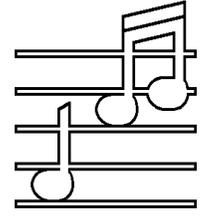
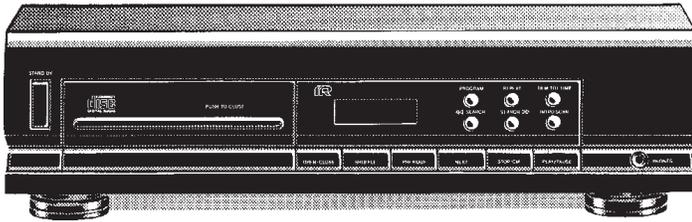


AUDIO BASICS



A MONTHLY NEWSLETTER OF AUDIO INFORMATION

VOLUME TWELVE NUMBER NINE/TEN SEPTEMBER - OCTOBER, 1993



We've Enhanced our CD Player Supply

Thanks to very helpful digging and tracing by our factory representative at Philips, we have located an additional inventory of the 16-bit, 4 times oversampling dual D-to-A converter basic CDB502 series Philips/Magnavox chassis that are necessary for our Ω mega II and Fet-Valve CD player conversions.

We purchased very heavily and are happy to report that we can now supply you with our CD players this winter. But when these are gone though, there may be no more. Almost every mass-manufacturer seems to be going to 1-bit systems (that measure great but sound awful because they cannot retrieve all the information), or even worse to DCC or MD systems as their main source of music.

How good are our CD players? One client recently wrote me to relate that the first listen to music with his new \$395 Ω mega II CD player gave him the same emotional experience as his first sight of the city of Venice. Most listeners simply are hard pressed to understand how a CD player this inexpensive can sound better than all of the mega-buck esoteric heavyweight machines they had previously auditioned or owned. I think some people would actually feel better about how good our basic CD player sounds if we did dump 15 pounds of steel plate in the bottom as many others do. The brainwashing of "it has got to be heavy and /or complex to be any good" is a very successful marketing ploy.

They don't understand that a good 16-bit D-to-A converter is about the size of your thumbnail and costs about \$20 and that the best possible place for it is right next to the output of the digital filters on the main CD player mother board. Putting the D-to-A chip in a separate heavy big box and charging a fortune for it is silly (unless your object is simply to make a bundle from those that have no electrical engineering background).

The concept of better sounding digital electronics for your CD player is ludicrous. If somebody offered you a disk drive for your computer that would give you better letters – one that would take the memo you stored and turn it into Lincoln's Gettysburg Address instead, you probably would not be impressed. The best the digital circuits can do is to store and retrieve your information without losing any of it. They cannot make it "better."

The problem with 1-bit systems is that their sampling rates at present are far too slow. They do lose much of the information encoded on the CD. A 16-bit system can process 16-bits of data at the same time at any frequency up to 44,000 Hz and thus provides 2^{16} (65536) data points per cycle. A 1-bit system with a standard 11 megahertz clock can only provide 250 data points per cycle at 44,000 Hz. It can provide only 500 data points per cycle at 22,000 Hz, 1000 at 11,000 Hz, or 10,000 at 1100 Hz. At all these frequencies a 16-bit system provides 65,536 data points per cycle. The 1-bit system, if evaluated carefully, proves to simply not be a high fidelity technology at all. Note however that the fidelity of the 1-bit system gets less bad as the frequency gets lower. Note too that its problem basically is an inability to provide all the information at high frequencies.

Some people think 1-bit systems sound just fine. There is good reason for this, if you are comparing a lousy 16-bit system to a 1-bit system. If the audio - filter analog circuits of a CD player are poorly designed (and most are) then they will overload at high frequencies on all that data, slew limit while trying to filter out the 44,000 Hz sampling frequency (176,000 Hz with a 4 times oversampling machine) and provide those good old "fingernails on the blackboard" highs so common to many CD players. The same bad audio design is not so severely overloaded by the much sparser information density of the 1-bit design. It does not get into as much slewing trouble and thus may not sound as awful as a bad 16-bit design does. Too much information might be a bad thing if you cannot handle it all correctly.

The standard tests for CD player performance overlook nearly all the defects of both concepts. The procedure calls for first placing a 22,000 Hz low pass filter on the output of the CD player before testing, thus getting rid of all evidence of high frequency slewing and distortion from

the overloaded 16-bit machine. The tests also use repetitive tones allowing 1-bit CD players to sample long segments of the same information, giving an average readout of nearly perfect definition.

Unfortunately, on music in your audio system you are not playing repetitive test tones nor can your ears ignore all the damage the high frequency overload did to the music. The CD player gets a bad rap because hardly anyone is looking at its real problems and fixing it. Instead, the industry is leaping into even worse systems (DCC and MD) or trying to sell you quantity instead of quality (home theater - the six White Castles are better than two Prime Ribs approach - or remember those seven shiny pennies)?

We have recognized the basic things that must be done right to allow a CD player to reproduce music without anguish. First, the digital section must be capable of retrieving all of the 65,536 data points per cycle at any frequency up 44,000 Hz as provided on the CD itself. Philips' proven 16-bit times 4 oversampling and digital filtering circuit sets do this job just fine, coupled with their reliable and inexpensive CDM -4 transport and their own dual D-to-A converters that allow both channels to have identical phase and frequency response. Philips has refined and distilled these basic digital circuits down to a very low priced and reliable mass-produced machine. We need not spend more for their basic digital engineering.

What Philips has overlooked (along with almost everybody else) is that the audio - filter driver stage of the CD player after the digital circuits is being improperly designed. The problem is their assumption that this is an audio stage. It is not. It should be designed as a high current RF filter driver as that is the job it really has to do. The circuit must get rid of the 176,000 Hz switching frequency from the 4 times oversampling digital circuits, while at the same time converting the audio output current of the D-to-A converter to a voltage with the proper amplitude, frequency response, and current drive to interface the CD player with the real world. The analog filter driver stage must have adequate undistorted bandwidth and load driving capability into reactive loads to handle the demands made by the filters and by the distributed capacitance of all the loads downstream attached to the CD player (tape inputs, strange passive preamps, and bizarre audioplake cables).

The standard op-amp output circuits of most CD players are simply not up to the task. They use output devices with slew rates measurable with a sun dial, that latch and oscillate when overloaded in our tests, and with inadequate drive current. As long as you measure them with a 22,000 Hz low pass filter first to hide all the direct evidence of the problems and use only repetitive wave forms as the source the distortion numbers come out fine. But in the real world the music is badly damaged.

We sometimes think the standard test procedures are there simply to assure the engineers that they are doing just fine, that anything you hear wrong with the music could not be their fault, and that all the problems of audio design have been solved long ago, and that what the world really needs is more wireless body mics rather than musical capability from the performers or the sound system. I was subjected to a "live" performance of Jesus Christ Superstar last week. They have succeeded in making a live performance sound just as awful as multi-channel processed and annihilated plastic home theater sound. You have to have read the score to understand the words and to have earplugs to protect from the chicken killing screeches of the PA electronics and overloaded wireless microphones. The musicians are lucky, they all get to wear headphones (turned off, I assume, so they don't have to listen).

Anyway, for those few of us left who think that music is something that can be best produced without electricity, and that the proper reproduction thereof will give the illusion that the power was never turned back on, there is still hope.

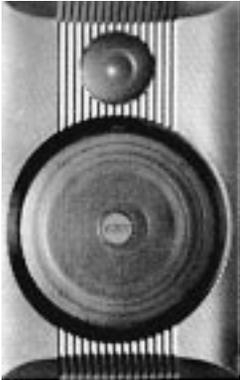
It turns out the output filter drive circuits are not very difficult or expensive to do properly once you understand what they need to do to allow undistorted musicality. You need to substitute good high current and very very fast RF drive electronics for the slow and current limited "audio" op-amps of the original circuits. You need to ensure the new circuits have proper supply decoupling to be unconditionally stable. You need to have the correct bandwidth in the output couplers for audio frequencies only. Your power amp and speakers are happier if they are not forced to be AC line voltage level detectors or sub-sonic indicators. If you do this, you will get music. We have and the Ω mega II CD player does reproduce music, amazingly well, for \$395 plus \$10 shipping in the USA. The Fet-Valve CD player does even better (nothing seems to work as well as our patented discrete triode - dual power mos-fet transimpedance amplifier for saving all of the nuances of the music) but at a much higher price as the infrastructure necessary to support the Fet-Valve circuits requires a separate sub-chassis and an independent power supply.

If you are interested, don't procrastinate for too long. Now is the time to nail down that winter treat. We were very fortunate to uncover this additional supply of chassis. I had thought that this issue would bear the bad news that they were all gone. Now we are re-supplied one more time. We can't think of a better way for you to improve your high fidelity system. (Of course we can still upgrade most of our older models to Ω mega II or Fet-Valve at advantageous prices - call for specifics regarding your machine.)

We are sure happy to be able to continue the production of our CD players. Take advantage of our fortunate find in the next few months.

The 2000 Series Zero Magnetic Field Speakers from B&W Revisited

Sure enough, last month when I could wait no longer, *Audio Basics* went to the printer in the morning and the four new B&W ZMF loudspeakers showed up UPS in the early afternoon. So here are the final paragraphs of that story, namely our subjective impressions of the 2000 series speaker. In general, we are pretty impressed. These are (with one exception) much better speakers than the Rock Solid series, probably as good as you are going to find at a reasonable price with magnetic shielding for close to TV use. Two of the models are very good indeed, one has lesser capability, but still fine for the intended application, and one isn't our cup of tea at all. Here are the details.



Model 2001

11.2" x 7.1" x 7.9" two way system with 5" woofer, 1.2" metal dome tweeter, 88 dB efficiency and 4Ω impedance. List price \$199/pair.

This is a much better speaker than I had expected for being so tiny. It has a nice overall balance, good voices without obvious vowel tone colorations, more dynamic capability than I anticipated, and it even plays a bit of bass. It would be well

suited for surround sound speakers (if you have to have it) or for hi-fi computer monitors or in a compact second system. For a nicer overall speaker go up one step to the 2002.



Model 2002

13.6" x 7.1" x 7.9" two way system with 5" woofer, 1.2" metal dome tweeter, 88 dB efficiency and 4Ω impedance. List price \$299/pair.

This has the same drivers as the 2001 but does a lot more with them. The overall balance is better because the additional cabinet volume allows bigger bass performance and punch. This would make a very nice small room speaker or main speakers in a better video system. They are not as transparent as the 600 series speakers, but are very easy to listen to.

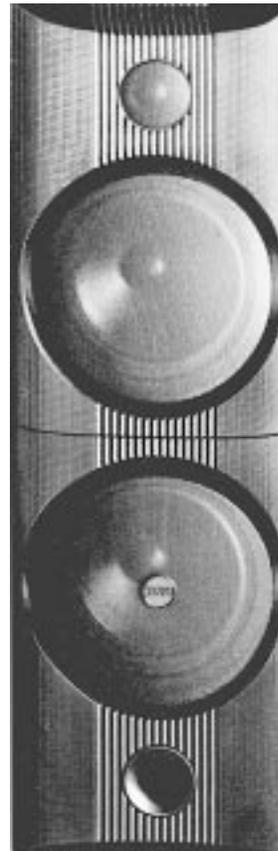


Model 2003

16.7" x 8.2" x 9.3" two way system with 6.5" woofer, 1" polyester dome tweeter, 89 dB efficiency and 4Ω impedance. List price \$399/pair.

These are my favorites of the group. I used a pair this week to sell an Ωmega II amp and preamp. The system sounded so good on the Matrix 803 speakers I was using that the prospect became concerned that the great sound was only because of the great speakers – ones much better than he had at home. So, I switched to the little 2003s and got the same great sound – with-

out the range or ultimate transparency and space of course, but with the same natural balance, freedom from rough edges, and relaxing listenability as with the big system. The 2003 is a fine speaker, more lively and dynamic than a 610 (but not as high a definition and a bit more forward) at a lower price and shielded too. A good low priced main system choice.



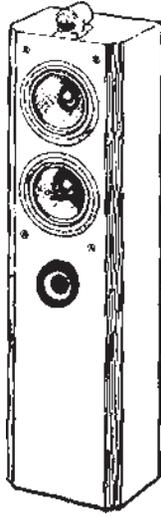
Model 2004

25.6" x 8.2" x 9.3" three way system with two 6.5" woofers, 1" polyester dome tweeter, 92 dB efficiency and 4Ω impedance. List price \$549/pair.

