

FERRARI VS. GEO

After reading most of the article "Intrinsic Fidelity Testing" by Dennis Colin in the 11/07 issue, I was compelled to write a response:

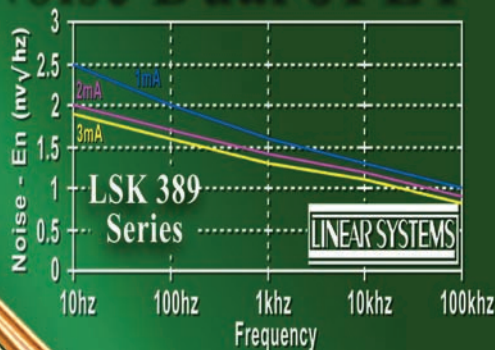
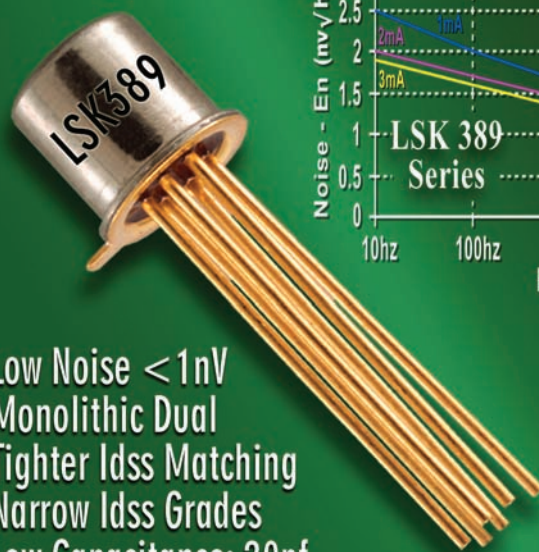
The conclusion, "the claims of audibility of resistors, film caps, wire and the best op amps are unfounded," I believe is not correctly worded. It should read: "with my particular audio system components, speakers, power system and cables, I was unable to hear any difference when comparing these particular resistors, capacitors, wires and op amps."

The point I am making is that no definitive conclusions can be drawn that are of any use to anyone, unless there is a way to normalize the other variables. These variables—namely, system components, cables, acoustics, and your ears—are unique to you and your system, and so your conclusions should be your own. They should not be offered as general conclusions.

I continually get into disputes on the web discussion groups about audibility of cables, jitter, and other phenomena. The problem is always the same. We are talking apples and oranges. If all systems were equally resolving and had excellent room acoustics and all of our ears were equally good, then maybe we could compare notes and reach conclusions. However, the reality is that 99% of so-called "audiophile" systems are not capable of decent imaging or even have the capability to deliver the audible difference between a Steinway and a Baldwin piano or a realistic cymbal crash. This is reserved for the few systems in the world that are truly world-class, usually due to a *lot* of work, tens of years of upgrades and intelligent decisions on the part of their owners, and sometimes due to a large budget as well, but not always.

It is like the Formula Race Car. It runs on high-performance fuel and tires and is designed for these. If someone takes this high-performance fuel and these tires and puts them in/on his Geo, it probably won't drive any faster or better than with regular fuel and tires. It may even perform worse. This does not prove that these fuels and tires are not better. It just means that with his particular car, they don't make any difference.

1nV Low Noise Dual JFET



Low Noise < 1nV
Monolithic Dual
Tighter Idss Matching
Narrow Idss Grades
Low Capacitance: 20pf
Functional Replacement for 2SK389

www.linearsystems.com

800-359-4023

TEKTRON-ITALIA

Distributors:

USA & Canada:

Robin Wyatt

Basking Ridge, New Jersey, USA

Tel: +1-908-334-3241

Fax: +1-866-576-3912

Email: info@robbyattaudio.com

Web: <http://www.robbyattaudio.com>

Germany:

Frankfurter hörgesellschaft

Peter Steinfadt

An der Luthereiche 8

D-63110, Rodgau, Germany

Tel: +49-171-58-03-718

Fax: +49-171-58-03-718

Email: info@hoergesellschaft.de

Web: <http://www.hoergesellschaft.de>

Singapore:

