ultimate in headphone listening and are as out of reach for me as are any of the speakers in Class A of "Recommended Components."

Fortunately there are folks out there like Tyll Hertzens of HeadRoom, who has made it a personal mission to bring high-end headphone listening to the masses. I wouldn't dream of traveling without his portable Supreme (reviewed by JA in Vol.17 Nos.1 and 2), and I've derived hours of pleasure from his Home HeadRoom (reviewed by me in Vol.18 No.1). Now Tyll has gotten ambitious. His new HeadRoom Max (shades of Matt Frewer!) is his contender for the state-of-the-art headphone amplifier crown — and at less than $1500 to boot.

Head games

Tyll was an audiophile with a real human hi-fi who one day realized that he was hardly ever at home to enjoy it. Glancing around the airport terminal that proved to be his personal road to Tarsus, Tyll noticed how many people were wearing cheap'n'crappy headsets attached to personal stereos. Hey! he thought. What if all that time people spend listening to music on the go could be turned into a high-quality listening experience? Thus was planted the seed that grew into HeadRoom — these days, the company offers mail-order convenience for a variety of headphone amplifier/processors, a full line of high-end headphones, and even a line of headphone and travel accessories.

One common thread in the growing line of HeadRoom amplifier/processors is their proprietary (although licensable) module, which attempts to emulate the hard-left/center/hard-right imaging that makes headphone listening an ordeal for so many people. I'll describe the process involved briefly for the purposes of this review, but those interested in fully understanding it are ad-

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**HeadRoom Max headphone amplifier**

**Wes Phillips**

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**Description:** Headphone amplifier with one set of inputs, one set of feedthrough outputs, two sets of headphone outputs. Power rating: 0.5W. Frequency response, THD, Crosstalk, S/N ratio: all not specified.

**Dimensions:** 6.7" W by 2.4" H by 12" D.

**Serial number of unit reviewed:** None on review sample.

**Price:** $1333. Approximate number of dealers: sold factory-direct only.

**Manufacturer:** HeadRoom Corp., P.O. Box 6549, Bozeman, MT 59715.

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**Stereofile, February 1997**

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After my auditioning was over, I asked Tyll Hertsens to explain the evolution of the HeadRoom Max:

Tyll Hertsens: Part of the reason that I designed the HeadRoom Max was that we became aware of some parts that had become available for the module—the Burr-Brown 627, which replaced the Burr-Brown 604 op-amp, and the polyphenylene-sulfite film capacitors, which replace ceramic caps. I made the HeadRoom as good as I could—I actually think the 604 is a pretty good op-amp—but we were limited in that we had to use surface-mount components. Up until six months ago, the only surface-mount capacitors available were ceramic, and they just don't have the properties that poly-film caps do. With the advent of very-high-speed and large oversampling-factor D/A converters, faster caps were required, and so the polyphenylene-sulfide film capacitor was developed. It's like a little sandwich of "interdigitated" film.

Maxed Out

Hertsens: Well, yeah. There's one contact at one end and another at the other end, and all the layers of capacitors are interdigitated—interleaved in between. They're high speed with low ESR—all that good stuff.

Burr-Brown tells me that the 627 chip was developed by several different groups working in unison but separately from one another. It was designed specifically to offer better audio quality, and it is really expensive. The chip costs $15 each when you buy it in quantities of 1000.

So we knew these parts were available, and we assumed we could build a better-sounding unit with them, but I thought, If this alone can offer an improvement, how much further can we go to make it better? The first step was to split the module in half so that the two boards aren't running next to each other—we physically separate them from each other. We don't put the module either, because the potting compound has dielectric properties. We just leave it in air. We also put separate power supplies on it, changing the supply just a little to do so. We put a real nice potentiometer on the volume control and—to satisfy the audiophile community—we put an impressively massive front panel on it.

We didn't do anything divinely inspired, we just took the technology as far as it could go—to produce a product with an unusually high performance-to-price ratio.

I do worry about people using it with lesser sources. If they hear the shortcomings of the front-end, they may be tempted to attribute them to the amp itself.

Phillips: Is this your final word on headphone amplifiers?

Hertsens: Frankly, my feeling is that if anyone should build a $2000-$3000 headphone amp, it should be Sonic Frontiers or Counterpoint—which are companies who have licensed the module from us—not us. I have no desire to go beyond the Max.
...the best is better than you could ever imagine.

- Lewis Lipnick, Stereophile July '95 Vol.18, No.5
I'm glad we didn't give the Home a Class A rating. If Tyll had been satisfied, he might have never given us Max, and that would have been a shame.

Head of the class
Articulate—that's the word that best describes Max. Oh, there are others: fast, rich, complex—and, paradoxically, simple as well. But articulate is the one that resonates most strongly. Perhaps I'm more sensitive to this than most, but for me, music is primarily about communication.

It could be argued that musical communication is compromised when the complete frequency range is slighted, or when transient edges are blunted—and I agree entirely. In fact, HeadRoom Max illuminates the frequency extremes with uncommon clarity. Its bass response is deep and full-bodied, and it will exercise your chosen headphones' HF response to their utmost. It also defines the leading edges of transients as climactically as a mallet striking an anvil. But that's mere mechanics compared to the effortless way Max has of fitting together musical expression into a coherent whole.

Albert Einstein said, "Everything should be made as simple as possible, but not simpler." To my way of thinking, that is one of the defining high-end paradoxes: Low-end and mid-fi gear tends to mash details together into a musical hash, whereas the better high-end gear unravels those details for you. But the thing is, the details themselves aren't the music. Music has an identity that exists outside the mere cataloging of its components. The best music attains a coherence that is simultaneously composed of its discrete parts and is, in some sense, simpler than them. Music is, in Barzun's memorable phrase, "intangible and ineffable; it can only be, as it were, inhaled by the spirit." Capturing that essence is the elusive task that the High End has set for itself—and to my ears, one that Max accomplishes.

But it's maddeningly difficult to de-scribe. To start with, I found HeadRoom Max unusually adept at unraveling timbre and harmonic detail. Listening to Don Byron's Bug Music (Nonesuch 79438-2), last month's "Recording of the Month," I was aware of the harmonic interplay between Byron's clarinet, Steve Wilson's alto sax, and Robert DeBellis's tenor in a way that kept each voice quite distinct, even in unison sections. Listening to the same passages played through the Home HeadRoom, the three instruments sounded more like a single voice—overtones were smoothed out, and differences between instruments diminished. The tricky twists and turns that the music took were reduced in impact.

I tried the same comparison with Melos's SHA-Gold, which—lacking the HeadRoom crossfed module—required that I bypass Max's processor in order to compare just the amplifier sections of the two. The SHA-Gold, a marvelous headphone amp, matched Max's ability to unravel the woodwind signatures of the three musicians. What was simple stayed simple—and what was complex was not reduced. Yet Billy Hart's cymbal work seemed more prominent through the Melos. My first thought was that the tubed, more expensive Melos had a more extended top-end, but repeated listening and comparison—on this disc and others—

All measurements were taken from the HeadRoom Max's front-panel headphone jacks. With its very high input impedance (484k ohms) and respectably low output impedance (0.5 ohms at 20Hz and 1kHz, 0.55 ohms at 20kHz), the Max's performance is unlikely to be compromised by interface problems with associated equipment. Maximum voltage gain measured 12.3dB. DC offset was a highish 15mV in the left channel, 14.8mV in

Fig.1 HeadRoom Max, frequency response at 1V into 100k ohms with (from top to bottom at 500Hz): filter and processor on; filter and processor off (right channel dashed, 1dB/vertical div.).

Fig.2 HeadRoom Max, frequency response at 1V into 100k ohms with (from top to bottom at 500Hz): filter off and processor on; filter on and processor off (right channel dashed, 1dB/vertical div.).

Fig.3 HeadRoom Max, frequency response at 1V into 100k ohms with filter and processor on and (from top to bottom at 500Hz): channel signals in-phase; out of phase (2dB/vertical div.).
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"Set on a CD, the results are truly astonishing. Better than any other mat known ... Heartily recommended."

Clark Johnsen
Positive Feedback Magazine
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led me to the realization that the increased emphasis on the ride cymbal was indicative of greater sibilance through the SHA-Gold. The ss-ss-ss of the brass started and stopped with greater authority through HeadRoom Max. Good as the SHA-Gold is, I found Max faster and cleaner. Privacy and consideration aside, for many listeners speed and detail are what headphone listening is all about. I recently had to evaluate test pressings of Robert Silverman’s Sonata LP (STPH008-1; read the full account of this project in next month’s Stereophile), and while I did most of my critical listening on my reference system, I plugged in Max to spotlight pre-echo and groove roar. Speed and detail can be a double-edged sword, however; too much of either and the sound turns brittle and bright. My hat’s off to Hertsen—he got the balance just right. I could hear details I’d never heard before, but was still able to listen for hour after hour without listener fatigue. Max is also admirably transparent. These last few months I’ve simply been devouring Paul Hillier and the Theatre of Voices’ The Age of Cathedrals (Harmonia Mundi 907157, CD). It is a spectacularly natural-sounding recording of voices in a reverberant space—St. Vincent’s Church in San Rafael, California, as it so happens. The program explores music fostered by the Cathedral of Notre Dame—which, rather than serving as some pedantic hook with which to anchor a grab-bag of styles and composers, turns out to make for a rich and fascinating collection. One of my favorite works is an anonymous “lesson” praising the blessed Virgin, In hac anni circulo. Over a vocal drone, two tenors take turns chanting the text, verse by verse. The drone fills the chapel, the prolonged decay illuminating its vast size. The sound seems to seek the boundaries, surrounding the strong tenor voices that pierce the drone and read the lesson. Listening through Max, I was intensely aware that both sets of voices—despite their seeming soli dity—are not themselves physical entities, although they define that which contains them. You can hear through them—almost see through them—and when someone nudges a hymn with their foot (at least that’s what it sounds like to me), the scrape of the cover along the stone floor and the reverberations from that motion are starting in the way in which they define a specific point within all of that space. Ultimately, however, I must keep returning to that least definable of qualities, but the one that most inhabits my love for HeadRoom Max: the coherent articulation of the essence of music. When confronted with the supreme mysteries of music, I always return to Beethoven—no matter how many times I go to that particular well, I never come up dry. This time I turned to the string quartets, specifically Op.132, as recorded by the Végé Quartet (Valois 4400, CD). Many listeners feel that a late Beethoven string quartet, especially that one, is as close to the essence of pure music as one could get—a purely closed system with no references to the outside world—but that’s not the way I experienced it. Nor is it the way that Beethoven intended it, not if the section title “A Convalescent’s Holy Song of Thank giving to the Deity, in the Lydian Mode” can be taken as any indication. (Beethoven’s work on this quartet was interrupted by a serious intestinal inflammation.) Here Beethoven uses the Lydian mode (basically, an F-major scale that substitutes a B-natural for the scale’s B-flat) to compose a hymn of thanksgiving, harking back to an earlier listening. (The philosophy behind this is discussed in more detail in JA’s HeadRoom amplifier review in Vol.17 No.1.)

While the Max’s 1kHz squarewave response is good enough to make its presentation here unnecessary, the 10kHz response in fig.4 clearly shows the HF rolloff indicated in fig.1. The crosstalk shown in fig.5 indicates virtually identical performance between channels, and the (deliberate) increase in crosstalk when processing is engaged.

The THD+noise vs frequency results, for a 2.5V output into a load of 40 ohms (representative of the headphones likely to be used with the Max), are plotted in fig.6. The distortion here is very low—I was unable to get a recognizable waveform until the output began to clip. This overload occurs quite abruptly; below clipping, only noise was visible on the scope.

The response of the Max to a 50Hz input at 2.5V output into 40 ohms is shown in fig.7: all distortion artifacts are below –90dB (0.003%). Harmonics of the power-line frequency are also clearly visible, but still more than 90dB down. Fig.8 shows the output spectrum resulting from an input signal consisting of an equal combination of 19 and 20kHz at an output of 2.5V into 40 ohms. The most significant artifacts here are at 18kHz and 21kHz (more than –66dB, or about 0.05%); the 1kHz difference tone is at –82.4dB, or about 0.008%.
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—Keith Lundell

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The 1kHz, THD+noise vs output voltage curve shown in fig.9 was measured into loads of 150 and 40 ohms. As might be expected, the 40 ohm load reduces the available drive signal significantly. But the available output is more than adequate to drive any headphones to unpleasant—even dangerous—levels.

The excellent test-bench results of the HeadRoom Max reinforce WP's fine opinion of the product.

—Thomas J. Norton

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Classé CA-200 stereo power amplifier

Martin Colloms

Canadian manufacturers enjoy a special relationship with the US market. Though technically their products are “imports,” a high level of trade harmony, plus a common continental location, mean that Canadian designs tend to be equably priced in contrast to those exported to the States from overseas.

Classé Audio, based in Québec, currently offers a sizeable amplifier range with the output powers more closely spaced than is usual. Klirr, for example, offers units that tend to increment the maximum power, hence maximum loudness, in 3dB steps, the idea being that 3dB is the smallest sensible step in volume-related power capacity. By contrast, Classé offers the CA-100, -150, -200, -300, and -400. In addition, each can be used a monoblock, providing a second tier at 200W, 325W, 500W, 900W, and 1300W, all into a nominal 8 ohm load. To add to the choices, there are also two six-channel power-amp chassis, offering 6x75W and 6x150W.

[Review excerpt: The CA-150 is neatly presented with an option of a soft silver aluminum faceplate or the usual satin black; its deeply finned heatsinks are placed tidily on the rear panel, leaving a clean exterior outline. The penalty is a rather cramped lineup for the bare-metal binding posts offered for speaker cable connection. These use large nuts and washers; some very large spade lugs, such as on the older van den Hul Revelation series, may give trouble due to the limited space. Classé incorporates good overload protection systems in the CA-200; if connections do go wrong, there should be no long-term problems. Balanced and normal operation can be selected at the flick of a switch. Line input is via gold-plated phono sockets and Neutrik XLRs, mains power input via a 13A IEC-style detachable cord. A high input impedance of 75k ohms is quoted, an easy load with a rated sensitivity of 1.3V. Idle power is 200W; the CA-200 will draw over 1000W in full song. It’s claimed to double its rated power into 4 ohms, while the bridge rating indicates that 700Wpc in stereo mode will be possible on short-term program into 2 ohms. This, and the very low 0.017 ohm quoted output impedance, suggest good load-driving ability. The generous-sized, well-shielded power-supply toroidal transformer accounts for a large part of the CA-200’s 60-lb weight.

Technology

Classé embraces a design philosophy that doesn’t take sides on device technology or implementation. Technology decisions are made strictly on an engineering basis, on their appropriateness for a given task.

At the input, good linearity, high input impedance, and low noise are pluses, and J-FETS are a logical choice for the differential balanced input section. Intermediate circuitry, including the voltage amplifier, uses low-saturation, high-current, bipolar transistors, while the circuit mix is enlivened by the use

Stereophile, February 1997
of MOSFETs for the output stage pre-drivers, their high gate-input impedance reducing the nonlinear loading of the output stage on the critical voltage amplifier.

At this price level and power, a pure class-A output stage is out of the question; the CA-200 runs fairly cool in class-A/B, enjoying an economical level of idle power. FET-based output stages are questionable in this size due to stability considerations and the need for extra-large heatsinking, so the CA-200 uses stable, efficient bipolar transistors. Four paralleled complementary pairs of high-current, plastic-encapsulated output transistors are used per channel.

In the main, the circuitry is contained on one double-sided printed circuit board; disassembly for service is relatively easy. The transformer has double secondary windings feeding separate rectifier and reservoir pairs per channel. Older Classé amplifiers used selected quality, single-unit power-reservoir capacitors. In the CA-200, a distributed power reservoir design replaces each capacitor unit with six smaller 4700uF devices connected in parallel. This technique is claimed to deliver a lower ESR (electrical series resistance) over a wider frequency range, particularly at high frequencies. The CA-200 contains a total of 24 such capacitors.

Overall, build quality is fine, with good engineering and safety practice evident.

System
I did not have a Classé preamp available; instead, I used two basic setups: direct coupling to a Krell KPS-20i/L CD player, and balanced and normal drive from a Krell KRC-HR preamp. Further control was provided by a Conrad-Johnson PFR and a Premier Fourteen.

In addition to the KPS-20i/L, signal sources included Classé’s own combination of transport and DAC 1 decoder, as well as an Audio Synthesis DAX-2. LP support came from my trusty Linn LP12/Lingo/Naim ARO/Koetsu set-up, while cables were by Siltech and van den Hul.

Speakers used with the Classé included the Quad ESL-63, Spendor SP2-2, Mordaunt-Short Performance 880, KEF Reference Four, and Wilson WITT. Power-amplifier references included a C-J Premier Eleven A, Meridian 605, Naim NAP250, Krell FPB-300, and a Mark Levinson No.333.

Sound
My review sample was a well-burned-in demonstrator and required little warmup. When it was used regularly, stable sound was obtained after 15 to 20 minutes.

Some solid-state power amplifiers give an impression of neutrality (for solid-state, that is), but are found wanting when compared with other amplifiers, including tube models. Though I didn’t find the CA-200 to be highly neutral, I hasten to add that it was sufficiently neutral to not upset the tonal balance of any good system.

Interestingly, it seemed to straddle the region between tube and solid-state. There was a softer, richer quality over the broad midrange that spoke of vacuum devices, this quality associated with a certain sweet “sparkle” in the treble, again tubelike. Yet in the bass there were the kind of control and power— and the driveability to go with it— associated with good solid-state.

Time and again I was struck by the CA-200’s relaxed, laid-back character— a sound that built effortlessly to big climaxes, achieved with beautiful power and no sense of strain or aggression. Here the Classé closely approached the big Jeff Rowland Design Group models.

Soundstages were nicely focused, with good breadth, and were imbued with a fine spread of low-level detail and related recorded ambience. Perspectives were well-proportioned, evenly layered, with good image depth. Transparency was very good, if not up to the almost crystal-clear standard of

Mounty 240V-rated example of the CA-200 happily delivered a neat 270Wpc into 8 ohms (24.3dBW) for program-related duty cycles driven by the UK’s nominal 240V power (the actual voltage was 242V). Singly driven flat-out into 8 ohms continuous, the just-clip level was 250W (24dBW), a nice 50W reserve on the manufacturer’s specification. The small loss (0.3dB) when both channels were operated together indicates a generously specified power transformer.