Although these have more extended bass than the 2003, the very minor colorations of the 2003 are more extended too. The result is a forward sounding speaker, more at home with a TV than an audio system. They may sell very well (as do the similar sounding Rock Solid Monitors) but they do it by producing sound, not reproducing sound. They are probably better than many other big shielded speakers, but for a high fidelity system I would aim you towards the more refined DM610s or DM620s. Call about my demos.

USED EQUIPMENT

B&W Matrix 803 Loudspeakers with real walnut finish in like new condition. This speaker still ranks third in our all time rating of the B&W product line. (First is the 801 Series 3 or Series 2 with our crossover fix, second is the 803 Series 2, these 803 Series 1 speakers rank third with our crossover upgrades, next comes the 640s with our crossover upgrades, and then all the rest, even ones much more expensive). They have the metal dome free air tweeter, the Kevlar midrange, a robust synthetic cone woofer in a big and attractive matrix reinforced cabinet with a fine furniture grade walnut finish with a charcoal brown grill and trim. They stand about 38" high, are nearly 90 dB efficient, and image like crazy. Normally we do not deal in used loudspeakers because they never seem to come back in as good a condition as we would like and shipping cartons get discarded or used up. But this one year old pair of outstanding speakers is an exception. The owner has taken perfect care of them, the shipping cartons are fine and will easily make the trip to you and as a trade-up to Matrix 801 Series Threes, we have promised to broker them. These speakers have our tweeter crossover enhancements and will give you the imaging and transparency of the latest 801s for a small fraction of the price. The new list price was \$3000 per pair. We need to get \$1750 for this pair – they are in absolutely perfect condition and we can give you a two year parts and labor warranty too. Sorry, we cannot offer a satisfaction guarantee on these – too often end users simply don't re-pack big things adequately for safe shipment. Shipping will be extra, the cost depending upon where you live. They do go UPS, coming in at just under the 70 pound limit. If you have always wanted a state of the art loudspeaker in both musical performance and physical finish and appearance, here is your chance. Call us now.



Full function Fet-Valve Preamplifier in a fine Dyna Pat-5 chassis with our black faceplate and knob set, our gold jacks, our ceramic switch and precision controls.



This isn't really a used customer's unit as it was especially built by my daughter, Vanessa, for her own use. She wired it for three sets of tape in and three sets of tape out instead of an EPL circuit, but she will re-wire it for the standard dual tape monitors and reinstall the EPL wiring if you would rather have it that way. It is in great condition and we can give you a one year warranty on parts and labor plus our standard 30 day satisfaction guarantee. It has switchable tone controls, speaker switching capability, and our great Fet-Valve hybrid phono and line circuits. This is our best preamp circuit set, with the best musicality of all. It sold new for \$1195. We need to get \$895 for this one plus \$10 shipping in the USA.

There is probably more. Equipment comes in often (and goes out just as often). Call us between issues. We may have just what you are looking for.

Let's try a waiting list!

Call me about what you want in used equipment. We will put your name and phone number in a special computer file and will call you back if what you are looking for becomes available. I am willing to give this extra work and expense a few month's trial if it serves you and us well.

A New Audio Basics Complete Chronological Index

The following is a complete new chronological index (exhaustively compiled by Vanessa) of all *Audio Basics* back issues, from 1982 until now, giving a brief description of the contents of each issue and topic discussed over the past twelve years. Many of the topics are still current and important, some are of historical interest only, some are obsolete, and a few are simply wrong in light of better information now (our crystal ball is cloudy sometimes). All back issues are still available (in annual sets only) at the price of \$15.00 per year, or two years for \$25.00, or the whole mess for \$100.00. We pay shipping in the USA. It's \$5.00 per year extra to foreign countries.

The index is also available as a Macintosh 800K disk (written in HyperCard). The computer disk index can be sorted by date or subject and it allows easy searching by key words. The price is \$10.00 in the USA, \$15.00 foreign.

There is more than a double issue's worth here folks and this gets us back on time until late November. See you then.

Frank and Darlene Van Alstine

- 1982/01 • Loudspeaker Damping • 5 pages • How to inexpensively reduce speaker cabinet and frame resonances using plast-i-clay modeling compound. This easy, do-it-yourself project makes many inexpensive and some expensive loudspeakers sound much clearer.
- 1982/02 • Digital vs. Analog • .5 pages • Early comments on digital recording techniques that foreshadowed many of the later debates.
- 1982/02 • Underground Magazines • 6 pages • This guide on "How to Read" underground magazines clarifies several of the current audio myths and serves as a guide to clear thinking.
- 1982/03 • Cartridge Damping • 3 pages • Inexpensive plast-i-clay modeling clay makes a simple to execute but significant improvement in most phono cartridges.
- 1982/03 • Cartridge Loading • 4.5 pages • The mathematical formula for determining proper cartridge loading is provided along with an explanation of the formula and the reasons that proper loading is so important to your system. Guideline loads for many popular cartridges are given.
- 1982/04 • Longhorn Stabilizer Project • 4 pages • Complete instructions for building a Longhorn stabilizer bar for any phono cartridge allow you to make a very large improvement in your record playback system with minimal cost.
- 1982/05 • Longhorn Response • 2 pages • A sampling of the response to the Longhorn Stabilizer bar outlined in 04/1982. Reports show that many people have been able to cure tracking problems and improve sonic performance with the stabilizer.
- 1982/05 • Record Mat • .3 pages • Review of the TRI-PAD record mat and Radio Shack record clamp. Obsolete.
- 1982/05 • Turntable Damping • 2 pages • Instructions on damping turntable bases and tonearms with plast-i-clay. This inexpensive and simple improvement kills many of the mechanical resonances of the system.
- 1982/06 • CES Show (Summer) • 8 pages • A review of the 1982 Summer CES show including mentions of compact disc technology, Sony, satellite receivers, Chicago restaurants, Acoustat speakers, B&W speakers, and more.
- 1982/07 • Celestion Loudspeakers • 1 page • A review of the very nice, high definition Celestion SL-6 loudspeakers and a discussion of Celestion's ideas and techniques. Obsolete.
- 1982/07 • Dyna St-70 Improvements • 8 pages • Instructions, parts lists, schematics, and theory are provided for a new circuit for the Dyna ST-70 amp. This bandpass filter limits the input frequency of the amplifier to the range it can easily handle, yielding very significant sonic improvements. Bring your amp back to life with this complete circuit.
- 1982/07 • Vacuum Tube Amplifiers • 3 pages • An in-depth look at some of the limitations of vacuum tube amplifier design and ways to work around and within these limitations.
- 1982/08 • How to Beat the Stereo Rip-Off • 1 page • A review of the book How to Beat the Stereo Rip-Off by Barnet Feingold. This book is an essential manual for surviving the audio world.
- 1982/08 • Speaker Cable • 5 pages • The myths of speaker cable are examined with rational engineering. This guide to the bad things that unreliable wire can do to your system allows you to isolate and solve problems with interconnects.
- 1982/09 • Troubleshooting • 4 pages • This general and informative treatise on troubleshooting begins this month and continues through 1982/11. Beginning with connections and switch positions, various "strange noises" are examined.
- 1982/09 • Wonder Caps • 2 pages • A look at fraudulent modifications to Hafler DH-200 amplifiers involving "Wonder Caps."
- 1982/10 • Troubleshooting • 7.5 pages • The study of troubleshooting continues with a discussion of distortion and includes several problems to work through as exercises in identifying system problems.
- 1982/10 • Wonder Caps • .5 pages • A comment on the difficulties of getting engineering data on "magic" parts.
- 1982/11 • Troubleshooting • 7.5 pages • Continuation of troubleshooting including answers to the troubleshooting problem posed in 1982/10 and a flowchart for isolating problems in systems.
- 1982/11 • Wonder Caps • .5 pages • A continuation of the investigation of Wonder Caps, specifically the PPMF devices produced by Reliable Capacitor.
- 1982/12 • Design Criteria • 3 pages • Given non-linearities of existing equipment and the coming of digital, this list of observations and conclusions provides a set of rational general criteria for audio design.
- 1982/12 • Telarc 1812 Cannons • 2 pages • The Telarc 1812 Cannons and difficulty of tracking them leads into a discussion of rational constraints on the performance of audio components.
- 1983/01 • Longhorn Grado • .5 pages • A caution about making your stabilizer bar physically too large to fit your turntable.
- 1983/01 • Loudspeaker Evaluation • 6 pages • How to tell when you should, and should not, purchase new loudspeakers and an introduction to the art of evaluating speakers. Learn what you need to make intelligent choices with your audio dollar.
- 1983/01 • Troubleshooting • 1 page • Troubleshooting is completed with a final, alternate solution to the troubleshooting problem.
- 1983/01 • Wonder Caps • .25 pages • At long last, we finally encounter Wonder Caps ourselves and learn that they are terribly microphonic.
- 1983/02 • Loudspeaker Evaluation • 6.5 pages • The evaluation of loudspeaker design continues with the pros and cons of electrostatic, electromagnetic, horn, ceramic, and Bose direct reflecting loudspeaker systems.
- 1983/03 • Loudspeaker Evaluation • 7 pages • Everything you wanted to know about bass but didn't know what to ask. What bass actually is, as well as what you need to reproduce it well and how sub-woofers relate to these questions.
- 1983/04 • Dyna Pas LED Pilot Light • 2 pages • Project to replace the incandescent bulb "on" light in a Dyna Pas and replace it with a LED, thus making several minor but useful improvements.
- 1983/04 • Loudspeaker Evaluation • 5.5 pages • The several types of cabinet construction, including infinite baffle, transmission line, ported, and several others, are noted and explained.
- 1983/05 • Car Radio Power • 3 pages • A hard-headed look at the claims of car radios and their real world performance, backed by mathematical and physical truth and solid reasoning.
- 1983/05 • Compact Disc Players • 3 pages • Some early notes on the difficulty of obtaining and running a compact disc player. There are also some good reasons of why to be wary of first generation products in all cases.
- 1983/06 • Beta Hi-Fi Video Recorder • .5 pages • An early review of the Sony Beta Hi-Fi Video Recorder and some of its many capabilities.
- 1983/06 • Digital Audio • 2 pages • Audiophiles claimed that digital was bad and ruined music. We examine the digital controversy with a level head and logic.
- 1983/06 • How to Listen • 4.5 pages • The "golden-ear" myth is debunked and we consider the art of listening. Everyone can hear, the key is knowing what to listen to. Get down to fact and be free of the mystics.
- 1983/07 • Audio Myths • 3.5 pages • A continuation of "How to Listen", more great audio myths go down in flames.
- 1983/07 • Paul Jensen • 1 page • A bit of history concerning Paul Jensen, founder of Jensens Stereo Shop, "Sonic Eight" loudspeakers and '57 Chevies.
- 1983/08 • Impedance • 3 pages • A basic discussion of impedance and its application to the audio world.

1983/09 • Amplifier Distortions • 3 pages • All amps don't sound the same and here are some reasons why. We explore some common engineering mistakes.

1983/09 • Harman-Kardon T-60 Turntable • .5 pages • Test reports on a very nice H-K turntable. Obsolete

1983/09 • Precision Parts • 2 pages • Are 1% parts better than 10%? How does one judge? Learn about part production and labeling.

1983/10 • Transient Distortion • 6 pages • All about transient distortion - it's causes, effects, manifestations.

1983/11 • Digital Audio RFI • 1 page • A warning about RFI in early CD players and the effect it can have on tuners and television. Fortunately obsolete

1983/11 • Mobile Fidelity Records • 1.5 pages • Some of our favorite MFSL recordings. The reviews apply to the compact disc versions as well.

1983/11 • Record Reviews • 3 pages • A look at some of the American Gramophone, Nautilus, Sheffield Lab, and other audiophile recordings.

1983/11 • Telarc Records • 2 pages • Synopsis of our favorite Telarc records. Note: these comments apply to the Telarc compact discs also, as they use the same digital masters for both formats.

1983/12 • Super-Pas Preamplifier Project • 8 pages • This is the first half of a major do-it-yourself project complete with instructions and plan set to entirely rebuild your Dyna Pas into a whole new preamplifier. Schematics and parts lists are included in this very worthwhile project. (Obsolete - not reprinted).

1983/13 • Personal Computers • 8 pages • This bonus issue discusses the personal computer market in 1983, but also provides some very solid guideline to computer purchases even now.

1984/01 • Super-Pas Preamplifier Project • 8 pages • The major do-it-yourself Super-Pas rebuild started in 1983/12 is completed. This instruction set allows you to entirely rebuild your old Dyna Pas into a very smooth and musical modern piece. (Obsolete - not reprinted).

1984/02 • CES Show (Winter) • 4 pages • An overview of the products shown at the 1984 show. While most of the displays were the same old thing, we did find and report on some interesting products.