Aural Designs

1 Coleman Street, #03-11 The Adelphi,
Singapore 179803

Tel: +65-6339-0134

Fax: +65-6234-0134

Email: ADesigns@singnet.com.sg

Web: <http://www.aural-designs.com>

Hi-End Tube Amplifiers
designed and handmade
one at a time in Italy

www.tektron-italia.com



FRONT PANELS & ENCLOSURES

Customized front panels can
be easily designed with
our free software
Front Panel Designer

- Cost-effective prototypes and production runs
- Wide range of materials or customization of provided material
- Automatic price calculation
- Fabrication in 1, 3 or 7 days



Sample price:
\$43.78 plus S&H

**FRONT PANEL
EXPRESS**

www.frontpanelexpress.com
(206) 768-0602

Ready, willing and Avel



*offering an extensive
range of ready-to-go
toroidal transformers
to please the ear, but won't
take you for a ride.*

 **Avel Lindberg Inc.**
47 South End Plaza
New Milford, CT 06776
tel: 860-355-4711
fax: 860-354-8597
sales@avellindberg.com
www.avellindberg.com

I can assure you that all of these things: “resistors, capacitors, wires, and op amps” make a big difference in a truly high-end component/system when listened to in an acoustically optimum listening room. All of these devices demand a premium price and they are not on shelves gathering dust. They are usually on back-order and in short supply.

If they didn't perform better than the average parts, then there would not be dozens of “modders” all over the world improving stock components for consumers by replacing these parts, some of them having 3-6 months backlogs.

Steve Nugent

nugent@empiricalaudio.com

Dennis Colin responds:

You said you read *most* of the article. If you read it completely, you'd see that what you referred to as my “conclusion,” I stated to be “my personal opinions—open to debate.” But I agree with your qualification “with this particular audio system. . . .” However, I never described my observations as “definitive conclusions”—please read the entire article before you draw conclusions.

My audio system's resolution, naturalness, and acoustic environment are “truly world class,” as you call that 1% of audio systems. The system includes my 250W “Mad Katy” tube amp (aX June/July '06), “Venue” speaker (aX Nov. '06), Swans M1 ribbon monitors with Scan-Speak subs (aX Sept. '05), and Sennheiser HD650 headphones and custom amp (aX Nov. '05).

Also, as described on p. 38 of the *Intrinsic Fidelity* article, my hearing is excellent. Perhaps more important, it's trained with decades of experience as a musician, symphonic concert attendee, studio engineer, psychoacoustic researcher, and speaker reviewer. And I'm very familiar with component quality issues, having worked over 40 years as an analog circuit designer. As I wrote, I welcome debate, but not condescension!

Your statement about some audio systems not resolving the difference between a Steinway and a Baldwin piano is puzzling, coming from one who can hear wires and resistors—I can hear the difference between a Steinway and a Baldwin over a telephone. (I dare say that most other pianists can too!)

In my *Intrinsic Fidelity* or conventional A/B comparisons, I like to listen through (in

addition to a variety of excellent speakers) the aforementioned Sennheiser phones, which are probably more revealing, coherent, and neutral than any “world class” speaker. Sometimes I use live-miked voices and instruments as the audio source; a far cry from today's computer sound!

Therefore, I find your proposed analogy of “racing fuel and Formula tires on a Geo” as mildly insulting and totally irrelevant. Nevertheless, the focus of my article is not the audibility or inaudibility of specific devices, but rather the need for proper, intensive, and repeatable testing.

On that note, *Stereophile* has for years condemned blind testing as “flawed,” citing everything from “mental testing stress” to quantum physics, to avoid the kind of serious testing whose results would offend many advertisers (“What do you mean you can't hear my battery-polarized cable dielectric?”). But now, lo and behold, on p. 3 of the Nov. '07 *Stereophile*, J. Gordon Holt, the magazine's retired founder, said, “. . . high-end audio lost its credibility during the 1980s, when it flatly refused to submit to the kind of basic honesty controls (double-blind testing, for example) that had legitimized every other serious scientific endeavor since Pascal.” He also cited “the mindless acceptance of voodoo science.”

