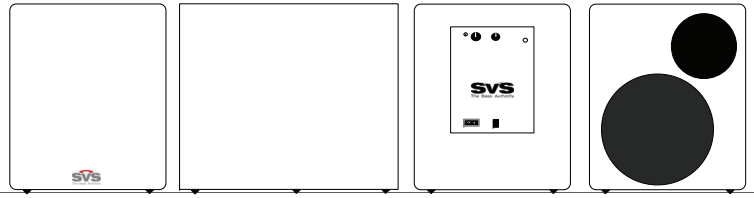
SV Subwoofers

OWNERS' GUIDE

SVS Powered Box, Single 10" ISD (PB10-ISD) ™



SVS
The Bass Authority

Contents:

Last update: 25 July, 2005

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this apparatus near water.

6. Clean only with dry cloth.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of any polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two prongs and a third grounding point. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Only use attachments/accessories specified by the manufacturer.

12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. **WARNING**: To reduce the risk of fire or electric shock, this apparatus should not be exposed to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.

16. To completely disconnect this equipment from the mains, disconnect the power supply cord plug from the receptacle.

17. The mains plug of the power supply cord shall remain readily operable.

The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage " within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Welcome.

From the entire SVS team, congratulations on your purchase of a new standard in home theater and music bass!

Your sub isn't some generic black box built someplace you can't even find on a map. It's made in our Liberty, Ohio factory by home audio fanatics... like you. Designed, and tested using the latest state of the art instruments... and assembled by hand, your SV Subwoofer is without a doubt one of the best investments you'll ever make in bringing music and theater *home*.

We'll help you to set up your sub right, and in no time, you'll be giving "demos" of your favorite DVDs or music selections to all your friends and neighbors (be kind if you live in an apartment!). This isn't just a subwoofer after all, it's a carefully designed audio component carefully tuned in our labs, by the award winning SVS skunk works team.

You're unlikely to have heard, or felt, bass like this before, unless it was in a top-notch, commercial movie theater. Audio in your home will never be quite the same again. That's a promise.

Already have a question about your sub? You might answer it by reading this manual, we think you'll find it easy to read and more informative than most. For even more detailed discussion about set-up topics check out our **Questions/FAQs** page at www.svsubwoofers.com. We touch on all the key points you need to know, and then some.

Maybe you just want to share a bit of bass news? Or perhaps you have a story about your SV Subwoofer to share with us? Maybe something we missed in our website? No matter, feel free to send a note to us at: *custservice@svsubwoofers.com* or L-Sound, SVS's exclusive re-seller in Scandinavia: *support@lsound.no*

It's not often you can talk to the guys who made your audio component. In this case, we look forward to it.

SVS Customer Service

About your SV Subwoofer

There maybe be other subwoofers that look like them, but virtually none *work* like them. Not at this price. SV Subwoofers are decidedly different in how they are designed, produced, sold, and even in the exceptionally high quality components we use. The best part? You could have spent much more and *still* not come close to the performance our subwoofers provide. So, what makes a subwoofer an *SVS*?

Quality components, sane prices. You might be surprised at how inexpensive the components in some *not-so-inexpensive* subwoofers are. At SVS, performance is king... not shaving off a few dollars from component costs. We scour the earth for the best, most cost-effective parts (when we don't make them ourselves), and meld them into finely tuned designs that define high performance home theater (HT) and music bass. We've tested and discarded plenty that didn't meet our tough standards. If we use it, you know "it" is satisfied some tough customers first. Us.

Get "square". Typical subs require heavy internal bracing and many we've seen are simply poorly made. We did a host of studies that optimized the materials, the size, and even the enclosure finish to ensure a rigid design that was still compact and able to take the abuse your family and friends can dish out. SVS cabinets are no ordinary boxes. Selling through select dealers means your sub, and not glossy ads, get the priority at SVS. Tap the side of your sub, look at those smooth corners, and you'll know what we mean.