Protection systems precluded continuous measurement into low impedances and with difficult input frequencies; I used music-equivalent gated tonebursts to explore the CA-200’s peak power and load tolerance. It could almost double its rated power into 4 ohms, my measurement showing 460Wpc (23.6dBW). There was some loss into 2 ohms (0.6dBW), with a true peak power of 808Wpc before clipping. I hadn’t yet reached the CA-200’s current limit, while 1 ohm served to assess that boundary with a 1.57kWpc capability as well as an associated, symmetrical peak current of 57A. In practice, this is sufficient for all but the very worst load combinations at the full power extreme.

This medium-sized Classé is a heavy hitter after all! An excellent power-bandwidth was recorded — within 0.1 to 0.2dB of the 1kHz maximum when measured at the 20Hz and 20kHz limits, respectively.

Traditional levels of negative feedback endowed this amplifier with a classic combination of low distortion and low output impedance — negligible values of 0.02 to 0.03 ohm were seen over the entire audio bandwidth. The CA-200’s innate character will therefore be essentially impervious to loading or level. This amp also does not have or need an internal stabilizing inductor in series with the speaker line. Depending on the linking cable, 2uF of strongly reactive loading was disposed of without event, with and without an 8 ohm parallel resistance, though a plain 0.1uF capacitive load would occasionally set off the protection.

Driving 0.1uF in parallel with 8 ohms, the squarewave response was excellent over the entire 20Hz–20kHz frequency range. The lack of tilt on the 20Hz waveform confirmed the extended low-frequency response: almost to DC. A mild 10% overshoot for 2uF was followed by the usual ringing and was quickly damped — no problems here.

The frequency response — perfectly flat in the audio range — is simply not worth reproducing here. The bandwidth is gently tailored at the audible treble boundary, 0.4dB at 20kHz, falling slowly and evenly to -3dB at 62kHz and -12dB at 200kHz. At low frequencies it extended below 1Hz. Channel separation was good under drive, measuring 54dB at 20kHz, 89dB at 1kHz, and 76dB at 20Hz. Channel balance was excellent at 0.02dB, 1kHz.

Sensitivity was almost on the button at 15V unbalanced/normal, with 100mV sufficing for 1W into 8 ohms. Again, the input impedance met specification at a high 75k ohms, an easy load for any preamplifier.
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There was a creamy tonality through the midrange, with no perceptible hardness or thinning of texture at all. Such approval was, however, countered by the view that the balance might be a little too laid-back. (Lest you feel that a "pure" tonality automatically leads to the impression of weaker dynamics, just try the Conrad-Johnson Premiere Eight A.)

The bass was a strong point—lusty and well-defined, the CA-200 taking good control of the speaker load. The bass was well-extended, with clean playing of tunes and a powerful sustain where required—for example, on cathedral organ material.

The treble also had a tubelike quality; that is, some sheen or emphasis was audible, though not necessarily with attendant distortion such as roughness or grain. Interestingly, this aspect of the treble, heard as almost a touch of extra breathiness on vocals, was essentially below the identifiable threshold when driven via the balanced inputs. Further checks indicated that with unbalanced signal sources, the treble quality was somewhat dependent on the source; in a particularly well-matched system, this factor may have a significant influence on the overall sound quality.

As well as the improvement in treble with balanced input drive, there was an increase in midrange clarity and bass definition. Interestingly, at the same time the pace and rhythm seemed to be slightly reduced. This is unfortunate; despite the generally small difference between normal and balanced drive, this amplifier belongs to the group in which smoothness and a relaxed approach override considerations of rhythm, dynamics, and listener involvement.

Such subjective aspects vary greatly between systems and individual listener perceptions. In absolute terms, the CA-200 was unexceptional as far as listener involvement was concerned; it sounded dynamically "quiet" when compared with a Premier Eleven A, for example, and even more so than a good single-ended tube amplifier. "Bland" is perhaps too pejorative a word in this context, although it's hard to find a better term. However, this amplifier sounded more powerful than its rating suggested. It was hard to reach clipping; when I did, the CA-200's recovery from gross overload was graceful, fast, and clean.

The CA-200 favored the Spendor and Quad speakers and, not surprisingly, the Classé DAC 1 (though I was less keen on the Classé transport). Apogees, Magneplanars, and Thiel's came to mind as alternative speakers that might suit this amplifier well.

The CA-200 failed to fully convey the speed, dynamics, and rhythm of the Krell KPS-20/i CD player, nor did it bring out these qualities in the equally agile Wilson WITT speakers. Conversely, it did compare well with many established mainline power amplifiers from such major brands as Mark Levinson, Jeff Rowland, PS Audio, Audio Research (excepting the VT150SE), and the Conrad-Johnson solid-state designs.

Conclusion
Hand on heart, I have to say that I was not totally knocked out by the Classé CA-200. Still, I judged it to be a very worthy performer. In the CA-200's favor is its ability to do almost everything pretty well: drive capability, healthy maximum power, a smooth and sweetly balanced neutrality, fine stereo, strong bass, and an airy, sparkling treble. Clarity and transparency are also high on the list, together with those spacious, well-dimensioned stereo images.

The CA-200 is a well-built, well-engineered, load-tolerant amplifier with a nice sound; it offers generally good sonic as well as engineering value. At its realistic price, all of this certainly qualifies it for a Class B ranking in Stereophile's "Recommended Components"—in context, a good result for price and specification.

The audible noise at the speakers was very low, confirming the measured results relative to full power of -109dB CCIR (1kHz) ARM, -112dBA at 1W IHF, -86dBA unweighted, and 88.5dBA.

Fig.1 shows the variation of distortion with frequency at a level of 100W into 8 ohms. This is technically sound behavior. This is not the place to discuss whether the THD should begin to increase from such a low breakpoint of 70Hz or not, moving from the -107dB region to -80dB by 5kHz. A relatively low open-loop bandwidth is one implication.

Analyzing the distortion results, at full power (200W into 8 ohms) I got -80dB for 20Hz, a very low -91dB at 1kHz, and a still fine -62dB (0.08%) at 20kHz. At 100W the 20kHz figure changed little, but the 20Hz and 1kHz results improved by a further 10dB; i.e., to -100dB, 0.001% for the midband.

Down at 1W, potentially in the region where one half of the output devices crosses over to the other, the distortion figures, including system noise, were still very low, with -85dB of distortion noted at low and mid frequencies and -70dB for 20kHz (these figures dominated by measurement noise).

I attempted to analyze the harmonic spectrum at a cruising signal level of 200Hz at 1W into 8 ohms. Fig.2 shows some quite negligible 50Hz supply-ripple harmonics in which the harmonic series for distortion (first harmonic, 400Hz; second, 600Hz; etc.) were all well buried. Under narrow-band analysis the actual distortion was significantly better than 110dB. Any discussion of the value of harmonic order is irrelevant at such low levels.

The numbers were again excellent for high-frequency intermodulation distortion, the spurious measuring -88dB at full power and -97dB at 1W—as perfect as you could wish for.

—Martin Colloms

Stereophile, February 1997
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A Change of Seasons: The Ruark Equinox loudspeaker

Kalman Rubinson

Ever since the '60s, when I built a pair of Altec A7 clones, I've had a preference for relatively big speakers. Yes, I was seduced by the Stax F-81 electrostatics because of their incredibly low coloration, but inevitably I felt the need to return to something that would move more air. Regardless of the type of music (I do like the big stuff) or the sound levels, unless the sound has solidity and size, I can't easily suspend disbelief.

I guess that's why Wes Phillips was surprised when I indicated a serious interest in auditioning the Ruark Equinox. But recently I've been impressed by a number of "little boxes" — from ProAc, Platinum, Sonus Faber, etc. — that have been able to create formidable sounds under controlled conditions, and yet whose size and design allow them to almost disappear from visible notice. Could the Equinox do this under the more strenuous conditions of a real listening room and long-term auditioning? I really wanted to find out. It was a good omen that they arrived on their nameday!

Description

The Equinoxes arrived in two large cartons, one containing the speakers and the other the dedicated stands/crossovers. Assembly instructions were clear and trouble-free. After careful unpacking, each stand was placed onto a floor plate bearing adjustable spikes, and each speaker was placed atop its stand. (The speaker actually rests on the stand via three points on the underside; the loosely connected safety bolts between speaker and stand serve only to prevent disasters.) Finally, a dedicated four-conductor cable with locking Neutrik "Speakon" connectors and specified directionality is attached between the speaker and the stand-mounted crossover. The stand's gold-plated input terminals provide for bi-wiring.

Stoutly constructed of 25mm-thick MDF, multiple figure-8 braces, and heavy external wood dress panels, the Equinox is Ruark's all-out effort in small speakers. The review samples were finished in a deep, rich walnut, and stood up smartly, with elegant chamfered edges on all external panels, including the stand and the grille frame. Removing the grille reveals a smart, black, grooved-surface panel bearing the drivers. The LF is a 165mm paper-cone driver supported by a pure rubber surround and driven by a 40mm voice-coil wound on a Kapton former and a large vented magnet assembly. The 25mm silk-dome HF driver has an aluminum voice-coil, ferrofluid damping, and vented magnet assembly in its own subenclosure. These drivers are set flush in the panel but are fixed with slightly garish, gold-plated, protruding Posidriv bolts. (I urge listeners to retain the grillecloths/frames for setup and for extended listening. Removal reveals a little brightness in the treble as well as in the bolt heads.) The rear panel bears an identifying plate, the connector for the input cable, and a large ducted port with a smoothly flared orifice. The seven-element crossover is designed for a transition at 2.8kHz.

Associated equipment and setup

Some things change with the seasons, but my listening environment hasn't. The L-shaped room with the 15' by 26' listening area still retains my basic electronics setup: Audio Alchemy DDS-Pro/DDT-Pro 32/DD-E 3 CD source, Klyne L6L3P preamp, and McCormack DNA-1. A Theta Data Basic II transport was used advantageously with a Sonic Frontiers Assemblage DAC-2 and Power-2 power amplifier. In addition, I did a fair amount of analog listening via my Heybrook TT2/Rega RB300/100.

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I estimated the Ruark's B-weighted sensitivity to specification as 87dB/2.83V/m. Its plot of impedance magnitude and phase (fig.1) reveals it to be a moderately easy load to drive. It only drops below 6 ohms, and then only by a little, in the lower midrange and mid-treble. The "saddle" between the low-frequency impedance peaks reveals the speaker's reflx tuning frequency, a moderate 40Hz.

Fig.2 shows the individual responses of the tweeter, woofer, and port. The latter is the hand-pass centered on the tuning frequency of 40Hz and coincident with the woofer's minimum-monor point. There is a refreshing freedom from higher-frequency spikes and peaks in the port output. The woofer rises through its passband, peaking at 1100Hz, before beginning its crossover rolloff. The tweeter's response is flat within its passband, but it has a slight lack of on-axis energy between 2.5kHz and 4kHz.

The manner in which these outputs sum on the tweeter axis is shown in fig.3. Flat through the lower middle-midrange and treble, the Equinox's balance is spoiled by the peakedness in the upper midrange expected from fig.2. This type of curve always results in some added nasality to a speaker's balance; though I note that KR was bothered by a "caw" coloration, he did find that it could be ameliorated by suitable room placement, this bringing up the lower midrange level. In the bass, the
first scrunching down into the crotch, then perching on two thick pillows.) If I stood up, imaging suffered, and there was some treble droop. The Equinox seemed not to favor any part of the spectrum, and its transient capabilities could be startling. And the Equinox loved the human voice. Listening again to the Cowboy Junkies' The Trinity Session was a newfound pleasure. All the subtle little details were there, to be sure—the rain drizzling, the air-conditioner humming—but now how nakedly and purely Margo Timmins's voice was presented on track 11, and how cutting the harmonica comments were. Similarly, every small group—from Cyrus Chestnut and MJQ to Dr. John and Jennifer Warnes—was revealed as a coherent ensemble of individual voices.

Most of my listening is to classical CDs. With these, the Equinox was open and spacious, and never finched at high sound levels. Nonetheless, there was still a distinct lack of weight in chamber music as well as on the big stuff from Mahler and Shostakovich. Oh well, I thought, these are just little boxes, after all; I expect too much from them. But in time I relaxed enough to start sampling some of the LPs I've gleaned from flea markets in recent months.

Now, don't think I'm raising the old analog-is-digital issue here. It wasn't that at all. My analog setup is, shall we say, warm and quite rich in the bottom end. With my regular Apogee Duettas, it could be a bit overripe, but the Equinoxes just blossomed with it. Ry Cooder's "The Very Thing That Makes You Rich," from Hop Till You Drop (50 cents at the local flea), sounded more live and palpable than Ry had ever been in my room. His guitar riffs and voice were centered in the plane of the speakers, but I could hear the back-up singers backed up against the studio wall. And the bass was tight, clean, and more full than these little boxes had any right to provide.

That was my cue. I had Sonic Frontiers' Assemblage DAC-2 perking away silently for a day or so, and knowing that the Theta transport is invested with a particularly strong bottom end, I switched over to this pair from the Audio Alchemy digital trio. This did the trick. Retaining the AA digital components but swapping in the SF Power-2 amp for the McCormack DNA-1 had a similar effect. The balance achieved with these source and/or drive changes was much like what I heard from the analog source: smooth treble, full mid and upper bass, and excellent extension. How extended? Well, I didn't expect much, but I had to see what the Equinox could do with Béla Fleck's Cosmic Hippo

speaker is 6dB down at a quite low 38Hz. As KR found, this speaker can produce quite good midbass levels. Vertically (not shown), there is little change in the Ruark's balance as long as the listener sits within ±10° or so of the tweeter axis. Laterally (fig.4), the dispersion is wide and even, with a well-controlled HF rolloff with increasing angle. Such behavior always correlates with stable, accurately defined stereo imaging.

There are no surprises in the Equinox's step response (fig.5), the two drive-units both being wired with positive acoustic polarity and the tweeter's output arriving slightly before that of the woofer. The associated cumulative spectral-decay plot (fig.6) reveals a ridge at the upper-midrange peak frequency of 1200Hz, but is otherwise pretty clean, especially in the mid and high treble.

Finally, while the impedance plot (fig.1) was free from resonance-induced ripples and wrinkles, investigating the panel behavior with a simple plastic-accelerometer did reveal some problems. Fig.7, for example, a waterfall plot calculated from the output of the accelerometer when it was fastened to the center of the side panel, shows two quite strong resonant modes between 300Hz and 410Hz. The latter could actually be detected on all surfaces, even the side of the stand/crossover. However, KR did not note any midrange congestion, so I must assume it looks worse than it sounds.

—John Atkinson

![Fig.6 Ruark Equinox, cumulative spectral-decay plot at 50° (0.15ms rise time).](image)

![Fig.7 Ruark Equinox, cumulative spectral-decay plot of accelerometer output fastened to center of side panel. (MLS driving voltage to speaker, 7.53V; measurement bandwidth, 2kHz)](image)
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The Equinoxes' soundstage permitted me to locate instruments with certainty, and find them presented with harmonic accuracy. At HIFI '96 I discovered Roots! African Drums, an excellent recording of the National Percussion Group of Kenya (Denon DC-8559). On track 5, the singers are placed strongly left and right while the drums are centered and just a few feet back. Through the Equinoxes, the voices extended beyond the speakers and the drums were firmly in the middle, but the whole ensemble maintained coherence. And, oh, those drums! They had an incisive and explosive impact, outperforming my reverber Duettas and rivaling the megabuck monsters I heard at the Show. "Gii it, Beat Joque!" (Rounder CD2134) really rocked, even at levels that made me fear for reprisals from the neighbors.

What about the really big stuff? I knew we'd come to this. Great as the Equinox was on so much music, I couldn't completely accept them on the stuff that has the most emotional impact on me: late 19th- and early 20th-century symphonic music and opera. They simply could not move enough air to present the low strings and brass at levels commensurate with an orchestral forte. In the last movement of Mahler's Symphony 6, many forceful timpani blows—even hammer blows—punctuate the music, these presented with solidity and vigor by Benjamin Zander and the Boston Philharmonic on IMP DMCD93. Though the Equinoxes offered these particularly dynamic events with satisfying impact and weight, in the same movement orchestral chords of similar loudness suffered from a tonal shift that I attributed to a subtle but significant lack of power in the not-so-extreme bass. It's as if the rug had been pulled out from under the music.

Another example is in the beginning of the Dorati/Detroit recording of Bartók's Miraculous Mandarin (London 411 894-2). The low brass should shudder, warning of the great, brooding evil to come. With the Equinox, I could hear all the notes, but the villains no longer menaced.

In this regard the Equinoxes were the victims of their own success. Because they had such wonderful spatial characteristics and did not shrink at cranking out the spls, they dared me to feed them the most challenging material. I had no problems with their abilities on jazz and pop material—this, it seems, has to do with harmonic structure. But particularly in highly chromatic symphonic music, the lowest instruments contribute substantially to the tonal identity of orchestral chords; any loss of weight subtly changes the harmonic balance.

Although physically small, the Equinox is a big speaker in almost every other way.

One can, however, get a real boot and satisfaction out of orchestral music on the Equinoxes. I've been reveling in the sound they (and the SF Power-2) get from Exotic Dances from the Opera (Reference Recordings RR-71CD) and Arnold for Band (Reference RR-66CD), especially The Padstow Lifeboat. Both of these discs are quite spectacular, and the Equinoxes were up to the task, playing this harmonically simpler music with great size and impact. It's been hard to believe, even with my eyes open, that this concert-hall experience is being created by such tidy packages.

Conclusions

The Ruark Equinox is not just another cone-and-dome-in-a-box. It's the real deal: a high-end loudspeaker with few compromises in performance. Although physically small, the Equinox is a big speaker in almost every other way. First, they throw a huge, wide, and deep soundfield. Second, they will play loud without effort or complaint. Third, they have sufficient bass and transient abilities to give a real "jump" effect when called for. Fourth, despite their own modest dimensions, they need a lot of space. In addition, they reproduce the voice sympathetically and can virtually disappear into the music. They are a bit particular about system sources, and I have some reservation about their compatibility with my taste in large-scale music. That said, don't pass up an opportunity to audition them with the music of your choice. Odds are, you'll love 'em.

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Stereophile, February 1997
Totem Acoustic Tabù loudspeaker

Larry Greenhill

I first heard the Totem Acoustic Tabù loudspeakers at HI-FI '96, Stereophile’s Home Theater & Specialty Audio Show at the Waldorf-Astoria in New York City last June. A startlingly realistic vocal recording drew me to Totem’s sixth-floor demo room. Vincent Bruzzese, the speaker’s designer, was playing Michael Jonasz singing “Si si le ciel” from La fabuleuse histoire de Mister Swing (WEA 2292-42338-2, imported by May Audio Marketing, Totem’s US distributor). The small, two-way Tabù cast a holographic, palpable musical image with clear highs and sizzling dynamic pace. I was bitten, and set things in motion for this review. And two other things drew me to the Tabù: its capacitorless crossover and its similarity to Totem’s Model 1.