Considering the above, your claim that, “If they (premium resistors, and so on) didn't perform better. . . there would not be dozens of “modders”. . . improving stock components (with them). . .” does not prove that they produce an audible difference! Does the fact that many people buy those “magnetic therapy” bracelets prove that they actually work? Of course not, but we know that the placebo effect does.

I see from your website that you're a manufacturer of exotic cables for computer-processed audio. Now that could be analogous to using a Ferrari transmission with a Geo engine.

Three cheers for Dennis Colin's article, “*Intrinsic Fidelity Testing*” (*audioXpress* 11/07), which should be required reading for all audiophiles and audio engineers, and especially those equipment reviewers whose statements imply a superhuman ability to remember perfectly a particular sound heard in the past. As for engineers, there is a natural tendency to favor the products of one's own efforts, but there are audio checks and

balances which can be employed to help eliminate self-delusion.

Doug Pomeroy
POMEROY AUDIO
193 Baltic St.
Brooklyn, NY 11201-6173

CORRECTION

In the article "Build a New Tone-Control Circuit" in the November 2007 issue, there are two missing connections in the schematic:

Junction of R8, R10, C15 to U1:B output

Junction of R15, R17, C12 to U1:D output

Jon Lark
jd_lark@yahoo.com

AMBIOPHONICS

I read Roger Russell's article "Sounds and Hearing, Pt. 1" (Oct. '07, p. 28) with great interest and I thank him for mentioning Ambiophonics.

I urge you to go to the www.ambiophonics.org website and read the AES paper I recently presented at the 123rd convention entitled "360 degree Localization via 4.x RACE Processing." The R stands for recursive, and the paper describes how even the crosstalk correction signals are canceled at each ear until all the crosstalk is inaudible. Your statement, "However, the cancellation component from each speaker is heard by both ears" is simply not correct. This recursive nature of the Ambiophonic protocol has always distinguished it from Sonic Holography, VMAX, Lexicon Panorama mode, and so on.

You also state, "Ambiophonics claims that further computer processing produces very realistic effects even with two widely spaced front speakers." I don't know where this comes from, but in Ambiophonics the direct sound front speakers must be relatively close together—normally about 26" apart—although the exact spacing is not critical. Putting them on either side of a large TV screen is usually fine. For surround sound movies a rear pair of similarly closely spaced speakers enables a full 360° circle of direct sound to be localized, which is awesome if the movie really has a rear stage.

For music, concert hall impulse responses can be convolved in a computer,

and purely hall reflection signals sent to ambience surround speakers whose precise location and number are not critical. Variety in direction is what counts. The idea is not that Ambiophonics is as good as being at a live performance, only that it reproduces CDs, LPs, DVDs, and so on much better than the traditional stereo triangle and comes closer to a live concert hall experience than any other home reproduction method demonstrated so far.

If you use the Ambiophone to make recordings, then I would claim a comparison with the real live experience is valid.

Ralph Glasgal
glasgal@ambiophonics.org

Roger Russell responds:

The double crosstalk should have been referenced separately and was not meant to be part of the Ambiophonics process. The source is from *Scientific American* 2/24/2002, "Surrounded by Sound," by Fiona Harvey.

"The crosstalk from one speaker would

CUSTOM-DESIGNED FRONTPANELS

WE WORK WITH YOUR CAD FILE

Expert in quality
Expert in service
Expert in material
Expert in price

Please contact us:
info@cam-expert.com
www.cam-expert.com
Phone 603-695-9060

AROUND the DCX-2496...

