

A Journal For The Polk Audio Family

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Volume 2, Issue 4
Winter 2002

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A Word From Al Ballard

It's an exciting time at Polk Audio! As the holidays approach, we're unveiling a special group of new products, launching a massive AutoSound advertising campaign (keep an eye out for it), and giving you another chance to voice your opinions about this newspaper!

It's been a year since we asked for your feedback about this paper, and we got nearly 1000 responses. You told us what you liked, what you didn't like, and one lucky reader won free speakers! Fill out the survey on page 19, or go online and submit your answers at www.polkaudio.com/home/papersurvey/. You'll be entered in a drawing for free speakers!

To get your juices flowing, this holiday edition of the newspaper features articles on new Polk products like slot loaded subwoofers and the new gen of compact RM speakers with integrated Power Port bass vents, as well as the new Polk/MOMO Custom Enclosed Subwoofers for your car. Plenty to like!

Take the survey, we'd love to have your feedback; you could win free speakers. And have a safe and happy holiday season, from all of us at Polk Audio.

Al Ballard is the Polk Audio VP of Marketing and one of the swiftest guys around. He prefers Basil Hayden Bourbon, but will drink Maker's Mark in a pinch. Newspaper's late again; better make it a double.

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the speaker specialist

A Journal For The Polk Audio Family

Volume 2, Issue 4, Winter 2002

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The Polk Family Loses A Friend

This Issue Of The Speaker Specialist Is Dedicated To Shane Mann

Dear Polk Audio:

I would like to comment on the recent outpouring of sympathy seen on the Club Polk Forum in response to the sad news of the unexpected death of one of the forum's most active members, Shane "Nascarmann" Mann.

Polk has, more than any other company I know of, succeeded in fostering a sense of family with its customers, and Shane's passing caused a ripple of loss throughout the Polk family. I speak for all forum members when I say that we hope the sincere, heartfelt response to his passing has been a comfort to both his family and friends.

Shane was a long-time Polk Audio fanatic, running Classic SDA speakers on high-end Yamaha amps. We called him "the King," and I think we'll all remember "the King" as a jovial fellow, always offering good forum advice, participating in

heated debates, and most of all showing genuine kindness to other Polk Family members, especially newcomers. We are all saddened by the loss of a fellow audiophile, Polk enthusiast and more importantly, a friend. However, the sadness is tempered by the fact that our lives have been enriched by his presence.

Perhaps in these strange days and difficult times we should listen a little more closely to the music and films and people that we love and enjoy. I for one, am thankful for the friends I have made in the Polk Audio Family. It may seem strange, but does this Polk family not bring us some level of safety, security, maybe even hope for the future? I believe it does. Thanks, to Polk Audio, and to all of my friends in the Polk Family, on the forum and beyond.

Sincerely,
Russ Gates



Shane "Nascarmann" Mann with JB.

Discovering The Joys Of Digital TV

An Audiophile Gets Upgrade Fever And Learns About HDTV

by Al Baron



Al Baron has worked at Polk Audio for over 15 years. Always a diehard audiophile, Al has discovered the joys of digital big screen television. This is his story.

But, what kind? What features should I look for, what kind of technologies are out there in TV-Land? I didn't know diddly about video or how to go about picking the right television. This is how I learned.

A few things were clear from the start. To get the best possible DVD picture quality, the TV had to be big (and I didn't have room for a projection system, so it would have to be a "rear projection" television); it had to be HD "ready" at least, and it had to be widescreen aspect, or "16:9." No more retro square 4:3 television sets for me; from now on, I want to see the whole image: *widescreen*.

So I set out the way any other red-blooded American would: I started shopping!

I visited many stores and asked many questions. I got mixed results. Seeing televisions set up in a showroom can be misleading. In terms of picture quality

there was lots of variation from set to set. Was the best looking set on the showroom floor really the best, or were other (less expensive) sets just as good but hampered by what may be the store's inferior video distribution network? In each store I managed to find at least one set that looked tremendously well calibrated and would certainly satisfy me.

Then I began wrestling with more questions. How big was "big enough"? (How big could my TV be and still fit up the winding stairs of my house?) How much will "big enough" cost? Most importantly, how would I avoid "the technology trap" and not buy something that will be instantly obsolete? What were the available display technologies, and how will display technologies change in the coming few years? In the same vein, did I want a High Definition Television tuner built-in, or would I use a set-top box, outboard satellite receiver or HD tuner? What

array of inputs/outputs did the TV need to interface with my nascent home theater system? And finally, what brands were considered "the good stuff"? I am in the running for this year's Most Neurotic, Over-Analytical Shopper award.

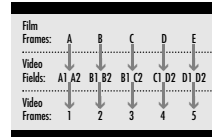
But soon I realized with joy that I had a new hobby! (So when I finally purchased a big TV I could call it "my hobby" instead of just "watching TV like a couch potato!")

I now know the difference between progressive scan and interlaced scan, the two ways of displaying video. This is an important thing to know because it will influence my final TV-buying decision. Interlaced scan is what you see with a standard television. It is, essentially, an optical illusion. In standard television formats such as NTSC or European PAL formats, the signal is beamed to the TV tube in

alternating odd- and even-numbered horizontal lines, or "fields," that look like tilled farmland (which is actually where the invention of the process came from). First, the first field is shot out onto the tube "writing" the odd-numbered lines, and then the second field, containing the even-numbered lines, is "written" to the tube. The "phosphor persistence" of the TV tube blends the fields together in the blink of an eye, creating the illusion of a solid picture. This is fine if you have a high "refresh rate," or a quick "rewrite" rate. One disadvantage is the constant bugbear of TV transmission: flickering video and video artifacting. Progressive scan (noted by the "p" in the horizontal line count: "480p"), on the other hand, writes all the horizontal lines of an image at the same time, as a single "frame." This is the type of video display seen most commonly in computer monitors and on newer digital televisions.

Knowing about progressive and interlaced video displays lead me directly to "2-3 pull-down," which gets technical but affects the ultimate decision of television selection because it helps explain why my progressive scan DVD player is going to look better on the television I choose. DVD is specifically designed to be displayed on standard interlace scan TV displays, but most DVD content is film, which is progressive, as a film camera shoots 24 whole frames per second. So to make film content work in interlaced

form, the video from each film frame is split into two video fields—240 lines in one field, and 240 lines in the other—and "encoded" as separate fields in the MPEG-2 stream of the DVD's digital video. A complication is that film runs at 24 frames per second, while TV runs at 30 frames (60 fields) per second. The NTSC (American) solution is to spread 24 frames across the 60 fields by alternating the display of the first film frame for 2 video fields and the next film frame for 3 video fields. This is "2-3 pull-down." The 2-3 pull-down from film to video is best explained with a diagram:



Repeated fields (B1 and D2) are not actually stored twice. Instead, a "flag" tells the decoder in the DVD player to repeat the field.

A progressive-scan DVD player does this conversion of the interlaced (480i) video from DVD into progressive (480p) format for connection

to a progressive display. The result is a significant increase in perceived vertical resolution, for a more detailed and film-like picture.

But to get back to the TV question, you have to have a progressive-scan display to get the full benefit of a progressive-scan DVD player! (I discovered that progressive scan DVD players include interlaced outputs, usually initiated by a switch on the back, so you can buy one to use with your standard TV. But this info just spurred my upgrade fever toward a progressive TV!)

One last thing I learned is that many new televisions with progressive scan input don't allow for changing the image's aspect ratio, which you'll need to do when you get stuck watching a non-anamorphic DVD. Anamorphic, or "enhanced for 16:9," is (simply) a method of DVD mastering that automatically stretches the projected image to a correct aspect ratio for widescreen

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Al's DS7200 System rocks the home theater in his historic Baltimore rowhome.