Why should such factors matter? First, I had high expectations of any system that had evolved from Totem’s Model 1. I’d been pleasantly surprised by this diminutive minimonitor’s excellent low-frequency response, smooth, sweet highs, and well-focused imaging (see Stereophile, April 1993, Vol.16 No.4, p.227). The larger Tabù promised to deliver more bass extension and better power handling, a necessity for my large listening room. Second, I was curious about the effects of the capacitor-less crossover. I’d been very impressed with another capacitorless two-way, the Sonus Faber Extrema, because of its speed, transparency, imaging accuracy, and midrange richness (June ‘92, Vol.15 No.6, p.133).

I was fired up by these expectations — were these loudspeakers “baby Extremas,” and could I re-create my Show experience?

Technology

The Tabù’s minimonitor profile helps reduce diffraction effects. Bruzzese also claims that small, rigid enclosures are less apt to store energy and radiate it later, thus causing interference and blurring. On the other hand, small minimonitor enclosures lack the capacity for playing deep, subwooferish bass, and can be limited in headroom.

Bruzzese designed the $2995/pair Tabù to sit at the midpoint of Totem Acoustic’s product line, smack between the Model 1 ($1595/pair) and the top-of-the-line Mani-2 ($3995/pair). The Tabù is more than twice the Model 1’s weight (22 lbs), and volume (15.5 cu. ft.), and differs from the tiny Model 1 in other obvious ways: It features an additional pair of W/IF speaker terminals to facilitate speaker-cable biwiring, for example. The Tabù’s two-way reflex design features a 7" woofer, a 1.25" silk-dome Dynaudio tweeter, and a very rigid enclosure — the Tabù felt very solid when I tapped it. Joints are lock-mitered. Two internal full-plate crossovers further strengthen the cabinet, and the sidewalls are made of a material that quickly dissipates energy. Gaskets that remain in a fluid state are used around the drivers to ensure both damping and decoupling. Vince Bruzzese has further damped the entire structure by hand-painting the insides with a thick, multilayer borosilicate paste. The borosilicate is also used on the reflex tube, this made of a damped acrylic material and set into place with an anti-resonant glue.

The silk-dome tweeter is modified before it’s installed in the Tabù. Totem Acoustic disassembles and rebuilds the OEM unit, reinforcing the suspension and replacing the internal felt and foam.
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with borosilicate damping. Because silk-dome tweeters are said to be subject to mechanical deterioration, eight additional months of research and development were required to make the tweeter rugged enough to meet its specifications throughout the Tabu's five-year warranty period. Although Bruzzese doesn't use the stiff, convex woofer dustcap found in the company's other loudspeakers, he included the same mechanical damping found in the Model 1 to prevent the Tabu's woofer from bottomsing under extreme dynamic musical peaks. The Tabu has no grille; Bruzzese is concerned that any unnecessary air resistance could lead to mechanical compression of the woofer.

The quasi-second-order crossover uses no capacitors, performing its function at 1.5kHz by using only a Solen air-core Litz inductor coil inside the enclosure, and multiple metal-oxide resistors mounted in a ventilated gray box on the rear of the enclosure just above the four WBT speaker terminals. These resistors had to be placed outside the enclosure to dissipate the heat generated when the speaker is driven at full volume. Bruzzese claims that paralleling these resistors results in 0.1% tolerances and phase-correct alignment across the speaker's bandwidth. All wiring employs specially wound, solid-core, oxygen-free copper wire coated in silver and sheathed in an extruded Teflon shield. WBT silver solder is used where appropriate. Twin pairs of gold-plated WBT speaker cable terminals easily accommodate the four spade lugs per speaker required for bi-wiring. Fit and finish in the Tabu are first-rate.

**Set-up**

Totem recommends a lengthy break-in period for the Tabu. This was accomplished by tuning in a local classical-music station, WQXR FM, and playing the speakers at low volume continuously for seven days. The Tabu has a much lower sensitivity than the other loudspeakers I had on hand, requiring a higher gain setting on the preamplifier volume control (matched during comparison tests, of course). Totem's instructions recommend placing the Tabus 2-3' from side walls and 2-6' from the rear walls. After some listening, I set the Tabus 8' apart, 2' from the rear walls, and 6' from the sides. Extremely solid 45-lb May Audio TB-888 stands, 23.5' tall without spikes, were used to support the Tabus. The supplied spikes were used in Room 2, but not on Room 1's bleached-wood floor. I used ¾"-thick Novcom tiles to isolate the speakers from the stands.

**Sound**

The Tabus passed all my subjective pink-noise listening tests. There were no colorations evident, and the sound was natural over a wide listening area.

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**Totem Tabu**

Listening tests were carried out in two rooms. Room 1 serves as my main listening area—a spacious, 5500-cubic-foot room (51' L by 13' W by 12' H) in a wood-frame house with only moderate masonry infill. Room 1 has only one area rug, making it a live listening environment. Martin Colloms warns that such rooms can be "partially porous to low frequencies...[and] boundary-matched speakers may have inadequate bass power and reach in such locations" (September '96, Vol.19 No.9, p.161). Though its construction does "leak" bass, Room 1's 51' length does support low bass. In addition, it features what MC terms "symmetrical-room speaker placement," in which side and back walls provide reinforcement. A previous review of mine (March 1992, Vol.15 No.3, p.18) describes in detail Room 1's construction, exact dimensions, contents, listening positions, rugs, windows, reverberant character, and bass modes.

Room 1's system was controlled from a now-discontinued Krell KBL preamplifier. I drove the Tabus with the Mark Levinson No.275 (also now discontinued) and No.331, and Krell KSA-250 (also no longer available) power amplifiers. Comparison loudspeakers included Quad ESL-63 USA Monitors and the Totem Acoustic Model 1s. Even though the much-more-expensive Snell Type A Reference System was not part of this review's comparisons, the Snell's huge subwoofers permitted me to establish a bass reference in Room 1. Analog interconnects included AudioQuest, Live Wire Topaz interconnect cables, and Krell Cogelek balanced leads. Bi-wired OCCOS speaker cables, supplied by Sumiko, were used. Because OCCOS speaker cables come with double leads, I was able to remove the tiny shorting wires shipped with the Tabus to bridge the double WBT speaker terminals for regular speaker use.

Other equipment in Room 1 included a Day Sequerra FM Reference tuner, a Rotel RHT-10 FM tuner, and a Linn Sondek/LP12/ Lingo turntable, Ittok arm, and a Spectral MC cartridge. CDs were played on a Krell MD-1 transport driving an Audio Alchemy DT-1 jitter attenuator using 75 ohm Silver Starlight digital coaxial cable. This combo fed either an Adcom GDA-700 D/A processor or an Audio Alchemy DDE v3.0 HDCD® over its IFS bus. The DDE was fitted with an RV-1 Remote Wand One.

Because Room 1 is so large, JA has encouraged me to use it only to audition large, full-range, floorstanding dynamic speakers. Therefore, I made certain to check all listening observations in Room 2, a 12' by 12' bedroom in my wood-frame house furnished with wall-to-wall carpeting. Not only is it a much smaller acoustic volume for a minimonitor to drive, but the furnishings make it much less "live" than Room 1. There the Tabus were driven by the Mark Levinson No.27 (now discontinued) via QED Qudos Profile B speaker cables. Modified Dahlquist DQ-10 loudspeakers were used for comparisons. Associated equipment in Room 2 included a Mark Levinson ML-7A solid-state preamplifier (discontinued), a Pioneer Elite F-93 FM tuner connected to a Magnum Dynalab ST-2 "whip" antenna, and a Magnavox CD player.

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This was confirmed by the sit-down, stand-up, walk-around test. The sound's character changed only when I stood right above the speaker.

After my experience with the Totem Model 1's healthy bass response, I was not surprised to find that the Tabu's 7" woofer produced extended and powerful bass. Pure test tones on Stereophile's Test CD 2 revealed that the Tabu produced clean bass down to 40Hz in my room, with no traces of doubling. The Tabu outpaced and outperformed the Model 1 on rock and pipe organ music, as heard on Jean Guillou's transcription of Mussorgsky's Pictures at an Exhibition (Dorian DOR-90117). On "Gnomus," the deep pedal notes from the Kleuker-Seinnayer Organ of the Zurich Tonhalle filled the room, even though the Tabu couldn't rattle my gizzard, as the Snell Type A Reference subwoofers did. However, it did capture the punch and drive of the explosive drum opening of the Eagles' "Hotel California" (from Hell Freezes Over, Geffen GEFD-24725). The Tabu also conveyed the snappy, dynamic kickdrum without overload or strain on "Something's Wrong," from Randy Edelman's soundtrack for My Cousin Vinny (Varèse Sarabande VSD-5364).

My large listening room and the Tabu's relatively low sensitivity encouraged me to lean heavily on the volume control, and this sometimes caused speaker overload. This never happened in the smaller Room 2, where the Tabu played at very high volumes without harshness.

The Tabu's midrange was uncolored and grainless. On Bad Company's Rhythm album (Chesky JD137), the Tabus captured what WP has described as the guitar's "mellow nylon-strong tone...reinforced with brilliant color in the overtone registers" (September '96, p.189). Suzanne Vega's startling a capella "Tom's Diner" (from Solitude Standing, A&M CD 5136) was lifelike and very very involving.

The Tabu's highs were pristine, crystal-clear, and more open than those produced by the smaller Model 1. Vibes and keyboards, in particular, were very liquid and transparent, even when other instruments were playing at high volumes—as heard on "Ne garde rien" from La fabuleuse histoire de Mister Swing, and on Oregon's "The Silence of a Candle" (from Beyond Works, Chesky JD130). The Tabu's ability to resolve complex mixtures of midrange and highs permitted the organ, harp, and choir to be easily differentiated on the HDCD recording of John Rutter's "A Gaelic Blessing" (from Rerum, Reference Recordings RR-56Cl). However, the Tabu did not reproduce cymbals with quite the transparency and silvery sheen heard over the Quad ESL-63s when playing Wynton Marsalis's Standard Time Vol.3: The Resolution of Romance (Columbia CK 46143).

As Larry described, the Tabu is not very sensitive, 2.83V raising only 83.5dB at 1m—just 1dB more than the chronically insensitive LS3/5a. In addition, the speaker's impedance (fig.1) drops below 6 ohms below 2kHz, bottoming out at 3.34 ohms at 170Hz. This is a speaker that needs to see a lot of volts and a lot of amps to play at acceptable volumes. Note the unusual shape of the impedance trace: The speaker looks like a small inductor above the lower midrange. The small saddle in the magnitude trace at 30Hz indicates the tuning of the port.

Fig.2 shows the individual responses of the tweeter, woofer, and port, measured on the tweeter axis. The latter's output is the bandpass curve centered on its 30Hz tuning frequency, coincident with the woofer's minimum-motion point. But note the two resonant nodes in the port's output, at

![Fig.1 Tabu, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).](image)

![Fig.2 Tabot Tabu, acoustic crossover on tweeter axis at 50°, corrected for microphone response, with nearfield woofer and port responses plotted below 300Hz and 800Hz, respectively.](image)

![Fig.3 Tabot Tabu, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with the complex sum of nearfield woofer and port responses plotted below 300Hz.](image)

![Fig.4 Tabot Tabu, vertical response family at 50°, from back to front: differences in response 45°-5° above axis; reference response; differences in response 5°-45° below axis.](image)
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180 Stereophile, February 1997
The Tabú's dynamics were quite good; despite the speaker's low sensitivity, it delivered all the startling transients, sudden bass notes, sinister rhythms, and explosive synthesizer chords on "Monkey Mayhem" from James Horner's Jurassic Park soundtrack (Epic Soundtrax FK 67424). The Tabú was not particularly amplifier-sensitive, sounding equally clean, open, and dynamic with the Klipsch and the two Mark Levinson amplifiers. The KSA-250's substantial power reserves produced tremendous kickdrum slam while playing Oregon's "Pepe Linque" from Beyond Words.

Imaging was also quite good, as revealed by the Tabú's ability to place Richard Thompson's acoustic guitar to the extreme right of the soundstage during the instrumental finish of "Why Must I Plead" (from Runem and Sigh, Capitol CDP 7 95713 2). Like the smaller Model 1s, they created a panoramic sonic image of the chorus spread across a soundstage behind José Carreras singing the "Kyrie" of Misa Caílla (Philips 420 955-2). Voices and strings floated free of the speaker positions, the Tabús seeming to disappear. Their accurate depiction of spatial positions allowed me to better delineate distinct voices and instruments.

The Tabú did not always sound smooth and mellow. On first listen, David Bowie singing "Putting Out Fire" (from the Cat People soundtrack, MCA MCAD-1498) seemed to have exaggerated clarity and presence. As JA found to be true of Totem Acoustics's Mani-2 (February '96, p.163), the Tabús somewhat exaggerated analog hiss compared with the other speakers. This edge diminished over time, confirming the wisdom of Totem's suggestion of a lengthy break-in period. Treble hiss was also not so prominent in Room 2, which was much more damped than Room 1. However, some of the Tabús' analytic quality continued after break-in, making them less forgiving than the Model 1. Although the Tabús picked up the live audience ambience on Clifford

375Hz and 600Hz. The latter, in particular, could be heard behind the speaker as a distinct tone added to pink noise. It is a good thing that the port faces to the speaker's rear, because this would otherwise add coloration.

The rather ragged trace in the center of fig.2 represents the woofer's output. It looks as though it is allowed to roll off naturally, without a low-pass filter. The tweeter comes in gradually, not reaching its full level until 4kHz.

Fig.3 shows how these outputs sum on the tweeter axis. What would otherwise be a smooth, flat curve is spoiled by a significant lack of energy in the crossover region. LG didn't remark on any hollowness or distant character in his auditioning notes, so I must assume that this suckout either doesn't sound as bad as it looks (hard to believe), or that the tweeter axis is not the axis on which LG did his auditioning (very possible). To investigate this, I measured the Tabú's response in 5° steps from 45° below the tweeter axis to 45° above. The result is shown in fig.4. The tweeter-axis suckout can be seen as the "hole" just to the left of the center of the energy surface. It should be obvious from this graph that the hole fills in for a range of angles just above the tweeter — the curve is on the 10°-above trace — meaning that the unconventional, capacitorless crossover tilts the speaker's main response lobe up above the HF axis.

This was confirmed by a plot of the speaker's response 15° above the tweeter axis (fig.5). While the low treble is still ragged — perhaps correlating with LG's comments on the speaker's "analytic" character — the overall balance is now quite even. The Tabú should definitely be auditioned so that the listener can see the top of the speaker, implying the use of low stands. The 23.5° May Audio stands are definitely too tall unless you sit high and a long way away from the speaker. I would suggest something between 12" and 18" tops. Laterally (fig.6), the Tabú's dispersion on the tweeter axis is relatively even, apart from some flare at the bottom of the tweeter's passband. Again, this might correlate with the analytical quality noted by LG.

The step response (fig.7) reveals the two drive-units to be connected with the same positive polarity. The cumulative spectral-decay plot (fig.8) looks quite alarming, with a couple of resonant modes obvious in the mid-treble, these presumably due to woofer cone breakup. To an extent, the subjective effect of these modes will be music-dependent, but they, too, will add to the speaker's analytic character.
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Jordan's performance of "Lush Life" on Live at Ethell's (Mapleshade MHS 512629A), they also revealed the recording's mike overload, distortion, feedback, and harshness.

Conclusions
The Tabû's asking price—almost $3000 for a pair of minimonitors, and an additional $549 for the TB-888 stands—raises questions about their cost-effectiveness and value. However, the Tabû plays with a clear, open treble response, a transparent midrange, a solid, extended bass, wide dynamic range, and palpable, three-dimensional sonic imaging, all of which result in a highly involving musical experience.

Whether or not the Tabû's very high resolution and clarity are the result of its capacitorless crossover and silk-dome tweeter design is not clear. Although the Tabû's analytic abilities—like putting on a newly cleaned pair of glasses—are most likely to please a reviewer like me, some listeners may not enjoy such pristine clarity, preferring instead a more forgiving speaker. A healthy break-in period led to a more balanced tonal picture, however, and the Tabû is best suited for small to moderate-sized listening environments. The Tabû loudspeaker system definitely belongs in Stereophile's "Recommended Components."

Finally, although much attention has been paid to damping the Tabû's enclosure, I could still find some resonant behavior. As well as a low-level mode at 460Hz, a more lively resonance at 363Hz could be found on all the panels. Fig.9, for example, shows a waterfall plot calculated from the output of a simple plastic-tape accelerometer fastened to the center of the side wall.

All in all, I was disappointed by the Tabû's measurements, especially considering how well Totem's Mani-2 and Model One performed in the test lab.

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SOUNDSTREAM TECHNOLOGIES
Music for Trio: The Acarian Systems Alón PW-1 stereo woofer system and Alón Petite minimonitor

Robert J. Reina

A good audio reviewer must approach his or her duties without bias. Over my 12 years of reviewing experience, I’ve prided myself on my ability to cover a broad range of gear in a totally unbiased fashion. [Now that’s just begging for trouble.—Ed.] I’ve even been able to keep my own tastes out of the picture: although I love tubes, analog, and expensive, I review solid-state, digital, and affordable.

But with this review of the Alón PW-1 passive stereo woofer system, designed to accompany the Petite satellite system (together they’re known as the Alón Trio system), I must confess to two strong personal biases: 1) I hate separate woofers and subwoofers, and 2) I love Alón speakers.

Explain thyself, oh biased one!
My hatred of subwoofers began in the 70s when I was looking to extend the bass response of my Dahlquist DQ-10s. I combed every high-end salon in the New York Metropolitan area looking for alternatives. Every dealer steered me away from Dahlquist’s own DQ-1W woofer and toward more expensive, deeper-bass alternatives. Sure enough, the bass response of every woofer I tried was deeper than the DQ-1W’s, but each time, the blend between the two designs was awful—in the worst cases, the system setups sounded as if someone was in the room playing bass guitar along with the record. I ended up buying the Dahlquist DQ-1W woofers despite their lack of significant bottom response because they sounded like Dahlquists and blended perfectly with the DQ-10s.

Later, as I got into reviewing, attended Consumer Electronics shows regularly, and was exposed to more gear, I learned to despise the practice of “matching” subwoofers and loudspeakers made by different companies. In fact, the only such subwoofer/speaker combinations that have impressed me are the Entec SW-5/Crosby Quad ESL-63 and the Kinergetics/Martin-Logan CLS setups.

