

DIGITAL AUDIO SPEAKERS™ & KITS

by

speakerlab



\$2.00

speakerlab

A LETTER FROM DAVID GRAEBENER - DIRECTOR, PRODUCT DEVELOPMENT

Fifteen years ago, Speakerlab started out in one tiny store in Seattle, Washington selling a new concept in stereo speakers - THE KIT. We quickly outgrew our home when folks began to discover just how easy it was to save money by assembling their own speakers. Since that time, while some pretty notable competitors have come and gone, we've continued to grow into the world's largest manufacturer of speaker kits.

In celebration of SPEAKERLAB' FIFTEENTH ANNIVERSARY, we have introduced two new product concepts: "our better than ever" kit offering and our new line of Digital Audio Speakers, the DAS series.

Our new kit offering now gives you TWO ways to save over the cost of our complete factory assembled speakers: the BASIC KIT, which includes drivers, crossovers and the cabinet building plans OR our COMPLETE KIT, which gives you all of the above along with pre-built cabinets.

Speakerlab's new DIGITAL AUDIO SPEAKERS, which after a year of intense research and engineering are being unveiled, and ready to challenge the Digital Audio Disc, the first significant improvement in audio fidelity since the stereo LP. Speakerlab's Digital Audio Speakers are both accurate and rugged. We weren't interested in solutions which gave accuracy at the price of fragility, or that would allow high power handling at the expense of efficiency. Our Speakerlab DAS series can handle up to 300 watts of sustained amplifier power and yet are very efficient, an impressive combination of features found in few if any other speaker systems! The results of our time consuming and sometimes frustrating engineering translates into speakers that make the most of the unerring fidelity and dynamics of digital, and yet brings to life decade old records from your collection.

We have also incorporated our new Inverse Axis Alignment design (the midrange above the tweeter) in some of our designs, which ensures that the sound of both midrange and tweeter arrive at your ears simultaneously. You will truly notice the cleaner, more defined sound with better imaging and heightened clarity. It is almost as if the music has been brought into sharper focus.

When you compare Speakerlab speakers with others on the market, you will find ours to be a better sound for the dollar. And, by contributing a few hours of your own time to building our kit, you will save over the assembled price! So read on, and you'll discover with our new DAS speaker kit designs, raw speakers and car speakers that state-of-the-art doesn't have to affect the state of your budget.

I hope you enjoy our new catalog.



DIRECTOR, PRODUCT DEVELOPMENT

ALL ABOUT SPEAKERLAB KITS

Top quality loudspeakers like our state-of-the-art Digital Audio series are composed of three important parts:

- Innovative design
- Superb components
- Time consuming assembly

While you're probably not in the mood to economize by learning acoustic design or taking up woofer fabrication, you can save money by assembling our designs yourself...quite a bit of money...using the simplest of tools...spending less than an hour per speaker.

To get the best speaker value in the U.S. all you have to do is order a Speakerlab DAS speaker kit and invest a little of your time to assemble the kit.

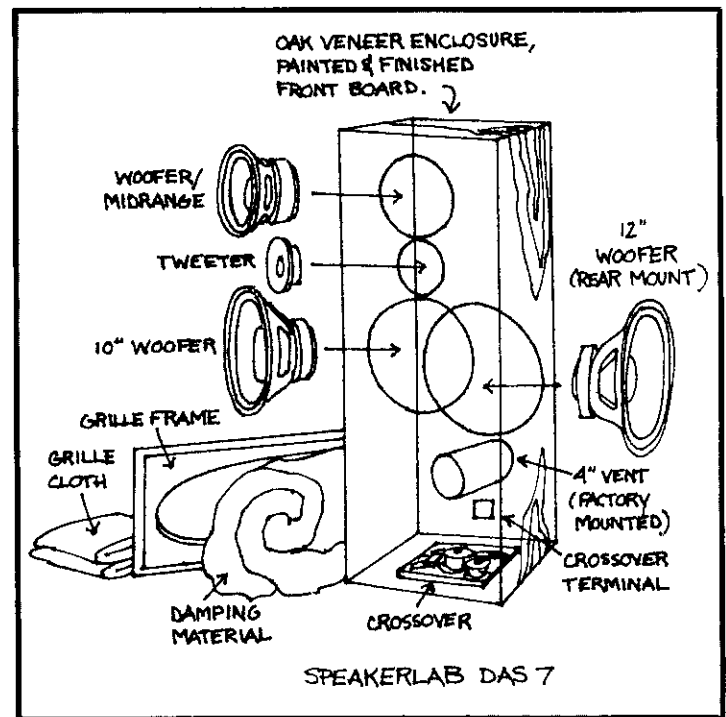
1. Order hassle free. Pick out the Speakerlab Digital Audio Speaker system that best fits your price range and listening style. Either fill out and mail in our order blank or call our toll free order placement number and charge your order to your credit card.

Choose either the BASIC kit or the COMPLETE kit. The BASIC kit includes all the drivers, pre-assembled crossovers, grille cloth, damping material and mounting hardware along with complete building plans and assembly instructions for making your own cabinet. The COMPLETE kit includes all of the same parts as the BASIC kit but you also receive our PRE-BUILT oak veneer cabinets.

2. Finish the enclosure. Our pre-built enclosures provided with the COMPLETE kit come with tips on various types of finishes. However, this is an individual choice depending upon what type of oil stain, varnish, wax etc. you prefer. You can rub a coat of Danish oil on in a half an hour or spend a week getting a mirror gloss. Add the finishing touches by attaching the acoustically transparent grille cloth to the grille frame in minutes with a staple gun or even faster with spray glue. Finally put the Speakerlab logo on the front grille.

3. Install the drivers and pre-built crossover. All you do is mount the crossover and plug color-coded wires onto each driver. Then you fill the enclosure with the dampening material we provide, mount the drivers with the hardware included with the kit onto the frontboard and your Digital Audio speaker is ready.

4. Enjoy your favorite music even more. Owning Speakerlab DAS speakers is like getting a new record collection. You'll be amazed at the impact and clarity that all your old records—not to mention new Digital Discs—will suddenly produce. And there's one more bonus—impressing your friends with your skill at speaker building. Just don't tell them how easy it really was.



WHAT DO I GET WHEN I PURCHASE A SPEAKERLAB DAS KIT?

Aside from the best value, high quality loudspeaker available, your Speakerlab DAS kit will include easy-to-follow, step-by-step assembly instructions, owner's manual and full warranty with:

- pre-tested drivers
- matched, pre-built crossovers
- damping material
- grille cloth
- mounting hardware
- pre-built oak veneer enclosures (with the COMPLETE kit)

IS THE ASSEMBLY OF A KIT DIFFICULT OR COMPLICATED?

Over 20,000 people all over the world have successfully built Speakerlab speakers. Average assembly time is less than one hour per speaker. All that is required is wood glue, a screw driver and staple gun or can of spray glue. The process isn't messy and can be done just about anywhere.

WHAT IF I DON'T WANT TO ASSEMBLE A KIT?

All Speakerlab speakers can be purchased as fully-assembled systems. We also offer individual drivers, crossover parts and accessories for those rugged individualists who want to go it alone and develop their own design.

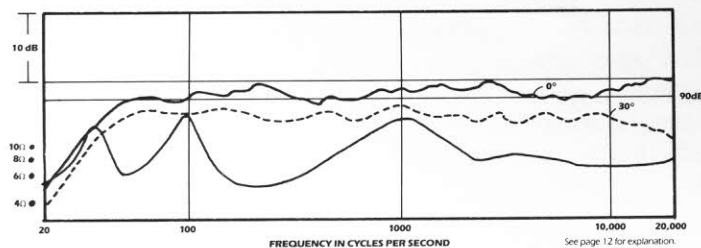
Photo set courtesy of Current Design.

The Speakerlab DAS-2



The compact DAS-2 sets the stage for our family of Digital Audio Speakers with amazing lifelike clarity, definition and solid bass far beyond the boundaries of its cabinet size. Meticulously designed crossover network and drivers fine tuned to a superbly constructed speaker cabinet give you smooth and articulate mid and high end sound with unerring accuracy and pinpoint imaging. Among our new enclosure design principles are narrow front panels for superb imaging and increased enclosure depth for less apparent physical size yet acquiring the needed volume for extended bass response.

The DAS-2 will not only offer you a price savings over other speakers in the same quality range, but you can realize even more of a savings by building the DAS-2 from our kit version.



The DAS-2 is a two-way system using a 5 1/4" (13.3cm) polypropylene cone woofer in a fourth order alignment and a 3/4" (19mm) magnetic fluid damped polypropylene dome tweeter. The filter network is a symmetrical third order design set at 2.5kHz. The enclosure volume is 0.25 cu. ft. (7.06 liters) and is tuned to 48Hz through the use of a rear mounted tubular vent. The frequency response is plus or minus 3dB from 50Hz to 21kHz. Sensitivity is 90dB at 1 watt 1 meter. Compatible amplifier power ratings are between 5 watts and 75 watts per channel. The enclosure size is 13"H x 7"W x 8 1/2"D. Nominal impedance is 4 ohms.

The Speakerlab DAS-3

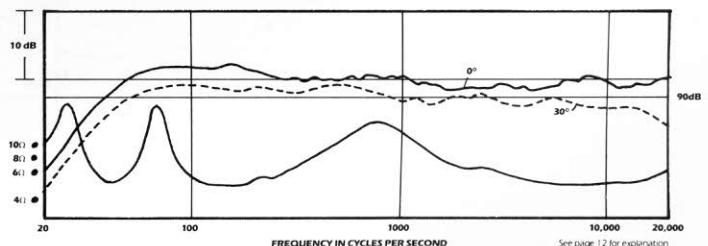
The DAS-3 is our second entry in our Digital Audio series. To increase both the efficiency and the low frequency bandwidth, we used a woofer with 48% more cone area and increased the enclosure volume size by 2 1/2 times over the DAS-2. As with all our Digital Audio series the enclosure offers fresh, contemporary styling that enhances any decor. The DAS-3 offers the same silky, open mid and high end of the smaller DAS-2 through the use of our innovative Inverse Axis Alignment.

This combination of innovative design principles, contemporary styling and quality sound are available in our money savings kit versions, guaranteed to assemble hassle free.

Compared to its diminutive size, the DAS-3 delivers superb bass response, high power handling and efficiency and stunning dynamics which is seldom experienced in speaker systems several times its size and cost.



The DAS-3 is a two-way system using a 6 1/2" (16.5cm) polypropylene cone woofer in a fourth order alignment and a 3/4" (19mm) magnetic fluid damped polypropylene dome tweeter. The filter network is a symmetrical third order design, set at 2.5kHz. The enclosure volume is 0.623 cu. ft. (17.6 liters) and is tuned to 42Hz through the use of a rear mounted tubular vent. The frequency response is plus or minus 3dB from 42Hz to 21kHz and the sensitivity is 91dB at 1 watt 1 meter. Compatible amplifier power ratings are between 10 and 100 watts per channel. The enclosure size is 21"Hx8"Wx10"D. Nominal impedance is 4 ohms.



The Speakerlab DAS-4

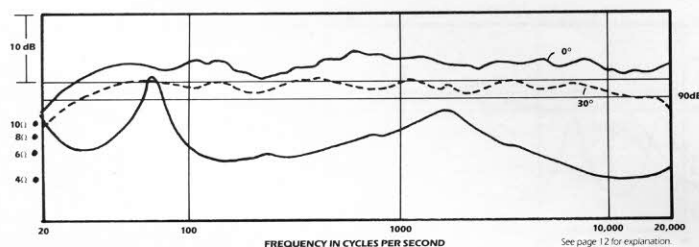


The DAS-4 is the largest "family" member of our two-way systems in the Digital Audio Speaker series. As with the DAS-2 and the DAS-3 speakers, we have designed a truly affordable system for the budget minded individual for whom a little labor and time dedicated toward kit assembly can yield a timeless value in sound quality.

The larger woofer cone area and the enclosure volume of the DAS-4 over the DAS-3 allows for nearly 1/3 of an octave extension in the lower frequency range to display a noticeable increase in the impact and detail of the low bass range. Polypropylene cone material is used again in both the tweeter and woofer to achieve a musical reality comparable to any similar sized speaker offered today.

The DAS-4 exhibits all the fine qualities of our most expensive systems from ferro-fluid to liquid cool the tweeter to the elegantly shaped and rigidly constructed enclosure. Careful attention to the crossover network for proper blending of the drivers with a truly seamless output has resulted in startling realism of the reproduced sound-stage.