I was enamored of the sound from my DS7200 System, I guess, and DVD technology. And the more I saw of large-screen television technology, the more I realized that my 17-year-old 25" direct view tube TV would have to go. Ironically, I realized that this was a lot like the way I felt long ago when I got the bug for two-channel audio after hearing high-end speakers; I knew that I had to experience great audio in my own home, not in showrooms. And now, I needed a big TV.

Get Sanus Platinum Series Audio Video Furniture direct from Polk at shop.polkaudio.com



televisions. Anamorphic, "enhanced for 16:9" DVDs will automatically look perfect on your widescreen television. But when a non-anamorphic signal is sent to these TVs, they squeeze it instead of stretching it, and progressive input may not allow you to manipulate the image to get the correct aspect ratio.

Thus, before I would buy a new HDTV, I determined to make certain that the one I choose allows aspect ratio adjustment on progressive input. (Switching from "p" input to "i" input may allow you to manipulate the image shape, but you lose all the benefits of progressive input!)

Are you realizing that you too need to upgrade your video habit? Stick with me, and we'll get through it together. In the next installment, we'll discuss the types of displays I found and the things I did to finally settle on my ultimate TV choice. In the meantime, go give your two-channel system some lovin' before you become, like me, a complete videophile! 📺

One of the best sources for information about display technology is Jim Taylor's amazingly dynamic and comprehensive DVDFAQ, at www.dvdfaq.com/dvdfaq.html. Jim, we salute you for this! (And please forgive us any inadvertent plagiarism—your explanations are simply the best!)

Polk/MOMO Custom Enclosure Power

Polk's Newest And Hottest Car Speaker Line Makes "Custom" Bass Easier Than Ever

by Thom Voisinet



Thom Voisinet is a Polk Audio Auto-Sound Installation Engineer and works with Josh Claar to perform audio miracles on the Polk show cars.

is The Big Obstacle to getting into car audio. So Polk Audio engineers worked to overcome The Big Obstacle, and, in my opinion, they succeeded with the new Polk/MOMO MM Series of Custom Enclosed Subwoofers. By combining the superior looks and performance of the Polk/MOMO woofers with a specially tuned, completely stylin' enclosure, the MM Custom Enclosed Subs make getting into car audio easy. Now, getting a custom install look is as easy as popping your new Polk into your trunk!

The enclosure was a really important development in the evolution of Polk car audio. It had to meet some serious criteria before we would commit. It had to be heavy duty, with thick non-resonant MDF walls and closed-cell foam, optimized to draw out the best possible bass performance from the pre-loaded Polk/MOMO

woofers. It had to be small enough to leave you plenty of trunk space, and look mad crazy when you pop the trunk to show it off—through its flame-polished plexi window (secured with 26 Allen screws and an airtight gasket). As you can see, we hit the target.

So now there are two ways to get great bass: the old, hard way, and the cool new way, by getting the best woofer pre-loaded in a show-off enclosure with guaranteed performance. Even if you're not a DIY kind of guy, you can throw an MM Series Custom Enclosed Subwoofer in your trunk and rock out to serious Polk/MOMO bass. **2**

Tested For Massive Excursion

Polk engineers ensure the durability of the new Polk/MOMO MM Series Subs with the new Massive Excursion Test. "The new test goes above and beyond industry norms to better reflect real world installation situations and the punishing volume required in competition," explains Coordinating Engineer Tim Meeks. Polk's Massive Excursion Test is similar to the repetitive stress tests given to cars and other products, the ones where robots open and close doors for hours to make certain the mechanical parts do not fail.

During the Massive Excursion Test, MM Series woofers were subjected to eight hours of constant tone bursts at the woofer's resonant frequency, the point where the woofer has the farthest front to back movement (excursion). One tone "bump" every second for eight hours! "Separate tones test the mechanical parts of the woofer for long periods without building up heat," says Tim. "We could quickly pinpoint any mechanical failure points and change them immediately."

The Massive Excursion Test has become a permanent part of Polk's battery of durability and environmental testing. Tim believes it will help Polk design better products. "It's allowed us to develop an MM Series Subwoofer that handles all the power and SPL you could possibly dish out."

If you have questions about this product, we are here for you. Call Polk Customer Service 800-377-7655, or email polks@polkaudio.com.

T.J. Topper's competition quality install—seen in Polk national ads (right)—features MM12 Custom Enclosed Subs. Nothing's been done to the boxes; with the MM12, your install will look as good as TJ's.

I've spent a lot of time on the car audio retail sales floor, and I've talked to thousands of people about car audio. If you're not a DIY car audio guy, building a box to house a subwoofer



The Polk/MOMO MM12 Custom Enclosed Subwoofer. All you do is put it in your trunk and you're done: it comes fully loaded and optimized for serious bass in its own enclosure. Looks like a custom install, but all the tough work is done for you!

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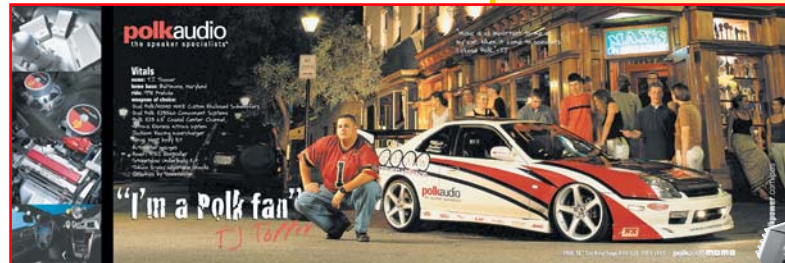
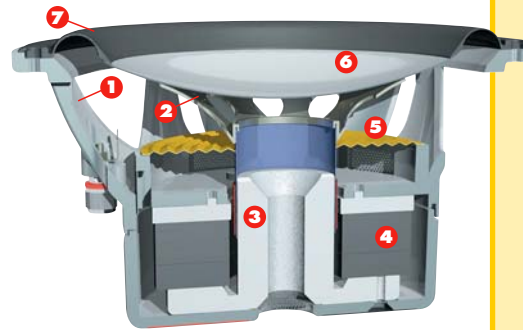
MOMO Features

- The MM12 is a powerful 12" Subwoofer preinstalled in an airtight custom-designed enclosure that looks freaking cool! Sealed with solid, curved plexi for show-off installs, with sides and bottoms constructed of robust 1" MDF. The enclosure also features Pro-Grade Nickel-Plated Terminals, set in an innovative bottom-loading Connection Canal, for secure connectors in any trunk. The interior of the cabinet is lined with closed-cell foam to reduce internal resonance and lower distortion.
- Three Year Limited Warranty—one of the best auto-sound product warranties in the industry!
- Massive Cast Aluminum Subwoofer Basket **1**, a patented design. It's rock-solid, non-flexing and acoustically inert, with extra heat dissipating qualities, for Polk/MOMO professional sound quality and reliability, and features:
 - A Vented Voice Coil/Cone Coupler **2** constructed of aluminum-plated, glass filled ABS that distributes the motive force of the Voice Coil over a larger surface area of the cone for a vast reduction in distortion-producing cone break-up and resonance. (Can you say quick, clean and deep? That's Polk/MOMO-style bass!)
 - The heavy gauge, 4-layer 2" Kapton Voice Coil **3** is lightweight, fast and reliable. (State-of-the-art, laser-based Klippel measurement technology perfectly centers the voice coil in the magnetic field, maximizing the X-Max for superior bass impact and lower distortion. It just flat out sounds better and is more reliable than ever before.)
 - Colossal four-pound magnet structure for high efficiency, and Vented Pole Piece for cool high power handling **4**.
 - Flat Conex Spider **5** for more linear motion and better support.
 - A Concave Aluminum-Plated Injection-Molded ABS Cone that minimizes cone break-up response for tight, clean and articulate bass response **6**.
 - A Huge Hi-roll surround that allows longer cone excursion for high-impact bass and lower distortion **7**.
 - Triple vented driver for maximum airflow, heat dissipation and new improved higher power handling: the Vented Voice Coil/Cone Coupler, Vented Spider Platform and Vented Pole Piece all allow cooling air to freely flow over heat-generating parts to better harness all the watts your amp can dish out. New testing pushes Polk/MOMO reliability beyond industry norms!
- Numbered enclosures: an exclusive, limited edition, product.
- MOMO Quasar 2-styled ABS grille. HOT!