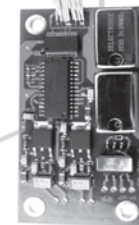
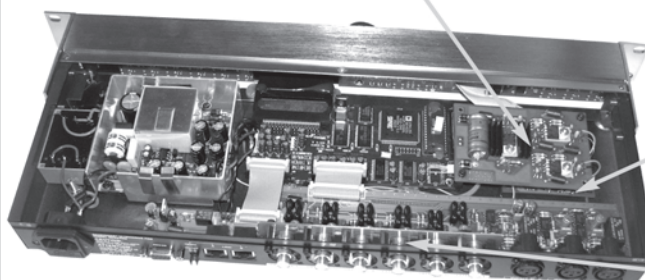


A DCX-2496 is THE affordable high performance audio DAC coupled with a powerful loudspeaker management processor. It is the ultimate tool for those seeking the audio perfection.

To improve on the audio performance of the DCX, **Selectronic** offers a range of high end kits for the DIYer. Very easy to assemble (no SMD) and minimally invasive on your DCX. The results are outstanding !

Precision analog power supply

*** NEW ***
Digital input +
clock module



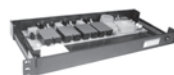
I/O board

And MORE...

6-CHANNEL R/C VOLUME CONTROL

SEQUENTIAL MAINS SWITCH

HIGH EFFICIENCY MAINS FILTER



Selectronic
L'UNIVERS ELECTRONIQUE

Outstanding kits for the DIYer
More information : www.selectronic.fr



ELECTRA-PRINT
AUDIO CO.

AUDIO TRANSFORMERS

- Single Ended
- Push-Pull
- Parafeed
- Cathode Follower
- Interstage
- Line Level Outputs
- Audio Chokes
- Moving Coil
- Step-up/down
- Low level input
- Phase splitting
- Silver windings
- Nickel core designs

POWER TRANSFORMERS

- High Voltage
- Filament
- Filter Chokes

Custom transformers built to your specifications.

Custom Amps and Pre-amps of our design.

Visa, MC & Amex

ELECTRA-PRINT AUDIO COMPANY

4117 Roxanne Dr., Las Vegas, NV 89108
702-396-4909 Fax 702-396-4910

electaudio@cox.net www.electra-print.com



In The 21st Century

Analog playback should be
More Technical
More Objective
More Affordable

The Technics SL-1200 SE
Five Base Models
Seven Genuine Upgrades
Starting At \$475

We Call it *The*
Audiophile Custom

KAB

Preserving The Sounds
Of A Lifetime

www.kabusa.com

be cancelled out by an equal but opposite sound wave from another speaker. Of course, this method creates its own difficulties: the canceling wave also reaches both ears and interferes with the original sounds as well as the cross talk. Sensaura had to devise a set of overlapping signals that cancels out the cancellations."

You may recall my e-mail to you on 2/12/2007 when I wrote: "I first thought your method of eliminating stereo crosstalk was for widely-spaced speakers but now you indicate this is a waste of time. Does this mean that left and right speakers must be placed close together for your system to work?"

"I am comparing this to the Hughes SRS AK-100 system. This was demonstrated to me several years ago and the speakers were placed 1 to 2 feet apart."

Your answer was: "The Ambiophonic algorithm which is now being included in TACT products or can be downloaded from the web is very tolerant of speaker spacing. It has two adjustments that compensate for weird speaker angles. I use about 20 degrees between the speakers but TACT

users report that they like it just fine even without moving their speakers. I think they are just lazy and are probably missing a lot. There is no fixed rule, just move the speakers and your seat until you are happy. Ambiophonics is a golden-eared tweaker's delight and high-enders will spend years adjusting Ambiophonic speaker pairs, cables and tube amplifiers. The things that change are the maximum stage width and size of the sweet area; these will change with each recording just as in stereo."

I concluded from your e-mail that a wide speaker spacing can be acceptable, but perhaps this is only a matter of semantics between what is wide and what is narrow. In my original question, I am comparing the Hughes SRS system having a spacing of 1 to 2'. Now you say that spacing is normally 26°. At 10' from either speaker, this comes out to be a speaker spacing of about 4 1/2'.