The DAS-4 will enhance your musical enjoyment. Take advantage of wide dynamic capability of the DAS-4 and the realization of infinitely more music found in your audiophile records and digital compact discs.



The DAS-4 is a two-way system using an 8" (20cm) polypropylene cone woofer in a fourth order alignment and a 3/4" (19mm) fluid damped polypropylene dome tweeter. The filter network is a symmetrical third order design set at 2.5kHz. The enclosure volume is 1.37 cu. ft. (38.7 liters) and is tuned to 38Hz through the use of a rear mounted tubular vent. The frequency response is plus or minus 3dB from 36Hz to 21kHz and the sensitivity is 92dB at 1 watt at 1 meter. Compatible amplifier power ratings are between 20 and 100 watts RMS per channel. The enclosure size is 28"H x 10"W x 12"D. Nominal impedance is 4 ohms.

The Speakerlab DAS-5

The DAS-5 leads the way into our Digital Audio Speaker series of 3-way systems. Combined with our increase in woofer cone area and enclosure volume we added a rear mounted subwoofer to the DAS-5 for a quantum leap in bass performance. As with all the dual woofer systems in our line, the subwoofer operates in parallel with the front mounted woofer at the very lowest frequencies. Above that region, the front mounted woofer continues on to blend with the midrange or tweeter.

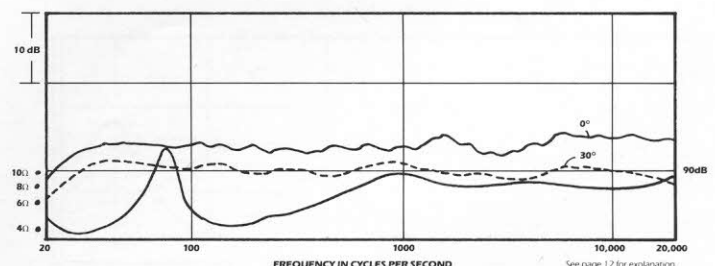
Along with this dramatically extended bass we've achieved a superb blending of the mid and high end to make the imaging three dimensional and the musical detail breathtakingly realistic. The wide dynamic capability of the DAS-5 allows for reproduction of the full range of volume levels found in live performances by virtue of both its efficiency and high power handling.

Precise sound reproduction is available within an affordable price range with the DAS-5 and available in a "best buy" version with the DAS-5k complete kit. And for the most phenomenal savings of all, the basic kit of drivers, crossovers, hardware and building plans is available for all the Speakerlab Digital Audio Speakers. Try and match that anywhere else!



Rear view of enclosure on page 11.

The DAS-5 is a three-way system using an 8" (20cm) subwoofer and a 6½" (16.5cm) woofer/midrange in a fourth order alignment and a 1" (25.4mm) fluid damped polypropylene dome tweeter. The filter network rolls off the subwoofer at 180Hz with a first order design and blends the 6½" woofer and 1" dome tweeter at 2.5kHz with a symmetrical third order design. The enclosure volume is 1.86 cu. ft. (52.5 liters) and is tuned to 35Hz through the use of a rear mounted tubular vent. The frequency response is plus or minus 3dB from 34Hz to 21kHz and the sensitivity is 93dB at one watt at one meter. Compatible amplifier power ratings are from 20 to 175 watts per channel. The enclosure size is 31"Hx11"Wx13"D. Nominal impedance is 4 ohms.



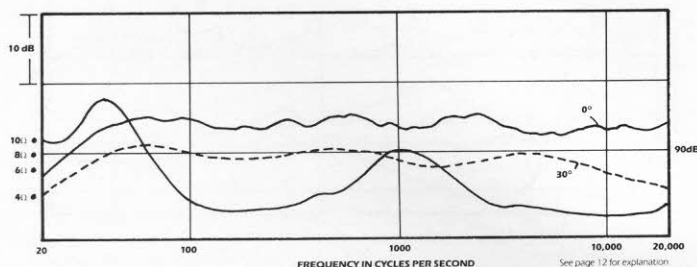
The Speakerlab DAS-6



Rear view of enclosure on page 11.

The DAS-6 is the next model in the dual woofer series. By increasing the woofer cone area 53% and the enclosure volume size by 33% over the DAS-5, a tuning frequency of 32Hz was achieved and fully realized at all power levels. The amplitude response of the DAS-6 is extremely flat and extended with no artificial emphasis on any isolated parts of the sound spectrum. The DAS-6 will reproduce the lowest of bass notes most folks never hear except at live performances.

The DAS-6 is guaranteed to give you years of enjoyable music listening experiences. If panoramic dispersion, precise imaging, wide dynamic range and high efficiency and power handling all at an affordable price are your choices in a loudspeaker, then the DAS-6 should definitely be considered. If all these qualities PLUS super-savings are your goals, the Speakerlab DAS-6 kit is your choice.



The DAS-6 is a three way system using a 10" (25.4cm) rear mounted subwoofer, an 8" (20cm) front mounted woofer in a fourth order alignment and a 1" (25.4mm) fluid damped polypropylene dome tweeter. The filter network rolls off the 10" woofer at 180Hz with a first order design and blends the 8" woofer and the dome tweeter at 2.5kHz with a symmetrical third order design. The enclosure volume is 2.5cu. ft. (70.6 liters) and is tuned to 32Hz through the use of a rear mounted tubular vent. The frequency response is plus or minus 3dB from 30Hz to 21kHz and the sensitivity is 94dB at one watt one meter. Compatible amplifier power ratings range from 20 to 275 watts per channel. The enclosure size is 36"H x 12½"W x 14"D. Nominal impedance is 4 ohms.

The Speakerlab DAS-7

The DAS-7 embodies the refinements digital recordings demand while continuing to provide the power and detail that has made it famous for over 10 years.

This four-way design has an increased radiating woofer cone surface of 58% over the DAS-6 along with over 1.6 times the enclosure volume. This means a phenomenally extended range of bass frequencies without distortion. The DAS-7 woofers will reproduce frequencies with no loss of efficiency or addition of coloration.

The midrange driver in the DAS-7 is the best we have found for use with high powered, high sensitivity systems where a low midrange crossover point is desired. As with all our drivers, it uses a polypropylene cone, the most neutral and resonance free material we have found. Acoustically superior properties of the polypropylene keep it from degrading the musical sound by adding sounds of its own.

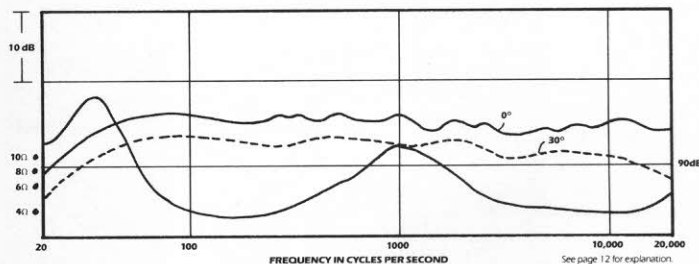
The DAS-7 will enhance your musical enjoyment, capturing life-like clarity and the extraordinary imaging found only in live performances. This re-creation of realism is achieved through the seamless blending of the drivers by our close tolerance designed filter networks and pin-point imaging through use of our Inverse Axis Alignment. And once again, this state-of-the-art system can be had at tremendous savings in our kit version.

The DAS-7, like its long heritage, will continue to clarify the meaning of high performance in loudspeakers.



Rear view of enclosure on page 11.

The DAS-7 is a four-way design that uses a 12" (30.5cm) rear mounted subwoofer, a 10" (25.4cm) front mounted woofer in a fourth order alignment, a 6½" (16.5cm) mid bass/midrange driver and a 1" (25.4mm) fluid damped polypropylene dome tweeter. The filter network rolls off the 12" woofer at 180Hz with a first order design and rolls off the 10" woofer at 350Hz with a second order design. The 6½" midrange begins at 350Hz and blends with the tweeter at 5kHz all with symmetrical third order circuits. The enclosure volume is 3.85 cu. ft. (108.7 liters) and is tuned to 24Hz through the use of a rear mounted tubular vent. The frequency response is plus or minus 3dB from 25Hz to 21kHz and the sensitivity is 94dB with one watt one meter. Compatible amplifier power ratings range from 20 to 275 watts per channel. The enclosure size is 38½"Hx14"Wx16"D. Nominal impedance is 4 ohms.



The Speakerlab DAS-8

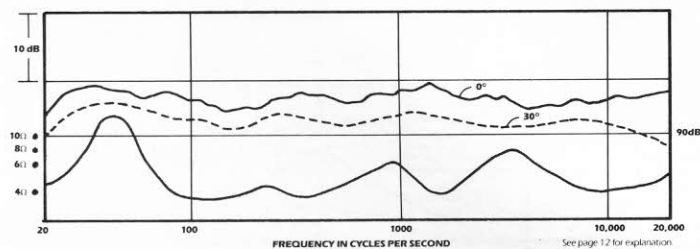


The DAS-8 is the flagship of our Digital Audio Speakers. It is the finest system we know how to build. The DAS-8 was designed to handle the most complex and demanding musical passages at the highest possible level of accuracy. The seamless blending of all five drivers is accomplished with a highly complex and specialized filtering system. The upper midrange driver is an amazing 3-inch polypropylene dome that uses the largest diameter voice-coil (3") we have seen. The beautifully accurate transient response of the midrange section is stunning.

Once again we have used our fluid cooled polypropylene dome tweeter for exact detailing, room filling dispersion and instantaneous transient response. We incorporated the same state-of-the-art polypropylene cone woofers in the bass section as used in the DAS-7 but tuned to even a lower frequency.

The DAS-8 is available in our Basic Kit with full detailed enclosure construction plans and assembly instructions included. By building your own enclosure you can save more than 65% over the factory assembled speaker and yet have truly the best loudspeaker in its size and price range. (The enclosure for the DAS-8 is not available separately nor is the DAS-8 available in the Complete Kit form.)

To experience all the excitement, powerful sound, three-dimensional imaging, and full dynamic range of live music and realize the full potential of the latest recording technology you owe it to yourself to have the DAS-8 Digital Audio Speakers in your home.



Rear view of enclosure on page 11.

The DAS-8 is a 5-way design using a 12" (30.5cm) rear mounted subwoofer and a 10" (25.4cm) front mounted woofer in a fourth order alignment, a 6½" (16.5cm) mid bass/lower midrange, a 3" (76mm) polypropylene dome upper midrange and a fluid damped 1 inch (25.4mm) polypropylene dome tweeter. The filter network rolls off the 12" woofer at 150Hz with a first order design and rolls off the 10" woofer at 350Hz with a second order design. The 6" mid bass unit begins at 350Hz and ends at 1.5kHz, the 3" dome midrange begins at 1.5kHz and ends at 5kHz, and the 1" dome begins at 5kHz all of which is accomplished with symmetrical third order circuits. The enclosure volume is 3.9 cu. ft. (110 liters) and is tuned to 22Hz through the use of a rear mounted tubular vent. The frequency response is plus or minus 3dB from 23Hz to 21kHz and the sensitivity is 94dB at one watt one meter. Compatible amplifier power ratings range from 20 watts to 300 watts per channel. The enclosure size is 46"Hx 16"Wx 13"D. Nominal impedance is 4 ohms.

The Speakerlab DAS-SW

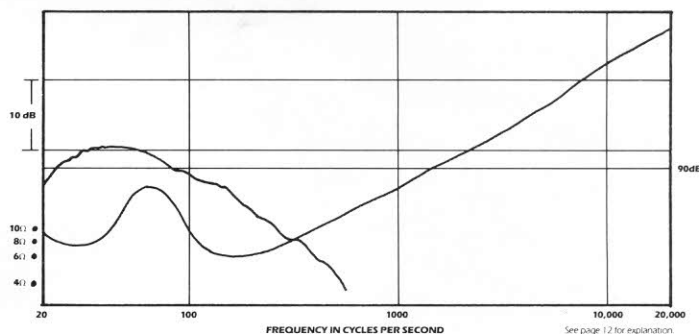
The DAS-SW subwoofer will add the ultimate in low end performance to any good loudspeaker system by providing additional bass in the last 2½ octaves of the sound spectrum from 200Hz down to 30Hz. The exceptionally high efficiency of the DAS-SW allows for realistic reproduction of musical passages in the lower end of the frequency spectrum required by today's demanding and complex digital recordings.

The DAS-SW is the ideal choice for use with any small speakers with an impedance of 4 ohms or higher. Our special dual voice-coil polypropylene 10" woofer acoustically sums the left and right bass signals. Since most recordings are monaural under 200Hz anyway, no separation is lost.