Today, many manufacturers design subwoofers to accompany their own smaller, bass-shy designs. I don’t see the point—more and more designers are extending the bottom-end reach of small, inexpensive designs, which obviates the need for subwoofers. For example, many of today’s satellite/bookshelf speakers in the $250–$1000/pair range can convincingly reproduce 55Hz. Moreover, designers of floorstanding speakers have made tremendous progress in getting true bottom-octave extension out of smaller designs. I was even a bit shocked to note that my own Alón V Mk.IIs, with one 10” woofer per side, can reproduce a convincing 20Hz with a single 60W hybrid amplifier, something my Infinity RS-11B woofers...
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- Meridian - Parasound - Pioneer Elite - Proton - PSB - REL - Rotel - Stewart - Sumiko - Sunfire - Tara Labs - Theta Digital
- Threshold - Townshend - Transparent Audio - Vibraplane - Vidikron - Von Schweikert - VPI - Wheaton Triplanar - Zoethecus
- i.s.f certified - and more
—even with the help of a 400Wpc solid-state arc welder—could never do.

That hasn’t stopped designers from adding subwoofers to their lines. I continue to scratch my head when I see talented designers like David Wilson and Carl Marchisotto design the Wilson XS and Alon Poseidon subwoofers, respectively, to complement the Wilson Grand SLAMM and Alon Phalanx—to two loudspeakers that, on their own, produce some of the most deep and natural bass I’ve heard.

And don’t even get me started on the home-theater movement, which, though I support it, seems to give some subwoofer designers license to turn the home-listening environment into an amusement-park ride.

My Alon biases are limited to three models: the Petite, the II, and the V Mk.II. I never much cared for the original, most publicized Alon IV. Though it was a very innovative and cost-effective design, I thought the IV’s 12” woofer gave the speaker bass extension that tended to overpower the rest of the spectrum in smallish rooms (the only sort of room there is here in the New York City area). I therefore fell in love with the II, a smaller, better-balanced floorstander with less bass output and extension than the IV, but that otherwise sounded damn close at half the price.

At half the price again, the Petite satellite is another winner, and my affordable reference. This little darling is limited in bass and dynamic range, but boasts the same tweeter and soundstaging capabilities as the II and IV. (It was reviewed for Stereophile by Wes Phillips in January ’96, Vol.19 No.1, and the Fall 1996 issue of Stereophile Guide to Home Theater, Vol.2 No.3.)

As you will have read in my Follow-Up review in September (Vol.19 No.9, p.169), I’m even more excited about the Alon V Mk.II, whose design has trickled down from the $22,000 Phalanx; the V features the same drivers (albeit with less expensive magnets) as the Phalanx in a more conventional three-way enclosure. In fact, I’m more attracted to the V Mk.II than to the Phalanx, as the V features most of the magic of the Phalanx drivers in a more user-friendly speaker—ie, it can easily be driven by one amplifier. The Alon V Mk.IIs also have one major advantage over the Phalanxes for me: I can afford them.

Necessity or extravagance?
When I heard the rave reports from the 1995 Summer CES (I missed it) about the Alon PW-1, I thought, “So what? The Petites don’t need a subwoofer.” I was already getting a solid 55Hz in-room and slightly reduced output at 50Hz from my Petites, and that suited me just fine.

However, the birth of our son has necessitated the conversion of the dedicated listening room in my main house to the baby’s room. The main system was moved to the den of my vacation house (the best listening room I’ve ever had), and my affordable system was moved from the vacation house living room to the main home living room, a cramped space that demands nearfield listening to speakers that really should be closer to the side walls and farther out from the wall behind them. I realize that the Petites were designed for space-constrained environments; my living room, however, opens up into a large L-shaped dining/kitchen area, so not much below 60Hz emerges from my Petites in the new room. I needed a solution.

“Hey, Wes! Need anybody to review the Alon PW-1 woofer?”

The PW-1 is intended to accompany the Alon Petite satellite speakers. The woofer’s built-in passive crossover rolls off frequencies above 55Hz at 12dB/octave. Thus, the Petites are run full-range with the PW-1 in parallel, all three enclosures being driven by a single stereo amplifier. The PW-1’s cabinet encloses a stereo pair of downward-firing, 1/2-inch-diameter ports, respectively. As expected, the woofer’s output is in positive polarity and the port’s negative, this typical of a reflex design. But note the significant ringing, extending out to the 100ms edge of each graph. In a sense, you have here an example of the Uncertainty Principle: The more narrowly you define a loudspeaker’s passband in the frequency domain (and figs.1 & 2 show that the PW-1 covers a narrow passband of just an octave), the more indeterminate its output will be in the time domain. BJR mentioned the Trio’s system as having a subjective boost in the 60Hz region; this will be associated with the ringing seen in figs.5 & 6 and the bandpass character seen in figs.1 & 2.

Overall, the measurements suggest a well-engineered stereo woofer, given the compromises inevitable at the $500 price point. I can see why Bob (and WP) liked the PW-1 when they used it with the Alon Petite.

—John Atkinson

**Fig.1** Alon PW-1, nearfield woofer and port responses.

**Fig.2** Alon PW-1 & Petite, complex sum of nearfield woofer and port responses.
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### HeadRoom Amps

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### Budget Systems

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Stereophile, February 1997
long-throw 6½" drive-units. Designer Carl Marchisotto claims that combining channels in the acoustical rather than the electrical domain can result in more accurate reproduction of ambient and directional information reproduced by the main channels. As the PW-1 is a ported enclosure, Marchisotto claims that 50Wpc is sufficient to drive the entire Trio system.

System

Equipment used in the course of this review included a Thorens TD 160/ SME 3009 III/Grado Signature 8MZ analog front-end, CAL Icon Mk.II HDCD* and non-HDCD players, Creek 4240 SE integrated amp, and Alón Petites on Celestion Si stands. Wires included MIT 330BG interconnects, and Acarian Systems Black Orpheus tri-wired speaker cable for the Trio system. I also briefly bi-amplified the PW-1 using an additional Creek A42 amplifier.

Subwoofer placement: a royal pain in the bottom

The only thing I hate more than subwoofers is subwoofer placement. Acarian Systems' marketing campaign for the PW-1 has sounded like this: "It's so small you can stick it anywhere! But remember, you'll get deepest bass extension with corner loading." Yeah, right. There are no less than five optimizing criteria that must be considered in determining the best possible location for a single stereo subwoofer. Such a site must have: 1) the smoothest bass response; 2) the best tonal blend with the main speakers; 3) the deepest bass response; 4) the least distortion of soundstaging; and 5) your significant other's approval.

The point is, if you try to optimize each of these in isolation and you end up with five different answers, you're screwed.

I started by dismissing Criterion #3, because the only corner-loading location for deep bass in my room was to the left, behind the listener, at double the distance from the listener as the Petites. I wasn't about to create a wildly schizophrenic soundstage simply for low-end extension, even if it meant I could probably install the PW-1 in the room without my wife noticing it (thus satisfying Criterion #5). I decided the PW-1 was going to end up somewhere between the Petites.

I first placed the woofer with its longest dimension along the wall behind the Petites: much too boomy in the midbass. Next I tried the PW-1 with its shortest dimension along the wall behind the Petites, but still up against the wall. Although reduced, the boom persisted. I then tried moving the subwoofer forward about 9" and got very satisfactory results, save for a slight resonant emphasis around 60Hz. It was time to invite Carl and Marilyn Marchisotto over for some fine-tuning.

Carl was basically satisfied with my positioning, with one exception. He felt that the woofer should not be placed too close to either Petite, as this would result in emphasis around the 55Hz crossover point. (The PW-1's manual doesn't mention this.) I had placed the PW-1 about 6" from the left Petite, which was most of the cause of my 60Hz warmth. I finally settled with the PW-1 about 18" from the left Petite, which significantly flattened the Trio system's midbass response.

My room constraints discouraged further experimentation; the following comments should be considered in the context of what I was able to achieve in my difficult room.

Sound: woofer or dog?

The quality of the PW-1's bass response overall was excellent, its fairly uniform character blending fairly seamlessly with the Petites' own mid- and upper-bass response. The bass response of the entire system was now extended from its original lower limit of 60Hz to a solid 35Hz, with some reduced output at 32Hz. Overall, the frequency response was clean, uncolored, and smooth, with no peaks or valleys in response. The woofer never called attention to itself: There was no discontinuity between the Petites and the PW-1 on any source material.

The bass drum and bass guitar on Janis Ian's Breaking Silence (Morgan Creek 2959-20023-2) were as clean, extended, and uncluttered as I've heard them on much larger systems. The lightning-fast synthesizer passages on James Newton Howard's Amusement (from The Sheffield Jazz Experience, Sheffield Labs 1046-2-G) are an acid test for bass response. All runs were tight, detailed, deep, and dynamic, with no trace of overhang. Daniel Lanois' resonant, processed production of Emmylou Harris's Wrecking Ball (Elektra/Asylum 61854-2) contains quite a bit of thundering bottom end that can sound murky on woofers that are less than worthy. With the PW-1, the bass was round, fat, and soothing, but with no woolly overpineness.

I did find that heavily modulated passages of sustained bass at around 60Hz could trip up that little bit of crossover warmth that I could not completely rid my system of. But it took a long time to find the recording that could trip it up: Mighty Sam McClain's "Too Proud," from Give It Up to Love (AudioQuest AQ-CD1015). The bass guitar is way up in the mix and spends quite a bit of time at the PW-1/Petite crossover point; there was a noticeable overhang on certain notes in the midbass region that I
High End for Real People.

The Mirage M-6si

In a stunning breakthrough for both bipolar technology and power amplifier design, Mirage has developed a uniquely profiled loudspeaker, the M-6si. The amazing new Mirage offers outstanding sonic accuracy, immense bipolar soundstaging and a small footprint for ease of placement.

The M-6si features full 360-degree bipolar radiation and dual 8-inch powered bipolar subwoofers for commanding bass performance. Amplification is provided by a built-in 150-watt dual-module MOSFET design. Perfect for the best music and home theater systems, the new Mirage M-6si is priced at under $2500. It’s truly high end for real people.

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just couldn’t get rid of.

To what extent does combining the two woofers in one cabinet interfere with the soundstaging? Not one bit on any of the well-recorded orchestral recordings I used, especially Charles Wuorinen’s *Perception Symphony* (Nonesuch H 71353), with its multiple pianos, timpani, and bass drums. Throughout the entire recording the stage presentation was natural, and the PW-1 provided dramatic impact without calling attention to itself.

I searched to find a recording that would elicit soundstaging distortion and found only one: Paul Bley’s *Copenhagen and Haarlem* (Arista AL 1901). On this live recording, stand-up bassist Mark Levinson (yes, that Mark Levinson) is closely miked and panned hard into the left channel. During one of his solos, Levinson covers the entire range of his instrument; during a few of the multiple-octave descending passages, I heard him move a bit to the right as he hit the lower registers. But this recording’s stage perspective is quite atypical.

There’s lot of busy bass and percussion activity on King Crimson’s “Vroom” (from *Thak*, Virgin 8 40313 2), each bass/Chapman Stick player occupying his own channel. Normally it’s quite difficult to follow the bass players separately on any system, but the Trio system kept them separate even as they plumbed the depths of their instruments’ ranges. In fact, the Crimson CD sounded so good that, one day when I got home from work and my wife and son were out of the house, I decided to doff my execu-garb and crank the volume. By 102dB the Trio system was thundering, dynamic bass that reminded me of the King Crimson concert I’d attended last year. Once again I experienced the chills I’d felt when King Crimson opened with this cut live. I was there again! I found myself unable to continue my disrobing ritual as I danced around the room shaking and writhing in my underwear, my Valentino suit draped over its hanger and still clutched in my hand. (The blinds were closed.) Oh yeah—the Creek amp wasn’t even getting warm.

**Are two amps better than one?**

I wondered if the next intended step of this review had become pointless. I’d borrowed from Music Hall a Creek A42 amplifier in order to see if I could extract better performance from the PW-1 by bi-amplification, as the A42’s gain is identical to that of the amp section of the 4240 SE (it is, in fact, the identical amplifier). But I was so happy with the bass performance of the Creek amplifying the entire Trio system that I doubted I could extract more performance by adding the second amp, and was tempted to punt the whole thing and send the amp back.

Then guilt struck. I had a vision of Roy Hall at the next CES, Oban single-malt in hand as he complained to a reviewer from a competing magazine, “I sent Reina an amp to play with and the lazy bastard didn’t even open the goddamn box!” I decided to hook up the A42 and PW-1 in bi-amplified mode. The result was bass performance essentially unchanged from the tri-wired single-amp configuration used for the bulk of this review. I say *essentially* unchanged because one needs to factor-in the additional interconnect needed to hook up the A42 vs the hard-wired amp within the 4240 SE itself.

The point is, even with an interconnect that cost as much as the PW-1 itself (MIT Shotgun), the bass performance did not significantly improve. I did notice, however, a slightly more relaxed quality to the Petites’ high frequencies, presumably due to the A42’s power supply being less stressed driving two speakers instead of four. The improvement was marginal, and the conclusion is this: If the amp is good enough, bi-amplification of the Trio system is a waste of money.

**Conclusion, context, constraints, chianti**

Overall, I was quite impressed with the performance of the Trio system, but then I thought about how the quality of the bass compared with the similarly extended (but more expensive) Alón II. In my conversations with him, Carl Marchisotto conceded that the PW-1 is a cost-constrained design and that a ported enclosure, because of its inherent ringing, will not be as accurate in the bass as an acoustic-suspension enclosure such as the Alón II. (Porting is necessary to achieve bass extension and high sensitivity with the small cabinets of both the PW-1 and the Petite.) Marchisotto also said that an infinite-baffle bass enclosure like the Alón V Mk.II is better still. I agree; my Alón V Mk.II produces more subtle microdynamics in the bottom two octaves at a wider range of volume levels than do the Alón IIs.

Yet the bass quality of the Petite+ PW-1 Trio system is still fairly impressive: a little warmer, more rounded, and slightly more resonant than I’ve heard from the Alón II, but bass performance that’s much closer to the II’s than I’d expected. As an analogy for the rock musicians in our readership, the Alón II’s bass reminds me of a Fender bass guitar played through a clean and neutral amplifier, while the PW-1’s bass is more reminiscent of the rounded, more resonant quality of a Gibson bass.

At the end of the day, I was sufficiently happy with the performance Carl and I had achieved with the Trio system within the constraints of my room that I purchased the PW-1 and took Carl and Marilyn out for a celebratory meal at my favorite wine and food haunt, Manducatis in Long Island City. After a wonderful and lengthy meal and several bottles of the finest Italian wine, I bade the Marchisottos adieu, drove home, and trundled off to bed. As I undressed (hmmm, lots of disrobing in this review), still feeling my own personal “Trio” glow of good food, wine, and sound, I glanced at my credit-card receipt for the evening’s entertainment as I laid it on the dresser: the PW-1 had cost me less than the dinner.

**Summing up**

When properly set up and accompanied by an amplifier that can give it the power and control it requires without compromising the Petites’ delicate midrange, high frequencies, and soundstaging capabilities, the Alón PW-1 is the perfect accompaniment to the Petites for those who want more bass extension. The Creek 4240 SE worked splendidly in this regard.

No, the PW-1 is not perfect, and I’m still not convinced I got the absolute best out of it in my limited room. Yes, for those who have the additional money and the space, a pair of Alón IIs (at $2300) can, overall, outperform the $1495 Trio system (and requires twice as much power). Yeah, I can afford the Alón II, but I’ll have to live with the Trio system because I don’t have the space for the IIs in my small living room, my wife would have a fit, I really couldn’t get the IIs to perform the way I’d like to even if I had a larger room, and… OMIGOD! I’ve become Marchisotto’s target market!
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Oxidation is really rough on attenuators, relays, and other electromechanical parts; it causes gradual but relentless performance degradation that eventually leads to outright component failure. It stands to reason that, though they're hardly the most exciting topic in audio, valves, oils, contact cleaners, and conductivity-enhancing sprays have been popular in high-end circles for years. And remember the hundreds of electrical contact points and solder joints inside each audio component that rarely, if ever, get such treatment. In fact, I've often thought that some of the improvement we hear with new cables might be due to their relative lack of oxidation.

Try it yourself — especially if your system is a year or two old and you've never cleaned all of its electrical connections. Use one of the potions offered at your local dealer or mail-order house — you're sure to be surprised at the black crud extracted from what appeared to be clean connectors and cables. You'll also likely enjoy an extra measure of sonic clarity and refinement from your favorite music.

But although most conductivity-enhancing products work as advertised, few of us look forward to the occasional afternoon spent wrestling with cables, ointments, and Q-tips. Just as most owners of expensive, exotic cars regularly detail and fine-tune their prize possessions, so too do many audiophiles suffer cramps and backaches every few months buffing and polishing every spade lug, connector, and power cord in the house — all in the name of peak performance (or perhaps, in some cases, obsessive-compulsive disorder). Most will claim that the results justify the elbow grease.

In contrast to the more familiar cleaning agents used mainly for connectors and spade lugs, O. Blocker products are designed as a total solution that thoroughly cleans all parts of a system and improves conductivity while providing ongoing corrosion protection. The key ingredient is a proprietary blend of amine carboxylate chemicals known as vapor corrosion inhibitors, or VCIs.

VCIs are widely used in industrial and critical military applications ranging from the protection of cellular telephones sold in Pacific Basin countries to the electronic guidance systems in the Navy's ship-based missiles and torpedoes. A VCI-treated plastic is used to wrap large containers on the open decks of cargo ships to prevent corrosion of containers and contents during long ocean voyages. Steel reinforcement rods in many concrete bridges and highway overpasses are now treated with VCIs to retard corrosion.

As the name suggests, O. Blocker aims to prevent the insidious degradation that oxidation, salt air, and sulfidation can cause in electronic components of every stripe. Don Moses, founder and former chief designer of Wadia Digital Corp., teamed up with Rey Cole, a research physicist from Cray Consulting Services', to package and promote the use of these extensively tested and certified MIL-spec VCI chemicals.