With respect to the Hughes system that has a normal angle of 6 to 12°, 26° is wide, and perhaps you imply that it could be even more. However, the optimum effect for the Hughes SRS system deteriorates as the angle increases, and as it increases even

CONTRIBUTORS

Bill Fitzmaurice ("The CurveArray," p. 8) has been a professional musician since 1966 and has been constructing instruments, amplifiers, and speakers for just as long. Vice president of DeltaSounds Loudspeakers Inc., Fitzmaurice is the author of *Speaker Builder's Loudspeakers for Musicians* and over 30 magazine articles dealing with speakers and electric instruments, as well as the action-adventure novel *Operation: Sergeant York*. Bill and his wife of over 30 years reside in Laconia, NH.

Bill Waslo ("Of Tweaks, Mods, and Evidence," p. 16) is an RF Design Engineer with a midwest engineering firm. With his wife Carol, he also runs Liberty Instruments, developer of the IMP, IMP/M, and Liberty Audiosuite analyzer systems. His interests include music, loudspeaker design, signal processing, reading, and gardening.

Paul J. Stamler ("In Praise of Wall Warts," p. 24) is a recording engineer/producer, musician, and technical writer; he also hosts a radio program, "No Time to Tarry Here," featuring traditional folk music and related stuff. He has delighted in 78s since he was a boy, when they were still being made.

Bill Christie ("A Hybrid Hi-Fidelity Power Amplifier," p. 30) developed an interest in electronics at the age of 6 after his father helped build his first crystal set. Since then he has built numerous kits and started building amplifiers from scratch while still in high school, starting with a mono tube amp designed by Mullard. He graduated from the University of Akron with a bachelor's degree in physics. He is a retired electrical engineer from Goodyear Tire & Rubber Company after serving 35 years designing controls and instrumentation for manufacturing.

Charles Hansen (Product Review: Lundahl 1592 Transformers, p. 37) is an electrical engineer and holds five patents in his field of engineering. He began building vacuum-tube audio equipment in college. He plays jazz guitar and enjoys modifying guitar amplifiers and effects to reduce noise and distortion, as well as building and restoring audio test equipment. He enjoys sailing and has over 150 magazine articles to his credit.

Gary Galo ("Lundahl and Jensen Meet the Monarchy M24," p. 40) is Audio Engineer at The Crane School of Music, SUNY Potsdam, where he also teaches courses in music literature. A contributor to AAC since 1982, he has authored over 230 articles and reviews on audio technology, music, and recordings. He has been the Sound Recording Reviews Editor of the *ARSC Journal* (Association for Recorded Sound Collections) since 1995, was co-chair of the ARSC Technical Committee from 1996 to 2004, and has given numerous presentations at ARSC conferences (www.arsc-audio.org). Mr. Galo is also a frequent book reviewer for *Notes: Quarterly Journal of the Music Library Association*, has written for the *Newsletter of the Wilhelm Furtwängler Society of America*, and is the author of the "Loudspeaker" entry in *The Encyclopedia of Recorded Sound in the United States*, 1st edition.

further, up to 60° at a 10' distance, the sound not only loses more benefits of SRS, but also further alters the audible frequency balance. I pointed this out in my article.

From what you say, it would seem that the adjustments you mention can produce a variety of alternate realities that are very subjective and vary significantly from person to person.

PHONO PREAMP

I have a couple of questions for Dennis Colin about his "LP Ultra Low Distortion Phono Preamp" that appeared in the Sept. '07 issue.

1. Is the preamp suitable for a Dynavector 10X5 with an output of 0.28mV and minimum impedance of 30Ω?
2. The MM/MC switch S1A in Fig. 2 does not connect to anything. How do you switch in the extra gain needed for the MC cartridge?

Larry Cleven
lcleven@shaw.ca

Dennis Colin responds:

Thank you for your interest. Please note the

corrections on p. 49 of the Oct. '07 issue. In particular, the top terminal of the MM/MC switch (labeled "MC") should be grounded.