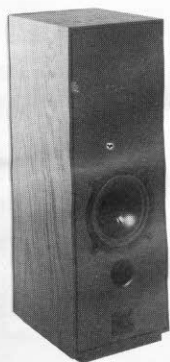
For a modest investment, the DAS-SW subwoofer will provide an immediate change in your sound system. Not only will you realize added bass, but by relieving your satellite speakers of the lower frequencies, via the DAS-SW's built-in high pass filter, they will reproduce a cleaner midbass and mid-range sound.



The DAS-SW is a subwoofer using a dual voice-coil 10" (25.4cm) polypropylene cone woofer in a fourth order design. The filter network is set at 150Hz using a third order design. The built in "satellite speakers output" (high pass section) is set at 150Hz using a first order network. The enclosure volume is 2.6 cu. ft. (73.4liters) and is tuned to 32Hz through the use of a rear mounted vent. The frequency response is plus or minus 3dB from 30Hz to 160Hz and the sensitivity is 91 dB at one watt one meter. Compatible amplifier power ratings range from 20 to 150 watts per channel. The enclosure size is 18"Hx18"Wx18"D. Nominal impedance is 8 ohms per channel.



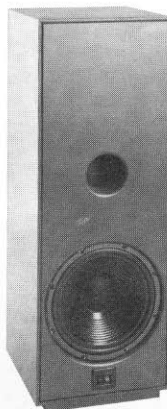
View of Speakerlab's Rear-Mounted Subwoofers



DAS-5



DAS-6



DAS-7



DAS-8

DAS RESPONSE CURVES EXPLAINED

In the interest of maintaining the most current standards of loudspeaker evaluation, we have used the Crown T.E.F. analyzer to test our entire line of DAS systems. This state-of-the-art computerized measuring device is ruthless in its ability to reveal even the most minute performance detail. Although we believe that comprehensive loudspeaker assessment consists of a balance between objective and subjective criteria, the T.E.F. analyzer demonstrates the impressive inroads technology has made into meaningful qualitative measurement of high performance loudspeaker systems.

Along with these measurement results, we have included frequency response curves, both on-axis (0°) and off-axis (30°) as well as impedance curves for each system. The frequency response curves are a composite blend of woofer/port near field measurements and one meter curves made with the microphone aligned equi-distant between woofer and tweeter. This system is used to more accurately represent the loudspeakers performance independent of the uncontrollable variable the room represents below approximately 200 Hz. The 30° off-axis curve is displaced approximately 5 dB to enhance visibility.

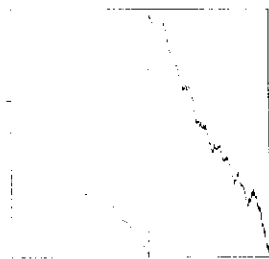
Phase vs. Hz: This is a typical display of the phase response of our DAS series, in this case, the DAS 4. The desirable shape of the phase response graph is as it appears for a "minimum phase" system, (i.e., $\pm 10^\circ$).

3-D A&B: This set of graphs illustrates the DAS 3 responding to an input signal, (curve "A") and responding to the removal of that signal (curve "B"). It represents that the speaker is both free of any significant resonant components as well as being very "fast" and well damped. These simultaneous performance characteristics translate into what we call "high resolution" or "fine detail," which means uncolored and resonance-free performance.

Impulse Response: This display is another indicator of the ability of a speaker to respond faithfully to instantaneous or transient signals. Upon close examination of the wave forms of nearly all music and speech, it can be said that it is composed almost entirely of transient signal components.

Even more demanding is the nearly unrestricted dynamic range of the video and audio laser discs and the Beta and VHS tape systems.

To fully achieve the stunning realism and detail in today's music, the loudspeaker must not compromise this delicate but demanding aspect of sound reproduction.



Phase vs Hz

Vertical: 45 degrees/div. 0 degrees is at the dashed horizontal line.

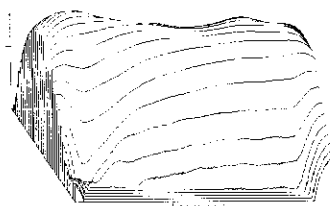
Horizontal: 200.24Hz to 19998.10Hz
Log freq axis (2.7decades)

Resolution: 5.6392E+00 Feet & 2.0038E+02Hz

Time of test: 3026 microseconds, 3.4198E+00 Feet

Sweep Rate & Bandwidth: 5009.55Hz/Sec & 2.5000E+01Hz

Input configuration: Channel 1
Balanced with 54dB of input gain & 18dB of IF gain.



3-D Sample A

Vertical: 6dB/div with base of display at 57.0dB. 0dB is located at .00002 Pascals

Horizontal: 200.24Hz to 10001.20Hz

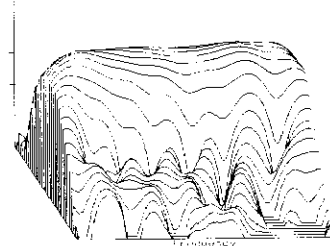
Scale: 2679.68Hz/inch or 1054.99Hz/cm.

Resolution: 4.5114E-01 Feet & 2.5048E+03Hz

Time of test: 2136 microseconds 2.4139E+00 Feet (front) to 4361 microseconds 4.9285E+00 Feet (back). 72 microseconds/step or 8.111370243195E-2 Feet

Sweep Rate & Bandwidth: 5009.55Hz/Sec & 2.0000E+00Hz

Input configuration: Channel 1
Balanced with 54dB of input gain & 18dB of IF gain.



3-D Sample B

Vertical: 6dB/div with base of display at 57.0dB. 0dB is located at .00002 Pascals

Horizontal: 200.24Hz to 10001.20Hz

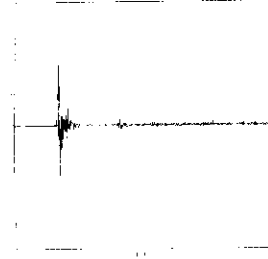
Scale: 2679.68Hz/inch or 1054.99Hz/cm.

Resolution: 4.5114E-01 Feet & 2.5048E+03Hz

Time of test: 4361 microseconds 4.9285E+00 Feet (front) to 2136 microseconds 2.4139E+00 Feet (back). -72 microseconds/step or -8.111370243195E-2 Feet

Sweep Rate & Bandwidth: 5009.55Hz/Sec & 2.0000E+00Hz

Input configuration: Channel 1
Balanced with 54dB of input gain & 18dB of IF gain.



Impulse Response

Vertical: Linear amplitude

Horizontal: 0 microseconds or 0 Feet to 17757 microseconds or 20.0659 Feet

Scale: 5.4862E+00 Feet/inch or 2.1599E+00 Feet/cm. 4855 microseconds/inch or 1911 microseconds/cm.

Line Spacing: 44.5049 microseconds or 5.02905E-2 Feet

Line Width: 60.5266 microseconds or 6.83951E-2 Feet

Sweep rate: 5009.55Hz/Sec

Sweep range: 29.98Hz to 22499.40Hz

Window file name: A:HAMMING.W8T

Input configuration: Channel 1
Balanced with 54dB of input gain & 18dB of IF gain.

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SPEAKERLAB PRICE LIST

SPEAKER SYSTEMS

DAS-2	complete assembled speaker*	(16 lbs ea)	\$ 198.00/pr
DAS-2k	complete kit with enclosure	(16 lbs ea)	168.00/pr
DAS-2s	basic kit—no enclosure	(9 lbs pr)	114.00/pr
DAS-3	complete assembled speaker*	(27 lbs ea)	\$ 298.00/pr
DAS-3k	complete kit with enclosure	(27 lbs ea)	238.00/pr
DAS-3s	basic kit—no enclosure	(11 lbs pr)	138.00/pr
DAS-4	complete assembled speaker*	(43 lbs ea)	\$ 398.00/pr
DAS-4k	complete kit with enclosure	(43 lbs ea)	310.00/pr
DAS-4s	basic kit—no enclosure	(12 lbs pr)	166.00/pr
DAS-5	complete assembled speaker*	(55 lbs ea)	\$ 598.00/pr
DAS-5k	complete kit with enclosure	(55 lbs ea)	440.00/pr
DAS-5s	basic kit—no enclosure	(20 lbs pr)	262.00/pr
DAS-6	complete assembled speaker*	(71 lbs ea)	\$ 798.00/pr
DAS-6k	complete kit with enclosure	(71 lbs ea)	590.00/pr
DAS-6s	basic kit—no enclosure	(37 lbs pr)	324.00/pr
DAS-7	complete assembled speaker*	(93 lbs ea)	\$ 998.00/pr
DAS-7k	complete kit with enclosure	(93 lbs ea)	748.00/pr
DAS-7s	basic kit—no enclosure	(48 lbs pr)	458.00/pr
DAS-8	complete assembled speaker*	(110 lbs ea)	\$ 1798.00/pr
DAS-8s	basic kit—no enclosure	(59 lbs pr)	572.00/pr

COMPLETE KIT WITH ENCLOSURE NOT AVAILABLE

DAS-SW	complete assembled speaker*	(58 lbs ea)	\$ 329.00/ea
DAS-SW/k	complete kit with enclosure	(58 lbs ea)	239.00/ea
DAS-SW/s	basic kit—no enclosure	(13 lbs ea)	105.00/ea

*available in lacquered natural oak veneer or lacquered black oak veneer

NOTE: Enclosures provided with complete kits are totally assembled with pre-cut frontboards ready for easy driver installation. The exterior of the enclosure is unfinished oak veneer ready to accept any stain or oil you choose.

Speakerlab SK folded horn speaker kit available in BASIC kit form only, on special order basis. Uses 15" woofer, 7" cone midrange and horn tweeter. SK-Plans included with the BASIC kit. Please call for pricing and availability.

WOOFERS

W528P	(3 lbs ea)	\$ 21.00/ea
W618P	(3.5 lbs ea)	28.00/ea
W818P	(4 lbs ea)	32.00/ea
W828P	(7 lbs ea)	49.00/ea
W848P	(8 lbs ea)	69.00/ea
W1028P	(8 lbs ea)	49.00/ea
W1088P	(7 lbs ea)	56.00/ea
W1048P	(8.5 lbs ea)	79.00/ea
W1208B	(6 lbs ea)	34.00/ea
W1208R	(8.5 lbs ea)	59.00/ea
W1228P	(7.5 lbs ea)	56.00/ea
W1528B	(16 lbs ea)	92.00/ea
W1555P	(10 lbs ea)	129.00/ea

MIDRANGES

M408B	(2.5 lbs ea)	\$ 32.00/ea
M608R	(3 lbs ea)	25.00/ea
M758B	(6 lbs ea)	59.00/ea
DM300P	(2.5 lbs ea)	46.00/ea

TWEETERS

DT75PF	(1 lb ea)	\$ 21.00/ea
DT100PF	(1.5 lbs ea)	29.00/ea
T300	(1 lb ea)	21.00/ea
DT110	(1.5 lbs ea)	24.00/ea
HT358F	(2 lbs ea)	59.00/ea

CAR STEREO

SCF1	(12 lbs pr)	\$129.00/pr
SCF2	(17 lbs pr)	159.00/pr
SCF3	(19 lbs pr)	259.00/pr
DSW	(13 lbs ea)	189.00/ea
SWD	(4 lbs ea)	64.00/ea
IRON		
LUNG	(26 lbs ea)	309.00/ea
W1004PA	(7.5 lbs ea)	\$ 54.00/ea
W1055PA	(8.5 lbs ea)	75.00/ea
W1555PA	(10 lbs ea)	145.00/ea
W964P	(5 lbs ea)	47.00/ea
F404P	(1.5 lbs ea)	21.00/ea

Car Crossovers

X3000	(.5 lbs ea)	\$ 8.00/ea
X180	(1 lb ea)	24.00/ea
X200/		
5000	(1 lb ea)	32.00/ea

Car Grilles

GF400	(.5 lbs ea)	\$ 5.00/ea
GF650	(.5 lbs ea)	5.00/ea
GF690	(.5 lbs ea)	5.50/ea

ACCESSORIES

Speaker Wire

SW18		\$.13/ft
SW16		.16/ft
SW14		.25/ft
SW12		.41/ft

Grille Cloth

30" wide		\$ 3.00/ft
60" wide		6.00/ft

Dacron Damping Material

(minimum required)

\$.50 per square foot

L-Pads (under 1 lb)