Music Sciences didn't invent VCIs. What they did was package their proprietary VCI brew in several different forms suitable for treating all sorts of audio gear. O. Blocker differs in several important ways from other treatment products. For instance, as a blend of light amine-based chemicals, it is environmentally very safe; it is about as toxic as table salt, not flammable, and not harmful to the ozone layer. It works differently, too: The light vapor action of O. Blocker slowly fills the entire enclosure of a component, providing protection for every solder joint, mechanical switch, relay, attenuator,

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Description: Anti-oxidant treatment, available in four forms: a 4 oz. non-aerosol spray bottle for connectors and cables; a flask of 36 1"-square foam pads to apply inside electronic components; a bag of six 1"-square foam pads; or 36 specially treated 8" by 6" and 6" by 4" plastic bags for storage of CDs and DATs.

Prices: $69.95, aerosol bottle; $59.95, flask of 36 foam pads; $9.95, bag of six foam pads; $49.95, 36 treated plastic bags for storage of CDs and DATs. Approximate number of dealers: Not known.


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internal wiring—you name it. This is something no other product I know of can claim. In addition to their anti-oxidant effects, O₂ Blocker's VCs protect against the corrosive action from gases given off by rubber grommets and electrolytic capacitors, though without harming the plastic or rubber components. Think of them as a sort of vitamin E/beta carotene anti-oxidant cocktail for your stereo.

Music Sciences offers a four-ounce bottle of liquid spray that cleans all sorts of contacts, including speaker terminals and IEC jacks, while uniformly coating the surfaces with a thin yet long-lasting protective film of VCI that also enhances conductivity. Depending on the size of your amplifier, preamp, or other electronic component, and how tightly sealed their chassis, you simply attach (by their self-adhesive backing) two to four small foam pads (1" square) to the interior surface of a component enclosure. These foam pads, soaked with O₂ Blocker, continually release the compound as a vapor over two to five years.

It takes about four weeks for the protective film of VCI to completely penetrate and coat all component parts. And don't worry about any excessive build-up of chemicals. The protective film resulting from vapor deposition is only about 0.9mm thick—far less than normal dust and dirt. Also, it shouldn't impair or cloud the lens of a CD player.

Unlike other heavier-than-air anti-corrosion chemicals and coatings, which tend to settle in one place or another, the light vapor-phase action of VCs not only ensures complete surface coverage of all internal parts, but penetrates deep inside mechanical switches, relays, and attenuators. If your preamp or amp has a lot of ventilation holes, just add an extra foam pad, or replace them every two years instead of every four or five, as is recommended for well-sealed components.

O₂ Blocker also comes in Sweet Tart-sized tablets, to be attached to the insides of chassis with double-backed foam tape. Since the foam pads currently produced are now as strong and long-lasting as the tablets, I recommend using the pads instead—they're easier to apply, and less likely to be confused with candy by kids or pets. (Despite O₂ Blocker's extremely low toxicity, I don't suggest munching on them—the spray leaves a slight petroleumlike odor in the immediate area around the treated components. This fades away in a day or two.)

O₂ Blocker is also embedded in plastic bags sized to store jewel-cased CDs or archival DAT tapes. According to Don Moses, the subtle effects of oxidation on the CD's aluminum substrate can cause micro-delamination and subtle data loss over time. Oxygen certainly has a deleterious effect on magnetic tape, but I can't vouch for any such problems with CDs.

Independent verification

Last year Music Sciences commissioned an independent evaluation of their O₂ Blocker, using an accelerated aging test overseen by a registered professional engineer licensed by the Minnesota State Board of Architects and Engineers. The results, showing the before and after conditions of various electronic switches, relays, and passive parts soldered to PC boards, were very impressive. Untreated toggle switches were literally black, while treated parts looked nearly brand new.

The stuff had worked like a charm:
The treated board looked nearly new.

Before seeing samples from this controlled evaluation, I decided to conduct my own unscientific test. I live on the 14th floor of a high-rise near downtown Honolulu, Hawaii, less than a mile from the Pacific. I cut an old modern's PC board in two and sprayed one half with O₂ Blocker; the other half was left untreated. In addition, I stripped the insulation from two lengths of "six-nines" stranded copper wire, and sprayed one bundle of strands with O₂ Blocker. I secured all of these parts to a ledge outside my bedroom window and promptly forgot about them.

Months later I read an ad for O₂ Blocker in our very own Stereophile, remembered my experiment, and retrieved the parts from the window ledge. The stuff had worked like a charm: The treated board, including several soldered resistors and IC chips, looked nearly new, and the coated copper-wire strands were just a slightly darker shade of copper. The untreated PC board was a mess—corrosion bridged the tarnished solder joints—and the bare copper wire was nearly black and coated with a white, crusty residue. The VCI-treated parts had withstood more than four months of wind, rain, and sun in a humid, heavily salt-laden environment. At the very least, my experiment confirmed the advertised results from Music Science's own independent test.

Sound quality

Music Sciences and some audio enthusiasts have made claims for sonic improvements after treating a system with O₂ Blocker. Aside from the obvious cleaning action as a result of spraying connectors and spade lugs with the liquid form of O₂ Blocker, I can't verify these reports. After all, when it takes at least a month for the vapor action to fully coat a component, making accurate sonic comparisons is a little tough! On the other hand, O₂ Blocker should arrest any further deterioration in existing gear and prevent oxidation from even starting in new equipment, helping it maintain peak performance for years to come. Since VCs can be embedded in plastics, good applications might be to treat shrink-wrap tubing with them, and use them to seal solder joints and penetrations around cables and connectors.

Application of Music Science's O₂ Blocker ought to be standard practice for anyone planning on keeping their gear longer than six months. I've treated my entire system, including Rowland electronics, digital source components, and both the passive and active crossovers supplied with the truly awesome new Audio Artistry Beethoven speaker system. My computer, TV, and air-conditioner controls have also been "O₂-Blocked."

Over the past few months I've been preoccupied designing and preparing to build a new house, construction scheduled for early '97. (Better description: a great listening room with a comfortable home attached.) I plan on using O₂ Blocker on all parts of the electrical service, as well as on key elements in the house's two separate central air-conditioning systems—an ultra-quiet dedicated unit for the listening room and a larger model for the main portion of the house. No doubt this building adventure will provide plenty of fodder for a future article or two.

Summing Up

O₂ Blocker is a unique, comprehensive, and highly effective preventive maintenance tool. It's safe to use, and though it's not exactly cheap, consider the cost of the equipment these products protect and preserve so well. While I take the claims for enhanced sound quality from treating existing gear and its impact on CDs with a grain of salt, there's no denying O₂ Blocker's role in helping to keep our expensive gear singing at its best for years to come.

Stereophile, February 1997
Guess what! My Daddy will be opening our new store this Spring. He's been working very hard lately--because the one we have now is too small. Dad says there isn't enough room for all the neat music and movie stuff we sell. He says it will be state-of-the-art. No other store quite like it. More high-end audio/video than anyone in Chicagoland (he told me to say that). Ten rooms to play in. Lot's of comfy furniture to climb and jump on. I can't wait.

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Robert Baird

Mississippi is just beginning to discern that "blues tourism" is a viable source of tourist dollars.

Kilmer would be paying me rent. Exorbitant rent. Today, if I walk past a bar where some weekend-only blues band is careening into the opening bars of "Sweet Home Chicago" or some other soon-to-be-mutilated "blues classic," I bolt away as if someone's just blown my dog whistle. Outside of reissues and the occasional impassioned disc from Black Top, Bullseye, Fat Possum, or the other blues-oriented labels, I can't listen to blues records.

Basically, if it came down to having my teeth drilled without anesthetics or listening to one more earnest mob of blues-by-rote wannabes, I'd choose dentistry. Suffice it to say that, at this point in my life, I am extremely blues-challenged.

It's against this backdrop that I made a recent sojourn to the wilds of the Mississippi Delta, where the blues were born. First on the agenda was the obligatory Robert Johnson pilgrimage. Driving south from Clarksdale through Itta Bena, I found his two tombstones (neither one of which may be anywhere near his real gravesite), and the building that may or may not be the juke joint where he may or may not have been poisoned.

The best part about this leg of the journey was that I was on my own. The state of Mississippi is just beginning to discern that "blues tourism" (the scary term takes its cue from the Nashville-derived "country music tourism") is a viable source of tourist dollars. This translates to a refreshing lack of signs, maps, and juke-joint-themed restaurants, motels, and T-shirt shops. Unlike the sanitized "liquor mall" (as Memphis's inimitable Jim Dickinson calls it) that Beale Street has become, the Delta is still, well... the Delta. About as close as you come to blues promotion is the cool mural on the inside wall of the Washbucket Laundromat in Lula.

The most revelatory part of my trip was Mississippi's infamous juke joints. My usual hyperbole aside, the juke joints of Clarksdale and the surrounding environs have, for the moment, restored some of my faith and interest in the blues. The tradition out of which the blues as we know it first sprang is still alive in Mississippi, albeit in a much desiccated form. In the Delta, the blues remain a social event attended by young and old, dressed up and dressed down, sober and less so. A certain percentage of blacks in the Delta still consider blues their music of choice. In this environment, the blues (as played by the Special Occasion Band from Greenville, Miss.) had the kind of spark and rawness that's sadly lacking from most modern recordings and live performances. In juke joints, the music still serves its historic double purpose: good for listening, but best for dancing and carousing.

Sadly, Mississippi's fateful county-hy-county decision to enter the world of legalized gambling is having a negative effect on juke joints and the music. People are now taking their shingles and fleecing north to Tunica to see Vegas-styled shows by the likes of Wynonna Judd, and to pump one-armed bandits reputed to be "the loosest slots in town."

The moral of this story? Nothing too heavy—just that, in this day and age, when the music business routinely overwhelms the music, and the roots of most music from Mozart to Hank Williams are a distant memory, it's startling and reinvigorating (not to mention a gas) to find the origins of America's greatest homegrown musical tradition still alive and jokin'.

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Stereophile, February 1997
This disc is an exploration of the rich polyphonic tradition of the cathedral of Notre Dame in Paris as well as that of the abbey of St. Martial de Limoges (Aquitaine), itself the wellspring of French medieval poetry and music, both monophonic and polyphonic. The four Aquitainian selections are anonymous, in keeping with the traditions of the monastery, which fostered community and discouraged self-promotion. Most of the remaining 12 compositions, from Notre Dame, are not only credited but redolent of the cathedral's exalted position as the center of the 12th and 13th centuries' liturgical flowering—there are compositions by Adam of St. Victor, Albertus Parisiensis, Philip the Chancellor, and Perotinus.

Edward H. Roesner's fascinating notes point out that not only do we know the names of those illustrious musicians, but that, unlike the monks of St. Martial, they wrote these pieces—working with quill and parchment. Musicians learning them did so from the manuscripts rather than from the memories of those who had performed them previously. In breaking with the oral tradition, and by using new rhythms, language, and harmonies, they were harbingers of the modern era.

The works are beautiful and full of mystery. Although some were linked to specific feast days, most were intended to embellish the day-to-day celebration of the religious life, and consist of sermons, poetic meditations on scripture passages, songs of praise to the Virgin and the Trinity, and, in one case—Philip the Chancellor's *Ve mundo*—a lecture on the corruption of certain church officials.

This makes for a varied program, despite the unity of the concept. Perotinus's *Mors* is intricately voiced and filled with contrapuntal play, whereas the anonymous *In hoc anni circulo* from St. Martial, with its chanted lessons rising over a vocal drone, sounds downright somber.

It isn't the cleverness or the variety of the program that makes this our Recording of the Month, however. The performances and the recording are, quite simply, intoxicatingly, sumptuously beautiful. Engineer Craig Silvey has rendered the reverberant acoustic of St. Vincent's Church in San Rafael, California with lambent precision. The Theatre of Voices fills that space, their voices as seemingly solid as a brilliant shaft of light—growing and glowing in the still air. I've rarely heard so far into a recorded acoustic as I can with this one, and the tones that fill it ring pure and warm, yet are informed by detail. The harmonies are precise and bold: There's no place to hide when voices stand as brilliantly exposed as they do in such a perfectly drawn acoustic, and the ensemble responds with performances that are strong yet personal, and very, very human.

We tend to think of the past, particularly the Middle Ages, as dark and distant. With this lovely, luminous performance, Theatre of Voices shows us that it isn't necessarily so. Our common humanity with the people who created these works—and with those who took pleasure in them—assures us that the light we perceive in these treasures is not the cool glow of nostalgia, but a glimpse at the spark of life itself.

—Wes Phillips
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Ein deutsches Requiem

Christiane Oelze, Gerald Finley, La Chapelle Royale, Collegium Vocal; Orchestre des Champs Elysées; Philippe Herreweghe, dir. Harmonia Mundi France HMC 901608 (3 CD only). Jean-Martial Géral, Jean-Michel Durand, prod. D1014. 1996. TT: 66:15

Music *** ***
Sonics *** ***

BRAHMS: Lieder und Gesänge (Secular Choral Songs)


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Particularly distinctive are the four songs for women's choir, two horns, and harp.

—J.P. Wearing

BRITTEN

War Requiem

Lynda Russell, soprano; Thomas Randle, tenor; Michael Volle, baritone; Scottish Festival Chorus; Choiristers of St. Mary's Episcopal Cathedral, Edinburgh; BBC Scottish Symphony Orchestra, Martin Brabbins. Naxos 8.553558-9 (2 CD only). Simon Lord, prod; Tony Kinse, eng. D1013. 1996. TT: 84:25

Music *** ***
Sonics *** ***

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his recording—performed by Scottish forces, relatively unknown soloists, and conducted by a young Martin Brabbins—is a remarkably fine account of Britten's difficult, mammoth work, which weaves together poems of Wilfred Owen and the traditional Latin Requiem Mass. The main credit belongs to Brabbins, who balances the many forces (soloists, chorus, boys' choir, chamber orchestra, and full symphony) to present a convincing drama on the horrors of war. Both the choral and orchestral work are crisp and alert, and the sonics are very good (though see below).

Taken on their own merits, the soloists are also more than satisfactory. The combination of Langridge, and Shirley-Quirk for Richard Hickox—are, if anything, even more secure than Britten's team.

The greatest problem facing the engineers is in creating three convincing spaces: one for the chamber orchestra and men soloists, who depict soldiers and sing the Owen texts; a second for the full orchestra, and chorus, who sing the Latin Requiem; and a third for the boys' choir and chamber organ, who should be far off, away from the battlefield. (This challenge is discussed by John Culpshaw in his notes to the Britten recording.) In this new recording, everything is clear and reasonably well balanced, though the spaces aren't well enough delineated. In particular, I did not sense enough separation between the soloists and the other singers, either on speakers or headphones.

As an introduction to the War Requiem, thought by many to be Britten's masterpiece and certainly one of the handful of great 20th-century choral works, this recording will serve admirably, particularly at Naxos's budget price. I hope, though, that it will be only the prelude to one of the three rivals mentioned above, all a little more distinguished—if a lot more expensive—than this newcomer.

—Paul L. Althouse

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Music *** 1/2
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vocalists Elvis Costello and Sarah Leonard, medieval polyphony and 20th-century sonorities, indisputable terror and magnificence — the whole concept of this disc provokes the "double-think" of the medieval mind, while clothing it in the refinement of the latest recording technology. The result? A surrealistic soup that certainly tantalizes the taste buds.

*Error and Magnificence* is a 20-minute fantasy, "a medieval mind-set" for saxophone, keyboard, and ethnic percussion, all on a foundation of spoken words by Guillaume de Machaut, that defies classification by breaching the defences of numerous musical genres. Its success proves that early music is the perfect playground for composer/performer John Harle, his comparatively modern instrument, the saxophone, finding a comfortable role in the music of a time that had no preconceived ideas about instrumentation. Harle goes from strength to strength, improvising a duel with Sheppard in *Hunting the Hare*, backing a Petorin chant for countertenor with multitracked saxophone, keyboards, and percussion in *Rosa Blood*, and finding in Costello's voice the perfect exponent of Shakespeare's words in "Mistress Mine", and it pays off.

Admittedly, Sarah Leonard's vocal purity has the technical edge in "The Three Ravens," but nobody could fault Costello in the affecting intensity of his delivery. So, is Costello moving further into the world of classical music, or has Harle found an ally with whom to reach a wider audience? — Barbara Jahn

**HILDEGARD VON BINGEN**

*Complete Works, Vol. 1*

Steve Wishart, Members of the Oxford Girl's Choir


TT: 65:51

Music *** Sonics ***

Consider this: You've just heard a new and very beautiful piece of music, and you're trying to describe it without being able to sing or play the tune. Difficult? Now suppose that your audience is deaf. This is the task that the mystic undertakes when she attempts to describe her vision to us, to explain that which is to those trapped in the phenomenal world. In that latter world it is easy enough to discredit the mystical experience by discussing brain chemistry, endorphins, and the psychic effect of extreme sexual deprivation. Why, then, does Hildegard's music move us so deeply and profoundly in the midst of our rational/scientific age? Is it, perhaps, because we can answer all the questions except the important ones?

Leaving the esoteric, and forgetting what we may think we know of 12th-century mysticism, this remains a truly wonderful recording, intimate and deeply affecting. Hildegard was something of an amateur composer and an unpolished Latinist, but with Steve Wishart and her companions she takes us straight to the heart of music and the medieval soul. The purity of girls' voices, harmonies, and contrasts with the soloists, who are very skilful performers but never sound overtrained. I especially love the sound of alto Julie Murphy (tracks 8 and 13): rich, wonderfully textured, and somehow wise.

This is also a gorgeously recorded CD, possibly the best Tony Faulkner has ever done. (I find it superior to his famous Hildegard disc *A Feather on the Breath of God*, and better also than his previous excellent work for Wishart.) Certainly I have never heard a recording that better captures the way in which singers use the acoustic space in which they perform. (I would guess that Faulkner has added some sort of ambience mixed to his usual multitrack recording.) This is emphatically not an "audiophile" recording, however. Without the quality of sound achieved by Wishart and Faulkner, our perception of the performance would be much diminished.

My suspicion is that Celestial Harmonies is something of a New Age label — angels and all that. (If I'm wrong, then I humbly apologize.) Rest assured that this is, at least, no hand-wagon disc, no pseudo-mystical (turn up the reverberation) attempt to capitalize on the current angelic silliness. This is absolutely as good as it gets: a recording of medieval music informed by true scholarship and true spirituality. As Blaise Pascal Said, "We understand truth not through reason alone, but also through the heart." — Les Berkeley

**IESSELINA KASAROVA**

*A Portrait*

Arias by Hasad, Gluck, Mozart, Rossini, Donizetti, Bellini

Vesselin Kasarova, mezzo; Chor des Bayerischen Rundfunks, Münchner Rundfunkorchester, Friedrich Haider


Music *** Sonics ***

Comparisons are odious, but here's a coloratura mezzo who can stand up to Supervia, Horne, and thrilling down to the wild embellishments in the da capo. "Voi che sapete" presents us with a tough kid of a Cherubino; *Cenerentola's* big final scene has everything from pathos to flash — just as it should. Giovanna Seymour, for once, has real flair in *Anna Bolena* in her big scene with Henry, and Leonora in *La Favorita* (sung here in Italian) is rufeful and raging; Kasarova's use of downward portamenti in the cavatina's early moments is truly moving. Romeo's opening scene from *I Capuleti* (with Erwin Schrott's "Barti, bar!"), and arias from *Barbiere* and *L'italiana in Algeri* round out the program.