Stable front firing woofer. Our tough box design is one plus, but we've also taken great lengths to design a simple and effective front firing configuration. Look for little details like stainless steel mounting pins and match rubber lined sockets (instead of cheap plastic parts). Removable rubber feet allow for stable placement on any surface. No rattling, or buzzing allowed, even if you put your sub on tile or wood floors.

Custom low turbulence port designs. When you listen to our trend-setting ported subs you'll hear (and feel) bass like never before, with a exceptionally low noise and distortion. Huge patented, 3" flared port fittings make the difference. You'll quickly realize something special went into your new sub the second you fire it up.

Stylish, and understated. From the fine, durable enclosure finish, to the attractive color-keyed grill, you'll be amazed at how easy it is to lose your sub in a corner. SVS's aren't tiny, but this is one of those times size *does* matter. There are many brands of boring "black box" subs out there. Fortunately, you didn't just unpack one.

World class power. Our North American built amps are designed and manufactured with a level of fit and finish, and power, practically unheard of at this price. Did we mention power? It's there *in spades* (though we rate them conservatively). And SVS starts with efficient designs which don't require significant levels of power robbing equalization to go low and flat. This way, our amps can be dedicated to reproducing low frequencies, not making up for a lack of enclosure space (the bane of clean, deep bass). As a result, we don't require the megawatts some subs do. Plus they run cool and reliable in those vented cylinders. We sweat the details on integrating a top of the line amp in your sub, so you don't have to.

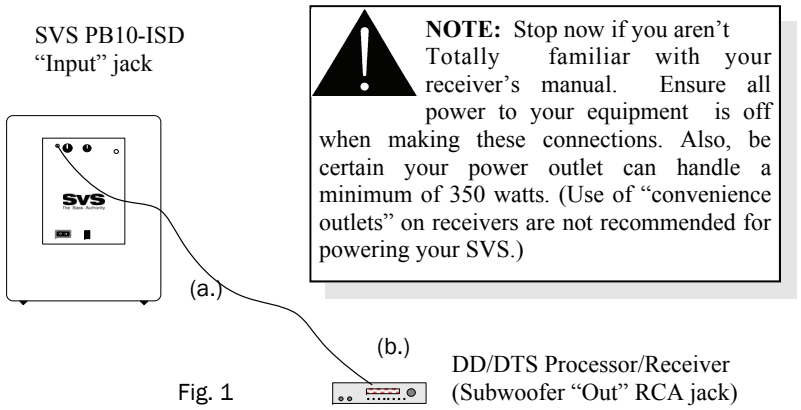
Setup, calibrating and integration

What's to know? Well, first of all, setting up an SV Subwoofer is pretty darn easy. There are a few key things to get right though if you want to get the most out of your sub…

Unpacking. You're probably eager to fire up your sub, but take time to carefully unpack everything. Save the box and shipping materials, just in case you need to return the sub for any reason.

Location. They say it's ALL about location right? It's the same with setting up your subwoofer. So, where to put it? ***Go for a corner*** if you can, and avoid putting your sub where it might adjoin large open areas**.** Studies have shown that the deepest and flattest bass response is typically attained when a subwoofer is placed within a few feet of one of your home theater's corners. A corner near your seat is best of all. The front-firing configuration of this SVS makes this easy. Whether you put the sub in front or to the rear of your seating area makes surprisingly little difference. Deep home theater bass, like that from "5.1 channel" DVDs is non-directional. You can't tell where it is coming from, even though you can hear, and feel it.

Hook-up (see fig. 1). To configure your new sub, a simple mono, shielded 75 Ohm A/V RCA type cable (a.) is all you need to take the subwoofer output jack of your DD/DTS surround sound receiver (b.) and feed the low-level input of the sub's amp.



NOTE: Stop now if you aren't Totally familiar with your receiver's manual. Ensure all power to your equipment is off when making these connections. Also, be certain your power outlet can handle a minimum of 350 watts. (Use of "convenience outlets" on receivers are not recommended for powering your SVS.)