1984/02 • Computers • 2 pages • A look at the home computer market in one of it's lows. Obsolete

1984/02 • Mission 70 MK II Loudspeakers • 1 page • Our test reports and review of the clean and dynamic Mission speakers. Obsolete

1984/02 • Wonder Caps and Magic • 1 page • We examine the claims of the all-new, improved Wonder Caps and recommend you consider just what advances in the standard of living magic has ever made. Van Alstine's Law 1-3 are provided for your contemplation.

1984/03 • AR Turntable Rebuild Project • 3 pages • Instructions for a do-it-yourself project to tune, lube and damp your AR Turntable to get the best performance.

1984/03 • Odd and Ends • 2 pages • We cover several short topics including TV filters, Noble volume controls, B&W tweeters, and more.

1984/04 • Amplifier Power • 4.5 pages • How to tell real power from advertising specs by knowing just a little physics and using common sense. What are the federal tests measuring and how does it relate to the performance of the equipment.

1984/04 • Cramolin Red Contact Cleaner • .5 pages • Where to get Cramolin Red, an incredible contact control cleaner. This is the same cleaner we use in-house on all of our equipment.

1984/04 • Dow Corning 200 Fluid • .5 pages • A mention of the liquid silicon that is very useful in damping tonearms. We have found a source for small quantities.

1984/04 • Fluke 75 Multimeter • .5 pages • A mention of the Fluke precision Multimeters and some sources.

1984/04 • Magic Cable • .5 pages • Selling \$.27/foot cable for \$6.00/foot is altruistic? We're baffled too as we examine more claims of magic.

1984/05 • Amplifier Power • 4 pages • The discussion of amplifier power, real versus measured, continues with examinations of fraud played on the consumer.

1984/05 • Harman-Kardon T-25 Turntable • .5 pages • Description of the work we do to a H-K Turntable to make it free from hum and AC fields. Obsolete

1984/05 • Polarized Capacitors • 1.5 pages • Beware of capacitors that produce nasty strange resonances in your system.

1984/05 • Super-Pas Project Update • .25 pages • Update to the parts list of the Super-Pas project.

1984/06 • B&W DM330 Loudspeakers • 1 page • Review of the very musical three-way system in the 100 line. Obsolete

1984/06 • Equipment Survey • 5 pages • The results of the reader survey are presented as we look at readers' favorite equipment, music sources, and ideas about future technology.

1984/07 • B&W Tweeter Upgrade • 1.5 pages • The B&W TSX-80 tweeter for the 801 is simply stunning and is available as an upgrade

kit. Obsolete

1984/07 • Compact Disc Players • 2 pages • A look at emerging digital technology and the accompanying birth pains of the new media.

1984/07 • Numerical Analysis • 1 page • As we use our H-P minicomputer to analyze circuits, we find that number crunching can be exciting. Having to divide 1,000,000 by .00000000012 is just one of the many joys. Don't try this at home.

1984/07 • Underground Magazines • 1 page • Just a glimpse of the fun of trying to get equipment noticed and reviewed by the underground press.

1984/08 • Dyna St-120 Rebuild • 10 pages • This do-it-yourself construction project allows you to build a power mos-fet power supply for your 120 and shows you how to properly troubleshoot the stock unit before you begin.

1984/09 • Used Audio Equipment • 6 pages • This guide to used equipment will help you avoid expensive pitfalls. Learn careful techniques in evaluating equipment and know what questions you need to ask to not get had.

1984/10 • Coleco Adam Computer • 1.5 pages • An evaluation of the Adam computer and its built-in word processor system. Obsolete

1984/10 • Digital Audio • 1 page • We look at some of the problems of the off-shore compact disc players.

1984/10 • Live versus Loudspeaker • 1 page • Beware of demonstrations in which the system sounds as good as the live music. Is the live music actually playing well?

1984/10 • Super-Fet TL071 Upgrade • 1 page • Description of a significant IC upgrade to our Super-Fet preamplifiers.

1984/10 • Turntable • 1 page • Troubleshooting and repair of a very poorly aligned turntable and some thoughts on the effect the "weak link" can have on the rest of your system.

1984/11 • B&W DM100 Loudspeakers • .5 pages • Evaluation and recommendation of the B&W two-way bookshelf speakers. Obsolete

1984/11 • Phono Cartridge Set-Up • 3 pages • Complete guide and step-by step instructions to properly set up your cartridge for optimum results.

1984/11 • Toroid Transformers • 2 pages • Explanation of the properties and characteristics of toroid transformers and their applications in audio.

1984/12 • Acoustat • 1 page • Acoustat loudspeakers acquired by Hafler and an upgrade to the transformer is announced. Obsolete

1984/12 • Sharp PA-1000 Typewriter • 1 page • We evaluate Sharp's electronic memory typewriter. This early version word-processor

shows the state of the art at the time. Obsolete
 1984/12 • Turntable Set-Up • 6 pages • Complete instructions for properly setting up and aligning your turntable, including explanations of the controls and adjustments necessary.

1985/01 • Fluke 27 Multimeter • 1 page • Review of and report on the Fluke 27 Multimeter test instrument. Obsolete

1985/01 • Record Care • 2.5 pages • We examine some of the record cleaning products available on the market and strategies for record cleaning to insure long record life.

1985/01 • Underground Magazines • 1 page • Yet again we encounter the craziness and marketing strategies of the underground press.

1985/02 • Audio Design Goals • 4 pages • Should your system be a Xerox machine or create a sound of its own? How can we evaluate the performance and accuracy of equipment? Where should our intentions lie?

1985/02 • Mos-Fet 150B Amplifier • .5 pages • Introduction of our own circuits in a Hafler DH-120 chassis. Obsolete

1985/02 • Turntable Base • .25 pages • Short and simple instructions on building a very solid and effective turntable base out of chimney blocks.

1985/03 • Mobil Delvac 1 Motor Oil • .3 pages • A small note about a good, high-performance synthetic motor oil.

1985/03 • Personal Computers • 3 pages • With the demise of our IBM typewriter, we are forced into the home computer market. Come with us on a frightening tale of computer technology and marketing.

1985/03 • Sharp RT-100 Cassette Deck • .7 pages • We found a cheap, simple, and reasonably good cassette deck at Best Buys. Obsolete

1985/03 • Vacuum Tube Amplifiers • .7 pages • Power vacuum tubes are getting scarce and expensive, so buyer beware. But if you already have a ST-70, we can help you make it sound nice for only \$5.

1985/03 • Warehouse Shopping • .5 pages • A few simple guidelines about surviving the warehouse electronics stores and finding values on the equipment you want.

1985/04 • Numerical Analysis • 4 pages • A stereo system is rather like the system of resonances and pulls that you find in an automobile. We can model this system with computer programs, and we tell about our model and the work we are doing with it.

1985/04 • Odds and Ends • 2 pages • A variety of short topics including the destruction of Harry Pearson's home, hi-fi ambulances, Joe Grado, the White House equipment, and "Grand Prix" awards.

1985/05 • Numerical Analysis • 2 pages • We describe more of the computer system we employ to analyze electrical circuits in order to make more linear components.

1985/05 • Super-Pas Power Supply • 2 pages • A do-it-yourself project to improve the power supply of the Super-Pas project (12/83-01/84). Creates noticeable sonic improvements with a simple upgrade.

1985/06 • Compact Disc Players • 3 pages • We get our first CD player, a Magnavox FD1010, and comment on both the Magnavox and the state of digital audio.

1985/06 • Harman-Kardon Turntables • 1 page • A few comments on improving the performance of the turntables with liquid silicon and the difference between the models.

1985/07 • B&K ST-140 • 3.5 pages • We publish a letter from a founder of B&K that admits their guilt in stealing our amplifier design for use in the ST-140 and look at issues of idea theft in the industry and what manufacturers can do.

1985/07 • Digital Audio • 1 page • Our findings so far on the best equipment to use with digital sources. Obsolete

1985/07 • Kodak 8mm Video • .25 pages • We received the Kodak 8mm camcorder and overview its video and audio capacities.

1985/07 • Super-Pas Kit • .5 pages • Announcement of our Super-Pas kit, instruction set and available options.

1985/08 • Compact Disc Reviews • .5 pages • Review of two Telarc releases.

1985/08 • Kodak 8mm VCR • 4 pages • An in-depth look at the Kodak PCM system with its audio and video record features. We look at the PCM format and its audio fidelity.

1985/08 • Mission 7000R • 1.5 pages • We review the Mission 7000R CD player and compare it to the Magnavox 2040. Obsolete

1985/09 • B&W Factory • 4 pages • Off to England to explore the B&W factory and research centers for ourselves. Get a glimpse of how the British company works and develops new loudspeakers.

1985/09 • Super-Pas Two • 1.5 pages • Announcement of our Super-Pas Two preamplifier using all new PC boards in the Dyna chassis. It changed our mind about the musicality of digital. Obsolete

1985/10 • Compact Disc Reviews • 1.5 pages • A review of several Telarc classical and various pop and jazz compact discs we have found to be well recorded and musical.

1985/10 • Minnesota Audio Society • 1.5 pages • We knock the socks off of the MAS with our new preamplifier, in spite of those meeting hall blues.

1985/10 • Mos-Fet 120C Amplifier • .5 pages • Introduction of the new Mos-Fet 120C amplifier built in a Dyna ST-120 chassis. Obsolete

1985/10 • Original Designers • .25 pages • Several good reasons to buy equipment from the original designer and not from licensees.

1985/10 • Solid State Rectifier • 1 page • A discussion of why solid state rectifiers and vacuum tube preamplifiers don't get along.

1985/10 • SPARS Code • .5 pages • An explanation of the SPARS code used in identifying compact discs.

1985/11 • B&W Car Speakers • 1.5 pages • Overview of the B&W MASS car speakers giving their uses and features. We begin to think about the ultimate car sound system.

1985/11 • Compact Disc Reviews • .7 pages • We look at a few more of our compact discs and report on readers' favorites.

1985/11 • Equipment Operation • 1 page • Why it is not advisable to leave your equipment on all the time.

1985/11 • PCM Audio • 1 page • We foreshadow the DAT decks by examining the possibilities and applications for PCM audio recorders.

1985/11 • Sony PCM 501ES • .25 pages • Mention of the Sony A to D, D to A digital processor that works with any VCR.

1985/11 • Tweak • .5 pages • We receive a report from our clients on Tweak contact cleaner.

1985/12 • Adcom GFA-555 • 1 page • We examine an Adcom amplifier and learn the Mos-Fet 120C stomps on it. Obsolete

1985/12 • Harman-Kardon T-60 Turntable Rebuild • 4 pages • Complete instructions to build your own external power supply for the Harman-Kardon T-60 turntable, thereby isolating your turntable from hum fields and mechanical vibrations.

1985/12 • McArthur, Gregg • 2 pages • A visit to an audiophile gathering at our field representative's home and the various equipment we encountered there.

1985/12 • Sony Super-Beta Hi-Fi VCR • 1 page • Evaluation of the very nice Super-Beta video and Hi-Fi audio video cassette recorder. The Sony is ideally suited to replace your conventional audio tape deck.

1986/01 • B&W 808 Loudspeakers • 1 page • We encounter the ultimate in loudspeakers and the neighbors wonder. The 808s turn out to be the most dynamic and transparent speakers we have ever heard.

1986/01 • Parsec FM Antenna • .7 pages • We find and review an indoor amplified FM antenna that works very nicely and may help solve your reception problems.

1986/01 • Reader's Letters • 2 pages • We share some of our reader mail with you.

1986/01 • Transcendence Two Amplifiers • 1 page • Mention and notice of our new high-powered, state of the art Transcendence Two amplifiers.

1986/02 • B&W Improvements • 1.5 pages • B&W releases several improved versions of their 100 line loudspeakers. We discuss the differences and improvements.

1986/02 • Cassette Recorders • 1 page • Problems with the audio cassette deck and what to do if you just have to get one.

1986/02 • Harman-Kardon 192 • .5 pages • Review of a not so hot cassette deck from H-K. Obsolete

1986/02 • Music Characteristics • 1.5 pages • A vocabulary lesson in which terms such as range, balance, vowel tone colorations, and others are defined, explained, and put in perspective.

1986/02 • Transcendence Tuner • 1.5 pages • Introduction of the stunning Transcendence Tuner built in the Hafler DH-330 chassis. In addition to our state of the art circuits, the tuner has all the modern digital creature comforts.

1986/03 • Bridged Mono Amplifiers • 4 pages • Primer on reasons and techniques to operate amplifiers in the bridge mono mode. We examine the math and physics of the situation to get the best operation possible.