The MM6 Component System with 6.5" driver, multi-mount tweeter and Polk/MOMO Crossover, is the mid- & high-frequency companion to the MM Series Subs. A perfect match for your Polk/MOMO sound system.

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➤ System-Expanding Audio Reviews

CDs & DVDs That We Recommend For The Ultimate In Audio System Performance



DVD

Behind Enemy Lines
(20th Century Fox)

Hot Cuts:

6, 16, 19, 25, 26

Owen Wilson's goofy smirk bugs the heck out of me. Add to that its generally bad reviews and you'll understand why it took me a while to stick *Behind Enemy Lines* into the DVD player. It's the fictional account of a bad-boy Navy flier shot down over hostile territory during the Bosnian conflict. Hero pursued by bad guys, overcomes long odds, triumphs over evil. But dang if I didn't enjoy the heck out of watching this picture and I think you will too! You may have to look beyond the movie's simplistic politics, uneven acting, jingoism and xenophobia, but if you turn your brain off, you'll have a good time.

The strength of *Behind Enemy Lines* is its overall sound design. Sound effects are cool, but good sound effects are a dime a dozen these days on DVD. What made this sound design special for me was the combination of the great-sounding musical score with over-the-top effects—this movie just flat out sounds great, especially in scenes like the chase in Chapter 6. The aggressive use of the surround palette and the very effective use of music adds to the tension. It's the best chase I've seen since *Ronin*.

Chapter 16 will stretch your ability to suspend disbelief but features some astounding audio work! The scene starts with our hero (Wilson) walking through an abandoned industrial area with the sound of

barking dogs and playing children in the background and ends with some serious Hollywood war movie bang-bang that is very cool. On a subtler note, Chapter 19 allowed my LSI-based system to present a convincing depiction of truly realistic forest aural ambience. And if you love the sound of dangerous ordinance flying all over the place (and who doesn't?), you're gonna love Chapters 25 and 26, wherein good triumphs over evil (but not before blowing a bunch of stuff up, and how).

Watching this movie may drive your IQ down a few points, but you've got some IQ points to spare, I'm sure. And your sound system will love you for it. For the love of audio mayhem, it's a reasonable trade-off.

by Paul DiComo



CD

XLO Reference Recordings:
Test/Burn-In CD
(Reference Recordings RX-1000,
24K GOLD HDCD® CD)

Hot Cuts:

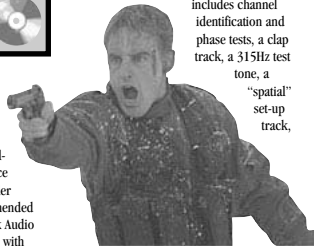
1, 2, 3, 9

I use this test/burn-in CD every day in the field to help make sure that Polk speakers are properly hooked up, in-phase and accurately L/R balanced for optimum performance when you walk into a Polk dealer to hear a demo. I have recommended this CD to everyone on the Polk Audio sales force: I was so impressed with it. Whether you're a sales associate or a hi-fi consumer, this inexpensive and feature-packed CD will help ensure that your speakers are properly set up and

fine-tuned for high performance. It's accurate and easy to use. It also has several very good music tracks. The *XLO Reference Recordings Test/Burn-In CD* is a step-by-step guide to setting up and fine-tuning your audio system. It's a 24 Karat Gold HDCD® (High Definition Compatible Digital™)-encoded disc, compatible with any CD player. HDCD encoding is a patented process said to deliver "the full richness and detail of the original microphone feed" on Compact Discs and DVD-Audio. It was designed by Roger Skoff of XLO Electric (cables and interconnects) and "Professor" Keith O. Johnson (audio guru). HDCD-encoded CDs are encoded with 20 bits of real musical information, compared with 16 bits for other CDs. HDCD overcomes the limitation of the 16-bit CD format by using a sophisticated system to encode the additional 4 bits onto the CD while remaining completely compatible with the existing CD format. Using the musical tracks on this disc as my example, I find that HDCD provides more dynamic range, a more focused 3-D soundstage, and extremely natural vocal and musical timbre.

In addition to tracks dealing with Balance, Wiring and Polarity, Speaker Placement, Soundstaging, Imaging and Depth, the *XLO Reference Recordings Test/Burn-In CD*

includes channel identification and phase tests, a clap track, a 315Hz test tone, a "spatial" set-up track,



demagnetizing fades and sweeps and a 15 minute burn-in track. It also features music selections from the Reference Recordings catalogue, including stellar

recordings of The Dallas Wind Symphony and DePaul University Jazz Ensemble among others, to show off your newly tweaked system. In short, it's everything you need.

Here's what I do: I go to Track 1, the "Balance" track. You'd be surprised how many systems are not as "balanced" as people think! This track ensures that the left speaker is on the left and the right speaker is on the right. It then does a test to make sure that the left and right speakers are balanced properly. Then, on to Tracks 2 and 3. Track 2 sends an in-phase voice to the speakers, Track 3 an out-of-phase voice. These two tracks make it simple to determine whether or not your speakers are in- or out-of-phase and need to be corrected. Suddenly, everything sounds different, and better! In prep for a big training session, I use Track 9. This track plays a "System Burn-In" tone. It's 15 minutes long and can be set to repeat as long as you'd like. (I often let it play at low volume on "track repeat" overnight before an important demonstration or training workshop.) It helps break in speakers, cabling and equipment at an accelerated rate. The assorted music tracks are icing on the cake for really hearing the before-and-after difference a tweaking can make.

The *XLO Reference Recordings Test/Burn-In CD* is an invaluable part of my demo package. If you'd like one, or know an audiophile who would like one for the holidays, you can order it direct at <http://www.reference recordings.com/> or 800-336-8866. Mention the Polk Audio Newspaper, *The Speaker Specialist*, and the good folks at Reference Recordings will give you their Industry Special price of just \$17 (plus S&H). Regular price is \$29.98, so thanks to Reference Recordings for making this special price available to Polk fans!

by Craig Childs, Polk Sales Team

continued on page 13

The Debut Of The RTi150 Loudspeaker: BIG Is Back

Remember Big Speakers? We Do

by Mark Suskind



Mark Suskind is a Polk Audio Product Line Manager, developing new products to meet your every audio need.

Big speakers sound better," they say. "A large speaker has an effortless manner that lets you sit back, relax, and take in all the music." "Big speakers will always equal big sound!" They say. Who says? Polk Audio fans on the Club Polk Forum that's who. And these guys are nothing if not fanatic about their loudspeakers. They are constantly chatting about classic Polk Audio "big box" speakers!

Well, just because we recognize the "Wife Acceptance Factor" of compact sound systems, plenty of us love big speakers, too. And with all the talk about miniature this, and pocket-sized that in today's compact world, we thought it would be fun to bring back the classic-style big Polk speaker: The RTi150!

The RTi150 is a completely new speaker. It's built for the sole purpose of delivering high impact sound and wide dynamic range. It uses Dynamic Balance technology to smooth the response of the silk polymer dome tweeter and 6.5" midrange driver, so it delivers highly efficient, accurate detail. And the massive surface area of three 6.5" woofers easily mops up any

kind of power you can throw at it, and deals out a tremendous thunder of solid, accurate low end. (If you're one of those rare souls who need even more bass, add a separate powered subwoofer to your RTi150 system. But shore up the foundation of your house first.)

The day we turned up the first RTi150s in the Polk Demo Room, we all had flashbacks to the days of SRSs and SRTs; a bunch of engineers and suit-types dancing around playing air guitar and shouting to be heard above the music! It's what working at a speaker manufacturer is all about.

"The RTi150 is a step in the right direction," one of the Forum Family recently said, "more please!" If size matters to you, you need to hear the RTi150 soon, as well! ☑

Matt Polk, The Speaker Specialist, circa 1985.