Fig. 1

More Setup, calibrating and integration

If you are running a pair of SV Subwoofers (fig. 2), you will need to use a standard "Y" cable adapter (c.) The best adaptor to use for this task has one male RCA connection and two female RCA outputs. From the "Y" cable you can run a standard 75 Ohm RCA to RCA signal cable (d.) to each sub, thus "splitting" the Low Frequency Effects (LFE) and other bass signals from your receiver and effectively feeding both subwoofers with the same signal.

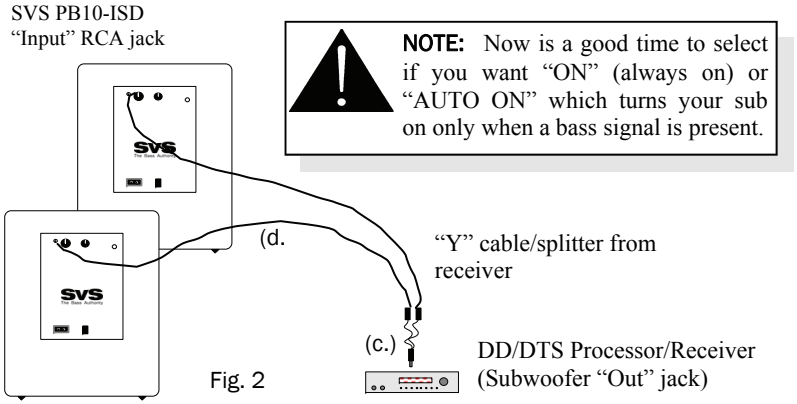


Fig. 2

"**Calibration**" isn't only for tech minded folks, it's ***critical*** to a proper configuration of your home theater sound system. Fortunately, adjusting channel balance (or calibration) is as simple to do as it is important. The first order of business is making sure your DD/DTS surround sound system is set up properly. We recommend you consult your audio/video receiver (or processor) manual to refresh on the procedures to do this. Generally, this requires ensuring the receiver's test tones, or a special test disk (like Ovation Software's *Avia*) play back at the same volume from each of your system's speakers. That's speakers at left, center, right, left surround and right surround (and if equipped, center rear), plus the subwoofer . (More on sub level in a second). Skip to page 9 ("Powered Box Amp") if you aren't familiar with your sub's amp, and come back to calibration.

Some things to check as you get ready to calibrate:

- **Are your speakers set correct to the correct "size"?** Your receiver/ processor might allow you to indicate if your speakers are "Small" or "Large". Selecting the size accordingly will ensure bass goes to most appropriate speakers, and use the subwoofer correctly too. Also, is your subwoofer turned "ON"? We don't mean "is your subwoofer ***amplifier*** on?" (that'll be important later too) but rather, ***is your receiver sending a bass signal to your sub amp***? This can only happen if you say "Yes" (or "ON") in the "Subwoofer" selection during the setup of any typical Dolby Digital/DTS capable receiver (you'll need to enter your receiver's setup

"menu" to check these critical choices).

- **Is your receiver connected to the sub amp?** Use a well-shielded RCA cable (sometimes called a "patch cord") to hook to the subwoofer output of your DD/DTS receiver to the RCA input jack of your SVS amplifier. As mentioned earlier, you'll need to "split" the subwoofer signal with a "Y Cable" if you bought a pair of subs.

- **Is your Radio Shack ® sound pressure level (SPL) meter ready?** This tool is absolutely essential to proper home theater audio setup. It's akin to a tire pressure gauge for your car (you don't set your tires by "feel" right?). Set the meter to "Slow" and "C-weighting" (and turn the dial to 70 or 80dB depending on your test tone source). Haven't got the meter yet? Order one from L-Sound. We prefer the analog instead of the digital display model.

Getting ready to start now: Make sure your receiver/processor master volume is set at "00 dB" ***or some other easy to remember reference level***. Finally, ensure your SVS's volume/gain control is set no more than 1/4 to 1/3rd up, for now. It's also critical to check the subwoofer level control of your surround receiver before you begin the test tones. Set the subwoofer output signal no higher than "-5 dB" initially (that's one quarter way up, given a typical receiver's subwoofer channel level limits of –10 dB to +10 dB) . Your LFE "trim" or "peak limiter", if you have one, should be set to 0dB to start (that's full up) but this can be dialed down later to tame peaks if needed. Turn off any sound-field processing modes, "midnight mode" etc. Your LFE should go to the "subwoofer only", not "mains" too, if this is an option in your system.