1986/03 • Super-Fet PAT-4 Preamplifier • 1 page • Introduction of our musical Super-Fet circuits in the Dyna PAT-4 chassis. Obsolete

1986/03 • Transcendence 150 Amplifier • .7 pages • Introduction of our Transcendence Series Two circuits in the Hafler DH-120 amp.

1986/04 • April Fools • .5 pages • Follow our unique advice to get some nifty effects out of your system!

1986/04 • Bedini 25-25 Amplifier • 1 page • Sonic evaluation of the Bedini 25-25 amplifier and a look inside at the workmanship and construction.

1986/04 • Music Characteristics • 2 pages • The discussion of audio system sounds continues (from 1986/02) with treatment of dynamic range, definition, musical character, and more.

1986/04 • Sony PCM 501 ES • 1 page • Review of the Sony PCM digital processor and a video recorder to get very nice sound.

1986/05 • B&W DM100 Crossover Project • 2.5 pages • A do-it-yourself project to improve the crossover on the B&W DM100 loudspeakers. Complete instructions and a sketch provided.

1986/05 • Compact Disc Reviews • .8 pages • Reviews of readers' CDs including the Nylons, Manhattan Transfer, Philip Glass, and Michael Hedges.

1986/05 • Mod Squad CD Damper • .5 pages • Evaluation of a gadget that supposedly reduces tracking errors.

1986/05 • Sensible Sound • 1 page • Discussion of the underground audio magazines and their observable editorial policies.

1986/05 • Sorbothane Tube Dampers • .5 pages • Evaluation of Audioquest's Sorbothane tube dampers and isolation feet, tried in our Super-Pas Two preamplifier and other products.

1986/06 • B&W Matrix Loudspeakers • 1.5 pages • Report from the CES Show on the Matrix 1, Matrix 2, and Matrix 3 loudspeakers. Specs given along with our initial comments after hearing them at the show.

1986/06 • CES Show (Summer) • 5 pages • A review of the 1986 Chicago CES Show (Summer) including the interesting things we saw, heard, and ran across. New products from Hafler, B&W, Carver, DCM and other mentioned.

1986/06 • Yamaha CD Player • 1 page • We learn that all CD players do not sound alike. Experience with a Yamaha leads to warnings and suggestions for our readers.

1986/07 • Audio Design • 3.5 pages • What problems remain in the various components of the audio system and what can designers do to come closer to live? Examine problems in your listening room, loudspeakers, source material, and electronics.

1986/07 • Audio Test Clinics • 1 page • Some hints for surviving audio test clinics and cutting through their propaganda.

1986/07 • Live Music Characteristics • 1 page • Just what does live music sound like? How can we describe what we hear so we can compare it to our audio system?

1986/07 • Transcendence CD Player • .5 pages • Introduction of the high-definition and very smooth Transcendence CD Player in selected Philips chassis.

1986/08 • B&W Matrix 1 Loudspeakers • 1.5 pages • An in-depth review of the Matrix 1 loudspeakers in our studio. Learn all about these stunning little speakers.

1986/08 • Kodak 8mm Video • .5 pages • Warnings about the Kodak PCM units with automatic level controls and their use for audio.

1986/08 • Stereophile • 1 page • Adventures of the underground press at the 1986 Chicago CES Show.

1986/08 • Super-Pas Audio Circuit Upgrade • 2 pages • We give complete instructions and sketches for an audio circuit upgrade to your Super-Pas (for the Super-Pas instructions, see 12/83-01/84) that significantly improve the dynamics and resolution of the preamplifier.

1986/09 • Audio by Van Alstine • .25 pages • Notification and explanation of our name change from Jensens Stereo Shop to Audio by

Van Alstine. We are truly sick of 3 am calls to fix Jensen car speakers.

1986/09 • B&W Matrix Loudspeakers • 1 page • We complete the reviews of the Matrix line by examining the Matrix 2 and Matrix 3 loudspeakers.

1986/09 • Carver Sound Matching • 1 page • Investigation of Carver's claims to match the sound of any amp. What, really, is his task and how sound matching works.

1986/09 • Compact Disc Compatibility Problems • 1 page • Be aware of possible incompatibilities between your CD player and your CDs that can cause load and read errors.

1986/09 • Fuses (Power Passed) • .5 pages • The formula to determine the power passed by fuses so you can protect your equipment appropriately.

1986/09 • Hafler MA-1 Mobile Amplifier • 1 page • Test reports and review of Hafler's discrete mos-fet car amplifier. If you want a quality car system, strongly consider this amp.

1986/09 • Service Data • .5 pages • Just an anecdote about a smoke alarm and a suspect amplifier to drive in the fact that we need good data to give you good service.

1986/09 • Sony PCM 501ES • .5 pages • News about Sony's excellent digital processor and ways to prevent recording level overloads.

1986/10 • Harman-Kardon T-60 Update • .5 pages • An update to the instructions for the H-K T-60 turntable upgrade project detailed in 12/85. The new instructions work with recent variations in the H-K power supply card.

1986/10 • Sony EV-S700U 8mm Deck • 1 page • Evaluation of the Sony 8mm video deck with record level controls. Consider it for a replacement for your audio cassette system.

1986/10 • Spike Feet • 2 pages • The physics behind spike feet (tip-toes) and some items to consider when deciding if you should use them.

1986/11 • Dyna Pat-4 Rebuild Project • 7 pages • Complete instructions, sketches, and parts list for a do-it-yourself rebuild of the Dyna PAT-4 preamplifier. Following these plans will improve the dynamics, clarity, definition, and refinement of your unit.

1986/11 • Magnavox CDB460 CD Player • .25 pages • Notice of our standard CD player for rebuild, the Magnavox 460. This CD player does a lot of things very right. Obsolete

1986/11 • Magnavox CDB650 CD Player • .5 pages • Warning about a model we cannot use for our rebuild circuits.

1986/12 • Compact Disc Reviews • 1 page • More of the CDs that we have found musical and well recorded. The list runs from classical to Broadway to jazz.

1986/12 • Compact Discs, Library • .5 pages • Useful advice on a source for free CDs to audition.

- 1986/12 • Dyna Pat-4 Preamp Rebuild Update • .25 pages • An update to the parts list of last month's project.
- 1986/12 • Magnavox CD Players • 1 page • We expound on last month's warning about the 650 and describe the difference in transport assemblies, physical space, and internal cost between the 650 and 460.
- 1986/12 • Mos-Fet 400C Amplifier • 1.25 pages • Introduction of our Mos-Fet C circuits into the Dyna St-400, 410, and 416 chassis. Get high power performance for a low budget. Obsolete
- 1986/12 • Superphon Amplifier • 1 page • Review and bench reports on the bi-polar Superphon amplifier.
- 1987/01 • B&W 802F Special Loudspeakers • .5 pages • Read about the significant improvements to the 802 that make this a winner of a speaker. Obsolete
- 1987/01 • Hafler XL-280 Amplifier • .5 pages • Introduction to the Hafler XL-280 high current amplifier.
- 1987/01 • Null and Distortion Test • 1 page • Is nulling necessarily an important characteristic of an amplifier? What is the null test? Does it prove anything?
- 1987/01 • Power Supply Upgrade • 4 pages • Instructions and engineering background for a do-it-yourself improvement to the power supply of nearly any AVA amplifier that improves clarity and yields lower noise.
- 1987/02 • Compact Disc Cleaning • .5 pages • Don't do it unless you must, but if your CDs are really messed up, use proper cleaning techniques to keep from damaging them.
- 1987/02 • DAT Politics • .5 pages • Why the fuss about copy-protection? Just what are the manufacturers of digital electronics afraid of?
- 1987/02 • Fet Three CD Player • .5 pages • Introduction of our low cost and superb performance Fet Three and Fet Three Plus circuits for the Magnavox CD players.
- 1987/02 • Live Music • .5 pages • After hearing the sweet and lucid sound of the Saint Paul Chamber Orchestra, it's time to evaluate once again the performance of any electronics.
- 1987/02 • Loudspeaker Bracing • 1.5 pages • Instructions for making internal braces for your loudspeakers to reduce cabinet reflections and get a cleaner sound.
- 1987/02 • Optical Coupling • 1 page • Instead of being swayed by impressive terms, we logically examine optical coupling and give our report on the technology.
- 1987/02 • Reading Between the Lines • 1 page • Please don't do it, as it makes life harder for everyone. We respond to reader mail that involves this problem.
- 1987/03 • B&W E Series Loudspeakers • .5 pages • Don't be confused about the Matrix loudspeakers and the European E Series Matrix loudspeakers. We have the data for you.
- 1987/03 • Car Audio • 1 page • An update to our quest for the ultimate car stereo. The Hafler MA-1 and Sony Disc Jockey make a good start, read on for more.
- 1987/03 • DAT Technology • 1 page • How the DAT works, why Congress wants to ruin all music, and why copy protection isn't even necessary.
- 1987/03 • Interconnect Cables • 2 pages • Because "magic" cable still abounds, we once again delve down to the realm of rationality and look at the physics behind interconnect wire.
- 1987/03 • Service Woes • 1 page • Given that we cannot read minds and cannot properly service your equipment if you give bad data, please help us. If you read your instruction manual, double- and triple-check your connections and follow our other advice, you can make life easy for yourself and your servicemen.
- 1987/04 • B&W "i" Loudspeakers • .5 pages • Mention of the 100i, 110i, 220i, and 330i improved loudspeakers and their sonic advancements.
- 1987/04 • B&W Videotape • .25 pages • Information on getting a videotape of the B&W factory and operation.
- 1987/04 • Dyna Pat-5 Jack Set • .5 pages • Announcement of a kit for high quality, PC card mounted Switchcraft RCA jacks. You can install the kit yourself or add it as an option to a preamplifier we rebuild.
- 1987/04 • Echo-Muffs • 1 page • Review of and information about Echo-Muffs, acoustic foam collars for your loudspeakers. They will help a boxy room and cost less than coating your listening room with Sonex.
- 1987/04 • Input Functions • 2 pages • Back to the basics of audio hookup. We cover phono and line level sources, discussing the differences between their functions and the various hook-up possibilities.
- 1987/04 • VHS Video Options • .5 pages • Dolby doesn't necessarily mean "hi-fi", and "hi-fi" doesn't necessarily mean stereo. It's a jungle out there - we've been through it.
- 1987/05 • Audio Magazine • 1 page • Get a hold of the June 1987 Audio and read Len Feldman's review of our Transcendence 250 amplifier. You'll like it.
- 1987/05 • Odds and Ends • 1.5 pages • We look ahead to the CES show, upcoming B&W speakers, DAT players, and the prospect of audio in Alaska.
- 1987/05 • Tape Monitor Switches • 1.5 pages • Another audio basic: once and for all we explain the operation of the tape monitor switch, that seemingly innocuous control that causes more trips to the service shop than you could imagine.
- 1987/05 • Tweeter Warning • 1.5 pages • Beware of the frequency sweep tracks on test CDs. They can blow your tweeters if improperly used.
- 1987/06 • CES Show (Summer) • 3 pages • Coverage of the 1987 Chicago CES Show including DAT players, Super VHS, CD-V, new B&W loudspeakers, Magnavox CD players, and Vanessa's *Audio Basics* debut.
- 1987/06 • DAT Copy Protection • 2 pages • The government stands to push audio back into the dark ages with the "anti-copy chip" legislation. Find out why the scheme is flawed and how it will ruin ALL audio sources.
- 1987/06 • Headphone Junction Box Project • 1 page • Instructions and sketch for a do-it-yourself headphone junction box. This box lets you properly drive your headphones off your amplifier and switch between speakers and headphone. We even give you the Radio Shack catalog numbers.
- 1987/07 • Alaska • .5 pages • Nothing to do with audio, just a bit of travelogue snuck in. Alaska is big, very big. So are the grizzly bears.
- 1987/07 • AVA Integrated Amplifiers • .5 pages • Notice of running improvements in our SCA-50 based integrated amplifiers including five way binding posts, better power supply decoupling, and optional Fet Three Plus technology.
- 1987/07 • B&W Concept 90 Loudspeakers • 1 page • Our review of the CM-1 and CM-2 loudspeakers with specifications. Hold on to your toes—these loudspeakers are outstanding.
- 1987/07 • Magnavox CDB465 CD Player • .25 pages • Initial investigations say that the 465 is useful with our circuits and has some nice creature comforts to boot.
- 1987/07 • Phase Inverter • .25 pages • Introduction of our AVA Phase Inverter based on Fet Three Plus technology. If you want to bridge mono, do it properly with our high definition circuits that install in your preamplifier.
- 1987/07 • Sennheiser Headphones • 1.5 pages • The Van Alstine teenagers evaluate 5 pairs of Sennheiser headphones. They run from very nice to "bletch," so be aware as you select a model.
- 1987/07 • Super Pas Two Power Supply • .5 pages • We have a new power supply for the Super Pas Two that is also available in kit form for both the stock Pas and the Super Pas rebuild project. This very stiff power supply makes the preamplifier quieter, clearer, and more dynamic.