In the dim and distant past all speakers were gigantic, Virginia. Polk Audio made a name for itself in the indulgent 80s with the monstrous Signature Reference System (SRS). The stereo pair had 16 drivers, 8 tweeters and 2 massive 15" passive radiators, for truly "life-like" volume levels. Many hardcore fans still swear by their classic SRS!



Even though it's classically big, the RTi150 doesn't take up much space. The slim tower design has a one-square-foot base! The narrow baffle and anti-diffraction bezel/grille minimize diffraction for spacious imaging.



get it now @ shop.polkaudio.com

LSi Series: Loudspeakers For Serious Listeners

The Experts Agree—Reviews From The International Audio Press

"I am tempted to begin by calling the Polk LSi15 the best bargain in high-end speakers. . . I am a little stunned. . . [it] has an extraordinary mix of treble and midrange performance for the price. The upper octaves are among the smoothest and most detailed at all levels of dynamics that I have heard; they certainly outperform most speakers costing more than twice as much."

Anthony Cordesman, The Absolute Sound Magazine 4/02

"Bigger than life—but absolutely true to it. [The] solidity and seamless musicality of the LSi15s made music listening something special. . . these floorstanders are something special. If you're looking to provide superlative musical performance and an impressive home-theater system for your immediate gratification and long-term pleasure, this one fits the bill."

onhometheater.com 2/02

"[The] LSi15s sounded tremendous. The LSi9s took me by surprise; [they were] sharp as a pin, sonically brilliant."

Tony Davey, AudioEnz (Australia) 11/02



"It is rare to find such precision, even to the smallest detail, in a loudspeaker at these price points."

AF DIGITALE (Italy) 11/02

"In its current LSi series of loudspeakers—and most specifically in the LSi15—Polk is making the finest speakers it has ever manufactured. The LSi15 sounds balanced and natural, and it's more accurate than many 'exotic' speakers that cost a whole lot more. It is good looking and easy to drive. You can certainly spend a lot more on a speaker. . . but you'll have to search long and hard before you find one as good as the Polk LSi15 anywhere near its price."

Wes Philips, onhifi.com 7/02

"... [F]rom the standpoint of timbre, the impression of the LSi15 is remarkably natural. . . a very convincing performance!"

Audio Review (Italy) 11/02

"They've hit the bull's-eye with the LSi9. Not only is it an exceedingly refined, first-class performer, it has specific sonic qualities that make it stand out in its price class. This speaker jumps to life like a Spring Break party, but retains the sophistication of a black-tie dinner. This combination is something you rarely find in small speakers at any price. The LSi9 also images with precision and provides a level of robustness that is thoroughly captivating. All this adds up to a level of performance that is ear-opening."

Doug Schneider, soundstage.com 4/02

"The most impressive and well-organized audio and home theater demo [at the Home Entertainment Show] was in the Polk Audio suite, with a system showcasing two models in Polk's LSi series: the flagship LSi25 floorstander (\$3000) and the two-way, three-driver LSi9 bookshelf (\$1040). The sound was superior to that in most rooms at the Hilton that were demoing speakers costing in excess of \$3000."

Stereophile 11/02



"Midsize speakers don't get much better than the LSi7. . . Compared to their real competition, which lies in the high end, Polk's LSi7 speakers and PSW550 sub are excellent buys."

Mark Fleishman, Audio Video Interiors Magazine 10/02



"The LSi7 is a highly resolving minimonitor that performs up to the standard of far more expensive speakers—The first thing I noticed about this speaker was its clear and defined midrange. . . [it's] a solid value."

Goodsound.com 6/02

"... the Polk LSi15 gets this year's nod for a moderately priced speaker whose innovative ring tweeter and overall sound quality are a real breakthrough in affordable high-end products. Upper octaves and midrange are outstanding in comparison with many speakers costing more than twice as much, and the bass is very good. . . Remember the days when the high end was still affordable enough to be fun? Well, they are still here!"

The Absolute Sound 12/02



Golden Ear Award 2002



LSi7

LSi9



LSi15



LSi25

1 - 8 0 0 - 2 2 3 - 5 2 4 6

s h o p . p o l k a u d i o . c o m

A New Twist Makes The Best Better

The New RM6700 Adds Power Port Bass Venting To Polk's Best Compact Speaker System

by Al Baron

Polk Audio knows compact speakers. Our award-winning RM Series brought the idea of compact high performance speakers to center stage in the early 80s.

In a new twist, the RM Series compact speaker has bumped up against another Polk Audio technology: the Power Port bass venting system normally found on full-sized bookshelf speakers. And like the old Reese's Peanut Butter Cup commercials ("You got your chocolate in my peanut butter!"), the result is something new and wonderful. The fusion of RM satellite speakers and Power Port technology has lifted the RM Series above the pack—again!—by producing a compact speaker that not only sounds as full and rich as a full-sized bookshelf speaker, but that breaks price barriers along the way: The RM6700.

As far back as 1995, the audio press labeled Power Port "clearly a success."^{*}

It was developed by Polk engineers to overcome the limitations of conventional small-diameter ports: the air turbulence that caused "port noise." Because of port noise, up to 3dB of bass output could be lost. (A loss of 3dB means that half of the amplifier power being used for bass reproduction is actually wasted by air turbulence!) To overcome these limitations, we developed the Power Port. The "Kiss"-shaped cone at the mouth of the Power Port promotes laminar (smooth) airflow while the ever-increasing cross-sectional area of the space mimics a long flared port, and vastly

reduces air turbulence for superior bass response. Power Port helped Polk engineers deliver a surprising amount of bass even from smaller enclosures.

"RM6700's midrange was flawless—detailed and harmonically correct—and the treble was smooth, airy, and fully extended. We're downright persnickety about the way sats and subs work together, but the RM6700's blend with the PSW350 was absolutely perfect, causing the whole system to sing with one voice."

Steve Guttenberg, CNet.com, "Editor's Choice"



The Power Port inte-

grated into the design of these new RM6700 Satellites is small; you could easily miss it. But the effect it has on the sound and blending properties of these speakers is astonishing. By giving the satellites a low frequency response unheard of in such small speakers, the RM6700 Sats blend much more easily with their separate subwoofer for a far more realistic soundscape. In other



The integrated Power Port Bass Vent helps extend the low end response of the RM6700 Satellite.

words, Power Port bass response fills the "midrange hole" that is a constant bugaboo of compact speaker sub/sat systems; it helps fill in the frequencies that small speakers and dedicated subwoofers usually can't achieve, the midrange between the highs and the lows. The result is small speakers—you can hold them in the palm of your hand—that "sound like much larger speakers," according to audio guru Steve Guttenberg.^{**}

Like the combination of peanut butter and chocolate, the combination of compact RM Speakers and Power Port bass venting is about to go down in history as a great leap forward in the performance of compact speaker systems! 📺

^{*} HIFI News and Record Review, November 1995
^{**} C-Net.com, September 2002

speaker
brackets
& stands
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polkaudio.
com

The RM6700 System, shown here with the PSW303 Powered Subwoofer, available separately.



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Reviews

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DVD

Atlantis
(Buena Vista Video)

Hot Cuts:

4, 12, 13, 16



When you have small children in your family, like my very discriminating four- and six-year-olds, movie time can be trying to say the least. It's tough to find a movie that the kids agree on but won't bore you to tears at the same time. I don't mind if the movie is childish, but it helps to have some really cool effects and demo



scenes to keep me and my RT's occupied! Especially since we will watch it time and time again.

Atlantis is one of the more recent Disney animated blockbusters. It tells the story of a team of adventurers who stumble upon the long hidden city of the title deep beneath the sea, and then have to save it from the bad guy who wants to harness its energy to sell to the highest bidder. Atlantis has all the great Disney trademarks that keep kids interested; it's short, funny, and well made. And the characters are complex enough to keep adults interested. The 2-disc DVD presentation, though, that's strictly for adults who

want to really rock their sound system. Throughout the movie the expansive and dynamic musical presentation pulls you in and keeps your attention, most notably in Chapter 4, where the dramatic music really sets the mood for the adventure to come. Also, in Chapter 13, the powerful music underscored the sadness of the story and made everyone cry.