Now play your receiver's internal test tones so you have something to measure with your SPL meter. Or, buy a test DVD such as the *Avia.* A test disk's tones ensure your entire signal path, from the DVD player to your speakers, is set correctly. Whatever you use, when the tones start alternating from speaker to speaker (watch your sound meter now), set each speaker's volume to about 75 dB (or 85dB if using *Avia*) by using the receiver's dedicated channel level controls (leaving receiver's master volume the same). We recommend you turn down the receiver's subwoofer output level before you significantly lower your sub's volume/ gain control. This helps keep distortion sent *to* your SVS to a minimum. You should not be set this control lower than –5 dB however, since some adjustment room is needed to fine tune levels later. If your subwoofer

reading is still too high then turn down the sub's amp volume a little with each run.

But what's "too high"?? Tastes vary, and so do movie soundtracks, but your SVS is capable of tremendous levels of low distortion, low frequency bass — far more than most commercial subs. Take advantage of this, especially if you like action movies with lots of ".1" channel (LFE) action, and give the sub a bit more "bump" during calibration. Keep in mind too that the human ear is relatively insensitive to low frequencies. This, coupled with the fact most folks don't watch movies at Dolby Digital reference level (fairly loud), means raising the bass up a few dBs usually yields a more satisfying movie and music experience.

What sub levels do we recommend? If you watch movies at relatively moderate sound levels, a good start is a range of +1dB to +3dB above your other channels (as measured with your sound meter). This means the test tone will waiver about 78 dB for the subwoofer portion of the calibration run (88dB with Avia). (**Note:** You may want to rotate the sound meter SPL meter dial to 80dB to get a good reading with these higher levels.) Note too that many modern surround sound receivers allow a variety of different subwoofer level settings, depending on the "listening mode" you are in. With "Dolby Digital" as your "mode" use the above calibration routine. You may well find that CD "Stereo" music calls for a lower bass settings adjusted by ear. The above is a guide… experiment. The louder your master volume though, the more you should back off the subwoofer's level to compensate. Audible distress is a sign to lower things a bit. Avoid your driver bottoming, resulting in a loud "clack"!

Location and measurement. You should take the above measurements from your typical preferred seat for watching movies. Be advised, strong bass levels can vary tremendously simply by moving your seat or your subwoofer a few feet. Such is the nature of long wave-length, low bass sound. Don't hesitate to try different locations and different levels for your subwoofer. Setting levels which are too high (and often, too low) is the most common subwoofer setup error.

Powered Box amp. We looked the world over for the best performing sub amp that's still affordable. What resulted is an SVS custom-designed, North American-made amp with amazing build quality, and just the features folks with today's digital surround sound systems need.

Volume/Gain. Use gain (in conjunction with your receiver's subwoofer output level control) to dial in a bass calibration to your liking. Start calibration with the sub's volume 1/4 to 1/3 of the way up (turned clockwise from the left).

Phase. Think of long bass waves as conflicting or enhancing each other, depending on the timing of their arrival at your listening location (either

together, or not). Since some of your room's bass might come from main, center and/or surround speakers, as well as your sub, getting these bass wave forms to arrive in a complementary fashion is the difficult job of the phase control. Essentially, "phase" varies the timing of the bass waves coming from the sub. But don't despair if you don't hear much difference, especially if running a single subwoofer. Bass "cancellation" will vary by room shape, volume, and the bass frequency. No one setting is likely to ever be perfect. One technique to optimize phase is to find a nice "bassy" loop (such as the menu of the "Godzilla" movie DVD) and measure the loop's SPL response at various bass peaks. As the loop runs, you can have an assistant adjust the phase control in small steps while you measure. When you see the most response on a given bass passage, typically that's the setting with the least cancellation (for the frequencies of the demo loop).