1987/07 • Thorens TD 280 Turntable • .5 pages • We pass our findings on the nifty new Thorens turntable along to you.

1987/07 • Toshiba • .5 pages • In light of the fact that Toshiba is selling U.S. defense secrets to the Soviets, we suggest you BOYCOTT Toshiba products.

1987/08 • Troubleshooting • 5 pages • Some advice on maintaining and troubleshooting your audio system, including problems unique to CD players, CD cleaning techniques, pilot light types and failure modes, and fuse types and failure modes.

1987/08 • VCR Hook-Up Problems • .5 pages • Warning: your Cable TV signal can inject hum into your audio system if you aren't careful. We tell why and how to solve it.

1987/09 • CD Service School • 1.5 pages • We go to Magnavox's technical school and learn about the "service technician" mentality and the industry thoughts on service, as well as new techniques to service the CD players to serve you better.

1987/09 • Compact Disc Problems • 1 page • CDs are actually fragile and errors may occur where you may not expect them. Learn how to examine your discs for problems and how to protect them for a long playing life.

1987/09 • Digital Audio & Compact Disc Review • .5 pages • Frank Van Alstine, founder of AVA, wrote the guest editorial for the October 1987 edition of Digital Audio & Compact Disc Review magazine. Read his thoughts there on why all amplifiers don't sound the same.

1987/09 • Home Recording Rights Coalition • .3 pages • Some people out there care that the government is trying to legislate audio back to 1900, and they are trying to stop that. Help them save hi-fi.

1987/09 • Macintosh Computers • .5 pages • We have a new Mac SE and a new look now that we have finally found a computer system for publishing. We hope to find some art to add graphics to our publication.

1987/09 • Magnavox Multiple Disc CD Player • 1 page • Not all Magnavox CD players are Philips machines. At least one, the multiple disc unit, is a Pioneer. Warning: This CD player does not have Philips superior chip sets.

1987/09 • Q Notch Filters • .5 pages • What is Q and why are steep filters bad? We graphically demonstrate the problems with high Q filters.

1987/10 • Audio Technical Training • .8 pages • Is there anywhere the aspiring audiophile can go to get solid training in audio engineering? That's a tough question and there are many criteria to consider.

1987/10 • CBS Notch Filter • 1 page • More of the politics behind CBS's proposed anti-copy notch filter, the blocked DAT market, and the precedent of home VCR recording.

1987/10 • Minnesota Twins • .3 pages • Yippee—we won the World Series and the Twins did audio a favor by giving us a demonstration of 120 dB. Cover your ears and think if you really want 120 dB in your living room.

1987/10 • Troubleshooting - Fuses • 2 pages • Continuing the look at fuses begun in the Troubleshooting article of 08/87, we compare fast and slow blowing fuses, explore how fuses protect your system, and causes for fuse failure.

1987/11 • B&W CM-1 Loudspeakers • .5 pages • With our new graphics capabilities, we bring you a photo of the inside of a CM-1 enclosure so you can see the Matrix design cabinet.

1987/11 • CBS Politics • .25 pages • News brief: CBS sold its record division to Sony. The implications of this sale on the notch-filter controversy can be profound.

1987/11 • Compact Disc Reviews • 1 page • More CDs we have found to have both good production and good performances including more Telarc classical releases, GRP jazz, and DMP jazz. And yes, it is really true: The Best of Slim Whitman IS available on compact disc.

1987/11 • Digital Audio Sampling Rates • 1.5 pages • We go into the physics behind the 4x oversampling rates and the reasons the Philips original oversampling and filtering is superior to the Japanese imitation circuits.

1987/11 • Parts Sources • .5 pages • Some good sources of parts in small quantities for the audio hobbyist are listed with addresses and specialties.

1987/11 • Troubleshooting - Power Amplifiers • 1 page • Know your audio cable. If the ground and hot on the standard RCA phono plug are not properly connected, your amplifier will hum. Thus, beware the open ground connection.

1987/12 • Pauline the Puma • .5 pages • Meet Pauline the Puma, our lovable chief inspector. She peeps in the port of every B&W 801 Matrix to insure that all is clear.

1987/12 • Stereophile • 1 page • A few comments about Stereophile's review of the B&W 801 Matrix Series Two Loudspeakers and the sonic differences between a string bass and a cello.

1987/12 • Troubleshooting - Flow Chart • 4 pages • Block diagrams of the typical system and a flowchart for isolating problems are sure to be a handy reference for any troubleshooting you need to do.

1988/01 • Ariston Q Deck • .75 pages • In our open letter to Ariston we note many flaws in the design and production of the Ariston Q Deck turntable that we find particularly concerning.

1988/01 • Bowers, John • .25 pages • A small eulogy for a creative and talented man who did much to improve our knowledge of audio and

engineering design.

1988/01 • CES Show (Winter) • 2.5 pages • Report on the 1988 Winter CES Show in Las Vegas including the state of the long stalled DAT machines and glimpses of products from KEF, Fried, Telarc, Parsec, Carver and others. Also a report of the panel discussion Frank Van Alstine participated in.

1988/01 • Magnavox CDB470 CD Player • .25 pages • Avoid the 470. It's lack of the Philips digital filter chip set makes this an all-around inferior machine.

1988/01 • Mos-Fet 120C Amplifier • 1 page • Notice of the availability of several used chassis Mos-Fet 120C amplifiers along with digitized photos of the 120C circuit sets. Obsolete

1988/01 • Rockford-Fosgate • .25 pages • Rockford-Fosgate Company has purchased Hafler with promising future prospects.

1988/02 • Super Pas Three Power Supply Project • 14 pages • Complete instructions, parts lists, schematics and photos provided for a do-it-yourself project to greatly enhance the performance of your Super Pas or Super Pas Two preamplifier. This new power supply will bring your Super Pas to a level of performance very close to our current generation in-house Super Pas Three circuits.

1988/03 • Compact Disc Reviews • .75 pages • Reviews of some our readers' CDs including the Dixie Dregs, Leo Kottke, Ry Cooder, and more.

1988/03 • DAT Players • .5 pages • DAT machines are slowly becoming available in the U.S. Unfortunately, the Sony PCM 501ES is becoming harder to find as emphasis shifts to the DAT players.

1988/03 • Dyna St-70 Upgrade • 2 pages • This do-it-yourself project allows you to build your own replacement quad filter capacitor, thus providing your amplifier a much better power supply and getting better performance.

1988/03 • Mos-Fet D Series Amplifier • .75 pages • Introduction of our new D Series Amplifiers for the Dyna and Hafler chassis. The Mos-Fet 120D, 80D, 240D, 280D, 250D, 400D, 500D and CA-50 Control Amplifier are described along with our new generation circuit improvements.

1988/03 • Notch Filter • .5 pages • In a victory for all lovers of music, the National Bureau of Standards has decided that the proposed anti-copy notch filter noticeably distorts music.

1988/03 • Phase Inverter • .5 pages • Use our phase inverter board with just one amplifier to improve your system's power, imaging and dynamics.

1988/03 • Super Pas Three Power Supply Update • .5 pages • We fix a typo and suggest an alternate method of doing one instruction in

this update to last month's project.

1988/04 • AVA CA-80 Integrated Amplifier • .5 pages • Introduction of our CA-80 control amplifier built in a Dyna SCA-80 or SCA-80Q chassis. As you can see from the digitized photo, this unit uses our Mos-Fet D series amplifier circuits and our Fet Three preamplifier cards.

1988/04 • B&W Loudspeaker Updates • 1 page • Report on the updates to the Matrix series of loudspeakers and perspective of these models to the rest of the B&W line, including the 100i series loudspeakers, the CM-1 and CM-2, and the DM1600 and DM1800.

1988/04 • Bi-Wiring • 2 pages • An audio basic look at the physics behind bi-wiring. How it works, what it does, and how to bi-wire your system are described in clear terms.

1988/04 • Car Radio Report • 1.5 pages • Another update in the quest for the ultimate car system. We examine the different sources available for car audio - audio cassette, FM, CD, and DAT - and consider useful features we would like to see in the future.

1988/05 • Apogee Settlement • .4 pages • News of Apogee's settlement with Magnapan concerning the "borrowing" of patented design ideas.

1988/05 • Consumer Satisfaction • .8 pages • What? Upset because your nifty car, computer, stereo equipment (whatever) is out of date? We know a sure way to never let this happen to you again. Yup.

1988/05 • Dyna Pas Preamp Hum • 2.5 pages • Causes of hum in the PAS preamplifier and a variety of ways to combat the problem, including a description of a grounding error in very early stock Pas-2 pieces. Also, we give complete instructions and digitized photos showing how you can hang the transformer behind the unit to significantly reduce hum.

1988/05 • Low Noise Operation • 1 page • Some advice on getting lower noise in your preamplifier. We explain how you can do it and why it works.

1988/05 • National LH0002CN • .7 pages • Only ten years behind the times, Walt Jung of the Audio Amateur "discovers" the National Hybrid LH0002CN device can be used in audio applications. Look at some of his other great "inventions."

1988/05 • Tandy Corporation "Thor" CD Player • .5 pages • In this news brief we examine the claims for the proposed "Thor" CD playback and recording system from Tandy Corporation.

1988/06 • Adcom GFA-555 • 1 page • Report on the Adcom GFA-555 amplifier. We examine its musical performance, check it out on our workbench, and comment on the mechanical and engineering design.

1988/06 • AVA CA-150 Plus Integrated

Amplifier • 1 page • A good look (including a digitized photo of the inside) of our CA-150 Plus control amplifier. This hand built, high quality unit employs a custom toroid power transformer and makes 150 watts per channel.

1988/06 • Surge Protection • 4 pages • Another audio basic, in which we discuss AC line, surge protection, low line voltage problems, high line voltage problems, voltage spikes and more. This information will help you better protect your home equipment from damage arising from power line abnormalities.

1988/07 • CD Player Model Differences • 1 pages • Buyer beware! The models of CD players available now include ones with no digital filtering, no oversampling, 18 times oversampling, and digital circuits in a separate box. Which models are the most useful and cost-effective for you?

1988/07 • Hafler Model 300 Loudspeakers • 2 pages • Initial comments and review of the new Hafler Model 300 loudspeakers. These very musical, well-made, and attractive (check out the photo) speakers are a credit to Hafler.

1988/07 • Hafler XL-600 Amplifier • 2 pages • Examination of the new, high current Hafler XL-600 amplifier and some advice on using any amplifier with a low impedance load (watch your fusing). We note the useful improvements of the XL-600 over the earlier DH-500.

1988/07 • Parsec LS-4 FM Antenna • .5 pages • Review of the Parsec indoor powered FM antenna and its uses for better FM reception.

1988/08 • Fet Kit Preamplifier Project • 12 pages • The complete Fet Kit preamplifier rebuild with step by step directions, schematic, parts list, board layouts, and chassis wiring diagrams. The directions are written for the Dynaco Pat-4 chassis specifically, but the boards fit into the Pat-5, the Crown IC-150 and the Hafler DH-101 and the project can be adapted to these chassis by experienced kit builders. Directions for these chassis will be written as demand dictates. A high end musical preamp at a bargain price. Boards and plans available separately, or as a complete do-it-yourself parts kit.

1988/08 • Transcendence Three Fet-Valve Introduction • 2 pages • Introduces the new AVA Fet-Valve preamp and power amp to the world and briefly describes the circuits and their sound (the sound of live).

1988/09 • *Audio Basics* Index 1982-1988 • 8 pages • A complete two part index of all *Audio Basics* issues from the first one published in January, 1982 through September, 1988. The first section is a condensed index sorted by topic name. The second part is sorted by issue date and contains a brief description of the topic.

1988/09 • Robert W. Fulton 1925-1988 • .5 pages • An eulogy for this extraordinary, kind, and talented audio designer who taught most of the high end community how to listen and built loudspeakers that were so musical to listen to.

1988/10 • Audiofest '88 • 1 page • Off to New Jersey for the highly advertised but underattended Audiofest 88. We show off the Fet-Valve products and impress many.

1988/10 • B&W Matrix 3 Series II speakers • page • B&W latest speakers are the perfect combination of several different previous models of their speakers, retaining the best qualities of each. Definitely what a great high end speaker should be.

1988/10 • CD Player Design • one page • The Magnavox CDB582 is the most cost effective CD player available at this time for our new circuits. Discussion of oversampling and bit-decoders on the CD player.