Accompaniments are good without drawing attention to anything special, and the recording is happily devoid of gimmicks. Don't do without this CD if you can help it. — Robert Levine

**MOZART**

*Die Zauberflöte*

Michael Schade, Tamino; Christiane Petzold, Pamina; Gerald Finley, Papageno; Harry Peeters, Sarastro; Cynthia Seiden, Queen of the Night; others; Monteverdi Choir, English Baroque Soloists; John Eliot Gardiner

Archiv 449 166-2 (2 CDs only). Dr. Peter Czerny, prod; Reinhard Lagermann, Reinhold Schmidt, engs. D1313, 1996. TT: 2:58:42

Music *** Sonics ***

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Arnold Östman, leading his Drottningholm forces (on L'oiseau-Lyre), offers a reading as natural as a sunny day in spring, and William Christie and Les Arts Florissants (on Erato) present us with great artfulness (including embellishments to the vocal lines), but with no "artsy" distancing or lack of glow. Gardiner takes a slightly cooler view of the opera than either, and it may strike some as a bit driven. I like his approach a lot.

And, for the most part, it sounds gorgeous. I'll get my gripes over with immediately: Harry Peeters's Sarastro is a big nothing, sung without much potency — or voice, for that matter. And the Three Ladies aren't as drop-dead captivating as they should be. But that's that.

Christine Delze is an exquisite Pamina, perhaps the best since Gundula Janowitz. She sounds young, interested in what's going on around her, and utterly natural, singing securely and with a charming, well-focused tone. Schade is a good match for her as Tamino, singing with princely intelligence and enthusiasm. (Many like Hans-Peter Blochwitz, with Christie; I think he sounds like he's being strangled every time he goes above the staff.) Gerald Finley's Papageno is in the big leagues — funny, light, self-parodic, and utterly sincere, all at once. Cynthia Sieden's Queen is superb, but Natalie Dessay (again, with Christie) is almost unbelievable in all the right ways.

As mentioned, Gardiner keeps his distance, rarely underlining a sweet, sentimental point, but this did not get in my way at all. His band sounds great, the quick tempos never blur, one can make out the inner voices in the orchestra, and the proper instruments are highlighted. I hate his (or the producer's) decision to leave us with so much dead air between the music and dialog: It breaks the mood. Otherwise (and despite the fact that this was recorded "live"), the recording is exemplary: full of life and "real" sounds. This Flute is livelier and a bit more theatrical than most, but there's that Sarastro problem.

If you've got Christie, you'll be happy sticking with him; otherwise, this is a very good gamble.

— Robert Levine

\section*{ROCK}

\section*{JOHNNY CASH

Unchained

American 43097-2 (C17 only). Rick Rubin, prod.: Sylvia Massey, eng., mix. ?77. TT: 43:40

Music \* \* \* \* \* \*

Sonic \* \* \* \* \* \*}

Funny how 1993's American Recordings prompted a lemming rush of rock critics, all ready to declare the resurrection of Johnny Cash to the altar of hip, thanks to producer/Svengali Rick Rubin. The last laugh of it all was for longtime Cash fans, who already knew that Cash has been hip all along — from cutting rockabilly at Sun Records to championing Bob Dylan to covering Nick Lowe, and even on a couple of cool albums with old cronies Cowboy Jack Clement in the late 1980s — before Rubin came along to strip down the sound on American Recordings and knock some dust off Cash's media image.

The good news on Unchained is that the accent on Cash's voice heralded by American Recordings carries on here as Cash sings his butt off, striding through each song with a strength as American and cinematic as John Wayne riding the range in The Searchers. I've often said that Cash can sing the phone book and make it into God's own country song, that becomes especially evident as the "hip" song choices — like Beck's "Rowboat" and Soundgarden's "Rusty Cage" — start sounding like the lee side of the Yellow Pages after a few spins. Perhaps it's the presence of genuine, time-tested songs from the catalogs of Jimmie Rodgers, Don Gibson, Hank Snow, Roy Clark, The Carter Family, a young Johnny Cash himself, and even Dean Martin, that casts such a shadow on the alternative slack in this set.

As a backing band, Tom Petty and the Heartbreakers and a cast of guests vary between being amiably chunky and sometimes stunning and fiery, occasionally even in the same song. But Petty and company, one of rock'n'roll's finest bands, are in just a bit over their heads

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Stereophile, February 1997
when it comes to Cash's depth. Even Petty's "Southern Accent," an anemic high-point in the rocker's oeuvre, is one of the lesser moments here. Instead, it's Cash's songbook of oldies and favorites that makes this disc work.

Then again, Cash could have just stayed in Nashville and made an album about as good as this one. But as we all know, nobody in Nashville these days would probably have let him do it.

— Rob Patterson

**CURTIS MAYFIELD**

*New World Order*


Music ***

Sonic ***

**Cur**tis Mayfield is, without question, one of the greatest artists of his generation—a talent unmatched as a songwriter, an extremely innovative guitarist, an inspirational vocalist, and a producer with an uncanny knack for gesture and statement. When he was paralyzed from the neck down by a 1990 stage accident, it seemed a miracle that he survived at all. But we need a word beyond "miracle" to explain what he has accomplished on *New World Order*.

Sampling is nothing new, but the concept has never been used in such a science-fiction application, as a kind of audio prosthetic that allows Mayfield to "accompany" himself on the remake of "The Girl I Find Stays On My Mind" with recordings of his own performance. Mayfield also covers his own classic "We People Who Are Darker than Blue," but the most remarkable thing about *New World Order* is that Mayfield has overcome his disability to add another important chapter to his history as a songwriter.

The title track, used prominently in Spike Lee's film *Get On the Bus*, is in the tradition of Mayfield's politically conscious writing of the past. Mayfield draws a picture of a black child born into the world, apparently to be killed and hunted, then turns the message on its head in the chorus, arguing that the Million Man March could produce "a brand new man." It's pure Mayfield poetry, in which the songwriter identifies the newborn baby with the new consciousness engendered by the March, a statement as potentially charged as "We're a Winner" and "People Get Ready."

In fact, Mayfield's writing is so strong that it makes rappers Blaise Mayfield and Lisa Coates sound lame by comparison. On "Just a Little Bit of Love," the elder Mayfield puts far more depth into a lyric than simply rhyming and attitudeinzing to a beat. Which may be another reason why his inspirational message comes across so strongly—there's nobody out there writing songs like this now.

The album's most inspirational moment is the powerful "Back to Living Again," a song that also works on multiple levels. Mayfield's own struggle to return to life with such a stifling disability is the metaphor driving a lyric urging listeners to lift themselves up and overcome the hardships of life. Lady Soul herself, Aretha Franklin, lends her voice to Mayfield's ultimate message: "Just get on back to living again."

— John Swenson

**SLOAN**

*One Chord to Another (The Enclave)*


Music ***

Sonics **

Risky business, trying to beat Big Star at their own game. The Posies tried it—made some great records, in fact—but no one seemed to care much. Hell, no one cared about the original Big Star either, until bandleader Alex Chilton had a nervous breakdown and disappeared under a rock.

Anyway, Sloan—Halifax, Nova Scotia's favorite sons—likely know that the risks outweigh the rewards of writing classic-sounding power pop and, fortunately, they don't give a damn. *One Chord to Another*, the band's third full-length album, is their most ambitious yet, with lovely Beatles overtones (*Autobiography*), a hint of Raspberries (*The Good in Everyone*), a little cheesy Bacharach influence (*the horn charts of "Everything You've Done Wrong"*), and a Zombies flourish (*the vocal refrain of "Can't Face Up"*). This is quality stuff, with strong lyrics, sprawling hooks, and musical integrity.

*One Chord's* only problems crop up in terms of fidelity. Too often, on tracks like "The Good in Everyone," "Nothing Left to Make Me Want to Stay," and "Anyone Who's Anyone," the band settles for a hastily inconsistent, overly compressed production. Not that it's lo-fi—it simply sounds as if the record was made at a handful of different sessions with just as many mixing boards. Compare the dull-sounding piano on "Junior Panthers" to the crisp one on "A Side Wins" and you'll wonder why the band didn't cut both tracks in the studio of the latter. From a songwriting standpoint, Sloan punches all the right buttons. It's a shame they didn't have better-sounding buttons.

— Bob Gulla
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Mari Boine, vocals; Roger Ludvigsen, guitar; Gjermund Sibert, bass; Carlos Quispe, flute; Helle Norbakken, drums; Hege Rimestad, violin.


Music ★★★ ★★ Sonics ★★★

In her thought-provoking book Hole in Our Soul: The Loss of Beauty and Meaning in American Popular Music, Martha Sayles maintains that the further pop music gets from its roots, the lazier it gets (I'm paraphrasing, of course). Her theory gains credibility if you attribute the recent “World Music” boom to a longing for music stemming from something more important than teenage angst.

The music of Mari Boine is based on the traditional chants of the Sami people, who live in the northern regions of Norway, Sweden, Finland, and Russia. Like the American Indian chants they resemble, Boine's songs (sung in Sami) are about Nature and her direct relationship to it. If this sounds dry and anthropological, you'll be surprised. Boine's passionate singing alone takes the music from the academic to the accessible.

Adding African percussion, Andean flutes, Arabic violin, and jazz electric bass, Boine successfully skirts the common World Music pitfalls: New Age and "World Muzak." The repetitive trance nature of the music is event-oriented, and on Radiant Warmth each musical event has an inevitability that rejects the notion of culture clash or dilution.

Kongshaug brings pristine ECM-style sound to the party without softening the music's edge. With its modern elements—big reverb, Frippish fuzz guitars—Mari Boine's music could easily be called pop, but it retains all the original power of its folk roots. Martha would be proud.

—Michael Ross

Sound Museum

Sound Museum Hidden Man
Ornette Coleman, alto sax, trumpet, violin; Gerri Allen, piano; Charnett Moffett, bass; Denardo Coleman, drums
Harmonodie/Verve 314 531 914-2 (CD only). Denardo Coleman, prod.; Greg Mann, eng. ADA7 1996. TT: 56:49

Music ★★★ ★★ Sonics ★★★

Ornette Coleman has been fanning the flames of collective improvisation since the early '50s—a time when players had barely begun to comprehend the complexities of bebop, and were hanging on to the chord changes for dear life. To them, Coleman's concept of playing the music and not the background must have seemed a mite threatening.

By the time Ornette got to document his work on the Contemporary and Atlantic labels, he'd accumulated a backlog of compositions, many of which he'd never heard in a performance setting. These baby pictures—forming the bridge between the blues and R&B of his youth, the bebop of his formative years, and the collective directions that emerged from Free Jazz—are so swinging, so full of joy and lyrical abandon, it's hard for contemporary listeners to imagine how anyone ever mistook them as a rejection of jazz principles.

Still, in examining the body of Ornette's post-Atlantic work, it's clear that he's been searching for the ideal context in which to properly portray his very personal visions about orchestration and the collective ensemble, theories and practices that have as much to do with modern humanism as any musical theory. Now, with the traditional instrumentation of his new quartet, Sound Museum, his search has ended.

Unlike his electric mini-orchestra Prime Time, in which, for all the freedom, there was a pronounced solo voice and a chorus of colorists, Sound Museum sounds like a musical hologram in which one can observe four simultaneous perspectives on a theme—although, given Ornette's blissfully melodic storytelling, it's hard not to focus on the alto saxophonist when he's caroling away.

But in orchestrating his ideas on the fly, his collaborators really show their mettle: drummer Denardo Coleman's mastery of space, texture, color, and contrast keeps everything in constant motion, and he sounds commanding in a manner that isn't always so apparent in the more groove-oriented settings of Prime Time. Bassist Charnett Moffett, like Denardo, was brought up on this music (his father was the drummer in Ornette's mid-'60s trio), and with his massive tone, effortless articulation, and keen rhythmic instincts, he and Denardo create a fluid canvas of sound that's as amorphous or as concrete as it needs to be. And in Gerri Allen, the most original of today's younger generation of improvising pianists, Ornette has found a harmonic voice comparable to that of his innovative '70s guitarist, James "Blood" Ulmer. Allen is able to flesh out and echo Ornette's endless elisions without impeding his flow of ideas or suggesting specific harmonic resolutions.

It's challenging to convey an overall sense of this music, because none of it exists as a fixed and constant principle. Ornette liked each master take of these performances so much that he released them as twin sets. The experience of contrasting the parallel tunings on Hidden Man and Three Women is analogous to hearing the same set of music over two different evenings of an engagement. Given the organic nature of Sound Museum's group improvisations, devout fans will want to hear both to savor the subtle differences in treatment and emphasis.

For instance, on "Monsieur Allard," a round robin of alliterative phrases leads to a vigorous collective improvisation that's faster and freer on Three Women, while the bass and drums provide a more definitive pulse on Hidden Man as Allen makes specific references to the melody during her solo, summoning forth a maestrosion of harmonic motion. Likewise on Hidden Man, Allen echoes the riffing swing of Ornette's line on "Home Grown" in the manner of a big-band reed section, whereas on Three Women she engages in a jittery contrapuntal dance, like a mirror image of the melody.

The recorded sound of these twin discs is rich, balanced, and resonant. Given the often discursive nature of free-form improvisation, Ornette has concentrated enormous power in a concise string of charged, playful presentations. Each performance on Hidden Man and Three Women is a compact little uni-
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In a world clogged with umpteen Beethoven Fifths and Bach Brandenburg Concertos, *Gravikords, Whirlies & Pyrophones* comes as a head-stretcher for eyes and ears.

The latest in Ellipsis Arts’ superbly done series of CD/book combo platters, this set takes on the world of experimental instruments, from the merely strange to the genuinely weird. Writer and producer Bart Hopkin, publisher of the quarterly *Experimental Musical Instruments*, has succeeded in bringing together recordings of genuine imaginative music played on one-of-a-kind, hand-crafted instruments, complemented by a lavishly illustrated, concisely written, and broad-ranging 96-page book. Put the CD on, and with each track you’ll find yourself rifling the book’s index to find out what the hell is making that unearthly sound. More often than not, the visual aspect is as remarkable as the sound.

German Hans Reichel sets the tone from the first track with a wacky, cartoonish, Cab Calloway-meets-Laurie-Anderson rhythmic thing. What sounds like human voices turns out to be a short, bowed stick called a Daxophone.

Phil Dawson and From Scratch bang long, tuned plastic tubes that sound like a fat Moog synthesizer bass line on the funky “Pacific 3-2-1-Zero,” while Jean-Claude Chapuis’s “Luminescence” features the ultimate glass harmonica.

In the face of some stiff competition, the CD’s high point is Qubais Reed Ghazala’s “Silence the Tongues of Prophecy.” Ghazala has mastered the art of short-circuiting audio components in pursuit of new and potent sounds. Texturally rich, this eerie and fascinating work sounds like R2D2 on the fritz in Morton Subotnick’s kitchen. Deep, creepy groans provide a lumbering, ominous pulse, over which filter, like veils, sounds similar to short-wave radios being tuned. Sporadically, a random recognizable word is heard among the clatter. It turns out that one of the main instruments is a hot-wired Texas Instruments Speak&Spell toy.

The obligatory nod to grandpappy-of-the-all Harry Partch is another highlight—his “And on the Seventh Day, Petals Fell on Petaluma.” Cast for Partch’s eccentric and beautiful microtonal zithers and tuned percussion, it moves in oblique harmony like a surreal regal procession.

Start spreadin’ the news...

Not everything that made it to the book is included on the CD. It would have been interesting in particular to hear Michel Moglia’s visually spectacular Fire Organ or Arthur K. Smith’s Angel Violin and Whispering Harp. But there’s little to complain about in what did make it to the ears.

One further note. Tom Waits’s written introduction, where he discusses his own musical discoveries as well as his prized megaphone collection, is alone worth the price of admission. Writing about his favorite megaphone—a battleship-gray, 1944 Navy Bureau of Ships issue—Waits writes “If you want to feel ‘federal’, it’s the one for you.” And if you want to feel like you’ve massaged your ears with some of the most intriguing and unusual sounds this planet can tweak out, this superbly selected and packaged set’s for you!

—Dan Buckley
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verse unto itself, offering a variety of aural hyperlinks to Ornette's achievements of the past 40 years: the classic dirges ("What Reason"), country blues ("Home Grown"), delirious hoedowns ("City Living"), riffing swing ("Home Grown"), folkish bordertown dances ("P.P. Picollo Pezo"), fulminating rhythmic rituals ("Stopwatch" and "Macho Woman"), and affectionate parodies of the parade-ground airs of his Texas youth ("European Echoes"). Forced at gunpoint to choose one of these discs, I'd give the nod to *Hidden Man* for its variations on "What a Friend We Have in Jesus," in which Ornette authenticates the true roots of his freedom with an extraordinarily nostalgic set of reminiscences over a ragged but right rhythm section. Praise the Lord and pass the hamolodics.

--- Chip Stern

**BILL DEARANGO**

*Anything Went*

Joe Lovano, tenor sax; Bill DeArango, guitar; Ed Schuller, bass; George Schuller, drums

Music ★★★ 1/2
Sonics ★★★

The early career of 76-year-old bebop legend Bill DeArango could have been scripted by Hollywood. Born in 1920 in Cleveland, DeArango moved to New York in 1944, where Ben Webster heard him jamming at the Three Deuces. Webster hired him immediately and introduced him to just about everybody. In the next three years, DeArango would bring his swift, neatly punctuated style to some of the most famous sessions of the new music. Recording with Dizzy Gillespie, Sarah Vaughan, and Charlie Parker, he was known for his ability to play dazzling fast runs absolutely evenly, while illuminating the slippery chord changes of bop. His playing had the dash of the boppers, but he didn't ignore melody: He begins his solo on Gillespie's 1946 "52nd St. Theme" with a phrase so surprising and so catchy that Gillespie makes it the germ of his own solo. DeArango was on his way to an international career.

Then he went back home: to study, start a music store, and live in relative obscurity. He made one recording in 1954 and was heard—annonymously—with the rock band Henry Tree in the early '70s. His prescut career was overshadowed by his playing on Barry Altschul's "Suite for Monk," from the 1978 record *Another Time/Another Place*, with its wide-open group improvisations.