HPLP8		\$12.00/ea
LP8		4.00/ea
PBTS3		\$ 1.00/ea
GFF1		.25/ea

PUBLICATIONS

Loudspeaker Design Guide		\$ 5.00/ea
(add \$1.50 for postage and handling when ordered alone or with other publication)		
K-Plans		\$12.50/ea
(add \$1.75 for postage and handling when ordered alone or with other publication)		

CROSSOVERS AND CROSSOVER PARTS

Assembled Crossovers

X700/		
5000	(2 lbs ea)	\$ 39.00/ea
X2500	(1 lb ea)	15.00/ea

Coils—Air Core

(under 1/2 lb ea)

L.13A		\$1.60/ea
L.20A		1.65/ea
L.26A		1.75/ea
L.33A		1.80/ea
L.38A		1.85/ea
L.52A		2.00/ea
L.60A		2.25/ea
L.77A		4.25/ea
L.90A		6.50/ea
L.1.3A		6.75/ea
L.1.8A		7.00/ea
L.2.2A		7.25/ea
L.2.6A		8.00/ea

Coils—Open Iron Core E-Lam

(1 lb ea)

L3.9E		\$12.00/ea
L9.5E		15.50/ea
L5.1E		15.00/ea

Coils—Ferrite Bobbin Coil

(under 1/2 lb ea)

L6.5F		\$ 6.50/ea
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Capacitors—Mylar

C1M		\$ 2.00/ea
C2M		2.90/ea
C3M		3.40/ea

Capacitors—Electrolytic

C4.7E		\$1.10/ea
C6.8E		1.25/ea
C8.2E		1.30/ea
C12E		1.35/ea
C16E		1.40/ea
C20E		1.50/ea
C33E		2.00/ea
C50E		2.75/ea
C100E		3.00/ea

Resistors

All 10 watt		0.50/ea
All 5 watt		0.40/ea

speakerlab

PRICES AND DATA SUBJECT
TO CHANGE WITHOUT NOTICE WITHOUT NOTICE
PRICES GOOD TILL 11-1-85

DIGITAL AUDIO SPEAKERS™ SPEAKERLAB INC. 1985
Speakerlab Inc., 735 N. Northlake Way, Seattle WA 98103

SATISFACTION GUARANTEE

- 30 day trial period from date of receipt.
- Customer responsible for shipping costs both ways.
- No returns accepted without a Return Authorization—call or write first.
- Refund only if items are undamaged. Customer responsible for proper packaging and any shipping damage by fault of improper packaging or carrier handling.
- 10% restocking charge.
- NO RETURNS ON ACCESSORIES AND/OR CROSSOVER PARTS.

ENCLOSURE CONSTRUCTION

Cabinets may or may not be easy to build depending upon your woodworking experience. WE CANNOT EXTEND OUR SATISFACTION GUARANTEE ON BASIC KITS RETURNED DUE TO A CUSTOMER'S INABILITY TO CONSTRUCT THE ENCLOSURE.

RETURNS

ALL RETURNS MUST BE ACCOMPANIED BY OUR REQUIRED RETURN AUTHORIZATION. This includes repair returns, exchange returns and refund returns. Please give our order desk a call on the toll free line to request a return authorization.

1-800-426-7736

PROOF OF PURCHASE

Remember to always keep your receipt as proof-of-purchase if any warranty work should become necessary. No warranty work will be performed unless accompanied by a proof-of-purchase. It is the customer's responsibility to retain all sales receipts on Speakerlab purchases.

TECHNICAL INFORMATION

Our **Loudspeaker Design Guide** provides lots of useful information on speaker and crossover design theory. (See information on how to order the LDG on page 18.)

If you require further technical assistance concerning our products, please WRITE to:

**Speakerlab/Engineering Department
Box C-30325 Wallingford Station
Seattle, Washington 98103**

PLEASE INCLUDE A SELF-ADDRESSED, STAMPED ENVELOPE

THE SPEAKERLAB WARRANTY

SPEAKERLAB WILL ONLY WARRANT ITEMS FOR REPAIR, EXCHANGE OR REFUND WHEN ACCOMPANIED BY ORIGINAL PROOF-OF-PURCHASE RECEIPT. WARRANTY NOT TRANSFERABLE. GOOD ONLY TO ORIGINAL PURCHASER.

All Speakerlab limited warranties are guaranteed to the original purchaser against defects in material and workmanship in normal use.

FIVE-YEAR LIMITED WARRANTY

All DAS home speakers, assembled or kit

ONE-YEAR LIMITED WARRANTY

Raw speakers and speakers used in vehicles

"Normal" use means:

1. Use the recommended amplifier power (in watts RMS per channel) or less. All power ratings refer to safe amplifier power.

2. Use woofers in the recommended type and size enclosure.

3. Use midranges and tweeters at or above the minimum recommended crossover frequency. All tweeters must be crossed over at a slope of at least 12 dB/octave. The power rating for a midrange or tweeter refers to the system power (per channel) rather than to the power capability of the midrange or tweeter itself.

4. Use our hi-fi speakers for stereo reproduction at home. They are not designed for use with musical instruments and such use voids the warranty. Instrument speakers are designed along wholly different principles than stereo speakers.

5. Midranges and tweeters must be used with Speakerlab crossovers or equivalent.

6. Take care to avoid overload. Amplifiers put out distorted power well in excess of their ratings. Normal ratings are for maximum undistorted power. Tweeters are particularly susceptible to overload by high-frequency distortion that amplifiers generate when driven into clipping. Speaker overload is indicated by distorted sound output before damage occurs; **if it sounds bad, turn it down.** Speakerlab speakers are designed with adequate safety margin for

momentary accidental overload. Sustained overloads will cause permanent damage.

Every Speakerlab speaker has been tested carefully to determine what range of amplifier power is optimum for best performance. The "maximum safe amplifier power" specification refers to the RMS wattage per channel figure that the loudspeaker is designed to handle in normal use. If a 75-watt speaker is used with a 75-watt amp at or near full volume for long periods of time, this is not normal use. An analogy explains why this is so: If someone buys an automobile that has a top speed capability of 100 MPH and drives it that fast for many hours, the car is likely to develop some serious problems. The same is true for any loudspeaker. It also is a fact that a 20-watt amplifier can burn out a 100-watt speaker if the system is abused enough. Far more speaker damage is caused by small amplifiers run improperly than by amplifiers with more power than the speaker is said to handle safely when operated correctly. Distortion is the real culprit—not clean power. In nearly every case, a heat damaged (burned) speaker element is undeniable proof of abnormal, abusive operation. **Speakerlab reserves the right to make the final determination as to the cause of failure upon examination of the returned item.**

HOW TO ORDER

METHOD OF PAYMENT

Payment may be made by money order, certified check, VISA, Master Card, American Express, Diner's Club or personal check. NO CASH please.

- **Personal checks**—please allow two weeks for your personal check to clear before we ship your order.

- **C.O.D. orders**—we do accept C.O.D. orders with a 25% down payment the balance due upon delivery.

ORDERS PLACED BY TELEPHONE

Use our toll free number **1-800-426-7736**

to place your order by phone. If you are within Washington state or outside the continental U.S. (ie: Alaska, Hawaii, Puerto Rico etc.) please call **206-633-5020** and ask for the order desk.

- To place a telephone order, the order must total over our \$20.00 minimum.

- Payment must be in the form of VISA, MasterCard, American Express or Diner's Club.

- Credit cards—we will need the cardholder's name, billing address and telephone number for charge authorization.

- Our order desk is open between **9 AM and 4 PM Pacific Time.**

ORDERS PLACED BY MAIL

Use the Speakerlab Order Blank provided with your catalog or just write up your order on a piece of paper and mail to:

SPEAKERLAB MAIL ORDER DEPT.

C-30325 Wallingford Station

Seattle, Washington 98103

Please do not send cash with your order.

Mailed in credit card orders must include the cardholder's signature, billing address and telephone number.

Mailed in C.O.D. orders must include a 25% down payment. The balance due must be paid by money order, cash or certified check to the carrier. **Note:** available only by UPS or Motor Freight. Not available by Parcel Post.

SALES TAX

Washington state residents must add sales tax to the merchandise total. All orders shipped outside the state of Washington are exempt from sales tax.

PRICES, ETC.

- Prices are subject to change without notice.
- Prices do not include the cost of shipping.
- Both catalog data and product are subject to change without notice and are subject to correction for typographical errors.
- Weights for items listed may vary according to packaging methods.

We use three methods of shipping your order depending upon weight and size of the shipment, shipping restrictions or your special request. We normally ship freight collect. However, if that is impractical for you, we have provided information on prepaid shipments via UPS only.

1. UNITED PARCEL SERVICE (UPS). All of our kits and speakers can be sent via UPS with the exception of the DAS 7 COMPLETE kit. Ground UPS serves the continental United States only. Shipments must be under 70 lbs in weight. 2nd Day Air Service is available also and includes Hawaii.

We have provided UPS's rate chart so that you may estimate and include shipping costs if a collect delivery is not feasible for you. Please note that this rate chart is subject to change by UPS without prior notice.

A) Figure the weight of your shipment. Add 1 to 2 lbs, depending on the size of your order, for packaging material.

B) Find your zip code and calculate your shipping costs accordingly by use of the UPS chart.

C) For each order with a value over \$100, add 25 cents insurance for each additional \$100 or fraction thereof.

2. MOTOR FREIGHT. Our larger assembled speakers (ie: DAS-8 and the DAS-7) and the DAS-7 COMPLETE kit must be shipped via motor freight due to their size and weight. The minimum charge is for 100 lbs. Rates below are very approximate... you might want to check with a local freight company for more exact rates. **MOTOR FREIGHT SHIPMENTS ARE SENT FREIGHT COLLECT ONLY.**

Western U.S.	\$35.00 per 100 lbs
Central U.S.	\$40.00 per 100 lbs
Eastern U.S.	\$55.00 per 100 lbs

3. PARCEL POST. Orders will be shipped Parcel Post to all foreign countries, APO and FPO addresses, Puerto Rico, Alaska and Hawaii.* **PLEASE INDICATE ON YOUR ORDER FORM IF YOU WANT PRIORITY (AIR) MAIL.** Since there are size and weight restrictions on all shipments going Parcel Post, please check with your local Post Office for information and shipping rates.

*Hawaii residents may indicate faster UPS Blue Label shipping.

A) NO C.O.D. ORDERS VIA PARCEL POST. Merchandise must be paid for in full.

B) Orders to Alaska, Hawaii and Puerto Rico can be shipped freight collect... all others including APO and FPO must be prepaid for shipping costs.

C) International shipments must be prepaid in full including both merchandise and shipping cost in US FUNDS ONLY.

DAMAGE

Although damage is rare, upon receipt of your shipment immediately inspect the cartons and items inside before accepting delivery. If there is any damage, write "DAMAGED" on the bill of lading (for motor freight shipments) or note it with driver (UPS shipments or Parcel Post) to establish a claim. Call our order desk immediately for further information.