1988/10 • Seven Shiny Pennies vs. One Old Quarter • several pages • The problems with "marketing" revisited. Why can't producers tell the actual truth about the product? Is it easier to use magic and gimmicks than to make a good product?

1988/10 • Super Pas Three Rebuild-Kit • half-page • The new Pas Three Rebuild-Kit is available. The unit works well and received warm praise from John Atkinson at Stereophile.

1988/11 • *Audio Basics* Gets National Attention • half column

The "Seven Shiny Pennies" editorial turned some heads and got favorable comments. Even an interview on National Public Radio to explain the problems of marketing.

1988/11 • Compact Disc Reviews • half page • More favorite CD selections that we recommend you should have in your library.

1988/11 • New Longhorn Grado Z • half page • Our newest phono cartridge tracks better, is more dynamic and detailed, and is still inexpensive.

1988/11 • Room Damping • many pages • What to do when bad room characteristics distort the quality of music playback. Acoustifoam can help and other materials are discussed too. The foam damping material keeps irritating reflections of sound from destroying the pure quality of the music and "tames" any listening room when used and placed appropriately, and is reasonably priced. Also includes tips on what are necessary characteristics for a good listening room.

1988/12 • Akai bows out • one page • Akai decided that trying to make their products stand out was too much hassle, and decide to leave the US market.

1988/12 • Cambridge Audio • half page • Cambridge Audio dies out but is saved by Hi Fi

Markets Plc. Cambridge Audio is no relation to Cambridge Soundworks

1988/12 • Dyna St-70 • one page • Rebirth of interest in the old St-70. Although the piece is getting old and tubes are difficult to find to replace, the St-70 still beats other low cost amplifiers because it has a wonderfully musical midrange.

1988/12 • Fet-Valve CD Player • half page • Our Fet-Valve CD player will attend the winter CES show in the hands of our friends at Swan's Speaker Systems.

1988/12 • Our Satisfaction Guarantee • half column

We offer a 100% satisfaction Guarantee and mean it. Only 2 Longhorn Grados were returned to us in all of 1988.

1988/12 • Sterophile Takes a Second look at Super Pas 3 • one page • Sterophile does a closer inspection of our Super Pas Three to check on all technical information. Another favorable review.

1989/01 • Got a Mac? • half column

If you have a Macintosh computer, we will give you a Hypercard stack of the completed AB index. Just send us a floppy disk.

1989/01 • Kyocera Electronics bows out • half column

Another Japanese company decides to get out of the US market. Now if only Toshiba would follow suit.

1989/01 • Panasonic and Price-Fixing • one page • Panasonic is offering small rebates on some equipment after being accused of "price fixing." We offer some views on the subject of price fixing and fair trade.

1989/01 • Read All the Instructions First! • half column

A cute story about what can happen when you don't read all of the instructions first before assembly your speaker stands.

1989/01 • Selector Switch Project • 5 pages • Complete diagrams and explanation on this do-it-yourself kit for the Selector Switch. Written for the Dyna Pas chassis, and the Dyna Pat-4, Pat-5, SCA-50 and SCA-80.

1989/01 • Underground Magazine Editor Upset with Us. • half page • An "Underground" magazine editor claims that we get ahead because we only blast apart other people's products. An AB reader survey reassures us that we only "call them as we see them and as they really are."

1989/02 • B&W 801 Matrix Series II vs. 802 Matrix • one page • Comparing and contrasting the two models of B&W loudspeakers shows the 802 to be nothing special and a disappointment in relation to the outstanding 801. As Senator Bentsen would say to Senator Quayle, "you ain't no 801!"

1989/02 • Doubts about FMX FM Noise Reduction • one page • New FMX FM broadcasting will probably increase noise and distortion rather than reduce it.

1989/02 • Neat Stuff from Radio Shack • 1 page • New fun products from Radio Shack. A CD to automobile cassette deck adaptor and a Universal Remote Control.

1989/02 • Our Patent is Issued. • .25 column

We got a US Patent for our Improved Forward Transimpedance Amplifier.

1989/02 • Panasonic • half column

Panasonic is still in some trouble over their price fixing problems. We had some more thoughts about the issue.

1989/02 • St-70 Upgrade coming soon • one column

Due to the rebirth of interest in the St-70, we will have some new improvements to make your St-70 even better yet!

1989/02 • Stereo Cost Cutters • 1 page • John Peterson, owner of SCC, talks about his ideas and philosophies regarding music equipment

1989/03 • Fet-Valve CD Player • .3 page • Our Fet-Valve CD Player will be at the April

Stereophile Show in care of our good friends, The Bocks.

1989/03 • Super 70 Construction Kit • 11 pages • Back by popular demand, all the drawings, instructions, and diagrams necessary for our much improved Super Seventy kit including a new mother board and new B+ and bias supplies.

1989/03 • Sutherland Hybrid Board didn't work for us • .3 page • Although built very well, the Sutherland ST-70 replacement driver board gave us stability problems and sounded too "solid state."

1989/04 • High Fidelity in the Soviet Union • 4 pages • We take a 3 week vacation to the Soviet Union and Eastern European countries to discover that they are far beyond the Western cultures in terms of products and available of high fidelity equipment as compared to the western cultures. Many comparisons between our culture in terms of freedom, culture, art, and other important issues. Why can one film a performance of the Bolshoi Ballet with no problem and be kicked out of any theater in the US if you carry a camcorder?

1989/04 • Longhorn Grado Z • half page • Another improved Grado phono cartridge allows us to further upgrade our Longhorn rebuild and give you better music from disc than ever before, and still at just \$99.00.

1989/04 • Spectrum 108A Loudspeakers • one page • We sample a new brand of small loudspeaker and are pleasantly surprised by its quality. Good, full spectrum sound make these low-cost speakers a good affordable deal to anyone on a smaller budget.

1989/05 • Better Sounding Vacuum Tubes? • 4 pages • New tubes for the Super Pas Three make it sound better than ever before. What is a "better sounding" tube? A thorough engineering explanation tells why the tubes help so much.

1989/05 • Dahlquist LP1 Crossover Modification • 4 pages • We provide all the data, diagrams, and information so that you can build our famous LP1 crossover modification (strongly recommended in *The Absolute Sound* years ago) yourself. We don't build this in house any more so we have provided all the information you need, including suggestions from Dahlquist about upgrading the unit.

1989/06 • B&W Acoustitone Sub-Woofer • 1 page • If you want more bass, this Sub-Woofer is all you need to add to your B&W (or other) loudspeakers.

1989/06 • CD Changers • .4 page • New Philips technology for the six disc CD player. We can install this into the Magnavox CDB586. [1990 Note - after a year's field experience, we don't recommend the disc changer. It is not as reliable as the single play models and not as convenient to use].

1989/06 • High Definition TV • 4 pages • The newest thing at the CES show was the revelation of High Definition TV. The much sharper screen and over quality of HDTV should eliminate all those mini-mall movie theaters all over the country. But there still are some problems that need to be resolved before HDTV can be utilized.

1989/07 • DAT Machines revisited • one page • To tape or not to tape. The jury is still out regarding the problem of Digital Audio Tape Recorders, but Philips is designing a new system that should make everyone happy and end the controversy. [1990 Note: it didn't].

1989/07 • Headphone Amplifier • half page • Our new Headphone amplifier board will fit the Pat-5, Pat-4, and DH-110 chassis, or can be completed as a separate component. either way, your headphones will be driven better than ever before.

1989/07 • Magic speaker wire revisited • 2 pages • R. A. Greiner reports in *Audio* magazine the true mathematical qualities of magic speaker wire, and the math wins. But we still have some points to raise about the concept of magic wire.

1989/07 • Super Seventy • 2 pages • The Super Seventy lives on. We keep the price of the rebuild kit to \$150 for AB subscribers. We are also working on new improvements to have the Seventy even better yet.

1989/08 • Audio magazine • half page • Part of the October, 1988 *Audio Basics* is reprinted in *Audio* magazine. The editorial on speaker wire and connection cables earns praise from many readers and the hate of the esoteric wire

purveyors.

1989/08 • AVA Hybrid Phase Inverter • one page • We announce our new very high quality free standing phase inverter that allows the use of any pair of common ground amplifiers as dual mono bridged amplifiers at triple their rated stereo power and at lower distortion and better separation. Its a major asset in any high end system and is the lowest cost way to get very high power.

1989/08 • B&W Acoustitune Sub-Woofer • one page • We test the B&W sub-woofer in our sound lab and love it. Fills out the bass for most any B&W or other loudspeaker.

1989/08 • DAT Machine Accord Reached • half page • An agreement of what to do with the DAT machines has finally been reached. But severe limitations of the machine restrict its current usefulness. We advise you to wait a while before purchasing one.

1989/08 • St-70 Input and Output Jack Set Kit • one page • New input and output jack set kit is available for the St-70 with gold RCA jacks and heavy duty 5-way binding post output jacks.

1989/08 • St-70 Power Transformer • half column

We are still working on the new power transformer for the St-70.

1989/08 • Yellowstone fires. • half page • After visiting what remains of Yellowstone National Park, we can tell you that the fires have destroyed a good part of the beauty it once was. The government let the fire burn way too long, and sent in too little help too late.

1989/09 • Magnavox CDB582 CD player • half column

If you can not find the CDB582 model Magnavox CD player, we have a stock of them that you can purchase.

1989/09 • New B&W speakers • one page • B&W has introduced two new very low cost high fidelity loudspeaker to their collection. The V201 and the V202 offer the true B&W sonic performance and construction quality you expect.

1989/09 • St-70 Power Transformer • half page • The new power transformer is now available. It will help your St-70 run much cooler, eliminates the 5AR4 tube, can be wired for 220 volt operation, provides more power, and sounds better.

1989/09 • The Body Language of Bad Service. • 4 pages • Are you fed up with additional dealer mark-up at car dealers, inept counter workers who can not make change, and service workers who ignore your requests when you piece is repaired? We explore some ideas and reasons as to why the customer-service agency relationship is now at an all-time low. We offer

four basic rules to help avoid unnecessary troubles.

1989/10 • Answering Reader's Questions • 5 pages • We answer some readers questions concerning absolute polarity, phase distortion, the St-70, headphone amplifiers, CD players, and more.

1989/11 • AVA Brokerage Service • one page • We announce the terms and conditions of our new Brokerage Service in which we help our clients re-sell older AVA equipment when they are buying new AVA equipment. Our service allows our clients to "trade-up" with maximum value retained in their old equipment and allows buyers to get our older equipment with an AVA warranty and the assurance that it meets our standards and is in solid working order.

1989/11 • Service Contracts • 2.5 pages • Are service contracts pure profit for the manufacturers and salesman or can they be of some use? We explore this little understand concept and other some ideas.

1989/12 • Acoustat Spectra 11 speakers • 3 pages • This new electrostatic speaker is a nice design, but has a small weakness in the bass section. Overall, they are very good speakers, but watch the height, they stand six feet tall!

1989/12 • Audio Amateur Maligns Us • one page • We find out that Audio Amateur is going to publish a review on St-70s with a badly built AVA do-it-yourself kit built by an inept writer with the wrong parts and miswired that could damage our reputation, nothing stops these people from their wrongdoing. Some thoughts on the proper (and improper) ethics that exist today.

1989/12 • B&W 801 Crossover Design Goof • four pages • We write to Stereophile documenting a design blunder in the B&W 801 Matrix crossover board layout. Two large inductors are positioned so that they interact magnetically and thus bass is dumped into the midrange speaker and midrange into the bass speaker. A minor do-it-yourself change to the crossover board greatly improves the sound quality of the speaker.

1990/01 • B&W 801 Matrix Crossover modifications. • 2 pages • We go into more engineering detail on the 801 crossover design and suggested upgrades, including graphs of the frequency response before and after the changes.

1990/01 • The Magic Cable Challenge. • 3 pages • We send out letters to many "magic cable" manufacturers to send us samples of their products to see if magic wire really does improve the sound of our system. We explain the conditions of the tests we will do to any samples received.

1990/01 • Troubleshooting revisited • 1.5 pages

• After receiving too many customer's units for repair that actually had nothing wrong with them, we include our Troubleshooting flow chart to help your solve minor troubles in your system to avoid sending us pieces that are not necessarily broken.

1990/02 • Audio Amateur Admits They Screwed Up • 1 page • Audio Amateur admits their St-70 review was flawed because of conflict of interest - the "reviewer" was actually the manufacturer of a competitive product who kept this fact secret as he ran down his competition. We also get photos of his original work on our kit and note that it was so badly mis-wired that it could never have worked at all. The review was a complete lie and fabrication.