*Anything Went* is a wholly unexpected session, full of free jams and eccentrically developed ballads. The title is, of course, an apt description of the new session, which begins with Joe Lovano playing "Anything Goes." But Cole Porter goes by the wayside when DeArango enters, playing eccentric lines with an octave pedal that lowerst his sound to a growl. Soon the band is improvising freely and furiously, until they come to a stop where DeArango introduces a grumbling chorus of "Summertime."

There are four completely free duets between Lovano and DeArango on the disc, and a pure-sounding "Bye Bye Blackbird" that, in its relaxed, hip songfulness, builds on what Miles Davis and Keith Jarrett have done with the tune.

The sound, engineered by David Baker, is clear, without any exaggerated imaging, and should be praised for the realistic way Baker captures the entire drum set. Rocking, exploratory, relaxed, even whimsical, *Anything Went* is as varied and fresh a set of music as any guitarist is likely to make in the '90s.

--- Michael Ullman

**JOHN LINDBERG**

*Resurrection of a Dormant Soul*

John Lindberg, bass; Albert Mangelsdorff, trombone; Eric Watson, piano; Ed Thigpen, drums
Black Saint 20127-2 (CD only). Giovanni Bonandini, prod.; Paolo Falascone, eng. 1996. TT: 52:19

Music ★★★ 1/2
Sonics ★★★

They may be hard to track down, and they may feature as leaders relatively unknown instrumentalists, but the CD's issued by twin Italian labels Soul Note/Black Saint consistently rank among the most adventurous and free-spirited jazz albums released today. The newest pearl added to Black Saint's necklace is bassist John Lindberg's *Resurrection of a Dormant Soul*, a remarkable set that provides the perfect antidote to the latest epidemic of soporific jazz.

Best known as a founder of the String Trio of New York and for his work in Anthony Braxton's late-'70s/early-'80s quartet, Lindberg re-enlists trombonist Albert Mangelsdorff, pianist Eric Watson, and

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drummer Ed Thigpen for the all-star collective's follow-up to its Quadro Afterstorm. It's a magnificent success of ardent musicianship and jovial ensemble interplay.

Lindberg and company strike a consummate balance between form and freedom, sailing together through the structured compositional sections, then punctuating each other onto higher planes of inventive improvisation. Case in point: the whimsical "Quartet Phuckin' It". It opens with Watson in a fleet scamp across the keys, soon joined by Lindberg dashing alongside with equally rapid percussive bop taps while Mangelsdorff cheers both on with wafting support. The piece then moves into an expanse of solo showcases. Thigpen skips rimshots as if he were tap-dancing, Mangelsdorff blows muffled voice-like mumblings, and Watson leaps in a frenzy outside the lines before leading the charge back to the climactic head and playful denouement.

The rest of the collection is just as captivating, especially Mangelsdorff's light-hearted swing, "Dots, Ditches & Scratches," which opens with the master trombonist exhibiting his droll-like multiphonics (blowing a note while singing another and getting overtones that create three- and four-note chords) and delicate yet brawny melody lines. In addition to his range of bass voicings (from visceral bowing to good ol' fashioned walking bass lines), Lindberg's gripping solos at the beginning of both the title track and "X: 1" set the scene for the rest of the band to join in the fun. Highly recommended for engaging music and superb sound quality.

— Dan Ouellette

JOE LOVANO
Celebrating Sinatra

Joe Lovano, tenor sax; Kenny Werner, piano; George Mraz, bass; Al Foster, drums; judi Silvano, vocals; Billy Drewes, soprano sax; Dick Oatts, flute, tenor sax; Ted Nash, clarinet, tenor sax; Tom Christensen, English horn; Michael Rabinowitz, bassoon; John Clark, French horn; Mark Feldman, Sara Parkins, violins; Lois Martin, viola; Erik Friedlander, cello; Emily Mitchell, harp; Manny Albam, conductor, arranger.

Blue Note CDP 8 37718 2 (2 CD only). Joe Lovano, prod.; James Farber, eng. ???: 1997. TT: 69:28

Music ★★★★ 1/2
Sonics ★★★★ 1/2

Living the jazz life in the '90s has been good for Joe Lovano. He was acclaimed Jazz Artist of the Year by both the downbeat Critics and Readers polls in 1995 and 1996, and he has recorded several critically acclaimed albums in recent years, including the back-to-back gems, Rush Hour and the two-CD Quants: Live at the Village Vanguard. He's a terrific tenor saxophonist who's not only playing at the top of his game, but also bringinng with creative ideas for promising new projects. However, in light of all these well-deserved accolades, Lovano's latest CD, Celebrating Sinatra, falls short of his previous successes and breaks his five-star momentum.

Lovano's sumptuously recorded homage to Frank Sinatra is dominated by full orchestral arrangements on eight of these 13 standards the crooner has covered in his heralded career. Even though Sinatra opted for extravagant orchestral support on many of his recordings (especially with Nelson Riddle piloting), at times the big production on Lovano's tribute feels a tad too grand, too weighty, too over the top.

That's the case with the lush opening track "I'll Never Smile Again," which also miscarries with Judi Silvano's superfluous vocals. She sings snippets of the melody on several other tracks, to the same excessive effect. The angel-voiced soprano fares much better on other numbers (eg. Gershwin's "Some- one to Watch Over Me"), where she offers ethereal wordless harmonies as part of the horn section.

Highlights of the Manny Albam-conducted orchestral pieces include "I've Got the World on a String," in which cellist Erik Friedlander gets the opportunity to stretch for a spell, and the Harold Arlen/Johnny Mercer classic "One for My Baby," where Lovano and soprano saxophonist Billy Drewes helix rapturous lines together.

The strongest tracks feature Lovano without the orchestra. His duet with drummer Al Foster on "Chicago" bounces with bright energy (you can imagine the tenor saxist dancing while playing), a trio (add bassist George Mraz) rendering of "South of the Border" buoys with a catchy swing, and a quartet (add pianist Kenny Werner) jaunt through the Oscar Hammerstein/ Jerome Kern beauty "The Song Is You" clips along with spirited vigor. And, as always, Lovano blows with passion and authority throughout.

— Dan Ouellette

SUN RA

The Singles


Music ★★★★
Sonics ★★★★

The crowd at Manny's Car Wash, New York's blues mecca, was grooving to the blues and progressive rock of 18-year-old guitar sensation Derek Trucks on a recent weekend night. The music was so hot Trucks was called back for an unusual second encore. Midway through the ensuing jam, Trucks and his band broke into "Space is the Place," one of the characteristic themes of the Sun Ra Arkestra. Perhaps Trucks thought he was playing an NRBQ song, one of the several rock Sun Ra covers that might have come his way?

Nope. "I've got all the Evidence treasures," the precocious guitarist said proudly after the gig. "Sun Ra is beyond belief!"

So it is that Sun Ra, the most marginal of figures (by any conventional standards applied by the music industry), maintains his hold on the collective imagination of music fans from beyond the grave. Like a secret Egyptian deity, Sun Ra works his influence against the grain of an industry he managed to treat as irrelevant. His recordings were guerrilla raids into the heart of creativity, music beyond category—in his own words, "visions of the future disguised as jazz," works that in most cases could only be purchased by the faithful who attended his religious celebrations, the live performances of the Arkestra.

— Dan Ouellette

Sun Ra: Take me to your leader.

Stereophile, February 1997
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Evidence Records, the brainchild of former record-store owner and Sun Ra buff Jerry Gordon, has released 16 volumes of rare Sun Ra material covering the breadth of Ra's visionary output. But the one Evidence CD that Trucks raved about, the one that has Sun Ra fans stopping each other on street corners to marvel at, is the latest collection: The Singles.

Even the most dedicated of Ra-philes is likely to be astonished by this collection. Three years in the making, the set is the result of archival work by Gordon and a host of researchers who scoured the planet in search of every 45rpm single supervised by Sun Ra and released on his Saturn label.

Understand from the start that we're not talking Neil Sedaka territory here. These records, often pressed in lots of as few as 50, were not exactly designed to be heard on Your Hit Parade. They are part of the alternate reality that Sun Ra's recording history defines, the Top 40 of some parallel universe. The range of material included is staggering, including doo-wop, hard blues, New Orleans R&B, space music, teen ballads, and holiday songs, as well as the Arkestra's own music, including some familiar themes in previously unheard versions.

Sun Ra (Herman "Sonny" Blount) was an accomplished big-band leader when he moved to Chicago from his hometown of Birmingham, Alabama in 1946, but during his first years in Chicago he played in a variety of contexts, backing blues singer Wymone Harris, playing in Fletcher Henderson's orchestra, backing up dancers at strip shows, and doing arrangements for vocal groups. All of this experience came into play when he decided to form his own record company in 1955.

Even as he was putting together the historic Arkestra featuring such greats as John Gilmore, Marshall Allen, and Laurdine "Pat" Patrick, Sun Ra was recording doo-wop records for release on Saturn. The set opens with a truly bizarre rendition of the Gershwin's "A Foggy Day," recorded by The Nu Sounds. In addition to being a sterling example of Sun Ra's abilities as a vocal arranger, the song provides an ironic commentary on the material itself, and invites comparison with another visionary iconoclast, Frank Zappa, whose own vocal-group R&B excursions from Cruising with Ruben & the Jets skirted the boundary between parody and loving tribute.

Sun Ra went on to record several doo-wop sides with a group called The Cosmic Rays, led by vocalist Calvin Baron. You can hear the Arkestra's musical signature in the subtly undulating backing rhythms, and especially on the otherwise straightforward "Dreaming," when a strange chord substitution accompanies the line "For there is a world where things aren't what they seem..."

After releasing a two-sided single of the beautiful Arkestra themes "Saturn" and "Supersonic Jazz," Ra released one of the most unusual holiday records ever assembled: "Happy New Year to You"/"It's Christmas Time," by the Qualities. Screamin' Jay Hawkins has nothing on the twisted rants of Yochanan (The Space Age Vocalist), who shouts his way through the nonsense chant of his theme song, "Muck Muck," and the R&B rumble "Hot Skillet Mama." Yochanan returns for "The Sun One" and "The Sun Man Speaks," two numbers that feature science-fiction chants done over droning, hypnotic background figures, and also for a demented script of interplanetary travel, punctuated by blood-curdling screams, called "Message to Earthman."

Meanwhile, Ra alternates the straightforward pop sentiment of Juanita Rogers' "Teenager's Letter of Promises" with the lush Arkestra theme "October" and the angular piano exercise "Adventure in Space." The first disc closes with the relatively conventional jazz theme of "State Street."

Sun Ra's interest in blues comes into sharp focus on the second CD, with Ra delivering a beautiful Basie-like piano solo on "The Blue Set," and Marshall Allen's alto sax lighting up "Big City Blues." The 1962 session backing Staten Island R&B singer Little Mack, which produced "Tell Her to Come on Home" and "I'm Making Believe," shows Ra and Gilmore recasting recording convention with musical invention.

Sun Ra doesn't appear on the raw 1968 blues tracks recorded by Lacy Gibson and released on the Saturn subsidiary Repeto Records, but the legendary Buddy Guy is there, backing up Gibson on rhythm guitar for the awesome "I'm Gonna Unmask the Batman." Ra had already done a Batman album with members of the Blues Project, and his own version of "Unmask" appears later on this record.

"Blues on Planet Mars" sure doesn't sound like blues from anywhere on Earth, but the sinister electric keyboard clunk-ups backed by unsynchronized layers of percussion are pure Ra, paralleling the move into "Rocket #9," also on this disc. "Saturn Moon," a series of pianistic phrases backed by a softly hummed chorus and intermittent percussion, forms a kind of prelude to the upbeat shuffle of "Journey to Saturn," which contrasts several vocal lines anticipating the trip. This particular live recording is extremely low-fi. Overall, the sound on this set varies enough from good to bad that the phrase "for collectors only" applies.

"Sky Blues," a live quartet recording from Italy, features the stark contrasts of Ra's piano, Michael Ray's trumpet, and Gilmore's tenor in a weird twist on the New Orleans second-line beat that Ra loved so much. "Rough House Blues," Ra's variation on "St. Louis Blues," inhabits the even starker context of a piano-drums duet.

Other bits of Ra-iana flesh out the project. A living-room recording of "Enlightenment" offers a tantalizing glimpse into activities at the Sun Ra commune in Philadelphia, where the Arkestra flourished during his final period of creative ferment. Marshall Allen's oboe and Sun Ra's handling of the Rocksichord and Mini-Moog effectively paint the otherworldly landscape of "Mayan Temple."

"They must walk the bridge to the cosmic age!" insist members of the entourage during the cacophonous "The Bridge," which appeared as the flip side of "Rocket #9." Sun Ra has definitely left the building during the out-and-out synthesizer take, "Cosmo Extensions." After Ra takes on Cecil Taylor with the two-handed piano frolic "Quest," the set closes on an introspective note with another piece recorded at Ra's Philadelphia home, "Outer Space Plateau."

At first listen, it's shocking to realize that Ra was working in an even broader scope than the extremely wide net his LP recordings cast. But these singles end up confirming the conclusion that most Ra-philes have already come to: that his music was truly beyond category. Simple or complex, from the commonplace to the strangely strange, Ra was interested in communication.

—John Swenson

Stereophile, February 1997
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Nagra-D
Editor:
Nagra USA, Inc., and Kudelski SA, Switzerland, want to thank you for the distinction of the "Editor's Choice" award (December '96, pp.83–85). The review in Stereophile magazine, January 1996, was exceptional and your opinion "...without doubt [the Nagra-D is] the finest audio recorder I've ever had the privilege to use" is highly regarded in the high-end audio industry. Nagra USA understands and appreciates your passion for the Nagra-D.

"Digital Source of 1996"—this is exactly how we want users to perceive the Nagra-D. The recorder not only has everything in a nice neat package, but it produces recordings with the highest sound quality possible.

The ultimate compliment is, of course, the honor "1996 Component of the Year." The Nagra-D 4-channel open-reel digital recorder was designed by a company famous for exceptionally high-quality products. It is exciting to see the tradition continue.

Again, on behalf of Nagra, thank you for the recognition of our Nagra-D recorder.

Nancy Belt
General Manager, Nagra USA, Inc.

Dunlavy Audio Labs SC-VI
Editor:
What an incredible and rewarding surprise it was to be reading the December '96 issue of Stereophile and discover that the magazine's staff had selected our SC-VI Reference Loudspeaker as the "Joint Loudspeaker of 1996."

The honor bestowed by Stereophile on our company and its "Flagship Product" is very gratifying and much appreciated. Indeed, we view the award as an incentive to intensify our development of meaningful leading-edge technology and true state-of-the-art audiophile products. Being audiophiles ourselves, our sincere goal is to make contributions intended to bring the "live musical experience" ever closer to the home listening environment.

If one compares the reproduction accuracy of presently available loudspeakers and equipment with what we thought to be "just about the best possible" only a few years ago, progress has been nothing short of astounding.

For example, many of today's best recordings, reproduced by the most accurate audio-reproduction systems currently available, can provide a level of realism that is truly startling—and virtually indistinguishable from the original live performance. One can only speculate about how much more accurate it can become! In that regard, I hope that our quest for accuracy never ends—for it nourishes a hobby that is one of the most rewarding and satisfying pursuits available.

Hats off and three cheers for a magazine that encourages, by definitive product reviews, the efforts and growth of those members of the high-end audio industry dedicated to developing exemplary products—selling at affordable prices!

John Dunlavy
CEO, Dunlavy Audio Labs

Mesa Engineering Baron
Editor:
When both John Atkinson and Chip Stern described the Baron as a musical instrument (January '97, p.165), I think they hit some significant and intentional truth. Musical instruments are flexible and responsive in the hands of their practitioners, often mysterious in their ability to inspire.

If there's any surprise to JA's characterization of the Baron's musicality as deriving in large part from its musical instrument heritage (ie, high source impedance, minimal use of negative feedback) it's that he nailed it so accurately.

The Baron's development was guided by both musicians and audiophiles equally. My chief frustration in guiding the evolution was that virtually every "sonic improvement" represented a departure from the initial prototype's fairly impressive specs. But we all agreed that the point of High End was that musical performance should predominate over technical performance...as long as the latter remained reasonably accurate.

Two illuminating examples: Four different "higher-spec" versions of our output transformers were rejected in favor of the present higher-impedance (more musical-instrument) version by unanimous panel consent. Blindfold tested. Similar results with the negative feedback:

At its highest setting (State III) the 8dB is about half what we started with and is quite small in comparison to other push-pull tube designs. Yet even this moderate amount is more than most ears desire. Baron practitioners usually settle on State I (minimal) or zero feedback—which, of course, does little or nothing to improve the specs.

The big surprise here, as JA points out, is how well the Baron performs with no feedback at all. Thank you. That truly was one of the design goals: creating a big push-pull amplifier that's "right" enough so feedback could be used optionally—as a system-tuning device—rather than being required full-time as a corrective measure.

With his B&W Silver Signatures, JA found the Baron slightly on the dark side of neutral. Meanwhile, our leading L.A. dealer (Acoustic Image) describes the Baron as slightly on the bright side of neutral. The point is, JA's summation is correct: The Baron's high source impedance will morph the characterization of its chosen speaker more than many amplifiers. How good or bad this is depends entirely on the combination: some are disappointing while others (Platinum Solo, Aerial 10T) are magical.

Our other goal was to try establishing a new benchmark in terms of user value. Combining the Baron's power, features, and total quality, it is surprisingly affordable. And we'll stick to black-and-white ads, placed infrequently, to help contain the costs. (Sorry, Stereophile.)

One other interesting tidbit: The divergence in listening styles between the audiophiles and the musician in our panel basically came down to this: The audiophiles tended to dissect and analyze dynamic and timbral nuances almost by octave...and with great accuracy. (They did have golden ears.) The musicians went directly for the emotional enjoyment of the performance.

Once in a while a mod was tested that at first served the request of the audiophiles...but bummmed out the musicians. They argued that the soul of the music was most precious and could sometimes become vulnerable under "the clinical microscope." After additional blindfold A/B tests, the audiophiles seemed to shift
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Stereophile, February 1997
HeadRoom Max

Editor:

First, let me say that if Wes Phillips ever uses another parsony word like "fasca" about Max's battle-ready faceplate, I'll personally come down there and mash his fiasca. Other than that, I was obviously delighted he enjoyed Max so much. WP can pay me no greater compliment than to say his love of Max centers around its ability to coherently articulate the "essence of music" as it is "inhaled by the spirit." Thank you, and if I may be excused, I'd like to dwell on that sentiment for a moment.