SHIPPING INFORMATION

Effective January 1, 1985

GROUND SERVICE								
WEIGHT NOT TO EXCEED	GROUND ZONES							
	2	3	4	5	6	7	8	
1 lb.	\$1.23	\$1.32	\$1.46	\$1.52	\$1.59	\$1.67	\$1.74	
2 "	1.24	1.34	1.63	1.73	1.87	2.01	2.16	
3 "	1.32	1.48	1.80	1.95	2.15	2.36	2.57	
4 "	1.40	1.61	1.97	2.16	2.43	2.70	2.99	
5 "	1.49	1.76	2.13	2.37	2.70	3.05	3.40	
6 "	1.57	1.89	2.30	2.59	2.98	3.39	3.82	
7 "	1.65	2.02	2.47	2.80	3.26	3.74	4.24	
8 "	1.73	2.14	2.64	3.02	3.54	4.08	4.65	
9 "	1.82	2.27	2.81	3.23	3.82	4.43	5.07	
10 "	1.90	2.39	2.97	3.44	4.09	4.77	5.48	
11 "	1.98	2.52	3.14	3.66	4.37	5.12	5.90	
12 "	2.06	2.65	3.31	3.87	4.65	5.46	6.32	
13 "	2.15	2.77	3.48	4.09	4.93	5.81	6.73	
14 "	2.23	2.90	3.65	4.30	5.21	6.15	7.15	
15 "	2.31	3.02	3.81	4.51	5.48	6.50	7.56	
16 "	2.39	3.15	3.98	4.73	5.76	6.84	7.98	
17 "	2.48	3.28	4.15	4.94	6.04	7.19	8.40	
18 "	2.56	3.40	4.32	5.16	6.32	7.53	8.81	
19 "	2.64	3.53	4.49	5.37	6.60	7.88	9.23	
20 "	2.72	3.65	4.65	5.58	6.87	8.22	9.64	
21 "	2.81	3.78	4.82	5.80	7.15	8.57	10.06	
22 "	2.89	3.91	4.99	6.01	7.43	8.91	10.48	
23 "	2.97	4.03	5.16	6.23	7.71	9.26	10.89	
24 "	3.05	4.16	5.33	6.44	7.99	9.60	11.31	
25 "	3.14	4.28	5.49	6.65	8.26	9.95	11.72	
26 "	3.22	4.41	5.66	6.87	8.54	10.29	12.14	
27 "	3.30	4.54	5.83	7.08	8.82	10.64	12.56	
28 "	3.38	4.66	6.00	7.30	9.10	10.98	12.97	
29 "	3.47	4.79	6.17	7.51	9.38	11.33	13.39	
30 "	3.55	4.91	6.33	7.72	9.65	11.67	13.80	
31 "	3.63	5.04	6.50	7.94	9.93	12.02	14.22	
32 "	3.71	5.17	6.67	8.15	10.21	12.36	14.64	
33 "	3.80	5.29	6.84	8.37	10.49	12.71	15.05	
34 "	3.88	5.42	7.01	8.58	10.77	13.05	15.47	
35 "	3.96	5.54	7.17	8.79	11.04	13.40	15.88	
36 "	4.04	5.67	7.34	9.01	11.32	13.74	16.30	
37 "	4.13	5.80	7.51	9.22	11.60	14.09	16.72	
38 "	4.21	5.92	7.68	9.44	11.88	14.43	17.13	
39 "	4.29	6.05	7.85	9.65	12.16	14.78	17.55	
40 "	4.37	6.17	8.01	9.86	12.43	15.12	17.96	
41 "	4.46	6.30	8.18	10.08	12.71	15.47	18.38	
42 "	4.54	6.43	8.35	10.29	12.99	15.81	18.80	
43 "	4.62	6.55	8.52	10.51	13.27	16.16	19.21	
44 "	4.70	6.68	8.69	10.72	13.55	16.50	19.63	
45 "	4.79	6.80	8.85	10.93	13.82	16.85	20.04	
46 "	4.87	6.93	9.02	11.15	14.10	17.19	20.46	
47 "	4.95	7.06	9.19	11.36	14.38	17.54	20.88	
48 "	5.03	7.18	9.36	11.58	14.66	17.88	21.29	
49 "	5.12	7.31	9.53	11.79	14.94	18.23	21.71	
50 "	5.20	7.43	9.69	12.00	15.21	18.57	22.12	
51 "	5.22	7.47	9.74	12.06	15.28	18.66	22.23	
52 "	5.24	7.50	9.78	12.11	15.35	18.75	22.33	
53 "	5.26	7.53	9.83	12.17	15.42	18.84	22.43	
54 "	5.28	7.56	9.87	12.22	15.49	18.93	22.54	
55 "	5.30	7.59	9.91	12.28	15.56	19.02	22.64	
56 "	5.32	7.62	9.96	12.33	15.63	19.11	22.74	
57 "	5.34	7.66	10.00	12.38	15.70	19.20	22.85	
58 "	5.36	7.69	10.04	12.44	15.77	19.29	22.95	
59 "	5.39	7.72	10.09	12.49	15.84	19.38	23.05	
60 "	5.41	7.75	10.13	12.55	15.90	19.47	23.16	
61 "	5.43	7.78	10.17	12.60	15.97	19.56	23.26	
62 "	5.45	7.81	10.22	12.66	16.04	19.65	23.36	
63 "	5.47	7.84	10.26	12.71	16.11	19.74	23.47	
64 "	5.49	7.88	10.30	12.76	16.18	19.83	23.57	
65 "	5.51	7.91	10.35	12.82	16.25	19.92	23.67	
66 "	5.53	7.94	10.39	12.87	16.32	20.01	23.78	
67 "	5.55	7.97	10.43	12.93	16.39	20.10	23.88	
68 "	5.57	8.00	10.48	12.98	16.46	20.19	23.98	
69 "	5.59	8.03	10.52	13.04	16.53	20.28	24.09	
70 "	5.61	8.06	10.56	13.09	16.59	20.37	24.19	

ANY FRACTION OF A POUND OVER THE WEIGHT SHOWN TAKES THE NEXT HIGHER RATE

2ND DAY AIR		
WEIGHT NOT TO EXCEED	48 STATES HAWAII	
	A	D
1 lb.	\$3.00	\$4.53
2 "	4.00	5.71
3 "	5.00	6.89
4 "	6.00	8.07
5 "	6.50	9.25
6 "	7.50	10.43
7 "	8.50	11.61
8 "	9.50	12.79
9 "	10.50	13.97
10 "	11.50	15.15
11 "	12.50	16.33
12 "	13.50	17.51
13 "	14.50	18.69
14 "	15.50	19.87
15 "	16.50	21.05
16 "	17.50	22.23
17 "	18.50	23.41
18 "	19.50	24.59
19 "	20.00	25.77
20 "	21.00	26.95
21 "	22.00	28.13
22 "	23.00	29.31
23 "	24.00	30.49
24 "	25.00	31.67
25 "	26.00	32.85
26 "	27.00	34.03
27 "	28.00	35.21
28 "	29.00	36.39
29 "	30.00	37.57
30 "	31.00	38.75
31 "	32.00	39.93
32 "	33.00	41.11
33 "	34.00	42.29
34 "	35.00	43.47
35 "	36.00	44.65
36 "	36.50	45.83
37 "	37.50	47.01
38 "	38.50	48.19
39 "	39.50	49.37
40 "	40.50	50.55
41 "	41.50	51.73
42 "	42.50	52.91
43 "	43.50	54.09
44 "	44.50	55.27
45 "	45.50	56.45
46 "	46.50	57.63
47 "	47.50	58.81
48 "	48.50	59.99
49 "	49.50	61.17
50 "	50.50	62.35
51 "	50.50	62.65
52 "	51.00	62.94
53 "	51.00	63.24
54 "	51.50	63.53
55 "	51.50	63.83
56 "	52.00	64.12
57 "	52.00	64.42
58 "	52.50	64.71
59 "	52.50	65.01
60 "	53.00	65.30
61 "	53.00	65.60
62 "	53.50	65.89
63 "	53.50	66.19
64 "	53.50	66.48
65 "	54.00	66.78
66 "	54.00	67.07
67 "	54.50	67.37
68 "	54.50	67.66
69 "	55.00	67.96
70 "	55.00	68.25

GROUND SERVICE

ZONE CHART

For Shippers with ZIP Codes 980-01 to 982-99

Service to 48 Continental United States

To determine zone, take first three digits of ZIP Code to which parcel is addressed and refer to chart below.

ZIP CODE PREFIXES	48 STATES	ZIP CODE PREFIXES	48 STATES	ZIP CODE PREFIXES	48 STATES
010-089	8	600-668	7	813	6
		669	5	814-831	5
100-199	8	670-673	7	832-834	4
		674-693	6	835	3
200-299	8			836-837	4
		700-709	8	838	3
300-399	8	710-711	7	840-847	5
342-399	8	712-714	8	850-859	6
		716-722	7	860	5
400-462	8	723	8	863	6
463-466	7	724-737	7	864	5
467-489	8	738-739	6	865-884	6
490-491	7	740-758	7	890-893	5
492	8	759	8	894-898	4
493-499	7	760-769	7		
		770-777	8	900-919	5
500-504	7	778	7	920-921	6
505	6	779	8	922-954	5
506-508	7	780-782	7	955	4
510-516	6	783-785	8	956-958	5
520-539	7	786-788	7	959-961	4
540	6	789	8	970-972	2
541-549	7	790-791	6	973-974	3
550-558	6	792-797	7	975-976	4
559	7	798-799	6	977-978	3
560-576	6			979	4
577	5	800-802	6	980-986	2
580-584	6	803-805	5	988-989	2
585-593	5	806-811	6	990-994	3
594-599	4	812	5		

See separate charts for UPS Next Day Air (where available) 2nd Day Air and Service to Canada. Air service is provided to all points in Hawaii.

WOOFERS

The heart of the woofer is the "motor" — the voice coil and magnet structure. Our voice coils employ windings with high temperature insulation that are glued in place with special thermosetting adhesive. The whole coil is then baked at 375 degrees F for 2 hours. A non-flammable Quintex collar at the top provides a good base for adhesion of the epoxy cement which bonds the voice coil to the neck of the cone. This is the most critical joint in a woofer. All this attention to temperature is necessary

because modern high power amps cause cyclical heating and cooling that destroys coils made by conventional means.

We use long windings on the coils to allow generous overhang of the coil on either side of the magnet gap. This means the woofer can undergo considerable excursion before the ends of the coil pull into the gap at which point woofer distortion increases drastically.



W528P: 5 1/4" midrange/woofer. Amazing bass response for a driver of this size. Perfect for satellite and auto use.

- polypropylene cone
- 60 watt power handling
- 60Hz to 4kHz plus or minus 3dB
- 8 ohms impedance
- home or auto use



W618P: 6 1/2" midrange/woofer. Excellent bass response, extremely linear midrange response, uncolored.

- polypropylene cone
- 75 watt power handling (woofer)
- 150 watt power handling (midrange)
- 50Hz to 4kHz plus or minus 3dB
- 8 ohms impedance
- home or auto use



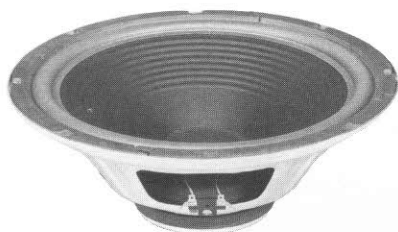
W818P: 8" woofer. Excellent for use in 2- or 3-way systems or in auto used in a sealed 1.0 cu. ft. box.

- polypropylene cone
- 75 watt power handling
- 40Hz to 4kHz plus or minus 3dB
- 8 ohms impedance
- home and auto use



W848P: 8" woofer. Unmatched for high power bass application. Enormous magnet assembly and voice coil with long excursion.

- polypropylene cone
- 200 watt power handling
- 35Hz to 1kHz plus or minus 3dB
- 8 ohms impedance



W1208B: 12" woofer. High value woofer at an inexpensive price. Great as a general purpose 12" replacement or use in low budget 12" systems.

- 100 watt power handling
- 40Hz to 1.5kHz plus or minus 3dB
- 8 ohms impedance



W1208R: 12" woofer. Always our most popular 12" of uncompromised design. High power use and high excursion.

- Polydam™ double layer cone
- 200 watt power handling
- 25Hz to 1.2kHz plus or minus 3dB
- 8 ohms impedance



W1228P: 12" woofer. High output and good power handling make this an excellent choice for vented or sealed 3-way systems.

- polypropylene cone
- 150 watt power handling
- 28Hz to 1kHz plus or minus 3dB
- 8 ohms impedance

WOOFERS

We have found there is an optimum magnet size and material for each woofer. We have also found that specifying magnet structure weight is misleading because only about $\frac{1}{3}$ of the magnet structure is magnet material; the rest is plain iron. On our Driver Parameter Chart on page 21 we list only the magnet material weight itself, not the "magnet assembly" or "magnet structure" as is the usual practice.

We have refrained from providing frequency response graphs on our woofers because the frequency response of a woofer depends upon the type and size of enclosure in which it is used and because response measurements are influenced considerably by the acoustics of the room or test chamber in which the measurements are made.

SEE PAGE 21 FOR WOOFER DRIVER PARAMETERS



W828P: 8" woofer. Outstanding choice for medium to high-powered systems. Compatible with sealed or vented designs.

- polypropylene cone
- 150 watt power handling
- 35Hz to 3kHz plus or minus 3dB
- 8 ohms impedance



W1088P: 10" dual voice coil woofer. Perfect for sealed or vented designs. Acoustically sums left and right channels.

- polypropylene cone
- 75 watt each channel power handling
- 33Hz to 200Hz plus or minus 3dB
- 8 ohms impedance (each voice coil)



W1028P: 10" woofer. Our best selling mid-priced 10" woofer for general use in vented and sealed designs. Great low end.

- polypropylene cone
- 150 watt power handling
- 30Hz to 2kHz plus or minus 3dB
- 8 ohms impedance



W1048P: 10" woofer. Awesome for high power bass applications. Great for vented, sealed or transmission line designs.

- polypropylene cone
- 200 watt power handling
- 25Hz to 1kHz plus or minus 3dB
- 8 ohms impedance



W1528B: 15" woofer. Uncompromised design for horn loading. Performs excellently in sealed as well as vented designs. Tremendous power handling.