If you have a pair of subwoofers, calibrate with only ***one subwoofer on at a time***. When finally switching on ***both*** SVS's (assuming you calibrated both individually to the exact same level) you should have a combined reading of +6dB more than when one sub was playing. If you do not, have an assistant slowly move the phase on only one subwoofer a bit until you get about +6dB more than with one sub playing. This ensures your subs are not "canceling" each other out due to poor phase alignment. Again, all measurements must be from your prime viewing seat.

Line In. Use your sub's "Line In" jack to connect the subwoofer to the output jack of your receiver/processor. A simple RCA to RCA cable is all you need.

Auto-On. Your Powered Box allows itself to be in an "Auto-On" mode… or "On" all the time. With the former setting (the switch in the "Auto" position) your subwoofer will "sense" that a DVD or CD etc. has begun and switch its audio circuits on immediately (the "hard" power switch mentioned below must be on, naturally). A few minutes after a movie, the Auto-On light will turn Red, switching the sub back off. When running (and sensing a signal) the Auto-On LED will be green. Sometimes, with very low listening levels, your subwoofer might not get enough of a bass signal from your surround sound processor to "trip" the Auto-On circuit. Should you ever find this to be the case you may leave this switch to "On", or turn up the receiver's subwoofer level some (be sure to recalibrate channels levels with your meter afterwards).

Power. This heavy-duty, two-position switch next to the power cord will completely cut the power to your sub amp. Flip this switch to off before you ever move the sub or change inputs or outputs.

A/C connection. Plug your sub into a dedicated A/C outlet. "Convenience" outlets of typical receivers often don't provide the needed current for your SVS high power amp. Avoid them.

Fuse. Mounted behind a small door near your cord, user replaceable (as spare is

Bassy demo scenes to die for.

So now what?? You've got one of the best theater and music bass subwoofers on the planet, you're calibrated...want to see what she'll do? ***But of course!*** Since finding those scenes can be a bit trying, we've compiled a list of our favorites below. After all, calibration with test tones is important, but it's movies and music this sub is itching to show off. Chapter stops for DVDs are shown, with movie time in hours: minutes: seconds. What are you waiting for? Just hit *PLAY*!

- ***"The Iron Giant"*** Great family animation with SERIOUS bass, including strong peaks below 25 Hz. Jump to:
    1. "Chase thru the forest" Scene 8 (20:00 into the movie)
    2. "Robot Landing" (Train Impact) Scene 10 (25:40)
    3. "Green Boom" Scene 27 (1:11:40)
- "***Antz"*** Another good family movie, though not perhaps for small children. Extremely loud bass above 30 Hz.

  "Terror from Above", Scene 17 (51:48)
- ***"The Matrix"*** Modern, violent, science fiction classic with plenty of shoot-'em-up bass blasts. Here's some subtle and not so subtle.
    1. "Where we are grown", Scene 12 (42:55)
    2. "Landing in fight", Scene 15 (50:51)
    3. "Chopper shootout", Scene 31 (1:47:15)
- ***"Das Boot"*** Arguably one of the best war pictures of all time with bass approaching 20 Hz. Very loud, very intense.
    1. "Depth charges", Scene 21 (59:30)
    2. "Storm surfing", Scene 25 (1:15:15)
    3. "Hitting bottom", Scene 17 (53:15, Side "B")
- ***"Apollo 13"*** Moving story, with some surprisingly subtle but revealing bass where it counts.
    1. "Lift off", Scene 13 (35:15)
    2. "Coming home", Scene 53 (2:05:43)

More Bassy demo scenes.