As the movie builds toward its climax, the aggressive sound design becomes more and more evident. Chapter 12, when giant statues of Atlantis's "Stone Kings" are activated by the city's power is particularly fun. The huge stone heads are hidden in a deep cavern, and suddenly they begin spinning out of control! The whirling of the massive statues echoes and vibrates around your room—everyone watching dived to the floor as the statues swung overhead! And then, they CRASH to the ground with an explosion of thunderous, echoing bass!

Finally, the devastating chaos of the lava flow in Chapter 16 is a spectacular demo scene, the flowing lava is realistically rendered in all channels, surrounding you,

only to crack and explode, shattering into millions of pieces (each of which seems individually represented in the sound mix). Needless to say, the full dynamic range of this scene is very impressive.

Atlantis is a great family movie, and the DVD presentation is utterly spectacular. From start to finish, my kids were hooked and had a great fun time; they laughed, they cried, they were angry with the bad guys and cheered at the end. They even danced through the closing credit music! And I was impressed with the performance on my Polk speakers. It was a wonderful night at the movies that pleased everyone!

by Maret Van Fleet, Polk Audio Buyer

continued on page 16



The Music Man, 1962
(Warner Home Video)

1776: Restored Director's Cut, 1972
(CTS)

Like a lot of people, I never purchased films on VHS. I was too worried about transfer quality and the fallibility of the media. But with DVD, all my major concerns have been addressed, and I have begun to enjoy owning digital transfers of my favorite films, especially older films whose VHS versions left much to be desired. DVD brings older films to life, with better audio and video quality. As an example, two great Hollywood musicals, *The Music Man* and *1776*, now boast 5.1 channel soundtracks that restore much of the detail from their master recordings that were lost on lesser media. This is cause for much rejoicing from my DS2 Home Theater System.

Is there "Ya Got Trouble"? Not with this DVD of Meredith Wilson's 1962 Broadway classic *The Music Man*. And there's no trouble hearing each word that Professor Hill is singing "Trouble In River City" (Chapter 7), as the 5.1 remastered soundtrack features quite a lot of detail in the recording of the musical numbers and a fair bit of dynamic range. Nothing I have heard since the theatrical release of *The Music Man* has sounded as good as this DVD. The barber shop number, Chapter 18, makes particularly good use of the front staging while the large-scale numbers capitalize well on the 5.1, enveloping you in the number. The soundtrack as a whole is a bit bass shy, but a quick adjustment to my DS2 Sub Level fixed that without any ill effects on vocals and orchestral mids. This disc is a keeper if only to see Ron Howard sifting about the Welth's Fihargo wagon. Don't get too close if you don't want any "ffhaff" on you! (Chapter 25, "Wells Fargo Wagon.")



Having seen *1776* live on Broadway, I was initially disappointed in the Hollywood version, which bombed at the box office in 1972. I guess there was no call for a historical musical "dramedy." But I found it interesting and innovative. This DVD restores all the missing footage that was left out of the original video and LaserDisc editions, thankfully restoring the coherence of the live theatrical presentation. Best of all, the DVD's remastered 5.1 soundtrack finally does justice to the original stereo recording (also included on the disc). It is clean and detailed; a dramatic improvement over any previous version. Restored musical numbers like "Cool Cool Considerate Men" (Chapter 16, removed from the film to placate Richard Nixon, it is said), and the show's high points, like Chapter 17, "Mama Look Sharp," and Chapter 22, "Molasses & Rum," sound excellent (and probably should be required curricula in middle-school American History classes!).

1776 is an inerevent and informative show. If you want to see Ben Franklin do some Rockettes-like high kicking, or find out why slavery was allowed in "the land of the free," a good place to be is this DVD of *The Music Man*. All in all, it makes my heart (and my DS2) sing!
(by Stu Lumsden, VP Engineering)



SANUS



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Speaker Impedance, Your Amplifier And You

Understanding Impedance Will Help You Achieve Better System Performance

by Paul DiComa, with loads of input from Ken Swauger & Scott Orth (pau intended)



Paul DiComa is Polk's Master of Ceremonies and redoubtable PR flack. Ken Swauger leads the Polk Customer Service Army, and Scott Orth is a Polk Audio Systems Engineer and acoustics expert.

Have you ever looked at speaker specs and wondered, "How many Ohms are in this speaker?" Or, have you ever thought, "My receiver says 'use with 8-Ohm speakers only,' so is it safe to use with my Polk speakers?" Ah, the mystery of the Ohm. Let me try to simplify what is one of the most complex issues in speaker and amplifier technology: *impedance*.

First, a simplified definition. Impedance is the electrical characteristic of a speaker that restricts ("impedes") the flow of power from your receiver or amplifier. Impedance is the combination of the resistance of a speaker plus its reactance. (Reactance describes the electrical effect

of the inductors and capacitors typically found in a speaker's crossover network. The drive elements themselves also have a "reactive" element.) The impedance value of a loudspeaker is expressed in Ohms. So much for "simple." Impedance attempts to quantify how difficult a speaker is to "drive," and thus describe its compatibility with various amplifiers.

Unfortunately, the impedance issue is usually so mishandled by manufacturers and misunderstood by consumers that for most folks, it falls to be a meaningful specification. (We'll try to change that here.)

Water, Water Everywhere

A useful analogy for the understanding of impedance is that of a water pipe and pump. The pipe diameter represents the impedance of your loudspeaker; the water flowing through it is power and the water pump is the amplifier (or receiver) itself. The pump pumps water through the pipe. A large diameter pipe allows a large amount of water to flow. This is a low impedance situation: the large pipe does not impede the large flow of water. A small diameter pipe allows less water to flow. This is a high impedance situation: the small pipe impedes the flow of water, keeping it small. Low impedance, large flow of power; high impedance, smaller flow of power. I'm trying to keep it simple, folks. Stick with me. Ultimately, this will help you better choose your electronics for optimum performance.

Now that we can think of impedance in terms of water flowing through a pipe, it's helpful to think of amplifier power (voltage and current) as water pressure and water flow respectively. Voltage (pressure) and current (flow) together create power. As an aside, "current" is measured in amperes and "voltage" is measured in volts. If 5 amperes of current flow with 40 volts of pressure the result would be 200 watts of power.

So, back to "simple." We have an impedance (the pipe) in which a given amount of power (water) flows, and the receiver (the pump) producing the voltage (pressure) and current (flow). As the pipe gets larger and the pressure stays the same, the flow drops and so you get less water. To keep the water the same, the pump must provide more flow. Thus, lower impedance flows must have higher power pumps (amplifiers). If the pipe is smaller, impedance to the flow is higher. Pressure can build up and flow becomes more difficult. Thus, lower impedance demands higher power "pumps"; higher power receivers and amplifiers.

And now, kind reader, we will be leaving "simple" behind. Please put your seats in their upright position and stow your tray tables.

In the world of speakers and amplifiers, the speaker's impedance influences the ratio of voltage and current. In my aside up there, I gave you 5 amperes and 40 volts multiplied together to get 200 watts. If we reduce the impedance of a speaker load by half, from 8-Ohms to 4-Ohms, but kept the power the same, we would find that the amount of current would multiply by the square root of 2 to 7.07 amperes and the voltage would reduce by the square root of 2 to 28.28 volts. Multiply 4 (the Ohms; smaller number, larger pipe) times 28.28 (volts) and you get the same 200 watts, but from the amplifier's point of view the job has gotten harder. Pressure has gone down because the pipe is larger, but the flow has gone up! So you see how the speaker's impedance changes the task of the amp, asking it to produce more (in this case) or less current flow.