1990/02 • Component Retrofit and Upgrade prices • 1 page • A complete list of which of our older equipment models can be updated to our newest series and what the upgrade costs are.

1990/02 • More on the 801 Crossover • 2 pages • We hear from Tom Lewitt of New Zealand regarding the 801 crossover blunders. He confirms our advise and suggests even more detailed refinements and supplies a photo of his version of the 801 crossover board.

1990/02 • Mos-Fet E Series Amp • 1 page • Our new affordable amplifiers with an increased power supply offer a wider dynamic range, deeper bass, and a clear faithfulness to the music. The New E circuits are available for the Mos-Fet 240E, 250E, 280E, 400E, 500E, and 600E.

1990/02 • Sound Ideas • one page • A writer who owns a piece of our equipment tells his audience about how the piece stood up to his accidental mis-wiring. A day-brightening article for us.

1990/02 • Wire Challenge Update • 1.5 pages • The wire challenge has gone mostly unnoticed by many wire manufacturers, but we hope to get a few brands to test.

1990/03 • Acoustat Spectra 11 Upgrade • 2 pages • We still like the Spectra 11, but wanted to do something to help out the bass sound. So we took a Pyle Driver to them and purified the bass nicely!

1990/03 • Fet-Valve Amplifiers • one page • New improvements to the Fet-Valve 200 and Fet-Valve 400 has increased the power. The 200 is now the Fet-Valve 300 with 150 watts per channel. The 400 is now the Fet-Valve 500 with 250 watts per channel. We also introduce the new Fet-Valve 300i. Low cost upgrades (some free) are available.

1990/04 • Omega Series • 2.5 pages • Introducing the new Audio by Van Alstine Omega Series circuits – major low cost improvements for our solid state preamps, CD

players, Tuners, and even a major upgrade for the Super Pas Three vacuum tube preamp. The best sounding affordable audio circuits yet!

1990/04 • Connoisseur Belts • .4 page • A reader informs of us of a supplier of belts to help keep his Connoisseur turntable running.

1990/04 • Don't put Poo Poo on Your CDs! • one page • The audioflakes are going wild suggesting new ways to "treat" your CDs to make them "sound better." We say "Don't do it!" and explain why the audioflakes are out of their minds once again.

1990/04 • Fet-3i Circuits • 0.4 page • Introducing the new Fet-3i Circuits for CD Player, AM/FM Tuner, and the Hafler DH-100

1990/04 • Motorola Engineers and the 801 • .4 page • Some Motorola engineers call us to confirm that B&W Matrix 801 crossover changes we suggested do improve speaker and flatten the frequency response.

1990/04 • Wire Challenge Continued • one page • We have received one brand of wire from one manufacturer, and that is all. We continue to wait to see what will be the outcome of the Great Wire Challenge.

1990/05 • Omega Circuits • half page • Further ideas and the concepts of the new improved Omega circuits.

1990/05 • Live Music is not Always the Best • one page • We attend the musical "Chess" at the Ordway Music Theater and are dismayed at the ways in which a musical can be destroyed! Wireless microphones and distortion generating boom-box PA speakers may please some people's ears, but not ours. We explain about the design of a music theater, and explain what went wrong at this performance.

1990/05 • Super Pas three Power Supply Upgrade • 1.5 pages • We also describe a simple do-it-yourself upgrade to the Super Pas Three to help reduce residual noise with some rewiring.

1990/05 • Super Seventy Power Supply Upgrade • 1 page • We include an instruction page to help you increase the voltage rating in your power supply to avoid power surges from shorting out your system.

1990/05 • Wire Challenge Concluded • 3 pages • After waiting several months, we received only one brand on speaker wire to test. The various tests and trials show that Kimber Kables do make that slight bit of difference to make our system sound a little bit better and clearer.

1990/06 • Acoustat 11 speakers • .75 page • Yet another do-it-yourself improvement for the Spectra 11 with no increase in price! A crossover resistor change flattens the high frequency response and improves the balance of the speaker.

1990/06 • Live Music is Possible, if You Know

Where to Look • 2 pages • Frank Jr. continues the quest to find a theater that allows the performers to "speak" for themselves instead of through distorting wireless microphones. This is possible, if you know which theaters to attend.

1990/06 • Parsec Wave Catcher • one page • The new passive Wave Catcher improves both AM and FM reception at low cost. It is an effective, and inexpensive little antenna that can do wonders for your radio reception.

1990/07 • CD Storage System • .5 page • We find a great CD Storage System that fits in the same space as LP records.

1990/07 • Live Music, More Thoughts • 2 pages • Readers send us other editorials concerned with the "electrification" of live music.

1990/07 • St-70 6GH8A Driver Tube Upgrade • 1 page • Complete do it yourself plans to convert your St-70 amp from the now discontinued 7199 driver tube to the inexpensive, available, and much better 6GH8A tube. We recommend you do it now and include these tubes at no extra cost in all Super Seventy kits sold now.

1990/08 • *Audio Basics* Index 1982-1990 • 10 pages • A complete two part index of all *Audio Basics* issues from the first one published in January, 1982 through August, 1990. The first section is a condensed index sorted by topic name. The second part is sorted by issue date and contains a brief description of the topic.

1990/08 • No Phono Preamp isn't a good idea • 1 page • The pitfalls of buying a preamp without a phono stage. You might find its resale value is poor and that you gave away too much.

1990/09 • B&W 310, 620, 630, and 640 • 1.6 pages • We discuss the new models from B&W - the DM310, 620, 630, 640. The 630 and 640 feature tunable bass with user adjustable ports and plugs.

1990/09 • B&W Matrix 803 Crossover • 3.5 pages • Review of the B&W Matrix 803 and discussion of some of its sonic shortcomings.

We analyze and redesign the crossover to critically damp the tweeter driver, getting the speaker to behave and sound very much like its much more expensive cousin, the 801.

1990/09 • Free Compact Discs • 0.6 page • CD Review magazine offers superb value to the music lover with its monthly "Almost Free" CDs. Albums and samplers from various companies are made available for just the cost of postage and handling.

1990/10 • Atlanta Audio Society Reviews 400E Amp • 2.6 pages • The Atlanta Audio Society assesses our Mos-Fet 400E amplifier.

1990/10 • Bit-stream CD Players • .5 page • An initial look at the math governing bit-stream performance. Checking the sampling rate shows

the bit-stream can only achieve 54 dB dynamic range.

1990/10 • Reader's Letter • 3.5

Letter from one of our readers discussing the social context of audio and how difficult it is for innovations to get past the agenda of the audio world.

1990/11 • Bitstream CD Players • .5 page • Update on bitstream in response to industry claims that the converters are really four-bit capacity.

1990/11 • Dyna FM-3 Tuner Maintenance • 3.8 pages • Do it yourself coverage of the FM-3 tuner. We tell you how to keep it running well and troubleshoot problems in the most likely areas.

1990/11 • Philips CD Players • 3 pages • Report on choosing the best CD players out of the Philips line and avoiding the promotional models that do not contain their best technology. Also discusses the CDM4 transport.

1990/12 • B&W DM640 Crossover Update • 1.4

Instructions to upgrade the crossover in the DM640 loudspeaker to balance bass response to the rest of the speaker.

1990/12 • Bitstream CD Players • 3.4 pages • In-depth treatment of the engineering assumptions and choices made in the Bitstream players. We find that the decisions made were to get equipment with good specs and not good sound.

1991/01 • Audio Engineering vs. Magic, Part 1 • 5.5 pages • We discuss the basic design goals of good audio engineering and the fallacies that audio magicians fall into when the engineering is not understood.

1991/02 • Omega Power Amplifiers • 2.5 pages • Introduction and discussion of the AVA Omega power amplifier line.

1991/02 • Audio Engineering vs. Magic, Part 2 • 1.5 pages • Do audiophile grade parts make a difference in the sound of equipment? Of course, if the parts are cheap inductively wound caps, or the value of a part changes. There are always rational reasons for a perceived change.

1991/02 • AVA Upgrade Prices • 1 page • Pricing information and listing of available retrofit and upgrade options for owners of older AVA equipment.

1991/03 • B&W DM640 Crossover Upgrade Report • 0.6 page • Report back on the upgraded crossover in use. People find that our taming of the bass is a very useful improvement on the speaker.

1991/03 • Grado headphones • .4 page • Initial report of the very pleasant and natural sounding Grado headphones.

1991/03 • Pas Selector Switch Rewiring • 4

pages • Do it yourself instructions and diagrams for rewiring the Dyna Pas preamplifier's original selector switch to bring up Special and Tape Head as line level inputs.

1991/03 • ST-120 Power Transformers • 0.5 page • We have used stock Dyna St-120 transformers available and tell how to get one.

1991/04 • Audio Engineering vs. Magic, Part 3 • 2.5 pages • Further discussion of the basic issues in audio engineering including component compatibility.

1991/04 • B&W V201 Stands • 1.3 pages • B&W now has a stand for the inexpensive V201 speakers that not only looks impressive but also improves the bass response by making the assembly much more massive.

1991/04 • Denon CD Players • 1 page • Report on a CD player so unpleasant that it makes good equipment and loudspeakers sound muddy and colored.

1991/04 • Grado Headphones • 0.5 page • Update on the Signature and standard lines of Grado headphones.

1991/05 • Summer CES Show 1991 • 9.5 pages • This special double issue (May-June) covers the 1991 SCES Show. Equipment and displays noted include the Hughes Sound Retrieval System, Magnavox Photo CD, Dyna St-70, HDTV, B&W, Dahlquist, CD Review, Vision Acoustics, and many others.

1991/06 • Digital Compact Cassette • 2.2 pages • The DCC format is examined with regard to the information storage capacities and design assumptions.

1991/07 • Omega Pat-4 Rebuild Kit Plans • 8 pages • These are the complete instructions for the AVA do it yourself Omega Pat-4 rebuild kit. The instructions, schematics, parts list and drawings are included. Following these instructions when using our PC card and components will turn the old Pat-4 into a state of the art preamplifier.

1991/07 • Grado Headphones • 0.3 page • Follow-up on the Grado headphones - we should be receiving an evaluation sample shortly.

1991/07 • Hughes SRS Processor • 0.7 pages • The Hughes Surround Sound processor is a useful piece of equipment, but not with the op-amps used in the final production unit. We were able to make it better than the prototype with a different choice in devices. We will offer the revised processor.

1991/07 • Kit Instruction Manuals • 0.5 page • Announcement of upgraded kit instructions available for the Super Pas Three, Super Seventy, Omega Pat-5, and Omega Pat-4.

1991/08 • Grado SR-200 Headphones • 1 page • Grado SR-200 headphones are very musical, transparent and high definition. We finally get production units in and review them.

1991/08 • Super-70i Rebuild Instructions • 7 pages • Do-it-yourself project for the Super 70i amplifier in the Dyna St-70 chassis. Contains complete instructions, schematics, diagrams and parts lists. The circuit will provide much better biasing of the input stage, giving better bass, definition, imaging and dynamic range.

1991/09 • Omega Upgrade Instructions • 1 page • List of parts and diagrams of circuit changes to upgrade Fet Kit preamps to Omega circuits. The kit containing all parts is only \$40.

1991/09 • Bi-wiring Revisited • 2.5 pages • Discussion of bi-wiring and its advantages, particularly to the magic wire salesmen. Simple math shows the effect of bi-wiring on the system and the loss of signal in the wires.

1991/09 • Caution Regarding Interconnects • 0.3

Cautions about clamping or locking type interconnect cables and the damage they can cause to component jacks.

1991/09 • Plug in Stereo Review • 0.5 page • Mention of a plug from Julian Hirsch of Stereo Review.

1991/09 • Super-70i Instruction Correction • 0.8 page • Revised circuit diagram showing view of circuit board from the correct side, correcting the view shown in the 1991/08 *Audio Basics*.

1991/09 • Tonearm Giveaway • 0.5 page • Announcement of the contest for the SAEC tonearm.

1991/10 • Grado Headphone Follow-Up • 0.5 pages • Optional outer caps to isolate phones are being developed. Allow the ear piece foam some break-in time for the most comfort.

1991/10 • Great Tonearm Giveaway Winning Letter • 1.25 pages • The letter that won the SEAC tonearm was printed for all to enjoy.

1991/10 • Super Pas Four Product Announcement • 2 pages • Announcement of the new AVA Super Pas Four preamplifier available as new wired units or kits. The all new hybrid circuits give astonishing transparency with very low distortion and wide bandwidth.

1991/11 • Bitstream Editorial • 3 pages • Copy of the editorial written for CD Review that remains unpublished. The drawbacks of the Bitstream CD players are discussed along with the reasons they superficially look attractive.