- ***"Titanic"*** You love it...or you *hate* it. Regardless of which side of the ship you sit, this flick does some serious rumbling for you:
    1. "We can't leave him" Scene 22 (2:21:50)
    2. "Ship Splitting" (2:41:30)
    3. "Last Gasp" (2:42:05)
- "***Blade"*** Not one for the kiddies, but loaded with deep bass.
    1. "Footstep", Scene 4 (7:15)
    2. "Door blown" Scene 20 (50:05)
- ***"Aliens"*** Not just another modern sci-fi horror classic, this one rocks from intro to final scene.
    1. "Ship drop", Scene 9 (41:20)
    2. "Awakenings", Scene 15 (1:12:52)
- ***"Apocalypse Now"*** Making This Vietnam war movie, Francis Ford Copolla nearly went crazy...imagine what it'll do to your subwoofer!
    1. "Chopper ride" Scene 2 (0:19:47)
    2. "ARC LIGHT" Scene 4 (0:26:02)
    3. "Grenade launch" Scene 12 (1:27:58)
- ***"Contact"*** SETI with a (bass) twist or two along the way.
    1. "Bombing", Scene 28 (1:36:30)
    2. "Space truckin", Scene 33 (1:55:56)
- "***Dark City***" One of Roger Ebert's favorites, think he likes bass too?
    1. "Let the tuning commence", Scene 8 (34:30)
    2. "City makeover", Scene 15 (1:27:45)

A Glossary of Home Theater Terms

Don't feel guilty if you want to skip over the below. But if you are curious about what some of the terms and abbreviations stand for, read on:

CD - Compact Disc, the music standard and capable of great sound. Now joined by Super Audio CD (SACD) and DVD-Audio as high-resolution music alternatives that can really make subwoofers great audio upgrades.

dB - Short for "deci-Bell" a unit of sound, a 3dB increase takes twice the acoustic power to attain!

DD - "Dolby Digital", the most popular form of digital surround sound, usually found on DVD soundtracks. Actually a compression algorithm that can provide 1 to 7 channels of movie audio .

DPL - "Dolby Pro Logic". The last generation of non-discreet channel surround sound. Derived from 2 "matrixed" analog channels.

DTS - "Digital Theater System" similar to DD, but often with less compression. Many feel it sounds better than DD, but you be the judge.

DVD - Amazing little video disk, DVD, doesn't "mean" anything!

HT - "Home Theater". What you make of it. But a home (theater) without a subwoofer, isn't quite up to our definition!

Hz - Short for Hertz, the German scientist who came up with a scheme of measuring the frequency of sound waves. 15-30 Hz is very low bass and very rare in anything but movie soundtracks. 60-80 Hz is generally considered mid-bass above which most large full range speakers can easily produce. The real fun (and most common) deep bass, is in the middle of that range, call it 20-40 Hz.

LFE - "Low Frequency Effects" are the ".1" channel in 5.1 or 6.1 channel soundtracks. If you have a sub selected in your system, any LFE signal goes to the subwoofer. The sub may get bass from other channels as well however, depending on the "size" of speakers in your set-up.

RMS - A common and accurate way to rate the power of an amplifier. Literally "Root Means Squared". Typically measured in "watts".

SPL - "Sound Pressure Level", a fancy way of saying "Volume". Usually measured in dBs. SPL meters are critical to setting your

Notes:

Notes:

Terms and Conditions

14 days money back guarantee provided by the government: You as a Scandinavian consumer are entitled by law to cancel the order at your sole discretion within a period of 14 days from receipt of the product, for a return of the purchase price, provided the products is fully intact. You are obliged to arrange and pay for the return costs before a return of purchase price is made.

15-45 day money-back guarantee provided by L-Sound: If you are not completely satisfied with the performance of your subwoofer, return it to us within 45 days from delivery for a full refund of the purchase price. Your only obligation is to arrange and pay for the return costs, and return the product fully intact in its original shipping box (with all parts).

Shipping: When you receive your new subwoofer, please check to ensure there is no damage. If after unpacking you discover any damage that may have been caused by transportation on your product, we request you contact us immediately and if possible, provide a photo of damage in question to L-Sound at service@lsound.no

Warranty: The product has a 3 year warranty against defects in materials and workmanship. Upon return the products will be repaired, and redelivered. Naturally, this warranty does not cover any product subjected to misuse or accidental damage.

The bottom line: We're proud of these subwoofers and want you to be as happy owning one, as we are selling one (or more) to you. E-mail L-Sound if you have any warranty question: service@lsound.no

SV Subwoofers

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