My mom is a saint. A long time ago (sorry, Mom), she was a lovely ballerina at the Metropolitan Opera. Today she is a clerk in the publishing department of a religious organization. She loves God so much that it abundantly spills over into her other two lives: her offspring, and The Dance. Her love of dance, and its music, is far more than the familiar smell of greasepaint, or the hormone high of athletic mastery, or the ego gratification of applause. No, her love of the art comes from its spiritual aspects.

To my mom, the interplay of form and sound through time as expressed in good dance is but a faint tracing of the shape and substance of the body of God. The dance and music seek to somehow outline its form. She says, "When I dance, I can feel the light coming off the tops of my fingers, and sweep out and up in the lifts." To her each movement radiates energy, blessing meaning upon the audience, a meaning, that only the spirit part of our being can interpret as our body senses and absorbs the energy. My mom is definitely in the "subjectivist" camp.

When I read her the HeadRoom Max review, most of her responses were things like, "Isn't that nice," and "Wasn't that sweet of Wes to say." Until we got to the bit where Wes says of listening to Beethoven, "I have rarely felt its power and mood swings more vividly than through the HeadRoom Max." To which she commented, "You must be so happy to have accomplished your goal." I lost her meaning for a moment, until she reminded me of my initial motive. You see, I believed our spiritual response to music has relevant connections to the motives and power of both our societal relationships as humans, and to God by design. I wanted to build good audio equipment, because if music were better reproduced, people would better digest and realize the spirit-filled connections between each other, and God, better somehow. I'm not trying to push anything on anyone. It just makes me strongly "subjective" in a certain way when it comes to the final evaluation of HeadRoom products. The music had better be able to carry the energy of the spirit motive behind it, or it's outta there.

If I've managed to bring to the world a product that is "true to the music in a way that darned few electronic companies can claim to be," well, that's great and thank you. The no1 miracle, however, is Beethoven's awesome! Klezmer music will make you dance! Miles is blue! The audio-philic in me just knows that the effect is more truly realized with good audio reproduction. I just try to deliver sound that is "great for the bucks." Lucky for me, headphone listening is an easier problem to solve than speaker listening. Lucky for us all, the price/performance advantage of headophones over speakers is somewhere between 5:1 and 8:1. (A $700 headphone/amp combo should perform at about a $3800 speaker/amp performance level.) All I've done is take headphone listening seriously.

Now, I could rant and rave for three hours about blind testing, and some people's impassioned pleasures. I could talk about how, in the end, it raises the price of good audio. But I won't. Instead, I'll try to get above it all for a bit and say there are two things in Audiofiledom: music and hardware. One is art, and the other is craft. One is knowable. One is not. Somewhere in between, we sit in reverent awe of the Music.

Tyll Hersov

HeadRoom

Totem Acoustic Tabú

Editor:

We wish to sincerely thank Stereophile and convey our gratitude to Larry Greenhill for his fluent and eloquent review.

Wherever the Tabú has been demonstrated, people have not only been impressed but substantially moved to say, write, or express something about this powerful and guiding Totem. Stereophile's HI-FI '96 show at the Waldorf=Astoria being a prime example.

- Sam Tellig expressing astonishment at the unearthly bass emitting from the Tabú; in fact comparing its "tunness, power, and speed" to truly huge speaker systems. Coming back and commenting not only on the slam but on the delicacy and detail.
- Jonathan Scull at the same show critically expressing his thoughts on "their wealth of speedy detail and great bass foundation."
- Larry Greenhill concluding the Tabús to be "real show stoppers."

Unanimous praise from a varied yet eminently knowledgeable group if any. The overall consensus has been identical worldwide. Two International editors gave the Totem/Sphinx combination at HI-FI '96 "Best Sound."

This has been just one of many international shows where the Tabú has been a highlight. Recently (October '96) in an audio-only multichannel DTS presentation at the Paris Hi-Fi show, with no subwoofer support, the comments bordered on the incredulous. In fact, at the same Paris show in an 80m² room (2500 square feet) with only an integrated 50W amplifier driving a single pair of Tabús, we were able to again show the Tabús' complete and utter facility and dominance with all types of music—from Mickey Hart's "Planet Drum" to Gary Karl's "Adagio d'Albinoni." All this to say that the Tabú is not a conventional speaker that can be measured in a conventional way. A 16-liter box should not be able to activate and produce bass in such a way (~5dB point is 30Hz), while retaining upper-mid and high-frequency coherence and clarity.

To alleviate JA's fears on the test measurements, we can assure that in normal (farther back from the speaker) yet varied listening positions the Tabú measures as well, if not better than any speakers that we make or is made with no appreciable auditorium suckout at the crossover range. We believe the Tabú's lobing action to be unique in this world of conventional loudspeakers. Totem Acoustic possesses various lab prototype samples of the capacitorless Tabú that measure perfectly well and linear (up close), yet have no magic and power behind them. These superb (closeup measuring) facsimiles cannot transmit the essence and soul of the musical event and are therefore not worthy of the Totem nomenclature. Measured farther back in various positions they are only a shadow of the me Tabú.

The Tabú produces a holographic musical environment whether one is sitting, standing, or doing yoga. Certain parameters have to be met to accomplish this. In all our multiple, extraordinary presentations worldwide we accomplished this by always placing the speakers straight ahead, no toe-in was used. (Although in some home envi-

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Atkinson, woofers as Edam. However, as Acarian Alón Trio said courageously, even forgiving time. It remains substantial.

As we also add that the Tabù can activate and play loudly and smoothly in a very large room whose width is fairly substantial. At the Waldorf-Astoria, the room volumetrically was as large as LG's room number 1 and they played without strain loudly.

The break-in period for the Tabù, at normal musical listening levels is minimally 100 hours and it truly completely breaks in at only 300+ hours. As our dedicated dealers and customers have concluded, the Tabù becomes incredibly smooth, coherent, and liquid with added time. Alacrity and overall tonal smoothness and forgiving flexibility come forward. In fact, the Tabù can be the most forgiving and easiest Totem to use.

We felt it Totem's responsibility to courageously put forward such a product, even in the face of certain skepticism, for as you know, truly musical statements are few and far between. Proper optimization after correct break-in ensures long-term stability for extended usage and constancy: an effort that is translated into nonobsolescence and true, absolute musical enjoyment and dollar value ...

Listen and Believe.  

Vincent Bruno  
Totem Acoustic

Music Sciences 02 Blocker  

Editor:  
I wish to thank Shannon Dickson for his accurate and insightful review of our 02 Blocker line of corrosion inhibitors. The question I hear most often is “How did Charles Hustig and you go from founding Wadia Digital Corp. to messing around in chemicals?” Good question.

The mission of our new company, Music Sciences, Inc., is to find applications for aerospace and advanced military technologies within recording studios and homes. We did not invent vapor corrosion inhibitors, we simply spent the time and effort refining what was already “tried and proven” in order to develop blends that would be appropriate for home and studio environments. The flagship product of our new company is something quite different, but also taken from aerospace technology (ie, from spy satellites). It is a rubidium plasma atomic master clock (Toni Jung mentioned his in an earlier Stereophile issue) for use by recording engineers and the most serious audiophiles. Recording engineer Roger Nichols called it the “ultimate…device known to man” (EQ magazine, Oct. 1995, “Across the Board,” p.176). It has an accuracy of 1 second in 10,000 years and can be used with any CD player that has an external clock or “word clock” input.

Donald Wadia Moses  
President, Music Sciences, Inc.

Tube Amplifiers  

Editor:  
I got a real chuckle out of Scott Frankland’s first “Single-Ended vs Push-Pull” article (December ’96, p.110). The content is very well-prepared and concise, but I feel is very biased toward the push-pull architecture. It would be interesting to see the same article prepared by, say, Peter Qvortrup of Audio Note. The same information would prevail, but the emphasis on the winner would be Single-Ended.

It is delightful to see designers participate in magazines, but I think it is up to the editor to exclude material that benefits the manufacturer. Several months ago in Positive Feedback, a similar set of articles was written by David Manley. Peter Qvortrup responded to all the details with concise rebuttals of all the allegations. I protested to David Robinson in the same context that I do to you. Having someone who is highly biased of a technology write a paper such as this is a travesty to the magazine, not the person who wrote it. It is like having a free seven-page advertisement.

On the same day that I received the December issue of Stereophile, I also received the November issue of MJ Technology. It would seem that Stereophile and MJ are as Yin and Yang. I noted some 95% of the designs in MJ (some 35–45 amplifiers displayed) being single-ended and 5% push-pull. If it is Stereophile’s point that single-ended technology is child’s play, tell the customers who have driven this technology into full market acceptance that they are wrong.

I feel as though we are the Reform Party of Audio. But...please don’t let us debate, because we may change the fate for big companies that toke push-pull amplifiers as so-called winners. I am the first to say that single-ended is not for everyone; neither is push-pull. Most of all, have fun with what you are doing and enjoy what you are listening to.

J. Gordon Rankin  
Chief Scientist & Owner,  
Wavelength Audio

As a matter of policy, I do not usually commission articles from designers who are active in the field of high-end audio. But in the case of Scott Frankland’s three-part series on tube amplifier design, the text seemed so well balanced and so completely detached from the author’s commercial activities that not to publish it would do Stereophile’s readers a disservice. I am proud to have had the opportunity to do so.

Shure SFG-2 Stylist Force Gauge  

Editor:  
A phone call from Mr. Charles Hansen of Ayre Acoustics prompted me to check out his letter published in your November issue. In this letter, Mr. Hansen made some interesting observations about phonograph cartridge azimuth and its adjustment. Unfortunately, he also asserted, erroneously, that the main beam of the Shure Stylus...
Force Gauge (SFG-2) is made of a ferrous material and is, therefore, magnetic.

Having been part of the engineering group that developed Shure cartridges and other related products even before the introduction of the SFG-2, I felt it important to set the record straight.

The Shure specification for the tracking force gauge's lever-arm material calls for nonmagnetic stainless steel. For a short period of time approximately seven years ago, our metal supplier delivered stainless steel of an alloy different than specified. Unfortunately, a small number of gauges were built with this material and shipped before this error was discovered. We subsequently notified our dealers and were able to exchange many of these units. Since that time, we have taken extra precautions to be certain that the lever arms are made with the proper alloy. All gauges currently being made use nonmagnetic material. If any Shure Tracking Force Gauge owner suspects that his/her gauge is magnetic, please call our Consumer Affairs representative at (800) 25-SHURE, and we will arrange for an exchange.

If the tracking force gauge lever arm is magnetic, there may be an attraction between it and a phonograph cartridge having a large magnet. Of course, the strength of such an attraction will vary with the size and geometry of the cartridge magnet. This condition will not affect the accuracy of the SFG-2 measurement of downward force at the stylus tip. An attraction between the lever arm and the cartridge can also cause the stylus to retract up into the cartridge. Shure styli will not be harmed under these conditions, and I believe this to be true for most other brands.

Finally, I should point out that ferrous or magnetic material in turntable hardware, platter, and so on, may also exert a magnetic attraction to cartridges with large magnets and, unlike the above situation, create real variability in actual/measured tracking force as the platter turns and the tonearm moves. Fortunately, little if any material with magnetic properties is used any longer in turntable equipment.

Notwithstanding the above, I am always pleased to learn of the continuing interest of audiophiles and vinyl collectors in analog equipment, still considered to be the finest and most ingenious recording/playback technology ever developed.

Robert M. Kita
Manager, Design Engineering Services,
Shure Bros.

Dynaclear Postman

Editor:
I would like to alert your readers to an unfortunate situation. A Stereophile review of my product, the Postman, is currently being used to sell a functionally similar but demonstrably inferior item that your magazine has never even discussed! In Audio Advisor's Holiday 1995 catalog, text on p.4 states that "Stereophile's Wes Phillips praised Dynaclear's Postman binding post wrench as 'the reviewer's friend,'" then proceeds to describe an Audioquest product as a "new and improved" version of my tool. While it might be "new" to that company, Audioquest's knockoff is categorically not an improvement over the Postman, and in fact poses a risk of damage to the amplifiers and speakers with which it is used.

During my many years as a high-end audio salesman, I encountered numerous customers who had stripped or broken their binding posts through the use of steel nut drivers or socket wrenches. In developing the Postman, my goal was to provide a method of tightening and loosening binding posts that minimized the risk of component damage. The solid nylon construction of the Postman, in conjunction with the tool's slender "low leverage" design, virtually eliminates binding post stripping or overtorking. By incorporating steel socket inserts and a larger handle diameter, Audioquest's version of my product substantially reduces the margin of safety that, in my opinion, is the Postman's fundamental benefit.

Since its introduction in 1993, the Postman has been recommended by Stereophile, Audio, and The Absolute Sound as a safe, effective means of tightening binding posts. In fact, the current version of our tool was nominated for two "1995 Product of the Year" awards (Best Budget Product and Best Accessory) by Stereophile, and has been featured in that magazine's "Recommended Components" list for two consecutive years.

Frankly, we're flattered that Audioquest has seen fit to imitate the Postman. Unfortunately, their interpretations of our design violates the "safety first" philosophy that is the Postman's raison d'être.

Anthony Chiarella
President, Dynaclear Audio Technologies

Solidsteel in the US

Editor:
I noticed in Stereophile's "Recommended Components" listing, the solidsteel™ furniture line was deleted from your listing as "longer available." Please note that Suniko is now the official distributor for the US and Canada.

Stirling Tate
Vice President, Suniko

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I n the old days, Stereophile’s “Letters” pages were constantly filled with the LP-vs-CD saga. That was followed by objective-vs-subjective and preceded by tube-vs-solid-state, and we now have single-ended vs push-pull tube amps (see Gordon Rankin’s letter in “Manufacturers’ Comments”).

So it feels a bit like old times to see the responses to MF’s “Analog Corner,” with their denials and affirmations of his enthusiasm for LPs as the leading home sound-delivery medium. Whether you’re pro-A or pro-D, you can’t help but be happy to see people listening carefully for the differences, especially the ones who’d never tried a turntable before.

Historically, I’ve been one of the magazine’s most die-hard LP-lovers. My “Records To Die For” selection regularly feature some impossible-to-find LP (though this year I put it in an alternate category), and LPs are always my choice when an evening of entertainment descends into the serious-listening-and-talking phase—the part of the evening everything else builds up to. My annual New Year’s Eve parties don’t really get going until the LPs start pouring forth their warp- and floor-vibration-induced woofer-busting antics.

So it’s with some disappointment that I report that LPs aren’t all they’re cracked up to be. To read many accounts, it sounds as if LPs were an original medium, superior to the tape on which the microphone feed is initially captured. Some magazines refer to LPs as something close to God’s medium, the source that must be auditioned before you can really know what any speaker (amplifier, preamp, cable—you name it) really sounds like.

Back in the ’80s, I was privileged to be part of a listening session which convincingly demonstrated that that just ain’t so. Peter McGrath, then of Sound Components (an excellent enthusiast store in Coral Gables, Florida) and now of EgglesonWorks, had master tapes, CDs, LPs, and second-generation analog tapes, all of the same original performances.

This was a very rare opportunity, particularly for a retailer’s showroom. Most retailers don’t spend large amounts of time trying to educate publishers, and Peter is the only one I know of who actually has the material to make the demonstration possible. Peter’s an avid professional recordist. He’s done a lot of work for Har-monia Mundis, and a considerable amount for his own label, Audiofon. He’s made the CDs (through a variety of different A/D converters), he’s made the LPs, he’s made the tapecopies. He’s heard these differences over and over again, and, because his livelihood has depended on the best consumer product possible, he has a vested interest in making the differences from master tape to CD or LP as tiny as possible.

The sound on the master tape is effortless—it just happens, without trying hard. The medium is up to its job. If you give it something tough to handle, it delivers.

But those differences are not tiny. It might be an exaggeration to call them gross, but under no circumstances would anyone reading this magazine ever mistake either an LP or a CD for its master tape. In Peter’s demo I liked LP better than CD, but both were noticeably inferior to the master; the tape copy of the master was only slightly less good, and could have been mistaken for it.

JA has already described (in his Meridian 518 review, Vol.19 No.1) what happens when you take a 20-bit master and noise-shape it down to 16 bits for CD mastering, and Bob Harley talks in this issue about the generally conceded problem with CDs that don’t sound like their CD-mastering tapes.

As I write this I’m comparing the 20-bit master tape on John’s precious Nagra-D (we bought one for the magazine’s recording activities) with Robert Silverman’s Sonata CD (Stereophile STPH008-2). My general impression is that the CD is a very good recording, with terrific dynamics and a great sense of the actual Steinway D I heard during the recording sessions I was privileged to be a part of. It doesn’t, however, capture the hall in which the sessions took place as well as the master tape does, and it also has a sense of congestion and unwanted brightness that aren’t on the master tape, particularly during high-level passages. The master tape is effortless—the sound just happens, without trying hard, ineffably.

That’s what I hear from every good master tape I’ve listened to, whether analog or digital. The medium is up to its job. If you give it something tough to handle, it delivers, without in any obvious way changing the nature of what you sent its way.

And the LP? You may not have known there would be an LP, since it hasn’t been released yet, but JA and WP have been striving mightily to midwife the birth of another Stereophile LP, with our Sonata 20-bit master tapes as the source. (A writeup describing the recording process will appear next month.) Our purpose? Well, obviously, to satisfy our readers who love LPs. But we’re also conducting an experiment—one in which you can evaluate for yourself the adequacy of CD and LP as home sound-reproduction media.

Both start with the same 20-bit Nagra data. With the CD the data is noise-shaped to 16 bits, encoded on a CD master, pressed by JVC, played back by your CD transport, and turned into analog by your D/A processor. With the LP, the 20-bit data itself is converted to analog via a Mark Levinson No.30.5, the analog electrical signal turned into lacquer groove wiggles at the RTI mastering facility, then to father, mother, and stamper at RTI’s pressing facility, then to an LP for you to play back on your own turntable. Both processes are complicated, with lots of areas for shortfall and some inherent problems. Which will work better?

For me, on my home playback system, the CD comes closer to the master tape—but, as described above, not so very close. The LP has greater warmth, but it’s less clean. It’s also the best LP we’ve released. I felt an urgent need to work over, tweak, and perhaps even upgrade my mono replay system.

I think you’ll find it an interesting comparison, particularly after Wes’s article gives you all the details of the LP pressing process. But I can’t help but yearn for the time when a 20-bit, 96kHz medium is standard for use at home. Once you’ve heard master tapes, it’s real hard to go back.

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