- high density cone
- 2½" voice coil
- 250 watt power handling
- 20Hz to 600Hz plus or minus 3dB
- 8 ohms impedance



W1555P: 15" woofer. For the ultimate in home and car hi-fi dual voice-coil subwoofer use.

- polypropylene cone
- 2" voice coil
- 100 watt power handling
- 20Hz to 150Hz plus or minus 3dB
- 6 ohms impedance each voice coil

MIDRANGES

A good midrange can reproduce voice and music with far more realism and presence than a basic tweeter-woofer design. An old axiom of speaker design says "the midrange is where the music is." That elusive quality we call "realism" is largely the result of precise transient response, accurate tonal balance (frequency response) and low distortion in the middle three octaves of the spectrum from 500Hz to 5000Hz.

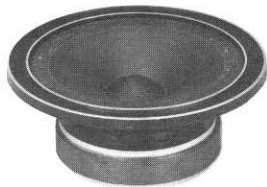
Our experience led us to some rules for obtaining these desired qualities. **1.** The moving mass should be as low as possible. **2.** The motor force generated by the magnet and voice

coil should be as large as possible. This gives the amplifier signal maximum control of the diaphragm's motion. **3.** The dispersion pattern should be as wide and uniform as possible—a must for proper imaging. **4.** Cone resonance must be suppressed by a proper combination of cone material and damping treatment.

While measurements are useful for correlating acoustical performance variations to construction changes in the speaker, only the ear is sensitive enough to judge overall quality of the end product.



- M608R:** 6" cone midrange. High value driver suitable for use in systems where low mid-bass/mid-range crossover point is desirable. Great in mini-speakers and satellite use.
- Polydam™ double layer cone
 - butyl rubber surround
 - 100 watt power handling at 350 Hz with 12dB/octave. 150 watt power handling with 6dB/octave slope at 700Hz
 - 150Hz to 6kHz plus or minus 3dB
 - needs .05 to 1.0 cubic foot sealed sub-enclosure
 - 8 ohms impedance



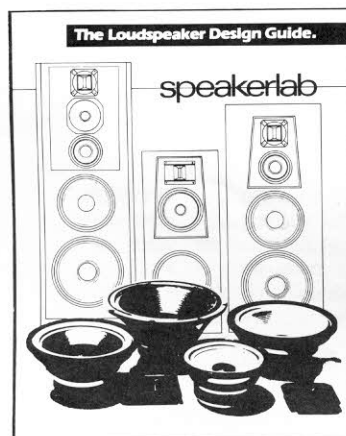
- M758B:** Extremely sensitive 7" cone midrange. High temperature voice coil and curved double layer cone combine for unexcelled speed and neutrality.
- Polydam™ double layer cone
 - 350 watt power handling at 350Hz with an 18dB/octave slope, 200 watts at 350Hz with a 12dB slope.
 - requires .1 cu. ft. sealed enclosure
 - 8 ohms impedance



- DM300P:** Very smooth and detailed 3-inch polypropylene dome midrange with very high power 3" voice coil.
- 300 watt power handling crossed over at 700Hz with a 12dB/octave slope, 150 watts at 700Hz with a 6dB/octave slope.
 - 600Hz to 6kHz plus or minus 3dB
 - requires .05 cu. ft. sealed enclosure
 - 8 ohms impedance



- M408B:** Extremely high quality cone midrange. 4 1/2" curved cone with flat foam surround offers unexcelled reproduction of the critical midrange spectrum.
- Polydam™ double layer cone
 - 150 watt power handling at 700 Hz with 12dB/octave. 100 watt power handling at 700 Hz with 6dB/octave slope.
 - 700 Hz to 8kHz plus or minus 3dB
 - 8 ohms impedance
 - has sealed sub-enclosure
 - see W618P under "woofers"



Loudspeaker Design Guide

The publication for designing your own speaker system: Designing a speaker system used to be a trial and error affair involving hundreds of tests on different combinations of drivers and crossover parts. This is fine for commercial designers who have the time and resources to do it, but tough on the at-home builder who is building a one-off speaker. He builds it, tinkers a bit, and that's how it comes out.

The "Loudspeaker Design Guide" includes articles on crossover network design, enclosure construction and design, folded bass horn theory, and bass reflex theory.

All in all, this publication is an extremely useful collection of nearly every practical aspect of loudspeaker building.

Order by mail only. **Send \$5 to: Speakerlab Publications**
735 N. Northlake Way
Seattle, WA 98103

(When ordering alone, add \$1.50 for postage and handling.)

NO PHONE OR CREDIT CARD ORDERS.

TWEETERS

A good tweeter covers the high range of music and voice. This frequency range is as often neglected in poor speaker systems as is the bass. But its just as important and luckily, in some ways easier to reproduce accurately.

A tweeter should exhibit minimum distortion, cover its assigned frequency range effectively and, as with midranges, have a wide dispersion. The last and toughest requirement of the tweeter is the transient response; many of the sounds in music reproduced by the tweeter are transient in nature. Transients are the "now" sounds that give liveness and realism to music.

Proper application of a tweeter dictates intelligent design of its crossover network. The lower its crossover frequency is, the less system power it will safely handle. And in addition to the recommended crossover frequency, the tweeter will need to be rolled off with a steep slope to ensure a healthy margin of safety.

OUR TWEETERS MUST BE USED AT OR ABOVE THE STATED CROSSOVER FREQUENCIES AND BE USED WITH 12DB/OCTAVE NETWORKS TO BE COVERED BY OUR GUARANTEE.



- DT110:** Fast and articulate 1" dome tweeter. Modestly coated dome and small radius annulus make the DT110 safest in 3-way systems.
- 60 watt power handling at 4kHz with 12dB/octave slope
 - 3kHz to 20kHz plus or minus 3dB
 - 8 ohms impedance



- HT358F:** High efficiency horn tweeter with magnetic fluid cooled voice for improved power handling.
- 350 watt power handling at 7kHz with 18dB/octave slope. 250 watt at 5kHz with 12dB/octave slope
 - 4kHz to 20kHz plus or minus 3dB
 - 8 ohms impedance



- DT75PF:** Polypropylene 3/4" dome tweeter. Very smooth and versatile.
- magnetic fluid cooled
 - 150 watt power handling at 3kHz at 12dB/octave slope
 - 3kHz to 20kHz plus or minus 3dB
 - home and auto use
 - 8 ohms impedance



- DT100PF:** Polypropylene 1" dome tweeter. Larger version of the DT75PF features smooth and articulate sound through use of well damped dome material and resonance suppressing magnetic fluids.
- magnetic fluid cooled
 - 200 watt power handling at 3kHz at 12dB/octave slope
 - 3kHz to 20kHz plus or minus 3dB
 - 8 ohms impedance



- T300:** 3" cone tweeter with plastic coated center cone. High sensitivity and low resonance makes it great for two-way systems. Steel mesh grille covers cone.
- 100 watt power handling at 2.5kHz with 12dB/octave slope. 150 watt power handling at 5kHz with 12dB/octave slope
 - 2.5kHz to 20kHz plus or minus 3dB
 - home and auto use
 - 8 ohms impedance

CROSSOVERS

The crossover is the least visible but perhaps the most important element in a speaker system. A good crossover smoothly divides the frequencies between the woofer, midrange, and tweeter while providing "flat" frequency response, linear phase response and minimum distortion.

Speakerlab L-C type crossovers fulfill this function with low loss precision wound coils and close tolerance electrolytic and film type capacitors.

Many people have written us requesting advice on what kind of crossover to use with various combinations of speakers. We found that in 90% of the cases we were recommending

variations on two basic designs — a 2-way network crossing over at 2500Hz and a 3-way network crossing over at 700Hz and 5000Hz.

We offer these two designs pre-assembled and ready to plug right onto your drivers. We also offer an excellent selection of crossover parts for those who want to design their own crossovers from scratch. For these folks we also recommend our highly acclaimed "Loudspeaker Design Guide" which contains valuable information on crossover design theory. (See page 18 for instructions on how to order the "Loudspeaker Design Guide").

ASSEMBLED CROSSOVERS

	X700/5000	X2500
Frequency	700Hz 8,500Hz	2500Hz
Type	3 way	2 way
Woofer - ohms	8	8
Midrange - ohms	8	N/A
Tweeter - ohms	8	8
Slope - 6dB	woofer	woofer
Slope - 12dB	tweeter/ midrange	tweeter
Power Handling	150	150
L-Pads	tweeter/ midrange	

CROSSOVER CAPACITORS

MYLAR		ELECTROLYTIC	
Part #	Value	Part #	Value
C1M	1uF	C4.7E	4.7uF
C2M	2uF	C6.8E	6.8uF
C3M	3uF	C8E	8uF
		C12E	12uF
		C16E	16uF
		C20E	20uF
		C33E	33uF
		C50E	50uF
		C100E	100uF

CROSSOVER ACCESSORIES

SPEAKER WIRE

Sold in 10 ft. increments only.

SW18	18 gauge
SW16	16 gauge
SW14	14 gauge
SW12	12 gauge

L-PADS

HPLP8	200 watts at 400Hz, 8 ohms
LP8	30 watts at 700Hz, 8 ohms

ETC.

PBTS3	Pushbutton terminal cup-type. Compatible with dual banana plugs.
GFF1	Grille frame fasteners — mushroom type.

CROSSOVER COILS

AIR CORE COILS (max. 350 watts)

Part #	Value
L. 13A	.13mH @ .23 ohms
L. 20A	.20mH @ .3 ohms
L. 26A	.26mH @ .4 ohms
L. 33A	.33mH @ .45 ohms
L. 38A	.38mH @ .51 ohms
L. 52A	.52mH @ .57 ohms
L. 60A	.60mH @ .67 ohms
L. 77A	.77mH @ .84 ohms
L. 90A	.90mH @ .95 ohms
L1.3A	1.3 mH @ 4 ohms
L1.8A	1.8 mH @ 1 ohm
L2.2A	2.2 mH @ 1 ohm
L2.6A	2.6 mH @ 1 ohm

OPEN IRON CORE E-LAM COILS

(max. 250 watts)

L3.9E	3.9mH @ .9 ohms
L9.5E	9.5mH @ .9 ohms
L5.1E	5.1mH @ 1.1 ohms

FERRITE BOBBIN COILS

(max. 200 watts)

L6.5F	6.5mH @ .9 ohms
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RESISTORS

5 watt	10 watt
R3/5W	R2/10W
R4/5W	R4/10W
R5/5W	R5/10W
R15/5W	R7.5/10W

GRILLE CLOTH

Sold by the running foot only.
MINIMUM 2 FEET.
Available in black, brown and grey.
30 and 60 inches wide.

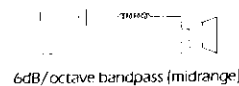
DACRON DAMPING MATERIAL

Approximately 1" thick.
Sold by THE SQUARE FOOT.
MINIMUM 4 SQ. FT.

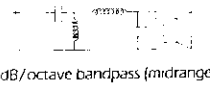
CROSSOVER PARTS CHART

The following wiring diagrams and chart listing crossover parts are meant to show you what parts are necessary to crossover the various raw drivers we offer and how to wire these parts together. Of course, because we've tailored the parts to our driver selection, the values will vary from "textbook" values.

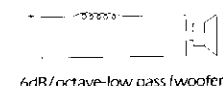
To achieve optimum performance from a combination of raw drivers, many hours of fine tuning of the crossover network are necessary. We recommend the "Loudspeaker Design Guide" for further information on crossover theory for those of you who wish to undertake designing your own network. WE DO NOT OFFER OUR SPECIFICALLY DESIGNED AND TAILORED NETWORKS FROM OUR KITS FOR SALE SEPARATELY FROM THE KIT.



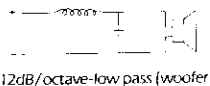
6dB/octave bandpass (midrange)



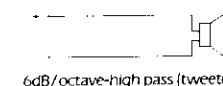
12dB/octave bandpass (midrange)



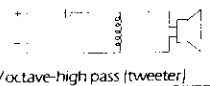
6dB/octave-low pass (woofer)



12dB/octave-low pass (woofer)



6dB/octave-high pass (tweeter)



12dB/octave-high pass (tweeter)
REQUIRED FOR SPEAKERLAB TWEETERS

*Note: A 12dB/octave bandpass for midrange circuits is simply a 12dB/octave high pass at the LOWER crossover frequency cascaded in series with a low pass at the HIGHER crossover frequency.