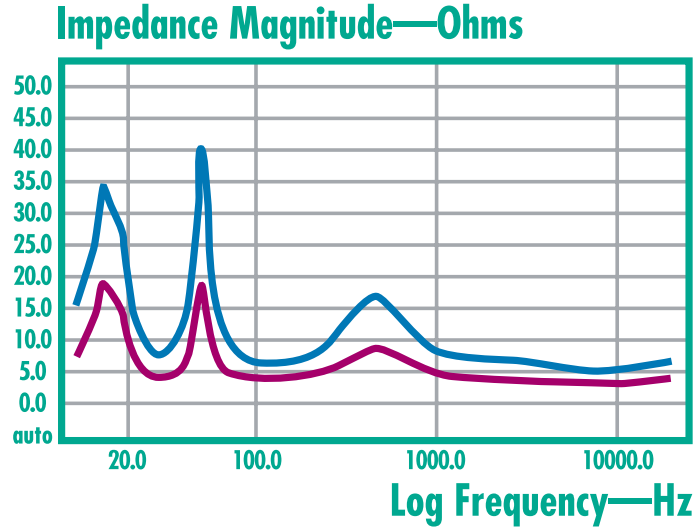
Higher Or Lower? Impedance restricts the flow of power from your receiver or amplifier. So it stands to reason that less impedance would be better, right? More flowing power is always better, right? RIGHT?!
Ha. Truth is a low impedance load—large pipe—stresses a receiver or amp by asking it to put out more current, and that can be bad especially if your amplifier is incapable of putting out the amount of current the low impedance speaker demands.

Using our water pipe analogy, increasing the pipe diameter (lowering the impedance) increases the water flow (current) but causes the water pump (amplifier) to work harder to maintain the desired amount of water pressure (voltage). In cases where a low quality amplifier attempts to "drive" (pump) its small amount of power into an impedance that is too low (too large a pipe), it may over-heat and shut down. In extreme cases, the receiver can break. Some receivers and amps are built to put out "high current" flows and can drive virtually any real-world speaker load without breaking a sweat. But many, particularly in the lower-cost range, simply cannot. Trying to get more power out of an amp that's not built for it is a sure way to wreak destruction. (Stay tuned for some practical receiver and amplifier evaluation/shopping tips later in the program.)

So, higher impedance is better? No. Impedance that is too high restricts the flow of current, vital current that a speaker needs in order to play loudly for next weekend's house party.

For most low to mid-grade electronics, and for most average speaker owners, a speaker impedance specification in the 6-8 Ohm range (the most common kind) represents a good compromise between current and voltage flow. That is to say, most amplifiers and receivers can safely drive speakers with 6-8 Ohm specs to enjoyable levels.

Entering The World Of "Difficult" But of course, in the audio world, simple spec numbers rarely adequately describe real-world performance. When a speaker



is specified as being "8-Ohms," that is really an oversimplification of a complex issue. A speaker's impedance is different at different frequencies!

Back to the pipe: A speaker's impedance actually behaves like a water pipe that is constantly changing its diameter! For a fraction of a millisecond it's 4" in diameter, the next millisecond it's 6" in diameter, then back to 4", up to 8", and so on and on. Add to this the fact that the "water pressure and flow," the audio signal, is constantly changing its own intensity. Things get louder and softer. Frequencies change. Nothing is constant.

The blue line in the graph above shows the actual impedance of a speaker that is rated as "8-Ohms." As you can plainly see, at 75Hz the speaker's impedance is 40 Ohms. At around 100Hz the impedance drops to just over 5-Ohms. Simply averaging the plot doesn't begin to describe the impedance of the speaker!

There is one last thing technical thing you should know, as we pull right into the station at "Difficult." The impedance load goes down (the pipe gets wider) when you run two speakers on the same amplifier channel. If you connect one pair of 8-Ohm speakers to the "A" outputs of your amp, another pair on the "B" outputs and run them at the same time (A+B), the receiver will "see" a 4-Ohm load. The red line in the graph shows the combined impedance of two of the same "8-Ohm" speakers hooked up in parallel. At around 100 Hz the impedance drops to about 3-Ohms and is 4-Ohms or less from just about 1kHz to 20kHz. If you're gonna do this, make sure your amp or receiver can drive a 4-Ohm load before even attempting such a hookup. For the three or four of you who don't remember High School math, the formula for calculating the total impedance of parallel loads is:

$$\text{Net Impedance} = \text{Product} \div \text{Sum}$$

(For example, for two 8 Ohm speakers you'd divide 64 by 16 to get 4 Ohms net impedance.)

Practical Advice Still here? Now that your head is filled with techno-babble, you're asking yourself, "How do I practically apply all this incredible information?" So here's some good ole Polk Audio real-world advice:

Since it's very hard to know and understand the implications of the impedance characteristics of a speaker, and because you never know what the future may bring, your best bet is to get a receiver or amplifier that is capable of driving a 4-Ohm load. It will cost you more but it will be the better long-term investment. When shopping for an amp or receiver, do your homework. No impulse purchases please.

See if there is any text on the rear panel of your amp or receiver (or in the manual) warning you not to use that product with a speaker that has less than an 8-Ohm rating. That may be an indication that the product will have a hard time driving a real-world speaker load. Shy away from this product, or at very least recognize that it may limit your speaker choice and ability to run 2 pairs of speakers at the same time (main and remote).

Look for power specifications that quote the amount of power the unit will produce at different impedance loads. For example, if the power is quoted as 80 Watts into 8-Ohms and 100 Watts into 6-Ohms, this indicates that there is some "reserve current capability," and that the amplifier is capable of working harder when it has to drive a lower impedance (and that's a good thing). If the manufacturer goes further and describes the amount of "power into 4-Ohm impedance," well, that's better still. Many separate power amplifiers can double their available power as the impedance reduces by half. Twice the power going from 8- to 4-ohms would be ideal. Unless your performance needs are very modest, be wary of receivers and amps that only quote power output into 8-Ohm loads. For more information about judging power ratings, see "Watts Up?" article on page 12 of Issue #1 of *The Speaker Specialist*.
[http://www.polkaudio.com/home/library/news/issue1/pg10-13.pdf]

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Reviews

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As soon as I put this one on, my brother wandered into the room and asked what I was watching. "The Last Waltz," a film about The Band's final concert," says I. "Uh, mediocre group," says he. Then he sat down and watched the entire two hours without moving. Such is the power of *The Last Waltz* to draw you in whether you're a fan of The Band or not.

The Band toiled in obscurity as Ronnie Hawkins' backup band and found fame in the early 70s working with Bob Dylan. The Band's first solo outing, *Music From Big Pink*, was a unique blend of Folk, Gospel, Country, R&B and good ol' Rock n' Roll. Critics raved, and The Band enjoyed success in the early 70s. Hard years on the road and intra-band tensions took their toll, and The Band disbanded in '76.

But not before one final sendoff. *The Last Waltz* is a document of The Band's marathon final concert, directed by Martin Scorsese (fresh from the success of *Taxi Driver*). The film includes interviews with the band, a couple of studio-shot performances as well as bracing concert footage. A long list of rock luminaries joined The Band on stage for this historic concert, including Neil Young, Van Morrison, Joni Mitchell, Muddy Waters, Eric Clapton and of course

Bob Dylan, who puts on a spirited performance.

Originally shot on 35mm film and fully restored by Scorsese himself, the DVD's visuals are far clearer and more vibrant than your average concert video. Scorsese's camera work and direction are also clearly a cut above and add immeasurably to one's enjoyment of the music. Even more insight into the film is provided by two audio commentary tracks.

The sound is as good as the video. Principle songwriter and lead guitarist Robbie Robertson personally supervised the 5.1 audio remix and the result is spectacular. On my LS9-based system the midrange was clear, open and present. Voices sounded great. The bass is well defined and musical and the surround mix was not overdone—used expertly for crowd noise, hall ambience and to add depth to the front stage image.



Bob Dylan is electric in "The Last Waltz."