1991/11 • Super Pas Four Kit • 1.7 pages • Description of the new Super Pas Four preamplifier kit and a few sample illustrations from the instruction manual showing the layout of the unit.

1991/12 • Bitstream and DCC Limitations • 1 page • Reiteration of the math that shows Bitstream and DCC formats are inherently poor designs. If you can divide, you can see that DCC is only 4 bits.

1991/12 • CD Player Bearing Plate • 0.4 page • Leaving CDs in a player when not in use can deform a bearing plate, causing tracking errors.

1991/12 • If Only Our Directions Were Heeded • 2.5 pages • Errors happen. But trying to hide them will only increase your repair bill. A troubleshooting trip through a piece to the shop demonstrated audio archaeology, and the work that hiding errors will make for the technician. He won't be fooled, and the repair bill will show the extra time to hunt.

1991/12 • Metal Speaker Posts • 0.3 page • Don't use big metal speaker posts! AC wiring errors in your home can put lethal voltages across the posts.

1991/12 • Power Line Filters • 0.3 page • Recommendations for a rational power line filter to protect audio and video equipment.

1991/12 • Sanus Loudspeaker Stands • 1 page • Sanus Systems makes reasonably priced attractive loudspeaker stands. Phred models with the S17 and S24 stands shown with B&W loudspeakers.

1992/01 • *Audio Basics* Index 1982-1991 • 8.5 pages • Subject/topic name listed index of *Audio Basics* from 01/1982 through 12/1991, containing short description of each article.

1992/01 • Dyna St-70 Mark II • 1 page • Clarification of the differences between the AVA St-70i and Dyna/Panor's version of the circuits and some evolution of ideas.

1992/02 • Adcom CD Player • 0.5 page • Evaluation of a client's Adcom CD player, both on the bench and in the system.

1992/02 • Home-built Loudspeaker Evaluation • 1.25

We evaluate 2 pair of hobbyist built loudspeakers, looking and sounding nearly identical, with the same design ideas.

1992/02 • Slew rates and CD players • 2.5

An example of why we write AB, we examine amp slew rates in regard to CD player output frequencies. The highest frequency the CD player can put out is not the highest frequency it can store - so what does this mean to your system?

1992/02 • Why Are We Doing This? • 1.25 pages • Some reasons for writing AB and looking at issues and concepts that no other audio periodical covers, like trying to sort out knowledge from belief.

1992/03 • Omega II Products Announced • 3 pages • Introduction of the new Omega II line of products, including CD player, preamplifiers, power amplifiers, and tuner. Description of various models, circuit concepts, and sound.

1992/03 • B&W 804 Loudspeaker • 0.75 page • Evaluation and description of the 804, comparison with the DM640, and short look at

the 800 line - 801, 802, 803, and 804.

1992/03 • Price List • 2 pages • March 1992 price and products list and component retrofit and upgrade prices. Obsolete.

1992/04 • DAT and 1-bit • 0.5 pages • Sony discontinued the freestanding PCM units, and the DAT machines released are 1-bit, giving low resolution.

1992/04 • Fluke 10,11, 12 Multimeters • 0.75 page • Photo and description of some low cost, good value multimeters from Fluke. Highlights of functions.

1992/04 • Objective vs. Subjective Controversy • 4.5 pages • Essay on the objective vs. subjective controversy. After an introduction to the positions, suggests that the entire premise is flawed, and that measured tests, to be useful, must work with our perceptions for best predictability. Guest written by Vanessa Van Alstine.

1992/05 • B&W DM 600, 610, 620 • 2.5 pages • Listening tests and description with photo of low cost but great performance speakers from B&W. Attractive bookshelf speakers give high definition sound, low coloration, reasonable bass.

1992/05 • CD Player (CDB610) Tracking Cure • 2 pages • How to change the top bearing plate in a Magnavox CDB610 CD player, complete with photos of parts and assemblies. Allows you to inexpensively fix the most likely cause of mistracking in the machine by changing the affected part.

1992/05 • FM-5 Tuner Light Replacement • 0.4 page • Replacement light for the panel light for the Dyna FM-5 tuner. Instructions on how to replace them and Radio Shack catalog numbers of the parts needed.

1992/06 • Electrostatic Headphone Giveaway • 1 page • Contest to give away a pair of Jecklin Float electrostatic headphones with photo. Obsolete.

1992/06 • Priorities for Improving System • 4.25 pages • Essay on how to know where to start upgrading a system for most cost effective performance. Covers examining current system for weak links, speakers, CD players, FM reception, electronics.

1992/07 • Connoisseur Drive Belts • 0.1 page • Address for a possible source for Connoisseur Drive Belts.

1992/07 • Electrostatic Headphone Giveaway Winner • 0.5 page • Announcement of contest winner with reprint of the winning entry.

1992/07 • Interconnect Cables • 2 pages • Ignore the ads and don't buy the cables. Even ignoring the dubious claims of "better sound," many non-standard physical terminations, such as U-lug speaker terminations, clamping type interconnects, and oversized barrels can do

damage to a system.

1992/07 • Wire Ads • 1 page • Censorship and misleading advertising and New York's attempt to ban ads for "better sounding" cables. Which is more important, consumer safety or freedom?

1992/08 • Versa-Kit Line Preamplifier Project • 8 pages • Do-it-yourself project for a complete 2 input line preamplifier. Complete wiring instructions, board stuffing guide, parts list, drilling template, and pictorial diagram. Gather your own parts and do your own, get just a pc board from us, or get the complete kit with chassis from AVA. With any option, build your own very clean and inexpensive preamp.

1992/09 • Super Pas Three Upgrade • 0.75 page • Low cost but very useful improvement for the AVA Super Pas Three preamplifier. Background information on that aspect of the circuit and why the capacitor upgrade is so helpful.

1992/09 • Versa-Kit Headphone Amplifier Project • 4.75 pages • Do-it-yourself project for a headphone amplifier. Wiring instructions, board stuffing guide, parts list, drilling template, and pictorial diagram. Gather parts on your own, get the pc board, or get the complete kit with chassis from AVA. Note: need the 8/1992 *Audio Basics* for the complete step-by-step assembly instructions.

1992/10 • AVA Winter Catalog • 1 page • Listing of new AVA products, including our own amplifier chassis with a variety of circuits, and our 4 new preamplifiers. Short descriptions of new products.

1992/10 • Versa-Kit Phase Inverter Project • 4.5 pages • Do-it-yourself project for a line phase inverter. Wiring instructions, board stuffing guide, parts list, drilling template, and pictorial diagram. Gather parts on your own, get the pc board, or get the complete kit with chassis from AVA. Note: need the 8/1992 *Audio Basics* for the complete step-by-step assembly instructions.

1992/11 • Components to Upgrade • 2.75 pages • Examination of many older AVA circuits compared to current ones with suggestions about what order to consider upgrades. Covers Mos-Fet 120 amps, Super-Fet preamps, and Mos-Fet 150 amps.

1992/11 • Sound Absorption and Noise Control • 2 pages • Mention of types of noise control products. Information on a supplier with description of some useful products for home applications.

1992/12 • Component Retrofit and Upgrade Prices • 1 page • List of the upgrades and retrofits to older AVA equipment with prices. Obsolete.

1992/12 • Components to Upgrade, Part 2 • 3.25 pages • Examination of many older AVA circuits compared to current ones with

suggestions about what order to consider upgrades. Continued from 11/1992. Covers Mos-Fet and Transcendence Dyna 400-410-416 and Hafler 200-220-280-500-600 amps.

1992/12 • Sound Absorption and Noise Control - Correction • 0.25 page • Correction of phone number for company listed in the 11/1992 issue.

1993/01 • Exorcising Gremlins from the System • 3.75 pages • System troubleshooting for hookup and use errors. Even when all components work, you can still encounter use problems. Learn what mistakes to look for and how to rectify these simple errors. Possible causes for hum and hookup errors yielding channel dropouts listed.

1993/01 • St-70 Transformer Returns • 0.4 page • Replacement power transformer for the Dyna St-70 and the AVA Super 70i which eliminates the 5AR4 rectifier tube again available.

1993/01 • Troubleshooting Flow Chart • 1 page • Easy to follow flow chart guides you down the basics for doing most system troubleshooting.

1993/02 • MiniDisc, Digital Compact Cassette and You • 6 pages • In-depth look at some new recordable music formats covering features of the Sony MiniDisc and Philips Digital Compact Cassette, why the new formats, which is better, how they sound, and why they have some sonic difficulties.

1993/03 • B&W Matrix 803 Series Two Loudspeaker • 1.75 pages • Review and photos of a wonderfully musical B&W loudspeaker. Overview of speaker, listing of driver components, crossover highlights and cabinet construction all covered.

1993/03 • Memories of an Audio Show Junkie • 4 pages • Coverage of the WCES show mentioning the main convention center, home theater, car audio, 1000W boom boxes, digital audio recording format workshop, hi end displays, \$12000 turntables, magical ebony root CD clamps and more. Guest written by Gregg McArthur.

1993/04 • Zero Returns, Zero Field Failures! • 5.5 pages • Genesis of the new complete AVA amps and preamps. Learning from Dyna and Hafler strengths and mistakes about power supplies, heat sinks, chassis access, efficiency and other consideration, we come up with a list of criteria for a new design of our own. Local suppliers also helped suggest better solutions.

1993/05 • Omega II 200 Amplifier • 1 page • Introduction of the new chassis AVA Omega II 200 amplifier with photo. Highlights of the amplifier circuit and package.

1993/05 • AVA Brokerage Service • 1 page • Rerun of the used equipment brokerage service explanation and policies. Also listing of equipment shipping charges.

1993/05 • AVA Catalog Prices Lowered • 1 page • Lower prices on most amp models after resupplying metal and amortizing tooling costs. Changes of some models and listing of some new products.

1993/05 • AVA Price List and Component Retrofit • 2 pages • Revised price list of new products and listing of retrofits and upgrades to older equipment with prices.

1993/05 • Does the World Really Need Another Speaker? • 2 pages • Description and discussion of design and limitations of a proposed clever shielded 2-way loudspeaker system. Guest written by Mithat Konar.

1993/05 • What is a “Shielded” Speaker Anyway...? • 1.5 pages • Speakers have magnets which have magnetic fields. Article discusses when shielding of this field is useful and the methods used to do it. Guest written by Mithat Konar.

1993/06 • Reviews • 0.1 page • See the August 1993 *Audio* magazine for Super Pas 4i review. Also “Goosebumps” editorial in *Stereo Review*.

1993/06 • Speaker Wires Can Change the Sound • 1.5 pages • One client had a problem with B&W 802s - his cables! We look at how exotic cables can cause problems, in this case, with multi-strand braided cables with flaky insulation.

1993/06 • Zero Field Failures, Zero Field Returns cont. • 3.25 pages • Genesis of the new complete AVA amps and preamps continued from 04/1993. Design goals NOT considered followed by a discussion of design rules that have served us well. Includes high reliability resistors, use of passive parts within specs, eliminate turn on/off transients and many more.

1993/07 • Speaker Switch Box Project • 7.75 pages • Complete instructions for a do-it-yourself speaker switch box with headphone jacks. Includes drill template, wiring diagram, parts list (all available from Radio Shack), construction and wiring step-by-step instructions. All of the information you need to build the project.

1993/08 • Omega II FM/AM Tuner Introduced • 1 page • Introduction and photo of the new AVA tuner in the Philips FT920 chassis. Listing of features and creature comforts, new AVA audio circuits, and description of sound.

1993/08 • B&W 2000 Series Introduction • 1.7 pages • Photos and specs for the new shielded line of B&W speakers. Listing of unusual features and highlights, with Zero Magnetic Field technology, non-resonant damped front panels and more.

1993/08 • USA 240V Service Bad Idea • 2.3 pages • The new fad is to run amps off of USA 240V appliance service for “better sound.” Don’t! We show you the flawed reasoning and

the difference between US and European 240V service that makes this fad a potentially lethal one.

1993/09 • CD Player Supply Enhanced • 2 pages • Diligent searching turned up more 16-bit CD players so we can still supply new units. What is wrong with most players anyway? Why are our circuits useful? We explain what it takes to get good results.

1993/09 • B&W 2000 Series Speakers Revisited • 1 page • Short portraits of the ZMF B&W 2001, 2002, 2003, and 2004 models with specifications, photos, and our sonic impressions. Learn what to do for low cost audio, video, surround sound, and computer monitor applications.

1993/10 • *Audio Basics* Index • 12 pages • Chronological index of *Audio Basics* from 01/1982 complete through 10/1993. Date, topic, and article length, as well as short descriptions of each article.