A 6dB/octave bandpass for the midrange simply cascades the capacitor value for the LOWER frequency with the inductor value for the HIGHER frequency.

Two or more capacitors can be connected in parallel to obtain larger values of capacitance. The total value of the combination is equal to the sum of the values of the individual capacitors. MANY OF THE CAPACITORS IN THE CROSSOVER CHARTS ARE TO BE CONNECTED IN THIS WAY TO OBTAIN THE VALUES NEEDED.

Xover freq.	ohms	6dB low pass	6dB high pass	12dB low pass	12dB high pass
8000	8	L.13A	C2M	L.26A/C2M	C2M/L.26A
5000	8	L.26A	C4.7E	L.38A/C3M	C3M/L.38A
5000	4	L.13A	C8E	L.26A/C4.7E	C4.7E/L.26A
3000	8	L.38A	C6.8E	L.38A/C4.7E	C4.7E/L.38A
3000	4	L.20A	C12E	L.20A/C8E + C1M	C8E + C1M/L.20A
2500	8	L.52A	C8E	L.77A/C4.7E + C1M	C4.7E + C1M/L.77A
2500	4	L.26A	C16E	L.38A/C8E	C8E/L.38A
1500	8	L.90A	C6.8E + C6.8E	L1.3A/C8E + C1M	C8E + C1M/L1.3A
1500	4	L.38A	C20E	L.60A/C16E + C2M	C16E + C2M/L.60A
700	8	L1.8A	C20E	L2.6A/C20E	C20E/L2.6A
700	4	L.90A	C50E	L1.3A/C20E + C16E	C20E + C16E/L1.3A
350	8	L3.9E	C50E	L5.1E/C20E + C16E	C20E + C16E/L5.1E
350	4	L1.8A	C100E	L2.6A/C50E + C33E	C50E + C33E/L2.6A
200	8	L6.5F	C100E	L9.5E/C50E + C20E	C50E + C20E/L9.5E
200	4	L3.9E	C100E + C100E	L6.5F/C100E + C50E	C100E + C50E/L6.5F

DRIVER PARAMETERS

Speakerlab's woofers are fully characterized by Thiele-Small parameters for use in box designs. No longer need speaker designers go through extensive trial-and-error enclosure tweaking before finding an acceptable design. Thiele-Small theory makes it possible to predict with reasonable confidence how a given enclosure will perform—provided you know the woofer's Thiele-Small parameters.

Definitions

The Thiele-Small parameters are:
FS Natural resonant frequency of the woofer. Measured on a flat baffle, which offers an air mass load to the woofer similar to that present when the unit is in normal operation in an enclosure. Measurements are made after a 20 minute break-in period. A speaker's resonant frequency will drop 10-20% after break-in, which ordinarily takes 5-10 hours of normal music playing.
Vas Acoustic compliance. Expressed in terms of the equivalent air volume, that is the volume of air having the same acoustic compliance as the driver suspension. It is computed from the mechanical compliance. Compliance is also measured after break-in. Given in cubic feet and liters.
Cms Mechanical compliance of the moving system in millimeters per Newton.
Qms Mechanical Q of the driver due to mechanical losses.
Qes Electrical Q of the driver is controlled by the electrical damping, which depends on the BL product and voice coil resistance, (Re).
Qts Total Q of the driver taking into account both mechanical losses and electrical formula:

Qts Total Q of the driver taking into account both mechanical losses and electrical formula:

$$\frac{1}{Q_{ts}} = \frac{1}{Q_{es}} + \frac{1}{Q_{ms}}$$

The three Q's are measured by Small's voice coil impedance technique (Small, op. cit.)

Mms Moving mass of the cone, voice coil, and suspension in grams.

Rms Mechanical resistance of the moving system in Newton seconds per meter.

Sd Effective piston area of the driver's cone, equal to the mean of the surround inner diameter and outer diameter in square meters.

Re Voice coil DC resistance.

BL BL product is equal to the average magnetic field (B, in Teslas) times the length of voice coil wire in the gap (l, in meters). It is a measure of the driver's motor strength.

REF SPL Reference sound pressure level, measured at 1 meter with 1 watt nominal input (2.83 volts RMS for 4-ohm rated drivers.) Measured in a typical listening environment. 0 dB is defined as .00002 Newtons/sq.m.

The theory of how to do this has been described by Thiele and Small. See Neville Thiele, "Loudspeakers in Vented Boxes," Journal of the Audio Engineering Society, May and June 1971; Richard Small, "Closed-Box Loudspeaker Systems," J.A.E.S., Dec. 1972 and Jan.-Feb. 1973, "The Loudspeaker Design Guide," available from Speakerlab.

Lvc Inductance of voice coil in milli-Henries measured at 1 kHz. Useful in determining impedance equalizer parts values.

Magnets Magnet material weight given is the weight of the Alnico or ceramic only, and does not include the metal magnet structure parts. Our ceramic magnets are made of Anisotropic Barium Ferrite (ABF), a very high energy material; its B-H product is 3.5 million gauss-oersteds/cc. Alnico 5's energy product is 5.5 million gauss-oersteds/cc.

Voice coil overhang is the amount the centered voice coil extends above and below the gap.

Power The power used by a speaker depends on the loudness level desired; since loudness level is a matter of personal preference, it is impossible to specify exactly. The "minimum recommended power" given for woofers will provide a level typically regarded as "very loud". **Due to our lack of control over what kind of system and crossover the drivers will be used with when purchased separately, we have listed some of the power ratings slightly less than our systems that use the same drivers.**

Maximum recommended power for woofers and fullranges refers to the power of the largest amplifier it is safe to use in watts RMS per channel, when the driver is mounted in the proper enclosure. This rating is valid for home stereo reproduction only. You can use a more powerful amplifier if you operate it only at moderate volume level, that is, at less than full power output.

The system power rating for midranges and tweeters refers to the highest amplifier power (in watts RMS per channel) that is safe to use with the midrange or tweeter in a speaker system, when crossed-over at (or above) the minimum recommended frequency with at least the recommended slope; not the power dissipation of the midrange or tweeter alone. All of our tweeters require slopes of at least 12 dB/octave, except in supertweeter applications. The system power rating depends on the crossover frequency; a lower crossover frequency sends a higher percentage of the total system input power to the midrange or tweeter. Therefore the rating given is valid only when crossing over at (or greater than) the minimum recommended crossover frequency and slope.

WOOFERS

	W528P	W618P	W818P	W828P	W848P	W1004PA	W1028P	W1048P	W1088P	W1055PA	W1208B	W1208R	W1228P	W1528B	W1555P	W1555PA
f _s (Hz)	85	56	36	31.2	21.0	36.0	28.0	19.1	27.0	25	19.0	21.4	21.9	23.0	16.7	23.0
Vas (ft ³)	0.137	0.59	1.26	1.33	2.84	2.81	6.1	6.89	5.1	1.466	22.4	9.72	14.3	18.9	30.8	17.7
Qms	3.9	5.46	3.8	4.9	6.02	2.57	2.7	7.227	3.47	3.665	5.06	3.55	7.88	2.30	4.15	2.08
Qes	1.55	0.839	0.9	0.141	0.262	0.605	0.716	0.275	1.05	1.639	0.492	0.673	0.296	0.31	0.729	0.954
Qts	1.11	0.727	0.72	0.137	0.251	0.490	0.56	0.265	0.809	1.131	0.449	0.556	0.285	0.270	0.62	0.654
Mms (gm)	12.1	10.8	20.0	20.4	44.5	40.44	39.0	58.8	46.2	43.07	43.6	66.0	76.77	112.0	109.9	100.1
Sd (sq.m)	0.010	0.0148	0.021	0.021	0.021	0.034	0.34	0.034	0.034	.034	0.053	0.053	0.052	0.086	0.086	0.086
Re (ohms)	6.6	7.2	7.2	6.0	5.9	3.2	5.9	6.0	6.6	5.3	5.7	6.5	5.6	6.0	3.6	3.6
BL (T-m)	5.0	4.8	9	12.5	11.5	7.0	7.1	12.41	5.95	6.512	7.8	10.25	11.7	12.2	7.4	7.42
REF SPL (dB)	90	92.8	92.3	92.3	89.7	93.0	91.6	92	88.9	90.5	94.5	92.12	93.0	101.0	92.6	93.16
LVC (mH)	0.51	0.52	0.52	1.1	1.6	1.0	1.1	1.6	0.9	.80	1.0	1.6	1.1	1.3	1.1	1.1

CONSTRUCTION

	W528P	W618P	W818P	W828P	W848P	W1004PA	W1028P	W1048P	W1088P	W1055PA	W1208B	W1208R	W1228P	W1528B	W1555P	W1555PA
Maximum Diameter (inches)	6.0	6.6	8.27	8.2	8.15	10.1	10.1	10.1	10.1	10.1	12.3	12.0	12.2	15.3	15.2	15.2
Overall Depth (inches)	2.6	3.0	3.7	3.8	3.8	4.7	4.4	4.75	4.4	4.7	4.9	6.1	5.3	6.4	6.5	6.5
Magnet Mat. Weight (ounces)	10.0	20.0	15.0	38	42	26	38	42	38	26	16	41	38	70	54	54
Magnet Material	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
Voice-coil Type (layer)	2	2	2	2	2	2	2	2	2x2	2x2	4	2	2	2	2x2	2x2
Voice-coil Diameter (inches)	1.0	1.0	1.0	1.5	2	1.5	1.5	2.0	1.5	1.5	1.5	2.0	2.0	2.5	2	2
Voice-coil Overhang (mm)	3.14	3.2	3.2	6.2	10.4	6.0	6.1	10.4	6.0	6	3.0	10.4	6.2	5.5	6.0	6.0
Surround Type	FOAM	FOAM	FOAM	FOAM	FOAM	FOAM	FOAM	FOAM	FOAM	FOAM	FOAM	BUFL	FOAM	FOAM	FOAM	FOAM
Baffle Opening Diameter (inches)	4.8	5.75	7.15	7.2	7.15	9.1	9.15	9.15	9.15	9.1	11.05	11.2	11.2	14.1	14.0	14.0

APPLICATION

	W528P	W618P	W818P	W828P	W848P	W1004PA	W1028P	W1048P	W1088P	W1055PA	W1208B	W1208R	W1228P	W1528B	W1555P	W1555PA
Max. Rec. System Power (watts/ch)	60	75	75	150	200	100	150	200	75/ch	75/ch	100	200	150	250	100/ch	100/ch
Rated Impedance (ohms)	8	8	8	8	8	4	8	8	8	6	8	8	8	8	4	4
Sealed Enc. Vol. (cubic feet)	10-25	2-6	6-1.5	10-2.5	8-1.5	infinite	1.5-2.5	1.0-2.0	1.5-2.5	infinite	1.5-3.0	1.2-4.0	2.0-3.0	5.0-9.0	5.0-9.0	5.0-9.0
Max. Crossover Frequency (Hz)	4000	4000	4000	3000	1000	1000	2000	1000	200	200	1500	1200	1000	600	150	150

TWEETERS, MIDRANGES & CAR SPEAKERS

CONSTRUCTION

	DT75PF	DT100PF	DT110	T300	HT350F	DM300P	M608R	M408B	M758B	W964P	F404P
Max. Flange Dimension (inches)	3.7	4.1	5x3.5	4.17x4.17	2x5.27	6.0	6.0	4.8	7.47	9.15x6.4	4.2
Baffle Opening Dimension (inches)	2.7	3.3	3	3.4	1.82x4.33	4.7	5.0	3.9	5.75	8.5x5.75	4.0
Mounting Depth (inches)	0.80	0.90	1.0	1.0	2.34	1.0	2.5	4.75	2.90	3.5	2.3
Magnet Material Weight (ounces)	5	12	10	8	8	10	12.3	14	30	22	8
Magnet Material	ABF	ABF	ceramic	ceramic	ceramic	ABF	ABF	ceramic	ceramic	ABF	ABF
Voice-coil Type (layer)	2	2	2	2	1	2	2	2	2	2	2
Voice-coil Diameter (inches)	0.75	1.0	1.0	1.0	1.0	3.0	1.0	1.0	1.5	1.5	1.0

PERFORMANCE

	DT75PF	DT100PF	DT110	T300	HT350F	DM300P	M608R	M408B	M758B	W964P	F404P
Voice Coil Resistance (ohms)	6.0	6.0	6.2	7.0	6.2	6.0	6.7	6.4	6.7	3.4	3.2
Sensitivity (dB)	92	93	90	97	99.8	93.0	89.3	96.0	99.6	92.0	88.0

APPLICATION

	DT75PF	DT100PF	DT110	T300	HT350F	DM300P	M608R	M408B	M758B	W964P	F404P
Maximum Rec. System Power (watts)	150	200	60	100	250	300	100	150	350	75	75
Maximum Usable Bandwidth (Hz)	3000	3000	4000	2500	4000	600-6000	150-6000	700-8000	350-7000	3000	200-6000
Rated Impedance (ohms)	8	8	8	8	8	8	8	8	8	4	4
Sealed Enclosure (cubic feet)	N/A	N/A	N/A	N/A	N/A	0.05	0.10	N/A	0.10	infinite	0.10

CAR STEREO

Speakerlab's car stereo speaker systems, raw drivers, crossovers and subwoofers were developed with the theory in mind that car stereo does not have to be an enlarged car radio... it should be like driving a compact HOME STEREO on wheels. The result of our thinking has been a fresh new approach to quality car-fi sound that has a significant segment of the Northwest car owner's driving around with what amounts to portable concert halls.