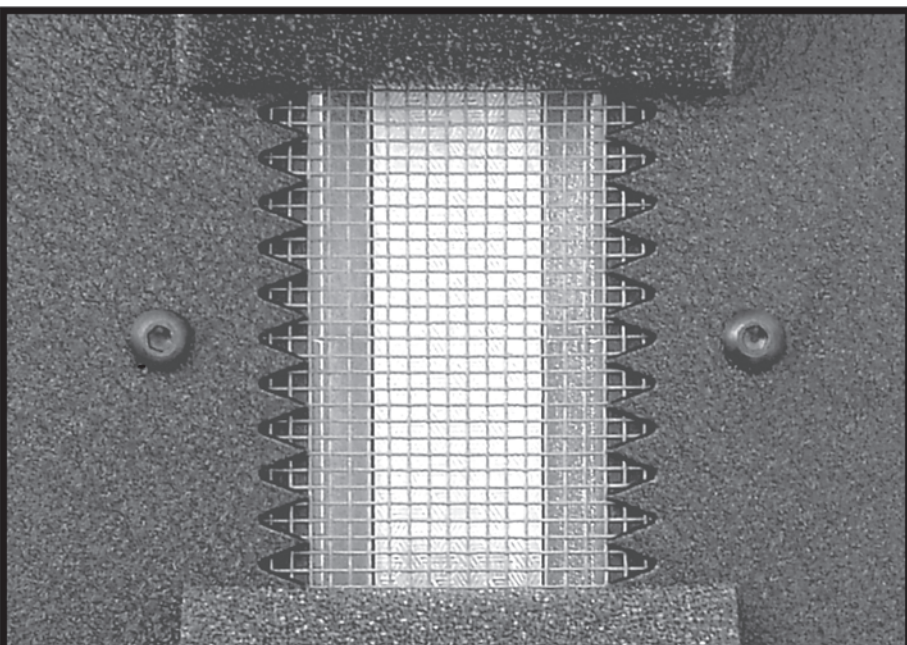
In the article I mentioned the Dynavector 10X5 (top of p. 13). On p. 12, Fig. 7 (curve 3) is plotted the preamp's noise spectrum with this cartridge. This is a high-output MC, specified at 2.5mV at 5cm/sec. The figure of 0.28mV that you stated does not apply to the 10X5; 0.28mV would be representative of a medium-to-low output MC.

The 10X5 is most suitable with the LP797 preamp (use it with the switch in the MM position, *not* MC). This combination will provide a peak dynamic range of 103dB, headroom (re 5cm/sec) of 25dB at 1kHz and 42dB at 20kHz, noise that's likely inaudible, and very high quality sound.

The cartridge is very insensitive to load valves; Dynavector recommends 1000Ω, and you don't need to add any capacitance load.

I might be offering a kit and/or PC board; it will use the circuit shown in my article plus selectable R and C loading and gain (36 to 70dB). You can see the prototype on colinelectronics.com; click on "Groove Master."

aX



**MUSICAL * POWERFUL * RELIABLE
TRUE RIBBONS – REDEFINED**

info@raalribbon.com www.raalribbon.com

RAAL ADVANCED LOUDSPEAKERS



DRIVERS:

- ATC
- AUDAX
- ETON
- FOSTEX
- LPG
- MAX FIDELITY
- MOREL
- PEERLESS
- SCAN-SPEAK
- SEAS
- SILVER FLUTE
- VIFA
- VISATON
- VOLT

**CUSTOM
COMPUTER AIDED
CROSSOVER AND
CABINET DESIGN**

**SOLEN CAPACITORS
AND INDUCTORS -
USED BY THE MOST
DISCRIMINATING
LOUDSPEAKER
MANUFACTURERS.**

HARDWARE

HOW TO BOOKS

Contact us for the free
Solen CDROM Catalog.



SOLEN
4470 Avenue Thibault
St-Hubert, QC, J3Y 7T9
Canada

Tel: 450.656.2759
Fax: 450.443.4949
Email: solen@solen.ca
Web: www.solen.ca