For me, the musical and sonic highlights of the film include: Muddy Waters' "Mannish Boy" (Chapter 22), The Staples Singers adding buckets o'soul to "The Weight" (Chapter 13), Van Morrison doing "Caravan" (Chapter 29). The Band's most famous tune, "The Night They Drove Old Dixie Down" (Chapter 14), is a barnburner. I wish there were fewer cameo appearances (I could do without seeing or hearing Neil Diamond—*erer*) and a few more Band songs (how could Scorsese possibly have left out my favorite, "Chest Fever"?).

Both my brother and I, one a Band fan and one not, thoroughly enjoyed *The Last Waltz*. I recommend it to anyone who loves classic Rock and Roll, great video and superior sound.

by Paul DiComo

The Band (L to R): Richard Manuel, Robbie Robertson, Rick Danko, Levon Helm and Garth Hudson, from "The Last Waltz."

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Impedance

continued from page 15

Never connect three speakers in parallel to the same amplifier channel unless you really, really know what you are doing...on second thought, just don't do it.

If you do want the ability to connect multiple home audio speakers to the same amplifier channel, use an outboard switchbox that allows simultaneous multiple speaker operation at a constant impedance load. There may be some sonic drawbacks to such devices but it beats the alternative (a blowed up receiver). Russound (www.russound.com) makes such a switchbox.

In the car audio world things are a bit easier. Because high volume is such a valued commodity, speaker and amplifier manufacturers do all they can to maximize efficiency and sheer output. Speakers are usually 4-Ohms and most amplifiers have been optimized to drive 4-, 2- and even sometimes 1-Ohm loads.

So, What About Polk Speakers?

At Polk Audio, we're "keepin' it real." On the vast majority of our home audio speakers we quote impedance as "compatible with 8-Ohm outputs." What we

mean by that is that we have designed our speakers to have benign impedance characteristics so that any reasonable "real-world" piece of electronics, rated to drive a nominal 8-Ohm speaker, can safely drive the Polks.

We label the LS/ Series as "4-Ohm" speakers to signal to prospective buyers that they demand better quality amps and receivers, ones that are fully capable of driving 4-Ohm loads. Of course if you are a prospective LS/ owner, chances are you are a high-end amplifier owner as well.

Virtually all of our car speakers are 4-Ohm impedance and can be driven by just about any decent car stereo amplifier or head unit. Just be careful when running multiple speakers in parallel. Be careful running low impedance loads (2-Ohms) on bridged amps and stay away from the really cheap off-name electronics and you'll be fine. And loud.

We're Here For You

If you are ever in doubt about amp/speaker compatibility issues, you know our number (it's 800-577-7655). Call us with your questions Monday through Friday during normal East Coast business hours, or email us anytime at polkcs@polkaudio.com.

Know Your Impedance

All the talk about impedance boils down to whether a given amplifier or receiver is a good match for your speakers. When shopping for a home or car audio system, it's good to have an idea about the type of amp or receiver that best meets your needs before you go to the store. We made a crude little test here that may help guide you in making a better selection. This is just a starting point, not a real "amp choose." Tear out this article and bring it to the store to help your audio dealer match you up with the right amp or receiver. Our point system assumes you have Polk speakers. If you have another brand of speakers in your system our sober, reasoned and rational advice is to... get rid of them and get some Polks!

Home System Calculator

Circle the number answer that best represents you. Add up the circled numbers and then total them to get your final score. Use the Secret Decoder Ring to see what kind of amp or receiver best fits your needs.

The types of movies I watch most are "effects driven" (action/adventure/scifi).

Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
1	2	3	4

I listen mostly to high energy music (Hip-Hop/Rock/Metal/Rave/Dance).

1	2	3	4
---	---	---	---

I often play my system loud enough so that the person sitting next to me has to shout for me to hear.

1	2	3	4
---	---	---	---

I live in a dwelling where I can play my system as loud as I like without bothering my neighbors (fully detached house).

1	2	3	4
---	---	---	---

My listening room is big (700 sq. feet or larger).

1	2	3	4
---	---	---	---

I want to play two pair of speakers (main and remote) at the same time from the same amplifier (don't count surround speakers).

1	2	3	4
---	---	---	---

Total Points
Total your points. Add 6 points if you have LS/ or SDA Series models.

Secret Decoder Ring For Home
6-8 Points Scored
A moderately priced receiver with 50-80 Watts per channel will meet your modest needs. See what's on sale.*

11-15 Points Scored
A moderately priced receiver with 80-110 Watts per channel will meet your immediate needs.*

16-21 Points Scored
You are a bit on the feisty side, aren't you? You'd better seek out a "high current" amp or receiver with a minimum of 80 FTC-rated Watts/channel. Look only at premium brands and be prepared to spend more than average. Tell your dealer that you're looking for "the good stuff."

22-30 Points Scored
Hey you big bro, you're playing with the big boys now. Look to the premium "audiophile" brands and get a "high current" separate component amplifier or receiver rated at a minimum of 100 FTC-rated Watts per channel. Be prepared to spend the big bucks.

Car Speaker Calculator
Circle the number answer that best represents you. Add up the circled numbers and then total them to get your final score. Use the Secret Decoder Ring to see what kind of amp or receiver best fits your needs.

I listen mostly to high energy music (Hip-Hop/Rock/Metal/Rave/Dance).

Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
1	2	3	4

I listen mostly to high energy music (Hip-Hop/Rock/Metal/Rave/Dance).

1	2	3	4
---	---	---	---

I often play my system loud enough so that the person sitting next to me has to shout for me to hear.

1	2	3	4
---	---	---	---

I live in a dwelling where I can play my system as loud as I like without bothering my neighbors (fully detached house).

1	2	3	4
---	---	---	---

My listening room is big (700 sq. feet or larger).

1	2	3	4
---	---	---	---

I want to play two pair of speakers (main and remote) at the same time from the same amplifier (don't count surround speakers).

1	2	3	4
---	---	---	---

Total Points
Total your points. Add 6 points if you have LS/ or SDA Series models.

Car Speaker Calculator

Circle the number answer that best represents you. Add up the circled numbers and then total them to get your final score. Use the Secret Decoder Ring to see what kind of amp or receiver best fits your needs.

I listen mostly to high energy music (Hip-Hop/Rock/Metal/Rave/Dance).

Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
1	2	3	4

I listen mostly to high energy music (Hip-Hop/Rock/Metal/Rave/Dance).

1	2	3	4
---	---	---	---

I often play my system loud enough so that the person sitting next to me has to shout for me to hear.

1	2	3	4
---	---	---	---

I live in a dwelling where I can play my system as loud as I like without bothering my neighbors (fully detached house).

1	2	3	4
---	---	---	---

My listening room is big (700 sq. feet or larger).

1	2	3	4
---	---	---	---

I want to play two pair of speakers (main and remote) at the same time from the same amplifier (don't count surround speakers).

1	2	3	4
---	---	---	---

Total Points
Total your points. Add 6 points if you have LS/ or SDA Series models.

Secret Decoder Ring For Car
6-8 Points Scored
A good quality head unit with 10 continuous average Watts/channel (40 Watts Peak) will meet your modest needs.*

11-15 Points Scored
A moderately priced separate amplifier with around 40 continuous average Watts per channel will meet your immediate needs.*

16-21 Points Scored
You're going to need a high power separate amplifier with a minimum 80 continuous average Watts per channel. Look only at premium brands and be prepared to spend more than average. Tell your dealer that you're looking for "the good stuff."

22-24 Points Scored
LIKE IT LOUD DO YOU? Look to the premium brands and get a "high current" separate multi-channel amplifier rated at a minimum of 100 continuous average (RMS) Watts per channel. Be prepared to spend the big bucks.

* It is always a good idea to get a product that is better than you need right now. Your needs may change over time, plus "skipup" products usually provide better quality of sound as well as greater quantity.