Our woofers are made with polypropylene cones rather than paper cones for better tolerance of climate changes. These polypropylene woofers can handle the moisture, sunlight and temperature changes that car stereo speakers are subjected to, and yet provide you with great midrange and solid, deep bass without cone breakup. Our crossovers are specifically encapsulated for ease of placement and damage and corrosion resistance.



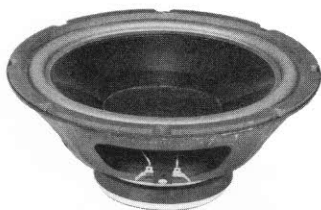
SCF1: Designed for smaller cars and compacts. Integral mesh grille on the tweeters allow for mounting next to the woofer or up front in the dash when the woofer is mounted on the rear deck. Complete kit with all necessary mounting hardware, 2-6 1/2" woofers, 2-tweeters, 2-crossover networks and grilles.

- Minimum power 15 watts
- Maximum power 75 watts
- Plus or minus 3dB from 50 Hz to 20 kHz
- Woofers can be mounted in rear deck or front doors.
- Tweeters can be mounted along side woofers or in front of car when woofers are in rear deck
- Polypropylene woofers
- 8 ohms impedance



SCF2: Great for larger cars or any vehicle where big bass sound is desired without the constraints of an enclosure. Complete kit with all necessary mounting hardware, 2-6x9 woofers, 2-tweeters, 2-crossover networks and grilles. Similar in performance to the SCF1 only with extended bass.

- Minimum power 15 watts
- Maximum power 75 watts
- Plus or minus 3dB from 35 Hz to 20 kHz
- Woofers best suited for rear deck; no enclosure needed
- Compatible with bi-amplified systems crossed over at 3 kHz at 12dB/octave
- Polypropylene woofers
- 4 ohms impedance



W1004PA: 10" polypropylene woofer. For the ultimate in low bass applications. Special suspension allows for excellent performance without costly, bulky enclosures.

- Polypropylene cone
- 30 watts minimum power
- 100 watts maximum power
- Plus or minus 3 dB from 25 Hz to 1 kHz.
- 4 ohms impedance
- 9.1" baffle opening
- 4.7" mounting depth



W1055PA: 10" dual voice-coil subwoofer. Special v.c. sums both channels. This means you only need one to achieve stunning bass sound without an enclosure.

- Polypropylene cone
- 25 watts minimum power each channel
- 75 watts maximum power each channel
- Plus or minus 3 dB from 25 Hz to 200 Hz
- 6 ohms impedance each channel
- 9.1" baffle opening
- 4.7" mounting depth



W1555PA: 15" polypropylene woofer. Dual voice-coil sums both channels. Only one is needed. Tremendous low bass performance.

- Polypropylene cone
- 30 watts minimum power
- 150 watts maximum power handling
- Plus or minus 3 dB from 20 Hz to 200 Hz
- 4 ohms impedance each channel
- 6.6" mounting depth

(photo not to scale)



W964P: 6x9 woofer. Excellent sounding woofer with very large magnet and voice-coil offer superior response. No enclosure needed.

- Polypropylene cone
- 15 watts minimum power
- 75 watts maximum power
- Plus or minus 3 dB from 35 Hz to 3 kHz
- 4 ohms impedance
- 8.5"x5.75" baffle opening
- 3.5" mounting depth

CAR STEREO

Our Systems One, Two and Three (SCF1, SCF2, SCF3) come complete with all hardware, grilles and instructions for mounting them yourselves. Our bass hoses, the DSW and Iron Lung, present one of the most innovative approaches to car subwoofer sound. And our selection of raw drivers for the real do it yourself person is the finest around.

The end result of this is the best available selection of car stereo and the best car stereo sound you've ever heard.

NOTE: DRIVER PARAMETERS LISTED ON PAGE 21.

See other drivers applicable for auto sound use listed under tweeter, midrange and woofer sections



SCF3: Our top of the line car system incorporating our 6x9 woofer, 4 1/2" polypropylene midrange, and 3/4" dome tweeter designed to provide you with a true luxury on wheels.

- Minimum power 15 watts
- Maximum power 100 watts
- Plus or minus 3dB from 35 Hz to 21 kHz
- Woofers best suited for rear deck mounting

- Midranges and tweeters can be mounted in rear deck along side woofers or in front doors or kick panels.
- Polypropylene woofer, midrange and polypropylene dome tweeter.
- Compatible with bi-amped systems crossed over at 200 Hz @ 12dB/octave
- 4 ohms impedance



F404P: 4" midrange perfect for car applications. Special suspension eliminates need for enclosure.

- Polypropylene cone
- 5 watts minimum power
- 75 watts maximum @ 12 dB/oct. crossed over above 200 Hz
- Plus or minus 3 dB from 200 Hz to 6 kHz
- 4 ohms impedance
- 4" baffle opening
- 2.3" mounting depth

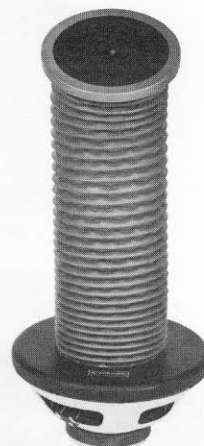
SWD: Duct assembly used in the DSW. Used for mounting 10" woofers where the advantages of remote trunk mounting are needed.

- Designed for 10" woofers
- Requires 5" opening on rear deck
- 6 inch grille frame provided for end of duct hose.

CAR SPEAKER GRILLES

Grilles are black plastic. Hardware included.

- GF650:** grille for 6 1/2" driver.
- GF400:** grille for 4" driver.
- GF690:** grille for 6 x 9" driver.



DSW: Complete subwoofer system. Uses powerful dual voice coil 10" woofer. Woofer output is channeled through flexible steel reinforced duct allowing for various mounting locations. **Must be mounted in trunk area or equivalent.** Includes crossovers, hardware, ducts, grilles and installation instructions.

- Min. power 25 watts
- Max. power 75 watts
- Plus or minus 3 dB from 25 Hz to 200 Hz
- Crossover point 180 Hz @ 12 dB/oct.
- Needs no enclosure
- Only one DSW system is needed.
- 8 ohms impedance

(photo not to scale)



IRON LUNG: The epitome of auto subwoofer sound introduced exclusively by Speakerlab. 15" polypropylene cone, dual voice-coil sums both channels into one woofer which is mounted into your trunk. The bass sound is then directed up to a modest 5" grille covered opening on your rear deck via our special subwoofer duct, with no bass sound loss. **DESIGNED FOR BI-AMPING.** Use 2-X180 crossovers if not bi-amping.

- Complete subwoofer kit includes: 15" dual voice-coil polypropylene woofer, subwoofer duct, grille and mounting hardware.
- 30 watts minimum power
- 150 watts maximum power
- Plus or minus 3 dB from 20 Hz to 200 Hz
- 4 ohms impedance each channel

(photo not to scale)

CAR SPEAKER CROSSOVER NETWORKS

Crossovers mounted in cylindrical enclosures.

X200/5000: crosses over tweeter, midrange and woofer.

- 200 Hz and 5000 kHz crossover frequency
- Designed for 4 ohm woofer/4 ohm midrange and 8 ohm tweeter
- 12 dB/octave slope woofer and tweeter; 6 dB/octave midrange
- 150 watt power handling

X3000: crosses over tweeter only. Associated woofer intended to operate full-range.

- 3000 Hz crossover frequency
- Designed for 8 ohm tweeter
- 12 dB/octave slope
- 150 watt power handling

X180: crosses over woofer only. Associated mid/bass or midrange driver intended to operate full-range.

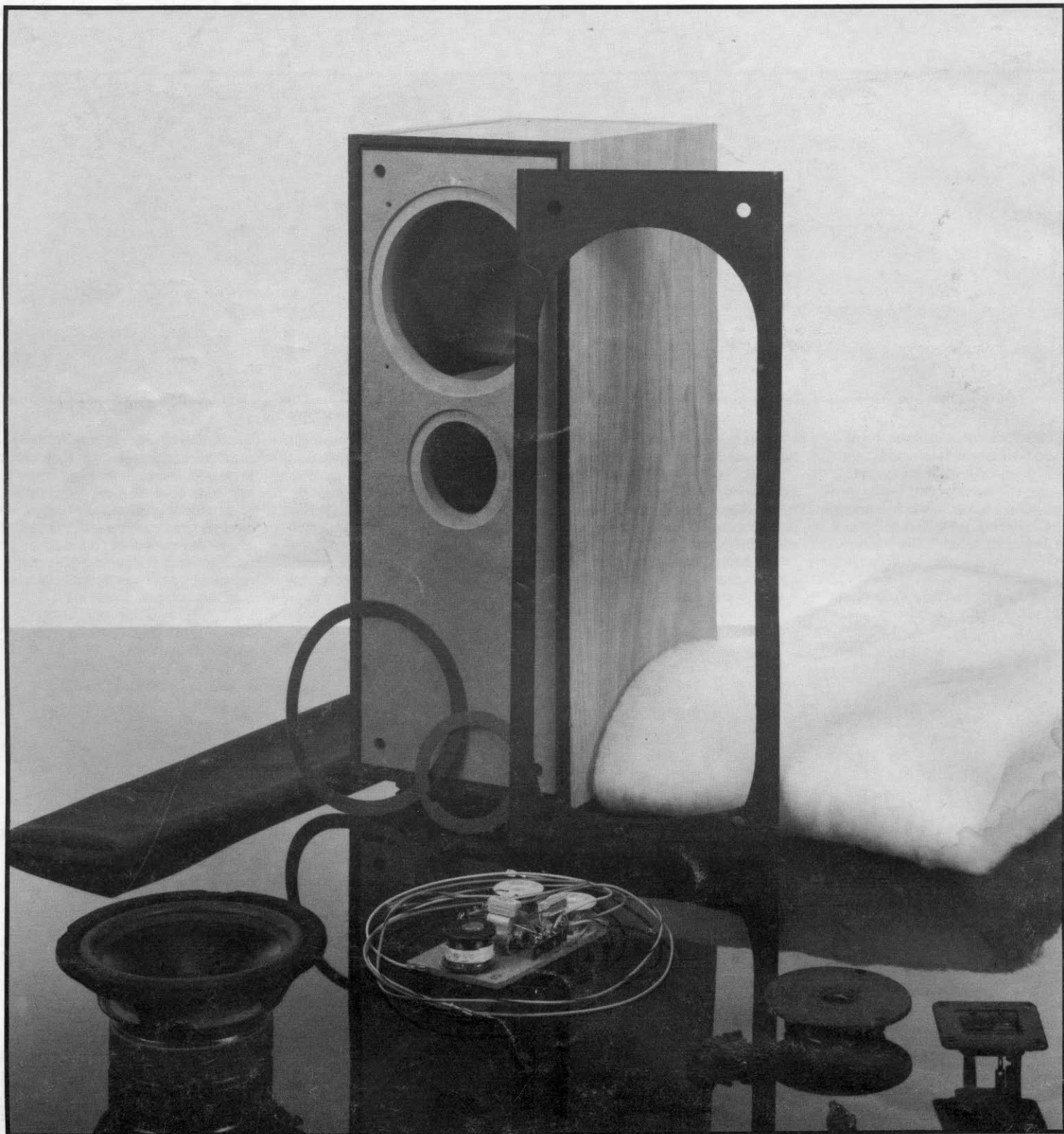
- 180 Hz crossover frequency
- Designed for 4 to 8 ohms woofer
- 12 dB/octave slope
- 150 watt power handling

speakerlab

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