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Polk's PSW Series Hits New Lows

More Powerful, Slot Loaded Subwoofers Make The Most of Music and Movie Effects

by Mark Suskind



PSW404 10" Driver, 200W



PSW303 8" Driver, 100W

NEW SERIES!
see them @
polkaudio.com

The importance of a powered subwoofer in music and movie sound systems is growing as people discover the fun of multichannel sources, like DVD and higher definition audio. Adding a subwoofer to your stereo music system gives you much more depth and realism, often allowing your main speakers to perform even better without the burden of delivering low frequencies. And a powered subwoofer is a must for multichannel home theater systems, where the ".1" in five-point-one actually specifies the discrete low frequency effects channel. Especially as filmmakers and DVD producers continue to up the low frequency ante. (I have two words for you: *Pod Race*.)

I wanted to go back to the drawing board for our new line, to explore what makes a sub work well and what we can do to make our subs better integrate into your music and movie sound systems. We came up with some major new directives.

PSW Features

- Real wood veneer finish.*
- Slot Load Venting for a tidal wave of precise, thunderous bass!*
- Rock-solid MDF construction (including a 1" thick front baffle) suppresses enclosure panel resonance for distortion-free, accurate response.*
- Big Long Throw Drivers for longer excursion and better linearity.*
- Huge Hi-Roll Surrounds that support their longer excursion.*
- High current, high Watt Continuous power amplifiers, with adjustable low pass cross-over, phase switch and volume controls for perfect blending with any main speaker.*
- Auto on/off circuits.*
- Magnetically shielded for safe, flexible placement next to a TV or video monitor.*

1 - 8 0 0 - 2 2 3 - 5 2 4 6

We chose true long throw drivers, whose motors have longer excursion lengths and better linearity (and made sure the big Hi-Roll Surrounds allow for the longer movement). And we built a selection of sizes that fit any need and budget, from compact big bass, to big, big bass.

But the biggest news—we're all about big here—is our new slot load vents. A slot-loading vent is a wide opening that runs the length of the enclosure, creating a long, broad space that dissipates the low frequencies produced by the driver inside the enclosure. This softens the wavefront's normally chaotic arrival in the expanded area outside the enclosure

(your room) by spreading it out before it hits the outside air, for less turbulence. It lowers distortion while pouring out waves of big bass. Lower distortion means more precision and a sharper bass attack.

Twice the power, combined with slot load venting, makes the new PSW Series perfectly musical and powerfully effective, whether you're watching movies or doing critical music listening.

Look for the 300W 12" PSW505—Coming Soon! 

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for holiday
AUDIO gifts
com



Tell Us What You Think About Reading *The Speaker Specialist*

Answer Our Nosey Questions And Be Entered In A Drawing For A PSW303 Powered Sub Or A Pair Of GNX10 10" Car Subs

Let us pick your brains with this quick survey, and you could win a PSW303 Powered Subwoofer or a pair of GNX10 10" Car Subs (your choice).

Two Ways To Win:

1 Take the survey here. Cut this page out (or photocopy it) and mail it to:
M. Cohen
Polk Audio
5601 Metro Drive
Baltimore, MD 21215



2 Save a stamp, hop online to <http://www.polkaudio.com/home/papersurvey/> and take the survey there.

Deadline for survey entries is midnight, January 20, 2003, so act fast!
Winning survey entrants will be chosen in a drawing on January 21, 2003.

1. Where did you get your copy of *The Speaker Specialist*?

- I saw it in my local dealer's showroom.
- I called or emailed Polk Audio and asked for it.
- I downloaded it from www.polkaudio.com.
- I just suddenly received it!
- A car audio event.
- A friend gave it to me.
- Other: _____

2. Has reading this paper inspired you to do something, and what did you do? (Check all that apply!)

- Yes, I tweaked my system using information I read in this newspaper.
- Yes, I've demo'd or purchased...
 - CD, DVD or Game.
 - Speakers (hopefully Polk's).
 - Audio Accessories.
- It's made me interested in products I wouldn't have otherwise known about.
- I've used my system more than I used to.

3. How many people read your copy of this newspaper?

- Just me.
- Me and one other person.
- Me and two or more other people.
- Whoever cleans the bird cage.

4. On a scale of 1 to 5, with 5 being MOST IMPORTANT, please rate how important each feature in the newspaper is to you (Circle Choice):

- | | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | CD & DVD Reviews |
| 1 | 2 | 3 | 4 | 5 | Educational How-To Articles (Home Products) |
| 1 | 2 | 3 | 4 | 5 | Educational How-To Articles (Car Products) |
| 1 | 2 | 3 | 4 | 5 | Letters From Readers |
| 1 | 2 | 3 | 4 | 5 | Company Info (A Peek Behind The Curtain) |
| 1 | 2 | 3 | 4 | 5 | Product Features |
| 1 | 2 | 3 | 4 | 5 | Car Install Pictures |

5. What is your principle audio interest?

- Home Stereo
- Home Theater
- Car Audio
- Multimedia Computer Audio
- Other: _____

6. What is your age?

- 18-24
- 25-34
- 35-49
- 50+

7. Use this space if you'd like to give us a piece of your mind. What do you like/dislike about the Polk Audio newspaper? What areas of interest would you like to see covered in the newspaper? What kind of foods do you think would be found in an HDTV dinner?

Your Name: _____

Your Mailing Address: _____

Your Email Address: _____ Daytime Telephone: _____

Cut Out & Mail To Us

No purchase necessary. Must be 18 years of age or older. Survey must be RECEIVED either by mail or in electronic form by Midnight, January 20, 2003, to be eligible for drawing. Completed surveys received after the deadline will be ineligible. One survey response per household, please. Your odds of winning will be determined by the number of people who enter this drawing. Polk Audio will contact the winner by telephone or email and require them to sign an affidavit attesting to their eligibility to win within 10 days of notification. Polk Audio will also post the name of the winner unless they specify not to be named. The winner is responsible for all applicable taxes. Polk Audio will pay the shipping expenses. This drawing is void where prohibited. Employees of Polk Audio, their families and members of their households are not eligible to participate in this drawing. Sorry guys.

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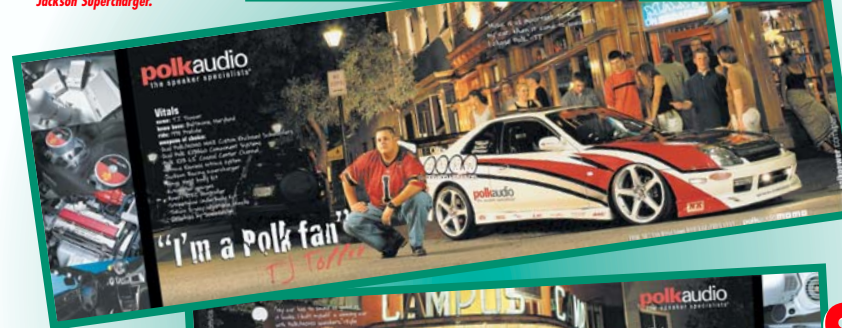
National Ads, Local Audio Talent

Polk/MOMO Kicks Off A National Campaign. Could Your Car Be Next?

Speed king! This interior of T.J.'s '98 Prelude shows off all the bells & whistles: Tach, Boost & Vacuum gauges, Pioneer LCD and APEXI Digital VTEC Fuel Management System for his Jackson Supercharger.



Three Pioneer amps power T.J.'s twin MM12 Subs. The Subs are stock, in their Polk/MOMO Custom Enclosures. See how these enclosures give you an "instant" custom install!



Hot daddy-of Taviti's completely restored Mustang Cobra includes genuine Shelby/Cobra upgrades, as well as audio mods like the Polk/MOMO Sound System. The front stage MM6 is shown here.



Kyle's '97 Eagle Talon features newer MM6 drivers coupled with MM455 Component Systems for superior imaging, while the single MM124 Subwoofer, powered by Alpine amps, pumps out enough low end to let everyone know Kyle's about to arrive.

The Back Page!